Enforcement Actions: Significant Actions Resolved Reactor Licensees

Semiannual Progress Report
January - June 1997

Manuscript Completed: September 1997
Date Published: September 1997

Office of Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

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ABSTRACT

This compilation summarizes significant enforcement actions that have been resolved during the period (January - June 1997) and includes copies of letters, Notices, and Orders sent by the Nuclear Regulatory Commission to reactor licensees with respect to these enforcement actions. It is anticipated that the information in this publication will be widely disseminated to managers and employees engaged in activities licensed by the NRC, so that actions can be taken to improve safety by avoiding future violations similar to those described in this publication.

 

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ENFORCEMENT ACTIONS: SIGNIFICANT ACTIONS RESOLVED REACTOR LICENSEES

January - June 1997

INTRODUCTION

This issue and Part of NUREG-0940 is being published to inform Nuclear Regulatory Commission (NRC) reactor licensees about significant enforcement actions and their resolution for the first half of 1997. Enforcement actions are issued in accordance with the NRC's Enforcement Policy, published as NUREG-1600, "General Statement of Policy and Procedure for NRC Enforcement Actions." Enforcement actions are issued by the Deputy Executive Director for Regulatory Effectiveness (DEDE), and the Regional Administrators. The Director, Office of Enforcement, may act for the DEDE in the absence of the DEDE or as directed. The NRC defines significant enforcement actions or escalated enforcement actions as civil penalties, orders, and Notices of Violation for violations categorized at Severity Level I, II, and III (where violations are categorized on a scale of I to IV, with I being the most significant).

The purpose of the NRC Enforcement Program is to support the agency's safety mission in protecting the public and the environment. Consistent with that purpose, the NRC makes this NUREG available to all reactor licensees in the interest of avoiding similar significant noncompliance issues. Therefore, it is anticipated that the information in this publication will be widely disseminated to managers and employees engaged in activities licensed by NRC.

A brief summary of each significant enforcement action that has been resolved in the first half of 1997 can be found in the section of this report entitled "Summaries." Each summary provides the enforcement action (EA) number to identify the case for reference purposes. The supplement number refers to the activity area in which the violations are classified in accordance with the Enforcement Policy.

Supplement I	- Reactor Operations
Supplement II	- Facility Construction
Supplement III	- Safeguards
Supplement IV	- Health Physics
Supplement V	- Transportation
Supplement VI	- Fuel Cycle and Materials Operations
Supplement VII	- Miscellaneous Matters
Supplement VIII	- Emergency Preparedness

Section A of this report consists of copies of completed civil penalty or Order actions involving reactor licensees, arranged alphabetically. Section B includes copies of Notices of Violation that were issued to reactor licensees for a Severity Level I, II, or III violation, but for which no civil penalties were assessed.

The NRC publishes significant enforcement actions taken against individuals and involving materials licensees as Parts I and III of NUREG-0940, respectively.

SUMMARIES

A. CIVIL PENALTIES AND ORDERS

Commonwealth Edison Company, Byron, Illinois
(Byron Station), Supplement I, EA 96-508

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$100,000 was issued February 27, 1997, to emphasize the importance of identification and correction of significant conditions adverse to quality and for the Byron staff's failure to ensure that the essential service water system was capable of performing its design function under all circumstances. The action was based on four violations related to the identification of excessive silt accumulation in the essential service water cooling tower basins and the river screen house intake channel. The licensee responded and paid the civil penalty on March 26, 1997.

Commonwealth Edison Company, Downers Grove, Illinois
(LaSalle County Station), Supplement I, EA 96-325

A Notice of Violation and Proposed Imposition of Civil Penalties in the amount of \$650,000 was issued January 24, 1997, to emphasize the importance of detailed knowledge by management, engineering and operations of safety-related plant structures, adequate planning and controls over safety-related maintenance, conservative operability evaluations, and identification and correction of significant conditions adverse to quality. The action was based on: 1) a Severity Level II problem for inadequate procedures and a failure to follow procedures during the application of the sealant, and inadequate corrective actions in response to repetitive fouling of the service water system, and 2) a Severity Level III problem for five inadequate procedures related to testing, backwashing, and cleaning strainers in the safety-related emergency core cooling water and residual heat removal systems and non-essential service water systems and the failure to complete unreviewed safety question evaluations regarding strainer backwash flow and mesh size being different than that described in the FSAR. The licensee responded and paid the civil penalties on February 24, 1997.

Commonwealth Edison Company, Zion, Illinois
(Zion Generating Station), Supplement I, EA 96-355

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$100,000 was issued March 12, 1997, to emphasize the importance of performing thorough engineering activities in accordance with NRC requirements, responding to findings of the licensee's own self-assessments with effective corrective actions, and providing appropriate management oversight of the licensee's engineering organization. The action was based on multiple violations that involved failures to: (1) perform adequate 10 CFR 50.59 analyses for modifications on safety-related systems, (2) follow procedures in the areas of modifications, corrective actions, operations and maintenance, (3) conduct tests to demonstrate systems would perform satisfactorily following modification, and (4) take prompt corrective action for

significant conditions adverse to quality involving repetitive out-of-tolerance settings for containment spray system sodium hydroxide spray additive tank level indication and repetitive failures of a 4KV breaker. The licensee responded and paid the civil penalty on April 11, 1997.

Consolidated Edison Company of New York, Buchanan, New York
(Indian Point-2), Supplement I, EAs 96-509, 97-031, 97-113, 97-191

A Notice of Violation and Proposed Imposition of Civil Penalties in the amount of \$205,000 was issued May 27, 1997, to emphasize the importance of identification and correction of significant conditions adverse to quality. The action was based on the licensee's failure to identify and take corrective actions for significant conditions adverse to quality related to the introduction of abrasive grit into the main feedwater system, inadvertent actuation of fire dampers, other instances which could have resulted in degradation or inoperability of safety-related equipment, and a condition in which fire protection features were not provided to limit fire damage so that one train of a system necessary to achieve and maintain hot shutdown was free of fire damage. The licensee responded and paid the civil penalties on June 26, 1997.

Duquesne Light Company, Shippingport, Pennsylvania
(Beaver Valley), Supplement I, EAs 96-462 and 96-540

A Notice of Violation and Proposed Imposition of Civil Penalties in the amount of \$160,000 was issued March 10, 1997, to emphasize the importance of appropriate oversight and control of work on safety-related systems. The action was based on deficiencies associated with inadequate control of leak sealant repairs on the Unit 2 reactor head vent system and the licensee's failure to correct an adverse condition to quality at Unit 1 involving the operation of the reactor with two out of three pressurizer power operated relief valve block valves shut for 13 years. The licensee responded and paid the civil penalties on April 2, 1997.

Entergy Operations, Inc., Russellville, Arkansas
(Arkansas Nuclear One), Supplement I, EA 96-512

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$50,000 was issued April 9, 1997, to emphasize the importance of reacting to plant conditions indicating a potential for a fire. The action was based on failures: (1) to maintain an adequate lube oil collection system for reactor coolant pumps, which resulted in oil accumulation on fibrous insulation, creating the potential for a fire, and (2) in two instances to take prompt action to identify and correct conditions which resulted in the fire. The licensee responded and paid the civil penalty on May 9, 1997.

Entergy Operations, Inc., Killona, Louisiana
(Waterford-3), Supplement I, EA 96-255

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$50,000 was issued December 26, 1996, to emphasize the importance of ensuring that the plant is operated in accordance with its

FSAR and the importance of prompt identification of non-conforming conditions. The action was based on the actual design configuration of the containment vacuum relief system being different from that described in the plant's FSAR which resulted in certain valves not being properly tested to ensure they fulfilled the containment isolation function, and to promptly evaluate and correct known discrepancies in the IST program. The licensee responded and paid the civil penalty on January 27, 1997.

Entergy Operations, Inc., Killona, Louisiana
(Waterford-3), Supplement I, EA 97-099

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$55,000 was issued May 9, 1997, to emphasize the importance of assuring that Waterford-3 is operated in accordance with Technical Specification requirements, and the importance of assuring that design assumptions are accurate and reflected in the operation of the facility. The action was based on failure to: (1) assure containment fan cooler flows met Technical Specification surveillance acceptance requirements, (2) properly translate design basis information into accident analyses and specifications, (3) test containment fan cooler flows under post-accident conditions, and (4) take prompt action to resolve discrepancies between design basis documents and attained flows. The licensee responded and paid the civil penalty on June 9, 1997.

Florida Power and Light Company, Juno Beach, Florida
(St. Lucie), Supplements I, III, VIII, EAs 96-458, 96-464, 96-457

A Notice of Violation and Proposed Imposition of Civil Penalties in the amount of \$100,000 was issued January 10, 1997, to emphasize the importance of prompt recognition of violations and the need for timely and comprehensive corrective actions. The action was based on violations associated with the engineering/modification process, security, and emergency preparedness at the St. Lucie Plant, and included (1) inadequate design control and independent review of a modification to excore nuclear instrumentation and software used for calibration of incore nuclear instrumentation, and inadequate resolution of an adverse condition related to miswiring of the excore nuclear instrumentation, (2) failure to limit access to plant protected and vital areas and to notify the NRC, and (3) multiple failures to implement the Radiological Emergency Plan. The licensee responded and paid the civil penalties on February 6, 1997.

Florida Power Corporation, Crystal River, Florida
(Crystal River), Supplement III, EA 97-012

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$50,000 was issued February 28, 1997, to emphasize the importance of maintaining an adequate physical security program and the need for prompt identification of violations. The action was based on the licensee's failure to: (1) maintain adequate PSP implementing procedures, (2) properly respond to a protected area alarm, (3) employ the capability to assess more than one protected area alarm at a time, (4) maintain a physical barrier to the protected area, (5) appropriately control and safeguard weapons stored in the armory, and (6) properly

submit PSP changes to the NRC as required by 10 CFR 50.54(p). The licensee responded and paid the civil penalty on March 28, 1997.

Niagara Mohawk Power Corporation, Lycoming, New York
(Nine Mile Point), Supplement I, EA 96-079

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$50,000 was issued June 18, 1996, to emphasize the importance of prompt identification and comprehensive correction of violations. The action was based on a problem involving a safety vulnerability, and operation in a manner outside the design basis set forth in the FSAR, in that, the reactor and turbine building blowout panels would not have relieved until a pressure in excess of the structural design pressure for the building was reached. The licensee responded in letters dated July 16, 1996 and August 15, 1996, but requested mitigation of the civil penalty. After considering the licensee's responses, an Order Imposing a Civil Monetary Penalty in the amount of \$50,000 was issued December 3, 1996. The licensee paid the civil penalty January 23, 1997.

Niagara Mohawk Power Corporation, Lycoming, New York
(Nine Mile Point), Supplement I, EAs 96-474, 96-475, 96-494, 96-541

A Notice of Violation and Proposed Imposition of Civil Penalties in the amount of \$200,000 was issued April 10, 1997, to emphasize the importance of identification, and correction of significant conditions adverse to quality, quality design control, and appropriate management oversight of all areas of licensed activities. The action was based on violations involving inadequate design controls and corrective actions, including corrective action deficiencies associated with a reactor pressure vessel overfill event that occurred on November 5, 1996. The licensee responded and paid the civil penalties on May 12, 1997.

Northeast Utilities Service Company, Waterford, Connecticut
(Haddam Neck Plant), Supplement I, EAs 96-001, 96-286, 96-334, 96-337, 96-338, 96-339, 96-340, 96-407, 96-440, 96-495

A Notice of Violation and Proposed Imposition of Civil Penalties in the amount of \$650,000 was issued May 12, 1997, to emphasize the need for effective management and oversight during the decommissioning process, and the importance of emphasizing to other reactor licensees the need for effective oversight of their nuclear power plants. The action was based on among other things (1) errors in design basis documents or errors introduced by design changes, (2) inadequate, or lack of safety evaluations and failures to update the FSAR, (3) inadequate corrective actions, (4) violations of technical specifications caused by inadequate engineering, and (5) violations associated with the nitrogen intrusion event in August-September 1996. The licensee responded and paid the civil penalties June 11, 1997.

Northern States Power Company, Minneapolis, Minnesota
(Prairie Island), Supplement I, EA 96-402

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$50,000 was issued January 23, 1997, to emphasize the

importance of compliance with regulatory requirements and the prompt and comprehensive correction of violations. The action was based on an unreviewed safety question involving the licensee taking credit for the use of non-seismic intake canal and manual operator action in an evaluation performed to address the failure of the emergency intake line to meet the FSAR design basis requirement. The licensee responded and paid the civil penalty on February 24, 1997.

Public Service Electric and Gas Company, Hancocks Bridge, New Jersey
(Salem Generating Station). Supplement VII, EA 96-177

A Notice of Violation and Proposed Imposition of Civil Penalties in the amount of \$80,000 was issued December 11, 1996, to emphasize the significance that the NRC attaches to any finding of discrimination, as well as the importance of current management ensuring a safety-conscience environment where employees feel free to raise safety concerns. The action was based on violations involving a former manager of the licensee's Nuclear Safety Review Group who discriminated against a former Onsite Safety Review Engineer and a Safety Review Engineer in late 1993 and early 1994. The licensee responded and paid the civil penalties on January 10, 1997.

Public Service Electric and Gas Company, Hancocks Bridge, New Jersey
(Salem Generating Station). Supplement III, EA 96-344

A Notice of Violation and Proposed Imposition of Civil Penalties in the amount of \$100,000 was issued December 11, 1996, to emphasize prompt identification and correction of violations. The action was based on violations related to two specific events concerning the failure to adequately control access to the facility. The first violation involved a keycard photobadge station problem that could have resulted in an unauthorized individual gaining access to the protected and vital areas of the stations. The second event involved two violations where a contractor individual accessed the protected area without an adequate search after the individual had, on three occasions, alarmed two separate metal detectors at the stations' access control point. The licensee responded and paid the civil penalties on January 10, 1997.

Rochester Gas and Electric Corporation, Rochester, New York
(Ginna). Supplement I, EA 96-282

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$100,000 was issued December 13, 1997, to emphasize the importance of proper analysis of design inputs, and prompt correction of adverse conditions. The action was based on the failure to adequately validate design inputs for the residual heat removal system motor-operated core deluge valves, as well as the failure to adequately correct this condition following its identification. The licensee responded and paid the civil penalty on January 13, 1997.

Tennessee Valley Authority, Chattanooga, Tennessee
(Sequoyah Nuclear Plant). Supplement VII, EA 95-199

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$100,000 was issued January 13, 1997, to emphasize the

importance of ensuring that employees who raise real or perceived safety concerns are not subject to discrimination for raising those concerns and that every effort is made to provide an environment in which all employees may freely identify safety issues without fear of retaliation or discrimination. The action was based on the licensee's discrimination of a former corporate manager of Chemistry and Environmental Protection by a former Vice-President of Nuclear Operations. The manager was forced to resign from TVA because he had engaged in protected activities. The licensee responded and paid the civil penalty on February 11, 1997.

Tennessee Valley Authority, Chattanooga, Tennessee
(Sequoyah Nuclear Plant), Supplement I, EA 96-269

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$50,000 was issued November 19, 1996, to emphasize the importance of management attention to and oversight of fire protection activities and the need for prompt corrective actions. The action was based on: (1) twelve examples in which the licensee failed to implement effective and/or timely corrective actions, (2) an inoperable carbon dioxide fire suppression system for the computer room, (3) failure to perform the required surveillances for the certain penetrations in high radiation areas, and (4) failure to demonstrate the operability of the fire hose stations in the reactor buildings. The licensee responded on December 19, 1996 and requested reevaluation of the severity level of the violations and mitigation of the civil penalty. After consideration of the licensee's response, an Order Imposing Civil Monetary Penalty in the amount of \$50,000 was issued March 17, 1997. The licensee paid the civil penalty on April 2, 1997.

Tennessee Valley Authority, Chattanooga, Tennessee
(Sequoyah Nuclear Plant), Supplement I, EA 96-414

A Notice of Violation and Proposed Imposition of Civil Penalties in the amount of \$100,000 was issued December 24, 1996, to emphasize the importance of management oversight of plant activities and the need for prompt effective corrective actions. The action was based on: (1) failure to implement effective and/or timely corrective actions resulting in poor plant material condition that caused and complicated recovery from a plant trip, and (2) a breakdown in the control of licensed activities involving failures in Operations, Maintenance, and Engineering activities related to replacement of an inoperable reactor trip breaker. The licensee responded on January 23, 1997 and paid \$50,000 of the civil penalties and requested mitigation of the remaining \$50,000. After considering the licensee's response, an Order Imposing Civil Monetary Penalty in the amount of \$50,000 was issued May 23, 1997. The licensee paid the civil penalty on June 10, 1997.

Washington Public Power Supply System, Richland, Washington
(WNP-2), Supplement I, EA 96-327

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$100,000 was issued November 26, 1996, to emphasize the significance of taking corrective actions that are effective in precluding similar violations, and the fundamental importance of having

an effective program for assuring that surveillances are performed as required. The action was based on several instances in which required surveillances were not performed. In some cases, mode changes were made without assurance that required equipment was operable, and in one case, a mode change was made with one train of the control room emergency filtration system inoperable. The licensee responded on December 23, 1996 requesting mitigation of the civil penalty. After considering the licensee's response, an Order Imposing Civil Monetary Penalty in the amount of \$100,000 was issued February 14, 1997. The licensee paid the civil penalty on February 27, 1997.

Wolf Creek Nuclear Operating Corporation, Burlington, Kansas
(Wolf Creek Generating Station), Supplement I, EA 96-470

A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$100,000 was issued April 3, 1997, to emphasize the importance of compliance with Technical Specifications and of prompt identification and comprehensive correction of violations. The action was based on: (1) the failure to correct erroneous Technical Specification clarifications after being alerted of their existence by licensee Quality Assurance findings, (2) the continued existence of an erroneous Technical Specification clarification after being informed by the NRC that it was incorrect, and (3) an unauthorized change to the Technical Specifications. The licensee responded and paid the civil penalty on April 30, 1997.

B. SEVERITY LEVEL I, II, AND III VIOLATIONS, NO CIVIL PENALTY

Carolina Power and Light Company, Raleigh, North Carolina
(Brunswick, Harris, and Robinson), Supplements III and VII, EAs 97-056, 97-057, 97-058

A Notice of Violation was issued on April 24, 1997. The action was based on multiple failures to implement various aspects of the licensee's Access Authorization and Fitness for Duty programs at Brunswick and Harris. The violations in the area of access authorization include the failure: (1) to fingerprint and/or complete the criminal history check prior to granting unescorted access, (2) to verify properly an individual's prior employment before granting unescorted access, (3) to conduct adequate periodic reviews of the access list for vital areas, and (4) to document adequately decisions regarding the basis for granting unescorted access authorization. In the area of fitness of duty the violations include: (1) the failure to include three individuals who were granted unescorted access to the Brunswick plant in the random drug and alcohol testing program, and (2) multiple failures to follow documentation procedures associated with fitness for duty donor chain of custody. A civil penalty was not proposed because the licensee identified the violations and took comprehensive corrective actions.

Commonwealth Edison Company, Morris, Illinois
(Dresden), Supplement I, EA 96-391

A Notice of Violation was issued on May 30, 1997. The action was based on the primary containment leakage being greater than 60 percent of La

due to leakage past the Unit 3 main steam line drain primary containment isolation valves. A civil penalty was not proposed because the licensee identified the violation and took prompt and thorough corrective actions.

Commonwealth Edison Company, Morris, Illinois
(Dresden), Supplement I, EA 96-532

A Notice of Violation was issued May 21, 1997. The action was based on the licensee discovered that the original design modification test and subsequent surveillance tests of the control room Heating, Ventilation, and Air Conditioning system failed to ensure that the requirements and acceptance limits specified in the UFSAR, an applicable design document, section 6.4.2.4 were met. A civil penalty was not proposed because the licensee identified the violation and took comprehensive corrective actions.

Duquesne Light Company, Shippingport, Pennsylvania
(Beaver Valley Power Station), Supplement I, EA 97-076

A Notice of Violation was issued March 24, 1997. The action was based on numerous failures to follow procedures and implement appropriate work controls involving configuration control, failure to take appropriate corrective actions for past configuration control problems, and for operators inadvertently deenergizing the waste decay tank oxygen analyzers. A civil penalty was not proposed because the licensee identified the violations and took prompt corrective actions.

Florida Power Corporation, Crystal River, Florida
(Crystal River), Supplement I, EAs 96-365, 96-465, 96-527

A Notice of Violation and Exercise of Enforcement Discretion was issued on March 12, 1997. The action was based on: (1) failure to meet the requirements of 10 CFR 50.59 in six cases, (2) failure to ensure that regulatory and plant design basis requirements are met, and (3) untimely and inadequate corrective actions resulting the failure to identify significant unreviewed safety questions and containment integrity issues. A civil penalty was not proposed because even though NRC identified the violations, the licensee voluntarily extended shut down of the facility and developed a comprehensive program for problem identification and correction. The exercise of discretion was intended to recognize that the licensee had placed the unit in a safe configuration and had committed significant resources to identify and correct deficient conditions.

Florida Power Corporation, Crystal River, Florida
(Crystal River), Supplement I, EA 97-094

A Notice of Violation and Exercise of Enforcement Discretion was issued June 6, 1997. The action was based on failure to report significant conditions to the NRC in the time frames required by the regulations, and failure to follow required plant procedures for ensuring timely evaluation of a potentially reportable event. A civil penalty was not proposed because the facility was shut down for an extended period which contributed to the reporting deficiencies.

Florida Power Corporation, Crystal River, Florida
(Crystal River), Supplement III, EA 97-161

A Notice of Violation was issued May 29, 1997. The action was based on two instances where the staff at the facility failed to control safeguards information adequately to assure access by authorized persons only. A civil penalty was not proposed because the licensee identified the violations and took prompt and comprehensive corrective action.

Florida Power Corporation, Crystal River, Florida
(Crystal River), Supplement I, EA 97-162

A Notice of Violation and Exercise of Enforcement Discretion was issued June 5, 1997. The action was based on (1) the failure to identify that the addition that required operator actions to mitigate a design basis small break LOCA constituted an unreviewed safety question, and (2) the subsequent failure to obtain NRC review and approval of that mitigation strategy. A civil penalty was not proposed because the NRC determined that discretion was appropriate because the facility was shut down for performance reasons including engineering violations such as the ones in this instance.

Houston Lighting and Power Company, Wadsworth, Texas
(South Texas Project), Supplement I, EA 96-500

A Notice of Violation and Exercise of Discretion was issued March 27, 1997. The action was based on excessive leakage from an emergency core cooling system valve, a significant condition adverse to quality, that existed and was not promptly identified and corrected, in that, a condition report documenting valve leakage in the system was not evaluated for possible adverse safety consequences nor was the valve repaired. Further, the licensee continued to operate the facility with a degraded condition that was not evaluated to determine whether the condition constituted a change to the facility as described in the UFSAR resulting in an unreviewed safety question. Specifically, leakage from an emergency core cooling system valve, approximately 20 times greater than that allowed by UFSAR Table 15.6-12, was identified and not properly evaluated. A civil penalty was not proposed because although the NRC identified the violation, the licensee was given credit for corrective action and NRC took into consideration that the events that led up to the events occurred more than 2 years prior to the discovery of the violations at issue.

Nebraska Public Power District, Columbus, Nebraska
(Cooper Nuclear Station), Supplement I, EA 97-017

A Notice of Violation and Exercise of Discretion was issued June 25, 1997. The action was based on the failure to update the USAR as required by 10 CFR 50.71(e), and the failure to perform adequate written safety evaluations in accordance with 10 CFR 50.59. A civil penalty was not proposed because the licensee took comprehensive corrective actions and the exercise of discretion was based on (1) consideration of the generally low safety significance of the violations, (2) the comprehensiveness of the licensee's corrective actions, (3) the fact

that the inspections were occurring at about the same time that the Policy was revised, and (4) recognition that communications with the NRC may have inadvertently contributed to delaying the licensee's USAR upgrade program.

Northern States Power Company, Minneapolis, Minnesota
(Prairie Island), Supplement I, EA 97-073

A Notice of Violation was issued April 30, 1997. The action was based on the movement of a heavy load greater than 2100 pounds (the No. 22 reactor coolant pump motor rotor and upper bracket) within 15 horizontal feet of irradiated fuel that was in an open reactor vessel without a written procedure. In addition, both doors of the containment maintenance and personnel airlocks were open and the inservice purge system was operating. A civil penalty was not proposed because the licensee identified the violation and took prompt corrective action.

PECO Nuclear, Wayne, Pennsylvania
(Limerick Generating Station), Supplement III, EAs 96-144, 96-243

A Notice of Violation was issued February 3, 1997. The action was based on two violations involving the failure to control safeguards information in accordance with the requirements in 10 CFR 73.21. A civil penalty was not proposed because the licensee identified the violations and took comprehensive corrective action.

PECO Nuclear, Wayne, Pennsylvania
(Peach Bottom), Supplement I, EA 96-370

A Notice of Violation and Exercise of Enforcement Discretion was issued January 3, 1997. The action was based on the failure to establish, for several structures, systems, and components, adequate performance criteria to monitor the effectiveness of preventive maintenance, as required by 10 CFR 50.65(a)(2). Although the licensee took prompt and comprehensive corrective actions, a base civil penalty would normally be proposed because the NRC identified the violation. However, enforcement discretion was exercised and a civil penalty was not issued because of the licensee's overall excellent material condition of the plant and because the facility received a Category 1 rating in the maintenance area.

A. CIVIL PENALTIES AND ORDERS

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

February 27, 1997

EA 96-508

Mr. K. Graesser
Site Vice President
Byron Station
Commonwealth Edison Company
4450 N. German Church Road
Byron, Illinois 61010

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL
PENALTIES - \$100,000 (NRC Inspection Report Nos. 50-454/96009;
50-455/96009)

Dear Mr. Graesser:

This refers to the routine inspection conducted from September 27 through December 17, 1996, at the Byron Units 1 and 2 reactor facilities. In addition to other licensed activities, the inspectors evaluated the licensee's analysis and resolution of excessive silt levels in the essential service water ultimate heat sink cooling towers basins and the river screen house intake channel. The report documenting the inspection and transmitting the apparent violations was sent to you by letter dated January 10, 1997. A predecisional enforcement conference was held on January 24, 1997, to discuss the apparent violations, their causes, and corrective actions.

Based on the information developed during the inspection and the information provided during the conference, the NRC has determined that several violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalties and the circumstances surrounding them are described in detail in the subject inspection report.

On October 15, 1996, the Byron Staff identified that excessive silt levels in the essential service water cooling tower basins and the river screen house intake canal rendered the essential service water system inoperable under certain conditions. Inoperability of the essential service water system would prevent the ultimate heat sink from performing its design function under postulated accidents. During the NRC inspection, the inspectors concluded that the initial engineering investigation, analysis, and root cause determination for the silting problem were slow and narrowly focused. NRC inspections revealed significant weaknesses in design and test control, work control, and corrective actions associated with the Byron station essential service water system. Based on the results of this inspection, six violations were identified.

Collectively, the six violations demonstrated: that the licensee's design engineering group failed to adequately convert the cooling tower basin's design into volumetric requirements; that system engineering failed to fully understand the essential service water system design; that the Byron staff failed to fully appreciate the significance of essential service water degraded conditions that were documented in completed surveillance procedures and in the work request system; that site surveillance procedures not associated with a Technical Specification requirement were inadequately developed and had inadequate acceptance criteria; and that the work request system failed to adequately resolve degraded conditions associated with the essential service water system. Exacerbating our concern regarding these issues was that NRC intervention was necessary to identify the scope and magnitude of the problems and that the Byron staff was ineffective for an extended period of time at evaluating identified deficiencies. In addition, the June 1996 service water event at Commonwealth Edison Company's LaSalle facility (Inspection Report No. 50-373/374-96009) provided another opportunity for you to identify several of these problems had your operating experience program been more proactive.

The first violation involves the failure of your design engineering group to adequately translate the design of the ultimate heat sink cooling tower basin into volumetric requirements. Specifically the calculations did not account for known variables such as the reduced unusable water volume due to either silt accumulation or the design of the anti-vortex drainage duct surrounding the essential service water pump suction pipe. The second violation involves the failure to develop appropriate surveillance procedure acceptance criteria for allowable silt levels in the essential service water cooling tower basin to ensure essential service water system operability. These two violations impacted your ability to ensure that the essential service water system was able to meet its design function under certain circumstances and being degraded to the extent that a detailed evaluation was required to determine its operability. This is significant, because inoperability of the essential service water system would prevent the ultimate heat sink from performing its design function under postulated accidents. Therefore, these two violations are classified in the aggregate in accordance with the "General Statements of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Severity Level III problem.

The third and fourth violations involve your failure to take appropriate corrective action to resolve silt accumulation problems and degraded trash racks, both of which had routinely been identified since 1993. Further, these issues were the subject of maintenance work orders that had been outstanding for three years. These conditions were adverse to quality because of two reasons. The first was due to the duration that the failures had existed and the second was because either the "as-found" silt depth or the degraded trash racks could have rendered the essential service water system inoperable under certain conditions. Therefore, these two violations are classified in the aggregate in accordance with the Enforcement Policy as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty of \$50,000 is considered for each Severity Level III problem. Since the Byron station has been the subject of escalated enforcement actions within the last two years,¹ the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy for each of the Severity Level III problems. With respect to the first Severity Level III problem, although you identified the inadequate service water makeup calculation, it was identified as a result of continuing questions from the NRC inspectors. In addition, the NRC identified the inadequate acceptance criteria violation. Further, you missed the opportunity to identify this issue during the 1991 and 1992 service water design-basis reconstitution that the Byron staff performed. Lastly, you had several opportunities since 1993 to resolve these conditions since they were routinely identified during surveillance testing. Therefore, credit for *Identification* was not warranted for the first problem. Credit was not warranted for *Identification* for the second Severity Level III problem because the corrective action failures were identified by the NRC.

Credit was warranted for *Corrective Action* for both cases. Subsequent to identification of the issues by NRC inspectors, the Byron staff's root cause determination was sufficiently rigorous to ensure that corrective actions that have been implemented and are proposed to be implemented were comprehensive and should resolve this problem. Several of the corrective actions included: repairing the known degraded conditions that have existed in the cooling tower basin; ensuring that management expectations pertaining to design bases knowledge of the system engineers is clearly and consistently conveyed; revising the volumetric requirements of water in the cooling towers basins and submitting Technical Specification change requests (as appropriate); reviewing all open and canceled work requests to determine if other problems have been properly resolved; and upgrading the quality and acceptance criteria of surveillance procedures that are not specifically associated with a Technical Specification requirement. You stated that the latter corrective action should identify similar problems associated with the acceptance criteria for other surveillance procedures that are not associated with a Technical Specification requirement and bring the quality of these procedures up to the quality of the surveillance procedures associated with a Technical Specification.

Therefore, to emphasize the importance of identification and correction of significant conditions adverse to quality and for the Byron staff's failure to ensure that the essential service water system was capable of performing its design function under all circumstances, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalties (Notice) in the total amount of \$100,000 (a base penalty of \$50,000 for each Severity Level III problem).

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¹ A Notice of Violation was issued on December 11, 1995, (EA 95-197) for a Severity Level III problem associated with an inoperable hydrogen monitor.

The fifth and sixth violations include a failure to use adequate test instrumentation to measure the depth of silt in the essential service water cooling tower basin and a failure to revise the final safety analysis report to correctly reflect the design of the essential service water system function subsequent to a pre-startup design change. These violations were categorized as Severity Level IV.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room.

Sincerely,

A. Bill Beach
Regional Administrator

Docket Nos. 50-454; 50-455
License Nos. NPF-37; NPF-66

Enclosure: Notice of Violation and Proposed
Imposition of Civil Penalty

cc w/encl: T. J. Maiman, Senior Vice President
Nuclear Operations Division
D. A. Sager, Vice President,
Generation Support
H. W. Keiser, Chief Nuclear
Operating Officer
K. Kofron, Station Manager
D. Brindle, Regulatory Assurance
Supervisor
I. Johnson, Acting Nuclear
Regulatory Services Manager
Richard Hubbard
Nathan Schloss, Economist
Office of the Attorney General
State Liaison Officer, Wisconsin
State Liaison Officer
Chairman, Illinois Commerce Commission
Document Control Desk-Licensing

**NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY**

Commonwealth Edison Company
Byron Station

Docket Nos. 50-454; 50-455
License Nos. NPF-37; NPF-66
EA 96-508

During an NRC inspection conducted on September 27 through December 17, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose civil penalties pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalties are set forth below:

I. Violations Assessed a Civil Penalty

- A. 1. 10 CFR Part 50, Appendix B, Criterion III, "Design Control," states, in part, that measures shall be established to assure that the design basis for those structures, systems, and components to which Appendix B applies, are correctly translated into specifications, drawings, procedures, and instructions. It further states that the design control measures shall provide for verifying or checking the adequacy of design, such as the performance of design reviews, by the use of alternate or simplified calculational methods.

Contrary to the above, as of October 15, 1996, design control measures were inadequate, in that ultimate heat sink cooling tower basin makeup calculation, NED-M-MSD-14, Revision 0, dated February 1992, and Revision 1, dated August 1992, did not correctly establish the volume of water needed in the ultimate heat sink to support Technical Specification 3.7.5 when relying on the deep well pumps for makeup capability. The calculation did not account for a reduced usable essential service water cooling tower basin water volume due to silt accumulation or due to the design of the anti-vortex drainage duct surrounding the essential service water pump suction pipe. (01013)

2. 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed by documented procedures of a type appropriate to the circumstances and shall be accomplished in accordance with these procedures. The procedures shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

Contrary to the above, as of October 15, 1996, the licensee failed to ensure that appropriate acceptance criteria were included in its procedures for determining that an important activity was

satisfactorily accomplished. Specifically, procedure OBVS SX-5, "Inspection of River Screen House and Essential Service Water Cooling Tower," Revision 2, dated November 25, 1991, failed to have appropriate quantitative acceptance criteria for allowable silt levels in the essential service water cooling tower basin to determine the operability of the essential service water system when inspections of the basin were performed. (01023)

This is a Severity Level III problem (Supplement I). Civil Penalty - \$ 50,000.

- B. 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality, such as deficiencies, deviations, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.
1. Contrary to the above, prompt corrective action was not taken on July 26, 1993, when a significant condition adverse to quality was identified when a diver recorded more than 14 areas where silt levels exceeded surveillance procedure OBVS SX-5 acceptance criteria in the essential service water cooling water basin, the river screen house pump sumps, and the river screen house intake and forebay area. The silt buildup in the essential service water cooling tower basin changed the volume of water as analyzed in the final safety analysis report and therefore could change the consequences of the design-basis accident bounded in the updated safety analysis report. The cause of the silting condition was not determined and corrective actions inappropriately consisted of the diver "distributing" the silt to levels that met the surveillance acceptance criteria. (02013)
  2. Contrary to the above, prompt corrective action has not been taken since July 26, 1993, to repair significant conditions adverse to quality for several portions of the essential service water cooling tower trash rack grating that had fallen away from upper lateral supports, or were lying in the bottom of the essential service water cooling tower basins, or were leaning against the basin support columns. The safety function of the trash rack grating is to ensure that large objects do not enter the suction lines for the essential service water pumps. (02023)

This is a Severity Level III problem (Supplement I). Civil Penalty - \$50,000.

II. Violations Not Assessed a Civil Penalty

- A. 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," requires, in part, that test procedures provide provisions for assuring that adequate test instrumentation is available and used.

Contrary to the above, on October 15, 1996, inadequate test instrumentation (i.e., a diver's boot and arm) was used to measure the silt levels in the essential service water cooling tower basins during the performance of procedure OBVS SX-5, "Inspection of River Screen House and Essential Service Water Cooling Tower," Revision 2, dated November 25, 1991. (03014)

This is a Severity Level IV violation (Supplement I).

- B. 10 CFR 50.71(e) requires, in part, that the final safety analysis report (FSAR) be updated periodically to assure that the information in the FSAR contained the latest material developed. The updated FSAR shall be revised to include the effects of: all changes made in the facility or procedures as described in the FSAR; all safety evaluations performed by the licensee either in support of requested license amendments or in support of conclusions that changes did not involve an unreviewed safety question. Revisions must be submitted within 24 months of either July 22, 1980, or the date of issuance of the operating license, whichever is later, and shall bring the FSAR up to date.

Contrary to the above, the licensee's first updated FSAR submittal dated December 12, 1988, and subsequent periodic FSAR submittals failed to include the latest material developed. Specifically, based on the licensee's safety evaluation in 1981, the service water cooling tower basins (as reflected in FSAR Figures 9.2-25, 9.2-26, and 9.2-27) were changed to include the anti-vortex drainage duct. The necessary changes to the FSAR figures were not included in the licensee's required updated FSAR submittal. (04014)

This is a Severity Level IV violation (Supplement I).

Pursuant to the provisions of 10 CFR 2.201, Commonwealth Edison Company (licensee) for the Byron Station is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty. This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for

Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

The Licensee may pay the civil penalties by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalty, in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalties will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalties, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation(s) listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalties should not be imposed. In addition to protesting the civil penalties, in whole or in part, such answer may request remission or mitigation of the penalties.

In requesting mitigation of the proposed penalties, the factors addressed in Section VI B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalties.

Upon failure to pay any civil penalties due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalties, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234^e of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalties, and Answer to a Notice of Violation) should be addressed to: Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region III, if applicable, and a hard copy to the NRC Resident Inspector at Byron Generating Station.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected.

and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Lisle, Illinois
this 27th day of February 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
831 WARRENVILLE ROAD
USLE ILLINOIS 60532-4051

January 24, 1997

EA 96-325

Mr. Thomas J. Maiman
Senior Vice President
Nuclear Operations
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 300
Downers Grove, IL 60515

SUBJECT NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL
PENALTIES - \$650,000 (NRC Special Inspection Report
No(s) 50-373/96-09, 50-374/96-09)

Dear Mr. Maiman:

This refers to the inspection conducted on July 17 through August 20, 1996, at the LaSalle County Station. The inspection reviewed the circumstances surrounding two service water transients that occurred on June 19 and June 24, 1996, and the resulting discovery of the potential for a common mode failure of the ultimate heat sink for both LaSalle units. An Augmented Team Inspection (AIT) was conducted and documented in an inspection report dated August 2, 1996. Subsequent to the AIT, a followup inspection was conducted to further review the issues and concerns identified in the AIT report. This inspection was documented in an inspection report dated September 11, 1996. A predecisional enforcement conference was held on September 27, 1996, to discuss these matters with your staff.

Based on the information developed during the AIT, the followup inspection and the information that you provided during the conference, the NRC has determined that violations of NRC requirements occurred. These violations are cited in the attached Notice of Violation and Proposed Imposition of Civil Penalties (Notice) and the circumstances surrounding them were described in detail in both the August 2 AIT report, and in the September 11 inspection report.

These violations are very significant. The potential for a common mode failure of the ultimate heat sink was caused by repetitive fouling of the service water system due to the injection of foam sealant material from the repair of minor cracks above the safety-related service water intake tunnel. Because your staff had not appropriately analyzed or controlled this work activity, the injection of foam sealant material resulted in the introduction of large quantities of the material into the safety-related service water intake

structure. The injected foam sealant material created a significant safety issue and the potential for a common mode failure, by threatening to block the intake of both units' safety-related service water systems, systems required to mitigate the consequences of a design basis accident.

This event identified that significant weaknesses existed in planning of work activities and oversight of contractor maintenance on safety-related structures; engineering support for plant operations; and identification, evaluation, and correction of significant safety issues at the LaSalle County Station. Of particular concern was the lack of appropriate safety focus and lack of a questioning attitude.

The violations described in Section I.A of the Notice are indicative of inadequate oversight of maintenance activities performed by vendors and poor corrective actions following the identification of fouling of the non-essential service water strainers. Two violations of both failure to follow procedures or inadequate procedures are identified in Section I.A.1 of the Notice. These violations represent inadequate work planning, controls and procedures and are in and of themselves considered a significant regulatory concern. The violations demonstrate what can happen when uncontrolled work occurs in safety-related systems.

The failure to adequately correct repetitive fouling of service water systems described in Violation I.A.2 for a period of 17 days is also egregious. Following the June 19 non-essential service water strainer transient, plant operators returned the plant to full power without fully understanding the safety consequence of the transient. Operability evaluations of the safety-related service water systems, performed subsequent to the June 19 and June 24 transients, relied on erroneous information. The initial operability determination on June 19 assumed that the strainers were clogged by corn cob material used in sandblasting the exterior of the Lake Screen House. This operability evaluation was accepted by your staff in spite of available, but disregarded, information that indicated that the corn cob material was insufficient in both size and configuration to clog the non-essential service water strainers. On June 24, your staff again erred by inappropriately relying on explanations from the foam sealant vendor that the sealant material was buoyant without confirming the validity of this information. Subsequent inspections of the service water tunnel confirmed that the material was not buoyant, and presented a threat to the operation of the safety-related service water systems for both units.

Of further concern to the NRC is that even after the erroneous information concerning the buoyancy of the sealant material was identified, significant NRC involvement, including the issuance of a supplemental Confirmatory Action Letter (CAL) on July 5, 1996, was needed to direct your staff's attention to the potential safety consequences stemming from the clogging of service water systems and loss of the ultimate heat sink. Specifically, the supplemental CAL confirmed dual unit shutdown, additional inspection of suction strainers for all safety-related systems, surveillance testing of diesel generators, and the maintenance of plant systems necessary to remove heat from the plant until the potential impact of the injection of foam sealant material was identified and corrected. These

actions were necessary for the NRC to assure that conservative and comprehensive corrective actions were taken to evaluate and resolve the full extent of this very safety significant issue.

Actions were not taken despite your staff having more than sufficient indications that fouling was occurring and continuing to degrade the functionality of the non-essential service water systems and to challenge the operability of the safety-related service water systems. The NRC also considers violation I.A.2 a significant regulatory concern due to the consequences to safety created by challenging these necessary heat removal systems.

In summary, the NRC considers the failure to properly plan, control and follow procedures during the injection of foam sealant material in cracks above the service water intake structure and the failure to take adequate actions to correct the cause of repetitive fouling of the non-essential service water system, to represent a very significant safety problem because of the potential for affecting the safety-related service water system. Therefore, these violations have been classified in the aggregate, in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Severity Level II problem.

The five examples of a violation in Section I.B.1 involve procedures required by 10 CFR Part 50, Appendix B, Criterion V and Technical Specifications for testing, backwashing, and cleaning strainers in the safety-related Emergency Core Cooling Water and Residual Heat Removal Systems and non-essential service water systems. The violations in Section I.B.2 pertain to failures to complete unreviewed safety question evaluations for backwash flow for the emergency diesel generator service water system strainers being lower than that described in the FSAR and a mesh size for the non-essential service water strainers larger than that described in the FSAR. The NRC considers these violations as representing a significant lack of attention in controlling safety-related activities associated with service water system strainers. The violations identified in Section I.B.1 and I.B.2 have been classified in the aggregate as a Severity Level III problem, in accordance with the Enforcement Policy.

The violation in Section II addresses the failure to maintain records that furnished evidence of activities affecting quality for the work performed on the Unit 2 residual heat removal service water strainer D300A on July 6 and 12, and on Unit 2 residual heat removal service water strainer D300B on July 12, 1998. Although unrelated to the service water clogging problems, this violation, categorized at Severity Level IV, was indicative of a weakness in the quality assurance program at the LaSalle Station.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$80,000 is normally considered for a Severity Level II problem. As to the violations in Section I.A.1, the NRC considers that these violations, if considered singularly, would in and of themselves be classified at Severity Level III. Violation I.A.2, which represents the balance

of the Severity Level II problem, is a continuing violation extending over a significant period of time and would also in itself be considered as a Severity Level III violation. If this violation were to be addressed singularly, the NRC could assess daily civil penalties for each of the 17 days the violation continued. However, despite the NRC considering that the violation described in Section I.A.2 of the Notice continued until July 5, NRC recognizes that you shut down both units on June 28. This action subsequently reduced the safety consequences of this continuing violation, limiting the most risk significant period to the 10 days from when the violation began on June 19 until your staff shut down both units on June 28, 1996.

Based on consideration of the individual merits of this case, the NRC has decided to exercise enforcement discretion, in accordance with Section VII.(a) of the Enforcement Policy, and propose civil penalties in the amount of \$600,000 for the Severity Level II problem described in Section I.A of the Notice. The proposed civil penalties are based on \$50,000 per day being assessed for the 10 day period that the units operated while the corrective action violation described in Section I.A.2 of the Notice continued, in addition to \$100,000 being proposed for the procedural violations described in Section I.A.1 of the Notice. The NRC is taking this very significant action in light of the particularly poor performance in this event. Specifically, as noted above, this problem revealed very significant and fundamental weaknesses in the areas of plant management, operations, and engineering's knowledge of a safety-related structure, the Lake Screen House, planning and control of safety-related maintenance; conservative operability evaluations, and identification and correction of significant conditions adverse to quality at the LaSalle Station. In addition, extensive NRC involvement was needed to fully understand the extensiveness of this event.

As to the violations described in Section I.B.1 and I.B.2 of the Notice, in accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III problem. As your facility had not been the subject of escalated enforcement actions within the last 2 years, the NRC considered whether credit was warranted for your *Corrective Action*, in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. In this case, credit is not warranted for the factor of corrective action, due to the degree of NRC involvement needed to assure that conservative and comprehensive corrective actions were taken to evaluate and resolve these safety significant issues. Accordingly, the civil penalty proposed for this Severity Level III problem is \$50,000.

Therefore, to emphasize the importance of detailed knowledge by management, engineering and operations of safety-related plant structures, adequate planning and controls over safety-related maintenance, conservative operability evaluations, and identification and correction of significant conditions adverse to quality, I have been authorized, after consultation with the Commission, to issue the attached Notice of Violation and Proposed Imposition of Civil Penalties (Notice) in the amount of \$650,000 for the Severity Level II problem and the Severity Level III problem.

You are required to respond to this letter and should follow the instructions specified in the attached Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its attachment, and your response will be placed in the NRC Public Document Room.

Sincerely,

A. Bill Beach
Regional Administrator

Docket Nos. 50-373; 50-374
License Nos. NPF-11; NPF-18

Enclosure: Notice of Violation and Proposed
Imposition of Civil Penalty

cc w/encl: D. A. Sager, Vice President,
Generation Support
H. W. Kaiser, Chief Nuclear
Operating Officer
W. T. Subalusky, Jr.
Site Vice President
D. J. Ray, Station Manager
J. Burns, Regulatory Assurance
Supervisor
I. Johnson, Acting Nuclear
Regulatory Services Manager
Richard Hubbard
Nathan Schloss, Economist
Office of the Attorney General
State Liaison Officer
Chairman, Illinois Commerce
Commission
Document Control Desk-Licensing

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTIES

Commonwealth Edison Company
LaSalle County Station

Docket Nos. 50-373; 50-374
License Nos. NPF-11; NPF-18
EA 96-325

During an NRC inspection conducted on July 17 through August 20, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose civil penalties pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalties are set forth below:

I. Violations Assessed Civil Penalties

A. Violations Associated with Foam Sealant Repair, Planning and Corrective Actions

1. 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed by and accomplished in accordance with documented instructions, procedures, or drawings of a type appropriate to the circumstances.

LaSalle Administrative Procedure (LAP) 300-37, "Minor Maintenance Action Request Procedure," Revisions 3 (dated October 2, 1995) and 4 (dated May 13, 1996), step F.1, require, in part, that the Lead Unit Planner with the assistance of the Lead Maintenance Planner screen Action Requests to determine if the Action Request is minor. Step F.1.a defines an Action Request on safety-related equipment as minor when the work activity is limited to packing adjustments, valve handle replacement, tightening of threaded connections, walkdown inspections and troubleshooting which will not effect the safety-related function for any systems or components.

- a. Contrary to the above, on December 12, 1995, an activity affecting quality was not accomplished in accordance with LAP 300-37 in that the screening of the Action Request AR950063188 for the sealing of cracks in the safety-related Lake Screen House, performed by the Lead Unit Planner and the Lead Maintenance Planner, failed to determine that the work was not "minor maintenance." (01012)

- b Contrary to the above, between May 21, 1996, and June 20, 1996, an activity affecting quality involving safety-related work performed by a Commonwealth Edison contractor, repair of cracks in the Lake Screen House, was performed without documented instructions, procedures, and drawings appropriate for the activity (01022)

- 2 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action, requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

Contrary to the above, on June 19, 1996, and continuing until July 5, 1996, Commonwealth Edison failed to promptly identify and evaluate a significant condition adverse to quality, specifically the injection of foam sealant material into the service water tunnel. The injection of the sealant material was a significant condition adverse to quality because the activity introduced debris into the service water tunnel that challenged the functionality of the non-essential and safety-related service water systems because both systems took suction from the service water tunnel. The licensee failed to identify and correct the condition, as evidenced by the following examples:

- a. On June 19, 1996, following the determination that all three non-essential service water strainers were fouled, the licensee incorrectly determined that the fouling was caused by corn cob material used in sandblasting the exterior of the lake screen house when, in fact, the fouling occurred from foam sealant material.
- b. On June 24, 1996, following a second occurrence of fouling of the non-essential service water strainers and fouling of the diesel-driven fire pump strainers and having recognized that the source of the fouling was foam sealant material, the licensee incorrectly determined that the physical properties of the foam sealant material would not continue to place the service water systems in jeopardy, (i.e., the foam sealant material was attached to the ceiling of the service water tunnel or was buoyant). In fact, the sealant material, was not buoyant and was later identified on the bottom of the service water tunnel in close proximity to the safety-related service water intake

resulting in a significant condition adverse to quality created by the material presenting the potential for uptake into and fouling of the safety-related service water system.

- c. On June 28, 1996, following the discovery by divers that a significant quantity of foam sealant material was near the bottom of the service water intake tunnel, in close proximity to safety-related service water systems, the licensee incorrectly determined that foam sealant material would not challenge the functionality of the service water systems. (01032)

This is a Severity Level II problem (Supplement I).

Civil Penalty - \$600,000 (distributed \$100,000 for the violations in I.A.1 and \$500,000 for the violations in I.A.2).

B. Violations Associated with Procedural Requirements for Backwashing and Maintaining Cooling Systems

- 1. 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed by and accomplished in accordance with documented instructions, procedures, or drawings of a type appropriate to the circumstances.

Technical Specification 6.2 requires that the written procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, be established, implemented, and maintained. Regulatory Guide 1.33, Appendix A, recommends procedures be established for the Authorities and Responsibilities for Safe Operation and Shutdown and for the operation of the Service Water System.

Contrary to the above:

- a. On July 9, 1996, an activity affecting quality, safety-related testing on the diesel generator cooling water strainer backwash lines to determine system flow rates, was performed without the use of documented instructions, procedures and drawings appropriate for the activity.
- b. As of August 20, 1995, an activity affecting quality, inspecting and cleaning of both 10 and 40 basket Emergency Core Cooling Water System (ECCS) service water strainers, was inappropriate to the circumstances in that LaSalle Maintenance Procedure LMP-GM-25, "ECCS Service Water Strainer Maintenance," Revision 2, did not address the

differences between the two strainers, including the differences in the length of the drive shafts. (This resulted in the discovery on July 14, 1996, of a drive shaft for a 10 basket strainer installed in a 40 basket strainer in a Unit 2 Residual Heat Removal service water system strainer D3008.)

- c. As of August 20, 1996, Normal Operating Procedure LOP-DG-04, Revision 18, "Diesel Generator Special Operations," an activity affecting quality, was found inappropriate to the circumstances in that it did not contain the necessary instructions for manual backwashing of the diesel generator service water system strainers.
  - d. As of August 20, 1996, Normal Operating Procedure LOP-RH-14, Revision 4, "Backwash of the Residual Heat Removal Service Water Strainers," an activity affecting quality, was found inappropriate to the circumstances in that it did not contain the necessary instructions for manual backwashing of the Residual Heat Removal system strainers.
  - e. As of August 20, 1996, Normal Operating Procedure LOP-WS-05, Revision 3, "Service Water Strainer Operations," a Technical Specification required procedure, was not appropriately maintained in that it did not contain the necessary instructions to allow for backwashing of the non-essential service water strainers. (02013)
2. 10 CFR 50.59, "Changes, Tests and Experiments," paragraph (a), requires, in part, that a licensee may make changes in the facility as described in the safety analysis report, without prior Commission approval, unless the proposed change involves a change in the technical specification incorporated in the license or an unreviewed safety question. Records of changes must include a written safety evaluation which provides the bases for the determination that the change does not involve a unreviewed safety question.

The Core Standby Cooling System (CSCS) is described in Section 9.2.1 of the UFSAR. Section 9.2.1.2 states that the backwash cycle requires 250 gpm at 20 psid. Section 9.2.2.2 states that a 1/16" mesh is installed in the non-essential service water strainers.

Contrary to the above:

- a. As of August 20, 1996, a written safety evaluation to provide the bases for a determination that a change to the facility did

not involve an unreviewed safety question was not performed for a change to the facility involving the discovery on July 13, 1996, that the backwash flow of the 0, 1A and 2A diesel generator cooling water strainers, a part of the CSCS Equipment Cooling Water System, was determined to be approximately 22 gpm, significantly less than the 250 gpm described in Section 9.2.1.2 of the UFSAR.

- b. As of August 20, 1996, a written safety evaluation to provide the bases for a determination that a change to the facility did not involve an unreviewed safety question was not performed for a change to the facility involving the discovery, on June 27, 1996, that the non-essential service water strainers were installed with a 1/8" mesh instead of the 1/16" mesh described in Section 9.2.2.2 of the UFSAR. (02023)

This is a Severity Level III Problem (Supplement I).
Civil Penalty - \$50,000.

II. Violations Not Assessed a Civil Penalty

- A. 10 CFR Part 50, Appendix B, Criterion XVII, "Quality Assurance Records," requires, in part, that sufficient records be maintained to furnish evidence of activities affecting quality. Inspection and test records shall, as a minimum, identify the inspector, the type of observation, the results, the acceptability, and the action taken in connection with any deficiencies noted.

Contrary to the above, records were not maintained to furnish evidence of activities affecting quality for the work performed on the Unit 2 residual heat removal service water strainer D300A on July 6 and 12, and on Unit 2 residual heat removal service water strainer D300B on July 12, 1996, in that the records did not identify the inspector, the results, or the action taken in connection with the deficiencies noted. (03014)

This is a Severity Level IV violation (Supplement II).

Pursuant to the provisions of 10 CFR 2.201, Commonwealth Edison Company (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalties (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is

not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalties in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalties will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalties, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may (1) deny the violations listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalties should not be imposed. In addition to protesting the civil penalties in whole or in part, such answer may request remission or mitigation of the penalties.

In requesting mitigation of the proposed penalties, the factors addressed in Section VI B 2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalties.

Upon failure to pay any civil penalties due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalties, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalties, and Answer to a Notice of Violation) should be addressed to: Jim Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region III, and a copy to the NRC Resident Inspector at the LaSalle County Station.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or

proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Lisle, Illinois
this 24th day of January 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

March 12, 1997

EA 96-355

Mr. J. H. Mueller
Site Vice President
Zion Station
Commonwealth Edison Company
101 Shiloh Boulevard
Zion, IL 60099

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$100,000 (NRC Inspection Report Nos. 50-295/96011; 50-304/96011)

Dear Mr. Mueller:

This refers to the engineering and technical support inspection conducted from July 22 through August 22, 1996, at the Zion Nuclear Generating facility. The inspection included a review of engineering processes and modifications. The report documenting this inspection was sent to you by letter dated October 22, 1996. A closed predecisional enforcement conference was conducted in Region III on November 11, 1996.

Based on the information developed during the inspection and the information that you provided during the conference, the NRC has determined that violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) and the circumstances surrounding them are described in detail in the subject inspection report.

The violations in Section I of the Notice involved: 1) examples of a failure to perform adequate 10 CFR 50.59 analyses for modifications on safety-related systems; 2) examples of failure to follow procedures in the areas of modifications, corrective actions, operations and maintenance; 3) examples of failure to conduct tests to demonstrate systems would perform satisfactorily following modification; and 4) examples of failure to take prompt corrective action for significant conditions adverse to quality involving repetitive out-of-tolerance settings for containment spray system sodium hydroxide spray additive tank level indication and repetitive failures of a 4KV breaker.

These violations provide examples where your staff's processes for performing engineering activities on safety-related and non-safety-related structures, systems and components were either weak or were not adequately implemented. NRC identified that a number of 10 CFR 50.59 safety evaluations for modifications were inadequate, the process for

closing modification packages was deficient, and that the status of post-modification testing was, in many cases, indeterminate. For example, 9 safety-related and 19 non-safety-related modifications were installed and placed in service from the mid-1980s through 1996 without verifying that the modification packages were completed. For the majority of these packages, the status of post-modification testing could not be determined because the documentation in the package regarding post-modification testing was inadequate or missing entirely. The NRC also identified weak operability assessments, inappropriate Technical Specification interpretations, and that the Updated Final Safety Analysis Report conformance review deficiencies were not properly documented in the corrective action program.

Of further concern was the fact that internal assessments by your Safety Assessment and Quality Verification (SAQV) organization had documented similar 10 CFR 50.59 evaluation and engineering process problems and that corrective actions to the findings were either untimely or not implemented at all. The root cause of these problems was attributed to weak management involvement and oversight, a lack of a questioning attitude in both the operations and engineering staffs, and a poor corrective action program associated with engineering problems.

Your staff indicated at the predecisional enforcement conference that the individual violations were not safety significant and that safety consequences were minimal. However, your staff acknowledged that the violations had regulatory significance because of the fact that safety-related systems were modified and returned to service without adequate safety evaluations, completion of the modification packages, or knowledge of the status of post-modification testing. Lacking this important information regarding the modifications, Commonwealth Edison Company could not establish that the modified systems would function as expected and would not impact other safety-related systems with regard to their ability to perform as intended. In addition, weak operability assessments, inappropriate Technical Specification interpretations and poor followup of Final Safety Analysis Report conformance issues further questioned the ability of systems to perform as intended.

Collectively, the NRC considers that these violations represent a significant breakdown in the control of licensed activities involving a number of violations that are related and represent a significant lack of attention by your staff toward engineering activities. Therefore, in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, these violations are classified in the aggregate as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Seventy Level III problem. Because your facility has been the subject of escalated enforcement actions within the last two years,¹ the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. Credit was not warranted for *Identification* because the NRC identified the violations. As to the factor of *Corrective Action*, credit was warranted because your corrective actions, once the violations were identified by the NRC, were considered prompt and comprehensive. These actions, which were discussed during the conference, included: 1) a review of 10 CFR 50.59 evaluations for quality and content and a review of operability evaluations for consistency; 2) clarification of management expectations for the operations and engineering staffs; 3) addition of several checks and balances for reviewing engineering activities including additional in-line reviews and initiation of a Safety Evaluation Review Committee; 4) initiation of a dual independent review of system engineering tests during the Unit 2 refueling outage; 5) revision of relevant procedures; and 6) improvements in training for the operations and engineering staffs regarding operability evaluations and engineering activities related to modifications and post-modification testing.

In accordance with the civil penalty assessment process, a base civil penalty in the amount of \$50,000 would normally be issued in this case. However, I have been authorized after consultation with the Director, Office of Enforcement, and the Deputy Executive Director for Regulatory Effectiveness, Program Oversight, Investigations, and Enforcement, to exercise discretion and escalate the base civil penalty in accordance with Section VII.A.1 of the Enforcement Policy. The NRC is taking this discretionary action because of: 1) the fact that the root causes of the problem existed for an extended duration and 2) past ineffective corrective action, including failures to effectively address several of these same root causes when they were identified by your own organization. Therefore, to emphasize the importance of performing thorough engineering activities in accordance with NRC requirements, responding to findings of your own self-assessments with effective corrective actions, and providing appropriate management oversight of your engineering organization, a civil penalty of \$100,000 is being proposed.

The violation described in Section II of the Notice addresses a failure to indicate by the use of a suitable process the status of tests for safety-related systems, structures and components. This violation was classified in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Seventy Level IV violation.

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¹ A Seventy Level III violation with a \$50,000 civil penalty was issued on August 23, 1996 (EA 96-216) for a series of eight operational errors and unplanned changes to the status of safety related equipment, and a \$50,000 civil penalty was issued on February 21, 1996, (EA 95-283) for failure to properly maintain emergency lighting.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room.

Sincerely,

A. Bill Beach
Regional Administrator

Docket Nos. 50-295; 50-304
License Nos. DPR-39; DPR-48

Enclosure: Notice of Violation and Proposed
Imposition of Civil Penalty

cc w/encl: T. J. Maiman, Senior Vice President
Nuclear Operations Division
D. A. Sager, Vice President
Generation Support
H. W. Keiser, Chief Nuclear
Operating Officer
R. Starkey, Plant General Manager
R. Godley, Regulatory Assurance
Supervisor
J. Johnson, Acting Nuclear
Regulatory Services Manager
Richard Hubbard
Nathan Schloss, Economist
Office of the Attorney General
Mayor, City of Zion
State Liaison Officer, Wisconsin
State Liaison Officer
Chairman, Illinois Commerce Commission
Document Control Desk - Licensing

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Commonwealth Edison Company
Zion Generating Station

Docket No. 50-295; 50-304
License No. DPR-39; DPR-48
EA 96-355

During an NRC inspection conducted on July 22 through August 22, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

I. Violations Assessed A Civil Penalty

- A. 10 CFR 50.59(a)(1) states, in part, that a licensee may make changes in the facility as described in the safety analysis report without prior Commission approval unless the change involves a change in the technical specification incorporated in the license or an unreviewed safety question. 10 CFR 50.59(b)(1) states, in part, that the licensee shall maintain records of changes in the facility and of changes in the facility made pursuant to this section, to the extent that these changes constitute changes in the facility and in procedures as described in the safety analysis report. These records must include a written safety evaluation which provides the bases for the determination that the change does not involve an unreviewed safety question.

1. The Zion Updated Final Safety Analysis Report (UFSAR) at Section 6.3 describes the safety injection system and Figure 6.3-1 indicates that there is no heat tracing installed on the safety injection (SI) pumps' minimum flow recirculation piping.

Contrary to the above, on March 18, 1996, the licensee did not perform an adequate safety evaluation to determine whether temporary alteration 96-014, "Installation of Heat Tracing and Insulation on the SI Recirculation Line," constituted an unreviewed safety question. Specifically, the safety evaluation was deficient because it did not provide the basis for the determination that the installation of heat tracing did not change the SI system operating characteristics. (01013)

2. The Zion UFSAR at Table 6.2-4 states that there is no seal water system function for containment penetration P-4.

Contrary to the above, as of October 1995, the licensee did not perform an adequate safety evaluation to determine whether the safety related plant change implemented by E22-1(2)-5-218, "MOV SI-8803A/B Bypass Line Addition," constituted an unreviewed safety question. Specifically, the evaluation was deficient in that it took credit for the seal water system as a containment isolation function for penetration P-4. (01023)

3. The Zion UFSAR at Section 6.3.2 describes the safety injection tanks and Section 5.4.11.2 describes the pressurizer relief tank. In addition, the UFSAR did not describe the acceptability of leaving temporary scaffolding in the containment during power operation.

Contrary to the above, as of November 16, 1995, the licensee did not perform an adequate safety evaluation to determine whether safety evaluation 50.59/0166/95, which authorized temporary scaffolding to remain in the containment (around the safety injection tanks and in contact with the pressurizer relief tank), constituted an unreviewed safety question. Specifically, the evaluation failed to consider the effect the scaffolding could have on piping and instrumentation, pipe break effects, and/or thermal growth. (01033)

- B. 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, that activities affecting quality shall be appropriate to the circumstances and shall be prescribed by documented instructions, procedures, or drawings and shall be accomplished in accordance with these instructions, procedures and drawings.

1. Zion administrative procedure (ZAP) 510-02, "Plant Modification Program" (Rev 5(G) dated December 19, 1995), at Steps G.6.d, "Quality Control," G.6.e, "System Engineer," G.7.c, "Modification Coordinator," and G.7.d, "System Engineer Supervisor," required verification by each respective individual or department that the plant modification was complete prior to placing the effected equipment in service.

Contrary to the above, as of August 22, 1996, the licensee failed to follow procedures, for activities affecting quality, in that the following safety-related modifications were not accomplished in accordance with ZAP 510-02. Specifically the components associated with each modification listed below were "declared operable" before the required verifications by either the Quality Control department, System Engineer, Modification Coordinator, or System Engineer Supervisor were complete. (01043)

- a. Modification E22-1-90-016B, "NIS source and intermediate range replacement with accident monitoring qualified instrumentation;"
- b. Modification E22-1(2)-93-248, "Change steam supply to auxiliary feed pump traps to choke traps;"
- c. Modification M22-0-84-001, "Process radiation monitor signal (OP1A-PR29) to control room isolation and safety injection;" and
- d. Modification M22-1(2)-84-052, "Receptacle on battery charger and test switch."

2. Zion administrative procedure (ZAP) 700-08, 0, "Problem Identification Process" (Rev 1 dated June 29, 1996), at Item 16 of Appendix A, required generation of Problem Identification Forms (PIFs) for events or conditions identified by an assessment group.

Contrary to the above, as of August 22, 1996, the licensee failed to follow procedures, for activities affecting quality, in that approximately 114 deficient conditions identified by the UFSAR conformance review group (an assessment group) were not documented on PIFs as required by Item 16 to Appendix A of ZAP 700-08. (01053)

3. ZAP 920-01, "Site Scaffolding Procedure" (Rev 1 dated November 7, 1995), at step F.16 requires monthly inspections of installed scaffolding.

Contrary to the above, from November 15, 1995, to August 22, 1996, the licensee failed to follow procedures, for activities affecting quality, in that a monthly inspection of scaffolding installed around the safety injection accumulators was not performed as required by step F.16 of ZAP 920-01. (01063)

4. ZAP 500-13A, "Perform Monitoring, Evaluation, and Goal Setting Within the Maintenance Rule" (Rev 0 dated July 10), at step G requires system engineering to perform monthly updates of the material condition data base.

Contrary to the above, as of August 22, 1996, the licensee failed to follow procedures, for activities affecting quality, in that the material condition data base for the Auxiliary Power system was not updated as required by ZAP-500-13A. (01073)

5. ZAP 510-02, "Plant Modification Program" (Rev 5(G) dated December 19, 1995), at Section G.7 requires that all drawings or diagrams affected by a design package shall be updated.

Contrary to the above, as of August 22, 1996, the licensee failed to follow procedures, for activities affecting quality, in that diagrams of safety related degraded voltage relays were not updated subsequent to relay revisions as required by ZAP 510-02. Specifically, diagrams 22E-1-4000H, 22E-1-4000J, 22E-2-4000H, 22E-2-4000J, 22E-1-4000C, and 22-E-2-4000C had not been revised. (01083)

6. ZAP 130-02, "Technical Specification Interpretation" (Rev 0 dated October 18, 1995), at step G.1.h requires that a Technical Specification (TS) Interpretation (TSI) shall not change the intent of the applicable TS.

Contrary to the above, as of August 22, 1996, the licensee failed to follow procedures, for activities affecting quality, in that the following TSIs had not been reviewed to determine if the TSI altered the intent of the applicable TS as required by ZAP 130-02. (01093)

- a. TSI 89-03 altered the intent of TS 4.3.1.A.4.b. by allowing the use of narrow range steam generator water level to determine reactor coolant loop operability. TS 4.3.1.A.4.b. specified the use of wide range steam generator water level in determining reactor coolant loop operability.
- b. TSI 95-03 altered the intent of TS 3.13.1.A.4 by suspending residual heat removal operation for up to one hour in an eight hour period during core alterations. TS 3.13.1.A.4 requires at least one residual heat removal pump and heat exchanger be in operation during core alteration.
- c. TSI 89-02 altered the intent of TSs 3.7.2 and 4.7.2 by permitting auxiliary feedwater flowpath valve verification instead of auxiliary feedwater flowrate when verifying auxiliary feedwater pump operability.
- d. TSI 91-05 altered the intent of TSs 3.8.7.A, B, and C by increasing the time limit that the licensee can take to place the unit in hot shutdown if service water pumps become inoperable.

- e. TSI 86-03 altered the intent of TSs 3.22.1.A, 3.22.2.A, 4.22.1.A.3 and 4.22.2.A.3 by permitting a visual examination instead of an engineering evaluation for components that were attached to a snubber that had failed a functional test.
- C. 10 CFR 50, Appendix B, Criterion XI, "Test Control," states, in part, that a test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents. Test results shall be documented and evaluated to assure that test requirements have been satisfied.

Contrary to the above, the licensee failed to establish an effective testing program as evidenced by the following examples: (01103)

1. As of August 22, 1996, the licensee's test program did not assure that all testing required to demonstrate that the following modifications would perform satisfactorily was completed prior to placing the modified systems in service.
  - a. Modification E22-1-90-016B, "Replace NIS Source and Intermediate Range with Accident Monitoring Qualified Instrumentation," was placed in service in January 1994, however, the test documentation and loop calibrations for the NIS loop drawers could not be located.
  - b. Modification E22-1(2)-93-248, "Replacement of Turbine Driven Auxiliary Feed Pump Steam Traps," was placed in service in February 1996 without performing the testing specified in Modification E22-1(2)-93-248.
  - c. Modification M22-0-84-001, "Process Radiation Monitor Signal (OP1A-PR29) to Control Room Isolation and Safety Injection," was placed in service in 1989 without performing the testing specified in Modification M22-0-84-001.
  - d. Modification M22-1(2)-84-052, "Battery Charger Receptacle and Test Switch," was placed in service in 1986 without performing any post-modification testing.

2. As of August 22, 1996, the emergency core cooling system full flow test procedure TSS 15.6.84, "Charging and Safety Injection Flow Test" (Rev 24 dated October 25, 1995), that was performed on October 22, 1995, failed to incorporate acceptance criteria to address the Small Break Loss of Coolant Accident (LOCA) flow requirements contained in RSA:92-217, "Zion Small Break LOCA Analysis."

- D. 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," states, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

Contrary to the above, the licensee failed to establish measures to assure that significant conditions adverse to quality are promptly identified and corrected as evidenced by the following examples (01123):

1. As of August 22, 1996, measures were not taken to determine the cause of and correct a significant condition adverse to quality pertaining to the repetitive out of tolerance settings for the containment spray sodium hydroxide spray additive tank level indication.
2. As of August 22, 1996, measures were not taken to correct a significant condition adverse to quality pertaining to the repetitive failures of 4KV Breaker No. 1412, "Reserve Feed Breaker," for the Unit 2 Engineering Safeguard Feature Busses.

This is a Severity Level III problem (Supplement I).
Civil Penalty - \$100,000

II. Violation Not Assessed a Civil Penalty

10 CFR 50, Appendix B, Criterion XIV, "Inspection, Test, and Operating Status," states, in part, that measures shall be established to indicate, by the use of markings or other suitable means, the status of inspections and tests performed upon individual items of a nuclear power plant. These measures shall provide for the identification of items which have satisfactorily passed required inspections and tests, where necessary to preclude inadvertent bypassing of such inspections and tests.

Contrary to the above, as of August 6, 1996, the following safety-related modifications did not contain measures to status tests performed upon individual items of the modifications and did not provide for the identification of items that had satisfactorily passed testing required by the modifications prior to placing them in service where necessary to preclude inadvertent bypassing of such tests. (02014)

- A. Modification E22-1-90-016B, "Replace NIS Source and Intermediate Range with Accident Monitoring Qualified Instrumentation;"
- B. Modification E22-1(2)-93-248, "Replacement of Turbine Driven Auxiliary Feed Pump Steam Traps;"
- C. Modification M22-0-84-001, "Process Radiation Monitor Signal (OP1A-PR29) to Control Room Isolation and Safety Injection;" and
- D. Modification M22-1(2)-84-052, "Battery Charger Receptacle and Test Switch."

This is a Severity Level IV violation (Supplement II).

Pursuant to the provisions of 10 CFR 2.201, Commonwealth Edison Company (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such

answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region III.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Lisle, Illinois,
this 12th day of March 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
476 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1416

May 27, 1997

EAs 86-509
97-031
97-113
97-191

Mr. Stephen E. Quinn
Vice President - Nuclear Power
Consolidated Edison Company of
New York, Inc.
Indian Point 2 Station
Broadway and Bleakley Avenues
Buchanan, New York 10511

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL
PENALTIES - \$205,000; AND EXERCISE OF ENFORCEMENT DISCRETION
(NRC Inspection Report Nos. 50-247/96-80; 96-07; 96-08; 97-03)

Dear Mr. Quinn:

This letter refers to four NRC inspections conducted between October 27, 1996 and April 5, 1997, at your Indian Point 2 nuclear facility. The findings of these inspections were discussed with you and members of your staff during several exit meetings, the last of which was held on April 28, 1997. These inspections included an Integrated Performance Assessment Process (IPAP) of your facility, as well as three routine resident inspections. The related inspection reports were sent to you previously. On March 14, 1997, a Predecisional Enforcement Conference was conducted with Mr. S. Bram, yourself, and members of your staff, to discuss the violations identified during the IPAP inspection and resident inspection 96-07, as well as the causes of those violations and your corrective actions.

An additional apparent violation identified in NRC Inspection Report 96-08, issued on March 12, 1997, was not discussed during the enforcement conference, but was previously discussed with you at a management meeting in the Region I office on February 19, 1997. That meeting was in response to the January 31, 1997, Confirmatory Action Letter (CAL) that the NRC issued after you shut down the reactor because three of the four safety-related main feedwater regulating valves (MFRVs) were discovered to be physically bound and unresponsive to control signals. An apparent violation identified in NRC Inspection Report 97-03, issued on May 1, 1997, also was not discussed at the conference since it had just been recently identified. This violation involved the failure to identify the actuation of multiple fire dampers in the control building from March 4-6, 1997, until it was identified by the NRC resident inspectors. The NRC reviewed your corrective actions in this matter and, based on the discussions which the staff had with Con Edison management on March 7-9, 1997, concluded that we have all the information necessary to make an enforcement decision in this matter. On April 22, 1997, you informed Mr. C. Cowgill of the NRC Region I office that you agreed that another enforcement conference was not needed to discuss either of these issues.

Based on the information developed during the inspections, the information provided during the March 14, 1997, enforcement conference, and the information provided during the February 19, 1997, management meeting held to discuss your follow-up to the CAL, nine violations of NRC requirements are being cited and are described in the enclosed Notice of Violation and Proposed Imposition of Civil Penalties (Notice). Six of the violations involve the failure to identify and/or correct significant conditions adverse to quality that existed at your facility. These six violations are set forth in Section I.A of the Notice. Another violation being cited, which was described in Inspection Report 96-80, involves the failure to assure appropriate fire protection of components in the event of a fire at the facility, as required by Appendix R. This violation is set forth in Section I.B of the Notice. The other two violations, related to procedural adequacy and adherence, are set forth in Section II of the Notice.

With respect to the six corrective action violations set forth in Section I.A of the Notice, one of the violations involved the buildup of the abrasive grit in the feedwater system, after the grit was used during a refueling outage in April 1995, to prepare the inner surface of the high pressure turbine. That buildup led to the malfunction of the main feedwater regulating valves in January 1997, in that the valves failed to close on demand. This violation is considered particularly significant because such grit was found in other areas of the feedwater system in June 1995. At that time, the grit was determined to be the cause of the failure of a heater drain tank pump, in that it caused significant damage to the internal components of the pump. However, notwithstanding these prior indications of grit in the system, your staff did not aggressively evaluate the entire system to determine the extent of the problem, and as a result, three of the four main feedwater regulating valves, as well as another heater drain pump, malfunctioned in January 1997. Given the significance of not responding properly to the 1995 event, as well as the resultant failure of regulating valves, this specific violation set forth in Section I.A(1) of the Notice is classified individually at Severity Level III in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600.

A second violation in Section I.A of the Notice involved Con Edison's failure to identify the inadvertent actuation of multiple fire dampers in the control building from March 4-6, 1997, until it was brought to management's attention by the NRC resident inspectors. This violation is considered significant due to the multiple missed opportunities available for members of your staff to identify and address this problem. For example, a nuclear plant operator, a security guard and two other individuals had identified that damper(s) had actuated, but no follow-on corrective action was taken. This event revealed weaknesses in your organization relative to the use of problem identification tags, maintenance of a proper questioning attitude by personnel, and logging and communication of event information in the control room. Given the number of missed opportunities for identifying and addressing this equipment problem, and the significance of this violation, this specific violation, set forth in Section I.A(2) of the Notice, is also classified individually at Severity Level III in accordance with the Enforcement Policy.

In addition to the failure to take adequate corrective actions to preclude the grit intrusion event, as well as the failure to identify the actuation of the fire dampers, other instances of failure to promptly identify and correct significant conditions adverse to quality were identified, which could have resulted in degradation or inoperability of safety-related equipment. These findings are described in Section I.A.(3) of the enclosed Notice. Specifically, (1) an adequate root cause analysis was not done in response to repeated surveillance test failures associated with the turbine driven auxiliary feedwater pump steam admission valve and the auxiliary feedwater (AFW) pump discharge flow control valves, and damage was subsequently identified internal to these valves; (2) there was preconditioning of the turbine driven auxiliary feedwater pump by blowing down the steam traps prior to surveillance testing such that the pump was not tested in the condition it would see during an unanticipated start, and an adequate engineering review was not performed to support pump operability; (3) there were multiple surveillance test failures associated with alternate safe shutdown system power transfer switches for certain service water pumps; and (4) there was untimely identification of degradation of the primary auxiliary building filter/fire deluge system control panel and associated circuits such that the system was incapable of performing its design function. These findings further demonstrate that you have not consistently taken timely, thorough, and aggressive actions to identify and correct deficient equipment conditions, and management oversight, at times, has been ineffective in assuring such aggressiveness. These four violations are classified in the aggregate as a Severity Level III problem in accordance with the Enforcement Policy.

The violations in Section I.A of the enclosed Notice are of further concern because once resolutions to problems had been developed, the implementation of corrective actions was slow in a number of cases. Also, your quality assurance organization and your safety review committees were inconsistent in their ability to identify problem areas, as noted in the NRC March 31, 1997 letter transmitting the latest Systematic Assessment of Licensee Performance (SALP) for Indian Point 2. Furthermore, adequate recognition and resolution of these violations did not occur until after the NRC persistently questioned your staff concerning the adequacy of the corrective actions for these problems. These violations demonstrate the need for, and importance of, management fostering a safety culture and work environment wherein personnel are self-critical and possess a low threshold for identifying and correcting problems, and management is actively involved in verifying the timeliness and effectiveness of the corrective actions.

The violation in Section I.B of the Notice involves a condition in which fire protection features were not provided to limit fire damage so that one train of a system necessary to achieve and maintain hot shutdown was free of fire damage. Specifically, certain normal safe shutdown instrumentation and the corresponding alternate safe shutdown instrumentation would be subject to fire damage from the same fire. The two diverse methods, which are utilized to monitor pressurizer pressure and level and steam generator level, are 1) the normal instrumentation channels which are electrical devices, and 2) the alternate safe shutdown system, which is pneumatic with air/nitrogen providing the motive force for the indication. Your review indicated that the same fire could disable both systems. This violation is also classified at Severity level III in accordance with the Enforcement Policy because a postulated fire, in the absence of additional evaluation, could so damage equipment that shutdown could not be achieved and maintained using the applicable equipment identified in the fire hazards analysis.

With respect to Violations I.A(1), I.A(3)a.-d., and I.B, a base civil penalty in the amount of \$50,000 is considered for each Severity Level III issue in accordance with the Enforcement Policy in effect at the time these violations occurred. With respect to violation I.A(2), the base civil penalty in the amount of \$55,000 is considered for a Severity Level III violation.¹ Since Indian Point 2 has been the subject of escalated enforcement actions within the last 2 years,² the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy for each of the Severity Level III issues. Credit for identification is not warranted for Violations I.A(1), I.A(2), and I.A(3)a.-d. because the failures to take appropriate corrective actions for these adverse conditions were identified by the NRC. Credit for your short-term corrective actions is warranted for Violations I.A(1), I.A(2), and I.A(3)a.-d. These actions included extensive equipment repair, replacement and testing; changes to surveillance testing processes; more formal root cause analysis programs, processes and techniques; more formal post event critiques; and retraining of personnel. The NRC intends to follow your actions closely to judge their effectiveness.

Regarding the violation in Section I.B of the Notice, credit for identification is warranted because the violation was identified by your staff. Credit for corrective actions is not warranted because your initial corrective actions were not comprehensive nor timely in that your initial modification (i.e., a nitrogen bottle with a hose available for installation in the event of a fire), did not comply with Appendix R because installation of this arrangement in response to a fire is considered a repair. Further, that initial modification lacked adequate pressure relief capability. Your permanent modification, which consisted of supplying nitrogen to the appropriate valve from an upstream tap, was not completed in a timely manner.

Therefore, to emphasize the importance of identification and correction of significant conditions adverse to quality, I have been authorized, after consultation with the Office of Enforcement to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalties (Notice) in the total amount of \$205,000 for the violations in Section I.A and I.B (\$50,000 each for Violations I.A(1), I.A(3)a.-d., and I.B, and \$55,000 for Violation I.A(2).

Overall, the penalties described above reflect the NRC concern about current station performance. The violations indicate a marked decline in the overall effectiveness of management oversight, and reflect a tolerance of problems rather than aggressively identifying and correcting problems. This concern is further heightened by the fact that one of the systems identified, namely the AFW system, is particularly important to plant safety from a standpoint of increased risk involved during periods of system degradation or inoperability. The fact that many of these issues were not pursued by your staff until there had been substantial interaction with the NRC adds to the seriousness of these issues.

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¹ On November 12, 1996, the base civil penalty amounts for Severity Level III violations or problems changed from \$50,000 to \$55,000 (FR 61 53554, dated October 11, 1996). Since Violation I.A(2) occurred after November 12, 1996, the base amount for this Severity Level III problem is \$55,000. Since Violations I.A(1), I.A(3)a.-d., and I.B occurred before November 12, 1996, the base amount for these Severity Level III violations/problem is \$50,000.

² e.g., A Notice of Violation without a civil penalty was issued on May 6, 1996 for a violation of 10 CFR 50.59 that was classified at Severity Level III. (EA 96-089).

Another violation of Appendix R, involving the potential for hot shorts as a result of fire damage to cables associated with both the pressurizer power operated relief valve (PORV) and block valves (a high/low pressure interface), was also identified during the inspection. The cables for both PORV solenoid operated valves (SOVs) and their associated block valves are routed in the same fire area and are contained within trays that contain cables of similar size and voltage which are normally energized. A fire in the affected area could result in hot shorts that could cause spurious opening of a PORV and prevent closure of the associated block valves. This deficiency is a violation of 10 CFR Part 50, Appendix R, Section III G.2, that requires one of the redundant trains needed to achieve and maintain hot shutdown be free of fire damage. Normally, escalated enforcement action would be considered for this violation. However, in order to recognize your efforts in identifying problems affecting safety and to give credit for prompt correction of this problem, I have been authorized, after consultation with the Office of Enforcement, to exercise discretion and not issue a Notice of Violation in this case in accordance with the criteria in Section VII.B.3 of the enforcement policy. This decision is based on the fact that this case involved an old design issue which (1) was identified as a result of a voluntary initiative by engineering to resolve a potential discrepancy noted during an IPE evaluation; (2) was corrected, including the planned addition of an interlock to the PORV block valves and the scheduled installation of isolation switches for the PORVs in the AFW building; and, (3) was not likely to be identified (after the violation occurred) by routine licensee efforts such as normal surveillance or quality assurance (QA) activities. Accordingly, no Notice of Violation is being issued.

The two violations of NRC requirements in Section II of the enclosed Notice are classified individually at Severity Level IV.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,

Hubert J. Miller
Regional Administrator

Docket No. 50-247
License No. DPR-26

Enclosure: Notice of Violation and Proposed Imposition of Civil Penalties

cc w/encl:

C. Jackson, Manager, Nuclear Safety and Licensing

B. Brandenburg, Assistant General Counsel

C. Feison, Director, Nuclear Licensing

C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
Director, Electric Division, Department of Public Service, State of New York

W. Stein, Secretary - NFSC

F. William Valentino, President, New York State Energy Research and Development Authority

J. Spath, Program Director, New York State Energy Research and Development Authority

ENCLOSURE

NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES

Consolidated Edison Company of New York, Inc.
Indian Point Nuclear Generating Station Unit 2

Docket No. 50-247
License No. DPR-26
EA Nos. 96-509; 97-031;
97-113; 97-191

During NRC inspection No. 96-80 conducted from November 12-22, 1996, NRC inspection No. 96-07 conducted from October 27 through December 21, 1996, NRC inspection 96-08 conducted from December 22, 1996, through February 15, 1997, and NRC inspection 97-03 conducted from February 16, 1997, through April 5, 1997, for which several meetings were held, the last of which was on April 28, 1997, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the Nuclear Regulatory Commission proposes to impose civil penalties pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalties are set forth below:

I. VIOLATIONS ASSESSED A CIVIL PENALTY

A. VIOLATIONS RELATED TO INADEQUATE IDENTIFICATION AND CORRECTION OF ADVERSE CONDITIONS

10 CFR Part 50, Appendix B, Criterion XVI requires that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment are promptly identified and corrected. For significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective actions taken to preclude repetition.

- (1) Contrary to the above, between June 1995 and January 26, 1997, measures were not established to assure that a significant condition adverse to quality was promptly identified and corrected. Specifically, on January 27, 1997, three main feedwater regulating valves (MFRVs) and one low-flow feedwater regulating valve failed in the open position. The MFRVs serve a safety-related function as part of the feedwater isolation system. The cause of the failures was the introduction of sandblasting grit material used in the high pressure turbine during the 1995 refueling outage. A June 1995 failure of a heater drain tank pump was recognized to be due to this same grit intrusion. However, after the June 1995 event, adequate corrective action measures were not taken to identify the extent of the impact, root causes, and preclude repetition of the grit intrusion in a timely manner.

This is a Severity Level III violation (Supplement I).
Civil Penalty - \$50,000.

- (2) Contrary to the above, between March 4-6, 1997, measures were not established to assure that a significant condition adverse to quality was promptly identified and corrected. Specifically, on March 4, 1997, fire dampers in the control building inadvertently actuated after maintenance personnel drilling through an electrical box came in contact with control wiring for the damper actuation system. However, this actuation of the fire dampers was not identified and corrected by Con Edison personnel, despite multiple opportunities to do so, until the problem was identified by the NRC resident inspectors on March 6, 1997. These multiple opportunities include identification of damper actuation by an nuclear plant operator (NPO), a security guard, a Support Facilities Supervisor (SWS) and a watch engineer, but no follow-on corrective action was taken. The proper functioning of these dampers impacts on the operability of multiple pieces of safety-related, risk significant equipment in the control building, such as the 480 V switchgear and the 120 V AC & DC systems.

This is a Severity Level III violation (Supplement I).
Civil Penalty - \$55,000.

- (3) Contrary to the above, measures were not established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment were promptly identified and corrected, and that for significant conditions adverse to quality, the measures did not assure that the cause of the conditions were determined and corrective actions taken to preclude repetition, as evidenced by the following examples, each of which constitutes a separate violation:

- a. From April through October 1996, the steam driven #22 AFW pump failed three consecutive quarterly tests due to low discharge pressure. The quarterly testing procedure required the removal of condensate from the AFW steam supply lines prior to the test, the quantity of which could not be measured due to discharge into a common drain line. Thus, increased valve leakage from PCV-1139, #22 AFW pump steam admission valve, could not be detected. Over the previous two years, valve stroke time of PCV-1139 also increased and leakage past the seat was observed since June 1996 and found to be increasing after the frequency of the steam supply line blowdowns were increased in November 1996. However, measures were not taken to assure that the significant condition adverse to quality was corrected and its repetition precluded until subsequent inspection of the valve internals on December 21, 1996, identified extensive damage.

- b. On July 31, 1996, the steam driven AFW pump discharge flow control valve (FCV) FCV-405A, failed open on demand and FCV-405B and D stroked only 75% open during IST testing. This was the third consecutive FCV-405A valve failure during performance of this test and the fourth time this valve had failed to open since the 1995 refueling outage. Valves FCV-405 B/C/D and FCV-406 A/B/C also had multiple failures to stroke as required. However, measures were not taken to assure that the significant condition adverse to quality was corrected and its repetition precluded until subsequent disassembly of the FCV-405 and FCV-406 series valves identified "basket" damage, as well as galling and cracking of the trim package seal retaining ring.
- c. On July 12, 1996, the NRC identified that the Primary Auxiliary Building, Containment Purge, and Boric Acid Building Charcoal Filter Deluge System had been inoperable for an undetermined period of time. Moreover, the control room annunciator alarm had been alarming intermittently since February 1996. However, measures were not taken to assure that the condition adverse to quality was promptly identified and corrected in that the alarm response procedure which required operators to be dispatched to the system control panel to determine the cause was apparently not followed as the system was identified by the NRC to be inoperable.
- d. On December 3, 1996, the Appendix R Alternate Safe Shutdown (ASSS) power supply transfer switch for service water pump (SWP) No. 24 failed to close during multiple attempts during a surveillance test. Five previous similar failures to transfer during testing occurred with this switch and the adjacent No. 23 SWP ASSS power supply switch since 1993. Even though these failures occurred while other equivalent switches functioned satisfactorily, these two switches remained in-service, and measure were not taken to assure that the condition adverse to quality was corrected.

This is a Severity Level III problem (Supplement I).
Civil Penalty - \$ 50,000.

B. VIOLATION OF APPENDIX R

10 CFR Part 50, Appendix R, Section III.G.1 requires, in part, that fire protection features shall be provided to limit fire damage so that one train of systems necessary to achieve and maintain the hot shutdown condition is free of fire damage.

Contrary to the above, as of July 21, 1986, it was determined that fire protection features were not provided to limit fire damage so that one train of systems necessary to achieve and maintain hot shutdown was free of fire damage. Specifically, both the normal safe shutdown instrumentation and the alternate safe shutdown instrumentation that provide indication of pressurizer pressure and level, as well as steam generator level, would be subject to fire damage in certain fire areas and could be rendered inoperable by the same fire. Either the normal or the alternate instrumentation is needed to achieve and maintain hot shutdown.

This is a Severity Level III violation (Supplement I).
Civil Penalty - \$50,000.

II. VIOLATIONS NOT ASSESSED A CIVIL PENALTY

Technical Specification Section 6.8.1 requires that written procedures be implemented covering activities referenced in Regulatory Guide 1.33, November 1972.

- A. Regulatory Guide 1.33 requires written procedures for startup, operation, and shutdown of safety-related systems including the feedwater system, from the main feedwater pumps to the steam generators.

Contrary to the above, on January 26, 1997, during conduct of a plant shutdown with three stuck main feedwater regulating valves, water level in the three steam generators was controlled by varying the speed of the main feed pumps. At the time of the shutdown, this method of control was not proceduralized, even though sufficient time was available (i.e., about 12 hours) to issue a temporary procedure change to the feedwater system operating procedure, as required by Station Administrative Order 133, Section 5.1, to recognize this control method.

This is a Severity Level IV Violation. (Supplement I)

- B. Regulatory Guide 1.33 requires administrative procedures for procedure use. Station Administrative Order (SAO) SAO-133, section 5.1.1, requires that all Station Nuclear Safety Committee (SNSC) approved procedures shall be followed. SAO-460, a SNSC approved procedure, section 4.13 requires that safety evaluations prepared by an outside contractor shall be given cover sheets, assigned safety evaluation numbers and be processed for review in accordance with sections 4.10 and 4.11 which includes a SNSC review.

Contrary to the above, following identification of sandblasting grit in the 21 Heater Drain Tank failure, at Consolidated Edison's request on June 22, 1995, Westinghouse issued an analysis of the effects of sandblasting grit on the secondary side of the Steam Generators. This analysis was used by engineering personnel as the basis for the conclusion that there was no impact on the safety related Steam Generators as a result of the grit intrusion. This

conclusion was documented in the Open Item Report closeout. As a result, this analysis was, in effect, used as a safety evaluation justifying safety related equipment operability. However, the requirements of SAO-480, specifying a safety evaluation number, cover sheet and processing, were not conducted and no SNSC review was performed.

This is a Severity Level IV Violation (Supplement I)

Pursuant to the provisions of 10 CFR 2.201, Consolidated Edison Company (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the receipt of this Notice of Violation and Proposed Imposition of Civil Penalties (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an Order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalties by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalties proposed above, or may protest imposition of the civil penalties, in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalties will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalties, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalties should not be imposed. In addition to protesting the civil penalties in whole or in part, such answer may request remission or mitigation of the penalties.

In requesting mitigation of the proposed penalties, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due that subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: Mark Satorius, Deputy Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region 1, and a copy to the NRC Senior Resident Inspector at the facility that is the subject of this Notice.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR. If redactions are required, a proprietary version containing brackets placed around the proprietary, privacy, and/or safeguards information should be submitted. In addition, a non-proprietary version with the information in the brackets redacted should be submitted to be placed in the PDR.

Dated at King of Prussia, Pennsylvania
this 27th day of May 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1418

March 10, 1997

EA 96-462
EA 96-540

Mr. J. E. Cross, President
Generation Group
Duquesne Light Company (DLC)
Post Office Box 4
Shippingport, Pennsylvania 15077

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES
- \$180,000
(NRC Inspection Report Nos. 50-334/96-08, 50-412/96-08, 50-334/96-09 and
50-412/96-09)

Dear Mr. Cross:

This letter refers to NRC inspections conducted between September 29 and December 21, 1996, at the Beaver Valley Power Station facility, the findings of which were discussed with you and members of your staff during exit meetings on November 27 and December 27, 1996. The purpose of the inspections was to determine whether activities authorized by the license were conducted safely and in accordance with NRC requirements. During the inspections, apparent violations of NRC requirements were identified, as described in the NRC inspection reports sent to you with our letters, dated November 29, 1996, and January 2, 1997, respectively. On January 16, 1997, a Predecisional Enforcement Conference was conducted with you and members of your staff to discuss the violations, their causes, and your corrective actions.

Based on the information developed during the inspections, and the information provided during the conference, five violations are being cited and are described in the enclosed Notice of Violation and Proposed Imposition of Civil Penalties (Notice). Four of the violations relate to deficiencies associated with inadequate control of leak sealant repairs on the Unit 2 reactor head vent system (HVS) in December 1996. The deficiencies resulted in degradation of the system. The remaining violation involves the failure to correct a condition adverse to quality at Unit 1 involving the operation of the reactor with two of the three pressurizer power operated relief valve (PORV) block valves shut for an extended period of time (from 1981 until 1996).

With respect to violations related to the leak sealant repairs on the HVS at Unit 2, sealant was injected into the HVS after operators had identified, in November 1996, a leak of approximately 15 drops per minute from a blind flange downstream of a normally shut 1 inch isolation valve in a dead-leg portion of the HVS. In order to eliminate the identified leakage prior to reactor startup, your station management directed that a temporary leak injection repair be performed. However, in preparing for the injection, your engineering staff erred in specifying the temperature constraints for application of the sealant. Although the type of material injected was suitable for HVS design temperatures, it was not suitable for injection at the lower temperature which existed while the HVS was being repaired. In addition,

although the leak sealant activities were performed by a vendor, maintenance and quality assurance oversight of the vendor's activities were not adequate to verify key parameters such as the quantity and injection pressure for the leak sealant material, as well as the injection port location. As a result, the sealant failed to harden properly, migrated to unintended portions of the HVS system, and degraded the proper operation of the HVS flow control valves due to sealant accumulating on the valve seats. In addition, the procedural controls used during the activity were not commensurate with the safety importance of the work, and the vendor procedures used to perform the repairs had not been properly reviewed and approved. While the HVS relief flow path was not completely blocked at the time of your investigation of this occurrence, the sealant material would have hardened over a long period of time and may have caused the flow control valves to remain stuck in the closed position, thereby blocking both HVS relief flow paths.

The violations related to this leak sealant repair are described in Section I of the enclosed Notice. In addition to these violations, the NRC is also concerned that this problem was revealed during a post-maintenance test of the affected valves, which was performed after the NRC questioned the leak integrity of the HVS. Absent that questioning, it is apparent that your staff did not intend to perform the testing and was proceeding to return Unit 2 to power operations. Absent the testing that occurred after the NRC questioning, the degradation of the HVS relief function would most likely not have been identified unless the system was called upon to perform its safety function. This represents a significant safety concern, and therefore, the four violations are classified in the aggregate as a Severity Level III problem in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$55,000 is considered for that Severity Level III violation¹ or problem. Your facility has been the subject of escalated enforcement actions within the last 2 years (namely, a Severity Level III violation without a civil penalty issued on September 11, 1996, for failure to comply with 10 CFR 50.62(c)(1), in that, the ATWS Mitigation System Circuitry (AMSAC) had not been designed to perform its function in a reliable manner (EA 96-244)). Therefore, the NRC considered whether credit was warranted for *Identification and Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. Even though the problem was revealed through an event during post-maintenance testing, credit is not warranted for identification because it is unlikely that the violations would have been identified without NRC questioning and intervention to determine HVS leak integrity. Credit is warranted for corrective actions which were considered prompt and comprehensive. Those actions included, but were not limited to, (1) replacement and retest of all portions of the HVS degraded by the sealant material; (2) evaluation of existing leak repairs at both units; (3) development of a leak repair checklist; (4) revision of the leak repair procedure; (5) more stringent controls for approval of vendor procedures; (6) establishing interim controls on access of vendors to the site; (7) and other administrative control enhancements to address the weaknesses in the vendor program and the quality control program.

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¹ On November 12, 1996, the base civil penalty amounts for Severity Level III violations or problems changed from \$50,000 to \$55,000. Since these violations occurred after November 12, 1996, the base amount for this Severity Level III problem is \$55,000.

Therefore, to emphasize the importance of appropriate oversight and control of work on safety-related systems, and in accordance with the civil penalty assessment process, a base civil penalty in the amount of \$55,000 would normally be issued in this case. However, I have been authorized, after consultation with the Director, Office of Enforcement, to exercise discretion in accordance with Section VII.A.1 of the Enforcement Policy and increase the civil penalty amount to \$110,000 in this case because the violations represent particularly poor performance by your quality assurance and maintenance staffs regarding the activities performed by the vendor. Specifically, work instructions, job prebriefs, and overall vendor oversight were inadequate. Also, prior NRC Information Notices 85-90 and 93-90 provided the industry information regarding the importance of appropriate control of leak sealant activities as a result of leak sealant injection problems at Catawba Unit 1 in 1985 and Millstone Unit 2 in 1993. In fact, Information Notice 93-90 specifically noted that the licensee had made no provision to limit the amount of leak sealant injected into the valve in question in that case. In your case, the vendor's injection of more sealant than specified contributed to this occurrence regarding the HVS system.

With respect to the violation set forth in Section II of the enclosed Notice, two of the three PORV block valves were shut in 1981 as a temporary measure to address PORV leakage, as well as seismic concerns related to NRC Bulletin 79-14. Your Updated Final Safety Analysis Report (UFSAR) and technical specifications (TS) bases state that the valves are normally open. Although piping modifications were completed in 1981 to address the seismic concerns, and PORV leakage was resolved in 1982/1983, the block valves were not reopened and the unit continued to operate with the valves in the closed position until the valves were opened on October 8, 1996, following questioning by the NRC. Leaving the valves closed for approximately 13 years, even though the leakage and seismic concerns had been resolved, constitutes a significant condition adverse to quality that was not identified and corrected by your staff.

The NRC is concerned that your staff had several opportunities to identify the incorrect valve lineup, assess the associated risk significance, and correct the condition, including most recently in 1995, yet failed to do so. For example, 10 CFR Part 50, Appendix R fire protection reviews between 1986 and 1990 should have led to the identification of this condition. Also, during your Individual Plant Examination (IPE) evaluations and submittals between 1990 and 1995, your staff had additional opportunities to identify and correct this condition, which differed from the UFSAR configuration. Finally, when submitting a TS amendment in 1995 in response to Generic Letter 90-06, your staff should have recognized that the PORV block valves should be maintained normally open as clearly stated in the bases of your TS amendment submittal. You have recently identified other instances of equipment being found outside its required position, as noted in Inspection Report Nos. 50-334/96-10 and 50-412/96-10 issued on February 21, 1997, and which were the subject of another predecisional enforcement conference with you in the Region I office on March 7, 1997. Enforcement action for those additional findings is still under review by the NRC.

Operation with the pressurizer relief system in a configuration contrary to the UFSAR represents a significant regulatory concern because of the length of time the condition existed, and the failure to identify and correct the problem despite several opportunities. Therefore, the violation has been categorized at Severity Level III in accordance with the Enforcement Policy.

In accordance with the Enforcement Policy, the base civil penalty amount for this Severity Level III violation is \$50,000 because it occurred prior to November 12, 1996. Your facility has been the subject of escalated enforcement actions within the last two years, as already described herein; therefore, the NRC considered whether credit was warranted for *Identification and Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. Credit is not warranted for identification since the NRC identified the problem. Credit is warranted for corrective action because your corrective actions were both prompt and comprehensive once the violation was identified in 1996. Those actions included, but were not limited to (1) performing a 10 CFR 50.59 evaluation and restoring the valves to the normally open position; (2) plans to conduct a detailed review of the Unit 1 and 2 UFSARs; (3) completion of a review by your Quality Services Unit of selected NRC Bulletin 79-14 modifications; (4) performing a limited scope review of Unit 1 UFSAR against manual drawings and normal system alignment with similar plans for Unit 2; (5) reviewing the event and importance of adherence to the UFSAR with appropriate staff; and (6) placement of both units' UFSAR on the site computer network in a text searchable form.

Therefore, to encourage prompt and comprehensive identification and correction of violations, I have been authorized, after consultation with the Director, Office of Enforcement, to propose a \$50,000 civil penalty in this case. If not for those corrective actions, the penalty would have been \$100,000 for this violation.

As a result, cumulative civil penalties of \$160,000 are proposed for these violations.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, and its enclosure, and your response, will be placed in the NRC Public Document Room (PDR).

Sincerely,

Hubert J. Miller
Regional Administrator

Docket Nos. 50-334; 50-412
License Nos. DPR-66; NPF-73

Enclosure: Notice of Violation and Proposed Imposition of Civil Penalties

cc w/encl:

S. Jain, Vice President, Nuclear Services
R. LeGrand, Vice President, Nuclear Operations
L. Freeland, Manager, Nuclear Engineering Department
B. Tuite, General Manager, Nuclear Operations Unit
K. Ostrowski, Manager, Quality Services Unit
R. Brosi, Manager, Nuclear Safety Department
M. Clancy, Mayor
Commonwealth of Pennsylvania
State of Ohio

ENCLOSURE

NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES

Duquesne Light Company (DLC)
Beaver Valley Power Station

Docket Nos. 50-334; 50-412
License Nos. DPR-66; NPF-73
EAs 96-462; 96-540

During NRC inspections conducted between September 29 and December 21, 1996, and for which exit meetings were held on November 29, 1996, and January 2, 1997, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose civil penalties pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalties are set forth below:

I. VIOLATIONS RELATED TO DEFICIENCIES IN REACTOR HEAD VENT SYSTEM LEAK SEALANT REPAIRS

- A. 10 CFR Part 50, Appendix B, Criterion II, Quality Assurance Program, requires, in part that the quality assurance program provide control over activities affecting the quality of structures, systems, and components, to an extent consistent with their importance to safety.

Contrary to the above, on or about December 2, 1996, the licensee did not provide control of activities affecting the quality of the reactor head vent system (HVS) in that quality control oversight and hold points to verify key parameters prior to implementation of the leak sealant repairs of the reactor head vent system, were inadequate. The specific parameters that were not verified were the quantity and injection pressure of the leak sealant material, as well as the leak sealant injection port location. As a result, the amount of leak sealant material injected into the valve was twice the amount specified in the maintenance work package. Failure to monitor these parameters contributed to the migration of leak sealant to unintended portions of the system, including the seat to disc interfaces on HVS flow control valves 2RCS-HCV-250A and 250B. Valve 2RCS-HCV-250A subsequently became bound and failed to fully stroke. (01013)

- B. 10 CFR Part 50, Appendix B, Criterion III, Design Control, requires, in part that measures be established for the selection and review for suitability of materials and processes that are essential to the safety-related functions of structures, systems, and components.

Contrary to the above, on or about December 2, 1996, the licensee did not provide adequate measures to verify the selection of suitable leak sealant material for use in a leak repair of the safety-related reactor head vent system. Specifically, licensee engineers specified an incorrect repair location

temperature, in engineering memorandum 113494. This error led to the selection of an improper sealant material that failed to harden, as required, at the HVS temperature that existed at the time of the injection. As a result, the sealant material migrated to unintended portions of the system, thereby adversely affecting the operability of the HVS system. (O1023)

- C. Technical Specification 6.8.1 requires that written procedures be properly established and implemented covering activities recommended in Appendix A to NRC Regulatory Guide 1.33, Revision 2, "Quality Assurance Program Requirements (Operation)." Section 9 of Appendix A to Regulatory Guide 1.33 specifies that maintenance that can affect the performance of safety-related equipment be performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. Beaver Valley procedure NPDAP 2.15, "Administrative Controls", Revision 2, specifies requirements for control of vendor services, including maintenance activities.

Contrary to the above, on or about December 2, 1996, the licensee failed to assure that maintenance affecting the performance of the reactor head vent system was properly performed in accordance with written procedures and instructions in that:

- 1) The licensee did not assure that adequate controls for the leak sealant quantity and injection pressure, as specified in Maintenance Work Request 059169 and supporting Engineering Memorandum 113494, were prescribed in written procedures.
- 2) The licensee did not assure that vendor-performed maintenance activities associated with the reactor HVS leak sealant repair were properly conducted under procedural controls commensurate with the safety importance of the work and as would be required if licensee personnel performed the work. Specifically, the licensee failed to properly oversee vendor work during injection gun loading, the drill and tap location used, the injection pressure used, and accountability for the amount of leak sealant material injected. (O1033)

- D. Technical Specification (TS) 6.8.2 requires each procedure specified in TS 6.8.1 to be reviewed by the Onsite Safety Committee (OSC) and be approved by the General Manager, Nuclear Operations or a predesignated alternate.

Contrary to the above, vendor engineering repair procedures NP-2110 and NP-2139, used for two safety related leak injection repairs on December 1 and December 2, 1996, respectively, were not properly reviewed by the OSC and approved by the General Manager, Nuclear Operations, or a predesignated alternate. (O1043)

These four violations are classified in the aggregate as a Severity Level III problem (Supplement I).
Civil Penalty - \$110,000.

II. VIOLATION RELATED TO POWER OPERATED RELIEF VALVE (PORV) BLOCK VALVES

10 CFR Part 50, Appendix B, Criterion XVI requires, in part, that measures be established to assure that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, since 1983, a condition adverse to quality existed at Unit 1 involving two PORV block valves being in the closed position, and this condition adverse to quality was not identified and corrected until October 8, 1996. Two of the three PORV block valves were shut in 1981 as a temporary measure to address PORV leakage, as well as seismic concerns related to NRC Bulletin 79-14. While Section 4.2.2.7 of the licensee's UFSAR and the bases for TS 3.4.11 indicate that the block valves are normally open, TS 3.4.11 permits the block valves to be closed in the event of inoperable PORVs. Although piping modifications were completed in 1981 to address the seismic concerns, and PORV leakage was resolved in 1983, the block valves were not reopened at that time and the unit continued to operate with the valves in the closed position until the valves were opened on October 8, 1996, following questioning by the NRC. Leaving the valves closed for approximately 13 years after the leakage and seismic concerns had been resolved, constitutes the condition adverse to quality that was not identified and corrected by licensee staff, despite multiple opportunities to do so, as evidenced by the following examples.

1. The PORV block valve configuration and power supply train separation were specifically evaluated by licensee engineers during Appendix R Fire Protection Program reviews performed between 1986 and 1990. Engineers incorrectly concluded that the PORV block valves should remain shut to mitigate the consequences of a fire due to power supply separation concerns. The licensee should have determined that the train separation concern had been procedurally addressed by isolating power to the valves in the event of a fire, but failed to do so.
2. During IPE evaluations and submittals between 1990 and 1995, the licensee had opportunities to identify and correct this condition, which differed from the UFSAR configuration, but failed to do so.
3. When submitting a Technical Specification amendment in 1994 (supplemented in 1995) in response to NRC Generic Letter 90-06, the licensee should have identified and corrected this condition because the bases of the TS amendment submittal clearly stated that the PORV block valves are normally open, but failed to do so. (02013)

This is a Severity Level III violation (Supplement I).
Civil Penalty - \$50,000.

Pursuant to provisions of 10 CFR 2.201, Duquesne Light Company (DLC) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalties (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an Order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalties by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalties proposed above, or may protest imposition of the civil penalties, in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalties will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalties, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation(s) listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalties should not be imposed. In addition to protesting the civil penalties in whole or in part, such answer may request remission or mitigation of the penalties.

In requesting mitigation of the proposed penalties, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing civil penalties.

Upon failure to pay any civil penalties due that subsequently have been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalties, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalties, and Answer to a Notice of Violation) should be addressed to: James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region I, and a copy to the NRC Senior Resident Inspector at the facility that is the subject of this Notice.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR. If redactions are required, a proprietary version containing brackets placed around the proprietary, privacy, and/or safeguards information should be submitted. In addition, a non-proprietary version with the information in the brackets redacted should be submitted to be placed in the PDR.

Dated at King of Prussia, Pennsylvania
this 10th day of March 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV

611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4004

April 9, 1997

EA 96-512

C. Randy Hutchinson, Vice President
Operations
Arkansas Nuclear One
Entergy Operations, Inc.
1448 S.R. 333
Russellville, Arkansas 72801-0967

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$50,000 (NRC Inspection Report 50-313;368/96-27)

Dear Mr. Hutchinson:

This refers to the predecisional enforcement conference conducted in Arlington, Texas, on March 28, 1997 with Entergy Operations, Inc. (Entergy) representatives. The conference was conducted to discuss apparent violations of NRC requirements associated with an October 17, 1996 fire at Arkansas Nuclear One (ANO), Unit 1, as documented in NRC Inspection Report 50-313;368/96-27, issued February 3, 1997. The inspection was conducted October 22-29 and November 21-25, 1996, and was finalized in a telephonic exit meeting on December 11, 1996.

The apparent violations described in the inspection report involved several inadequacies in NRC-required reactor coolant pump oil collection systems at ANO, and three examples of inadequate responses to plant conditions which indicated the potential for a fire (i.e., inadequate corrective action, as required by 10 CFR Part 50, Appendix B, Criterion XVI). At the conference, Entergy expressed disagreement with parts of the apparent fire protection violations, contending that the oil collection system for the reactor coolant pumps was not required to collect oil spray from lift oil piping leaks, nor to collect leakage from "remote" oil fill lines. Entergy did not explicitly disagree with the corrective action violations. However, Entergy's position was that plant personnel had responded reasonably to oil leaks and smoke in light of their lack of understanding of the "wicking" phenomenon which created the potential for oil-soaked insulation to ignite at a lower than expected temperature.

The NRC considered Entergy's fire protection arguments but has concluded that 10 CFR Part 50, Appendix B, is clear with regard to these reactor coolant pump components being protected by oil collection systems. Based on our discussions during the conference, we have clarified the violation to include the failure to protect the fill connection on the Unit 1 B reactor coolant pump and to clarify that the flanged connections were not protected on the lower reservoir transmitters. We also deleted one of the apparent examples of an Appendix B, Criterion XVI violation. Specifically, we deleted the example involving oil found on the floor of the Unit 1 containment building by radiation protection personnel during the outage because, as discussed during the conference, the small amounts of oil

involved did not represent a clear opportunity to determine the source of the leak and take corrective action.

Therefore, based on the information developed during the inspection and the information that was provided during the conference, the NRC has determined that violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty; the circumstances surrounding the violations were described in detail in the subject inspection report.

The violations include: 1) a failure to maintain an adequate lube oil collection system for reactor coolant pumps, which created the potential for a fire when oil spray from a cracked weld accumulated in fibrous insulation; and 2) a failure in two instances to take prompt action to identify and correct conditions which resulted in a fire in the ANO Unit 1 containment building on October 17, 1996. These violations appear to have resulted from a lack of sensitivity to fire protection requirements related to reactor coolant pump lube oil collection systems and to plant conditions which indicated a potential for a containment fire to occur.

The October 17, 1996 fire was quickly extinguished and did not affect the safety of the plant. Nonetheless, the NRC finds the fire protection inadequacies, coupled with the plant staff's inadequate response to indications of a fire, i.e., oil-soaked insulation which was reported to be smoking excessively during plant heat-up, unacceptable performance. Therefore, these violations have been classified in the aggregate as a Severity Level III problem, in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600.

The NRC acknowledges that Entergy has taken or planned a number of corrective actions in response to these violations, all of which were discussed at the conference. In brief, these actions involve: 1) training and procedural revisions to heighten sensitivity to smoke, oil leaks, lube oil collection system requirements and the potential for reduced auto-ignition temperatures of oil-soaked insulation; and 2) plant modifications and administrative measures to address the various inadequacies in reactor coolant pump lube oil collection systems.

In accordance with the Enforcement Policy, a civil penalty with a base value of \$50,000 is considered for a Severity Level III problem. Because your facility has been the subject of escalated enforcement actions within the last 2 years,¹ the NRC considered whether Entergy should be given credit for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. The violations were discovered only because the fire occurred. In that plant staff missed opportunities to take action to prevent the fire, the NRC has determined that Entergy should not be given credit for identification. The NRC has determined that Entergy should

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¹ A \$50,000 civil penalty was issued September 6, 1996, for violations related to improper maintenance on main steam safety valves.

be given credit for its corrective actions, summarized above, which were prompt and comprehensive. Consideration of these factors results in the assessment of a base civil penalty.

Therefore, to emphasize the importance of adherence to fire protection requirements in the design and operation of the facility, and the importance of reacting to plant conditions indicating a potential for a fire, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) in the amount of \$50,000.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,

Ellis W. Merschoff
Regional Administrator

Docket Nos. 50-313; 50-368
License Nos. DPR-51; NPF-6

Enclosure: Notice of Violation and
Proposed Imposition of Civil Penalty

cc w/Enclosure:

Executive Vice President
& Chief Operating Officer
Entergy Operations, Inc.
P.O. Box 31995
Jackson, Mississippi 39286-1995

Vice President
Operations Support
Entergy Operations, Inc.
P.O. Box 31995
Jackson, Mississippi 39286

Manager, Washington Nuclear Operations
ABB Combustion Engineering Nuclear
Power
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 20852

County Judge of Pope County
Pope County Courthouse
Russellville, Arkansas 72801

Winston & Strawn
1400 L Street, N.W.
Washington, D.C. 20005-3502

Bernard Bevil, Acting Director
Division of Radiation Control and
Emergency Management
Arkansas Department of Health
4815 West Markham Street, Slot 30
Little Rock, Arkansas 72205-3867

Manager
Rockville Nuclear Licensing
Framatome Technologies
1700 Rockville Pike, Suite 525
Rockville, Maryland 20852

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Entergy Operations, Inc.
Arkansas Nuclear One, Unit 1

Docket Nos. 50-313; 50-388
License Nos. DPR-51; NPF-6
EA 96-512

During an NRC inspection completed December 11, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the Nuclear Regulatory Commission proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

A. 10 CFR Part 50, Appendix R, Section III.O states in part:

"The reactor coolant pump shall be equipped with an oil collection system if the containment is not inerted during normal operation.

"Such collection systems shall be capable of collecting lube oil from all potential pressurized and unpressurized leakage sites in the reactor coolant pump lube oil systems.

"Leakage points to be protected shall include lift pump and piping, overflow lines, lube oil cooler, oil fill and drain lines and plugs, flanged connections on oil lines, and lube oil reservoirs where such features exist on reactor coolant pumps."

Contrary to the above, as of October 17, 1996, the licensee failed to protect the lift piping and the fill connection on the Unit 1 B Reactor Coolant Pump; the lift piping on the four Unit 2 Reactor Coolant Pumps; the flange connections on lower reservoir transmitters on the Unit 1 A, C, D, and all four Unit 2 Reactor Coolant Pumps; and the oil fill lines on all four Unit 1 and Unit 2 Reactor Coolant Pumps. (O1O13)

B. 10 CFR Part 50, Appendix B Criteria XVI states:

"Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to the appropriate levels of management."

1. Contrary to the above, on October 9, 1996, licensee personnel identified a crack in a weld on the Unit 1 B Reactor Coolant Pump lift oil piping, but did not identify and correct the fact that this oil leakage from this crack had

resulted in oil accumulation in the fibrous insulation of Steam Generator B, a fire hazard. On October 17, 1996, during plant heat-up, this oil-soaked insulation ignited, causing a fire. (01023)

2. Contrary to the above, on October 17, 1996, licensee personnel identified oil-soaked insulation which was smoking excessively during plant heat-up, but did not take prompt action to correct this condition. Later on the same day, this oil-soaked insulation ignited, causing a fire. (01033)

These violations represent a Severity Level III problem (Supplement II).
Civil Penalty - \$50,000

Pursuant to the provisions of 10 CFR 2.201, Entergy Operations, Inc. (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation(s) listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by

specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The responses noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, and a copy to the NRC Resident Inspector at the Arkansas Nuclear One facility.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Arlington, Texas,
this 9th day of April 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV

511 RYAN PLAZA DRIVE SUITE 400
ARLINGTON, TEXAS 76011-8084

December 26, 1996

EA 96-255

Michael B. Sellman, Vice President
Operations - Waterford
Entergy Operations, Inc.
P.O. Box 8
Killona, Louisiana 70066

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$50,000
(NRC Inspection Report Nos. 50-382/96-09 and /96-20)

Dear Mr. Sellman:

This refers to the predecisional enforcement conference conducted on November 20, 1996, with you and members of your staff in the NRC Region IV office in Arlington, Texas. The conference was held to discuss the circumstances surrounding three apparent violations discussed in the subject inspection reports. These apparent violations were identified to your staff during a telephonic exit meeting on October 9, 1996. The inspection reports were issued on July 24, 1996 (96-09) and October 24, 1996 (96-20).

Based on the information developed during the inspection and the information that you provided at the conference, the NRC has determined that violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) and the circumstances surrounding them were described in detail in the subject inspection reports.

Violation 1 in the attached Notice involves the actual design configuration of the containment vacuum relief (CVR) system being different from that described in the Waterford 3 Final Safety Analysis Report (FSAR). The required written safety evaluation to substantiate that the change did not involve an unreviewed safety question was never performed. Specifically, the CVR instrument lines did not terminate at a location within the controlled ventilation area system (CVAS) (or within any other filtration system) as described in the response to FSAR Question 480.36. As a result of the erroneous information, valves CVR 302A(B) and 402A(B) were inadequately tested to ensure they fulfilled the containment isolation function in accordance with General Design Criterion 56.

When appropriately tested in July 1996, valves CVR 302A(B) and CVR 402A(B) failed to close. Thus, containment isolation would not have been adequate in the event of a design basis event. Due to its design, the failure of CVR 402A(B) had the potential to result in both control room dose limits and offsite dose limits being exceeded during a design basis loss-of-coolant

accident. Therefore, this violation is classified in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Severity Level III violation.

Violation II.A in the Notice, involves a failure to promptly evaluate and correct known discrepancies in the IST program. The circumstances surrounding this violation involved known discrepancies between an Inservice Testing (IST) Design Basis Document (DBD-024), issued in March 1994, and the IST plan in existence at the time. In May 1994, Entergy formed an IST Plan Task Force to resolve these discrepancies and to determine if the IST plan met all ASME Code requirements. In November 1994, the task force issued its final report stating that the addition of the 39 valves to the IST plan would be "enhancements" and that the company was in compliance with applicable requirements without the addition of these 39 additional valves. This determination was incorrect and the valves were not added to the IST plan. It was not until about December 1995, that this condition adverse to quality was identified, when Waterford 3 personnel began identifying that these valves should be included in the IST program and began developing a schedule for reviewing the discrepancies.

At the pre-decisional enforcement conference, Entergy personnel stated that the root causes for this violation involved: (1) the inappropriate assigning of responsibility for the IST program to the shift technical advisors (STA), (2) the perception that management was not receptive to additional testing, (3) inadequate and ineffective corrective action tracking, (4) inadequate coordination between the IST bases document and the IST plan, (5) inadequate guidance concerning how long DBD open items may remain open, and (6) the failure to enter in the corrective action program the subsequent items identified in an earlier review. At the conference, your staff stated that there was no safety significance associated with the identified plan discrepancies, and that the violation should be classified at Severity Level IV. We agree that, except for the CVR 402A(B) valves discussed in Violation I, the consequences of this violation, with the valves in their as-found condition, would have been minimal. However, these IST issues involve known discrepancies in the IST program that were not addressed in a timely manner and, as a result, a large number of valves were not being tested to assure they would perform their safety function. Therefore, this violation has been categorized in accordance with the Enforcement Policy at Severity Level III.

In accordance with the Enforcement Policy, a civil penalty of \$50,000 is considered for a Severity Level III violation. Because your facility has been the subject of escalated enforcement actions within the last 2 years¹, the NRC considered whether credit was warranted for *Identification and Corrective*

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¹ EA 96-025 issued on March 25, 1996, involved a \$50,000 civil penalty for a failure to implement effective actions to preclude repetition of a significant condition adverse to quality.

Action in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. In reviewing the *Identification* factor for Violation I, NRC noted an important missed opportunity to earlier identification of the violation. This occurred during the review of Condition Report CR-96-0272, initiated March 1, 1996, involving the operability of certain valves, including CVR-302A(B). Also, during several discussions with NRC inspectors through July 20, your staff continued to depend on the erroneous information in the FSAR and stated the intent to remove the valves from the inservice test (IST) program. Although we recognize that your staff ultimately identified the FSAR discrepancy associated with the CVR 302A(B) and 402A(B) valves, NRC has determined that it was unlikely that your staff would have identified this violation absent NRC's involvement. Therefore, the NRC has determined that credit for the *Identification* factor is not warranted for Violation I. As to Violation II, the NRC has determined that credit for the *Identification* factor is warranted because Entergy identified the problem.

In evaluating the *Corrective Action* factor, the NRC has determined that credit is warranted for both Violation I and II because the corrective actions to these violations were sufficiently prompt and comprehensive. Corrective actions for Violation I included: (1) promptly replacing and retesting failed valves, (2) performing a root cause analysis, (3) isolating and administratively controlling the non-essential lines until a plant modification and license amendment could be implemented, (4) promptly submitting a license amendment request, (5) reviewing other containment penetrations for similar problems, and (6) implementing a FSAR fidelity assessment. The corrective action for Violation II included: (1) developing a schedule to resolve the discrepancies between the IST plan and the DBD, (2) testing the valves which had not been previously tested or which had been inadequately tested, (3) controlling changes to the IST plan with the DBD by procedure, and (4) comprehensively reviewing the ASME valves and current IST plan to facilitate development of a second 120-month interval plan.

At the predecisional enforcement conference, your staff asserted that the NRC should exercise discretion for Violation I because it was an old design issue. After careful consideration, we have determined that, because of the NRC's involvement in the identification of the violation, this problem was not identified by a voluntary initiative on Entergy's part (Entergy was moving to remove the CVR 302A(B) valves from the IST program until NRC's questioning, and most likely would not have identified the same problem with CVR 402A(B)). As such, the exercise of discretion is not warranted in this case.

Therefore, to emphasize the importance of ensuring that the plant is operated in accordance with its FSAR and the importance of prompt identification of non-conforming conditions, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) in the base amount of \$50,000 for the Severity Level III violation discussed in Section I of the Notice. In addition to encourage your efforts to identify and correct problems and noncompliances, I have also been authorized to issue a Severity Level III violation without a civil penalty, for the Severity Level III violation

described in Section II A of the Notice. However, significant violations of this nature could, in the future, result in a civil penalty.

The third violation, discussed in Section II B of the Notice, involved a failure to fully close a containment spray valve. Entergy personnel identified this condition in November 1995, promptly corrected it, and performed an operability determination of the Containment Spray System. During discussions concerning IST issues in March 1996, design engineering personnel realized that the earlier operability evaluation did not consider backleakage to the refueling water storage pool. This realization demonstrated a good questioning attitude by plant staff. Using very conservative calculations, Entergy postulated the consequences of the condition to be that Control Room thyroid dose limits would be exceeded. However, a more realistic analysis, including a review of the plant's routine monitoring program, showed that Control Room thyroid dose problems would have been identified before dose limits would have been exceeded. Given the circumstances of the violation, the NRC determined that this violation is appropriately classified at Severity Level IV.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

Sincerely,

L. J. Callan
Regional Administrator

Docket No. 50-382
License No. NPF-38

Enclosure: Notice of Violation and
Proposed Imposition of Civil Penalty

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Entergy Operations, Inc.
Waterford Steam Electric Station Unit 3

Docket No. 50-382
License No. NPF-38
EA 96-255

During NRC inspections conducted on June 3 through October 9, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the Nuclear Regulatory Commission proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below.

I. Violation Assessed A Civil Penalty

10 CFR 50.59(a)(1) allows, in part, the holder of a license to make changes to the facility as described in the safety analysis report unless the proposed change involves an unreviewed safety question.

10 CFR 50.59(b)(1) requires, in part, that the licensee maintain records of changes in the facility to the extent that these changes constitute changes in the facility as described in the safety analysis report. The records must include written safety evaluations which provide the bases for the determinations that the changes do not involve unreviewed safety questions.

Amendment 28 to the Waterford 3 Final Safety Analysis Report dated July 1982, states that the containment vacuum relief instrumentation lines through Containment Penetrations 53 and 66 form a closed system outside of containment, are seismically qualified, and terminate in an area exhausted through filters of the Controlled Ventilation Area System. Type C leak tests are therefore not required or performed on those lines.

Contrary to the above, from the beginning of commercial operations in 1985 until July 1996, the actual design configuration of the Containment Vacuum Relief System was different from that described in Amendment 28 to the Waterford 3 Final Safety Analysis Report, and the licensee did not perform the required written safety evaluation to provide the bases for a determination that the deviation from the Final Safety Analysis Report did not involve an unreviewed safety question. Specifically, it was identified that the containment vacuum relief instrument lines terminated at a location which was not within the Controlled Ventilation Area System or any other filtration system for post-accident operation. Further, the containment vacuum relief monitoring lines did not meet the design criteria for a closed system outside of containment, and they were not seismically qualified. (01013)

This is a Severity Level III violation (Supplement I)
Civil Penalty - \$50,000

II Violations Not Assessed a Civil Penalty

- A. Criterion XVI of Appendix B to 10 CFR Part 50 requires establishment of measures to assure that conditions adverse to quality, such as deficiencies, deviations, and nonconformances, are promptly identified and corrected.

Contrary to the above, since commercial operations began in 1985 until testing was performed during January through July 1996, the licensee's established measures did not assure prompt identification and correction of conditions adverse to quality, as described below:

1. After identification of discrepancies in March 1994, the licensee failed to test 13 ASME Code safety-related valves subject to testing in the inservice test plan to assess operational readiness as required by 10 CFR 50.55a.
2. After identification of discrepancies in March 1994, the licensee failed to perform all ASME Code required tests on 23 ASME Code safety-related valves that were in the inservice test plan (i.e., the valves had either not been tested or exercised to verify their ability to fulfill all identified safety functions or, in the case of Category A valves, had not been leak tested). (02013)

This is a Severity Level III violation (Supplement I)

- B. Technical Specification 6.8.1.a requires, in part, that written procedures be implemented for those activities referenced in Appendix A, "Quality Assurance Program Requirements," of Regulatory Guide 1.33, Revision 2, February 1978. Section 8 of Appendix A requires that the licensee have surveillance procedures.

Surveillance Procedure OP 903-035, "Containment Spray Pump Operability Check," Revision 8, Step 7.1.23, requires Valve CS-118A, "Shutdown Cooling Heat Exchanger A Outlet Isolation to Refueling Water Storage Tank," to be closed and locked following completion of the Train A containment spray pump operability check.

Contrary to the above, licensee personnel failed to fully close Valve CS-118A in accordance with Step 7.1.23 in Procedure OP-903-035, following the September 19, 1995, containment spray pump operability check, until discovery on November 11, 1995. (03014)

This is a Severity Level IV violation (Supplement I)

Pursuant to the provisions of 10 CFR 2.201, Entergy Operations, Inc. (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation

(1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation(s) listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI B 2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty and Answer to a Notice of Violation) should be addressed to James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory

Entergy Operations Inc
Waterford 3

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Commission Region IV 611 Ryan Plaza Drive, Suite 400, Arlington, Texas
76011 and a copy to the NRC Resident Inspector at the facility that is the
subject of this Notice

Because your response will be placed in the NRC Public Document Room (PDR), to
the extent possible, it should not include any personal privacy, proprietary,
or safeguards information so that it can be placed in the PDR without
redaction. However, if you find it necessary to include such information, you
should clearly indicate the specific information that you desire not to be
placed in the PDR, and provide the legal basis to support your request for
withholding the information from the public

Dated at Arlington, Texas,
this 26th day of December 1996

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV

811 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

EA 97-099

May 9, 1997

Charles M. Dugger, Vice President
Operations - Waterford
Entergy Operations, Inc.
P.O. Box B
Killona, Louisiana 70066

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$55,000 (NRC INSPECTION REPORT 50-382/97-03)

Dear Mr. Dugger:

This refers to the predecisional enforcement conference conducted in Arlington, Texas on April 8, 1997. The conference was conducted to discuss several apparent violations related to the design, testing and operation of the Waterford Steam Electric Station, Unit 3 (Waterford-3) containment cooling system. The inspection ended February 28, 1997, and was documented in a report issued on March 7, 1997.

Based on the information developed during the inspection and the information that Entergy Operations, Inc. (Entergy) representatives presented during the conference, the NRC has determined that violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty. The circumstances surrounding the violations were described in detail in the subject inspection report.

The violations involve a failure to assure that component cooling water flow rates through containment fan coolers (CFCs) met Technical Specification (TS) requirements (1325 gallons per minute) and design assumptions. The CFCs and the containment spray system function to reduce containment temperature and pressure in the event of a loss-of-coolant or main steam line break accident. In addition, Entergy failed to take prompt corrective action following CFC testing in August 1996 to either restore flows to design basis values (1350 gallons per minute through each CFC) or to modify the design basis documents to justify reduced flows.

At the conference, Entergy did not disagree with the violations, but stated: 1) that there was no safety significance to the violations and that this had been established as early as October 1995 when an operability evaluation supported reduced CFC flows; 2) that CFC flows, although less than assumed in design documents and less than required in the Waterford-3 TS, were always adequate to maintain containment peak pressure within design values, i.e., less than 44 psig¹; and 3) that corrective action was in progress to

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¹ On April 15, 1997, Entergy reported to the NRC the discovery of a problem with the containment spray system which, when coupled with inadequate containment fan cooler flows, had the potential under certain post-accident circumstances to cause containment

modify design documents and Waterford-3's TS to reflect the engineering conclusion that lower flows were acceptable. We note that a revised TS was submitted to the NRC on April 11, 1997.

Additional corrective actions cited at the conference included cleaning dry cooling tower tubes to increase component cooling water flow rates; performing special tests to establish post-accident flows; conducting additional design basis training for operations, maintenance, licensing and engineering personnel; and reexamining certain procedures to assure necessary design basis information was incorporated.

The NRC acknowledges Entergy's position that the actual safety significance of the violations is low. However, we note that such a conclusion was reached only after extensive engineering analysis to justify reduced CFC flows and to show that peak containment pressure would not have been exceeded in the event of an accident. In addition, Entergy missed a substantial opportunity to identify these problems in October 1995, when CFC flow balance testing was conducted. Entergy did not recognize at that time that flow rates to the CFCs were not sufficient to meet TS surveillance acceptance requirements. This resulted in operation of the facility for 10 months in noncompliance with TS acceptance values for CFC flows. Therefore, the violations are considered in the aggregate as a Severity Level III problem in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600.

In accordance with the Enforcement Policy, a civil penalty with a base value of \$55,000² is considered for a Severity Level III problem. Because your facility has been the subject of escalated enforcement actions within the last 2 years,³ the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. Although Entergy's self-assessment identified in August 1996 the potential discrepancy between test results and TS-required CFC flows, Entergy did not conclude that TS requirements had not been met (the concept of "identification" includes recognition of the problem requiring corrective action). This, coupled with the significant missed opportunity in October 1995 to make this discovery, is the basis for NRC's decision not to give Entergy credit for identification. With respect to corrective actions, we believe that actions to resolve these problems were

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peak pressure to reach 44.05 psig. The problem with the containment spray system will be dispositioned separately.

² The Enforcement Policy was revised in October 1996, such that for violations occurring or continuing after November 12, 1996, the base value was increased to \$55,000. Since some of the violations that comprise this Severity Level III problem continued after November 12, 1996, the increased base value is being used.

³ Two escalated actions have been issued in the last two years involving Waterford-3. A \$50,000 civil penalty (EA 96-265) was issued December 26, 1996, for violations involving the inservice test program, and a \$50,000 civil penalty (EA 96-025) was issued March 28, 1996, for violations involving the auxiliary component cooling water system.

delayed by Entergy's failure to recognize the TS noncompliance. However, from February 1997, when Entergy was put on notice of NRC's conclusion regarding the intent of the CFC TS surveillance requirement, we consider Entergy's corrective actions to be sufficiently prompt and comprehensive to warrant credit.

Therefore, to emphasize the importance of assuring that Waterford-3 is operated in accordance with TS requirements, and the importance of assuring that design assumptions are accurate and reflected in the operation of the facility, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) in the base amount of \$55,000.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,

for Ellis W. Merschoff
Regional Administrator

Docket No. 50-382
License No. NPF-38

Enclosure: Notice of Violation and
Proposed Imposition of Civil Penalty

cc w/Enclosure:

Executive Vice President and
Chief Operating Officer
Entergy Operations, Inc.
P.O. Box 31995
Jackson, Mississippi 39286-1995

Vice President, Operations Support
Entergy Operations, Inc.
P.O. Box 31995
Jackson, Mississippi 39286-1995

Entergy Operations, Inc.

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Wise, Carter, Child & Caraway
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Jackson, Mississippi 39205

General Manager, Plant Operations
Waterford 3 SES
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Manager - Licensing Manager
Waterford 3 SES
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Chairman
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Director Nuclear Safety &
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Mr. William A. Cross
Bethesda Licensing Office
3 Metro Center
Suite 610
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Winston & Strawn
1400 L Street, N.W.
Washington, D.C. 20005-3502

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Entergy Operations, Inc.
Waterford-3 Steam Electric Station

Docket No. 50-382
License No. NPF-38
EA 97-099

During an NRC inspection completed February 28, 1997, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the Nuclear Regulatory Commission proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

- A. The limiting condition for operation for Technical Specification 3.6.2.2, "Containment Cooling System," requires, in part, that two independent groups of containment cooling fans shall be operable, with one fan system to each group in Modes 1, 2, 3, and 4.

Technical Specification 4.6.2.2.b.2 requires that each group of containment cooling fans shall be demonstrated operable at least once per 18 months by verifying a cooling water flow rate of greater than or equal to 1325 gpm to each cooler.

Contrary to the above, from October 31, 1995, to August 23, 1996, the licensee operated the facility without assuring that two independent groups of containment cooling fans were operable. Specifically, in October 1995, the licensee performed a flow balance test which showed that the flow achieved through each containment cooling fan was less than required by Technical Specification 4.6.2.2.b.2 (i.e., less than 1325 gpm for each cooler). On August 23, 1996, special flow balance testing demonstrated that at least one fan cooler in each train was capable of achieving the TS acceptance criteria flow. (01013)

- B. Criterion III of Appendix B to 10 CFR Part 50 states, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis as defined in 10 CFR 50.2 are correctly translated into specifications, drawings, procedures, and instructions.

Table 6.2-21 of the Waterford-3 Updated Final Safety Analysis Report (UFSAR) specified that the component cooling water accident flow rate through each containment cooling fan was 1350 gpm.⁴ The UFSAR, on page 6.2-11, specified that the main steamline break analysis assumed three containment cooling fans operated.

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⁴ On February 11, 1997, the licensee changed the design basis regarding CCW flow through the CFCs from 1350 to 1100 gpm via the 10 CFR 50.59 process.

Contrary to the above, for the dates specified below, the licensee's measures to assure that the design basis for the containment cooling system was correctly translated into specifications, drawings, procedures, and instructions, were inadequate. Specifically:

1. From initial licensing on March 16, 1985, until February 11, 1997, the equipment manufacturer's specified maximum expected clean-tube cooling water flow (1350 gpm) was used as the minimum accident flow assumed in the loss-of-coolant and main steamline break accident analyses, an unrealistic and unachievable design assumption because it left no margin for fouling or other degradation.
  2. From January 2, 1991, until February 11, 1997, the main steamline break analysis of record assumed three containment cooling fans would be in operation following a main steamline break, an assumption that was in conflict with, and nonconservative with respect to, Technical Specification 3.6.2.2, which required only two containment cooling fans to be operable.
  3. From initial licensing on March 16, 1985, until February 11, 1997, Technical Specification 4.6.2.2.b.2, which requires that each group of containment cooling fans shall be demonstrated operable at least once per 18 months by verifying a cooling water flow rate of greater than or equal to 1325 gpm to each cooler, conflicted with the design basis value assumed in the UFSAR of 1350 gpm to each cooler. (01023)
- C. Criterion XI of Appendix B to 10 CFR Part 50 requires, in part, that all testing required to demonstrate that systems will perform satisfactorily in service is performed in accordance with written test procedures which incorporate the requirements contained in applicable design documents.
- Technical Specification 4.6.2.2.b.2 requires that each group of containment cooling fans shall be demonstrated operable at least once per 18 months by verifying a cooling water flow rate of greater than or equal to 1325 gpm to each cooler.
- Procedure OP-903-029, "Safety Injection Actuation Signal Test," Revision 6, implemented Technical Specification 4.6.2.2.b.2 by requiring that the cooling water flow rates be verified to be greater than or equal to 1325 gpm to each containment cooling fan following a safety injection actuation signal.
- Contrary to the above, as of February 26, 1997 (the end of the inspection), Procedure OP-903-029 was not adequate to demonstrate that the containment cooling system will perform satisfactorily in service because Procedure OP-903-029 failed to establish test conditions that were representative of accident conditions to ensure that accident flow rates could be achieved. (01033)
- D. Criterion XVI of Appendix B to 10 CFR Part 50 requires, in part, that measures be established to assure that conditions adverse to quality be promptly identified and corrected.

Contrary to the above, from August 23, 1996, until February 11, 1997, a condition adverse to quality in the containment cooling system was identified and was not promptly corrected. Specifically, testing conducted on August 23, 1996, demonstrated the inability to attain design basis component cooling water flow (1350 gpm) through three of the four containment fan coolers under accident conditions; however, the licensee did not restore the required flows to design basis values or change the design basis until February 11, 1997. (O1043)

These violations represent a Severity Level III problem (Supplement I).
Civil Penalty - \$55,000

Pursuant to the provisions of 10 CFR 2.201, Entergy Operations, Inc. (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation(s) listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The

attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Arlington, Texas,
this 9th day of May 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
191 MARKET STREET, N.W., SUITE 2800
ATLANTA, GEORGIA 30333-0180

January 10, 1997

EA 96-458
EA 96-464
EA 96-457

Florida Power and Light Company
ATTN: Mr. T. F. Plunkett
President - Nuclear Division
P. O. Box 14000
Juno Beach, FL 33408-0420

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES -
\$100,000 (NRC INSPECTION REPORTS NOS 50-335 AND 50-389/96-19,
96-18, AND 96-22)

Dear Mr. Plunkett:

This refers to three inspections conducted during the period October 7 through November 26, 1996, at your St. Lucie Nuclear Plant. The inspections included a review of the plant security access control program, the emergency preparedness program, and recent modifications to nuclear instrumentation. The results of the three inspections were formally transmitted to you by letters dated November 15 and 26, 1996. A closed predecisional enforcement conference was conducted in the Region II office on December 10, 1996, with you and members of your staff to discuss the apparent violations, the root causes, and corrective actions to preclude recurrence. A list of conference attendees, NRC slides, and a copy of Florida Power and Light Company's (FPL) presentation materials are enclosed.

Based on the information developed during the inspections and the information provided during the conference, the NRC has determined that violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalties (Notice). The circumstances surrounding the violations as well as the other issues addressed at the conference were described in detail in the subject inspection reports and are addressed in the enclosures with respect to NRC's disposition of the issues, actual and potential safety consequence, and application of the Enforcement Policy.

Overall, the violations involved issues of significant regulatory concern in three areas, the security access control program, the emergency preparedness program, and the design control process as described below.

- The failure of the access control program to limit access to protected and vital areas of the plant to only those individuals who were authorized, as required by 10 CFR 73.55. In addition, upon identification of an unauthorized entry, there was a failure to notify the NRC within one hour, as required by 10 CFR 73. Appendix G. (EA 96-458)

- The failure to appropriately implement various aspects of the Radiological Emergency Plan (REP), including maintaining the capability to augment the onsite staff in a timely manner, adequately incorporating REP requirements into implementing procedures, and conducting required training for emergency response organization personnel. (EA 96-464)
- The failure to accurately translate design requirements into drawings and to provide independent review of a modification to excore nuclear instrumentation. The failure to specify clearly design requirements for incore flux monitoring software and a failure to provide independent review of the adequacy of the new software. In addition, the failure to prepare a Condition Report as required by plant procedures when markings for electrical terminal connectors on a replacement excore neutron detector were found to be different from existing cable markings. (EA 96-457)

To emphasize the importance of prompt recognition of violations and the need for timely and comprehensive corrective actions, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice with proposed civil penalties totalling \$100,000. A proposed civil penalty of \$50,000 was assessed for a Severity Level III problem in Part I of the enclosed Notice that related to the access control program (EA 96-458). A proposed civil penalty of \$50,000 was assessed for a Severity Level III problem in Part II of the enclosed Notice that related to emergency preparedness (EA 96-464). The application of the Enforcement Policy and the assessment process for each of the cases are discussed in detail in the enclosures to this letter. Although the violations in these three areas are functionally unrelated, the NRC is concerned that collectively they reflect particularly poor overall performance by FPL.

You are required to respond to this letter and should follow the instructions prescribed in the enclosed Notice (Enclosure 4) when preparing your response. In addition, your attention is also directed to Enclosure 2 which requests you to provide a response regarding the identified emergency preparedness program weakness. The NRC will consider your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In addition, the NRC is very concerned about FPL's apparent lack of responsiveness and sensitivity to emergency preparedness issues that were raised by a concerned employee with FPL management. As discussed in Enclosure 2 to this letter, there were multiple opportunities to pursue these concerns when they were brought to your attention yet you failed to do so. We will be contacting you in the near future to confirm arrangements for a meeting to further discuss your views as to the actions required to maintain a safety-conscious work environment, the effectiveness of your programs designed to ensure employees are free to raise safety concerns, and your actions to ensure that employee concerns are promptly dispositioned with appropriate resolution feedback to the concerned employee. We would also expect to discuss at this meeting the results of the NRC's Annual Report of the

Allegation Advisor, dated October 7, 1996, which contains an analysis indicating a substantial increase in the number of allegations received regarding activities at the St. Lucie facility during the period October 1992 through May 1996.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be placed in the NRC Public Document Room.

Sincerely,

Luis A. Reyes
Regional Administrator

Docket Nos. 50-335, 50-389
License Nos. DPR-67, NPF-16

- Enclosures:
1. Description of Violations for EA 96-458
  2. Description of Violations for EA 96-464
  3. Description of Violations for EA 96-457
  4. Notice of Violation and Proposed Imposition of Civil Penalties
  5. Conference Attendees (Not to be Published in NUREG-0940)
  6. Licensee Presentation Material (Not to be Published in NUREG-0940)
  7. NRC Presentation Material (Not to be Published in NUREG-0940)

cc w/encs:
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Licensing and Special Programs
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cc w/encs: (Cont'd on Page 4)

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County Administrator
St. Lucie County
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Ft. Pierce, FL 34982

EA 96-458
DESCRIPTION OF VIOLATIONS
SECURITY ACCESS

Violation A described in Part I of the Notice involved your failure to implement adequately the provisions of the required access control program to prevent unauthorized individuals from gaining access into the St. Lucie facility. As a result, an unauthorized individual gained access to the protected area and had the potential to access vital areas. Specifically, on July 28, 1996, a temporary employee was favorably terminated from St. Lucie, however, due to multiple program implementation failures, the individual's access badge was not terminated, and on August 7, 9, and 15, 1996, the individual returned to the site and entered the protected area. Furthermore, on October 9, 1996, security personnel discovered that the individual had accessed the protected area after his termination, yet a required one-hour report to the NRC was not completed until October 16, 1996. The failure to make a report to the NRC within one-hour as required by 10 CFR Part 73, Appendix G is identified as Violation B in Part I of the Notice.

At the conference, you admitted that Florida Power and Light Company (FPL) failed to follow established plant procedures for site access and failed to submit a timely one-hour report to the NRC. In addition, at the time of the onsite inspection, you had initiated an internal review of all FPL nuclear employees released between January 1 through October 30, 1996, and as of October 25, 1996, five additional individuals whose security access had not been terminated following employment completion had been identified. At the conference, you stated that this review had been completed with a total of 27 individuals identified whose badges had not been terminated despite completion of employment. You further stated that none of these individuals actually gained access to protected or vital areas of the plant. Subsequent to the conference, you provided the NRC information which amended the number of individuals to 24 and indicated that the maximum period of potential access by any one of the individuals was approximately 8 months following termination.

The individual who inappropriately gained access to the site had worked at the St. Lucie facility a number of years, was terminated favorably, and did not appear to have malevolent intent. Nevertheless, the violations are of significant regulatory concern, particularly in light of the tampering event that recently occurred at the facility. In the case of the individual who actually gained unauthorized access, multiple barriers failed including: (1) the failure of the individual's supervisor to notify security of the termination; (2) the failure of the 31-day vital area access review to identify the individual as no longer needing access; (3) the failure of the individual to follow termination procedures and General Employee Training; and (4) the failure of human resources personnel to notify security of personnel changes. Lastly, the failure to provide a timely one-hour report to the NRC demonstrates a flawed understanding of security requirements and a lack of sensitivity to reporting requirements by lower level management. Specifically, it was approximately seven days until upper management became aware of the access by the terminated employee, identified the access as

Enclosure 1

unauthorized, and directed notification of the NRC Operations Center. This failure is particularly significant in that a similar failure to notify the NRC in a timely manner was identified for the tampering event as documented in NRC Inspection Report No. 50-335, 389/96-16, and as demonstrated by your repeat failure in this case, corrective actions were not effective in preventing recurrence. Therefore, in accordance with the Enforcement Policy, Violations A and B in Part I of the Notice have been categorized in the aggregate as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III problem. Because your facility has been the subject of escalated enforcement action within the last two years¹, the NRC considered whether credit was warranted for *Identification and Corrective Action* in accordance with the civil penalty assessment process described in Section VI B 2 of the Enforcement Policy. The NRC concluded credit was warranted for *Identification*, in that members of the FPL staff identified the violations. At the conference, you stated that your corrective actions included: (1) revocation of the access badges of each individual who was identified as having an active entry badge but was terminated, (2) initiation of an investigation on October 21, 1996, of all FPL employees released since January 1, 1996, to determine if they had active access badges or had accessed the plant, (3) review and validation of all individuals currently granted unescorted access and establishment of a strengthened program for monthly validations, (4) development of a termination checklist to assure proper out processing of terminated employees is completed, (5) conduct of training for appropriate individuals on termination procedures and reporting requirements, and (6) the reporting of the unauthorized access on October 16, 1996, followed by submission of Licensee Event Report 96-S02.

Notwithstanding these actions, the NRC determined that credit was not warranted for *Corrective Action* in that, collectively, your actions were not timely. Specifically, on August 19, 1996, FPL identified that a permanent employee's access had not been deactivated 12 days following his 45-day notice of termination. This should have alerted you that an access control problem existed. Additionally, on September 19, 1996, FPL identified three terminated temporary employees whose access had not been deactivated as required. Although the access for these individuals was immediately terminated, as appropriate, these events were considered isolated with no actions taken to determine the extent of the condition. It was only fortuitous that a query from the Turkey Point facility, during the in-processing of an individual for employment, led to the October 9, 1996, identification of that individual's unauthorized plant entry. In addition, it was not until October 16, 1996,

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¹A Notice of Violation was issued on September 19, 1996, associated with the failure to comply with 10 CFR 50.59 (EA 96-326). A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$50,000 was issued on March 28, 1996, for multiple violations associated with a dilution event (EA 96-040). A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$50,000 was issued on November 13, 1995, related to inoperable power operated relief valves (EA 95-180).

when upper management became aware of the unauthorized access that the significance of the issue was realized, comprehensive corrective actions were initiated, and a report made to the NRC. In view of these facts, the NRC is assessing the base civil penalty of \$50,000 for this Severity Level III problem.

EA 96-464
DESCRIPTION OF VIOLATIONS
EMERGENCY PREPAREDNESS

Violation A in Part II of the Notice involved your failure to maintain the capability for augmenting your onsite staff following declaration of an Alert or higher emergency classification. Specifically, during the period of approximately July 22 through October 3, 1996, the primary method for notification of personnel, the Emergency Recall System or Autodialer, was inoperable due to an improper "as-left" configuration following revision of the personnel database. In addition, during this period of Autodialer inoperability, the backup augmentation method specified by the Emergency Plan Implementing Procedures (EPIPs) was also determined to be deficient. This method relied on emergency response organization (ERO) personnel to systematically notify other responders. However, a controlled copy of the procedure for implementation of the notification scheme was not distributed to all individuals expected to implement it, not all personnel who were expected to implement the scheme were fully cognizant of their role, and, as identified by your own investigation, the procedure contained errors. At the conference, you acknowledged the deficient status of these capabilities, but you did not believe that a substantial delay in staffing would result due to the existence of routine departmental rosters and the availability of Control Room operators to supply any needed information. However, your evaluation did not take into account an additional delay of approximately 15-30 minutes that would be required to identify and confirm an Autodialer failure prior to implementation of the backup scheme.

Violation B in Part II of the Notice involved your failure to adequately establish detailed EPIPs to implement two specific requirements described in the Radiological Emergency Plan (REP), post-accident recovery operations and the ERO structure and notification methodologies. Although information related to these topics was available in resources outside the EPIPs (i.e., the Recovery Plan and the Autodialer database), the information was not formally part of the EPIPs, and therefore was not subject to the same administrative controls, distribution requirements, and periodic reviews as the REP and EPIPs. At the conference you acknowledged that the ERO description and Recovery Plan were not described in detail in the EPIPs, however, you stated that information generally provided outside the EPIPs had been considered adequate by FPL.

Violation C in Part II of the Notice involved multiple failures to implement the REP training program requirements for onsite emergency response personnel. Numerous individuals expected to respond in an emergency during calendar years 1994 and 1995 were identified who had not received initial training or annual retraining for their designated positions. Principally, this failure affected positions in the Operational Support Center (OSC). In addition, ERO training primarily consisted of "read and sign" training; however, ERO positions were identified for which this training did not include the specific EPIPs that were expected to be implemented or did not include significant revisions to the applicable EPIPs. Lastly, individuals whose qualification training had

Enclosure 2

expired were not removed from the ERO response roster and precluded from responding to an emergency. The seriousness of these training deficiencies was exacerbated by the fact that the St. Lucie emergency drill and exercise program permitted participation by only a limited number of individuals. A substantial number of personnel on the response roster had not participated in any drill or exercise in the past several years. At the conference, you acknowledged the violations; however, you stated that FPL had considered certain positions in the OSC to function similarly to their normal duties, and thus did not require position specific REP training (e.g., mechanics).

Although you have successfully demonstrated your response capability during recent annual emergency exercises, the violations are of significant regulatory concern in that they represent a breakdown in critical elements of the emergency preparedness program. Together, the failure to maintain the primary and backup methods for augmentation of onsite staff had the potential for substantially impeding FPL's ability to staff and activate the Technical Support Center (TSC), the OSC, and the Emergency Operations Facility (EOF) within 60 minutes of an emergency declaration warranting such activation.

Furthermore, the lack of specialized training and practical demonstration, as well as appropriately inclusive procedures, calls into question the ability of personnel to effectively fulfill their response functions. As you stated at the conference, the root cause of the violations was the lack of management priority given to the emergency preparedness program. However, the NRC is also concerned that several of these issues or their precursors were previously identified to FPL management from various sources such as a member of the plant staff, internal self-assessments, and critiques; yet timely actions to review the issues, determine their impact on REP commitments, and initiate proper resolution were not taken. Such management inaction, particularly in response to issues raised by a concerned employee, is clearly not acceptable. Therefore, in accordance with the Enforcement Policy, Violations A, B, and C in Part II of the Notice have been categorized in the aggregate as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III problem. Because your facility has been the subject of escalated enforcement action within the last two years¹, the NRC considered whether credit was warranted for *Identification and Corrective Action* in accordance with the civil penalty assessment process described in Section VI B.2 of the Enforcement Policy. The NRC concluded credit was not warranted for *Identification*, in that you did not identify all of the violations described in the Notice related to emergency preparedness. At the conference, you stated that your corrective actions

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¹A Notice of Violation was issued on September 19, 1996, associated with the failure to comply with 10 CFR 50.59 (EA 96-326). A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$50,000 was issued on March 28, 1996, for multiple violations associated with a dilution event (EA 96-040). A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$50,000 was issued on November 13, 1995, related to inoperable power operated relief valves (EA 95-180).

included. (1) placement of the Autodialer in an operable status and institution of post-update and weekly functional testing; (2) distribution of applicable procedures and conduct of training for personnel designated to implement the manual callout. (3) development of an ERO Weekly Duty Roster and conduct of four augmentation drills. (4) inclusion of the ERO description in the EPIPs, and projected inclusion of elements of the Recovery Plan in the EPIPs by January 31, 1997. (5) development of a training and qualification matrix for ERO personnel; (6) conduct of multiple facility drills and two integrated facility drills. (7) institution of a quarterly drill program with the commitment that all ERO initial responders participate in a drill or exercise in 1997, and (8) upgrade of the emergency preparedness training modules by January 1997 with training completed by April 1997. Regarding the current status of your ERO, at the conference you stated that all unqualified workers had been removed from the response roster, and that each of the minimum staffing positions in the ERO could be staffed with three individuals who had been retrained and had recently participated in a drill or exercise. Based on the above, the NRC determined that credit for Corrective Action was warranted, which results in a base civil penalty of \$50,000 for the Severity Level III problem.

At the conference, several additional issues were discussed which are dispositioned as follows. First, an apparent deviation identified in Inspection Report No. 50-335, 389/96-18 was discussed regarding your failure to incorporate the requirements to "establish, maintain, and implement" procedures for the Emergency Plan and the Security Plan into these same documents following the removal of the requirements from the Technical Specifications, as committed in your August 16, 1995 license amendment application. After considering your arguments at the conference, the NRC has concluded that, although no specific revisions to the Emergency Plan or Security Plan were implemented to meet the aforementioned commitment, the requirements to establish, maintain, and implement procedures are addressed in a general manner in both documents. Plan references to procedures in concert with your administrative requirements for procedural adherence have been deemed an acceptable approach for complying with your August 16, 1995, commitment. However, the NRC continues to believe that the language utilized in both the plans is imprecise and could be revised to improve clarity and intent.

Second, after considering your statements at the conference, the apparent violation originally identified in Inspection Report No. 50-335, 389/96-18 regarding inadequate EPIPs for the relocation of the OSC is being characterized as a program weakness. Although your procedure addressed the need to consider relocation of this facility in an emergency, no guidance or selection criteria were provided to emergency management personnel to facilitate this decision-making process. In your response we request that you address this emergency preparedness program weakness and describe any actions you have taken or will take to correct it.

EA 96-457
DESCRIPTION OF VIOLATIONS
NUCLEAR INSTRUMENTATION

Violation A in Part III of the Notice involved two examples of the failure to establish adequate design control measures. The first example involved a failure to translate design requirements correctly into drawings and a failure to provide adequate independent review of a modification to excore nuclear instrumentation. The second example involved a failure to identify clearly design constraints and attributes for software designated as SQAI and the failure to verify independently the adequacy of newly developed software. Specifically, the use of a modeling offset in the core design software was not formally documented, and an independent review of the BEACON software specifications was not performed. As a result, the software was inappropriately modified to account for a physical shift in the reactor core midplane.

The root causes of Example 1 of Violation A in Part III of the Notice were (1) errors introduced into the Unit 1 controlled drawings as a result of inaccurate assumptions that a Unit 2 excore instrumentation modification could be used to derive information for a Unit 1 modification; (2) development of the modification without approved vendor manuals and drawings and the subsequent failure to check vendor documents against the modification package when the vendor documents were received, and (3) a weakness in the verification process that resulted in a drafting check of the drawings rather than an independent review to confirm that the drawings implemented the necessary wiring instructions. The root causes of Example 2 of Violation A in Part III of the Notice were (1) the failure to document formally the use of a modeling offset in the safety analysis for the core midplane offset such that individuals working on subsequent software input would understand that the core midplane offset had already been incorporated, and (2) the failure to verify independently that the final software assumptions corresponded to the safety analysis assumptions that formed the basis for the design input for software development. The actual safety consequence of Example III A 1, i.e., reversing the detector inputs for the excore instrumentation, was a reduction in the margin between the thermal margin/low pressure trip setpoint and the analysis limit. Although the actual safety consequence of Example III A 2 was minimal, the NRC is concerned that it also exemplifies deficiencies in the design control process and the lack of adequate independent verification.

Violation B in Part III of the Notice involved the failure of your plant staff to prepare a Condition Report as required by plant procedures when markings for electrical terminal connectors on a replacement excore neutron detector were found to be different from existing cable markings. The wires were connected incorrectly, and the miswired detector was placed in service before the error was identified. A Condition Report on the marking differences would have provided an independent review of this discrepancy and could have prevented the installation error. The root causes of Violation III B were personnel error and the informal approach used for resolving discrepancies identified in the field.

Enclosure 3

The NRC is concerned that the root causes of Violations III.A and III.B both point to a serious lack of attention to detail in the design control area. The violations are of significant regulatory concern because of the potential adverse impact of concurrent errors in both the excore nuclear instrumentation and the core flux monitoring systems. Considering the vital role of these systems and the scope of the modifications made to these systems during the same outage, additional precautions to ensure proper implementation of these modifications should have been instituted. Therefore, Violations A and B in Part III of the Notice are classified in the aggregate in accordance with the Enforcement Policy as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III problem. Because your facility has been the subject of escalated enforcement action within the last two years¹, the NRC considered whether credit was warranted for *Identification and Corrective Action* in accordance with the civil penalty assessment process described in Section VI.B.2 of the Enforcement Policy. In this case, the NRC has concluded that credit for *Identification* was warranted because Violations III.A and III.B were identified by your staff during routine review of reactor physics data. At the conference, you stated that your corrective actions included: (1) immediate corrective actions to ensure equipment operability; (2) procedural revisions to ensure adequate testing and independent verification; (3) revision of the BEACON software; (4) verification of the accuracy of the BEACON software; (5) revision of fuel design standards to incorporate a list of key design features; and (6) review of Condition Report procedural requirements with your staff. In considering these facts, the NRC concluded that credit was warranted for the factor of *Corrective Action*, resulting in no civil penalty. However, significant violations in the future could result in a civil penalty.

NRC Inspection Report 50-335/96-22, 50-389/96-22 also identified an apparent violation for failure to verify and validate the BEACON software against the results from the functionally equivalent and previously validated INPAX software. This comparison could have identified the design error concerning core midplane offset. During the enforcement conference, your staff indicated that your procedures allowed for different methods of verifying and validating software performance characteristics. Your staff stated that FPL performed a site validation acceptance test for BEACON that met your procedural requirements. In view of the determination that the software error was introduced by differences in the safety analysis and the software design, which is cited in Example 2 of Violation III.A this apparent violation is withdrawn.

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¹A Notice of Violation was issued on September 19, 1996, associated with the failure to comply with 10 CFR 50.59 (EA 96-326). A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$50,000 was issued on March 28, 1996, for multiple violations associated with a dilution event (EA 96-040). A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$50,000 was issued on November 13, 1995, related to inoperable power operated relief valves (EA 95-180).

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTIES

Florida Power and Light Company
St. Lucie Nuclear Plant
Units 1 and 2

Docket Nos. 50-335, 50-389
License Nos. DPR-67, NPF-16
EA 96-458, EA 96-464, and EA 96-457

During NRC inspections conducted during the period of October 7 through November 26, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose civil penalties pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalties are set forth below:

I. Violations Assessed a Civil Penalty Related to Security Access
(EA 96-458)

- A. 10 CFR 73.55(7) states that licensees shall establish an access authorization system to limit unescorted access to vital areas during non-emergency conditions to individuals who require access in order to perform their duties.

The licensee's Physical Security Plan (PSP), Revision 48, dated February 23, 1996, states, "Only those individuals with identified need for access and having appropriate authorization shall be granted unescorted Vital Area access."

Contrary to the above, between July 28 and September 19, 1996, an individual, whose employment terminated on July 28, 1996, had unescorted access to protected and vital areas without appropriate authorization, and on August 7, August 9, and August 15, 1996, actually entered the protected area and had access to vital areas. In addition, as of the end of the onsite inspection on October 25, 1996, five additional individuals whose employment terminated during the period July 27 through September 19, 1996, were identified by the licensee as having had unescorted access to the protected and vital areas, without appropriate authorization.
(01013)

- B. 10 CFR 73, Appendix G, Section I(b) requires that an actual entry of an unauthorized person into a protected area or vital area be reported to the NRC within one hour of discovery.

10 CFR 73, Appendix G, Section II(a) states that any failure, degradation, or discovered vulnerability in a safeguards system that could have allowed unauthorized or undetected access to a protected area or a vital area had compensatory measures not been established, be recorded within 24 hours of discovery in the safeguards event log.

Enclosure 4

Contrary to the above, on October 9, 1996, the licensee failed to report to the NRC an actual entry of an unauthorized person into the protected area within one hour of discovery. Specifically, on October 9, 1996, the licensee discovered that an unauthorized individual who had been terminated on July 28, 1996, had entered the protected area on five different occasions, yet the licensee did not report the incident to the NRC until October 16, 1996. In addition, on September 19, 1996, the licensee failed to record a vulnerability of the safeguards system in the safeguards event log. Specifically, the licensee discovered three individuals who had been terminated on July 27, 28, and August 24, 1996, who could have accessed the protected areas of the plant due to their access badges not being terminated. The licensee failed to report this discovery in the safeguards event log. (01023)

These violations represent a Severity Level III problem (Supplement III).
Civil Penalty - \$50,000

II. Violations Assessed a Civil Penalty Related to Emergency Preparedness (EA 96-464)

10 CFR 50.54(g) requires that nuclear power plant licensees follow and maintain in effect emergency plans which meet the planning standards of 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50.

- A. Section 2.4 of the licensee's Radiological Emergency Plan (REP), Revision 31, stated that activation of the Technical Support Center (TSC) and the Operational Support Center (OSC) will be initiated by the Emergency Coordinator in the event of an Alert, Site Area Emergency, or General Emergency, and that arrangements have been made to staff the TSC and OSC in a timely manner. Also specified is that activation of the Emergency Operations Facility (EOF) is required for a Site Area Emergency or General Emergency, and that arrangements have been made to activate the EOF in a timely manner.

The REP requirements delineated above were implemented, in part, by Emergency Plan Implementing Procedure (EPIP) 3100023E, "On-Site Emergency Organization and Call Directory," Revision 72. The instruction in Section 8.2 of this procedure stated that, upon the declaration of an emergency classification, "the Duty Call Supervisor will initiate staff augmentation" using the "Emergency Recall System or Appendix A, Duty Call Supervisor Call Directory, to notify persons...."

Contrary to the above, from approximately July 22 to October 3, 1996, arrangements were not available to staff or activate the TSC, OSC, or EOF in a timely manner because the licensee did not have the capability to adequately implement either the primary method (using the Emergency Recall System) or the backup method

(using the Duty Call Supervisor Call Directory) for notifying its personnel during off-hours (02013)

- B. Section 1.3 of the REP stated, "This plan outlines company responsibilities within the framework of the overall emergency response organization, and provides a conceptual basis for the development of the detailed procedures necessary to implement the plan."

Section 1.4 of the REP stated, "Associated with this Emergency Plan are implementing procedures which provide a source of pertinent information and data required by the response organization during an emergency."

Contrary to the above, as of November 1, 1996, detailed procedures to provide a source of pertinent information required by the response organization during an emergency were not adequately developed with respect to the following aspects of the Emergency Plan:

1. recovery activities, as discussed conceptually in REP Section 5.4, and
2. the description and delineation of the licensee's emergency response organization (ERO) and the detailed means for notifying ERO members in an emergency, as discussed generally in REP Section 2.2 (02023)

- C. REP Section 7.2.1, "Objectives," stated the following: "The primary objectives of emergency response training are as follows: 1. Familiarize appropriate individuals with Emergency Plan and related implementing procedures; 2. Instruct individuals in their specific duties to ensure effective and expeditious action during an emergency; 3. Periodically present significant changes in the scope or content of the Emergency Plan; 4. Provide refresher training to ensure that personnel are familiar with their duties and responsibilities."

REP Section 7.2.2, "Training of On-Site Emergency Response Organization Personnel," stated, in part, "For employees with specific assignments or authorities as members of emergency teams, initial training and annual retraining programs will be provided. Training must be current to be maintained on the site Emergency Team Roster." REP Section 7.3.2 stated, "The Plant Training Manager will ensure that on-site Emergency Response Organization personnel are informed of relevant changes in the Emergency Plan and Emergency Plan Implementing Procedures."

Contrary to the above, the licensee failed to adequately implement the training requirements specified in the REP as evidenced by the following examples:

Notice of Violation and Proposed   4
Imposition of Civil Penalties

- 1   In calendar year 1994, the licensee failed to provide initial training or annual retraining for 17 positions (approximately 92 individuals) identified as part of the onsite response organization. In calendar year 1995, the licensee failed to provide initial training or annual retraining for eight positions (approximately 54 individuals) identified as part of the onsite response organization.
- 2   During calendar years 1994 and 1995, the licensee's training program failed to include initial training or annual retraining on certain procedures required to be implemented by ERO personnel in several identified positions. Examples include EPIP 3100027E, "Re-entry," required to be implemented by the Emergency Coordinator, Radiation Team Leader, Operations Support Center (OSC) Supervisor, Re-entry Team Supervisor, Re-entry Team Member, OSC Status Board Keeper, and OSC Dose Recorder; EPIP 3100026E, "Criteria for and Conduct of Evacuation," required to be implemented by the Emergency Coordinator, Assembly Area Supervisor, and TSC Security Supervisor; and EPIP 3100035E, "Off-site Radiation Monitoring," required to be implemented by the Radiation Team Leader and TSC Supervisor.

In addition, during calendar years 1994 and 1995, the Plant Training Manager failed to ensure that ERO personnel in several identified positions were informed of relevant changes in procedures. Specifically, EPIP 3100026E was significantly revised in September 1994 and in February 1995 yet the positions required to implement it, the Emergency Coordinator, Assembly Area Supervisor, and TSC Security Supervisor, had not been informed of the changes.

- 3   For calendar year 1995, the licensee failed to remove from the emergency response organization two individuals who had not completed retraining as required and whose qualifications had expired in 1994. The licensee also failed to remove six individuals from the emergency team roster effective October 6, 1996, who had not remained qualified to fill response team requirements as a result of allowing their respirator qualifications to lapse (02033).

These violations represent a Severity Level III problem (Supplement VIII)
Civil Penalty - \$50,000

III. Violations not Assessed a Civil Penalty Related to Unit 1 Nuclear Instrumentation (EA 96-457)

- A. 10 CFR 50, Appendix B, Criterion III, Design Control, requires, in part, that measures be established to assure that applicable regulatory requirements and the design basis, as defined in 10 CFR 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies, are correctly translated into specifications, drawings, procedures, and instructions. The design control measures shall provide for verifying or checking the adequacy of the design. The verifying or checking process shall be performed by individuals or groups other than those who performed the original design, but who may be from the same organization.

FPL Topical Quality Assurance Report, TQR 3.0, Revision 11, "Design Control," Section 3.2.4 "Design Verification," stated, in part, "Design control measures shall be established to independently verify design input. Design verification shall be performed by technically qualified individuals or groups other than those who performed the design."

Engineering Quality Instructions (QI) 1.7 Design Input/Verification, dated July 5, 1995, stated, in part, "Design verification is the process whereby a competent individual, who has remained independent of the design process, reviews the design inputs and design output to verify design adequacy. This independent review is provided to minimize the likelihood of design errors in items that are important to nuclear safety."

Engineering QI 3.7 Computer Software Control, dated July 5, 1995, stated, in part, (1) a Software Requirements Specification shall be prepared which identifies and describes the function, performance, constraints, attributes, external interfaces, and user documentation requirements of the computer software, (2) validation and verification (V&V) of newly developed computer software shall be completed prior to use, and (3) V&V results shall be reviewed by an independent individual other than the developer of the software.

Contrary to the above:

1. As of July 30, 1996, the licensee failed to verify the adequacy of design change PC/M 009-195 by individuals other than those who performed the original design, in that design change PC/M 009-195, which was utilized to install new safety-related nuclear instrumentation system drawers on Unit 1, did not receive an independent design verification by a competent individual independent of the design process.

Notice of Violation and Proposed
Imposition of Civil Penalties

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2. As of July 30, 1996, the licensee failed to provide for verifying the adequacy of a new core flux monitoring computer code on Unit 1, which was procured as category SQAL software, in that the software constraints and attributes with regard to adjustments for the core midplane offset were not clearly documented and verification and validation by a competent individual independent of the design process was not conducted. (03013)

- B. Technical Specification 6.8, Procedures and Programs. Paragraph 6.8.1, requires, in part, that written procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, dated February 1978, shall be established and implemented

Administrative Procedure No. 0006130, Condition Reports. Revision 4, dated March 22, 1996, Paragraph 8.1.1 A, stated, in part, that "Any individual who becomes aware of a problem or discrepant condition, should initiate a CR [Condition Report]. If doubt exists, a CR form should be initiated."

Contrary to the above, on July 30, 1996, Instrument and Control technicians installing Modification PC/M 009-195 did not initiate a Condition Report when they became aware of a discrepant condition, i.e., that markings for electrical terminal connectors on replacement detectors differed from cable markings identified on the control wiring diagrams. The failure to resolve the discrepant condition resulted in incorrectly installing an excore nuclear instrumentation system detector in Unit 1. (03023)

These violations represent a Severity Level III problem (Supplement I)

Pursuant to the provisions of 10 CFR 2.201, the Florida Power and Light Company (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalties (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation, (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Notice of Violation and Proposed   7
Imposition of Civil Penalties

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalties by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalties proposed above, or may protest imposition of the civil penalties in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalties will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalties, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalties should not be imposed. In addition to protesting the civil penalties in whole or in part, such answer may request remission or mitigation of the penalties.

Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalties.

Upon failure to pay any civil penalties due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalties, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalties, and Answer to a Notice of Violation) should be addressed to: Mr. James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region II and a copy to the NRC Resident Inspector at the St. Lucie Nuclear Plant.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the

Notice of Violation and Proposed   8
Imposition of Civil Penalties

information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Atlanta, Georgia
this 10th day of January 1997

PREDECISIONAL ENFORCEMENT CONFERENCE ATTENDEES
DECEMBER 10, 1996

Florida Power and Light Company

T. Plunkett, President, Nuclear Division
J. Stall, Site Vice President, St. Lucie Plant (STL)
J. Scarola, Plant General Manager, STL
D. Fadden, Services Manager, STL
E. Weinkam, Licensing Manager, STL

Nuclear Regulatory Commission

S. Ebnetter, Regional Administrator, Region II (RII)
L. Reyes, Deputy Regional Administrator, RII
E. Merschoff, Director, Division of Reactor Projects (DRP), RII
A. Gibson, Director, Division of Reactor Safety (DRS), RII
F. Heddon, Director, Project Directorate II-3, Office of Nuclear Reactor Regulation (NRR)
C. Evans, Regional Counsel, RII
B. Uryc, Director, Enforcement and Investigations Coordination Staff (EICS), RII
P. Fredrickson, Chief, Special Inspection Branch, DRS, RII
K. Barr, Chief, Plant Support Branch, DRS, RII
C. Casto, Chief, Engineering Branch, DRS, RII
C. Julian, Chief, Projects Branch 3, DRP, RII
M. Miller, Senior Resident Inspector, DRP, RII
C. Rapp, Reactor Inspector, DRS, RII
L. Stratton, Security Inspector, DRS, RII
J. Kreh, Emergency Preparedness Inspector, DRS, RII
D. Thompson, Security Inspector, DRS, RII
D. Barsz, Emergency Preparedness Specialist, NRR
L. Watson, Enforcement Specialist, EICS, RII
A. Boland, Enforcement Specialist, EICS, RII
S. Campbell, Enforcement Coordinator, Office of Enforcement*

* Participated by telephone

Enclosure 5

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2800
ATLANTA, GEORGIA 30323-0199

February 28, 1997

EA 97-012

Florida Power Corporation
Crystal River Energy Complex
Mr. P. M. Beard, Jr. (SA2A)
Sr. VP. Nuclear Operations
ATTN: Mgr., Nuclear Licensing
15760 West Power Line Street
Crystal River, FL 34428-6708

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$50,000 (NRC INSPECTION REPORT 50-302/96-18)

Dear Mr. Beard:

This refers to the inspection conducted during the period December 2 through 19, 1996, at your Crystal River Unit 3 facility. The inspection was conducted to review the implementation of the Crystal River Physical Security Plan. The results of this inspection were discussed with members of your staff on January 10, 1997, and were formally transmitted to you by letter dated January 31, 1997. A closed, predecisional enforcement conference was conducted in the Region II office on February 14, 1997, with you and members of your staff to discuss the apparent violations, the root causes, and corrective actions to preclude recurrence. A letter summarizing the conference was sent to you on February 18, 1997.

Based on the information developed during the inspection and the information that was provided during the conference, the NRC has determined that violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice), and the circumstances surrounding them are described in detail in the subject inspection report.

The violations involve multiple failures to implement the requirements of your Physical Security Plan including: (1) two examples of the failure to have adequate Physical Security Plan implementing procedures for the operation of the newly installed security computer in the Temporary Central and Secondary Alarm Stations and the implementation of adequate measures to compensate for degradation of vital area doors; (2) the failure to respond properly to a protected area alarm resulting in the perimeter intrusion detection system being inoperable in excess of two hours; (3) the failure to employ the capability to immediately assess more than one protected area alarm at a time; (4) the failure to maintain a physical barrier to the protected area for a period in excess of 12 hours at the Circulating Water System; (5) the failure to appropriately control and safeguard weapons stored in your armory, and (6) the failure to submit Physical Security Plan changes to the NRC in accordance with the time limits of 10 CFR 50.54(p). Most of the violations were associated with the implementation of the security upgrade project.

The violations are of significant regulatory concern in that they are indicative of a lack of management attention to the program and a fundamental lack of understanding of regulatory requirements related to the security program. Although the overall security program has been functioning adequately and the working level performance of the security force has been generally good, the underlying programmatic deficiencies manifested themselves during the implementation phase of the security upgrade program. At the conference, you stated, that as a result of the violations, no significant threat of radiological sabotage existed. Although the violations associated with degraded assessment capability, alarm station operator failure, procedural deficiencies, degraded protected area barriers, and exposure of weaponry at your armory may not individually represent easily exploitable deficiencies, collectively, they weakened your overall ability to respond to a security threat. Individually, the violations normally would be categorized at Severity Level IV; however, in this case, the violations have been evaluated in the aggregate and assigned a single, increased severity level due to their similar underlying causes. Therefore, the violations are classified in accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$55,000 is considered for a Severity Level III problem occurring on or continuing after November 12, 1996 (61 Federal Register 53554). However, since several of the violations occurred prior to November 12, 1996, the base civil penalty considered for this case is \$50,000 (NUREG-1600, July 1995). Because your facility has been the subject of escalated enforcement action within the last two years¹, the NRC considered whether credit was warranted for Identification and Corrective Action in accordance with the civil penalty assessment process described in Section VI.B.2 of the Enforcement Policy. The NRC determined that credit for Identification was not warranted in that the majority of the violations cited in the Notice were identified by NRC. At the conference, you stated that the new management team and the Management Corrective Action Plan-Phase II (MCAP II) which is in-place to bring about broad management, design, and corrective action changes, will also address the root causes of these violations. In addition, you stated that the corrective action taken or planned for these specific violations include: (1) addition of security to the Design Review Board for security modifications; (2) implementation of changes to the Project/Modifications Review Group; (3) revision of procedures to include end-user training prior to turnover; (4) review and revision of procedures to ensure that they reflect the current operational status of the security program; (5) implementation of appropriate compensatory measures for degraded vital area doors; (6) communication of expectations and implementation of enhanced training related to alarm response; (7) appropriate disciplinary actions for the individuals who failed

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¹A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$500,000, was issued on July 10, 1995, associated with poor engineering, operations and corrective actions (EA 95-126). A Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$25,000, was issued on March 24, 1995, associated with non-conservative setpoints for safety related equipment (EA 95-016).

to respond appropriately to the alarm; (8) immediate compensation for the degraded assessment capability and implementation of a software change to rectify the error; (9) implementation of measures to assure appropriate security of weapons; (10) implementation of additional protective measures at the Circulating Water System; and (11) inclusion of the 10 CFR 50.54(p) process in Administrative Instructions. Based on these actions, the NRC concluded that your corrective actions to restore degraded conditions were prompt and comprehensive; therefore, credit for Corrective Action was warranted.

Therefore, to emphasize the importance of maintaining an adequate physical security program and the need for prompt identification of violations, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice in the base amount of \$50,000 for the Severity Level III problem.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will consider your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,

Luis A. Reyes
Regional Administrator

Docket No. 50-302
License No. DPR-72

Enclosure: Notice of Violation and Proposed
Imposition of Civil Penalty

cc w/encl:
John Cowan, Vice President
Nuclear Production (SA2C)
FPC, Crystal River Energy Complex
15760 West Power Line Street
Crystal River, FL 34428-6708

cc w/encl: (Cont'd on Page 4)

cc w/encl (Cont'd):

B. J. Hickie, Director
Nuclear Plant Operations (NA2C)
FPC, Crystal River Energy Complex
15760 West Power Line Street
Crystal River, FL 34428-6708

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NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Florida Power Corporation
Crystal River Nuclear Plant
Unit 3

Docket No. 50-302
License No. DPR-72
EA 97-012

During an NRC inspection conducted during the period December 2 through 19, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

- A. Condition 2.D, Physical Protection, of Operating License Number DPR-72 states that Florida Power Corporation (FPC) shall maintain in effect and fully implement all provisions of the Commission approved Physical Security, Safeguards Contingency, and Guard Training and Qualification Plans.

- (1) Part I of the licensee's Physical Security Plan, Revision (Rev.) 6-13, dated June 20, 1996, "Introduction," states that written procedures are implemented and maintained to the detailed requirements necessary to implement the Security Plan for plant operations. In addition, Part I also states that the Physical Security Plan provides FPC's policy and commitment to meet the requirements of 10 CFR 73.55.

Contrary to the above, procedures were not implemented and maintained to the detailed requirements necessary to implement the Security Plan for plant operations as evidenced by the following examples:

- a. As of December 19, 1996, Site Security Procedure 205, "Alarm Station Operations," Rev. 13, dated January 14, 1994, failed to reflect current equipment and operational instructions for the newly installed security computer system for the Central and Secondary Alarm Station operators. The licensee failed to revise the procedure when the new Temporary Central Alarm Station and the Secondary Alarm Station were placed into operation on November 5, 1996.
  - b. As of December 19, 1996, Site Security Procedure 303, "Compensatory Measures for Pre-Planned Maintenance," Rev. 2, dated July 28, 1995, failed to establish requirements such that in the event of a vital area door degradation, compensatory measures would not be reduced in effectiveness as defined in 10 CFR 73.55(g)(1). (01013)
- (2) Security Information Report 10551, dated September 27, 1997, "JC 6000 Alarm Response," an addendum to Site Security Procedure 205, "Alarm Station Operations," Rev. 13, dated January 14, 1994,

Enclosure

states that the general rule for all alarm station operators will be to respond to all alarms.

Section 6.1.1.1 of the licensee's Physical Security Plan, Rev. 6-13, provides that in the event of a partial alarm system failure the following compensatory measures will be taken: Provide continuous surveillance utilizing a dedicated observer monitoring the closed circuit television monitor and increase Protected Area patrols through use of an additional officer, or station a member of the security force at the inoperable alarm location.

Contrary to the above, on November 20, 1996, the Central and Secondary Alarm Station Operators failed to respond to an intelligent multiplexer alarm, which resulted in the perimeter intrusion detection system being inoperable for approximately two hours and 22 minutes. Additionally, the loss of protected area intrusion detection alarms was not compensated. (01023)

- (3). Section 6.4 of the licensee's Physical Security Plan, Rev. 6-13 states, in part, that monitors located in the Central and Secondary Alarm Station will automatically switch to the appropriate camera during a perimeter alarm to immediately display the area in alarm.

Contrary to the above, from November 5 to December 6, 1996, the licensee failed to have a system that would automatically switch to the appropriate camera to display the areas in alarm when two or more perimeter alarms were generated. (01033)

- (4). Section 3.1 of the licensee's Physical Security Plan, Rev. 6-11, states that the Protected Area is located within the Owner-Controlled Area and is enclosed by physical barriers.

Contrary to the above, on November 1, 1996, for approximately 12 hours and 35 minutes, the licensee failed to enclose the Protected Area in that a physical barrier was not established at the Circulating Water System. (01043)

- (5). Section 2.4.5. of the licensee's Physical Security Plan, Rev. 6-13, states in part that security equipment, to include weapons and ammunition is stored in a locked repository within the Protected Area.

Contrary to the above, from approximately early 1988 to December 18, 1996, weapons and ammunition stored within the Protected Area were not properly secured in a repository. Specifically, the roof of the repository allowed security equipment to be accessible to plant personnel. (01053)

Notice of Violation and Proposed   3
Imposition of Civil Penalty

- B. 10 CFR 50.54(p)(2) states that the licensee shall maintain records of changes to the Plans made without prior Commission approval for a period of three years from the date of the change, and shall submit as specified in 10 CFR 50.4 a report containing a description of each change within two months after the change is made.

Contrary to the above, the licensee failed to comply with the requirements of 10 CFR 50.54(p)(2) as evidenced by the following examples:

- (1). On February 16, 1996, the licensee implemented Revision 6-10, of the Physical Security Plan; however, the NRC did not receive a report containing a description of the changes made in Revision 6-10 until May 17, 1996, a period in excess of two months; and
- (2). In July 1995, the licensee permanently removed the E-field perimeter intrusion detection equipment due to the implementation of the security upgrade project, which constituted a change to the Physical Security Plan, and failed to submit a report of the change to the NRC. (01063)

This is a Severity Level III problem (Supplement III).

Pursuant to the provisions of 10 CFR 2.201, the Florida Power Corporation (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the

Notice of Violation and Proposed   4
Imposition of Civil Penalty

Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalties, and Answer to a Notice of Violation) should be addressed to: Mr. James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region II and a copy to the NRC Resident Inspector at the Crystal River Nuclear Plant.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Atlanta, Georgia
this 28th day of February 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

June 18, 1996

EA 96-079

Mr. B. Ralph Sylvia, Executive Vice President
Generation Business Group and
Chief Nuclear Officer
Niagara Mohawk Power Corporation
Generation Business Group D-2
300 Erie Boulevard West
Lycoming, New York 13202

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$50,000
(NRC Inspection Report Nos. 50-220/96-05; 50-410/96-05)

Dear Mr. Sylvia:

This letter refers to the NRC inspection conducted at the Mine Mile Point Nuclear Station between February 17 and March 11, 1996, concerning a safety vulnerability in that the reactor and turbine building blowout panels would not have relieved until a pressure in excess of the structural design pressure for the buildings was reached. This vulnerability existed from initial operation in December 1969 to March 1995. You submitted a Licensee Event Report, (LER) 95-05, dated November 30, 1995, that was reviewed by the NRC. The inspection report was sent to you on March 29, 1996. On April 12, 1996, a predecisional enforcement conference was conducted with you and members of your staff to discuss the related apparent violations identified during the inspection, their causes, and your corrective actions.

Based on our review of the LER, inspection findings, and information provided during the conference, four violations are being cited and are described in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice). Violations I.A and I.B of the Notice involved the following: (1) failure to ensure that the Unit 1 reactor and turbine building pressure relief panels would function at the specified 45 pounds per square foot (psf) as stated in your Updated Final Safety Analysis Report (UFSAR), and (2) the failure to perform the safety evaluation required by 10 CFR 50.59 to address the use of the wrong size bolts resulting in indications that the panels would not relieve until 53 and 60 psf, respectively, beyond the design basis described in the FSAR.

Furthermore, in March 1995, when the design control deficiencies were identified, your staff determined that the reactor and turbine building pressure relief panels would not function until pressures in excess of the superstructure design blowout pressure of 80 psf as stated in your UFSAR. Although actions were taken at that time in an attempt to reduce the blowout pressure for the panels to 45 psf, in accordance with the UFSAR, the NRC is particularly concerned that a weak safety assessment, coupled with design control deficiencies involving a calculation error and inadequate design review of that calculation, led to an untimely resolution of the problem identified in October 1993.

These violations are being classified in the aggregate as a Severity Level III problem in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III problem. Your facility has not been the subject of escalated enforcement actions within the last 2 years. Therefore, the NRC considered whether credit was warranted for *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. Credit was not warranted for the *Corrective Action* factor because at the time of the enforcement conference, your actions were not considered prompt nor comprehensive, in that, in 1993 you initially identified that the blowout panels would not relieve at 45 psf (as stated in the UFSAR) and concluded that the margin of safety had not been reduced, therefore, no substantial corrective actions had been implemented to address the underlying human performance causes of the design control violation, and the safety evaluation as required by 10 CFR 50.59 had not been completed.

Therefore, to emphasize the importance of prompt identification and comprehensive correction of violations at your facility, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) in the base amount of \$50,000 for the Severity Level III problem.

Based on the information provided during the enforcement conference, the apparent violation pertaining to 10 CFR 50.59 with respect to the March 1995 modification that restored the reactor and turbine building pressure relief panel blowout pressures to those described in the Unit 1 UFSAR is being considered an unresolved item (URI 50-220/96-05-03). This issue currently is being reviewed by the NRC. Future enforcement actions associated with this modification, if required, will be addressed upon completion of our review.

In addition, two other violations were identified during the inspection and are being cited at Severity Level IV in the enclosed Notice. Violation II.A involves the failure to write a Deviation Event Report (DER) to address human performance and personnel performance problems adverse to quality in the handling of the reactor and turbine building pressure relief panel issues. Violation II.B involves the failure, in October 1993, to notify the NRC within one hour of a condition outside the design basis of the plant and the failure to submit an LER within 30 days after discovery of a condition outside the design bases. Another violation identified during the inspection is not being cited in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600. This violation involved the failure to make a one hour report to the NRC in March 1995, and the failure to submit an LER within 30 days after discovery of a condition outside the design basis of the plant. This violation was licensee-identified and corrected and is being treated as a Non-Cited Violation, consistent with Section VII of the Policy.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR. If redactions are required, a proprietary version containing brackets placed around the proprietary, privacy, and/or safeguards information should be submitted. In addition, a non-proprietary version with the information in the brackets redacted should be submitted to be placed in the PDR.

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96.511.

Sincerely,

Thomas T. Martin
Regional Administrator

Docket No. 50-220
License No. DPR-63

Enclosure: Notice of Violation and Proposed Imposition of
Civil Penalty

cc w/encl:

R. Abbott, Vice President & General Manager - Nuclear

C. Terry, Vice President - Nuclear Engineering

M. McCormick, Vice President - Safety Assessment and Support

N. Rademacher, Unit 1 Plant Manager

J. Conway, Unit 2 Plant Manager

D. Wolniak, Manager, Licensing

J. Warden, New York Consumer Protection Branch

G. Wilson, Senior Attorney

M. Wetterhahn, Winston and Strawn

Director, Electric Division, Department of Public Service, State of New York

C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law

J. Vinquist, MATS, Inc.

P. Eddy, Power Division, Department of Public Service, State of New York

State of New York SLO Designee

ENCLOSURE

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Niagara Mohawk Power Corporation
Nine Mile Point Nuclear Station
Unit 1

Docket No. 50-220
License No. DPR-63
EA 96-079

During an NRC inspection conducted between February 17 and March 11, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG 1600, the Nuclear Regulatory Commission proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

I. Violations Assessed a Civil Penalty

- A. Title 10 of the *Code of Federal Regulations*, Part 50, (10 CFR 50), Appendix B, Criterion III, "Design Control," requires that measures be established to verify the adequacy of design, such as by design reviews, alternate or simplified calculational methods, or suitable testing.

Nine Mile Point Unit 1 Updated Final Safety Analysis Report (UFSAR), Sections VI.C.1.2 and III.A.1.2, state that the reactor and turbine building pressure relief panels will blow out at 45 pounds per square foot (psf) to prevent failure of the building superstructures at an internal pressure in excess of 80 psf.

Contrary to the above, between October 1993 and March 1995, measures established failed to verify the adequacy of design for Unit 1 reactor and turbine building pressure relief panels to blow out at the specified pressures. Specifically, in October 1993, NMPC made an error in the assumptions for calculations regarding the installed, oversized bolts in the reactor and turbine building pressure relief panels. The error was not identified, during the review process, by either the independent engineering reviewer or approver. It was not recognized until March 1995 that the relief pressures were in excess of the designed blowout pressure of the superstructures. (01013)

- B. 10 CFR 50.59(a)(1), allows, in part, the holder of a license to make changes to the facility as described in the safety analysis report unless the proposed change involves an unreviewed safety question.

10 CFR 50.59(b)(1) requires, in part, the licensee to maintain records of changes in the facility, to the extent that these changes constitute changes in the facility as described in the safety analysis report. The records must include a written safety evaluation which provides the bases for the determination that the change does not involve an unreviewed safety question.

Nine Mile Point Unit 1 UFSAR Sections VI.C.1.2 and III.A.1.2 state that the reactor and turbine building pressure relief panels will blow out at 45 psf to prevent failure of the building superstructure at an internal pressure in excess of 80 psf.

Contrary to the above, from December 1969 to March 1995, the actual design configuration of the reactor and turbine building pressure relief panels was different from that described in the UFSAR, and Niagara Mohawk Power Corporation (NMPC) did not perform the required written safety evaluation to provide the bases for a determination that the deviation from the UFSAR description did not involve an unreviewed safety question. Specifically, in October 1993, NMPC identified that the wrong size bolts had been installed in the relief panels during initial construction. Calculations revealed that the reactor and turbine building pressure relief panels would not relieve until 53 and 60 psf, respectively. Subsequent calculations revealed that the panels would not relieve until the pressure was in excess of the superstructure design blowout pressure of 80 psf stated in the UFSAR, and the licensee neither performed the evaluation required by 10 CFR 50.59, nor did it undertake adequate corrective action to restore the facility to the licensing basis configuration as specified in the UFSAR. (01023)

This is a Severity Level III problem (Supplement I).
Civil Penalty - \$50,000

II. Violations Not Assessed a Civil Penalty

- A. The Nine Mile Point Nuclear Station Unit 1 Technical Specification (TS) 6.8.1, requires that written procedures and administrative policies shall be established, implemented and maintained that meet or exceed the requirements or recommendations of Sections 5.1 and 5.3 of ANSI N18.7-1972 and Appendix A of NRC Regulatory Guide 1.33 except as provided in TS 6.8.2 and 6.8.3. Procedure NIP-ECA-01, "Deviation Event Report," Section 1 of Revision 8, implements, in part, TS 6.8.1 and requires that a deviation/event report (DER) be written to address human performance problems/issues adverse to quality.

Contrary to the above, on March 27, 1995, a DER was not written to address the human performance problems of the 1993 calculation error and the failure to identify the error during the initial review process for the reactor and turbine building relief panels. Specifically, NMPC identified an error in the October 1993

calculation related to oversized bolts installed in the reactor and turbine building pressure relief panels, and NMPC did not prepare the required DER. (02014)

This is a Severity Level IV Violation (Supplement I).

8. 10 CFR 50.72(b)(1)(ii)(B), requires, in part, that the licensee shall notify the NRC as soon as practical and in all cases within one hour of the occurrence of any event or condition, during operation, that results in the nuclear power plant, including its principal safety barriers, being seriously degraded or in a condition that is outside the design basis of the plant.

10 CFR 50.73(a)(2)(i)(B) requires that the licensee shall submit a Licensee Event Report (LER) within 30 days of the discovery of any event or condition that results in the condition of the nuclear power plant, including its principal safety barriers being seriously degraded or in a condition that is outside the design basis of the plant.

Contrary to the above, in October 1993, NMPC did not notify the NRC within one hour of the discovery of a condition outside the design basis of the plant, nor did NMPC submit a LER within 30 days of discovery of a condition outside the design basis of the plant. Specifically, with the plant operating, NMPC determined that the actual blowout pressures of the reactor and turbine building pressure relief panels were in excess of the buildings' design basis pressures identified in the Unit 1 UFSAR, and NMPC failed to make and submit the required reports in the required time periods. (02024)

This is a Severity Level IV Violation (Supplement I).

Pursuant to the provisions of 10 CFR 2.201, Niagara Mohawk Power Corporation (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved.

If an adequate reply is not received within the time specified in this Notice, an Order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation(s) listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region I, and a copy to the NRC Senior Resident Inspector at the facility that is the subject of this Notice.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR. If redactions are required, a proprietary version containing brackets placed around the proprietary, privacy, and/or safeguards information should be submitted. In addition, a non-proprietary version with the information in the brackets redacted should be submitted to be placed in the PDR.

Dated at King of Prussia, Pennsylvania
this 18th day of June 1996

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

December 3, 1996

EA 96-079

Mr. B. Ralph Sylvia, Executive Vice President
Generation Business Group & Chief Nuclear Officer
Niagara Mohawk Power Corporation
Generation Business Group D-2
300 Erie Boulevard West
Lycoming, New York 13202

Dear Mr. Sylvia:

SUBJECT: ORDER IMPOSING A CIVIL MONETARY PENALTY - \$50,000
(Nine Mile Point, Unit 1)

This letter refers to your letter, dated July 16, 1996, as well as your supplemental letter, dated August 15, 1996, in response to the Notice of Violation and Proposed Imposition of Civil Penalty (Notice) sent to you by our letter dated June 18, 1996. Our letter and Notice described violations of NRC requirements that were identified during an inspection between February 17 and March 11, 1996. The two violations set forth in Section I of the Notice were classified in the aggregate at Severity Level III. These violations involved (1) the failure to ensure that the reactor and turbine building pressure relief panels would function at the pressure specified in the Updated Final Safety Analysis Report (UFSAR); and (2) the failure to perform the required safety evaluation to address the use of bolts of the wrong size in the construction of the relief panels which resulted in indications that the panels would not relieve until pressures higher than those design basis pressures described in the UFSAR. To emphasize the importance of prompt identification and comprehensive correction of violations at your facility, a Notice of Violation and Proposed Imposition of Civil Penalty (Notice) in the base amount of \$50,000 was issued for this Severity Level III problem.

In your July 16, 1996 response, you admitted the two violations set forth in Section I of the Notice for which the civil penalty was proposed, but you requested that the civil penalty of \$50,000 be mitigated. In addition, you denied the two other violations that were described in Section II of the Notice and that were classified individually at Severity Level IV. However, in your August 15, 1996, supplemental response, you admitted one of the Severity Level IV violations that you had denied in your July 16, 1996 response.

After considering your responses, we have concluded, for the reasons given in the Appendix to the enclosed Order Imposing a Civil Monetary Penalty, that an adequate basis was not provided for mitigating the civil penalty for the violations set forth in Section I of the Notice. Accordingly, we hereby serve the enclosed Order on Niagara Mohawk Power Corporation imposing a civil monetary penalty in the amount of \$50,000. As provided in Section IV of the enclosed Order, payment should be made within 30 days of the date of this

Order, by check, draft, money order, or electronic transfer, payable to the Treasurer of the United States and mailed to James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738. In addition, an adequate basis was not provided for withdrawal of the Severity Level IV reportability violation (Violation 11.8 in the Notice). We will review the effectiveness of your corrective actions during a subsequent inspection.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be placed in the NRC's Public Document Room.

Sincerely,

James L. Milhoan
Deputy Executive Director for Nuclear
Reactor Regulation, Regional Operations
and Research

Enclosures:
As Stated

Docket No. 50-220
License No. QPR-63

cc w/encls:

R. Abbott, Vice President & General Manager - Nuclear
C. Terry, Vice President-Nuclear Engineering
M. McCormick, Vice President - Safety Assessment and Support
N. Radenacher, Unit 1 Plant Manager
J. Conway, Unit 2 Plant Manager
D. Wolniak, Manager, Licensing
J. Warden, New York Consumer Protection Branch
G. Wilson, Senior Attorney
M. Wetterhahn, Winston and Strawn
J. Rettberg, New York State Electric and Gas Corporation
Director, Electric Division, Department of Public Service, State of New York
C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
J. Vinquist, MATS, Inc.
P. Eddy, Power Division, Department of Public Service, State of New York
State of New York SLO Designee

ENCLOSURE

**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

In the Matter of

Niagara Mohawk Power Corporation
Nine Mile Point, Unit 1

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Docket No. 50-220
License No. DPR-63
EA 96-079

ORDER IMPOSING A CIVIL MONETARY PENALTY

I

Niagara Mohawk Power Corporation (Licensee) is the holder of Operating License No. DPR-63 (License), issued by the Nuclear Regulatory Commission (NRC or Commission). The License authorizes the Licensee to operate the Nine Mile Point Unit 1 nuclear facility in accordance with the conditions specified therein.

II

An inspection of the Licensee's activities was conducted between February 17 and March 11, 1996. The results of this inspection indicated that the Licensee had not conducted its activities in full compliance with NRC requirements. A written Notice of Violation and Proposed Imposition of Civil Penalty (Notice) was served upon the Licensee by letter dated June 18, 1996. The Notice states the nature of the violations, the provisions of the NRC's requirements that the Licensee had violated, and the amount of the civil penalty proposed for the violations.

The Licensee responded to the Notice in a letter dated July 16, 1996. In its response, the Licensee admitted the two violations assessed a civil penalty in Section I of the Notice, but requested that the penalty be mitigated. In

addition, the Licensee denied the two violations in Section II of the Notice that were classified individually at Severity Level IV and not assessed a civil penalty. The Licensee provided a supplemental response, dated August 15, 1996, in which the Licensee subsequently admitted one of the Severity Level IV violations that it had denied in the July 16, 1996 response.

III

After consideration of the Licensee's response and the statements of fact, explanation, and argument for mitigation contained therein, the NRC staff has determined, as set forth in the Appendix to this Order, that the violations for which the civil penalty was proposed occurred as stated in the Notice, and that an adequate basis was not provided for mitigation of the civil penalty. Therefore, the penalty proposed for the violations designated in Section I of the Notice should be imposed.

IV

In view of the foregoing and pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205, IT IS HEREBY ORDERED THAT:

The Licensee pay a civil penalty in the amount of \$50,000 within 30 days of the date of this Order, by check, draft, money order, or electronic transfer, payable to the Treasurer of the United States and mailed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission,

One White Plant North, 11555 Rockville Pike, Rockville, MD 20852-2738.

V

The Licensee may request a hearing within 30 days of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time must be made in writing to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and include a statement of good cause for the extension. A request for a hearing should be clearly marked as a "Request for an Enforcement Hearing" and shall be addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission Washington, D.C. 20555, with a copy to the Commission's Document Control Desk, Washington, D.C. 20555. Copies also shall be sent to the Assistant General Counsel for Hearings and Enforcement at the same address and to the Regional Administrator, NRC Region I, 475 Allendale Road, King of Prussia, Pennsylvania 19406.

If a hearing is requested, the Commission will issue an Order designating the time and place of the hearing. If the Licensee fails to request a hearing within 30 days of the date of this Order, or if written approval of an extension of time in which to request a hearing has not been granted, the provisions of this Order shall be effective without further proceedings. If payment has not been made by that time, the matter may be referred to the Attorney General for collection.

In the event the Licensee requests a hearing as provided above, the issues to

Enclosure

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be considered at such hearing shall be:

whether, on the basis of the violations set forth in Section I of the
Notice that the Licensee admitted, this Order should be sustained.

FOR THE NUCLEAR REGULATORY COMMISSION

James L. Milhoan
Deputy Executive Director for
Nuclear Reactor Regulation,
Regional Operations and Research

Dated at Rockville, Maryland
this 3rd day of December 1996

APPENDIX

EVALUATION AND CONCLUSION

On June 18, 1996, a Notice of Violation and Proposed Imposition of Civil Penalty (Notice) in the amount of \$50,000 was issued to the Niagara Mohawk Power Corporation (licensee) for violations of NRC requirements. Two of the violations were classified in the aggregate at Severity Level III, and a \$50,000 civil penalty was proposed. Two other violations were classified individually at Severity Level IV. The licensee responded to the Notice on July 16, 1996, and admitted the two violations for which a penalty was proposed, but requested that the penalty be mitigated. The licensee also denied the two violations that were not assessed a penalty. In a supplemental response, dated August 15, 1996, the licensee admitted one of the Severity Level IV violations that it had denied in the July 16, 1996 response. The NRC's evaluation and conclusion regarding the licensee's requests are as follows:

1. Restatement of Violations

- A. Title 10 of the *Code of Federal Regulations*, Part 50, (10 CFR 50), Appendix B, Criterion III, "Design Control," requires that measures be established to verify the adequacy of design, such as by design reviews, alternate or simplified calculational methods, or suitable testing.

Nine Mile Point Unit 1 Updated Final Safety Analysis Report (UFSAR), Sections VI.C.1.2 and III.A.1.2, state that the reactor and turbine building pressure relief panels will blow out at 45 pounds per square foot (psf) to prevent failure of the building superstructures at an internal pressure in excess of 80 psf.

Contrary to the above, between October 1993 and March 1995, measures established failed to verify the adequacy of design for Unit 1 reactor and turbine building pressure relief panels to blow out at the specified pressures. Specifically, in October 1993, NMPC made an error in the assumptions for calculations regarding the installed, oversized bolts in the reactor and turbine building pressure relief panels. The error was not identified, during the review process, by either the independent engineering reviewer or approver. It was not recognized until March 1995 that the relief pressures were in excess of the designed blowout pressure of the superstructures. (01013)

- B. 10 CFR 50.59(a)(1), allows, in part, the holder of a license to make changes to the facility as described in the safety analysis report unless the proposed change involves an unreviewed safety question.

10 CFR 50.59(b)(1) requires, in part, the licensee to maintain records of changes in the facility, to the extent that these changes constitute changes in the facility as described in the safety analysis report. The records must include a written safety evaluation which provides the bases for the determination that the

change does not involve an unreviewed safety question.

Nine Mile Point Unit 1 UFSAR Sections VI.C.1.2 and III.A.1.2 state that the reactor and turbine building pressure relief panels will blow out at 45 psf to prevent failure of the building superstructure at an internal pressure in excess of 80 psf.

Contrary to the above, from December 1969 to March 1995, the actual design configuration of the reactor and turbine building pressure relief panels was different from that described in the UFSAR, and Niagara Mohawk Power Corporation (NMPC) did not perform the required written safety evaluation to provide the bases for a determination that the deviation from the UFSAR description did not involve an unreviewed safety question. Specifically, in October 1993, NMPC identified that the wrong size bolts had been installed in the relief panels during initial construction. Calculations revealed that the reactor and turbine building pressure relief panels would not relieve until 53 and 60 psf, respectively. Subsequent calculations revealed that the panels would not relieve until the pressure was in excess of the superstructure design blowout pressure of 80 psf stated in the UFSAR, and the licensee neither performed the evaluation required by 10 CFR 50.59, nor did it undertake adequate corrective action to restore the facility to the licensing basis configuration as specified in the UFSAR. (01023)

This is a Severity Level III problem (Supplement I).
Civil Penalty - \$50,000

2. Summary of Licensee Response Requesting Mitigation of the Penalty

In its July 16, 1996 response, the licensee admitted the two violations for which the civil penalty was proposed and stated its belief that a civil penalty is not warranted. In support of this belief, the licensee noted that the deficiencies in the blowout panel construction do not represent a significant safety issue; the blowout panels would have functioned as designed to prevent failure of the building superstructures; and the panels would only function in the event of a high energy line break outside containment, a scenario that the licensee indicated is not considered a design basis event for NMP-1.

The licensee also expressed concern that the violations and civil penalty may be the result of applying a relatively recent regulatory position and philosophy to actions that occurred over three years ago. The licensee noted that it appears that the NRC is considering all statements and commitments in the UFSAR as "stand-alone" regulatory requirements, and has applied a new and restrictive interpretation to the definition of "margin of safety" terminology in 10 CFR 50.59. The licensee further notes that the plant condition was identified by its staff as a result of a proactive evaluation to resolve a minor discrepancy in the UFSAR.

The licensee further noted in support of its mitigation request that it had not been assessed a penalty since 1992; that it has demonstrated a proactive approach to safety; and, contrary to a statement in the NOV transmittal letter, that it took immediate actions to restore the pressure relief panels to a condition consistent with the UFSAR once the calculational error was discovered, and the NRC did not appear to give any credit for this.

3. NRC Evaluation of Licensee Response

The NRC has carefully considered the licensee's response and concludes that the licensee has not provided an adequate basis for mitigation of the civil penalty.

Although the licensee did not specifically contest the Severity Level classification of the two violations in Section I of the Notice, the licensee appears to take issue with that classification by indicating that the deficiencies in the pressure relief panel construction do not represent a significant safety issue. The NRC concedes that the pressure relief panels likely would have functioned as designed to prevent failure of the building superstructures¹, and the panels function only in the event of a high energy line break outside containment, which is not considered a design basis event for NMP-1. However, the NRC notes that the full resolution of this issue is still under the licensee's evaluation. Notwithstanding the result of that resolution, the NRC maintains that the two violations represent a significant regulatory concern and, therefore, were classified appropriately in the aggregate at Severity Level III.

In making this determination, the NRC considered the fact that this condition (the actual design configuration of the pressure relief panels was different from that described in the UFSAR) existed for approximately 26 years, without any written safety evaluation to provide the basis for a determination that the deviation from the UFSAR description did not involve an unreviewed safety question. A number of facts are most noteworthy: (1) the licensee identified, in October 1993, that the wrong size bolts (1/4-inch diameter, as opposed to the correct sized 3/16-inch diameter bolts) had been installed in the relief panels during initial construction, (2) the licensee's October 1993 evaluation of the wrong bolts utilized assumptions inconsistent with the assumptions described in the UFSAR² and (3) a subsequent review, in

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¹This NRC position is based on more recent licensee reviews performed after the enforcement conference, which determined that both the reactor and turbine buildings would be capable of withstanding internal pressures in excess of 100 psf without superstructure failure.

²The UFSAR description of the failure mode was the panel bolts shearing (one-way process analysis resulting in calculated failures of 94 psf and 92 psf for the reactor and

March 1995, of the evaluation performed in October 1993, revealed that the assumptions were incorrect and that the panels would not relieve until the pressure was in excess of the superstructure design blowout pressure stated in the UFSAR (80 psf). Nonetheless, the licensee neither performed the required evaluation, nor undertook adequate corrective action to restore the facility to the licensing basis configuration as specified in the UFSAR. Given the length of time this condition existed, the inappropriate and inconsistent use of assumptions not described in the UFSAR, and the failure to promptly resolve and take appropriate action to address the issue of building overpressure when indications of a problem surfaced in 1993, the NRC contends that the violations represent a significant regulatory concern and were classified appropriately at Severity Level III.

With regard to the licensee's concern that the violations and imposition of a civil penalty may be the result of applying a relatively recent regulatory position and philosophy to actions that occurred over three years ago, Violations I.A and B involve the licensee's original construction installation of incorrect-sized bolts on the pressure relief panels, resulting in a change to the facility from that described in the plant's UFSAR, without preparing a written safety evaluation as required by 10 CFR 50.59. The NRC has always regarded such a change as requiring a written safety evaluation in accordance with 10 CFR 50.59. Thus, there has been no change in the NRC's interpretation of this requirement as it applies to the changes addressed in Violations I.A and B.

The NRC also acknowledges that this plant condition was identified by the licensee staff as a result of a proactive evaluation to resolve a discrepancy in the UFSAR, and the licensee has not been assessed a penalty since 1992. These factors were considered by the NRC as part of the civil penalty assessment process set forth in the NRC Enforcement Policy (NUREG-1500), as were the licensee's corrective actions. In addition, although the NRC acknowledges that the licensee took immediate actions to restore the pressure relief panels to a condition consistent with the UFSAR once the calculational error was discovered, the NRC maintains that no credit was warranted for these corrective actions. In October 1993, the licensee identified that the wrong bolts had been installed in 1969, and calculated the relief pressures to be 53 psf for the reactor building and 60 psf for the turbine building. This calculation was in error, and the relief pressures were actually in excess of 80 psf as the licensee identified in March 1995, at which time the licensee removed every other bolt to place themselves in a condition that the licensee believed was in compliance with the UFSAR. It was not until after being questioned by the NRC prior to the conference, that the licensee identified that the March 1995 calculations were also

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turbine building, respectively). However, the licensee chose to analyze the panel relieving process by using a metal tearing failure mode (two-way process analysis resulting in calculated failures of 53 psf and 60 psf for the reactor and turbine building, respectively).

wrong. In addition, the calculations used to support the removal of every other bolt were flawed, yet the licensee, at the time of the enforcement conference, had not completed the evaluation required pursuant to 10 CFR 50.59 to change the UFSAR. Therefore, the NRC maintains that credit is not warranted for the licensee's corrective actions, which according to the Enforcement Policy, results in a civil penalty of \$50,000 being assessed. The NRC concludes that the penalty for this Severity Level III problem should not be mitigated.

4. Restatement of Violation II.B

10 CFR 50.72(b)(3)(ii)(B), requires, in part, that the licensee shall notify the NRC as soon as practical and in all cases within one hour of the occurrence of any event or condition, during operation, that results in the nuclear power plant, including its principal safety barriers, being seriously degraded or in a condition that is outside the design basis of the plant.

10 CFR 50.73(a)(2)(ii)(B) requires that the licensee shall submit a Licensee Event Report (LER) within 30 days of the discovery of any event or condition that results in the condition of the nuclear power plant, including its principal safety barriers being seriously degraded or in a condition that is outside the design basis of the plant.

Contrary to the above, in October 1993, NMPC did not notify the NRC within one hour of the discovery of a condition outside the design basis of the plant, nor did NMPC submit a LER within 30 days of discovery of a condition outside the design basis of the plant. Specifically, with the plant operating, NMPC determined that the actual blowout pressures of the reactor and turbine building pressure relief panels were in excess of the buildings' design basis pressures identified in the Unit 1 UFSAR, and NMPC failed to make and submit the required reports in the required time periods. (02024)

This is a Severity Level IV Violation (Supplement I).

5. Licensee Response Denying Violation II.B

The licensee, in disagreeing with this violation, noted that in October of 1993, the calculations associated with the oversized bolts in the blowout panels indicated that the reactor and turbine building panels would relieve at internal pressures of 53 and 60 psf, respectively, and the UFSAR indicated that the buildings' design basis pressure was in excess of 80 psf. The licensee, therefore, concluded that this situation was not reportable even though the calculated blowout pressures did exceed the 45 psf nominal value for bolt failure as indicated in the UFSAR.

The licensee stated that in reaching this conclusion, it considered the guidance in NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 50.73," and various statements in the Federal Register (FR) related to the reportability rule. The licensee notes that NUREG-1022 provides an

example where high energy line break restraints are not installed, but indicates that this would not be considered reportable if analysis shows that the particular missing restraints are not needed for compliance with the design basis. The licensee further indicates that the preamble to the final rule in the August 29, 1983, FR notes, in regard to this section of the rule, that "[i]t is not intended that this paragraph apply to minor variations in individual parameters or to problems concerning single pieces of equipment." The licensee also noted that an April 8, 1993 FR states: "Furthermore, the wording of the criteria and the guidance in the preamble to the final rule imply that this impact on plant safety should be at a fairly high level," and "Therefore, failure, specification problems, and loss of safety margins that apply to individual components are not reportable unless they effect the ability to satisfy plant safety functions".

The licensee indicated that, based on the above guidance, it concluded in October of 1993 that the calculated blowout pressures of 53 and 60 psf for the reactor and turbine buildings, respectively, would still have the ability to satisfy the plant design basis. Specifically, the blowout panels would still protect the buildings' superstructure from failure, which was considered the plant design basis. The licensee contended that the 45 psf value is not considered the plant design basis for reportability considerations and none of the principle safety barriers was seriously degraded. Therefore, the licensee does not consider that this condition was reportable given the information available in October 1993, and therefore disagrees with this violation.

The licensee also notes that the description of the violation in the Notice of Violation, and particularly, the discussion of the violation in the transmittal letter, suggests that the NRC is applying a relatively recent regulatory position regarding the status of numerical values within the UFSAR. Specifically, the licensee states that it appears that the NRC is considering all statements and commitments in the UFSAR as "stand-alone" requirements. The licensee further notes that while stated in the second paragraph on page two of the NOV transmittal letter, but not cited as such in any of the violations, it appears that the NRC considers that the failure of the blowout panels to function at the UFSAR stated pressure of 45 psf is, in itself, a violation of regulatory requirements and a reportable situation. The licensee disagrees with this interpretation of the legal significance of the UFSAR, and is participating with the Nuclear Energy Institute (NEI) to initiate a dialogue with the NRC regarding the resolution of this generic issue. The licensee further states that notwithstanding its efforts to reach agreement on what the interpretation of information in the UFSAR should be, the licensee believes that it is clear that the NRC's regulatory interpretation is inconsistent with the previously issued guidance on reportability as referenced in the licensee's response.

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³58 Fed Reg. 18167, 18174, April 8, 1993

6. NRC Evaluation of Licensee Response

The NRC agrees that the licensee, based on its erroneous calculations in October 1993, concluded that the pressure relief panels would provide relief at values below the reactor and turbine building superstructure failure pressure of 80 psf. While the licensee clearly should have been aware that the pressure relief panels would provide relief at values above the 80 psf superstructure pressures if the calculation had been adequately performed, it is also clear that the licensee could not report a condition that it was not aware of, even though it should have been aware of the condition. Nonetheless, the licensee was aware that the panels' pressure relief values calculated in 1993 were above the stated value of 45 psf stated in the UFSAR at which the panels were supposed to provide relief. The NRC maintains that the licensee was outside of its design basis and decreased the margin to the pressure that would cause building failure and, therefore, the deviation from the UFSAR should have been reported to the NRC.

The NRC maintains this position, notwithstanding the licensee's contention that the guidance in NUREG-1022 would suggest that the condition was not reportable. The NRC believes that the licensee misinterpreted the NUREG-1022 guidance and in so doing, failed to report the subject condition to the NRC. Simply stated, the licensee's analogy of a missing high energy line break restraint, which subsequently is analyzed as not being required for compliance with the design basis, is not applicable to the pressure relief panels, a single component which provides a significant function in protecting the building superstructure in the event of an overpressure transient of the reactor or turbine buildings.

7. NRC Conclusion

The NRC concludes that the licensee has not provided an adequate basis for mitigating the civil penalty. Accordingly, the NRC has determined that a monetary civil penalty in the amount of \$50,000 should be imposed for the violations in Section I of the June 18, 1996 Notice. In addition, the licensee has not provided an adequate basis for the withdrawal of Violation 11.B in the Notice.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
476 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1416

April 10, 1997

EA Nos. 96-474
96-476
96-494
96-541

Mr. B. Ralph Sylvia
Executive Vice President, Generation Business
Group and Chief Nuclear Officer
Niagara Mohawk Power Corporation
Nuclear Learning Center
450 Lake Road
Oswego, New York 13126

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES
- \$200,000
(NRC Inspection Report Nos. 50-220/96-13, 50-410/96-13, 50-220/96-15,
50-410/96-15, 50-220/96-16 and 50-410/96-16)

Dear Mr. Sylvia:

This letter refers to the NRC inspections conducted between October 7 and November 30, 1996, at the Nine Mile Point Nuclear Station, Units 1 and 2, the findings of which were discussed with you and members of your staff during several exit meetings, the last of which was held on December 20, 1996. These inspections included an inspection of the motor-operated valve (MOV) programs, an engineering inspection, and a routine resident inspection. The related inspection reports were sent to you previously. On February 25, 1997, a Predecisional Enforcement Conference (conference) was conducted with you and members of your staff to discuss the violations, their causes, and your corrective actions.

During the inspections, a number of deficiencies were identified due to: (1) the failure to control reactor pressure vessel (RPV) water level following a scram of the Unit 1 reactor on November 5, 1996, that resulted in inadvertently filling the main steam lines (MSLs) with approximately 30,000 gallons of water; (2) the failure to take adequate corrective action after the Unit 2 suppression pool was cleaned during the refueling outage in the spring of 1996, that resulted in failure to identify debris in the drywell-to-suppression pool downcomers; (3) the inadequate justification for use of a certain design input in calculations used to estimate the ability of four safety-related motor-operated valves (MOVs) on Unit 2 to overcome pressure locking forces; (4) inadequate evaluations and corrective actions associated with the failure of the Unit 2 reactor core isolation cooling (RCIC) turbine lube oil cooler pressure control valve (PCV); and (5) an incorrect setpoint for the Unit 2 control room (CR) chiller condenser water low flow trip.

Based on the information developed during the inspections, and the information provided during the conference regarding these deficiencies, a number of violations are being cited and are described in the enclosed Notice of Violation and Proposed Imposition of Civil Penalties (Notice). The violations have been categorized into two areas, namely: (1) the failure to identify and/or correct several conditions adverse to quality that existed at your facility, including deficiencies associated with the overflow of reactor water into the MSLs at Unit 1; and (2) the failure to maintain appropriate design controls at the facility.

With respect to the corrective action violations, the overflow event at Unit 1 is particularly disturbing. A lack of sensitivity to the significance of high reactor water level on the part of both plant management and operations personnel, resulted in inadequate control of RPV water level and filling the MSLs with approximately 30,000 gallons of water. Previously, NMP did not adequately respond to industry information to ensure that the combination of training, procedures, and system design were adequate to have prevented an overflow event. When reactor water level increased rapidly following the reactor scram, the system for overflow protection did not prevent this overflow event because of leakage past the feedwater flow control valve (FCV). Operators allowed feedwater injection to continue for approximately 50 minutes and failed to take action to lower and restore water level to the band specified in the scram procedure. The operators were unaware that the wide range (WR) level indication that they were relying on was not accurate for the specific plant conditions and, as a result, failed to maintain RPV water level below the elevation of the MSLs. Even though the inaccuracy of the WR level indication during hot conditions had been previously identified in 1992 on a deviation/event report (DER), the information was not effectively communicated to the operators. The 1992 DER, as well as an actual high RPV water level event at Unit 1 in July 1996, in which operators failed to take action for approximately 15 minutes, provided prior opportunities to emphasize sensitivity to high RPV water level, and the importance of the high level trip function to protect against an overflow event.

Beyond the corrective action issues, this event raises concerns about operator knowledge of some fundamental aspects of plant design and operating procedures. Operator knowledge deficiencies associated with RPV level instrumentation limitations, feedwater system operation, and procedural requirements, combined with weak diagnostic activities and failure to fully understand integrated plant response resulted in failure to take timely action to comply with operating procedures. The NRC is concerned that your evaluation of the event did not address the broader implications of these weaknesses in operator knowledge and abilities. At the conference you acknowledged that operator performance was unsatisfactory and, while you indicated that you took corrective action to provide training on high reactor vessel level events, you did not indicate that any action was taken to assess whether the type of knowledge and performance deficiencies revealed during this event may exist in other areas of Unit 1 operator knowledge and ability.

These failures that contributed to the November 1996 overflow event represent a violation of NRC requirements and are described in Section I.A of the enclosed Notice. Even though there was only minor equipment damage as a result of this event, the failure to have adequate controls in place to prevent an overflow event, despite the prior opportunities to identify the need for such controls, is a significant regulatory concern since it had the potential to cause a serious safety event. Water hammer and two-phase flow caused by flooding of the MSLs

can result in the main steam isolation valves (MSIVs) or the turbine pressure control valves being damaged which could render them inoperable. More severe transients could lead to a MSL break due to increased dead weight and seismic loading. As such, the fundamental weaknesses in operator performance, as well as management's failure to provide appropriate oversight by clear communication of the expectations for control of plant parameters, represents a significant regulatory concern. Therefore, the violation is classified at Severity Level III in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600.

In addition to the failure to take adequate corrective actions to preclude the overfill event, other instances of failure to promptly identify and correct conditions adverse to quality were identified, which could have resulted in degradation or inoperability of safety-related equipment. These findings are described in Sections I.B, I.C, and I.D of the enclosed Notice. For example, between 1991 and 1996, the RCIC turbine lube oil cooler PCV was failed open, resulting in the downstream piping and lube oil cooler being routinely exposed to operating pressures above the design pressure of 150 psig. During the 5 year period, you depended upon a downstream relief valve for pressure control. Other failures included not identifying debris in the downcomers at Unit 2, as well as a deficiency with the Unit 2 control room chillers. Failure to promptly identify and correct conditions which could degrade safety equipment also represents a significant regulatory concern; and, therefore, the three violations are classified in the aggregate as a Severity Level III problem in accordance with the Enforcement Policy.

The violations described in Section II of the enclosed Notice relate to inadequate design control at your facility and indicate significant weaknesses in your engineering programs. Lack of rigor in technical evaluations, personnel errors, and lack of management oversight and verification led to questionable design decisions for safety-related MOVs, long-standing deficient conditions (RCIC and CR chillers), and incorrect equipment modifications (RCIC orifice). With respect to the MOV issue, at the time of the inspection, you were using motor-actuator run efficiency in calculations used to estimate the ability of high pressure core spray (HPCS), RCIC, and containment spray MOVs to overcome pressure locking forces. The use of run efficiency in this case represented a deviation from the guidelines published by the motor-actuator manufacturer. At the conference you contended that the use of motor-actuator run efficiency (in lieu of pull-out efficiency) in the short duration unwedging portion of the opening stroke may have been acceptable. Notwithstanding the qualitative merits of the discussion, the limited nature of the data makes it insufficient for the purpose of design input. Therefore, uncertainty exists as to whether the unmodified valves would have functioned in a pressure locking condition. Further NRC review is not warranted since the valves have been modified.

In any case, we concluded that at the time of the inspection, the use of motor-actuator run efficiency in lieu of pull-out efficiency was not adequately validated. The NRC is concerned that, had the inspectors not raised this issue during the inspection, the calculations would not have been revised and the valves would not have been modified. Failure of the HPCS and RCIC discharge valves to open due to pressure locking could have made the high pressure injection function unavailable in an accident situation. Additionally, with respect to design control, an incorrect trip setpoint for the CR chillers led to the chillers being inoperable, contrary to the Technical Specifications and calculation errors could have led to degradation

of the RCIC system. Failure to have sufficient controls in place to ensure that design functions are performed correctly, including verifying the adequacy of the design, is indicative of a programmatic problem; therefore, these four violations are classified in the aggregate as a Severity Level III problem in accordance with the Enforcement Policy.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for each Severity Level III violation or problem¹. Since Nine Mile Point has been the subject of escalated enforcement actions within the last 2 years,² the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy for each of the Severity Level III issues. Although you identified the WR level indication deviation/event report that was not dispositioned adequately, the NRC identified the remainder of the corrective action problems. Therefore, credit was not warranted for *Identification* for either of the Severity Level III issues related to corrective actions in Section I. With respect to the design control problem, the NRC identified three of the four violations; therefore, credit was not warranted for *Identification* for the Severity Level III design control problem.

With respect to *Corrective Action*, credit was not warranted for the corrective action violation associated with the November 1995 overfill event because despite though your staff having provided training on high RPV level events and reinforced management expectations for control of RPV water level, you did not address the broader aspects of the operator performance problems as discussed above. Credit was warranted for *Corrective Action* for the other corrective action problem and the design control problem, because subsequent to identification of the issues by NRC inspectors, Niagara Mohawk Power Corporation (NMPC) initiated prompt and comprehensive corrective actions. These corrective actions, which were discussed during your presentation at the conference, included, but were not limited to: (1) revising your corrective action program, including establishing qualification requirements for personnel who perform root cause evaluations; (2) revising procedures and guidelines to incorporate lessons learned from the various problems and reinforcing the lessons learned with plant personnel; and (3) reviewing related items, such as calculations and trip setpoints, to identify similar problems.

Therefore, to emphasize the importance of identification and correction of significant conditions adverse to quality, quality design control, and appropriate management oversight of all areas of licensed activities, I have been authorized, after consultation with the Director, Office of Enforcement to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalties (Notice) in the total amount of \$200,000 (a penalty of \$100,000 (twice the base) for the corrective action violation associated with the overfill event and a base penalty of \$50,000 for each of the other Severity Level III problems).

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¹ While the existing base amount for a Severity Level III violation was increased to \$55,000 on November 12, 1996, the base amount being issued in the case is \$50,000 since the violations occurred prior to the date of the base civil penalty amount increase.

² A \$80,000 civil penalty was issued on August 23, 1996 (EA 96-116) and a \$50,000 civil penalty was issued on June 18, 1996 (EA 96-079).

With respect to the RCIC lube oil cooler PCV, the NRC identified the design control and corrective action violations after your staff had determined, in July 1996, that a safety evaluation to determine that the change did not involve an unreviewed safety question should have been performed when the PCV was left in the failed open position, a condition contrary to the Updated Final Safety Analysis Report (UFSAR). Since the failure to perform the safety evaluation, contrary to 10 CFR 50.59, was identified by your staff and corrective action was taken by restoring the valve to a configuration consistent with the UFSAR, this violation is being treated as a Non-Cited Violation (NCV) consistent with Section VII.B.1 of the Enforcement Policy.

Also, another apparent violation listed in the engineering inspection report, namely a violation of 10 CFR 50.71 for failure to update the UFSAR to reflect that the RCIC lube oil PCV valve type had been changed prior to initial startup in 1987, is considered a minor violation and is being treated as Non-Cited Violation (NCV) consistent with Section IV of the Enforcement Policy. Additionally, the NRC has determined that the concerns about RCIC operability and the procedure for drywell closeout that were discussed at the enforcement conference did not constitute violations of NRC requirements.

The NRC is still considering escalated action regarding the deficiencies identified with the implementation of your maintenance rule program at Unit 1 that were discussed at the enforcement conference. Enforcement action for these violations will be covered by separate correspondence at a later date.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,

Hubert J. Miller
Regional Administrator

Docket Nos. 50-220; 50-410
License Nos. DPR-63; NPF-69

Enclosure: Notice of Violation and Proposed Imposition of Civil Penalties

cc w/encl:

R. Abbott, Vice President & General Manager - Nuclear
C. Terry, Vice President- Safety Assessment and Support
M. McCormick, Vice President - Nuclear Engineering
N. Rademacher, Unit 1 Plant Manager
J. Conway, Unit 2 Plant Manager
D. Wolniak, Manager, Licensing
J. Warden, New York Consumer Protection Branch
G. Wilson, Senior Attorney
M. Wetterhahn, Winston and Strawn
J. Rettberg, New York State Electric and Gas Corporation
Director, Electric Division, Department of Public Service, State of New York
C. Donaldson, Esquire, Assistant Attorney General, New York Department of Law
J. Vinquist, MATS, Inc.
P. Eddy, Power Division, Department of Public Service, State of New York
F. Valentino, President, New York State Energy Research and Development Authority
J. Spath, Program Director, New York State Energy Research and Development Authority

ENCLOSURE

NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES

Niagara Mohawk Power Corporation (NMPC)
Nine Mile Point, Units 1 and 2

Docket Nos. 50-220/60-410
License Nos. DPR-63/NPF-69
EA Nos. 96-474; 96-475;
96-494; 96-541

During three separate NRC inspections conducted between October 7 and November 30, 1996 for which several exit meetings were held (the last of which was on December 20, 1996), violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose civil penalties pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.206. The particular violations and associated civil penalties are set forth below:

I. Violations Related to Corrective Actions

10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants," Criterion XVI, "Corrective Action," requires, in part, that measures be established to assure that conditions adverse to quality are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and that corrective actions are taken to preclude recurrence.

A. Contrary to the above, as of November 5, 1996, measures were not established to assure a condition adverse to quality, namely, potential overfill of the Unit 1 reactor pressure vessel (RPV), was promptly identified and corrected despite several opportunities to do so, as evidenced by the following examples. Specifically:

1. Following a reactor scram on November 5, 1996, the system for overfill protection failed to prevent FW injection on high water level due to leakage past the FW flow control valve. Additionally, the procedure for response to a reactor scram (N1-SOP-1, Revision 5) did not provide direction to verify that the overfill automatic protective actions occurred nor direction to take manual action if those actions did not occur, and training did not reinforce the actions necessary to prevent an overfill event.
2. Deviation/event report (DER) 1-92-3353 was initiated on August 27, 1992, to document that the wide range reactor water level indication read lower than expected during power operations. The condition was evaluated to be acceptable and it was determined that no equipment modifications were required. However, the corrective action was deficient because the operators in the control room were not made aware of the discrepancy to ensure correct interpretation of RPV level

indication so as to prevent an overfill event.

3. On July 29, 1996, following a Unit 1 normal plant shutdown with a manual reactor scram, the operators allowed RPV water level to remain above the high level setpoint (95 inches) for approximately 15 minutes before taking action to lower level, a condition adverse to quality. Subsequent to the shutdown, the licensee's corrective actions were narrowly focused in that training was provided and procedure changes were made to address the assumed cause of the high level, but no action was taken to identify why the operators did not recognize the need to take prompt action to restore level to less than 95 inches, as specified by N1-SOP-1.

As a result, operators allowed FW injection to continue for approximately 50 minutes when FW injection was not stopped automatically after the high level trip setpoint was exceeded due to leakage past the FW flow control valves following a scram on November 5, 1996. As a result, approximately 30,000 gallons of water entered the main steam lines. (01013)

Violation 1.A is a Severity Level III violation. (Supplement I)
Civil Penalty - \$100,000.

- B. Contrary to the above, prior to September 1996, measures were not established to assure that conditions adverse to quality were promptly identified and corrected. Specifically, the pressure control valve (2ICS*PCV115) for the Unit 2 reactor core isolation cooling (RCIC) turbine lube oil cooler was failed in the open position on January 26, 1991. However, this failure, constituted a condition adverse to quality because the downstream piping and lube oil cooler were routinely operated above their design pressure of 150 psig. This resulted in system degradation and could have adversely affected the RCIC operability. This condition adverse to quality was not corrected until September, 1996. (02013)
- C. Contrary to the above, prior to August 14, 1996, measures were not established to assure that conditions adverse to quality were promptly identified and corrected. Specifically, in 1992, NMPC reviewed the control room chiller condenser water low flow trip setpoint following cancellation of Modification PN2Y87MX057 and concluded that the setpoint was conservative. In September 1995, the Unit 2 Division II control room chiller tripped twice due to low condenser flow concurrent with the start of the emergency diesel generator (EDG). The evaluation of these events and the 1992 review failed to recognize that, in response to a postulated design basis condition, the EDGs are expected to start, resulting in service water pressure and flow transients; and that sufficient margin was not provided for the control room chiller low flow trip setpoint to compensate for these transients. This constituted a condition adverse to quality because the CR chillers could trip following a postulated design basis accident. As a result of the narrowly focused evaluations, the licensee did not identify this condition adverse to quality until August 14, 1996.

(02023)

- D. Contrary to the above, prior to October 1996, measures were not established to assure that conditions adverse to quality were promptly identified and corrected. Specifically, while cleaning the Unit 2 suppression pool during a refueling outage (RFO4) in 1995, NMPC recognized and documented in a deviation/event report (DER) that most of the foreign material removed from the suppression pool must have entered through the downcomers. Despite this recognition, NMPC did not examine the downcomers. As a result of this failure to identify and correct a condition adverse to quality, a significant amount of debris was left in the downcomer from June 1995 until October 1996. The foreign material could have adversely affected the performance of the emergency core cooling system pumps by clogging the suction strainers.
- (02033)

Violations I.B, I.C, and I.D are classified in the aggregate as a Severity Level III problem (Supplement I).

Civil Penalty - \$50,000.

II. Violations Related to Design Control

10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires that measures be established to assure that applicable regulatory requirements and design basis for structures, systems, and components are correctly translated into specifications, drawings, and procedures. These measures shall include provisions to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled. The design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews. Design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design.

The NMPC Quality Assurance Topical Report (QATR), Section B.3, states that station modifications are accomplished in accordance with approved designs and procedures. The design controls apply to preparation, review and revision of design documents, including the correct translation of applicable regulatory requirements and design bases into those documents.

Nuclear Engineering Procedure NEP-DES-340, "Design Calculations," Step 2.1, requires the discipline supervisor to review calculation assumptions, and the validity of their application. Step 2.3 requires the calculation reviewer to check the calculation assumptions.

- A. Contrary to the above, as of October 11, 1996, regulatory requirements and design basis were not correctly translated into specifications, and calculation assumptions were not reviewed at Unit 2. Specifically, NMPC did not adequately verify or check the adequacy of design for motor-operated valves 2CHS*MOV107, 2ICS*MOV126, 2RHS*MOV25A, and 2RHS*MOV25B in the high pressure core spray, RCIC, and containment spray systems. Motor-actuator run efficiency was utilized as a design input without verifying the validity of the application. Consequently, the functionality of the valves under design-basis pressure locking conditions was not adequately assured. (03013)
- B. Contrary to the above, as of November 1, 1996, regulatory requirements and design basis were not correctly translated into specifications, and calculation assumptions were not reviewed at Unit 2. Specifically, the calculation entitled "RCIC pump cooler differential pressure evaluation", dated June 15, 1992, was incorrect in that it did not include the suction pressure of the RCIC pump when calculating the downstream pressure of 2ICS*PCV115, assuming the relief valve failed to open. Also, this calculation was not reviewed by the discipline supervisor. The calculation was used as the basis for two operability determinations for the RCIC system dated June 16, 1992, and August 24, 1993. As a result of the incorrect calculation, the operability determinations incorrectly concluded that the downstream pressure would not exceed the hydrostatic test pressure for the piping if the relief valve failed to open. Consequently, the RCIC system was operated with 2ICS*PCV115 failed open which had the potential to exceed the design of the system if the relief valve failed to open. (03023)
- C. Contrary to the above, as of November 1, 1996, regulatory requirements and design basis were not correctly translated into specifications, and calculation assumptions were not reviewed at Unit 2. Specifically, calculation A10.1-H-005 dated September 23, 1996, used an incorrect pressure input in determining the required size for the RCIC turbine lube oil cooler restricting orifice (2ICS*RO207). The independent review and the station operation review committee review failed to identify the incorrect design input. As a result, when 2ICS*RO207 was rebored in support of the design change to replace 2ICS*PCV115, the resulting orifice size was too small. With the incorrect orifice size, the RCIC turbine lube oil cooler and its associated piping could be operated at a pressure exceeding their design pressure and the relief valve could continuously lift during RCIC operation. (03033)

- D. Contrary to the above, as of August 14, 1996, regulatory requirements and design basis were not correctly translated into specifications, and calculation assumptions were not reviewed at Unit 2. Specifically, a 1988 setpoint calculation for the low condenser flow trip of the control room chillers, had failed to consider the effects of the service water pressure and flow transients that would be expected to occur when the EDGs started following a postulated design basis accident. As a result, when the setpoint change was implemented in 1989, the low flow trip setpoint was set excessively high. This resulted in both control room chillers being inoperable, contrary to Technical Specification 3.7.3 which requires two independent control room chiller subsystems to be operable when the plant is in operational conditions 1, 2, 3, and when irradiated fuel is being handled in the reactor building, during core alterations, and during operations with a potential for draining the reactor vessel and uncovering irradiated fuel. With the excessively high setpoint, the control room chillers could have inadvertently tripped when the EDGs started following a postulated design basis accident rendering them unable to perform their intended safety function without operator action. (03043)

Violations II.A - II.D are classified in the aggregate as a Severity Level III problem (Supplement I).

Civil Penalty - \$50,000.

Pursuant to the provisions of 10 CFR 2.201, Niagara Mohawk Power Corporation (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalties (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an Order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalties by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalties, in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalties will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalties, in whole or in part, such answer should be

clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalties should not be imposed. In addition to protesting the civil penalties, in whole or in part, such answer may request remission or mitigation of the penalties.

In requesting mitigation of the proposed penalties, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing civil penalties.

Upon failure to pay any civil penalties due which subsequently have been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalties, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234(c) of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalties, and Answer to a Notice of Violation) should be addressed to: Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region I and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support your request for withholding the information from the public.

Dated at King of Prussia, Pennsylvania
this 10th day of April, 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

May 12, 1997

EAs. 96-001, 96-286, 96-334, 96-337, 96-338, 96-339
96-340, 96-407, 96-440, 96-495

Mr. B. D. Kenyon - President
Nuclear Group
Northeast Utilities Service Company
Post Office Box 128
Waterford, Connecticut 06385

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES
- \$650,000
(NRC Inspection Report Nos. 50-213/95-27, 96-06, 96-07, 96-08, 96-11, 96-
80, 96-201)

Dear Mr. Kenyon:

From November 21, 1995 through November 22, 1996, the NRC conducted numerous inspections at the Haddam Neck Plant in Haddam, Connecticut, to review several facets of plant performance. These inspections included a special team inspection by NRC headquarters staff focused principally on engineering performance; a special Augmented Inspection Team (AIT) inspection of a reactor vessel nitrogen intrusion event in August-September 1996 that led to lowering of the reactor vessel water level; an emergency preparedness inspection to observe your response during an emergency exercise in August 1996; and numerous resident inspections. All of the related inspection reports were previously sent to your organization.

Numerous violations, as well as several significant regulatory concerns, were identified during these inspections. One specific violation (the low pressure safety injection (LPSI) system flow rate being less than assumed in the accident analysis for a considerable period) was discussed at a predecisional enforcement conference in the NRC Region I office on February 12, 1996. Most of the other violations were discussed at a transcribed predecisional enforcement conference at the Millstone training building in Waterford, Connecticut on December 4, 1996. The December conference was open to the public. While the conferences were held to discuss the violations, their causes and your corrective actions, the December conference focused principally on the broader programmatic deficiencies underlying the violations that contributed to the problems at Haddam Neck. The violations related to the resident inspection completed on November 15, 1996, were not discussed during the December conference. However, Mr. T. Feigenbaum of your staff informed Mr. J. Rogge, Region I, on December 16, 1996, that you agreed that another predecisional enforcement conference was not needed to discuss these issues.

The specific violations are described in the enclosed Notice of Violation (NOV) and Proposed Imposition of Civil Penalties (Notice). The violations are grouped into a number of broad categories, namely, numerous longstanding deficiencies in engineering programs and practices, including plant design, design control, and engineering support, some of which led to significant safety equipment being inoperable or degraded for extended periods; numerous

operational deficiencies, including inadequate procedures, failure to follow procedures, and inadequate corrective actions, which led to the "nitrogen intrusion" event; and inadequate implementation of the emergency preparedness program during the August 1996 exercise.

The engineering violations, which are set forth in Section I of the enclosed Notice, included the failure to assure that the plant was maintained as designed and specified in the Updated Final Safety Analysis Report (UFSAR); the introduction of additional design errors during design changes as a result of poor engineering; making design changes to the facility without performing adequate safety evaluations, including at least one instance where the change (removal of a flood protection floor block) involved an unreviewed safety question; not identifying or correcting adverse conditions that resulted from poor engineering, or the causes of those conditions; and not updating the UFSAR when required.

In many cases identified, applicable regulatory requirements and design bases were not correctly translated into specifications, drawings, procedures and instructions. Formal design calculations and analyses were, at times, based on incorrect assumptions, and were not sufficient to confirm that the systems would work as intended. These calculations, needed to assure that appropriate safety margins exist, frequently lacked technical rigor, thoroughness, and attention to detail. Overall, there was a general lack of understanding and appreciation for the relationship among NRC requirements, the design basis, the licensing basis, industry codes and standards, and your administrative procedures. Also, in these particular cases, engineering supervisors, independent design reviewers, and oversight committees generally failed to identify the deficiencies, or related root causes, or when identified, failed to ensure appropriate or comprehensive corrective action. Further, line management's responses to self-assessments, QA audits, and third party reviews were inadequate. A particularly egregious case involved the failure to initiate formal corrective actions for the LPSI design deficiency discussed during the February 1996 enforcement conference. Although you committed to a review of the licensing basis for a number of plant systems to ensure that similar deficiencies, if they existed, were identified and corrected, at the time of the special inspection team visit in April 1996, appropriate action had not yet been taken to follow-up on this commitment, and the commitment had not even been assigned to anyone for action.

As a result of these significant engineering failures, margins of safety for certain safety related equipment were reduced, at times, for extended periods. In some cases, inadequate engineering led to conditions contrary to technical specifications (TS), in that safety equipment would not perform its intended safety function if needed. For example, inadequate sizing of pipes from the containment sump to the Residual Heat Removal (RHR) pump suction resulted in insufficient net positive suction head (NPSH) to support RHR pump operation without relying on containment backpressure. Reliance on containment backpressure was inappropriate because it could result in RHR pump cavitation and pump failure if the predicted backpressure was not available. The significance of this violation was high, as you acknowledged during the enforcement conference, because the inadequate NPSH could result in the common mode failure of the long-term reactor recirculation function, and increase the projected core damage frequency as a result of this deficiency. Another example involved the inoperability of the recirculation phase flowpath needed to mitigate postulated Loss of Coolant Accidents (LOCA) because the containment sump screen mesh holes were larger than originally assumed in the analyses. This deficiency, for which several opportunities existed to identify and correct it

over the years, could have resulted in the clogging of downstream ECCS components and rendering them inoperable during an accident. In a third example, all four Containment Air Recirculation (CAR) units were inoperable, in that engineering analysis showed that the structural limits on the piping for the service water system, a support system for the CAR units, would be exceeded due to waterhammer loads. After identifying this deficiency, you shut down the plant on July 22, 1996.

In addition to the engineering deficiencies, numerous operational concerns existed that were identified during the NRC AIT inspection of the inadvertent decrease of reactor vessel water level in August and September 1996 while the plant was shutdown. For approximately four days, control room operators were unaware that nitrogen gas was leaking into the reactor vessel, displacing reactor water, and causing reactor water level to decrease to approximately 3 feet below the reactor vessel flange. After they became aware of the leakage, management was slow to appreciate the significance and effectively respond, as described in the Notice. Further decrease in the water level could have challenged the function of the operating decay heat removal system. Several operations procedures failed to provide adequate details, or contained incorrect information, which contributed to both the nitrogen gas intrusion going undetected, and the inadvertent diversion of water from the reactor coolant system (RCS). Several events were exacerbated by plant operators' failing to follow plant procedures, conducting activities without procedural guidance, and making inappropriate decisions, such as not carefully accounting for the inventory while draining the reactor on August 29, or unisolating a reactor coolant loop on September 1 without taking appropriate boron samples. A lack of a questioning attitude led to not promptly identifying the nitrogen gas accumulation in the reactor vessel. Further, senior operators did not convey expectations to less experienced field operators during pre-job briefings, which led to inappropriate equipment manipulations that either directly caused or contributed to these events.

The nitrogen intrusion event further revealed other deficiencies at the facility. For example, the timeliness of maintenance activities to restore an inoperable RHR pump to service and to maintain several isolation valves was inadequate. Quality parts and vendor specifications were unavailable, and repeated post-maintenance test failures resulted in having only a single RHR pump available for at least 3 weeks. Several isolation valves were in poor material condition and leaked, allowing the nitrogen gas to inadvertently enter the reactor vessel and water from the RCS to be diverted to the containment sump. In addition, although the temporary reactor vent header was significantly degraded, management, over several years, failed to provide an effective response to previous plant staff concerns to improve the temporary vent system. The poor vent header design allowed nitrogen gas to accumulate in the reactor vessel during the event. Further, the absence of direct indication of reactor vessel water level masked the situation. Engineering, operations, and management did not fully evaluate and understand the vulnerabilities introduced by the decision to delay reactor disassembly while reactor water level instrumentation was disconnected. In effect, the licensee's support staff and management created conditions that set up the plant and control room operators for this event. Afterwards, management's overall response to the event was neither comprehensive nor timely as noted in Violation II.D. The related violations are described in Section II of the enclosed Notice.

With respect to the emergency preparedness activities, during the August 1996 exercise, your staff failed to recognize the need for an Alert declaration early in the exercise, and later, following declaration of a General Emergency, failed to implement appropriate protective actions for onsite personnel, and failed to recommend appropriate protective actions for areas outside the 10 mile emergency planning zone, based on the dose projections during the exercise. Overstaffing of key site emergency response organization (SERO) positions with two and three individuals very early in the exercise caused confusion and problems for other individuals initially assigned to the SERO. Due to the overstaffing, it was not possible to determine if the plan could be implemented with minimum staffing as specified in the plan. Two violations were identified as described in the proposal. The staff notes that it does not normally issue citations for exercise deficiencies. However, the NRC is issuing citations in this case, in accordance with the enforcement policy, because the exercise revealed recurring weaknesses in making protective action recommendations at Haddam Neck, as noted in Inspection Report 98-07, indicating that effective corrective action had not been taken. A civil penalty is not being issued for these violations.

Although the violations described in the enclosed Notice did not result in any actual consequences to public health and safety, these violations and underlying causes demonstrated significant departures from the defense-in-depth principles upon which nuclear power plants are designed, built, and operated, and upon which the NRC relies to ensure nuclear power plant operation does not jeopardize public health and safety. These events and inspection findings revealed significant deficiencies in several facets of the Haddam Neck operation. Many of these violations should have been identified and corrected sooner. In other cases, corrective action was not taken after the violations were identified. Many of the violations were caused by a lack of a questioning attitude by your staff. Also, managers should have conveyed high safety standards to the staff to seek, find, evaluate, and correct problems. This did not occur.

At the enforcement conference, you admitted the violations and you noted that a number of the violations would be applicable even with the reactor in a defueled stage. You also acknowledged that there were significant deficiencies at Haddam Neck that must be fully addressed before you could contemplate significant decommissioning efforts at Haddam Neck. Further, you described a number of corrective actions that had been either taken or planned to address the programmatic weaknesses. Among those actions were the establishment and communication of specific management expectations; implementation of new plant processes and programs; assignment of a dedicated manager to implement an effective corrective action program, and benchmarking the program against other plants.

Also during the December 4, 1996 conference, you announced that your Board of Directors had approved the decision to permanently shut down and decommission the Haddam Neck facility. Notwithstanding that decision, a number of these issues also apply to the shutdown condition, as you acknowledged at the conference, and it is imperative that the underlying flaws in management and staff performance, as already described herein, are corrected. Management must set high standards and expectations, and see to it that they are met.

Therefore, in consideration of (1) the high regulatory significance that the NRC attaches to these violations, (2) the importance of emphasizing the need for effective management and oversight during the decommissioning process, as well as effective management and oversight at your Millstone and Seabrook facilities, and (3) the importance of emphasizing to other reactor licensees the need for effective oversight of their nuclear power plants, I have been authorized, after consultation with the Director, Office of Enforcement, the Executive Director of Operations, and the Commission, to exercise enforcement discretion pursuant to Section VII.A.1 of the Enforcement Policy and issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalties in the cumulative amount of \$650,000 for the violations discussed above.

This penalty is based on \$200,000 for the violations in Parts I.A-I.C of the Notice (programmatic engineering violations with a \$50,000 civil penalty for each of the three functional areas in which the related violations are categorized with an additional \$50,000 civil penalty for violation I.C.1.f because of the failure to have initiated by April 1996, the corrective actions committed to at a February 1996 enforcement conference regarding a design deficiency associated with the LPSI system); \$150,000 for the violations in Part I.D (\$50,000 penalty for each of three technical specification limiting conditions for operation violations caused by inadequate engineering); and \$300,000 for the violations in Part II (\$100,000 for the violations in the Sections II.A-B, \$50,000 for the violation in Section II.C for failure to ensure adequate instrumentation, as well as \$150,000 for the violations in Section II.D for management's failure to take appropriate corrective action - the \$150,000 penalty is based on a penalty of \$25,000 for each of at least six days that licensee management failed to ensure appropriate instrumentation and recognize and effectively respond to the scope of the event). Classified as Severity Level III in Part III, but not assessed a civil penalty, are the two violations associated with the recurring emergency exercise weaknesses. Certain other violations identified during the inspections were classified at Severity Level IV and are set forth in Section IV of the enclosed Notice. I note that, but for the decision to shut down the Haddam Neck facility, the penalty may have been higher.

Other matters involving Haddam Neck are currently under review that may result in further enforcement sanctions. In addition, the NRC is still considering escalated action regarding the Millstone facilities for numerous violations discussed at an enforcement conference on December 5, 1995. Enforcement action for these violations will be covered by separate correspondence at a later date.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and your response will be placed in the NRC Public Document Room (PDR). Your response may, as appropriate, make reference to the materials you provided at the enforcement conference on December 4, 1996. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

Should you have any questions concerning this letter, please contact Mr. James Lieberman, Director, Office of Enforcement, at (301) 415-2741.

Sincerely,

Hubert J. Miller
Regional Administrator

Docket No. 50-213
License No. DPR-61

Enclosure: Notice of Violation and Proposed Imposition
of Civil Penalties

cc w/encl:

T. Feigenbaum, Executive Vice President and Chief Nuclear Officer
D. Goebel Vice President - Nuclear Oversight
F. Rothen, Vice President - Nuclear Work Services
J. Thayer, Recovery Officer, Nuclear Engineering and Support
J. LaPlatney, Nuclear Unit Director
L. Cuoco, Senior Nuclear Counsel
G. van Noordennen, Manager, Nuclear Licensing
R. Johannes, Director - Nuclear Training
J. Smith, Manager, Operator Training
W. Meinert, Nuclear Engineer
R. Basilakis, Citizens Awareness Network
J. Block, Attorney for CAN
J. Brooks, CT Attorney General Office
M. DeBold, Town of Haddam
State of Connecticut SLO

ENCLOSURE

NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES

Northeast Utilities Service Company
Connecticut Yankee Atomic Power Company
Haddam Neck Plant

Docket No. 50-213
License No. DPR-61
EAs 96-001, 96-286, 96-334,
96-337 96-338, 96-339, 96-340,
96-407, 96-440, 96-495

During several NRC inspections conducted from November 21, 1995 to November 22, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1800, the NRC proposes to impose civil penalties pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalties are set forth below:

I. Violations Related to Inadequate Engineering

A. Errors in Design Basis Documents or Errors Introduced by Design Changes

10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis for structures, systems, and components are correctly translated into specifications, drawings, procedures, and instructions. These measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program. Design changes shall be subject to design control measures commensurate with those applied to the original design.

10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

Contrary to the above, the licensee did not assure that applicable regulatory requirements and the design basis were correctly translated into specifications, drawings, procedures and instructions, or did not assure that activities affecting quality were correctly prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances as evidenced by the following examples, each of which constitutes an individual violation:

- 1.^{*1} Calculation No. PA91-LOE-1171-GE, Revision 2, dated February 21, 1992, which determined the design duty cycle of the 125 Vdc station batteries, did not assume the design basis event specified in the Updated Final Safety Analysis Report (UFSAR) Section 8.3.2, namely, a simultaneous accident and loss of off-site power. Therefore, the design basis calculation did not account for all of the loads that would be powered during the event. Further, the calculation did not determine the battery voltage profile, and, therefore, did not demonstrate that the battery voltage would remain above the minimum required voltage level. (01012)
2. Calculation No. 86-060-580GM, Revision 0, dated September 2, 1986, which determined the minimum required net positive suction head for the high pressure safety injection pumps, used, as part of the calculation, an incorrect elevation for the top of the suction nozzle, and also did not account for the expected instrument uncertainty. As a result, Emergency Operating Procedure (EOP) ES-1.3, "Transfer to Sump Recirculation," Revision 13, dated March 20, 1995, which provides cautions to the operators to transfer high pressure safety injection (HPSI) pump suction to the containment sump before the refueling water storage tank (RWST) reaches a minimum level to prevent pump damage from cavitation, was inadequate in that the actual minimum level to preclude pump damage should have been 55,000 gallons instead of the 43,000 gallons as stated in the procedure. (01022)
3. Calculation IC-CY-1134GE, "Uncertainties for RWST Level Instrument Channels L-1806A and L-1806B," Revision 0, dated November 5, 1990, did not account for the errors associated with the change in hydrostatic head resulting from changes in tank water temperature and post-seismic effect, and resulted in inaccurate level indication. As a result, EOP ES-1.3, "Transfer to Sump Recirculation," Revision 13, dated March 20, 1995, was inadequate in that decision points for transfer to sump recirculation based on RWST indicated level did not account for these errors. (01032)
4. Proto-Power Calculation 95-MDE-01252MY, "CY SW System - Analysis of Design Basis Hydraulic Conditions," Revision 0, dated May 19, 1995, which was used to predict temperatures at the discharge of the CAR fan coils, did not accurately model system flow in that it did not model the transient two-phase flow conditions that were previously calculated to exist at this location, and which could adversely affect containment heat removal capability. (01042)

^{*1} Violations annotated with an asterisk (*) are violations occurring beyond the five year statute of limitations period for assessing civil penalties (28 USC 2462) or are violations for which definitive dates to establish their occurrence is unavailable to determine the statute of limitations' applicability. In either case, these violations were not considered for purposes of determining any civil penalties.

- 5.* Calculations PA78-741-01-GE, "Diesel Generator Automatic Loading Analysis," Revision 3, dated January 21, 1991 (including CCNs 1-5) and PA90-LOE-1167-GE, "Diesel Generator Manual Loading Analysis," Revision 0, dated February 20, 1991 (including CCNs 1-7) did not account for all of the applicable electrical loads. Specifically, the calculations did not incorporate cable power losses and power distribution transformer losses, and used a non-conservative diversity factor. As a result, the margin of safety to emergency diesel generator (EDG) overload was less than identified in the licensee design analyses. (01052)
6. Calculation EQE-42094-C-009, "Diesel Generator Starting Air," Revision 0, dated March 29, 1996, which established the seismic qualification for the diesel air start piping, incorrectly assumed that a qualified hose was installed. Although the calculation used a stiffness value of 10 pounds-per-inch to model the flexible hoses attached to the diesel, the installed flexible hoses had a less conservative stiffness value of 0.75 pounds-per-inch. A subsequent calculation determined that the air start piping displacement would exceed the vendor's acceptance limit during a design basis seismic event. (01062)
7. Prior to July 24, 1996, calculation C2-517-567-RE, "Uncontrolled Rod Withdrawal Transient Analysis" (which established the trip setpoints for the wide range nuclear instrumentation) did not account for channel uncertainties. As a result the channel uncertainties did not account for rack calibration accuracy, rack drift, rack temperature allowance and overall indicator accuracy. (01072)
- 8.* Calculation CY-LPSI-89-RPS-700, "CY-LPSI Flow for Core Deluge Testing", Revision 0, dated August 29, 1989 determined the LPSI pump flow and system flow for one LPSI pump injecting into a vented reactor through the core deluge valves. This calculation concluded that the low pressure safety injection (LPSI) system would deliver 3810 gpm to the reactor based on a pump flow of 4000 gpm. The calculation did not adequately account for system flow resistances and the pump curve was not conservative. On December 15, 1995, the licensee documented its discovery (ACR 95-578) that LPSI injection flows could be as low as 3540 gpm, which was significantly less than the LPSI flow assumed in the safety analysis performed per 10 CFR Part 50, Appendix K to demonstrate satisfactory emergency core cooling system (ECCS) performance for Cycle 19 operations. Thus, the licensee failed to adequately translate the design basis into the testing program intended to demonstrate safety system performance in accordance with the accident analysis assumptions. (01082)

9. Calculation 95-EWA-01-01323-DY, Revision 0, dated February 2, 1996, which was used to support a technical specification (TS) amendment request, dated March 7, 1996, to the CAR fan surveillance testing acceptance criteria, did not appropriately consider the fan performance capability. Specifically, the amendment requested a minimum acceptable flow of 40,000 cfm, which was not supported by the vendor's fan performance curve, did not provide sufficient margin for potential filter fouling, and could have resulted in flows less than designed. (01092)
10. Calculation 95-LKSL-1296-MY, Revision 0, dated May 19, 1995, which was used in the analysis of the impact of leak sealant injection into the four feedwater regulating valves, used a design pressure of 1000 psi in the calculation even though the actual design pressure of the system was 1210 psi. This calculation had been reviewed by a second engineer, the engineering supervisor, and the Plant On-site Review Committee (PORC). (01102)
11. Engineering evaluation CY-CD-1970, dated July 29, 1992, which was prepared to support the replacement of EDG annunciator panel relays, indicated that the safety classification of the relays was "non-QA" and concluded that the alarm and control circuits would not be adversely affected by the change. The evaluation was incorrect in that failure of the devices could have resulted in an inadvertent shutdown of the EDGs. (01112)
- 12.* Calculation Change Notices 1 through 5 were initiated for Calculation PA78-741-01-GE, "Diesel Generator Automatic Loading Analysis," Revision 3, dated January 21, 1991 to revise the EDG loading tabulation in Attachment 4. However, the worst-case loading profile for EDG EG2B in Attachment 4 was not updated to be consistent with the revised loading tabulation; as a result, the margin of safety to EDG overload was less than identified in the licensee design analyses. (01122)
13. Calculation Change Notice 6, dated June 19, 1995, for Calculation PA90-LOE-1167-GE, "Diesel Generator Manual Loading Analysis," Revision 0, dated February 20, 1991, changed the LPSI pump load from 874 kW to 945.85 kW when a design modification changed a piping orifice size; however, a similar Change Notice was not initiated for related Calculation PA78-741-01-GE, "Diesel Generator Automatic Loading Analysis," Revision 3, dated January 21, 1991; as a result, the margin of safety to EDG overload was less than identified in the licensee design analyses. (01132)

14. A licensee letter submitted to the NRC on July 7, 1993, stated that containment isolation valves were not needed for the service water return from containment for the CAR system because the flow indication provided early assurance to the operators of detection of a service water line break. However, when the licensee issued TS Clarification C-TSC-059, dated January 1, 1996, to plant operators to address the impact of the loss of service water flow indication to the containment air recirculation coolers, the clarification did not address the containment isolation function and incorrectly concluded that the flow indication was not necessary for system operability. (01142)
15. NE-95-SAB-293, "CY Design Basis Containment Analysis For Large Break LOCA," dated July 21, 1995, calculated a new design basis maximum containment temperature which was not correctly translated into the design basis for all of the affected components inside containment. Although the shell side of the residual heat removal (RHR) heat exchangers had a design basis temperature of 200 degrees F, the revised calculation determined temperatures could reach 252 degrees F under certain conditions, and as of April 26, 1996, the effect of the containment temperature changes on the operability of the RHR heat exchangers had not been determined. (01152)
16. Calculation 93-00099-1064-DY, Revision 0, dated June 22, 1994, which was prepared to support the upgrading in safety classification of 120 Vac lighting panels, did not adequately address the seismic qualification of the lighting panels in that:
  - i. the as-built anchor bolt configuration had not been evaluated;
  - ii. anchor bolt capacities had been assumed with no documented bases; and
  - iii. the analyses had disregarded the centers-of-gravity for the attached components. (01162)
17. Integrated Safety Evaluation CY-95-013, dated March 15, 1995 was performed to evaluate a change to EOP ES-1.3, "Transfer to Sump Recirculation" (which moved a step that directs the operators to stop the LPSI pumps earlier in the procedure); however, an appropriate calculation was not used to provide the basis for the change. The evaluation used Calculation NE-93-SAB-017, "CY Sump Recirculation Times - Justification for Turning LPSI pumps off at 10 minutes post-LOCA," which assumed the pumps would be turned off 10 minutes after the initiation of a large break loss of coolant accident (LOCA). However, the procedure modification resulted in stopping the LPSI pumps in 7.8 minutes. (01172)

18. Stone and Webster Calculations 15198-001 and 15198-002, dated March 21, 1986, and April 29, 1986, respectively, determined that the reactor coolant system head vents were susceptible to adverse hydrodynamic loading, and based the calculation on the assumption that the downstream vent valve was opened first during the venting sequence to prevent the impact of any fluid on a partially opened downstream valve. However, this design assumption was not maintained in plant procedures, in that a revision made in 1990 to the original 1986 procedure failed to maintain the required valve operating sequence. Further, this design was not included in EOP FR-1.3, "Response to Voids in Reactor Vessel," Revision 10, dated March 20, 1995 which was inadequate in that it directed the operators to open both reactor coolant system head vents in the same step. (01182)
19. On August 17, 1973, as part of plant modification Plant Design Change Request (PDCR) 156, Flooding Protection of Safeguards Equipment, carbon steel barriers were installed around floor openings on both levels of the primary auxiliary building to preclude internal flood water from reaching the RHR pumps. TS amendment 27 was issued based on a calculation that the assumed operator response time for the worst case internal flood in the primary auxiliary building was approximately 12 minutes. However, this calculation was inadequate in that on October 23, 1996, the licensee identified approximately 35 additional floor penetrations in the primary auxiliary building that were not modified with barriers and were not considered in the calculation of flooding time. As a result, flood water could render the RHR pumps inoperable in less than 12 minutes (approximately 8 minutes). (01192)

B. Inadequate, or Lack of Safety Evaluations and Failures to Update the Final Safety Analysis Report

1. 10 CFR 50.59, "Changes, tests and experiments," permits the licensee, in part, to make changes to the facility as described in the safety analysis report without prior Commission approval provided the change does not involve an unreviewed safety question (USQ). The licensee shall maintain records of changes in the facility and these records must include a written safety evaluation which provides the bases for the determination that the change does not involve a USQ.

Contrary to the above, the licensee made the following changes to the facility as described in the safety analysis report without performing a written safety evaluation for any of these changes to provide the basis for the determination that the changes did not involve a USQ, as evidenced by the following examples, each of which constitutes an individual violation:

- a. During the week of March 25, 1996, in order to facilitate maintenance activities, the facility was changed by removing an internal flood protection floor block from the Primary Auxiliary Building pipe trench tunnel, and installing a temporary cover which could not provide adequate flooding protection, even though the flood protection floor blocks are shown in UFSAR Figure 3.8-15. (01202)
  - b. PDCR 1411, completed on August 13, 1994, removed breathing air stations inside containment and changed the air connections to support the use of portable air units, even though these stations are explicitly described in UFSAR Section 9.3.1.2, "Compressed Air System - System Description." (01212)
  - c. PDCR 1479, completed on March 22, 1994, removed two service water elbow tap flow indicators and the associated tubing and instrument valves for the measurement of flow to the RHR heat exchangers, even though UFSAR Section 9.2.1.4, "Service Water System - Instrumentation Requirement," specifically identifies the elbow tap arrangement in describing the instrumentation used to measure service water flow to the RHR heat exchangers. (01222)
  - d. PDCR 1520, completed on September 6, 1995, changed system controls, dryer purge air supplies, and replaced the activated alumina desiccant with a molecular sieve desiccant for the control air system, even though UFSAR Section 9.3.1.2, "Compressed Air System - System Description," states that the control air system uses three air dryers that are of the activated alumina, automatically regenerated type. (01232)
  - e. PDCR 1448, completed on April 6, 1996, added a tank, pump, and tubing to utilize ethanolamine (ETA) as well as hydrazine for the control of secondary water chemistry, even though UFSAR Section 10.3.5, "Water Chemistry," states that secondary water chemistry is controlled using chemical feed equipment that adds hydrazine to the condensate system, and does not mention ETA. (01242)
2. 10 CFR 50.59, "Changes, tests and experiments," permits the licensee, in part, to make changes to the facility as described in the safety analysis report without prior Commission approval provided the change does not involve a USQ. The licensee shall maintain records of changes in the facility and these records must include a written safety evaluation which provides the bases for the determination that the change does not involve a USQ.

10 CFR 50.71(e) requires the licensee to update the FSAR originally submitted as part of the application for the operating license to assure that the information included in the FSAR contains the latest material developed. The updated FSAR shall be revised to include the effects of, in part, all safety evaluations performed by the licensee in support of conclusions that changes did not involve a USQ.

10 CFR 50.9(a) requires, in part, that information provided to the NRC by a licensee or information required by regulation to be maintained by a licensee shall be complete and accurate in all material respects.

Contrary to the above, the description of the facility in the FSAR was not accurate in all material respects in that the FSAR did not match the facility, required safety evaluations were not performed, and the FSAR was not properly updated as evidenced by the following examples, each of which constitutes an individual violation:

- a. Prior to April 1994, FSAR Section 3.8.1.3, "Design Loading Criteria," inaccurately described maximum snow loadings for safety-related structures as 60 lb/ft² although the original design specifications and as-built construction were for 40 lb/ft². As the safety related structures were not designed and constructed for 60 lb/ft² maximum snow loads, the inaccuracy was material in that no evaluation existed to determine that the inaccuracy did not constitute a USQ nor was the FSAR updated to correct the inaccuracy. Following recognition of the discrepancy, FSAR Change Request (FSARCR) 94-CY-1 in April 1994 changed the description of the maximum snow loadings for safety-related structures in FSAR Section 3.8.1.3 from 60 lb/ft² to 40 lb/ft², to agree with the original design specifications, without a safety evaluation to determine that the as-found condition did not constitute a USQ. (01252)
- b. Prior to June 1994, FSAR Section 8.3.1.1.5, "Emergency AC Power System Description," inaccurately described the non-emergency trips of the EDGs as including a "Generator - Loss of Field" trip. As the facility EDGs did not have Generator - Loss of Field trips, the inaccuracy was material in that no evaluation existed to determine that the inaccuracy did not constitute a USQ nor was the FSAR updated to correct the inaccuracy. Following the discovery that the existing circuit did not provide this feature, FSARCR 94-CY-7 in June 1994 changed the description of non-emergency trips of the EDGs in Section 8.3.1.1.5 to delete the "Generator - Loss of Field" trip without a safety evaluation to determine that the as-found condition did not constitute a USQ. (01262)

3. 10 CFR 50.59, "Changes, tests and experiments," permits the licensee, in part, to make changes to the facility as described in the safety analysis report without prior Commission approval provided the change does not involve a USQ. A proposed change, test, or experiment shall be deemed to involve a USQ if, in part, a possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report may be created.

Contrary to the above, the safety evaluation associated with PDCR 1435, "Replacing Battery Charger BC-1-1A," Revision 0, dated February 28, 1994, did not adequately assess the possibility of a malfunction of a different type than previously evaluated when replacing the battery charger with a new battery charger of a substantially different design. Specifically, the safety evaluation did not consider the potential for degrading effects and failure modes on the 125 Vdc system due to the installation of the new battery charger. (01272)

4. 10 CFR 50.59, "Changes, tests and experiments," permits the licensee, in part, to make changes to the facility as described in the safety analysis report without prior Commission approval provided the change does not involve a USQ. The licensee shall maintain records of changes in the facility and these records must include a written safety evaluation which provides the bases for the determination that the change does not involve a USQ.

Contrary to the above, on June 11, 1996, the licensee discovered that no records existed to assure that the main feedwater regulating valves could close against the differential pressure anticipated during a main steam line break inside containment. Licensee engineering calculation (FCV-1301-1449-DY) on July 1, 1996, concluded that the feedwater regulating valve could not close under main steam line break conditions, even though UFSAR Section 15.2.9., states that the following functions provide the protection for a steam line rupture, "isolation of the main feedwater lines by two valves in series will occur on a safety injection actuation. This is done via closure of the feedwater isolation valve and the feedwater regulating valve after a short time delay." Thus, the licensee safety evaluations previously completed for modifications to the feedwater line isolation system were inadequate in that the existence of a USQ was not identified; namely, the safety evaluations for plant modifications per PDCR 423 in October 1981; the safety evaluations to support TS License Amendment No. 125 in 1991; and the safety evaluations for PDCR 1533 in February 1995. (01282)

5. 10 CFR 50.71(e) requires the licensee to update the FSAR to assure that the information included in the UFSAR contains the latest material developed. Updates must be filed annually or 6 months after each refueling outage. The updates must reflect all changes up to a maximum of 6 months prior to the date of filing.

Contrary to the above, as of April 26, 1996, the licensee failed to update the UFSAR to reflect plant conditions, which existed more than 6 months prior to the previous UFSAR update, as evidenced by the following examples, each of which constitutes an individual violation:

- a. UFSAR Table 9.2-1, "Service Water Major Component Interface," lists the "approximate required" service water flow rate for the individual components such as the diesel generator, residual heat removal heat exchanger, and spent fuel pool plate heat exchanger. Although these flow rates differ by up to 50 percent from the actual functional requirement flow rates, as listed in the Design Basis Document Package, dated September 1, 1995, and the "CY Service Water System GL 89-13 Item IV, Design Basis Summary Report," dated July 15, 1994, the UFSAR had not been updated as of April 26, 1996. (01292)
- b. UFSAR Section 9.2.1, "Service Water System," states that service water system valves SW-MOV-1 and SW-MOV-2 close on a high containment pressure signal. However, the Design Basis Document Package, dated September 1, 1995, correctly identified that the valves closed on a Safety Injection Actuation Signal (SIAS). As such, the UFSAR was incomplete in that although high containment pressure is an input that initiates a SIAS signal, it is not the sole input, yet the UFSAR had not been updated as of April 26, 1996. (01302)
- c. UFSAR Section 6.3.2.1, "ECCS - Schematic Piping and Instrumentation Diagrams," lists four interlocks associated with ECCS operation. Although the list does not include the interlock associated with SI-MOV-901 and SI-MOV-902, RHR to HPSI Cross-tie Isolation Valves, which were installed in 1988 in accordance with PDCR 854, the UFSAR had not been updated as of April 26, 1996. (01312)
- d. UFSAR Section 6.3.2.2, "ECCS System Design - Equipment and Component Description," provides a description of the ECCS design and did not list valves SI-V-905, 906, 907, and 908 associated with the HPSI discharge lines. Although these valves were installed in the HPSI discharge lines in 1988 in accordance with PDCR 854, the UFSAR had not been updated as of April 26, 1996. (01322)
- e. UFSAR Section 6.3.2.8, "ECCS System Design - Manual Action," states that the ECCS will be realigned for long-term sump recirculation after 8 hours following a loss of coolant accident. Although EOP E-1, "Loss of Reactor Coolant or Secondary Coolant," Revision 13, dated March 20, 1995, specifies that long-term sump recirculation is to be established at 1.5 hours, the UFSAR had not been updated as of April 26, 1996. (01332)

- f. UFSAR Section 6.3, "Emergency Core Cooling System," describes system valve lineups for injection and sump recirculation. Although the short-term and long-term recirculation valve lineups differ from EOP E-1, "Loss of Reactor Coolant or Secondary Coolant," Revision 13, dated March 20, 1995, the UFSAR had not been updated as of April 26, 1996. (01342)
- g. UFSAR Section 8.3.2.1.2, "Battery Chargers," states that during normal operation the 125 Vdc safety-related train A and train B battery chargers are operated in a float condition to maintain charger output voltage at 130 Vdc. Although the float voltage setting was revised from 131.8 Vdc to 132 Vdc following setpoint change request No. 94-17, dated May 5, 1994, the UFSAR had not been updated as of April 26, 1996. (01352)

C. Inadequate Corrective Actions

10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," requires, in part, that measures be established to assure that conditions adverse to quality are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

- 1. Contrary to the above, the licensee did not assure that conditions adverse to quality were promptly corrected, as evidenced by the following examples, each of which constitutes an individual violation:
  - a. Adverse Condition Report (ACR) 95-467, dated November 13, 1995, identified conditions adverse to quality, namely that instrument loop errors may exist in the EDG kilowatt meters used for TS surveillance tests, and that similar instrument loop errors may exist for other instruments used to meet TS surveillance requirements. However, as of April 26, 1996, an uncertainty calculation had not been prepared, and an investigation into the generic implications had not been completed. (01362)
  - b. The licensee identified in 1989 that instrument uncertainties had not been incorporated into the establishment of the EOP decision point for initiating containment spray, and reported the issue in Licensee Event Report (LER) 89-005, dated May 11, 1989. The licensee determined that instrument uncertainties and the effects of adverse environments should be reviewed for the EOP decision points, and incorporated where appropriate. The licensee's review was completed in March 1994. However, as of April 26, 1996, the licensee had not accounted for instrument uncertainty in the RWST level instrument decision points in the EOPs. (01372)

- c. UFSAR Section 7.5.2 states that RWST level instruments meet the criteria specified in Regulatory Guide 1.97. Northeast Utilities memorandum No. NE-90-SAB-230, dated September 18, 1990, identified that RWST level instruments were not correctly classified in UFSAR Section 7.5.2. In addition, Material Equipment and Parts List (MEPL) Determination CY-CD-2130, dated May 5, 1994, identified that the RWST level instruments were not correctly classified in accordance with Regulatory Guide 1.97. However, prior to April 12, 1996, action had not been taken to correct the RWST classification discrepancies. (01382)
- d. Quality and Assessment Services Audit Report No. A25098, dated November 30, 1994, identified that plant information reports (PIRs) had remained open well beyond the procedurally-specified time limit without receiving an extension approval. This weakness was a repeat occurrence of a previous audit deficiency. A later audit, No. A82001, dated July 3, 1995, concluded that the corrective actions to improve procedural compliance were not effective. However, as of April 26, 1996, adequate actions had not been taken to correct this recurring program deficiency in that numerous ACRs (to which PIRs had been converted in 1995) remained open beyond specified time limits. (01392)
- e. A third-party audit entitled, "Station Blackout Assessment," Report No. 24-00116, dated October 1994, was performed to review the licensee's implementation of actions taken in response to the station blackout requirements in 10 CFR 50.63. The third party audit identified deficiencies in the licensee's implementation of the station blackout rule, including inadequate calculations for alternate AC loading, voltage drop, and battery sizing. Other deficiencies involved the adequacy of EDG reliability programs and discrepancies in the analysis of safe shutdown scenarios. However, as of April 26, 1996, the licensee had not taken corrective actions to address all of the deficiencies identified in the audit. (01402)
- f. The root cause investigation report for ACR 95-577, dated January 15, 1996, recommended 19 corrective action items to address the condition regarding actual LPSI flow rates following a LOCA being less than that assumed in the safety analysis. The event was the subject of an NRC enforcement conference on February 12, 1996. The recommended corrective actions included safety system impact evaluations, design document revisions, a self-assessment initiative, and numerous procedure reviews and revisions. However, as of April 26, 1996, the corrective actions had not been initiated. (01412)

- g. Calculation Change Notice 2, dated November 23, 1992 for Calculation No. PA-76-633-0040-GE, Revision 5, revised the degraded voltage protection system calculations, in response to an NOV from NRC Electrical Distribution System Functional Inspection, Inspection Report 50-213/91-80. In addition, the licensee committed to revise the associated surveillance procedure and TS. However, as of April 26, 1996, appropriate corrective action had not been taken in that the licensee had not revised the surveillance procedure or TS, resulting in the design basis calculation inconsistent with the TS and surveillance procedure. (01422)
  - h. While performing an operability evaluation for the containment sump screen mesh size on February 26, 1996, as part of ACR 96-201, the licensee did not identify and correct a condition adverse to quality. Specifically, ACR 96-201 documented the potential for screen mesh size to be different than designed based on such a finding at Millstone 2; however, the licensee did not identify that the containment sump screen mesh holes at Haddam Neck were .5 inches rather than .375 inches assumed in licensee analyses, thereby potentially rendering downstream ECCS components inoperable during an accident. (01432)
- 2. Contrary to the above, the licensee did not assure that the causes of conditions adverse to quality were determined, and corrective action taken to preclude repetition, as evidenced by the following examples, each of which constitutes an individual violation:
  - a. Licensee investigations into CAR fan surveillance failures reported in PIR 95-042, dated February 1, 1995, and LER 95-04, Revision 1, dated July 31, 1995, did not assure the causes of the failures were determined. Specifically, test results were not consistent with the root causes stated in the LER, and additional deficiencies that could have contributed to the surveillance failures were identified by the NRC during the week of April 15, 1996. (01442)
  - b. In March 1995, the licensee replaced battery charger BC-1-1A with a new solid state design. During testing and subsequent operation, the battery exhibited ammeter fluctuations as documented in trouble report 15-CY-14018 BC 1-1A, dated March 1, 1995. On November 2, 1995, ACR 95-433 was issued to enter the condition into the corrective action program. However, as of April 26, 1996, effective corrective action had not been taken to determine the cause of the fluctuations and the condition adverse to quality remained uncorrected. (01452)

These violations in Sections I.A-I.C represent a Severity Level II problem (Supplement II).

Civil Penalty - \$200,000

D. Violations of Technical Specifications Caused by Inadequate Engineering

1. TS 3.5.1.a.6 requires two ECCS subsystems to be operable during Modes 1, 2, and 3 with an operable flow path capable of taking suction from the containment sump during the recirculation phase of operation.

Contrary to the above, prior to July 22, 1996 during operation in Modes 1, 2, and 3, under certain conditions, the long-term recirculation phase flowpath for ECCS systems needed to mitigate postulated loss of coolant accidents was inoperable. On August 1, 1996, the licensee determined that the original 10 inch and 8 inch diameter piping from the containment sump to suction for the RHR pump resulted in insufficient NPSH to support RHR pump operation without relying (inappropriately) on containment backpressure. Specifically, EOP ES-1.3 provided instructions to the operator to operate an RHR pump through a single sump suction valve (RHR-MOV-22 or RHR-V808A) when transferring the ECCS to sump recirculation mode of operation following a postulated accident. In the configurations allowed by ES-1.3, adequate NPSH could not be assured for the range of possible conditions as the containment cooled and depressurized following an accident. Inadequate NPSH would result in RHR pump cavitation, vapor binding and eventual pump failure. (02012)

2. TS 3.5.1.a.6 requires two ECCS subsystems to be operable during Modes 1, 2, and 3 with an operable flow path capable of taking suction from the refueling water storage tank and manually transferring suction to the containment sump during the recirculation phase of operation.

Contrary to the above, prior to July 22, 1996 during operation in Modes 1, 2, and 3, the recirculation phase flowpath required to mitigate postulated loss of coolant accidents was inoperable. Specifically, after the reactor was shutdown on July 22, 1996, the licensee identified on July 26, 1996, that the (1) the containment sump screen mesh holes were larger than the .375 inch value assumed in licensee analyses, and (2) there was a 3 inch by 2 foot hole in the screen, thereby rendering the downstream ECCS components potentially inoperable during an accident. (02022)

3. TS 3.6.2 requires at least four CAR units to be operable in Modes 1, 2, 3, and 4. The TS action statement requires that with only three CAR units operable, the inoperable CAR unit be restored to an operable status within 72 hours or be in at least hot standby within the next six hours and in cold shutdown within the following 30 hours.

Contrary to the above, during all times when the reactor was in Modes 1, 2, 3, and 4 prior to July 22, 1996, all four CAR units were inoperable in that they could not have performed their intended function during

LOCAs. Specifically, engineering analysis concluded that the service water piping structural limits would be exceeded due to waterhammer loads. The service water system is a support system for the CAR units and a part of the primary containment boundary. (02032)

These violations in Section I.D represent a Severity Level II problem (Supplement II).
Civil Penalty - \$150,000

II. Violations Associated with the Nitrogen Intrusion Event

- A. TS 6.8.1 requires, in part, that written procedures and/or administrative policies shall be established, implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Appendix A requires procedures for filling and venting the reactor coolant system; and for the startup, operation, and shutdown of the shutdown cooling system and the chemical and volume control system (including the Letdown/Purification System). The instructions in these procedures should include changing the mode of operation in the reactor coolant system.

Contrary to the above, written procedures and/or administrative policies were either not established or not implemented, as evidenced by the following examples, each of which constitutes an individual violation:

1. On August 22, 1996, Normal Operating Procedure (NOP) 2.7-4, "RHR Purification System Operation," Attachment 4, Step 1.4, which requires that the RHR purification pump suction valve from the RWST, PU-V-261A, be closed, was not properly implemented in that the valve was not closed. As a result, there was a diversion of approximately 500 gallons of reactor coolant to the RWST. (03012)
2. On August 28, 1996, Surveillance procedure (SUR) 5.1-159B, "Boron Injection Flow Path Verification and Metering Pump Test," step 6.1.2, which requires the operator to verify each component in the flowpath is in its specified position on the valve lineup checklist, and step 5.1.1, which requires the operator to immediately notify the shift supervisor and not proceed if a component is not found in its specified position, were not properly implemented in that an operator repositioned valve BA-V-366 from closed to open upon determining that the valve was not in its specified position without notifying the shift supervisor. This action resulted in water and nitrogen addition into the reactor coolant system. (03022)
3. On August 29, 1996, NOP 2.4-3, "Shutdown of an Individual Loop," was inadequate in that no instructions existed to preserve overpressure protection of an isolated reactor coolant system loop so as to preclude exceeding design stress levels in an isolated loop. (03032)

4. On August 31, 1996, NOP 2.9-1, "Placing the Residual Heat Removal System In Service," was inadequate in that it did not have instructions to shift RHR pumps, vent the RHR pumps, isolate RHR heat exchangers, and place limitations on maximum RHR flow through the heat exchangers. (03042)
  5. On August 31, 1996, NOP 2.4-7, "Return of a Loop to Service with the Plant Shutdown," was not properly implemented in that isolated loop boron concentrations and loop temperatures were not determined as required prior to opening the loop stop isolation valves. (03052)
  6. On September 3, 1996, NOP 2.9-8, "Primary Vent Header Operation," required the installation of a vacuum pump to vent the reactor coolant loops. This procedure was not properly implemented in that during the NRC walkdown of the system, no vacuum pump installation connections were available to support venting the reactor coolant loops, and the system configuration as depicted in NOP 2.9-8 did not match the field installation. In addition, this procedure was not adequately established in that no procedural controls existed to periodically verify the operation of the vent system. The procedural deficiencies contributed to ineffective venting of non-condensable gases within the reactor coolant system and the reactor vessel. (03062)
- B. TS 6.8.2 requires that each procedure required of TS 6.8.1 shall be reviewed by PORC and approved by the Vice President - Haddam Neck prior to implementation.
- Contrary to the above:
1. On August 28, 1996, and September 1, 1996, the licensee vented and refilled portions of the charging system with instructions that were not reviewed by PORC and approved by the Vice President - Haddam Neck prior to implementation.
  2. On August 29, 1996, the licensee drained the reactor coolant system with instructions that were not reviewed by PORC and approved by the Vice-President - Haddam Neck prior to implementation. (03072)
- C. 10 CFR Part 50, Appendix B, Criterion V, requires, in part, that activities affecting quality shall be prescribed by procedures appropriate to the circumstances, and shall be accomplished in accordance with the procedures. Procedures shall include appropriate qualitative acceptance criteria for determining that activities affecting quality have been satisfactorily accomplished.

Contrary to the above, normal operating procedure (NOP) 2.3-4, Shutdown from Hot Standby to Cold Shutdown and procedure steps developed under ACP 1.2-5.3, Evaluation of Activities/Evolutions Not Controlled by Procedures, used to drain the reactor on August 29, 1996 and to operate the reactor in a partially filled and vented condition from August 29 - September 3, 1996 was inadequate in that operators lacked the reactor vessel level and core exit thermocouple instrumentation used to verify that level was acceptable and that draining and fill evolutions are satisfactorily accomplished. The instrumentation had been disconnected during a period of extended operation in a partially filled and vented condition due to a change in the refueling plan and schedule that had not been thoroughly reviewed for impact on shutdown risk. This lack of review and planning resulted in the plant being placed in a vulnerable configuration, with only limited instrumentation and indications available to the operators. (03082)

- D. 10 CFR Part 50, Appendix B, Criterion XVI (Corrective Action), requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, deficiencies, and deviations, are promptly identified and corrected.

Contrary to the above, measures had not been established to assure that conditions adverse to quality, such as failures, deficiencies, and deviations, are promptly identified and corrected, as evidenced by the following examples, each of which constitutes an individual violation.

1. Between August 28, 1996, and September 5, 1996, a condition adverse to quality existed, namely nitrogen gas from the volume control tank entering the reactor vessel as a result of a failure to adhere to a procedure. The gas leakage continued even after the licensee believed that the leak was isolated, resulting in a displacement of reactor coolant to a level approximately three feet below the vessel flange. During this time period, various unexplained indications existed, such as reactor coolant system level anomalies and unexplained increase in nitrogen use, that could have alerted the operators to this condition. However, licensee personnel were ineffective in identifying and correcting the full extent of the gas intrusion into the reactor coolant system, a condition adverse to quality, until September 5, 1996, when, the licensee isolated the nitrogen gas leak and restored reactor vessel level. (03092)
2. Between August 31 and September 6, 1996, the licensee management and technical support responses to the nitrogen bubble and degraded RHR subsystem events were fragmented and protracted, resulting in untimely corrective actions for significant conditions adverse to quality. The untimely responses were reflected in the failure to fully appreciate the significance of the event, resulting in delays in initiating an integrated event response; establishing actual reactor vessel level; reestablishing control room indications for reactor vessel level and temperature; aligning a reactor coolant pump for service; and

establishing and implementing an independent review team. Also, the actions to monitor the operating A RHR pump, following the B RHR pump failure, were not comprehensive or timely. (03102)

3. Between September 1 and September 26, 1996, several avoidable delays were encountered in the licensee's corrective maintenance on the B RHR pump. These delays included a lack of quality replacement parts, inadequate vendor supplied information, lack of technical evaluations for floor block removal, and absence of appropriate vent locations. However, this condition adverse to quality was not promptly corrected during this time. (03112)
4. ACR 96-1106, dated September 28, 1996, identified that approximately 600 gallons of unborated water was diverted to the reactor coolant system during a makeup to the refueling water storage tank. This event was caused by leak-through of a two inch chemical and volume control system manual globe valve (BA-V-367). Prior to this event, five additional ACRs were prepared in September 1996, identifying various chemical and volume control system valves with leak-through, however, the diversion of the unborated water was not identified. (03122)

These violations in Section II represent a Severity Level II problem (Supplement I).
Civil Penalty - \$300,000

III. Violations Not Assessed a Civil Penalty Associated with Emergency Planning Deficiencies

- A. 10 CFR 50.54(q) states, in part, "A licensee authorized to possess and operate a nuclear power reactor shall follow and maintain in effect emergency plans which meet the standards in 10 CFR 50.47(b) and the requirements in Appendix E of this part."

The licensee's Emergency Plan, Section 6, and Emergency Plan Implementing Procedures (EPIP) 1.5.-1, Revision 29, Emergency Assessment Using EAL Tables, requires consistent with 10CFR 50.54(q), in part, the declaration of an Alert event, under TA2, Destructive Phenomena, Visible Damage to Structures or Equipment Affecting Safe Shutdown.

Contrary to the above, during an emergency exercise on August 14, 1996, licensee personnel failed to make an Alert declaration early in the exercise, even though such a declaration was warranted because of simulated damage to the intake structure that could have affected safe-shutdown of the reactor (the Alert declaration was subsequently prompted by the lead controller); also, licensee personnel demonstrated confusion with the use of emergency action level (EAL) tables prior to the declaration of the General Emergency in that key decision makers incorrectly interpreted the barrier failure logic diagram and would have prematurely declared a General Emergency if they had not been corrected by other staff. (04013)

- B. 10 CFR 50.54(q) states, in part, "A licensee authorized to possess and operate a nuclear power reactor shall follow and maintain in effect emergency plans which meet the standards in 10 CFR 50.47(b) and the requirements in Appendix E of this part."

EPIP 1.5-43, Personnel Radiation Control and Dosimetry Issue During Nuclear Emergencies, requires consistent with 10CFR 50.54(q), in part, that guidance is provided for on site radiation exposure control for nuclear incident/accident emergencies; and Emergency Preparedness Operating Procedure (EPOP) 4428G, Revision 0, Protective Action Recommendations (PARs), requires, in part, that areas beyond the 10 mile emergency planning zone can be addressed on an ad hoc basis if the area is threatened by the plume.

Contrary to the above, during the emergency exercise on August 14, 1996, the licensee, in responding to the exercise scenario, failed to implement protective actions based upon dose projections for the site emergency response organization at the emergency operations facility (EOF) and for personnel on site, and also failed to consider PARs beyond the 10 mile emergency planning zone which was threatened by the plume. Specifically, the licensee, in the exercise, did not make provisions for evacuating emergency operating facilities and site personnel due to potentially high projected dose rates. (Because dose projections based on the scenario exceeded the protective action guideline of 10 rem for residents beyond the 10 mile radius, the PAR should have been extended to include those residents projected to receive greater than 1.0 rem.) (04023)

These violations are classified in the aggregate as a Severity Level III problem (Supplement VIII).

IV. Other Violations Not Assessed a Civil Penalty

- A. TS 6.8.1 requires, in part, that written procedures be established, implemented and maintained in accordance with the provisions contained in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978.

Procurement Engineering Group (PEG) Departmental Instruction PEG 6.05, "Vendor Interface for Key Safety Related Components," provides the instruction to implement the Northeast Utilities commitment for vendor interface for key safety related components, as described in the licensee's response, dated April 19, 1991, to NRC Generic Letter (GL) 90-03, "Relaxation of Staff Position in Generic Letter 83-28, Item 2.2 Part 2, 'Vendor Interface for Safety-Related Components.'"

Section 5 to PEG 6.05 requires that once per calendar year, the individual assigned responsibility will develop a list of key safety related components for the Connecticut Yankee and Millstone Units 1, 2, and 3 (sub-section 5.1); identify the vendors for the key equipment (sub-section 5.1); review the file for

each vendor, noting any audit findings, new design announcements, or related information (sub-section 5.4); develop a list of generic questions for each vendor (sub-section 5.5); and call each vendor and try to get the questions answered (sub-section 5.6).

Contrary to the above, the licensee did not execute PEG 8.05 during the calendar years 1994 and 1995 and therefore did not initiate vendor contacts during these years, consistent with the licensee response to GI 90-03 for key safety-related components. (05014)

This is a Severity Level IV violation (Supplement I).

- B. 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality be prescribed by documented procedures.

10 CFR Part 50, Appendix B, Criterion XV, "Nonconforming Materials, Parts or Components," requires, in part, that measures be established for nonconforming materials, parts and components, which include procedures for disposition.

Contrary to the above, as of April 26, 1996, the licensee did not provide procedural guidance for dispositioning non-conformance reports pertaining to non-QA materials that had been installed in safety-related applications. (06014)

This is a Severity Level IV violation (Supplement I).

- C. 10 CFR Part 50, Appendix J, Section II.G, defines Type B tests, in part, as tests intended to measure leakage across leakage limiting boundary for primary reactor containment penetrations, including piping penetrations fitted with expansion bellows. TS 4.6.1.2.d states that containment leakage rates shall be demonstrated in conformance with the criteria in Appendix J of 10 CFR Part 50, and that Type B tests shall be conducted at intervals not greater than 24 months and at a pressure not less than Pa, 39.6 psig.

Contrary to the above:

1. Penetration P-50, fuel transfer tube bellows assembly, has never been tested in accordance with the requirements of 10 CFR Part 50, Appendix J.
2. Containment penetration CN-2, hydraulic tubing that is part of the air lock door operating mechanism, has never been tested in accordance with Appendix J. (07014)

This is a Severity Level IV violation (Supplement I).

- D. 10 CFR 50.72(b)(2)(iii)(B) requires the licensee to report within four hours of its occurrence an event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to remove residual heat.

Contrary to the above, the accumulation of nitrogen in the reactor vessel, which could have prevented the removal of residual heat, was discovered at 9:00 a.m. on September 1, 1996 but was not reported until September 11, 1996. (09014)

This is a Severity Level IV violation (Supplement I).

- E. TS 3.1.2.1 requires during reactor operations in Mode 5 that at least one boron injection flow path be operable.

Contrary to the above, on August 28, 1996, with the reactor in Mode 5, at least one boron injection flow path was not operable. Specifically, while attempting to establish a boron injection flowpath from the boric acid mix tank through a charging pump to the reactor in accordance with SUR 5.1-159B, a valve lineup error allowed nitrogen gas to be introduced into the charging system, rendering the boron injection flow path inoperable. The licensee failed to declare the boron flow path inoperable as nitrogen continued to leak into the charging system and the reactor from August 28, 1996 until September 1, 1996. (09014)

This is a Severity Level IV violation (Supplement I).

- F. 10 CFR Part 50 Appendix B, Criterion III, "Design Control," requires, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis for structures, systems and components are correctly translated into specifications, drawings, procedures and instructions.

Contrary to the above, as of September 27, 1996, the results of design basis calculations for safety-related instrumentation setpoints were not translated into the plant TS and instrumentation calibration procedures as evidenced by the following examples:

1. Setpoint calculations did not assure that the design basis requirements were translated into the TS allowable values for safety-related instrumentation. Specifically, incorrect allowable values were calculated for calculations that were performed to support a 24-month fuel cycle operation, including the following specific calculations:
  - PA 90-013-321EY, Revision 1, "Uncertainty Calculation For Steam Flow Loops F-1201-1B,-1C,-2B,-2C,-3B,-3D,-4B,-4D and Setpoint Calculation For Steam Flow/Feedwater Flow Mismatch"

- PA 90-013-0341EY, Revision 1, "Uncertainty and Setpoint Calculation For Steam Line Break Flow F-1202-1,-2,-3,-4"
  - 95-01262EY, Revision 0, "Uncertainties and Setpoints for RCS Flow Loops F-401A, C, D; 402A, C, D; 403A, C, D; 404A, C, D"
2. The results of design basis calculations for instrumentation setpoints were not translated into instrumentation calibration surveillance procedure acceptance criteria. Specifically, the instrument uncertainty results of calculation PA 90-013-26EY Rev. 2, "Uncertainties and Setpoints for Steam Generator Narrow Range Level L-1301-1A/C/D, 2A/C/D, 3A/C/D, 4A/C/D," were not translated into appropriate calibration acceptance criteria in SUR 5.2-6.1, "Steam Generator #1 Narrow Range Level Channel Calibration," resulting in non-conservative acceptance criteria. (10014)

This is a Severity Level IV violation (Supplement I).

- G. 10 CFR Part 50 Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

Contrary to the above, during instrument calibrations performed in February 1995, Instrument Calibration Review Forms (ICRs) 95-009, 95-011, 95-23, 95-24, and 95-025 documented instrumentation calibration acceptance criteria failures and the licensee did not identify the cause of the failures or implement corrective action to prevent repetition. (11014)

This is a Severity Level IV violation (Supplement I).

- H. TS 3.1.2.1 and 3.1.2.2 require that boron injection flow paths be operable during operation in Mode 5 & 6 and Modes 1 through 4, respectively, including a flow path from the boric acid tank to the metering pump. TS 4.1.2.1.a and 4.1.2.2.a require the temperature of the heat traced portion of the flow path from the boric acid tank to be greater than 140 degrees F.

Contrary to the above, during plant operation in Modes 1 through 6 prior to October 10, 1996, certain locations in the boron injection flow path had temperatures which were below the required minimum of 140 degrees F, rendering the associated portions of the boration system inoperable. On October 10, temperatures were measured to be as low as 120 degrees F in the gravity feed line to the metering pump, and 90 degrees F at the suction of the charging pumps at the junction of the discharge from the boric acid pumps. (12014)

This is a Severity Level IV violation (Supplement II).

- I. TS 6.8.1 requires, in part, that written procedures and/or administrative policies shall be established, implemented, and maintained covering the activities as recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Regulatory Guide 1.33, Appendix A, Section F.25 requires procedures to be established to combat significant events such as irradiated fuel damage during refueling.

Contrary to the above, written procedures had not been established, implemented, and maintained in that prior to October 24, 1996, a procedure to combat a significant event such as irradiated fuel damage during refueling did not exist. (13014)

This is a Severity Level IV violation (Supplement I).

- J. TS 3/4.9.12 requires the Fuel Storage Building Air Cleanup System to be operable and in operation during operations involving movement of fuel within the storage pool or crane operation with loads over the storage pool with a flowrate of 4,000 +/- 10% cubic feet per minute (cfm). The TS action statement states with the Fuel Storage Building Air Cleanup System inoperable, or not operating, all operation with loads over the fuel storage pool are to be suspended.

Contrary to the above, between May 27 and June 14, 1993, and between February 6 and February 28, 1995, during fuel movement within the fuel storage pool, the Fuel Storage Building Air Cleanup System was inoperable, in that the system flowrate was less than 4,000 cfm +/- 10%, and fuel movement operations were not suspended. (14014)

This is a Severity Level IV violation (Supplement I).

Pursuant to the provisions of 10 CFR 2.201, Northeast Utilities Service Company (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalties (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an Order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalties by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the cumulative amount of the civil penalties proposed above, or may protest imposition of the civil penalties, in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalties will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalties, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalties should not be imposed. In addition to protesting the civil penalties, in whole or in part, such answer may request remission or mitigation of the penalties.

In requesting mitigation of the proposed penalties, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing civil penalties.

Upon failure to pay any civil penalties due which subsequently have been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalties, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234(c) of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalties, and Answer to a Notice of Violation) should be addressed to: Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region I, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support your request for withholding the information from the public.

Dated at King of Prussia, Pennsylvania
this 12th day of May, 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

January 23, 1997

EA 96-402

Mr. E. Watzl
Vice President, Nuclear Generation
Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$50,000 (NRC Special Inspection Report Nos. 50-282/96015;
50-306/96015)

Dear Mr. Watzl:

This refers to the special inspection conducted from December 22, 1995, through October 9, 1996, at the Prairie Island facility. The inspection was conducted to determine if the licensee's proposal to take credit for the non-seismic intake canal and operator actions following an earthquake constituted an unreviewed safety question. The report documenting the inspection and transmitting the apparent violation was sent to you by letter dated November 1, 1996. A predecisional enforcement conference was held on November 22, 1996, to discuss the apparent violation, its cause, and your corrective actions.

Based on the information developed during the inspection and the information that you provided during the conference, the NRC has determined that a violation of NRC requirements occurred. The violation is cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty and the circumstances surrounding it are described in detail in the subject inspection report.

On November 15, 1995, the licensee performed a test of the emergency intake line as part of a self-assessment of the cooling water system. The FSAR assumed that the emergency intake line was capable of providing at least 18,000 gallons per minute (gpm) of cooling water, without operator action, with the intake canal fully blocked and the river at minimum level following a lock and dam failure. The test determined that the emergency intake flow was approximately 17,500 gpm of cooling water at normal river water levels (11,600 gpm at low river levels). This test was not described in the safety analysis report and was performed without conducting a written safety evaluation. A violation for not performing a written safety evaluation prior to performance of the test was issued in Inspection Report 95014. Because the test results indicated that the design basis of the emergency intake line was not met, the licensee performed a safety evaluation and determined that no unreviewed safety question existed. A followup inspection in December questioned the conclusion that no unreviewed safety question existed because the evaluation relied on the use of manual operator actions to isolate non-safety-related

cooling water loads and changed the assumptions such that reliance was placed upon a non-seismic canal remaining intact following an earthquake. This included reliance that the non-seismic sluice gates separating the non-safety-related intake structure from the safety-related one would remain open. The NRC reviewed the licensee's basis and determined in October 1996 that a violation of 10 CFR 50.59 occurred because an unreviewed safety question existed.

The licensee was able to justify continued interim operation by qualifying the sluice gates to the non-safety-related intake structure. However, the licensee's reliance on the non-seismic canal and on operator intervention is of regulatory concern. The use of operator action to meet the requirements of the FSAR created an unreviewed safety question because it introduced the potential for creating an accident or malfunction of a type different than evaluated previously in the FSAR, as well as potentially introducing unanalyzed failure modes due to operator actions of omission or commission. Additionally, the use of the non-seismic canal introduced the potential for increasing the probability of the consequences of the accident. The failure of Prairie Island to evaluate that operator intervention and use of non-seismic equipment constituted an unreviewed safety question is considered a significant failure to meet the requirements of 10 CFR 50.59. Therefore, this violation has been categorized in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, at Severity Level III.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III violation. Because your facility has not been the subject of escalated enforcement actions within the last two years, the NRC considered whether credit was warranted for *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. Credit was not warranted for *Corrective Action*. Although Prairie Island took broad corrective actions to improve the 50.59 process as a result of the violation issued in Inspection Report 95014, no corrective action was taken to address the NRC's concern over whether the non-seismic sluice gates would remain open during a seismic event. The concern is heightened by the fact that the NRC attempted to inform the licensee in April 1996 of the concern over the seismic qualification of the sluice gates. However, this concern was not addressed by the licensee and the NRC had to bring this issue to the attention of the licensee at the predecisional enforcement conference. Further, after this enforcement conference, NRC requested you to promptly determine if the sluice gates would be functional after a design basis seismic event. This was necessary in order for the NRC to determine if your justification for continued operation was valid.

Therefore, to emphasize the importance of compliance with regulatory requirements and the prompt and comprehensive correction of violations, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) in the base amount of \$50,000 for the Severity Level III violation.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room.

Sincerely,

for A. Bill Beach
Regional Administrator

Docket Nos. 50-282; 50-306
License Nos. DPR-42; DPR-60

Enclosure: Notice of Violation and Proposed
Imposition of Civil Penalty

cc w/enci: Plant Manager, Prairie Island
John W. Ferman, Ph.D.
Nuclear Engineer, MPCA
State Liaison Officer, State
of Minnesota
State Liaison Officer, State
of Wisconsin
Tribal Council, Prairie Island
Dakota Community

**NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY**

Northern States Power Company
Prairie Island

Docket Nos. 50-282; 50-306
License Nos. DPR-42; DPR-60
EA 96-402

During an NRC inspection conducted on December 22, 1995, through October 22, 1996, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violation and associated civil penalty are set forth below:

10 CFR 50.59(a) states, in part, that a holder of a license may make changes in the facility as described in the safety analysis report, without prior Commission approval, unless the proposed change involves an unreviewed safety question. A proposed change shall be deemed to involve a unreviewed safety question if the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased or if the possibility for an accident or malfunctions of a different type than evaluated previously in the safety analysis report may be created.

Prairie Island Updated Safety Analysis Report, Section 10.4.1.2.2 states, in part, that the emergency cooling water intake line was designed to deliver no less than 18,000 gpm with a crib submergence of no more than 4.5 feet caused by the failure of Lock and Dam No. 3. Specific hydraulic analysis has shown that, with the expected lowest river level, the 36-inch intake line should be capable of delivering at least 22,500 gpm, and with Lock and Dam No. 3 intact, could deliver at least 30,000 gpm.

Contrary to the above, on November 28, 1995, after determining that the emergency cooling water intake line was incapable of meeting the required FSAR flows, the licensee approved a safety evaluation that credited the use of a non-seismic intake canal and operator action to ensure adequate cooling water flows to the safety-related cooling water pumps. The combination of operator action and the use of the non-seismic intake canal to meet the requirements of the FSAR created an unreviewed safety question because they introduced the potential for creating an accident or malfunction of a type different than evaluated previously in the FSAR.

This is a Severity Level III violation (Supplement I).
Civil Penalty - \$50,000.

Pursuant to the provisions of 10 CFR 2.201, Northern States Power Company (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if

admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation(s) listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region III.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Lisle, Illinois,
this 23rd day of January 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION 1
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

December 11, 1996

EA 96-177

Mr. Leon R. Eliason
Chief Nuclear Officer and President
Nuclear Business Unit
Public Service Electric and Gas Company
Post Office Box 236
Hancocks Bridge, New Jersey 08038

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES -
\$80,000
(Office of Investigations (OI) REPORTS 1-94-006R and 1-94-053)

This refers to the two investigations, OI Reports 1-96-006R and 1-94-053, conducted from February 18, 1994 to April 30, 1996 and from November 21, 1994 to April 25, 1996, respectively, at the Salem Generating Station. These investigations found that an Onsite Safety Review Engineer (OSRE) and a Safety Review Engineer (SRE) were harassed, intimidated and discriminated against by a former manager of the Nuclear Safety Review (NSR) Group as a result of raising safety concerns. Specifically, as noted in the synopses of the two subject reports, forwarded to you with our letter, dated July 1, 1996, OI found that this former Manager, NSR, had (1) discriminated against the OSRE by virtue of negative comments in the OSRE's performance appraisals due to the individual's involvement in events associated with a December 3, 1992, incident involving two of his subordinates (both of whom were Safety Review Engineers) (OI Report 1-94-006R, hereafter OI Report No. 1); and (2) discriminated against an SRE by virtue of his transfer to the Hope Creek Safety Review Group (SRG) from the Salem SRG (OI Report 1-94-053, hereafter OI Report No. 2). On September 11, 1996, the NRC conducted a predecisional enforcement conference with you and members of your staff in King of Prussia, Pennsylvania, to discuss the findings of the two subject OI investigations.

With respect to OI report No. 1 (sent to you on July 1, 1996), OI found that the former Manager, NSR, provided negative comments in an interim performance assessment of the OSRE in November 1993, and in a subsequent final appraisal in May 1994. One of the negative comments criticized an April 7, 1993, memorandum that the OSRE had written to each of the two SRE subordinates who were involved in a December 1992 discrimination incident that the NRC dispositioned on April 11, 1995 by the issuance of a Severity Level II violation and an \$80,000 civil penalty (EA 94-239). In the April 1993 memorandum, the OSRE was supportive of the two subordinates with respect to their roles in the December 1992 incident. Another negative comment in the former Manager, NSR's appraisals of the OSRE criticized an October 12, 1993, memorandum that the OSRE had sent to the former Manager, NSR, discussing a concern with the former Manager, NSR, on October 4, 1993, regarding SORC members anticipating criticism for acting in support of safety after a system engineer presented a temporary modification to the SORC. The OSRE had entitled the memorandum, "Atmosphere of Intimidation". The former Manager, NSR, included both of these examples in the OSRE's appraisals as examples of poor judgement by the OSRE. With respect to OI

Report No. 2, OI found that the SRE, by virtue of his transfer to the Hope Creek Safety Review Group (SRG) from the Salem SRG, against his wishes, was harassed and discriminated against by the former Manager, NSR, as a result of raising a safety issue.

At the predecisional enforcement conference, your staff contended that these individuals were not discriminated against, noting that the former Manager, NSR's actions were motivated by valid, non-discriminatory reasons. However, the NRC does not agree with your contentions and believes that discrimination had occurred. For example, the April 1993 memoranda for which the OSRE was criticized in his assessment, was sent by the OSRE to his two SRE subordinates at a time when the former Manager, NSR, was not yet the OSRE's supervisor, and at a time which was outside the performance assessment period. In addition, the former Manager, NSR, criticized the OSRE for terminology used in the October 12, 1993, memorandum which was written by the OSRE after the Manager, NSR, specifically asked the OSRE to put his views in writing for the benefit of senior management, following a discussion regarding the SORC issue. The former Manager, NSR did not directly communicate his criticism of the terminology of the October memorandum until the November, 1993 interim performance assessment. Lastly, with respect to the SRE, the Manager, NSR, included this individual in a termination list prepared at the request of the then Vice President, Nuclear, a few days after the former Manager, NSR, approved the SRE's involuntary transfer to the Hope Creek SRG. The then Vice President, Nuclear, promptly removed the individual's name from the termination list on the basis that it would send the wrong message to the organization. The SRE was subsequently transferred back to the Salem SRG by the new Director-QA/NSR after the new Director assumed his position.

As stated to you in the April 11, 1995, letter, transmitting a civil penalty for the discrimination of two SREs who attempted to process a safety issue in accordance with station procedures by submitting an incident report at the Salem Station (EA 94-239), your organization has the responsibility to ensure that a work environment exists such that employees feel free to raise safety concerns. The actions of the former Manager, NSR, in late 1993 and early 1994, did not adhere to these standards, and did not provide an appropriate example for management, supervisors, or staff within their line organization, nor for the other PSE&G organizations with which they interfaced. Given the management status of the former manager, NSR, these actions constitute violations of NRC requirements classified in the aggregate in accordance with the NRC Enforcement Policy, "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600 (Enforcement Policy), as a Severity Level II problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$80,000 is considered for a Severity Level II problem. For Severity Level II violations, the NRC considers whether credit is warranted for Identification and Corrective Action in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. Credit was not given for Identification since the NRC identified the violation. However, the NRC recognizes that subsequent to the identification of the violation by the NRC, actions were taken to correct the violation and prevent recurrence. The corrective actions were described at the enforcement conference, as well as in your July 21, 1995, response to a chilling effect letter sent to you on June 21, 1995, concerning the DOL Area Director finding of discrimination in the case filed with DOL by the OSRE. These corrective actions included, but were not limited to (1) the President and Chief Nuclear Officer personally expressing his expectations to all employees

that they should feel free to resolve their concerns through line management and existing procedures; (2) creation of the Employee Concerns Program as part of the February 1995 reorganization of the QA/NSR Department, and a subsequent revision to the program after conducting a benchmark survey at other plants; and (3) institution of a more comprehensive employee training program which includes explaining some of the more subtle forms of discrimination which can hinder or frustrate the process of employees bringing concerns to be dealt with. Based on these actions, credit is warranted for your comprehensive corrective action in this case.

In addition, the NRC recognizes that the adverse actions in this case occurred in the 1993 and 1994 time period and happened under a different management team. The NRC also recognizes that a settlement agreement was entered between you and the OSRE in the DOL proceeding, and that the SRE was transferred back to the Salem SRG. Nonetheless, to emphasize the significance that the NRC attaches to any finding of discrimination, as well as the importance of current management ensuring a safety-conscience environment where employees feel free to raise safety concerns, I have been authorized, after consultation with the Director, Office of Enforcement, and the Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations, and Research, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty in the base amount of \$80,000 for a Severity Level II problem stemming from violations of 10 CFR 50.7.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response you should include, for the docket, your corrective actions to improve and monitor the overall program for raising safety concerns at the Salem and Hope Creek facilities. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,

Hubert J. Miller
Regional Administrator

Docket Nos. 50-272; 50-311
License Nos. DPR-70; DPR-75

Enclosure: Notice of Violation and Proposed Imposition
of Civil Penalty

cc w/encl:

L. Storz, Senior Vice President - Nuclear Operations
E. Simpson, Senior Vice President - Nuclear Engineering
E. Salowitz, Director - Nuclear Business Support
C. Schaefer, External Operations - Nuclear, Delmarva Power & Light Co.
D. Garchow, General Manager - Salem Operations
J. Benjamin, Director - Quality Assurance & Nuclear Safety Review
D. Powell, Manager, Licensing and Regulation
R. Kankus, Joint Owner Affairs
A. Tapert, Program Administrator
R. Fryling, Jr., Esquire
M. Wetterhahn, Esquire
P. MacFarland Goetz, Manager, Joint Generation Atlantic Electric
Consumer Advocate, Office of Consumer Advocate
W. Conklin, Public Safety Consultant, Lower Alloways Creek Township
Public Service Commission of Maryland
State of New Jersey
State of Delaware

ENCLOSURE

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Public Service Electric and Gas Company
Salem Generating Station

Docket Nos. 50-272; 50-311
License Nos. DPR-70; DPR-75
EA 96-177

During NRC investigations, conducted on February 18, 1994 to April 30, 1996 and on November 21, 1994 to April 25, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

- I. 10 CFR 50.7 prohibits, in part, discrimination by a Commission licensee against an employee for engaging in certain protected activities. Discrimination includes discharge or other actions relating to the compensation, terms, conditions, and privileges of employment. The activities which are protected include, but are not limited to, reporting of safety concerns by an employee to his employer.
  - A. Contrary to the above, the licensee, through its former manager of NSR, discriminated in November 1993 and May 1994 against a former Onsite Safety Review Engineer (OSRE) at the Salem Generating Station. Specifically, by virtue of negative comments in his performance appraisals, the OSRE was harassed and retaliated against by the NSR manager due to his involvement in events associated with a December 3, 1992 incident, involving two of the OSRE's subordinates who were engaged in protected activity described in the Enforcement Action (EA 94-239) issued on April 11, 1995. (01012)
  - B. Contrary to the above, the licensee, through its former manager of NSR, discriminated against a Safety Review Engineer (SRE) at the Salem Generating Station. Specifically, by virtue of an involuntary transfer to Hope Creek, the SRE was harassed and retaliated against by the NSR manager as a result of raising a safety issue during the December 3, 1992 incident described above. (01022)

These violations represent a Severity Level II problem. (Supplement VII).
Civil Penalty - \$80,000.

Pursuant to the provisions of 10 CFR 2.201, Public Service Electric and Gas Company (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if

admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: Mr. James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region I and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at King of Prussia, Pennsylvania
this 11th day of December 1996

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

December 11, 1996

EA 96-344

Mr. Leon R. Eliason
Chief Nuclear Officer and President
Nuclear Business Unit
Public Service Electric and Gas Company
Post Office Box 236
Hancocks Bridge, New Jersey 08038

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES -
\$100,000
(NRC Inspection Reports No. 50-272/96-14, 50-311/96-14 and 50-354/96-08)

Dear Mr. Eliason:

This letter refers to the NRC inspections conducted at the Salem and Hope Creek Nuclear Generating Stations between August 15-September 3, 1996. Four apparent violations were discussed with you at an exit meeting in the Region I office on September 3, 1996. Two additional apparent violations were identified subsequent to the September 3, 1996 exit meeting and were discussed in a telephone conversation with your staff on September 25, 1996. The inspection report was sent to you on September 30, 1996. On November 14, 1996, a predecisional enforcement conference was conducted with you and members of your staff to discuss the apparent violations identified during the inspection, their causes, and your corrective actions.

Based on our review of the inspection findings, and information provided during the conference, six violations are being cited and are described in the enclosed Notice of Violation and Proposed Imposition of Civil Penalties (Notice). Three of the violations relate to two specific events which occurred involving the failure to control access to the facility. One event involved a security force member taping a photobadge keycard area door lock, due to problems with the lock, thereby allowing any individual who had gone through the search process the opportunity to obtain a photobadge keycard and use it to access the protected area. This failure to control photobadge key cards for entry into the protected area, which constitutes the first violation, could have allowed unauthorized access to the protected area.

This violation, which is set forth in Section I.A. of the enclosed Notice, was identified when an NRC inspector observed that the locking mechanism on the door to that specific photobadge issue area had been taped over rendering the lock inoperable. At the time the lock was observed as inoperable by the inspector, the area was not occupied by security force personnel (SFP), and no compensatory measures were in place for this degradation. You subsequently took immediate action to remove the tape, restore the lock to an operable condition, and verify that this degradation had not resulted in an unauthorized entry into the protected or vital areas of the facilities. Nonetheless, this condition created an opportunity for unauthorized individuals to gain access to the protected and vital areas, and, as such, represented a significant degradation of the security program at the facility. Therefore, the violation has been categorized at Severity Level III in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG-1600.

The second event involved a contractor individual accessing the protected area without a pat-down search, as required, after the individual had, on three occasions, alarmed two separate metal detectors at the access control point. In addition, your staff's initial followup after the second event was poor. In this case, although the contractor employee was allegedly told by security force personnel to stand aside and await a hands-on search to determine the cause of the alarms, the contractor employee went to the badge issue area, was issued a photo badge/key card, and entered the protected area without being detained by security force personnel, contrary to NRC requirements. This violation is described in Section I.B.1 of the Notice. Subsequently, although a security supervisor initiated actions to identify the contractor individual once notified of the event, the security supervisor did not notify the Senior Nuclear Shift Supervisor onsite, which was required since the contractor individual should have been considered an intruder. Your NRC-approved Security Contingency Plan requires such notification whenever there is an intruder at the facility. This violation is described in Section I.B.2 of the Notice. The contractor individual was not identified by the officers performing the search function until 50 minutes after his entry.

Although appropriate searches were conducted once the contractor was located, including searches of the individual, his locker, and his whereabouts while uncontrolled in the protected area, the NRC is concerned that the control room was not notified, as required, of the potential security threat that existed, and the contractor's badge/key card was not deactivated during that time, which would have precluded him from entering any vital areas. In addition, the contractor was not paged on the plant paging system, once he was identified, to expedite locating him. These failures also constitute a significant regulatory concern regarding your regard for control of access to the facilities, and therefore, the two violations are categorized in the aggregate as a Severity Level III problem in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG-1600.

These three violations of fundamental access control requirements at nuclear power plants represent a significant degradation in the security program at the facility, that during the prior SALP, had been recognized as a strength at the facility. At the enforcement conference, you acknowledged problems in the work culture at the facility, and also noted that deficiencies in procedural adequacy, procedural adherence, job skills, and management oversight contributed to these violations. It is important that these causes are fully corrected to ensure that only authorized individuals are granted entry to protected and vital areas.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III problem or violation. Your facilities have been the subject of escalated enforcement actions within the last 2 years. For example, Severity Level III violations and cumulative civil penalties in the amount of \$600,000 were issued on October 16, 1995 for, in part, several instances of the failure to identify and correct conditions adverse to quality at Salem (Reference: EAs 95-62/95-65/95-117). In addition to these Salem violations, a Severity Level III violation and a civil penalty in the amount of \$100,000 was issued to your Hope Creek facility on August 24, 1995, for inadequacies in shutdown cooling system operations. Therefore, the NRC considered, for each Severity Level III violation and problem, whether credit was warranted for *Identification and Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy.

With respect to the violation in Section I.A., credit is not warranted for *Identification* because the violation was identified by the NRC. Credit is warranted for *Corrective Action* because at the time of the enforcement conference, your actions were considered both prompt and comprehensive. These actions, which were discussed during your presentation at the conference, include, but are not limited to the following: (1) replacement of security management; (2) reestablishing expectations and direction in the security department; (3) ensuring management involvement in the program; and (4) upgrading the training of security personnel.

As to the problem in Section I.B, credit is not warranted for *Identification* because the violation was self-revealing when security personnel could not locate the individual, and then failed to notify the control room as required. Credit is warranted for *Corrective Action* because at the time of the enforcement conference, your actions, as already described, were considered both prompt and comprehensive.

Accordingly, to encourage prompt identification and correction of violations, I have been authorized, after consultation with the Director, Office of Enforcement, to propose a separate civil penalty of \$50,000 for each of the Severity Level III violations and problems in Sections I and II of the enclosed Notice. The total civil penalties proposed for this action is \$100,000.

The three other violations identified during the inspection are described in Section II of the enclosed Notice and are classified at Severity Level IV. Those violations involve (1) the failure to deactivate photo badge key cards for individuals who no longer required site access after being terminated; (2) the failure to complete training for security supervisors prior to assigning them to perform supervisory duties; and (3) the failure to test an intrusion detection system in accordance with procedures.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR. If redactions are required, a proprietary version containing brackets placed around the proprietary, privacy, and/or safeguards information should be submitted. In addition, a non-proprietary version with the information in the brackets redacted should be submitted to be placed in the PDR.

Sincerely,

Hubert J. Miller
Regional Administrator

Docket Nos. 50-272, 50-311, 50-354
License Nos. DPR-70, DPR-75, NPF-57

Enclosure: Notice of Violation and Proposed Imposition
of Civil Penalties

cc w/encl:

L. Storz, Senior Vice President - Nuclear Operations
E. Simpson, Senior Vice President - Nuclear Engineering
E. Safowitz, Director - Nuclear Business Support
C. Schaefer, External Operations - Nuclear, Delmarva Power & Light Co.
D. Garchow, General Manager - Salem Operations
M. Bezilla, General Manager - Hope Creek Operations
J. Benjamin, Director - Quality Assurance & Nuclear Safety Review
D. Powell, Manager, Licensing and Regulation
R. Kankus, Joint Owner Affairs
A. Tapert, Program Administrator
R. Fryling, Jr., Esquire
M. Wetterhahn, Esquire
P. MacFarland Goetz, Manager, Joint Generation Atlantic Electric
Consumer Advocate, Office of Consumer Advocate
W. Conklin, Public Safety Consultant, Lower Alloways Creek Township
Public Service Commission of Maryland
State of New Jersey
State of Delaware

ENCLOSURE

NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES

Public Service Electric and Gas Company
Salem Nuclear Generation Station
Hope Creek Nuclear Generating Station

Docket Nos. 50-272, 50-311, 50-354
License Nos. DPR-70, DPR-75, NPF-57
EA 96-344

During an NRC inspection conducted between August 15-September 3, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the Nuclear Regulatory Commission proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalties are set forth below:

I. VIOLATIONS ASSESSED A CIVIL PENALTY

- A. License Condition 2.E of License Number NPF-57 for the Hope Creek facility, and License Conditions 2.E of License Numbers DPR-70 and DPR-75 for Salem, require that PSE&G fully implement and maintain in effect all provisions of the physical security, guard training and qualification, and safeguards contingency plans approved by the Commission and all amendments and revisions to such plans made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

The Public Service Electric and Gas Company (PSE&G) Salem - Hope Creek Security Plan, Revision 7, dated June 21, 1996, states, in Section 5.6, "Access Control to Vital Areas" that "Vital area access is physically controlled by the photobadge-keycard system which permits access into specific areas to persons designated on the current access list contained in the system computers. Positive access control is accomplished by [Security Force Personnel] (SFP) prior to issuance of the photobadge-keycard. Persons are positively identified by requiring them to request the badge by number, and visually, by comparing the picture to the person before issuing the keycard."

Contrary to the above, on August 14, 1996, vital area access was not physically controlled in that positive access control over photobadge keycards was compromised, thereby creating the opportunity for unauthorized access to the vital areas. Specifically, on that date, an NRC inspector identified that the lock mechanism on a door to one of the badge issue stations had been taped over, rendering the lock incapable of performing its locking function, and at the time, the badges were left unattended in the issue station, and no compensatory measures were in place for the inoperative lock to preclude an unauthorized individual from gaining access to the badges and the protected and vital areas. (01013)

This is a Severity Level III Violation (Supplement III).
Civil Penalty - \$50,000.

- B. License Condition 2.E of License Number NPF-57 for the Hope Creek facility, and License Conditions 2.E of License Numbers DPR-70 and DPR-75 for Salem, require that PSE&G fully implement and maintain in effect all provisions of the physical security, guard training and qualification, and safeguards contingency plans approved by the Commission and all amendments and revisions to such plans made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

1. The PSE&G Salem - Hope Creek Security Plan, Revision 7, dated June 21, 1996, states, in Section 4.2.1.4, "Personnel Search and Access Control," that "Searches at the guardhouses are performed by locally alarming portal or hand-held metal and explosives detectors. When there is reasonable cause to suspect that a person is attempting to introduce firearms, explosives, incendiary devices or other unauthorized material into the protected area, the person is given a physical pat-down search. When the metal and/or explosives detectors are not in service and operating in accordance with equipment test standards, physical pat-down searches are performed."

Contrary to the above, on August 26, 1996, a contractor employee entering the protected area caused two portal metal detectors to alarm on three different attempts to pass through them, and although these alarms provided reasonable cause to suspect that the contractor was attempting to introduce firearms, explosives, incendiary devices or other unauthorized material into the protected area, no physical pat-down search was performed, and the contractor was given his photobadge-keycard and entered the protected area. (02013)

2. The PSE&G Salem - Hope Creek Security Contingency Plan, Revision 4, dated February 12, 1996, states, in part, in Section 8.1.3.2, that it will be assumed that a security threat exists until it is known otherwise. Section 8.1.4 of the Contingency Plan defines an intruder as a person present in a protected or vital area without authorization. Section 8.3.2.6 of the Contingency Plan states that in the event of discovery of intruders or attack, notify the Senior Nuclear Shift Supervisor (SNSS) of implementation of Contingency Event 5 (Discovery of Intruders), provide a concise situation report, and request SNSS to classify the event per the Event Classification Guide in Section 16.

Contrary to the above, on August 26, 1996, a contractor who had alarmed the two portal metal detectors on three occasions, entered the protected area without receiving a pat-down search, was not authorized to enter the protected area without having received a search, and, therefore, should have been assumed to be an intruder and security threat until it was known otherwise; however, the SNSS was not notified of the threat, and the event was not classified per Event Classification Guide 16. (02023)

This is a Severity Level III problem (Supplement III).
Civil Penalty - \$50,000.

II. VIOLATIONS NOT ASSESSED A CIVIL PENALTY

- A. License Condition 2.E of License Number NPF-57 for the Hope Creek facility, and License Conditions 2.E of License Numbers DPR-70 and DPR-75 for Salem, require that PSE&G fully implement and maintain in effect all provisions of the physical security, guard training and qualification, and safeguards contingency plans approved by the Commission and all amendments and revisions to such plans made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p).

1. The PSE&G Salem - Hope Creek Security Plan, Revision 7, dated June 19, 1996, states, in part, in the Introduction Section that the implementing documents of this plan are the Security Plan Procedures and Post Orders. Security Plan Procedure 4, Revision 3, dated November 1, 1994, states, in Section 4.13, that when a person granted unescorted access terminates employment or no longer requires access to the site Protected Area, the cognizant department shall notify the Screening Supervisor within two working days, and the Screening Supervisor ensures that the administrative actions required to inactivate the security photobadge and personnel access clearance are accomplished.

Contrary to the above, the Screening Supervisor was not notified within two working days that 12 employees had been terminated in June and July 1996. Specifically, notification of five employees that were terminated in June 1996 was not made until the 31-day revalidation list was issued in July 1996, and notification of seven employees that were terminated in July 1996 was not made until the 31-day revalidation list was issued in August 1996. (03014)

This is a Severity Level IV Violation (Supplement III).

2. The PSE&G Salem - Hope Creek Security Training and Qualification Plan, Revision 3, dated February 12, 1996, Section 3.3, states, in part that, the qualification matrix identifies the courses of instruction by job classification, which each person shall pass in order to qualify for performance of related security duties. Section 3.8, titled, Supervisory Training, states that supervisors are required to qualify in all security force tasks.

Critical Security Task No. 5, titled, "Conduct Patrols," states, in Element 05-A, that the examinee will demonstrate knowledge of the site by responding correctly to the location of several protected and vital area alarms.

Contrary to the above, on August 20, 1996, the inspectors determined by a review of training records and shift activity logs, that two supervisory personnel were performing Field Operations Supervisor duties prior to qualifying on all of the required critical security tasks for the performance of their related security duties. Specifically, the supervisors were signed off as qualified supervisors by the security training department and given a 90-day period to complete Element 05-A. However, during the 90-day period, the supervisors were assigned independent Field Operations Supervisor duties, to include contingency response coordination, requiring extensive knowledge of the protected and vital area alarm locations. (04014)

This is a Severity Level IV Violation (Supplement III).

3. The PSE&G Salem - Hope Creek Security Plan, Revision 7, dated June 1996, states, in part, in the Introduction Section, that the implementing documents of this plan are the Security Plan Procedures and Post Orders. Security Plan Procedure 8, Vehicle Access Control, Revision 8, dated February 28, 1996, requires, in part, in Section 10, Use of Crane Gate, that the Security Shift Supervisor/designee direct that the zone be crawl tested after the vehicle passes and prior to securing the patrol. This procedure further states, that the security force member (SFM) No. 1 shall remain posted at the gate until the zone passes the crawl test.

Contrary to the above, on June 5, 1996, a vehicle passed through the Crane Gate, and a crawl test was not conducted prior to SFM 1 being released from the post. (05014)

This is a Severity Level IV Violation (Supplement III).

Pursuant to the provisions of 10 CFR 2.201, Public Service Electric and Gas Company (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalties (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved.

If an adequate reply is not received within the time specified in this Notice, an Order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalties by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the cumulative amount of the civil penalties, or may protest imposition of the civil penalties in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalties will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalties, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation(s) listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalties should not be imposed. In addition to protesting the civil penalties in whole or in part, such answer may request remission or mitigation of the penalties.

In requesting mitigation of the proposed penalties, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalties.

Upon failure to pay any civil penalties due that subsequently have been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalties, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalties, and Answer to a Notice of Violation) should be addressed to: James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region I, and a copy to the NRC Senior Resident Inspector at the facility that is the subject of this Notice.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR. If redactions are required, a proprietary version containing brackets placed around the proprietary, privacy, and/or safeguards information should be submitted. In addition, a non-proprietary version with the information in the brackets redacted should be submitted to be placed in the PDR.

Dated at King of Prussia, Pennsylvania
this 11th day of December 1996

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
476 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1416

December 13, 1996

EA 96-282

Dr. Robert C. Mecredy
Vice President, Ginna Nuclear Production
Rochester Gas and Electric Corporation
89 East Avenue
Rochester, New York 14649

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$100,000 (NRC Inspection Report No. 50-244/96-08)

Dear Dr. Mecredy:

This letter refers to the NRC special inspection conducted on July 22-26, 1996, and August 6-9, 1996, at the Ginna Nuclear Power Station, for which exit meetings were conducted on August 9, and October 4, 1996. The purpose of this inspection was to independently evaluate your Motor Operated Valve (MOV) program procedures, calculations, and test results (associated with NRC Generic Letter (GL) 89-10, "Safety-Related Motor Operated Valve Testing and Surveillance") that you had completed in July 1995. Based on the inspection, violations of NRC requirements were identified, as described in the inspection report that was sent to you on October 25, 1996. On November 13, 1996, a predecisional enforcement conference was conducted with you and members of your staff to discuss the apparent violations identified during the inspection, their causes, and your corrective actions.

Based on our review of the inspection findings, and information provided during the conference, two violations are being cited and are described in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice). The violations involve the failure to adequately validate design inputs for the Residual Heat Removal (RHR) system core deluge valves, as well as the failure to adequately correct this condition following its identification. An outdated and unjustified 0.3 valve factor (a friction coefficient used in predicting operating thrust requirements) was assumed when calculating the performance capability of those valves. As a result, you failed to identify that the valve motor actuators were undersized, and you also failed to adequately verify that the valves would operate under design basis conditions. Further, although opportunities existed to identify and correct this condition adverse to quality sooner, you failed to do so.

The RHR core deluge valves are normally closed, 8-inch, Velan flex wedge gate valves located in the containment structure in two parallel lines that discharge into the reactor vessel. The valves are required to open upon receipt of a safety injection signal to allow the injection of water from the RHR system into the reactor vessel. The valves also serve a pressure isolation function as one of the two pressure barriers between the 2235 pounds per square inch (psi) reactor coolant system and the 600 psi-rated RHR system. Failure of these two valves to operate, when needed, would significantly degrade the ability of the

low pressure Emergency Core Cooling System to meet the core cooling requirements outlined in 10 CFR Part 50, Appendix K. By using the 0.3 valve factor in your calculations of the thrust requirements for those valves, as part of your analysis in response to Generic Letter 89-10, you did not assure that the valves were capable of performing their intended safety function.

The NRC believes that prior opportunities existed to identify and correct this condition, and to perform appropriate analysis of the valves' capabilities. For example, in April 1995, prior to June 28, 1995 (the date you committed to complete your Generic Letter 89-10 program), the NRC conducted an inspection of your MOV program. At that time, the NRC inspectors informed your staff that the design inputs for the core deluge valves needed to be justified (as noted in NRC Inspection Report 95-06) because the 0.3 valve factor being used in the calculations was unusually low compared to similar valves in the industry. Notwithstanding that prior notice, you did not adequately validate the valve design inputs, even though in-situ test results of similar MOVs at Ginna suggested valve factors as high as 0.57. Rather than consider how those test results could affect the core deluge valves, you continued to use the outdated 0.3 valve factor contained in your engineering procedures as a basis for determining that the valves would operate as intended.

In addition, when statically retesting the core deluge valves after maintenance during the April 1996 refueling outage, you identified that the valves had inadequate margin under design conditions. Specifically, you found that the amount of thrust developed in the motor actuators for these valves under degraded voltage conditions was significantly less than the amount needed to open the valves. Despite the obvious discrepancy between the required and available thrust values, you considered both RHR core deluge valves to be operable based on a 1993 "stall test" performed on one of the valves at 100% voltage which indicated that valve would develop more thrust than required. However, this conclusion was inappropriate because the stall test has not been demonstrated to be an accurate prediction of valve performance under fluid flow and degraded voltage conditions.

Notwithstanding these prior indications raising questions regarding the operability of the core deluge valves under design basis conditions, appropriate action was not taken until the NRC performed a more recent Generic Letter 89-10 MOV closeout inspection. Independent NRC calculations performed for the RHR core deluge valves indicated the valve motor actuators were undersized. As a result, you shut down the plant on August 3, 1996, and modified the valves, increasing the thrust capability.

Subsequent to the inspection, you conducted significant additional testing and re-analyses of the valves and concluded that the valves were, in fact, operable prior to the modifications in August 1996. You noted at the enforcement conference that this conclusion was based on considerable reanalysis and testing of the valves' capabilities. For example, dynamometer testing of the previously installed motors was recently performed, and this testing demonstrated a motor output capability in excess of the design rating. In addition, in-situ testing indicated that, at this time, the actual stem friction coefficients for these valves were lower than previously assumed. After factoring these

empirical findings and other more realistic assumptions into your calculations, including re-analysis of the dynamic design pressures during an accident scenario, you concluded that these valves were capable of opening in a design basis condition. Notwithstanding your contentions, the NRC maintains that uncertainty exists as to whether these valves would have opened in a design basis event prior to the modifications made after your shutdown in August 1996, although further NRC review is not warranted since the modifications have been completed.

In any case, the NRC is concerned that you had not performed an adequate analysis and verification of the valves' capabilities prior to August 1996, despite the indications, as noted herein, that improved analysis was warranted. Given the regulatory significance and duration of these problems, and the significant impact on plant safety if these valves would not function as intended, the violations described in the Notice have been categorized in the aggregate as a Severity Level III problem in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600. These findings demonstrate the importance of management taking appropriate action to assure that (1) design inputs for safety-related components are adequately analyzed, and appropriately verified; and (2) indications of adverse conditions, including inadequate analysis, are promptly identified and corrected.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III violation or problem. Your facility has been the subject of escalated enforcement action within the last two years (namely, a Severity Level III violation without a civil penalty was issued on January 13, 1995, for violations of 10 CFR Part 26 (EA 94-254). Therefore, the NRC considered whether credit was warranted for *Identification and Corrective Action* in accordance with the civil penalty assessment process in Section V1.B.2 of the Enforcement Policy. Credit is not warranted for *Identification* because the violations were identified by the NRC. Credit is warranted for *Corrective Actions* because your corrective actions, once the violations were identified by the NRC, were considered prompt and comprehensive. These actions, which were discussed during your presentation at the conference, include, but are not limited to: (1) with respect to the specific core deluge valves, replacement of the motor, changing of the gear ratio, and plans to drill the wedges during the 1999 full core offload; (2) verifying that the design inputs for the remaining valves in the Generic Letter 89-10 program were valid; (3) modifications to other MOVs in the Generic Letter 89-10 program during the current outage, including, as needed, drilling of discs, change out of motors, rebuilding of actuators, and changing of gear ratios; (4) revision to the Generic Letter 89-10 program manual to ensure that expectations concerning MOV testing are fully understood and testing is performed in a consistent manner; (5) training of your engineering staff to ensure more critical assessments of your design inputs; and (6) evaluation of Quality Assurance oversight of the MOV program.

Therefore, to emphasize the importance of proper analysis of design inputs, and prompt correction of adverse conditions, and in accordance with the civil penalty assessment process, a base civil penalty in the amount of \$50,000 would normally be issued in this case. However, I have been authorized, after consultation with the Director, Office of

Enforcement, and the Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research, to exercise discretion and increase the civil penalty amount to \$100,000 in this case. The NRC is taking this discretionary action because of: (1) the fact that the condition existed for an extended duration, with prior opportunities for identification of the problem; and (2) the unacceptability of your staff not taking appropriate steps to verify adequate design margin for the valves, given the importance of the RHR core deluge valves to plant safety and despite the NRC questioning the validity of using a 0.3 valve factor in April 1995, which demonstrated that there was substantial uncertainty with respect to the valves' operability.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. In your response, you should also address your actions to ensure that opportunities to identify existing problems are promptly recognized so that appropriate corrective actions are taken. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,

Hubert J. Miller
Regional Administrator

Docket No. 50-244
License No. DPR-18

Enclosure: Notice of Violation and Proposed Imposition of
Civil Penalty

cc w/encl:

R. Smith, Senior Vice President, Customer Operations
Central Records (7 Copies)

P. Eddy, Director, Electric Division, Department of Public Service, State of New York
State of New York, Department of Law

N. Reynolds, Esquire

F. William Valentino, President, New York State Energy Research and Development
Authority

J. Spath, Program Director, New York State Energy Research and Development Authority

**NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY**

Rochester Gas and Electric Corporation
Ginna Nuclear Power Station
Rochester, New York

Docket No. 50-244
License No. DPR-18
EA 96-282

During an NRC inspection conducted from July 22-26, 1996, and August 6-9, 1996, for which exit meetings were conducted on August 9, 1996, and October 4, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the Nuclear Regulatory Commission proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

- A. 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures shall be established to assure that applicable regulatory requirements and design basis are correctly translated into specifications, drawings, procedures, and instructions, and shall provide for verifying and checking the adequacy of design, such as by the performance of design reviews, by alternate or simplified calculational methods, or by performance of a suitable testing program.

RG&E Engineering Procedure 3-P-121, Design Criteria, Revision 0, dated November 2, 1994, states, in part, in Section 3.2, that "...design inputs shall be specified and approved on a timely basis and to the level of detail necessary to permit the design activity to be carried out in a correct manner and to provide a consistent basis for making design decisions, accomplishing design verification measures, and evaluating design changes."

Contrary to the above, from June 28, 1995 (the date by which that the licensee committed to complete its Generic Letter 89-10 program), until August 3, 1996, design inputs for the Residual Heat Removal (RHR) Core Deluge Motor Operated Valves (MOVs) 852A and 852B were not adequately specified and approved to the level of detail necessary to permit the design activity for these valves to be carried out in a correct manner, and to provide a consistent basis for making design decisions and accomplishing design verification measures. The thrust requirements for the RHR core deluge valves, used to evaluate the performance of the MOVs, were not adequately validated; specifically, an outdated and unjustified 0.3 valve factor was assumed. This valve factor was unjustified because it was lower than valve factors issued for similar MOVs at Ginna and in the industry. As a result, the licensee did not adequately assure that the valves would operate under design basis conditions.

- B. 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management.

Contrary to the above, prior to August 3, 1996, measures were not established to assure that certain conditions adverse to quality were promptly identified and corrected. Specifically,

1. During an NRC inspection in March-April 1996, prior to the licensee's completion of its Generic Letter 89-10 program, the NRC informed the licensee that the design inputs for core deluge valves 852A and 852B needed to be justified because the assumed valve factor of 0.3 was unusually low and had no recognized technical basis when compared to similar valves in the industry and at Ginna. Although the use of this valve factor constituted a significant condition adverse to quality, the licensee had not taken measures to assure, prior to the time of its shutdown of the reactor in August 1996, that the 0.3 valve factor accurately predicted performance of the valves.
2. When statically retesting the core deluge valves after maintenance during the Spring 1996 refuel outage, the licensee identified that the valves may not open when subject to degraded voltage, at 89% and 70% of nominal bus voltage respectively. Although the licensee had previously determined that the more limiting case (MOV 852A) would require 20,943 lbs of thrust to open, assuming a valve factor of 0.30, the licensee estimated that MOV 852A would develop only 11,845 lbs of thrust and documented these findings in its Action Reports (ARs) 96-0320 and 96-0338. However, despite this discrepancy, the licensee did not take appropriate corrective action; rather the licensee considered both RHR core deluge valves to be operable based on a single 1993 "stall test" performed on MOV 852A at 100% voltage. The stall test did not provide adequate assurance that the RHR core deluge valves could perform their safety function.

These violations are categorized in the aggregate as a Severity Level III problem (Supplement II).

Civil Penalty - \$100,000

Pursuant to the provisions of 10 CFR 2.201, Rochester Gas and Electric Corporation (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should

be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an Order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or may protest imposition of the civil penalty, in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation(s) listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due that subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region I, and a copy to the NRC Senior Resident Inspector at the facility that is the subject of this Notice.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR. If redactions are required, a proprietary version containing brackets placed around the proprietary, privacy, and/or safeguards information should be submitted. In addition, a non-proprietary version with the information in the brackets redacted should be submitted to be placed in the PDR.

Dated at King of Prussia, Pennsylvania
this 2nd day of December 1996

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0198

January 13, 1997

EA 95-199

Tennessee Valley Authority
ATTN: Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$100,000
(NRC Office of Investigation Report No. 2-93-015 and Department of
Labor Administrative Law Judge Recommended Decision and Order,
dated July 31, 1996)

Dear Mr. Kingsley:

This refers to the investigation conducted by the Nuclear Regulatory Commission (NRC) Office of Investigations (OI) during the period July 7, 1994, through August 31, 1995, and the Department of Labor (DOL) Recommended Decision and Order (RDO) issued on July 31, 1996, in DOL Case No. 94-ERA-24 William F. Jocher v. Tennessee Valley Authority (TVA). Both the NRC investigation and the DOL Administrative Law Judge (ALJ) concluded that TVA discriminated against Mr. Jocher, the former Manager, Chemistry and Environmental Protection in the corporate organization and a former Chemistry Manager at the Sequoyah Nuclear Plant, when he was forced to resign under threat of termination on April 5, 1993, because he had engaged in protected activities. Mr. Jocher's protected activities were primarily associated with operations at the Sequoyah Nuclear Plant and included: (1) raising questions about the licensee's ability to acquire a timely sample from the post-accident sampling system, (2) voicing concerns regarding the operation of on-line chemistry instrumentation, and (3) questioning the accuracy of training commitments associated with the chemical traffic control program.

In a letter dated August 16, 1996, the NRC discussed the apparent violation and requested that TVA attend a predecisional enforcement conference. By letter dated August 27, 1996, TVA declined the opportunity to participate in a conference and committed to provide a written response to the apparent violation by September 26, 1996. Based on TVA's declination of a conference and NRC's need to acquire additional information prior to making a final enforcement decision in the case, the NRC, by letter of September 10, 1996, requested TVA to respond to five specific questions pursuant to 10 CFR 50.54(f). By letter dated September 25, 1996, TVA provided its response and set forth its position on the apparent violation, described its assessment of the current work environment at TVA, and delineated the

corrective actions implemented in response to Mr. Jocher's employment action. We have reviewed this response, the DOL decision, and OI investigation findings in this case and have concluded that sufficient information is available to determine the appropriate enforcement action in this matter.

Based on the information developed in this case, the NRC has determined that a violation of NRC requirements occurred. The violation is cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) and involves the failure of TVA to adhere to the requirements of 10 CFR 50.7 Employee Protection, which prohibits discrimination against employees for engaging in protected activities. In its response of September 25, 1996, TVA stated that mistakes were made by TVA personnel who failed to follow appropriate personnel practices with respect to Mr. Jocher's resignation; however, TVA denied that a violation of Section 211 of the Energy Reorganization Act or 10 CFR 50.7 occurred. Despite TVA's denial, it is our view, based on a review of the decision of the DOL ALJ and the evidence gathered by the NRC's independent investigation, that the facts support the conclusions that Mr. Jocher's involvement in protected activities was a factor in the adverse employment action taken against him and that TVA violated the regulations applicable to employee protection as stated above.

The violation is of very significant regulatory concern because it involved an act of employee discrimination by a senior corporate manager. Although discrimination by any licensee employee is of concern, discrimination by a senior official, in this case the Vice President of Nuclear Operations, cannot be tolerated. The sphere of influence of such an individual is significant and the impact of discrimination committed at this level has the potential to affect the environment throughout the company. The NRC places a high value on the freedom of nuclear industry employees to raise potential safety concerns to licensee management or to the NRC. The Energy Reorganization Act and 10 CFR 50.7 establish strict requirements for the protection of employees against discrimination for raising nuclear safety issues, and the NRC Enforcement Policy calls for significant enforcement action in cases where senior corporate management violate these requirements. Therefore, this violation has been categorized in accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, at Severity Level I.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$100,000 is considered for a Severity Level I violation. In this case, the NRC considered whether credit was warranted for *Identification and Corrective Action* in accordance with the civil penalty assessment process in Section VI B 2 of the Enforcement Policy. The NRC determined that credit for *Identification* was not appropriate because the violation was identified by the DOL and NRC OI, not by the licensee. In TVA's letter of September 25, 1996, the violation was denied, however, a description of the actions taken to improve the work environment as well as those initiated in response to this case were provided. These actions included (1) additional training and guidance for senior managers in the proper handling of personnel matters, (2) institution of a leadership development program for managers and supervisors at the Sequoyah Plant in March 1996, (3) initiation of efforts to

comply with the ALJ's RDO and/or to resolve the case to avoid further litigation: (4) issuance of an August 7, 1996, communication to all TVA employees emphasizing open communications and transmittal of specific guidance concerning this topic to senior managers on August 14, 1996; and (5) issuance of letters of reprimand following the DOL ALJ decision to the officer and the other managers involved in this case for failure to follow personnel practices.

Notwithstanding the actions mentioned above, the NRC has determined that credit is not warranted for the factor of *Corrective Action* in that the corrective action implemented in response to Mr. Jocher's case addressed the root cause identified by TVA (i.e., the failure to adhere to personnel practices) rather than discrimination. In addition, the actions taken were not timely. Specifically, the actions implemented in response to Mr. Jocher's case were not taken until after the ALJ's decision was issued on July 31, 1996, when in fact, TVA was put on notice of the discrimination finding much earlier by the DOL District Director's Decision issued on April 29, 1994, and the conclusions of the OI investigation transmitted to TVA by NRC letter dated November 9, 1995. Your failure to comply with the remedy prescribed by the DOL District Director does not lead the NRC to conclude that timely and comprehensive corrective action was taken in this case.

Based on the severity level of the violation and NRC's determinations regarding *Identification* and *Corrective Action*, a civil penalty in an amount twice the base would normally be assessed. However, consistent with Section 234 of the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2282, the maximum civil penalty for a single violation, at the time of this violation, may not exceed \$100,000 per day. Therefore, to emphasize the importance of ensuring that employees who raise real or perceived safety concerns are not subject to discrimination for raising those concerns and that every effort is made to provide an environment in which all employees may freely identify safety issues without fear of retaliation or discrimination, I have been authorized, after consultation with the Commission to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty in the maximum amount of \$100,000 for the Severity Level I violation.

In addition, you should be aware that an Order was also issued to the senior corporate officer responsible for the discrimination in this case prohibiting his involvement in NRC-licensed activities for a period of five years. However, the Order is retroactive to May 1, 1993, the general time period in which he was transferred out of TVA-Nuclear to a non-nuclear position, and will be effective until April 30, 1998.

The NRC has concluded that information regarding TVA's position on the violation and the corrective actions taken and planned is addressed on the docket in the licensee's letter to NRC, dated September 25, 1996. Therefore, TVA is not required to respond to the Notice as required by 10 CFR 2.201

unless the description therein does not accurately reflect TVA's corrective actions or position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and any response you may provide will be placed in the NRC Public Document Room (PDR).

Sincerely,

Luis A. Reyes
Regional Administrator

Docket Nos. 50-327, 50-328
License Nos. DPR-77, DPR-79

Enclosure: Notice of Violation and Proposed
Imposition of Civil Penalty

cc w/encl:
O. J. Zeringue, Senior Vice President
Nuclear Operations
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Dr. Mark O. Medford, Vice President
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1101 Market Street
Chattanooga, TN 37402-2801

R. J. Adney
Site Vice President
Sequoyah Nuclear Plant
Tennessee Valley Authority
P. O. Box 2000
Soddy-Daisy, TN 37379

cc w/encl: (Cont'd on Page 5)

cc w/encl (Cont'd):
General Counsel
Tennessee Valley Authority
ET 10H
400 West Summit Hill Drive
Knoxville, TN 37902

Raul Baron, General Manager
Nuclear Assurance and Licensing
Tennessee Valley Authority
4J Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

Pedro Salas, Manager
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Ralph H. Shell, Manager
Licensing and Industry Affairs
Sequoyah Nuclear Plant
P. O. Box 2000
Soddy-Daisy, TN 37379

Michael H. Mobley, Director
Division of Radiological Health
3rd Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

County Executive
Hamilton County Courthouse
Chattanooga, TN 37402

Mr. William F. Jocher
133 Gholdston Drive
Dayton, TN 37321

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Tennessee Valley Authority
Sequoyah Nuclear Plant

Docket Nos. 50-327 and 50-328
License Nos. DPR-77 and DPR-79
EA 95-199

As the result of the Nuclear Regulatory Commission (NRC) staff's review of the NRC Office of Investigations investigation completed on August 31, 1995, and a Department of Labor (DOL) Administrative Law Judge (ALJ) Recommended Decision and Order (RDO) issued on July 31, 1996, in DOL Case No. 94-ERA-24, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violation and associated civil penalty are set forth below:

10 CFR 50.7 prohibits discrimination by a Commission licensee against an employee for engaging in certain protected activities. Discrimination includes discharge or other actions relating to the compensation, terms, conditions, and privileges of employment. The activities which are protected include, but are not limited to, the reporting of safety concerns by an employee to his employer or the NRC.

Contrary to the above, Tennessee Valley Authority (TVA), through the actions of the former Vice President of Nuclear Operations, discriminated against a management employee, who was a former corporate Manager, Chemistry and Environmental Protection and Chemistry Manager at the Sequoyah Nuclear Plant, for engaging in protected activities. Specifically, as determined by DOL and the NRC Office of Investigations, on April 5, 1993, TVA forced the resignation of Mr. William F. Jocher because he engaged in the identification of deficiencies in the chemistry program and inconsistencies in TVA reports to the NRC and other oversight groups related to activities at the Sequoyah Nuclear Power Plant. (01011)

This is a Severity Level I Violation (Supplement VII).
Civil Penalty - \$100,000

The NRC has concluded that information regarding TVA's (licensee) position on the violation and the corrective actions taken and planned is addressed on the docket in the licensee's letter to NRC, dated September 25, 1996. However, the licensee may submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect the corrective actions or the licensee's position. In that case, or if TVA chooses to respond, the response should be marked clearly as a "Reply to a Notice of Violation," and sent to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D. C. 20555 with a copy to the Regional Administrator, Region II and the Resident Inspector at Sequoyah Nuclear Plant within 30 days of the date of the letter transmitting this Notice of Violation. Any such response shall be under oath or affirmation.

The licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may (1) deny the violation listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to Mr. James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region II, and a copy to the NRC Resident Inspector at the Sequoyah Nuclear Plant.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding).

confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Atlanta, Georgia
this 13th day of January 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARHETTA STREET, N.W., SUITE 2800
ATLANTA, GEORGIA 30323-0198

November 19, 1996

EA 96-269

Tennessee Valley Authority
ATTN: Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$50,000 (NRC INSPECTION REPORT NOS. 50-327 AND 50-328/96-10)

Dear Mr. Kingsley:

This refers to the inspection conducted during the period July 8 through August 22, 1996, at your Sequoyah Nuclear Plant. The inspection included a review of the fire protection program and associated corrective actions previously identified by the Nuclear Regulatory Commission (NRC) and Tennessee Valley Authority's (TVA's) Quality Assurance (QA) organization. The results of this inspection were sent to you by letter dated September 27, 1996. A closed, predecisional enforcement conference was conducted in the Region II office on October 24, 1996, with members of your staff to discuss the apparent violations, the root causes, and corrective actions to preclude recurrence. A list of conference attendees, NRC slides, and a copy of TVA's presentation materials are enclosed. Prior to the conference, TVA provided, in a letter dated October 18, 1996, its views on the application of the Enforcement Policy to this case. Subsequently, on October 31, 1996, TVA submitted the supplemental information requested by the NRC at the predecisional enforcement conference.

Based on the information developed during the inspection, the information that was provided during the conference, and TVA's letter of October 31, 1996, the NRC has determined that violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) and the circumstances surrounding them are described in detail in the subject inspection report.

Violation A involved three examples of TVA's failure to promptly resolve adverse conditions related to the fire protection program at Sequoyah. Specifically, the first example addresses fire protection program discrepancies which were identified by your QA organization during 1992, 1994, and 1995, for which corrective actions have yet to be completed. The second example addresses numerous fire dampers that did not comply with the vendor's design and installation requirements. Although this issue was identified in 1993, it has yet to be fully resolved. The final example relates to the continuing failure to control combustibles and transient fire loads in the

plant in accordance with procedure requirements, including expired transient fire load permits and lack of engineering analyses and approval of the Site Fire Protection Engineer to support continued storage of transient combustibles

Violation B involves the inoperability of the carbon dioxide (CO₂) system for the plant computer room. This system was rendered inoperable in May 1990 during modifications to the Control Building HVAC system which added penetrations to the room but failed to equip the penetrations with fire dampers designed to close and isolate the room upon actuation of the CO₂ system. Although an hourly fire watch patrol has been established to comply with Technical Specification (TS) requirements, the system remains out of service. Violation C involves your failure to perform the required 18-month surveillances for the Auxiliary Building penetrations in high radiation areas. Violation D involves your failure to demonstrate the operability of fire hose stations in the reactor buildings due to the failure to hydrostatically test fire hoses at these locations. This latter violation was attributable to the failure of TVA's Surveillance Procedure Nos. 1/2-SI-FPU-025-191.R, Fire Hose Inspections, to assure that the fire hose for these locations had been hydrostatically tested as required by TSs

At the conference, you identified the overall root cause of these violations as ineffective management involvement in the fire protection program and a lack of ownership for the program due to the division of responsibilities between various onsite groups. In addition, you stated that the TVA QA program failed to promptly recognize the collective significance of the issues being identified and to raise this concern to the appropriate levels of management in order to achieve resolution

Although compensatory measures, in the form of fire watches are in place to assure compliance with TSs, collectively, the violations are of significant regulatory concern because they represent a significant lack of attention and priority to the overall fire protection program. Specifically, the violations are associated with long standing fire protection issues of which TVA was aware, but, due to a lack of management prioritization, they have not been corrected in a timely manner. In addition, the use of fire watch patrols, such as those being implemented at Sequoyah, are required by the NRC as interim, short-term compensatory measures until degraded fire protection features can be repaired or replaced. Sequoyah's practice of routinely using fire watch patrols in lieu of correcting fire protection deficiencies in a timely manner is not consistent with NRC policy or expectations and compromises the design objective of defense in depth. As a consequence, the fire protection program at Sequoyah has not been fully effective, resulting in the plant's safety related components being more vulnerable to potential fire exposure or damage in the event of a fire. Further, the violations are of concern because the lack of centralization of responsibility for the fire protection program should have been identified earlier, specifically, during your previous organizational reviews conducted earlier in the 1990's. Therefore, these violations are classified in the aggregate in accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III problem. Because your facility has been the subject of escalated enforcement actions within the last two years¹, the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process described in Section VI.B.2 of the Enforcement Policy. In this case, the NRC concluded that credit was warranted for *Identification* because TVA, in general, identified the issues to be corrected in this case. Regarding *Corrective Action*, at the conference and in TVA's October 31, 1996, letter, TVA stated that its actions included: (1) assignment of a new Fire Protection Manager on July 31, 1996; (2) conduct of a self-assessment of the fire protection program in September 1996; (3) revision of transient fire load procedures on August 16, 1996, and initiation of actions to reduce transient combustibles in the plant; (4) centralization of ownership of the fire protection program within the operations department; (5) weekly senior management involvement in fire protection program status; (6) establishment of schedules for completion of the remaining fire protection issues; (7) appropriate procedure revisions and personnel training for fire hose testing; and (8) inspection of the fire penetration barriers in high radiation areas and implementation of disciplinary actions against the responsible individuals. Based on the above, it appears that TVA's attention is now appropriately focused on this program area; however, NRC determined that credit for the factor of *Corrective Action* was not appropriate in that the actions were not timely. As discussed previously, many of these issues are longstanding, and licensee efforts to prioritize and correct the deficiencies have not been prompt.

Therefore, to emphasize the importance of management attention to and oversight of fire protection activities and the need for prompt corrective actions, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) in the base amount of \$50,000 for the Severity Level III problem.

Please be advised that the NRC did consider your October 18, 1996, letter in applying the Enforcement Policy in this case. However, based on the NRC's determinations related to *Identification* and *Corrective Actions*, Sequoyah's escalated enforcement history related to employee protection had no impact on the resultant proposed civil penalty.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will consider your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

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¹ A Severity Level II violation and proposed civil penalty of \$80,000 were issued on February 20, 1996 (EA 95-252) related to employee discrimination in Department of Labor Case Nos. 92-ERA-19 and 92-ERA-34.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,

Stewart D. Edner
Regional Administrator

Docket Nos. 50-327, 50-328
License Nos. DPR-77, DPR-79

Enclosures: 1. Notice of Violation and Proposed
Imposition of Civil Penalty
2. Conference Attendees
3. NRC Presentation Materials
4. Licensee Presentation Materials

cc w/encs:

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R. J. Adney
Site Vice President
Sequoyah Nuclear Plant
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P. O. Box 2000
Soddy-Daisy, TN 37379

General Counsel
Tennessee Valley Authority
ET 10H
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cc w/encs: (Cont'd on Page 5)

cc w/enc's (Cont'd):
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Michael H. Mobley, Director
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401 Church Street
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County Executive
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NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Tennessee Valley Authority
Sequoyah Nuclear Plant

Docket Nos 50-327 and 50-328
License Nos DPR-77 and DPR-79
EA 96-269

During an NRC inspection conducted during the period July 8 through August 22, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954 as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below

- A Technical Specification (TS) 6.8.1.f provides that written procedures shall be established, implemented and maintained covering the Fire Protection Program

Tennessee Valley Authority's (TVA) Nuclear Quality Assurance Plan (NAQP), TVA-NQA-PL89-A provides a complete description of the quality assurance program for operation of the Sequoyah Nuclear Plant (Sequoyah). NAQP TVA-NQA-PL89-A Section 5.0 identifies the programs and features to which the NAQP applies. Section 5.0 B.6 lists fire protection as one of these programs.

NAQP, TVA-NQA-PL89-A, Section 10.2.2.B, Corrective Action for Adverse Conditions, requires, in part, that the TVA nuclear organizations and onsite non-TVA nuclear service organizations performing quality-related activities at nuclear facilities promptly identify and resolve adverse conditions.

Contrary to the above, adverse conditions related to the fire protection program were not promptly identified and/or resolved, in that:

1. Quality Assurance (QA) audits of the fire protection program, dated October 9, 1992, August 1, 1994, January 24, 1995, and July 14, 1995, identified discrepancies associated with inadequate implementation of the Sequoyah fire protection program, and corrective actions had not been implemented and/or completed to adequately address these discrepancies. Specifically,
  - a. Inadequate installation of emergency lighting and an inadequate program for preventive maintenance of the installed lighting units was identified during the 1992 QA audit, however, as of August 22, 1996, field testing of installed lighting and preventive maintenance procedure revisions to resolve this issue had not been completed.
  - b. Lack of a restoration program for approximately 1500 degraded fire barrier penetration seals was identified.

Enclosure 1

during the QA 1994 audit, however, as of August 22, 1996, no date had been proposed for the completion of any required modifications.

- c. Inadequate procedures for the evaluation and control of transient combustibles was identified during the 1994 QA audit; however, as of August 22, 1996, the applicable procedures had been revised but had not been effectively implemented. The issue associated with the storage of combustible materials was scheduled to be resolved by November 1996.
  - d. Inadequate design control of fire barrier penetration seals was identified during the 1994 QA audit. As of August 22, 1996, this issue had not been fully resolved and was scheduled for completion in late 1997.
  - e. Changes made to the plant without following the design change process (i.e., inadequate controls over plant modifications which affect the fire protection program) were identified during the 1995 QA audit. As of August 22, 1996, this issue was scheduled to be resolved by 1997.
  - f. Lack of testing of the backup fire suppression system for the cable spreading room since 1982 was identified by the 1995 QA audit. As corrective action, TVA planned to install a blind flange in this system and remove it from service; however, as of August 22, 1996, the design change package was scheduled to be issued September 15, 1996, but no schedule date was provided for completion of this modification.
2. From initial plant licensing until September 21, 1993, 326 fire barrier penetrations in Units 1 and 2 which provided fire rated separation between redundant safety related components were not functional as required by TS 3.7.12, Fire Barrier Penetrations. Specifically, on September 21, 1993, TVA determined that a number of fire dampers in Units 1 and 2 were not installed in accordance with the vendor's recommendations and were not functional. The required compensatory measures, which included an hourly fire watch, were implemented for these areas on September 21, 1993, and continue; however, as of August 22, 1996, final resolution of this issue was not scheduled until 1997.
  3. TVA's 1994 QA audit identified problems with the control of combustible and transient fire loads in the Elevation 669 Spare Room, yet two specific violations of transient fire load procedural requirements, contained in Procedure SSP-12.15, Fire Protection Plan, Appendix E, Procedure SSP-9.3, Plant

Modifications and Design Change Controls, and/or SSP-12.4, Temporary Alterations Control Program, continued as of July 8-12, 1996. Specifically:

- a. Transient Fire Load (TFL) Permit TFL-95-0254 was issued for the storage of 1100 pounds of clothing and 400 pounds of rubber/plastic radiation protective clothing on Elevation 690 between column lines A4 and A6 in the Auxiliary Building. This TFL permit expired on December 31, 1995, and a new permit had not been issued nor had an appropriate engineering analysis been performed, as required. This material was stored directly beneath electrical raceways containing safe shutdown related cables.
- b. The following permits issued for the spare room on Elevation 669 were issued for longer than six months, had not received approval by the Site Fire Protection Engineer, and had not received an engineering analysis to justify the change in occupancy:
  - (1). Permit TFL-95-0033 (high fire load), issued February 5, 1995, and extended to December 31, 1996;
  - (2). Permits TLC-96-0003 (no fire load indicated) issued January 1, 1996, with expiration date of December 31, 1996;
  - (3). Permit TFL-96-004 (medium fire load), issued January 1, 1996, with expiration date of December 31, 1996; and
  - (4). Permit TFL-96-0005 (no fire load indicated) issued January 1, 1996, with expiration date of December 31, 1996. (01013)

- B. TS 3.7.3. Carbon Dioxide (CO₂) Systems, requires that the computer room low pressure CO₂ system shall be operable whenever equipment protected by the CO₂ system is required to be OPERABLE. The computers in this room are required to support plant operations.

Contrary to the above, from May 1990 until December 18, 1995, the computer room low pressure CO₂ system was not operable when the computers within this room were required to be operable to support plant operations. Specifically, in May 1990, the heating ventilation air conditioning system for the Control Building was modified by the installation of duct penetrations which were not arranged with dampers to close and isolate the room upon actuation of the CO₂ system. The computer room CO₂ system was placed out of service in December 1995 and, as of August 22, 1996, remained out of service with an hourly fire watch patrol implemented to meet the compensatory requirements of the TS. (01023)

Notice of Violation and Proposed   4
Imposition of Civil Penalty

- C. TS 4.7.12.a. Fire Barrier Penetrations. Surveillance Requirements, provides that each of the required fire barrier penetrations shall be verified to be functional at least once per 18-months.

Contrary to the above, all fire barrier penetrations were not verified to be functional at least once per 18 months, in that the Auxiliary Building penetrations in high radiation areas were not included in the 18-month surveillances performed in March 1994 and August 1995. (01033)

- D. TS 4.7.11.4.c.2 states that each of the fire hose stations shown in Table 3.7-5 shall be demonstrated operable at least once per three years by conducting a hose hydrostatic test at a pressure of 150 pounds per square inch gauge (psig) or at least 50 psig above maximum fire main operating pressure, whichever is greater. The hose stations installed in the reactor buildings are included in Table 3.7-5.

Contrary to the above, between November 10, 1990, and February 15, 1996, the fire hoses installed in the hose stations in the reactor buildings were not demonstrated operable at least once per three years by conduct of hose hydrostatic tests, as required. (01043)

This is a Severity Level III Problem (Supplement 1).
Civil Penalty - \$50,000

Pursuant to the provisions of 10 CFR 2.201, the Tennessee Valley Authority (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with

Notice of Violation and Proposed   5
Imposition of Civil Penalty

a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalties, and Answer to a Notice of Violation) should be addressed to: Mr. James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region II and a copy to the NRC Resident Inspector at the Sequoyah Nuclear Plant.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding

Notice of Violation and Proposed
Imposition of Civil Penalty

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confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Atlanta, Georgia
this 19th day of November 1996

LIST OF PREDECISIONAL ENFORCEMENT CONFERENCE ATTENDEES
OCTOBER 24, 1996

Tennessee Valley Authority (TVA)

R. Adney, Vice President, Sequoyah Nuclear Plant (SQN)
M. Medford, Vice President, Engineering and Technical Support
R. Baron, General Manager, Nuclear Assurance and Licensing
E. Vigluicci, Senior Attorney, Office of General Counsel
J. Rupert, Engineering and Services Support Manager, SQN
W. Lagergren, Operations Manager, SQN
R. Shell, Manager, Licensing, SQN
M. Lorek, Mechanical Engineering Manager, SQN
M. Fecht, Nuclear Assurance and Licensing Manager, SQN
J. Lasey, Fire Protection Manager, SQN
K. Meade, Acting, Industry Affairs Manager, SQN
M. Salley, Senior Engineer, TVA-Nuclear

Nuclear Regulatory Commission

S. Ebner, Regional Administrator, Region II (RII)
J. Johnson, Deputy Director, Division of Reactor Projects (DRP), RII
A. Gibson, Director, Division of Reactor Safety (DRS), RII
C. Evans, Regional Counsel
M. Satorius, Deputy Director, Office of Enforcement*
F. Heddon, Director, Projects Directorate II-3, Office of Nuclear Reactor Regulation (NRR)
L. Marsh, Chief, Plant Systems Branch (PSB), NRR
R. Hernan, Project Manager, NRR
M. Lesser, Chief, Projects Branch 6, DRP, RII
P. Fredrickson, Chief, Special Inspection Branch, DRS, RII
P. Madden, Senior Fire Protection Engineer, PSB, NRR
W. Miller, Reactor Inspector, DRS, RII
A. Boland, Enforcement Specialist, Enforcement and Investigations Coordination Staff, RII

* Participated by Telephone

Enclosure 2

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20542-0001

EA 96-269

March 17, 1997

Tennessee Valley Authority
ATTN: Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: ORDER IMPOSING CIVIL MONETARY PENALTY - \$50,000

Dear Mr. Kingsley:

This refers to your letter dated December 19, 1996, in response to the Notice of Violation and Proposed Imposition of Civil Penalty (Notice) sent to you by our letter dated November 19, 1996. Our letter and Notice described four violations of NRC requirements identified during an inspection conducted during the period July 8 through August 22, 1996, at your Sequoyah Nuclear Plant. The results of the inspection were originally documented in Inspection Report Nos. 50-327 and 50-328/96-10 issued on September 27, 1996.

To emphasize the importance of management attention to, and oversight of, fire protection activities, as well as the need for prompt corrective actions, a Severity Level III problem and a civil penalty of \$50,000 was proposed in the November 19, 1996 letter.

In your response, you agreed that the violations occurred; however, you maintained that the NRC's categorization of the violations at Severity Level III with a proposed civil penalty of \$50,000 was inconsistent with the Enforcement Policy. You requested that the NRC reconsider the severity level of the violations and mitigate the associated civil penalty in its entirety.

After consideration of your response, we have concluded, for the reasons given in the Appendix attached to the enclosed Order Imposing Civil Monetary Penalty, that the violations, the severity level, and civil penalty associated with the Severity Level III problem should stand as proposed. Your response focused on the safety and regulatory significance of each of the violations taken individually, as well as the actions you have implemented in recent years in the area of fire protection. However, the bases for citing the violations collectively as a Severity Level III problem was the significant lack of attention and priority given to your fire protection program. In addition, the action was based on the significance of the violations taken collectively, not individually. While the NRC acknowledges some progress in improving the fire protection program at Sequoyah, the continuing lack of timely resolution of long-standing issues in the fire protection area indicates your actions have not been fully effective. Accordingly, we hereby serve the enclosed Order on Tennessee Valley Authority imposing a civil

monetary penalty in the amount of \$50,000. As provided in Section IV of the enclosed Order, payment should be made within 30 days of the date of this Order, by check, draft, money order, or electronic transfer, payable to the Treasurer of the United States and mailed to James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738. We will review the effectiveness of your corrective actions during subsequent inspections.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and the enclosure will be placed in the NRC's Public Document Room.

Sincerely,

Edward L. Jordan
Deputy Executive Director for
for Regulatory Effectiveness, Program
Oversight, Investigations and Enforcement

Docket Nos. 50-327, 50-328
License Nos. DPR-77, DPR-79

Enclosure: Order Imposing Monetary
Civil Penalty

cc w/encl:
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Site Vice President
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cc w/encl: (Con't)
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County Executive
Hamilton County Courthouse
Chattanooga, TN 37402

UNITED STATES
NUCLEAR REGULATORY COMMISSION

In the Matter of

TENNESSEE VALLEY AUTHORITY
Sequoyah Nuclear Plant
Units 1 and 2

}
}
}
} Docket Nos. 50-327 and 50-32
License Nos. DPR-77 and DPR-79
EA 96-269

ORDER IMPOSING CIVIL MONETARY PENALTY

1

Tennessee Valley Authority (Licensee) is the holder of Operating License Nos. DPR-77 and DPR-79 issued by the Nuclear Regulatory Commission (NRC or Commission) on September 17, 1980, and September 15, 1981, respectively. The licenses authorize the Licensee to operate the Sequoyah Nuclear Plant, Units 1 and 2 in accordance with the conditions specified therein.

11

An inspection of the Licensee's activities at the Sequoyah Nuclear Plant was conducted during the period of July 8 through August 22, 1996. The results of this inspection indicated that the Licensee had not conducted its activities in full compliance with NRC requirements. A written Notice of Violation and Proposed imposition of Civil Penalty (Notice) was served upon the Licensee by letter dated November 19, 1996. The Notice stated the nature of the violations, the provisions of the NRC's requirements that the Licensee had violated, and the amount of the civil penalty proposed for the violations.

The Licensee responded to the Notice in a letter dated December 19, 1996. In its response, the Licensee agreed that the violations occurred but contested NRC's application of the Enforcement Policy and requested the NRC to

reconsider its decision to categorize the violations as a Severity Level III problem and mitigate the proposed civil penalty in its entirety. The Licensee based its requests on the history of extensive activities it has undertaken to upgrade the Sequoyah fire protection program, the minimal safety and regulatory significance of the individual violations, and the corrective actions taken following identification.

III

After consideration of the Licensee's response and the statements of fact, explanation, and argument for mitigation contained therein, the NRC staff has determined, as set forth in the Appendix to this Order, that the violations occurred as stated and that the penalty proposed for the violations designated in the Notice should be imposed.

IV

In view of the foregoing and pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205, IT IS HEREBY ORDERED THAT:

The Licensee pay a civil penalty in the amount of \$50,000 within 30 days of the date of this Order, by check, draft, money order, or electronic transfer, payable to the Treasurer of the United States and mailed to

James Lieberman, Director, Office of Enforcement, U.S. Nuclear
Regulatory Commission, One White Flint North, 11555 Rockville Pike,
Rockville, MD 20852-2738.

Y

The Licensee may request a hearing within 30 days of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time must be made in writing to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and include a statement of good cause for the extension. A request for a hearing should be clearly marked as a "Request for an Enforcement Hearing" and shall be addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Commission's Document Control Desk, Washington, D.C. 20555. Copies also shall be sent to the Assistant General Counsel for Hearings and Enforcement at the same address and to the Regional Administrator, NRC Region II, 101 Marietta Street N. W., Suite 2900, Atlanta, Georgia 30323.

If a hearing is requested, the Commission will issue an Order designating the time and place of the hearing. If the Licensee fails to request a hearing within 30 days of the date of this Order (or if written approval of an extension of time in which to request a hearing has not been granted), the provisions of this Order shall be effective without further proceedings. If payment has not been made by that time, the matter may be referred to the Attorney General for collection.

In the event the Licensee requests a hearing as provided above, the issue to be considered at such hearing shall be:

Whether on the basis of the violations admitted by the Licensee, this Order should be sustained.

FOR THE NUCLEAR REGULATORY COMMISSION

Edward L. Jordan
Deputy Executive Director
for Regulatory Effectiveness, Program
Oversight, Investigations and Enforcement

Dated at Rockville, Maryland
this 17th day of March 1997

APPENDIX

EVALUATIONS AND CONCLUSION

On November 19, 1996, the NRC issued to Tennessee Valley Authority (Licensee or TVA) a Notice of Violation and Proposed Imposition of Civil Penalty (Notice) for four violations identified during an NRC inspection conducted during the period July 8 through August 22, 1996, at the Sequoyah Nuclear Plant. In its response dated December 19, 1996, the Licensee agreed that the violations occurred but stated that the NRC's categorization of the four individual violations as a Severity Level III problem, and proposed imposition of a \$50,000 civil penalty, was inconsistent with the NRC Enforcement Policy as it was applied. The Licensee requested the NRC to reconsider its decision regarding the severity level of the violations and mitigate the proposed civil penalty in its entirety. The NRC's evaluation and conclusion regarding the Licensee's requests are as follows:

Summary of Licensee's Request for Reduction in Severity Level

In its request for reconsideration of the severity level of the four violations comprising the Severity Level III problem, the Licensee maintained that (1) extensive activities have been taken to upgrade the Sequoyah fire protection program, (2) the actual and potential safety significance of the violations are minimal, (3) the regulatory significance of the violations should be assessed in the context of TVA's actions to improve its performance in this area, and (4) the use of fire watches at Sequoyah is consistent with NRC policy and regulatory requirements.

Regarding TVA's history of activities to upgrade the Sequoyah fire protection program, the Licensee maintained that beginning in 1991, it implemented a four-phase Fire Protection Improvement Plan (FPIP) to address important engineering items such as evaluating the hydraulic performance of the fire protection water system, updating the fire hazards analysis, and completing the fire protection report. Of the 63 items in the initial plan, 61 items had been completed. The two remaining items involved (1) replacing the fire pumps and upgrading the existing raw water fire protection system to a potable water system and (2) completing the evaluation of approximately 1,500 fire barrier penetration seals. These two items were scheduled to be completed in 1997. The Licensee stated that the NRC's Notice did not acknowledge the considerable resources expended on the upgrades to the fire protection program since 1991 which demonstrated both management's attention and that the overall fire protection program was being treated as a high priority item.

Second, the Licensee contended that the four violations had only minimal potential safety significance, and when considered either individually or in the aggregate, were not significant enough to constitute a Severity Level III problem. The Licensee's position on each of the violations is as follows:

Violation A:

This violation involved quality assurance (QA) findings for which the Licensee had delayed implementing corrective action. The Licensee addressed the actions taken on the QA findings related to 1,500 degraded fire barrier penetration seals (of the 24,500 penetrations inspected),

326 degraded fire dampers, and deviations from procedures for controlling transient fire loads. The Licensee considered that these violations were of minimal safety significance and of low regulatory significance due to the management attention that had been applied to the site's fire protection program since 1991. In particular, the Licensee stated that an evaluation of the 326 fire dampers found that only eight of the dampers required additional work. The Licensee concluded that the actions taken do not indicate a lack of management attention.

Violation B:

This violation involved an inoperable carbon dioxide system in the computer room which was scheduled to be repaired as part of the upgrade of the computer room. The Licensee stated that the minimal safety significance associated with this situation did not warrant rearranging priorities to perform part of the computer room upgrades out of sequence.

Violation C:

This violation involved the failure to perform a surveillance of fire barrier penetrations in high radiation areas. The Licensee stated that a subsequent review found these penetrations acceptable.

Violation D:

This violation involved the failure to hydrostatically test nine of 119 fire hoses. The Licensee stated that subsequent testing found these hoses to be capable of performing their intended function. The Licensee concluded that this violation involved limited procedural non-adherence which has traditionally not been the subject of escalated enforcement.

The Licensee concluded that the regulatory significance of the violations should be determined by considering the safety significance of the violations in context with the actions initiated by the Licensee to assure regulatory compliance and enhance performance in the fire protection area. The Licensee stated that the NRC has traditionally taken a much broader view in exercising discretion to tailor an enforcement action to the particular situation, and such an approach would be appropriate in this case given the minimal actual safety significance of the violations.

Lastly, the Licensee took exception to the NRC's letter of November 19, 1996, which stated that the use of fire watch patrols was intended for interim, short-term compensatory measures until degraded fire protection features can be repaired or replaced. The Licensee argued that the use of fire watch patrols for degraded fire protection features: (1) provides an acceptable level of safety; (2) is permitted by Technical Specifications without time limitations; (3) does not challenge the fire protection defense-in-depth concept; (4) restores the margin of safety that is lost with degraded conditions; (5) provides an acceptable substitute as opposed to an additional

level of protection; (6) does not increase the vulnerability of equipment to potential fire exposure or fire damage, and (7) does not violate NRC requirements. In summary, the Licensee stated that enforcement action should not be taken unless the reliance on fire watch patrols for degraded conditions could be shown to result in a violation of regulatory requirements.

NRC Evaluation of Licensee's Request for Reduction in Severity Level

In reviewing the Licensee's response, no additional information was provided that was not previously considered by the NRC in its deliberations regarding this matter.

Contrary to the Licensee's response, the NRC did consider the Licensee's past efforts to improve the Sequoyah fire protection program through the four-phase FPIP. Specifically, Section F1.3 of NRC Inspection Report No. 50-327, 328/96-10 acknowledged that the actions associated with the FPIP had enhanced the fire protection program. However, prior to issuance of the Notice that is the subject of this action, the NRC had also expressed various concerns with the adequacy of the fire protection program and corrective action on fire protection issues. These instances include: (1) the Systematic Assessment of Licensee Performance report dated February 21, 1995, which stated that "Correction of long-standing deficiencies in the material condition of the fire protection system was slow and management exhibited a tolerance for poor conditions;" (2) the July/August 1996 inspection documented in Inspection Report No. 50-327, 328/96-10, describing new problems and discrepancies identified as not receiving appropriate management attention for resolution; and (3) a February 1996 inspection, documented in Inspection Report No. 50-327, 328/96-02, which identified problems with the untimely implementation of portions of the FPIP, such as deferment of the construction of the upgrades to the fire protection water supply system until 1997, and also identified a violation involving the lack of adequate protective or preventive measures for the construction portions of the system.

As evidenced by the violations cited in the Notice and the specific circumstances surrounding them, as described in the inspection report, the NRC concluded that the Licensee's corrective actions associated with the fire protection program have not been fully effective in assuring timely resolution of long-standing issues as described below:

Violation A:

The violations included nine examples of inadequate or untimely corrective action for previously identified deficiencies. These included quality assurance (QA) findings, issues from the FPIP, and concerns identified following establishment of the FPIP. QA findings were identified as early as 1992, yet corrective action had not been completed at the time of the inspection. At the time of the July/August 1996 inspection, completion dates had not been established for several of the items and some items had completion dates extending into 1997. Other issues, such as the control of combustibles, evidenced the Licensee's inability to achieve compliance. The control of transient

combustibles was identified as an area of concern in QA audits, but ineffective corrective action resulted in repeated violations in 1996. In some instances, corrective actions for items identified since the 1991 FPIP had been developed, but were not being completed in a timely manner. For example, in September 1993, the Licensee initially identified 326 fire dampers which were not installed in accordance with the vendor's installation requirements. Further engineering evaluation and review reduced this number to eight, which the Licensee considered needing replacement. Although the evaluation which found 318 of these dampers to be satisfactory was completed in December 1994, the eight dampers identified for replacement were not scheduled to be replaced until 1997, even though the dampers are readily accessible for replacement during any mode of plant operation. The scheduled replacement of these dampers, in excess of two years after identification of the need for replacement, was considered a failure of the Licensee's management to place adequate emphasis on correcting deficiencies.

Violation B:

The inoperability of the carbon dioxide system in the computer room was identified by the Licensee in December 1995. This system had been inoperable since completion of a heating ventilation and air conditioning system modification in May 1990. Although surveillance tests were performed on this system in April 1991, August 1992, June 1994, and December 1995, they failed to identify this deficiency. Although the violation in itself has low safety significance, the combination of design oversight and an inadequate surveillance inspection and test program for this system, which should have identified this deficiency, is of concern and is another example of weak management oversight of the fire protection program.

Violation C:

The violation involving the failure to inspect the fire barrier penetrations in the high radiation areas was identified by the Licensee. The fact that subsequent inspections did not identify any problems with these penetrations is fortuitous. The root cause of this problem was considered to be an error on the part of personnel performing the procedure in conjunction with inadequate management oversight. Additionally, resolution of this issue had not been timely.

Violation D:

This violation, involving the failure to inspect the fire hose installed on the fire hose stations within the reactor buildings, was identified by the Licensee. The fact that subsequent inspections found the hydrostatic tests on only nine of the 119 fire hose sections to be out of date and that testing found the hoses to be capable of performing

their intended function is fortuitous. The cause of this problem was improper procedure revision, inadequate procedure review, and inadequate management oversight.

The NRC acknowledges the Licensee's position that individually these violations are of low safety significance. However, as stated in the Section IV.A of the Enforcement Policy (NUREG-1600), a group of Severity Level IV violations may be evaluated in the aggregate and assigned a single, increased severity level, thereby resulting in a Severity Level III problem, if the violations have the same underlying cause or programmatic deficiencies. The purpose of aggregating violations is to focus the Licensee's attention on the fundamental underlying causes for which enforcement action appears warranted and to reflect the fact that several violations with a common cause may be more significant collectively than individually, and may therefore warrant a more substantial enforcement action. In this case, the NRC determined that the violations have the same underlying cause, namely the lack of attention and priority given to the fire protection program.

The Licensee's characterization of the root cause as "insufficient management involvement in the oversight of the fire protection program," is consistent with the NRC's conclusion, except in one important respect: it fails to recognize management acceptance of unresolved issues and the failure to assign the necessary priority to the fire protection program issues to assure their timely resolution. In addition, although the Licensee appeared to focus resources on the resolution of many of the 1991 FPIP issues, not all items have yet been resolved and newly identified items were not resolved in a timely manner. The NRC considers this failure to be significant because program ownership and ineffective management performance were identified as underlying causes of performance weaknesses in the Sequoyah Nuclear Plant Restart Plan of May 20, 1993. Ineffective oversight is also indicated by the fact that there has not been consistent management of the fire protection program. Specifically, since 1990, there have been a number of personnel changes in the position of Fire Protection Manager. In that inadequate oversight of the fire protection program continues to persist, escalation of the violations is consistent with Supplement I.C.7 of the NRC Enforcement Policy.

The Licensee's position that the NRC should exercise discretion due to the improvements and enhancements being made in the fire protection program cannot be supported due to multiple problems identified by both the Licensee and the NRC which were outside the scope of the 1991 Fire Protection Improvement Plan. These problems indicate a continued lack of management oversight and control of the fire protection program.

The Licensee's position that fire watch patrols for degraded fire protection features were equivalent to fully functioning features is not correct. It is the NRC's opinion that fire watch patrols, in combination with the fire protection defense in depth features, provide an adequate level of fire protection safety on an interim basis until permanent corrective actions are implemented. Therefore, a fire watch patrol can only supplement a degraded fire protection feature and is an approved compensatory measure for the

identification of fire and notification of a fire to the appropriate response personnel. However, a fire watch is not equivalent to the fire protection feature in question.

The Licensee indicated that there was no time limitation on how long a fire watch patrol can be used in lieu of restoring a degraded system to service. To the contrary, there is, in fact, a recognized regulatory impact that can result from the use of long-term fire watches. If the protection features are described in the Final Safety Analysis Report, long-term or permanent fire watches could be considered a modification which would require a 10 CFR 50.59 safety analysis, which could result in limiting the fire watches use. Second, although not specifically limiting the use of fire watches, the Sequoyah Technical Specifications clearly indicate the need to restore degraded features as soon as possible. The Sequoyah Technical Specifications require that a Special Report be issued to the NRC if a degraded fire protection feature cannot be repaired within a designated time. In general, the Sequoyah Technical Specifications require degraded fire protection suppression systems to be restored to operability within 14 days and fire barrier penetration seals restored to operability within 7 days, or alternatively, within the next 30 days a Special Report is required to be submitted to the NRC outlining the cause of the system inoperability and the plans or schedule for restoring the system to operable status. The Technical Specifications requirements clearly indicate that the NRC does not sanction the long term use of fire watch patrols for degraded fire protection features and that restoration to full fire protection capability is required. Regardless of the NRC's stated position regarding Sequoyah's use of fire watch patrols, none of the violations were based on their utilization.

Summary of Licensee's Request for Mitigation of Civil Penalty

The licensee believes the civil penalty should be mitigated in its entirety because the problems were identified by the licensee and corrective actions were taken prior to NRC enforcement action. These actions included:

- Implementation of the 1991 Fire Protection Improvement Plan.
- Improved management responsiveness to identified problems by centralization of fire protection program ownership and responsibility into one department, establishment of fire protection program priorities and performance expectations, and appointment of a new fire protection manager.
- Establishment in June 1996 of an integrated schedule designed to track fire protection issues to closure.
- Performance of a self-assessment of the fire protection program which evaluated and found the correction actions and improvements implemented to have been effective.

- Direction provided for the QA organization to escalate its concerns to management in order to assist management in collectively analyzing individual problems to facilitate corrective action.

The Licensee stated that the lack of timeliness associated with the individual fire protection issues was identified and corrective action was initiated prior to NRC enforcement action. Therefore, these factors should be taken into consideration prior to the NRC pursuing escalated enforcement and imposition of a civil penalty. The Licensee believes that to issue a civil penalty after action was taken to reorganize the fire protection program and provide enhanced management oversight would be contrary to the NRC Enforcement Policy. Furthermore, the imposition of a civil penalty under these circumstances would serve no purpose other than to punish the Licensee and would be contrary to the NRC Enforcement Policy to focus on current performance.

NRC Evaluation of Licensee's Request for Mitigation of Civil Penalty

The NRC does not agree with the Licensee's position that the fire protection program problems were identified by the Licensee and corrective action was taken prior to NRC involvement. Program oversight weaknesses were highlighted by the NRC in the February 1995 SALP Report, as discussed previously. In addition, concerns with the timeliness and adequacy of fire protection program corrective actions were also identified by the NRC in February 1996. Although a QA audit completed in May 1996 elevated the significance of the programmatic issues to upper TVA management, a follow-up NRC inspection in July 1996 found that these issues had not been resolved. Once the NRC focused on the multiple fire protection deficiencies in an inspection conducted in July and August 1996, the Licensee placed additional emphasis on this area, made organizational and personnel changes, and implemented plans to correct the deficiencies. The actions were initiated by the Licensee after the February 1996 identification by the NRC of: 1) a related violation and 2) inadequate responses to QA findings; but these actions were limited and did not ensure lasting corrective actions.

Section VI.B.2.c of the Enforcement Policy discusses the application of the factor of *Corrective Action* in the civil penalty assessment process. The purpose of this factor is to encourage licensees to (1) take the immediate actions necessary upon discovery of a violation that will restore safety and compliance with the license, regulations, or other requirements; and (2) develop and implement (in a timely manner) the lasting corrective actions that will not only prevent recurrence of the violation at issue, but will be appropriately comprehensive, given the significance and complexity of the violations, to prevent recurrence of violations with similar root causes. In assessing *Corrective Action*, consideration is given to the timeliness of the action (including the promptness in developing the schedule for long term corrective action), the adequacy of the licensee's root cause analysis, and the comprehensiveness of the corrective action. Clearly, in this case, the program deficiencies at issue in the Notice were discovered by TVA as early as 1991, but corrective actions were not promptly taken, and since the issues

were primarily licensee-identified, the time of reference used in assessing this factor is discovery, not when the issues were identified as apparent violations by the NRC. Further, although in most cases, schedules for long-term corrective actions were developed, management had not placed the appropriate priority on meeting schedules, which resulted in substantial deferrals. Continued unjustifiable deferral of known deficiencies is unacceptable to the NRC.

NRC Conclusion

The NRC concludes that the violations occurred as stated and that collectively they represent a Severity Level III problem. Since the July/August 1996 NRC inspection, it appears that the licensee has implemented appropriate corrective actions to address these problems and is now appropriately focused on this program area. However, no adequate basis for either a reduction of the severity level or for mitigation of the civil penalty was provided by the licensee. Consequently, the proposed civil penalty in the amount of \$50,000 should be imposed.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 Marietta Street, N.W., Suite 2800
Atlanta, Georgia 30323-0188

December 24, 1996

EA 96-414

Tennessee Valley Authority
ATTN: Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES -
\$100,000 (NRC INSPECTION REPORT NOS. 50-327 AND 50-328/96-13)

Dear Mr. Kingsley

This refers to the special inspection conducted between September 19 and November 2, 1996 at the Sequoyah facility. The purpose of the inspection was to follow up on the equipment problems experienced during the Unit 2 reactor trip on October 11, 1996, and the maintenance and corrective actions associated with an inoperable Unit 2 reactor trip breaker (RTB) on September 19, 1996. The results of this inspection were sent to you by letter dated November 25, 1996. An open, predecisional enforcement conference was conducted in the Region II office on December 16, 1996, with members of your staff to discuss the apparent violations, the root causes, and corrective actions to preclude recurrence. A list of conference attendees, NRC slides, and a copy of Tennessee Valley Authority's (TVA) presentation materials are enclosed.

Based on the information developed during the inspection and the information that was provided during the conference, the NRC has determined that violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalties (Notice), and the circumstances surrounding them are described in detail in the subject inspection report.

Violations A(1), A(2) and A(3) have been evaluated in the aggregate and assigned a single increased severity level due to the similarity of the corrective action program deficiencies identified as a result of the equipment problems experienced during the trip on October 11, 1996. Violation A(1) involves the failure to identify the root cause and take adequate corrective actions for recurring failures of a main feedwater isolation valve (MFI) motor brake. This valve has failed to stroke on four previous occasions since 1989. The failure to implement corrective actions to control use of a material susceptible to rapid aging at high temperatures in safety-related and quality-related ASCO solenoid valves is cited in Violation A(2). The failure of a quality-related ASCO valve, which caused excessive reactor coolant pump

seal leakage, resulted in the reactor shutdown on October 11, 1996. A number of other valves were subsequently determined to be degraded. In this case, your staff had been alerted by NRC Bulletin 78-14, Generic Letter 91-15 and by a Sequoyah Problem Evaluation Report documenting problems with the material, yet you failed to implement effective corrective action. Violation A(3) involves the failure to adequately implement site procedures described by your corrective action process in that, when a fire system deluge actuation in July 1996 wet plant equipment, your extent of condition review failed to bound the affected equipment, and adequate corrective action was not taken for water intrusion into plant equipment. On October 11, 1996, a turbine runback resulted due to failed turbine impulse pressure switches affected by water intrusion, which caused the need for a manual reactor trip. Operators were also unaware of the interlock between the turbine runback and the locked in auxiliary feedwater (AFW) actuation signal and did not reset the main feedwater pump in order to allow AFW reset.

The NRC is particularly concerned that the apparent root cause of Violations A(1), A(2) and A(3) is the inadequate implementation of your corrective action program. As described in detail in the inspection report, the issues related to Violations A(1), A(2) and A(3) have been known by TVA for some time but were never fully evaluated to determine the extent of condition or the effectiveness of the corrective actions in resolving the root cause of the conditions. Your failure to fully evaluate the cause and adequately correct recurring problems with moisture intrusion and brake corrosion in the MFIV resulted in its failure to close on demand upon receiving a valid feedwater isolation signal. In another case, the corrective action plans for a significant generic issue were never implemented. Other deficiencies in plant material condition were also identified as a result of the October 11, 1996 trip. These deficiencies caused a spurious turbine runback, loss of manual auxiliary feedwater control and a water hammer in the steam dump system which caused damage to piping and hangers. The NRC is concerned that problems experienced in ensuring effective and timely corrective actions at the Sequoyah site, as described in EA 96-269 which was issued on November 19, 1996, are continuing to occur. Therefore, Violations A(1), A(2) and A(3) are classified in the aggregate in accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Severity Level III problem.

Violations B(1), B(2) and B(3) have also been evaluated in the aggregate and assigned a single increased severity level because the violations contributed to or were a direct consequence of the underlying problem. Violation B(1) involves inadequate maintenance and testing on a RTB which resulted in installation of an inoperable RTB in Unit 2. Violation B(2) involves the failure to maintain the minimum required channels of the reactor trip P-4 permissive function. The failure to follow plant procedures requiring an evaluation of the operability of the RTB and an assessment of the reportability of the event is cited in Violation B(3).

The root causes of Violations B(1), B(2) and B(3) were poor communications between Operations, Maintenance and Engineering, non-conservative decision-making, training deficiencies and poor event analysis. These root causes and the following significant concerns indicate inadequate control of licensed activities:

- (1) Maintenance supervision made a nonconservative decision to proceed with post maintenance testing of the RTBs when subsequent steps required partial disassembly of RTB components. Inadequate training on RTB maintenance and vendor manual deficiencies also contributed to the violations.
- (2) Maintenance and engineering personnel failed to recognize the significance of the rod deviation computer alarm, which was received when the RTB was installed, and failed to understand its potential impact on operability. This was evidenced by a proposal to troubleshoot the RTB problems online and divert resources towards clearing the rod deviation alarm by inserting a "dummy" signal into the computer prior to determining the cause for the signal. These issues should have led management to take prompt action to ensure operability of the RTB prior to exceeding the Limiting Condition for Operation (LCO).
- (3) Although Operations was proactive in questioning operability of the RTB, they failed to make a conservative decision to remove the RTB for a number of hours. An early conservative decision on RTB operability could have precluded a violation of the LCO.
- (4) The event critique did not address operability of the refurbished RTB, the functions of the auxiliary contacts, and a deficient revision to the maintenance procedure for lubricating the RTB inertia latch.
- (5) The event was not fully evaluated until after prompting by NRC inspectors. TVA staff then conducted a more extensive evaluation and determined that the auxiliary contacts (1) supplied signals for the reactor trip alarm, high steam flow interrupt, a computer point for the rod deviation program, turbine trip, feedwater isolation, and, (2) allowed blocking of the safety injection (SI) signal after a SI so that the SI signal could be reset. This evaluation revealed the violation of the LCO for the reactor trip P4 permissive and the violation of plant procedures with regard to the operability/reportability determination.
- (6) Operations and the engineering staff did not recognize that the turbine trip contacts on the RTB were part of the P-4 function.

Therefore, Violations B(1), B(2) and B(3) are classified in the aggregate in accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy) NUREG-1600, as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for each Severity Level III problem. Because your facility has been the subject of escalated enforcement actions within the last two years¹, the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process described in Section VI.B.2 of the Enforcement Policy. With regard to Violations A(1), A(2) and A(3), the NRC concluded that credit was not warranted for *Identification* because the violations were revealed through an event. However, credit was warranted for the factor of *Corrective Action*, based on the extensive corrective actions to improve (1) plant material conditions, (2) management effectiveness, and (3) implementation of the corrective action program. Therefore, application of the civil penalty assessment process resulted in the base civil penalty of \$50,000 for the Severity Level III problem.

The NRC concluded that credit was not warranted for *Identification* of Violations B(1), B(2) and B(3), because the rod deviation alarm provided a reasonable indication of a potential problem and NRC prompted review of several aspects of the underlying issues. With regard to *Corrective Action*, corrective actions included disciplinary actions, reinforcement of management expectations, and procedural revisions. During the predecisional enforcement conference, you also discussed your site-wide initiatives to improve management ownership and control of plant activities. Based on the above, the NRC determined that credit for the factor of *Corrective Action* was appropriate. Application of the civil penalty assessment process for Violations B(1), B(2) and B(3) resulted in the base civil penalty of \$50,000 for the Severity Level III problem.

Therefore, to emphasize the importance of management oversight of plant activities and the need for prompt effective corrective actions, I have been authorized, after consultation with the Office of Enforcement, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalties (Notice) in the amount of \$100,000 for the two Severity Level III problems.

An apparent violation was identified in NRC Inspection Report No. 50-327, 328/96-13 for the failure to take adequate corrective actions to prevent flexible conduit damage on the MFIVs. At the predecisional enforcement conference, you indicated that the flexible conduit on the MFIV had not been damaged as originally thought. In addition, you provided additional information on your corrective actions to preclude damage to flexible conduits. This apparent violation is therefore withdrawn.

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¹A Severity Level III violation and proposed civil penalty of \$50,000 were issued on November 19, 1996, (EA 95-269) related to fire protection program deficiencies. A Severity Level II violation and proposed civil penalty of \$80,000 were issued on February 20, 1996, (EA 95-252) related to employee discrimination in Department of Labor Case Nos. 92-ERA-19 and 92-ERA-34.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will consider your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,

Stewart D. Ebner
Regional Administrator

Docket Nos. 50-327, 50-328
License Nos. DPR-77, DPR-79

Enclosures: 1. Notice of Violation and Proposed
Imposition of Civil Penalties
2. Conference Attendees
3. NRC Presentation Materials
4. Licensee Presentation Materials

cc w/encs:

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R. J. Adney
Site Vice President
Sequoyah Nuclear Plant
Tennessee Valley Authority
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Soddy-Daisy, TN 37379

General Counsel
Tennessee Valley Authority
ET 10H
400 West Summit Hill Drive
Knoxville, TN 37902

cc w/encs: (Cont'd on next page)

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Michael H. Mobley, Director
Division of Radiological Health
3rd Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

County Executive
Hamilton County Courthouse
Chattanooga, TN 37402

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTIES

Tennessee Valley Authority
Sequoyah Nuclear Plant
Units 1 and 2

Docket Nos. 50-327 and 50-328
License Nos. DPR-77 and DPR-79
EA 96-414

During an NRC inspection conducted between September 19 and November 2, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose civil penalties pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalties are set forth below.

- A. (1) 10 CFR 50, Appendix B, Criterion XVI requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, defective material and equipment, and nonconformances, are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

Contrary to the above, the licensee identified a significant condition adverse to quality, i.e., rust in the brake assembly of main feedwater isolation valve (MFIV) 2-MVOP-003-0100-B, but failed to adequately determine the root cause of the rust (water intrusion) and failed to take corrective action to preclude repetition of this significant condition adverse to quality. Specifically, the licensee failed to perform adequate evaluations or take adequate corrective actions for MFIV failures in January 1989, September 1990, September 1994, and April 1995. The failure to preclude repetition of this adverse condition resulted in the failure of MFIV 2-MVOP-003-0100-B to close on October 11, 1996, upon a valid feedwater isolation signal (01013).

- (2) 10 CFR 50, Appendix B, Criterion XVI requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, defective material and equipment, and nonconformances, are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition.

Contrary to the above, the licensee identified a significant condition adverse to quality, i.e., degradation of the elastomer material Buna-N when exposed to temperatures greater than 125 degrees Fahrenheit (°F), which resulted in repetitive failures of solenoid valves, but failed to take corrective action to

Enclosure 1

preclude repetition of this significant condition adverse to quality. Specifically, the licensee failed to implement a corrective action plan developed in late 1993 to address issues identified in NRC IE Bulletin 78-14, Deterioration of Buna-N Components in ASCO Solenoids and Generic Letter 91-15, Operating Experience Feedback Report, Solenoid-Operated Valve Problems at United States Reactors, and failed to implement effective corrective actions for Problem Evaluation Report (PER) SQPER930001, which identified previous deficiencies in the operation of ASCO solenoid valves due to degradation of the Buna-N material. On October 11, 1996, a quality-related solenoid operated valve, on a reactor coolant system (RCS) pump seal leak-off isolation valve, failed due to temperature aging of Buna-N material in the valve, which caused initiation of a plant shutdown resulting in a reactor trip. A subsequent licensee investigation identified that a number of safety-related and quality-related valves exposed to temperatures of greater than 125 degrees °F and containing Buna-N were not evaluated for Buna-N degradation. (01023)

- (3) Technical Specification 6.8.1.a requires, in part, that procedures shall be established, implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, "Quality Assurance Program Requirements (Operations)." Appendix A of Regulatory Guide 1.33, Section 1, includes administrative procedures.

Site Standard Practice 3.4, Sections 3.3 and 3.4, require, in part, that the Responsible Organization (1) develop the corrective action plan, and (2) implement and/or monitor implementation of the approved corrective action, for conditions documented in Problem Evaluation Reports.

Contrary to the above, the licensee failed to develop an adequate corrective action plan and failed to implement corrective action to ensure that equipment affected by a July 1996 inadvertent fire system deluge actuation, documented in PER SQ961977PER, was surveyed for degradation and refurbished as necessary. As a result, turbine impulse pressure switches PS 47-13B and PS 47-13E were subsequently identified as failed, due to water intrusion. The failed switches caused a spurious turbine runback on October 11, 1996, and complicated recovery from a subsequent reactor trip by inhibiting manual control of the Auxiliary Feedwater System. Subsequent licensee investigation identified 18 other junction boxes affected by water intrusion. (01033)

These violations represent a Severity Level III problem (Supplement I).
Civil Penalty - \$50,000.

Notice of Violation and Proposed   3
Imposition of Civil Penalties

- B. (1) Technical Specification 6.8.1.a requires, in part, that procedures shall be established, implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, "Quality Assurance Program Requirements (Operations)." Appendix A of Regulatory Guide 1.33, Section 9, includes procedures for performing maintenance.

Maintenance Instruction (MI)-10.9.1, REACTOR TRIP BREAKER TYPE DB50 INSPECTION ASSOCIATED WITH SYSTEM 99, Revision 16, describes, in part, the steps for lubrication and testing of the reactor trip breaker (RTB) inertia latch.

Contrary to the above, the licensee failed to properly implement procedure MI-10.9.1 and failed to establish adequate procedural steps to ensure complete reassembly of the RTB inertia latch during latch lubrication and appropriate testing of the RTB contacts after it was reassembled. Specifically:

1. On September 14, 1996, personnel performed two sections of MI-10.9.1 out of sequence. Section 7, Post Performance Activities, was performed prior to the completion of Section 6, Performance, which resulted in completion of the RTB post-maintenance test prior to a step requiring that the auxiliary contact linkage assembly be disconnected from the inertia latch.
  2. Since July 29, 1994, MI-10.9.1, was inadequate in that Step 6.2.6 functionally tested operability of the auxiliary contacts when a subsequent step, Step 6.4.1, required disassembly of the auxiliary contact linkage assembly to allow lubrication of the inertia latch. The procedure did not contain precautions or adequate instructions regarding the disassembly/reassembly of the RTB inertia latch during latch lubrication. The failure to provide adequate instructions for reassembly of the inertia latch resulted in an inoperable P-4 channel. (02013)
- (2) Unit 2 Technical Specification 3.3.1, Table 3.3-1, Item 22.G, Reactor Trip, P-4, Action 14, requires that, while in Mode 1, with the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, be in at least HOT STANDBY within 6 hours.

Contrary to the above, on September 19, 1996 while operating in Mode 1, the number of P-4 channels OPERABLE was one less than required by the Minimum Channels OPERABLE requirement and the licensee failed to place Unit 2 in HOT STANDBY within 6 hours (02023).

Notice of Violation and Proposed
Imposition of Civil Penalties

4

- (3) Technical Specification 6.8.1.a requires, in part, that procedures shall be established, implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, "Quality Assurance Program Requirements (Operations)."

Site Standard Practice, SSP-3.4, CORRECTIVE ACTION, Revision 17, Appendix E, Step 2.0.D, requires, in part, that if a condition described in a PER potentially affects operability or is potentially reportable, that prompt verbal notification of the condition to the Shift Operations Supervisor (SOS) shall be provided and that the SOS shall promptly receive a copy of the PER.

Contrary to the above, as of September 20, 1996, prompt verbal notification of the condition described in PER SQ962451PER was not provided to the SOS nor did the SOS promptly receive a copy of the PER. As a result, the licensee failed to perform an immediate operability/reportability determination on an inoperable RTB, as required by SSP-3.4, Appendix E, Step 5.0, until October 7, 1996, after being prompted by the NRC. (02033)

These violations represent a Severity Level III problem (Supplement I).
Civil Penalty - \$50,000.

Pursuant to the provisions of 10 CFR 2.201, the Tennessee Valley Authority (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalties (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalties by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalties proposed above, or may protest imposition of the civil penalties in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time

Notice of Violation and Proposed   5
Imposition of Civil Penalties

specified, an order imposing the civil penalties will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalties, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalties should not be imposed. In addition to protesting the civil penalties in whole or in part, such answer may request remission or mitigation of the penalties.

Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalties due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalties, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalties, and Answer to a Notice of Violation) should be addressed to: Mr. James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region II and a copy to the NRC Resident Inspector at the Sequoyah Nuclear Plant.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Atlanta, Georgia
this   day of December 1996

LIST OF PREDECISIONAL ENFORCEMENT CONFERENCE ATTENDEES
DECEMBER 16, 1996

Tennessee Valley Authority

O. Zeringue, Senior Vice President, Nuclear Operations
R. Adney, Site Vice President
R. Baron, General Manager, Nuclear Assurance and Licensing
J. Herron, Plant Manager, Sequoyah
W. Lagergren, Operations Manager
L. Bryant, Acting Assistant Plant Manager
R. Rausch, Maintenance and Modifications Manager
M. Fecht, Nuclear Assessment and Licensing Manager
M. Burzynski, Engineering and Materials Manager
D. Clift, Planning Manager
R. Shell, Licensing and Industry Affairs Manager
J. Smith, Site Licensing Supervisor
T. Van Huis, Shift Manager
F. Cuzzort, Technical Support Supervisor
K. Whittenburg, Tennessee Valley Authority (TVA) Communications
E. Viglucci, TVA Senior Attorney

NRC

E. Merschhoff, Director, Division of Reactor Projects (DRP), Region II (RII)
M. Lesser, Chief, Reactor Projects Branch 6 (RPB6), DRP, RII
F. Hebdon, Director, Directorate II-3, Office of Nuclear Reactor Regulation (NRR)
R. Hernan, Project Manager, NRR*
L. Watson, Enforcement Specialist, Enforcement and Investigations Coordination Staff, RII
M. Shannon, Senior Resident Inspector, Sequoyah, DRP, RII
R. Starkey, Resident Inspector, Sequoyah, DRP, RII
S. Sparks, Project Engineer, DRP, RII
R. Bernhard, Senior Reactor Analyst, RII
C. Evans, Regional Counsel, RII
J. Kauffman, Office of Enforcement*

* Participated by Telephone

Enclosure 2

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0801

May 23, 1997

EA 96-414

Tennessee Valley Authority
ATTN: Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: ORDER IMPOSING CIVIL MONETARY PENALTY - \$50,000

Dear Mr. Kingsley:

This refers to your letter dated January 23, 1997, in response to the Notice of Violation and Proposed Imposition of Civil Penalties (Notice) sent to you by our letter dated December 24, 1996. The violations were identified during an inspection conducted during the period September 19 through November 2, 1996, at your Sequoyah Nuclear Plant. The results of the inspection were originally documented in Inspection Report No. 50-327 and 50-328/96-13 issued on November 25, 1996.

To emphasize the importance of management oversight of plant activities and the need for prompt, effective corrective actions, two Severity Level III problems, each with a civil penalty of \$50,000, were proposed in the December 24, 1996 letter.

In your response, you agreed that the violations occurred and did not contest the \$50,000 civil penalty for the Severity Level III problem issued for Violations B(1), B(2) and B(3); however, you maintained that the NRC's categorization of Violations A(1), A(2) and A(3) as a Severity Level III problem and the proposed imposition of a civil penalty of \$50,000 was inconsistent with the Enforcement Policy. You requested that the NRC reconsider the severity level of Violations A(1), A(2) and A(3) and mitigate the associated civil penalty in its entirety.

After consideration of your response, we have concluded, for the reasons given in the Appendix attached to the enclosed Order Imposing Civil Monetary Penalty (Order), that the aggregation of Violations A(1), A(2) and A(3) into a single problem, the characterization of the problem at Severity Level III, and the assessment of a civil penalty associated with the Severity Level III problem should stand as proposed. The violations were cited collectively as a Severity Level III problem because they have the same underlying cause, i.e., inadequate implementation of the corrective action program. Thus, the violations were considered to be a significant regulatory concern. In addition, the action was based on the significance of the violations taken collectively, not individually. While the NRC acknowledges that the Tennessee Valley Authority (TVA) had taken steps to identify and correct deficiencies in its corrective action program, the NRC concluded that the licensee's

corrective actions implemented prior to the equipment failures associated with the October 11, 1996 Unit 2 shutdown, were not fully effective in assuring adequate resolution of repetitive equipment failures and avoiding additional non-compliances.

Accordingly, we hereby serve the enclosed Order on TVA imposing a civil monetary penalty in the amount of \$50,000. As provided in Section IV of the enclosed Order, payment should be made within 30 days of the date of this Order, by check, draft, money order, or electronic transfer, payable to the Treasurer of the United States and mailed to James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738. We will review the effectiveness of your corrective actions during subsequent inspections.

With regard to Violations B(1), B(2) and B(3), the NRC's assessment of your comments is provided in the Appendix to the Order. We have evaluated your response to Violations B(1), B(2) and B(3) and found that it meets the requirements of 10 CFR 2.201. We will examine the implementation of your corrective actions during future inspections.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and the enclosure will be placed in the NRC's Public Document Room.

Sincerely,

Edward J. Jordan
Deputy Executive Director for
Regulatory Effectiveness, Program
Oversight, Investigations and Enforcement

Docket Nos. 50-327, 50-328
License Nos. DPR-77, DPR-79

Enclosure: Order Imposing Monetary Civil Penalty

cc w/encl:
O. J. Zeringue, Senior Vice President
Nuclear Operations
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

R. J. Adney
Site Vice President
Sequoyah Nuclear Plant
Tennessee Valley Authority
P. O. Box 2000
Soddy-Daisy, TN 37379

cc w/enc1 (Cont'd):

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Michael H. Mobley, Director
Division of Radiological Health
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401 Church Street
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County Executive
Hamilton County Courthouse
Chattanooga, TN 37402

UNITED STATES
NUCLEAR REGULATORY COMMISSION

In the Matter of

TENNESSEE VALLEY AUTHORITY
Sequoyah Nuclear Plant
Units 1 and 2

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Docket Nos. 50-327 and 50-328
License Nos. DPR-77 and DPR-79
EA 96-414

ORDER IMPOSING CIVIL MONETARY PENALTY

I

Tennessee Valley Authority (Licensee) is the holder of Operating License Nos. DPR-77 and DPR-79 issued by the Nuclear Regulatory Commission (NRC or Commission) on September 17, 1980, and September 15, 1981, respectively. The licenses authorize the Licensee to operate the Sequoyah Nuclear Plant, Units 1 and 2 in accordance with the conditions specified therein.

II

An inspection of the Licensee's activities at the Sequoyah Nuclear Plant was conducted during the period September 19 through November 2, 1996. The results of this inspection indicated that the Licensee had not conducted its activities in full compliance with NRC requirements. A written Notice of Violation and Proposed Imposition of Civil Penalties (Notice) was served upon the Licensee by letter dated December 24, 1996. The Notice stated the nature of the violations, the provisions of the NRC's requirements that the Licensee had violated, and the amount of the civil penalty proposed for the violations.

The Licensee responded to the Notice in a letter dated January 23, 1997. In its response, the Licensee agreed that the violations occurred but contested NRC's application of the Enforcement Policy and requested the NRC to reconsider its decision to categorize Violations A(1), A(2) and A(3) as a

Severity Level III problem and mitigate the proposed civil penalty for Violations A(1), A(2) and A(3) in its entirety. The Licensee's request was based on its view that NRC's categorization of Violations A(1), A(2) and A(3) as a Severity Level III problem and the proposed imposition of a \$50,000 civil penalty was inconsistent with the NRC Enforcement Policy.

III

After consideration of the Licensee's response and the statements of fact, explanation, and argument for mitigation contained therein, the NRC staff has determined, as set forth in the Appendix to this Order, that the violations occurred as stated and that the penalty proposed for the violations designated in the Notice should be imposed.

IV

In view of the foregoing and pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205, IT IS HEREBY ORDERED THAT:

The Licensee pay a civil penalty in the amount of \$50,000 within 30 days of the date of this Order, by check, draft, money order, or electronic transfer, payable to the Treasurer of the United States and mailed to

James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738.

V

The Licensee may request a hearing within 30 days of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time must be made in writing to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and include a statement of good cause for the extension. A request for a hearing should be clearly marked as a "Request for an Enforcement Hearing" and shall be addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Commission's Document Control Desk, Washington, D.C. 20555. Copies also shall be sent to the Assistant General Counsel for Hearings and Enforcement at the same address and to the Regional Administrator, NRC Region II, Atlanta Federal Center, 61 Forsyth Street, S.W., Suite 23785, Atlanta, Georgia 30303.

If a hearing is requested, the Commission will issue an Order designating the time and place of the hearing. If the Licensee fails to request a hearing within 30 days of the date of this Order (or if written approval of an extension of time in which to request a hearing has not been granted), the provisions of this Order shall be effective without further proceedings. If payment has not been made by that time, the matter may be referred to the

Attorney General for collection.

In the event the Licensee requests a hearing as provided above, the issue to be considered at such hearing shall be:

Whether on the basis of the violations admitted by the Licensee, this Order should be sustained.

FOR THE NUCLEAR REGULATORY COMMISSION

Edward L. Jordan
Deputy Executive Director for
Regulatory Effectiveness, Program
Oversight, Investigations and Enforcement

Dated at Rockville, Maryland
this 23rd day of May 1997

EVALUATIONS AND CONCLUSION
VIOLATIONS A(1), A(2) AND A(3)

On December 24, 1996, the NRC issued to Tennessee Valley Authority (licensee or TVA) a Notice of Violation and Proposed Imposition of Civil Penalties (NOV) including three violations, described as A(1), A(2) and A(3), identified during an NRC inspection conducted during the period September 19 through November 2, 1996, at the Sequoyah Nuclear Plant. In its response dated January 23, 1997, the licensee agreed that the violations occurred but stated that NRC's categorization of Violations A(1), A(2) and A(3) as a Severity Level III problem and the proposed imposition of a \$50,000 civil penalty was inconsistent with the NRC Enforcement Policy. The licensee requested that the NRC reconsider its decision regarding the severity level of the violations and/or mitigate the proposed civil penalty in its entirety. The NRC's evaluations and conclusion regarding the licensee's requests are as follows:

Summary of Licensee's Request for Reduction in Severity Level

In its request for reconsideration of the severity level of Violations A(1), A(2) and A(3), the licensee maintained that site management had begun a series of initiatives designed to improve corrective action program effectiveness. The initiatives included: (1) providing root cause analysis training to engineering personnel, (2) increasing engineering awareness of maintenance and plant activities, (3) lowering the threshold for identifying deficient plant conditions through management monitoring and coaching in the field, and (4) adding senior management review of equipment root cause analysis to reinforce management expectations.

With regard to TVA's history of activities to upgrade the Sequoyah corrective action program, the licensee maintained that as early as July 1996, TVA had identified the fact that problems existed with corrective action program implementation. In a management meeting with the NRC on August 8, 1996, TVA informed the NRC that corrective actions did not always achieve problem resolution. Additionally, based on a 1995 TVA quality assurance audit, an accelerated audit schedule was initiated in the area of the corrective action program. The September 1996 corrective action audit identified that corrective action program implementation was not totally effective. Therefore, the licensee concluded that the root cause for the October 11, 1996 equipment failures (inadequate corrective action program implementation) was previously identified by TVA in advance of the equipment failures.

In addition, TVA noted that the NRC's Enforcement Policy specifically recognizes that credit for identification is warranted in those situations where the problem is identified through an event, and the licensee has made a noteworthy effort in determining the root cause associated with the violations. TVA stated that it believed that such credit is especially warranted in this case because TVA had identified the root cause even before the equipment failures arose and was taking action, both at the time of the failures and after the failures took place, to address the cause. The following summarizes the violations cited by NRC and information submitted by TVA in support of a request for reduction in severity level.

Violation A(1):

This violation involved the licensee's failure to perform adequate evaluations of deficient conditions and to take adequate corrective actions to preclude repetition of significant conditions adverse to quality for the main feedwater isolation valve (MFIV) failures in January 1989, September 1990, September 1994, and April 1995. The failure to preclude repetition of this adverse condition resulted in the failure of MFIV 2-MVOP-003-0100-B to close on October 11, 1996, after receiving a valid feedwater isolation signal.

The licensee stated that the listing of the earlier MFIV "failures" oversimplified the maintenance history of the subject valve. The January 1989 failure marked the first failure of a MFIV due to corrosion build-up on the brake. Extensive corrective actions were taken, and it was believed that those actions were fully adequate to prevent recurrence following the 1990 MFIV failure. The licensee noted that the motor did not fail to stroke in September 1994; however, water and rust were found in the brake assembly. The licensee stated that in April 1995, the MFIV did not initially travel to the closed position on operator demand due to an electrical short in the brake circuitry and the problem was not associated with motor brake corrosion.

In addition, the licensee noted that the MOV cover letter discussed failures of the MFIV to stroke on four previous occasions. The licensee, in clarification of the previous failures, noted that the valve failed to stroke on two occasions due to corrosion of the brake assembly and failed a third time due to an electrical problem. The licensee also indicated that the brake was not tested prior to maintenance in September 1994 and, therefore, the NRC statement that the valve failed to stroke was not accurate.

Violation A(2):

This violation involved the licensee's failure to implement a corrective action plan developed in late 1993 to address issues identified in NRC Inspection and Enforcement (IE) Bulletin 78-14, "Deterioration of Buna-N Components in ASCO Solenoids," and Generic Letter 91-15, "Operating Experience Feedback Report, Solenoid-Operated Valve Problems at United States Reactors." This violation also addressed the licensee's failure to implement effective corrective actions for Problem Evaluation Report (PER) SQPER930001, which identified previous deficiencies in the operation of ASCO solenoid valves due to degradation of the Buna-N material.

The December 24, 1996 NRC letter stated that the failure of the ASCO solenoid valve caused excessive reactor coolant pump (RCP) seal leakage. The licensee stated that, more accurately, TVA shut down the unit in accordance with procedural guidance for an alarm condition, that RCP total seal flow remained stable, that the No. 2 RCP seal is designed for 100 hours of operation at full reactor coolant system pressure, and that as such, the condition of the No. 2 RCP seal was within its design basis.

In addition, the licensee contended that the December 24 letter inaccurately stated that a number of other valves were subsequently determined to be degraded. In response, TVA noted that some of the valves containing the Buna-N material had signs of aging, but were capable of performing their intended safety function.

The licensee further noted that the December 24 letter stated that TVA had been alerted to problems with Buna-N by NRC Bulletin 78-14 and Generic Letter 91-15, however; the licensee maintained that these documents did not specifically identify the problems that TVA experienced. The licensee noted that NRC Bulletin 78-14 discussed deterioration through natural aging and did not specifically address thermal degradation of the Buna-N materials. The licensee also stated that Generic Letter 91-15 discussed the reliability of solenoid valves used in safety applications and then stated that the RCP seal return isolation valve solenoid was not safety related.

Finally, the licensee noted that PER SQPER930001 was initiated to address solenoid valves that were mounted directly to hot piping systems and that the solenoid valve on the RCS pump seal return flow control valve operated in a much more moderate temperature and was not mounted directly to any hot piping system.

Violation A(3):

This violation involved the licensee's failure to develop an adequate corrective action plan and the failure to implement adequate corrective actions for the inadvertent fire system deluge actuation in July 1996.

In response, TVA noted that it had corrected the leaking water source, replaced the failed fire detector, and conducted a post-deluge walkdown of the area, but did not inspect the affected junction box. The licensee also noted that it would have been difficult to recognize the water intrusion path.

The licensee concluded that given TVA's early identification and initiation of corrective actions and its several initiatives to upgrade the plant's material condition, sufficient bases exists for not imposing any civil penalty for the events associated with the October 11, 1996, Unit 2 shutdown. The licensee concluded that the violations could more appropriately be cited as separate Severity Level IV violations or that enforcement discretion should be exercised based on credit for TVA's identification and comprehensive corrective action. TVA also noted that a civil penalty under the facts and circumstances at hand would serve no purpose other than to punish the licensee and would be in contrast to the enforcement policy's stated purpose which is to, among other things, focus on the current performance of the licensee.

NRC Evaluation of Licensee's Request for Reduction in Severity Level

In reviewing the licensee's response, no additional information was provided that was not previously considered by the NRC in its deliberations regarding this matter.

The NRC acknowledges the licensee's position that, individually, the safety consequences of these violations were not a major concern. However, based on the fact that the three equipment failures that resulted from failures to take adequate corrective action all complicated the recovery from one event, the NRC concludes the regulatory significance of failing to take adequate corrective action and the potential safety consequences of the resulting multiple equipment failures during an event represents a significant regulatory concern. As stated in Section IV.A of the Enforcement Policy (NUREG-1600), a group of Severity Level IV violations may be evaluated in the aggregate and assigned a single, increased severity level, thereby resulting in a Severity Level III problem, if the violations have the same underlying cause or programmatic deficiencies. The purpose of aggregating violations is to focus the licensee's attention on the fundamental underlying causes for which enforcement action is warranted and to reflect the fact that several violations with a common cause may be more significant collectively than individually and may, therefore, warrant a more substantial enforcement action. In this case, the NRC determined that the violations have the same underlying cause: inadequate implementation of the corrective action program; and therefore, were considered to be a significant regulatory concern.

The licensee's position that the NRC should exercise discretion for identifying corrective action program problems and the improvements initiated in September 1996 cannot be supported. The NRC recognizes that improvement steps have been taken. However, inadequate implementation of the corrective action program has been identified as a continuing problem. NRC-identified corrective action program implementation deficiencies were noted in multiple inspection reports and previous Systematic Assessments of Licensee Performance (SALP) reports, in addition to present findings from licensee audits indicating the need for further improvements. Specifically, the Sequoyah Quality Assurance (QA) organization recently published similar conclusions. QA's "Sequoyah Executive Summary-First Quarter Fiscal Year 1997" report identified that both the Maintenance and Engineering organizations had failed to correct long-standing issues. In addition, recent, continuing QA audits of the corrective action program have identified poor corrective action program implementation in that a significant number of PERs were being rejected due to inadequate root cause determination or insufficient corrective actions. The most recent NRC SALP report, NRC Inspection Report (IR) 50-327 and 50-328/96-99, dated September 6, 1996, also stated that corrective actions were untimely and not fully effective in many cases. Prior to that, the 1995 NRC SALP report, IR 95-99, dated February 21, 1995, noted several instances where ineffective corrective actions were observed. IRs 327, 328/96-09, 96-08, 96-01, and 95-26 identified various ineffective corrective action issues or violations. In addition, IR 327, 328/95-25, the Final Integrated Performance Assessment Process Report, noted in the area of Engineering, a "Weakness" in Problem Identification/Problem Resolution and in the area of Safety Assessment/Corrective Action, noted a "Significant Weakness" in the area of Problem Resolution. These problems with the corrective action program indicated continuing weak program implementation and weak expectations regarding equipment failure trending, which related to a lack of management oversight and control of the corrective action program. Accordingly, enforcement discretion is not warranted.

A discussion of the licensee's specific comments on each violation is described in detail below:

Violation A(1):

Enclosure 1 of the NOV cited TVA's failure to perform adequate evaluations or to take adequate corrective actions for MFIV failures in January 1989, September 1990, September 1994, and April 1995. The licensee stated "this listing of MFIV failures oversimplified the maintenance history of the subject MFIV." The licensee provided a short history of each of the brake failures, and noted that the MFIV only failed to stroke on two occasions. In addition, the licensee stated: "In April 1995, the MFIV did not initially travel to the closed position on operator demand because of an electrical short circuit. The problem was not associated with motor brake corrosion."

The NRC does not disagree with the licensee's clarification regarding the number of times the MFIV failed to stroke. However, the licensee has not provided a sufficient basis to support its conclusion that the April 1995 MFIV failure was due to an electrical short circuit, and the NRC does not agree with the licensee's evaluation. The work order associated with the April 1995 failure listed an "electrical ground" as the cause of the failure, not an electrical short. A grounded lead would not have affected the functioning of the MFIV. A circuit short would have caused the motor brake assembly circuit fuses to blow, which was not documented. Regardless, neither an electrical ground nor a short circuit would have prevented the operation of the MFIV. The inspectors were informed by the licensee that the motor is designed to override the brake assembly and to close the valve if the brake does not electrically release. In addition, the inspectors noted that the brake assembly was discarded due to a grounded lead, which did not appear to be reasonable for an expensive piece of equipment, and that an evaluation or root cause determination of the brake assembly was not performed. In addition, maintenance workers extensively applied a sealant to the brake assembly housing, indicating that water intrusion was a known problem for this valve. This was especially apparent since none of the other seven MFIVs had any sealant applications.

In this example, the NRC violation specifically cited the licensee's failure to perform adequate evaluations of deficient conditions. Although the actual root cause of the April 1995 failure, is unknown and debatable, the inspectors concluded that the licensee's documented root cause, "grounded lead," would not have resulted in the observed failure. Therefore, the NRC concluded that the licensee failed to perform an adequate evaluation for the April 1995, failure and subsequently did not identify appropriate corrective actions.

Nevertheless, the NRC continues to believe numerous opportunities existed to identify this particular component as problematic and to perform the necessary evaluation to identify the MFIV moisture intrusion problem. TVA failed to identify the root cause and take adequate corrective actions for the recurring failures.

Violation A(2):

The licensee indicated that the NRC December 24, 1996 letter statement, "...the failure of the ASCO solenoid valve caused excessive RCP seal leakage," was not accurate. The licensee took exception to the word "excessive" and then stated, "More accurately, TVA shut down the unit in accordance with procedural guidance applicable to the alarm condition resulting from low No. 1 seal return flow. Specifically, the closure of the No. 1 seal return flow control valve resulted in the normal No. 1 seal return flow cascading to the Nos. 2 and 3 seals. Overall, total seal flow to the RCP remained stable. The No. 2 RCP seal is designed for 100 hours of operation at full RCS pressure to allow operators time to react. As such, the condition to which the No. 2 seal was subjected was within the design condition for that seal."

The inspectors noted that, on October 11, 1996, a seal leakoff low flow alarm for the No. 4 RCP annunciated, followed shortly by the RCP standpipe alarm high/low annunciation. The operators entered Abnormal Operating Procedure R.04, "Reactor Coolant Pump Malfunctions," Section 2.3, "RCP #1 Seal Leakoff Low Flow." Step 6 of Section 2.3, "Verify RCP #2 seal leakoff less than or equal to 0.5 gpm," directed the operators to Section 2.4, "RCP #2 Seal Leakoff High Flow." A note in Section 2.4 states, "A leakoff of greater than 0.5 gpm indicates that a seal problem exists." Step 3 of Section 2.4 directs the operators to "Monitor RCP #2 seal INTACT: VERIFY RCP #2 seal leakoff less than or equal to 0.5 gpm...." If RCP #2 seal is greater than 0.5 gpm, the operators are directed to perform a plant shutdown within 8 hours. Also, Summary Report, Failure of 2-FCV-62-48, RCP #4 Seal Leak Off Isolation Valve, stated, "An entry was made in containment to check the loop 4 No. 1 Seal Leak Off Isolation valve and it was found to be closed, resulting in abnormally high leak off from the No. 2 seals...."

The NRC realizes that total seal leakage for this event was not significant when based on overall RCS inventory. However, based on leakage that exceeded the alarm setpoint and which required a plant shutdown, the NRC still considers the term "excessive" to be appropriate as used in this context.

The licensee indicated that the December 24 NRC letter inaccurately stated that "...a number of other valves were subsequently determined to be degraded." The licensee stated, "More accurately, following the October 11, 1996 event, TVA's extent of condition review found no other instances where solenoid valves had failed. The review did identify some solenoid valves containing Buna-N material with signs of aging. As a conservative measure to increase equipment reliability, these solenoid valves were replaced. The replaced solenoid valves were capable of performing their intended function in their 'as-found' condition."

The NRC disagrees with this licensee position. The NRC's statement was based on information provided to the NRC by the licensee which indicated that several of the valves were determined to be "leaking through" and/or had reduced o-ring elastomer resiliency. The NRC

considers these "signs of aging" to be indications of degradation. In addition, the ASCO solenoid valves with the Buna-N material were only qualified for environmental conditions of less than 125 degrees F. However, they were installed where area temperatures exceeded 125 degrees F, which greatly reduced their qualified life. The licensee documented that the valves remained in service for extended periods past their qualified life and as a result, showed signs of aging.

The licensee quoted a statement in the NRC December 24 letter accompanying the violation that "TVA had been alerted to problems with Buna-N by NRC Bulletin 78-14, Generic Letter 91-15, and a SQN Problem Evaluation Report (PER);" and stated that "listing these documents gives the impression that each document directly addressed the problem at hand. This is not the case."

The NRC's intent in listing these documents was to indicate that generic information was available on thermal aging of Buna-N that should have been implemented into Sequoyah's corrective action program. Generic communications are not intended to address every possible failure mechanism. However, in this case Generic Letter 91-15 referenced NUREG-1275, Vol. 6, Operating Experience Feedback Report - Solenoid-Operated Valve Problems, which focused on solenoid operated valve (SOV) failures from 1984 through 1989. Section 5.1.1.3 of NUREG-1275 discussed localized "hot spots" in containment and reductions in qualified life of the SOVs, which was the precise condition TVA experienced. In addition, based on Generic Letter 91-15, in December 1993, TVA developed corrective actions to implement the Generic Letter concerns (PER SQPER930001), which if broadly implemented had the potential to identify and correct the adverse Buna-N condition; however, at the time of the event, the corrective actions had not been implemented. The NRC's conclusions regarding the ASCO solenoid valve failure were based on the licensee's root cause investigation, which stated that TVA never implemented the action plan developed in 1993.

Further, the NRC noted that following the event, PER No. SQ962633 was initiated and stated, "Although this type of failure had occurred previously at Sequoyah and had been addressed in an NRC Generic Letter, actions were not taken by plant personnel to prevent future similar failures. The root cause of the valve failure is ineffective application of plant and industry operating experience." Based on this documented statement, the licensee's contention that they had not been alerted to the problem is inconsistent with what was said previously in PER No. SQ962633.

Violation A(3)

The licensee's interpretation noted that TVA had corrected the leaking water source, replaced the failed fire detector, conducted a post-deluge walkdown of the area but did not inspect the affected junction box. TVA also noted that it would have been difficult to recognize the water intrusion path.

The NRC was aware of the immediate corrective action plan initiated by the licensee in response to the high-pressure fire protection system deluge header actuation in the Unit 2 turbine building which occurred on July 16, 1996. However, that action plan was not thorough in that it did not consider water intrusion into junction boxes. The licensee stated in their reply to the Notice of Violation that, subsequent to the Unit 2 turbine runback and trip on October 11, 1996, a total of 66 Unit 2 local instrument panels and 70 Unit 1 junction boxes were inspected and evaluated, and repairs were either completed during the forced outage or scheduled within the work scheduling process. During that review, additional junction boxes in the turbine buildings for both units were identified where previous water intrusion was evident. The NRC concluded that a thorough corrective action plan following the July 1996 deluge event would have at least considered the possibility of water intrusion into junction boxes and instrument panels.

In sum, the failure to take appropriate corrective actions as demonstrated by the three violations represent a significant regulatory concern as the inadequate corrective actions contributed to plant events. The licensee has not provided an adequate bases to modify the Severity Level determination.

Summary of Licensee's Request for Mitigation of Civil Penalty

The licensee believes the civil penalty should be mitigated in its entirety because the current site management team was "keenly aware" that the quality of past corrective actions was still impacting current performance. In addition, the problems associated with the corrective action program were being aggressively addressed by ongoing improvement initiatives. TVA noted that the comprehensive actions greatly mitigated any regulatory significance that might otherwise exist in this area. TVA requested the NRC to view events in the broader perspective of the improved corrective action program and plant material condition upgrades in exercising discretion to mitigate the civil penalty associated with these violations.

NRC Evaluation of Licensee's Request for Mitigation of Civil Penalty

The NRC does not fully agree with the licensee's position that TVA identified the corrective action program implementation problems and then took comprehensive actions in September 1996. Previous inspection reports and SALP reports noted corrective action program implementation problems. However, the licensee did not fully address the problems in September 1996, and significant corrective action program problems are still being identified. The problems with the corrective action program indicated continuing weak program implementation and weak expectations regarding equipment failure trending, which related to a lack of management oversight and control of the corrective action program.

Contrary to the licensee's statements, the NRC did consider the licensee's efforts to improve the corrective action program's effectiveness prior to the October 11, 1996 event. However, as evidenced by the violations cited in the Notice and the specific circumstances surrounding them, as described in the

inspection report, the NRC concluded that (1) the licensee's corrective actions prior to the equipment failures associated with the October 11, 1996 Unit 2 shutdown, were not fully effective in assuring adequate resolution of repetitive equipment failures and avoiding additional non-compliances, and (2) the violations were the result of ineffective corrective action program implementation. Specifically, the examples of inadequate corrective actions identified in Violations A(1), A(2) and A(3) indicate that previous initiatives had not achieved the desired results.

The guidance described in Section VI.B.2.b of the Enforcement Policy was used to evaluate the licensee's actions related to the factor of *Identification*. Specifically, the NRC concluded that Violations A(1), A(2) and A(3) were revealed through an event. The three violations were identified as a result of the failure of the components involved during the October 11, 1996 event. When violations are identified through an event, Section VI.B.2.b of the Enforcement Policy states that the decision on whether to give the licensee credit for actions related to identification normally should consider: (1) the ease of discovery; (2) whether the event occurred as the result of a licensee self-monitoring effort; (3) the degree of licensee initiative in identifying the problem or problems requiring corrective action, and (4) whether prior opportunities existed to identify the problem. Enforcement Policy Section VI.B.2.b further states that any of these considerations may be overriding if particularly noteworthy or particularly egregious.

With regard to ease of discovery and prior opportunities, the NRC believes that sufficient information was available to the licensee in each case that led to a violation to indicate that a problem existed. The failure to consider adequately the potential scope of the problems indicated by previous equipment failures and generic communications was an overriding reason to deny credit for identification.

With regard to the degree of licensee initiative in identifying the problem, the fact that TVA had previously recognized the shortcomings of the corrective action program as early as 1995 but failed to identify the violations was of concern to the NRC. In the licensee response, the highlighted corrective actions only addressed actions to ensure future identification of problems and did not address correction of previous failures of the corrective action program to resolve deficiencies.

The event did not occur as a result of a licensee self-monitoring activity; therefore, the NRC concluded, as stated in the December 24, 1996 letter, that credit was not warranted for the factor of *Identification*. The licensee has not provided an adequate argument to mitigate the civil penalty based on the identification factor.

The NRC did conclude in the December 24, 1996 letter that credit was warranted for the factor of *Corrective Action*, based on the extensive corrective actions outlined by the licensee at the December 16, 1996 predecisional enforcement conference to improve (1) plant material conditions, (2) management effectiveness, and (3) implementation of the corrective action program. The NRC acknowledged that the licensee had taken and proposed steps, at the time of the predecisional enforcement conference, to improve corrective actions at

Sequoyah. However, based on subsequent QA findings, it appears that even TVA's most recent efforts to improve the corrective action program have not been fully effective. While the NRC is not reconsidering the decision to grant *Corrective Action* credit, the NRC remains concerned and emphasizes again the importance of prompt and comprehensive corrective action.

NRC Conclusion

The NRC concludes that the violations occurred as stated and that collectively they represent a Severity Level III problem. The licensee had opportunities to resolve the issues, in some cases multiple opportunities, however, the deficiencies remained until clearly identified as a result of the October 11, 1996, plant event. Therefore, the NRC has concluded that, neither an adequate basis for a reduction of the severity level nor for mitigation of the civil penalty were provided by the licensee. Consequently, the proposed civil penalty in the amount of \$50,000 should be imposed.

Response to Licensee Comments on Violations B(1), B(2) and B(3)

In its response of January 23, 1997, TVA expressed the following concerns with the descriptions of violations B(1), B(2), and B(3) in the NOV.

1. The licensee noted that the December 24, 1996 NRC letter identified one of the root causes of the violations as poor communications among Operations, Maintenance, and Engineering, and the licensee also noted that it could be inferred that poor communication was prevalent throughout the event. In addition, the licensee stated its belief that the poor communications were limited to the subsequent analysis of the equipment condition.

The December 24 letter statement was intended to be a general statement and was not intended to infer that poor communications were "prevalent" throughout the event. However, NRC findings indicated that poor communication was not limited only to the subsequent analysis of the condition. Interviews indicated that the Shift Manager, Unit Shift Supervisor and operators had concerns with operability of the reactor trip breaker; however, the differences between Operations and Maintenance/Engineering were not resolved without management intervention, which resulted in the Limiting Condition for Operation (LCO) being exceeded. This was considered to be a communications issue. In addition, the initial PER did not identify in writing the issue regarding the P-4 turbine trip function, that was later added to the PER due to the Shift Manager's request the following day. This was also considered to be a communications issue. These issues, i.e., the fact that the event review team knew that the disconnected reactor trip breaker contacts affected the operability of the breaker, Technical Support had evaluated the disconnected contact condition, compliance personnel had evaluated the disconnected contacts, management was not notified of the adverse condition and, the event review did not document the adverse condition, were collectively considered to represent poor communications.

2. The licensee noted that the December 24, 1996 NRC letter identified non-conservative decision making as one of the root causes of the violations. This was based on Operations' failure to remove the suspect reactor trip breaker (RTB) for a number of hours. An early, conservative decision on RTB operability could have precluded exceeding the LCO. The licensee stated that at the time the LCO expired, available information/data, did not indicate any abnormality beyond a set of dirty contacts or a loose connection associated with the RTB computer input circuit, and a "conservative decision" was made "not" to remove the RTB until: (1) an evaluation was made related to the potential for a transient and (2) the breaker was determined to be the most likely cause of the alarm.

The intent of the December 24 letter comment was to put the licensee on notice that a conservative decision "could" have prevented exceeding the LCO. In this case, when the breaker abnormality was indicated by an alarm following refurbishment activities, it was not a conservative decision to assume the cause prematurely and leave the breaker in place. A conservative decision would have been instead to remove the suspect equipment until further testing could be completed to ensure operability.

3. The licensee noted that the December 24, 1996 NRC letter stated that Maintenance and Engineering personnel failed to recognize the significance of the rod deviation computer alarm and failed to understand its potential impact on operability. The licensee stated that this NRC comment was based on the licensee staff proposal to troubleshoot the RTB and to "dummy" a signal to the computer. In the TYA clarification, the licensee stated that there were no indications that more than one contact was suspect and that the dummed computer value allowed continuous rod deviation monitoring which relieved operators from additional LCO actions. In addition, the licensee stated that it considered the insertion of the dummed value to be more conservative and that the activity was not performed to mask the alarm condition. The licensee also stated that it did not agree with the NRC's statement that resources were diverted for insertion of a value into the computer in order to clear the alarm.

It is the NRC's conclusion that the licensee failed to recognize the significance of the rod deviation alarm. The licensee stated that there were no indications that more than one contact was involved, however, two previous Westinghouse letters from 1979 and 1987, available to the licensee, identified that the reactor trip breaker P-4 circuitry contained potentially undetectable failures, and in fact several contacts were involved with this event and they were "undetectable" without the proper testing. Had appropriate actions in response to the Westinghouse letters been taken, this event potentially would have been avoided. With regard to the "dummed" computer input, during initial NRC interviews with the Shift Manager, Unit Shift Supervisor and other control room personnel, the inspector noted that it was the control room staff's belief that, if the computer point could have been readily fixed, no further action would be necessary. In addition, the control

room staff expressed an opinion that they had performed above and beyond normal just to get the faulty breaker out of the cubicle. The inspector noted that the insertion of a dummied signal eliminated relatively minor surveillance activities which did not appear to be warranted until the cause for the alarm was positively identified.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
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EA 96-327

November 26, 1996

J. V. Parrish, Chief Executive Officer
Washington Public Power Supply System
3000 George Washington Way
P.O. Box 968, MD 1023
Richland, Washington 99352

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$100,000 (NRC Inspection Report No. 50-397/96-19)

Dear Mr. Parrish:

This refers to the matters discussed with Washington Public Power Supply System (Supply System) representatives at the predecisional enforcement conference conducted on October 22, 1996, in Arlington, Texas. As noted in NRC Inspection Report 50-397/96-19, issued September 23, 1996, the conference was conducted to discuss several apparent violations of Technical Specification requirements at the Washington Nuclear Project-2 facility, Richland, Washington.

Based on the information developed during the inspection, and the information that you provided during the conference, the NRC has determined that violations of NRC requirements did occur. The violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice), and the circumstances surrounding them were described in detail in the subject inspection report.

Briefly, the violations involved: 1) shifting plant operational modes with one train of the control room emergency filtration system inoperable; 2) shifting plant operational modes without conducting required equipment surveillances (four examples); 3) not having an adequate procedure to assure that a required stroke-time test of reactor core isolation cooling containment isolation valves was performed prior to a mode change and in accordance with established procedures; and 4) failing to conduct required equipment surveillances during plant operations (two examples). These violations appear to have been caused by ineffective processes and procedures for verifying completion of required surveillance tests, and, in part, a poor understanding of the involved requirements for completing surveillance tests prior to mode change.

At the conference, the Supply System expressed no disagreement with the apparent violations; described a number of specific and broad corrective actions to address the root causes; noted that the Supply System had identified all but one of the issues; and pointed out the similarity between two of the current violations and previous violations and stated that the corrective actions from the previous violations had been less than fully effective. Additionally, despite the number of violations, the Supply System stated its perspective that the violations did not indicate a systemic degradation in Nuclear Operations performance. Finally, the corrective actions described by the Supply System to address

the current violations included the implementation of process and procedural enhancements, establishment of a surveillance and post-maintenance testing team, discussions of the events with operating crews, and lessons-learned training.

Although these violations did not result in actual safety consequences, the NRC considers the regulatory significance of the violations high. Taken collectively, the violations indicate that the Supply System did not maintain an effective program for assuring that required operational checks of equipment were performed at the appropriate times and in accordance with the Technical Specifications. The number of violations, and the fact that they occurred over a relatively short period of time, suggest a serious weakness in this very fundamental and important area. In addition, similar violations were cited in August 1995, as part of a Severity Level III problem that resulted in a \$50,000 civil penalty being assessed (EA 95-096). As you acknowledged at the conference, your corrective actions for the previous violations focused on human performance and did not address the process-related weaknesses that were at the root of the current violations.

In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG-1600, these violations are classified in the aggregate as a Severity Level III problem. In accordance with the Enforcement Policy, a civil penalty with a base value of \$50,000 is considered for a Severity Level III problem. Because your facility has been the subject of escalated enforcement actions within the last 2 years, as noted above, the NRC would normally consider whether credit was warranted for *Identification and Corrective Action* in determining whether a civil penalty should be assessed, as described in Section VI B.2 of the Enforcement Policy. As discussed above, the Supply System identified most of the violations and has taken corrective actions which we consider prompt and comprehensive. We believe it is important to note that the Supply System identified most of the current violations, and important to recognize that this is, in and of itself, a sign of improved performance on the part of the Supply System. However, the fact that these violations occurred, particularly in light of the NRC having taken escalated enforcement action in 1995 for violations with similar root causes, remains a significant regulatory concern. The NRC takes escalated enforcement action infrequently and does so, in part, to encourage prompt and comprehensive corrective action to prevent potentially significant violations from recurring.

Thus, notwithstanding the Supply System's efforts in identifying and correcting the current violations, and to emphasize: 1) the significance of taking corrective actions that are effective in precluding similar violations; and 2) the fundamental importance of having an effective program for assuring that surveillances are performed as required, I have been authorized, after consulting with the Director, Office of Enforcement and the Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research, to issue the enclosed Notice proposing a \$100,000 civil penalty in accordance with the discretion described in Section VII.A.1 of the Enforcement Policy.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice, including your proposed corrective actions and the

Washington Public Power
Supply System

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results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

Sincerely,

L.J. Callan
Regional Administrator

Enclosure: Notice of Violation and
Proposed Imposition of Civil Penalty

Docket No.: 50-397
License No.: NPF-21

cc w/Enclosure

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Richland, Washington 99352-0968

Ms. Lourdes C. Fernandez (Mail Drop PE20)
Manager, Licensing
Washington Public Power Supply System
P.O. Box 968
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Washington, D.C. 20005-3502

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Washington Public Power Supply System
Washington Nuclear Project-2

Docket No. 50-397
License No. NPF-21
EA 96-327

During an NRC inspection conducted on June 28 through September 4, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the Nuclear Regulatory Commission proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

- A. Technical Specification 3.0.4 states, in part, that entry into an OPERATIONAL CONDITION or other specified condition shall not be made unless the conditions for the Limiting Conditions for Operation are met without reliance on provisions contained in the ACTION requirements.

Technical Specification 3.7.2 (Limiting Condition for Operation) states, in part, that two independent control room emergency filtration system trains shall be OPERABLE in all OPERATIONAL CONDITIONS, and describes actions to be taken if one or more trains are inoperable.

Contrary to the above, on June 2, 1996, reactor operational condition was changed from Operational Condition 5 to Operational Condition 4 with Train A of the control room emergency filtration system inoperable. The conditions for the Limiting Conditions for Operation contained in Technical Specification 3.7.2 were not met without reliance on the provisions contained in the ACTION requirements. (01013)

- B. Technical Specification 4.0.4 states, in part, that entry into an OPERATIONAL CONDITION or other specified applicable condition shall not be made unless the Surveillance Requirement associated with the Limiting Condition for Operation have been performed within the applicable surveillance interval, or as otherwise specified.

Technical Specification 3.3.1 (Limiting Condition for Operation) states, in part, that as a minimum, the reactor protection system instrumentation channels shown in Table 3.3.1-1 shall be OPERABLE in the OPERATIONAL CONDITION as shown in Table 3.3.1-1. Technical Specification 4.3.1.1 (Surveillance Requirements) states, in part, that each reactor protection system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the OPERATIONAL CONDITIONS and at the frequencies shown in Table 4.3.1.1-1, Reactor Protection System Instrumentation Surveillance Requirements.

Technical Specification 3.3.6 (Limiting Condition for Operation) states, in part, that the control rod block instrumentation channels shown in Table 3.3.6-1 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3.6-2. Technical Specification 4.3.6 (Surveillance

Requirements) states, in part, that each of the above required control rod block trip systems and instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations for the operational conditions and at the frequencies shown in Table 4.3.6-1.

Contrary to the above:

1. On June 20, 1996, reactor OPERATIONAL CONDITION was changed from Operational Condition 2 to Operational Condition 1, and the surveillance requirements associated with Limiting Conditions for Operation of Technical Specification 3.3.1 for Turbine Throttle Valve - Closure, as shown in Table 4.3.1.1-1, Functional Unit 9, were not met.
2. On June 28, 1996, the reactor OPERATIONAL CONDITION was changed from Operational Condition 4 to Operational Condition 2, and the surveillance requirements associated with Limiting Conditions for Operation of Technical Specification 3.3.6 for the upscale, inoperative, and downscale channel checks for the rod block monitor, as shown in Table 4.3.6-1, Trip Functions 1.a, 1.b and 1.c, were not met.
3. On June 29, 1996, reactor OPERATIONAL CONDITION was changed from Operational Condition 2 to Operational Condition 1, and the following surveillance requirements associated with Limiting Conditions for Operation contained in Technical Specification 3.3.6 for the average power range monitor (APRM) downscale rod block channel functional test, and the APRM fixed neutron flux upscale trips, as shown in Table 4.3.6-1, Trip Functions 2.a and 2.c, were not met. (01023)

- C. Technical Specification 6.8.1.a states, in part, that written procedures shall be established, implemented, and maintained covering the activities referenced below, including "d. Surveillance and test activities of safety-related equipment."

Technical Specification 6.8.2 states, in part, that each procedure of Specification 6.8.1, and changes thereto, shall be reviewed by the Plant Operations Committee (POC) and shall be approved by the Plant Manager prior to implementation.

Technical Specification 3.6.3 (Limiting Condition for Operation) states, in part, that the primary containment isolation valves shown in Table 3.6.3-1 shall be OPERABLE with isolation times less than or equal to those shown in Table 3.6.3-1 in Operational Conditions 1, 2 and 3.

Technical Specification 4.6.3.1 (Surveillance Requirements) states, in part, that each primary containment isolation valve shown in Table 3.6.3-1 shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve by cycling the valve through at least one complete cycle of full travel and verifying the specified isolation time.

Technical Specification 4.6.3.2 states, in part, that each primary containment automatic isolation valve shown in Table 3.6.3-1 shall be demonstrated OPERABLE

during COLD SHUTDOWN or REFUELING at least once per 18 months by verifying that on a containment isolation test signal each automatic isolation valve actuates to its isolation position.

Table 3.6.3-1, Primary Containment Isolation Valves, lists Reactor Core Isolation Cooling Valves RCIC-V-63 and RCIC-V-76 as Automatic Isolation Valves.

Contrary to the above, as of June 12, 1996, procedures utilized during reactor startup were inadequate, in that they failed to ensure, prior to shifting OPERATIONAL CONDITIONS from Operational Condition 4 to Operational Condition 2, that reactor core isolation cooling containment isolation Valves RCIC-V-63 and RCIC-V-76 were stroke-time tested in accordance with established procedures for conducting such surveillances and which had been reviewed by the POC. Specifically, the licensee performed post-maintenance testing of the valves which was equivalent to the surveillance test but with a procedure (PPM 10.25.132) that had not been reviewed by the POC. (01033)

Technical Specification 4.4.1.3 (Surveillance Requirements) states that recirculation loop flow mismatch shall be verified to within the limits as least once per 24 hours while in Operational Conditions 1 and 2.

Contrary to the above, on June 13 and 14, 1996, the plant was in Operational Condition 2, and the daily recirculation loop flow mismatch surveillances were not performed. (01043)

Technical Specification 4.3.1.1 (Surveillance Requirements) and associated Table 3.6.3-1, Appendix Unit 2.b, requires that the APRM channel check be performed while in Operational Condition 1.

Contrary to the above, on June 21 and 23, 1996, the plant was in Operational Condition 1, and the daily APRM channel checks were not performed. (01053)

3.6.3.2.2. Reactor Core Isolation Cooling System Severity Level III problem (Supplement II).
NRC Finding: 51026, 51027

Under the provisions of 10 CFR 2.201, Washington Public Power Supply System is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be filed and marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, and a copy to the NRC Resident Inspector at WNP-2.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support your request for withholding the information from the public.

Dated at Arlington, Texas,
this 26th day of November 1996

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20545-0801

February 14, 1997

EA 96-327

J. V. Parrish, Chief Executive Officer
Washington Public Power Supply System
3000 George Washington Way
Post Office Box 968, MD 1023
Richland, Washington 99352

SUBJECT: ORDER IMPOSING CIVIL MONETARY PENALTY - \$100,000
(Washington Nuclear Project 2)

Dear Mr. Parrish:

This refers to your letter dated December 23, 1996, in response to the Notice of Violation and Proposed Imposition of Civil Penalty (Notice) sent to you by our letter dated November 26, 1996. Our letter and Notice described several violations of Technical Specification requirements at Washington Nuclear Project 2 (WNP-2).

To emphasize the significance of taking corrective actions that are effective in precluding similar violations and the fundamental importance of having an effective program for assuring that surveillance requirements are performed as required, a civil penalty of \$100,000 was proposed. In proposing this penalty, the NRC recognized that the Washington Public Power Supply System (Supply System) identified most of the current violations and took prompt and comprehensive corrective action for the current violations. However, the NRC utilized its enforcement discretion to propose the penalty to emphasize the Supply System's failure to adequately correct previous similar violations and to emphasize the fundamental importance of surveillance requirements.

In its response, the Supply System admitted that the violations had occurred but requested reconsideration of the proposed civil penalty, citing the following reasons: 1) a penalty of \$50,000 would be more consistent with the purposes of the NRC's enforcement policy; 2) there was no systemic breakdown in operational activities at WNP-2; 3) additional credit should be given for corrective actions; and 4) the enforcement action placed too much emphasis on a previous surveillance-related violation.

After consideration of the response, we have concluded for the reasons provided in the Appendix to the enclosed Order Imposing Civil Monetary Penalty (Order) that the civil penalty as originally proposed should be imposed by order. Accordingly, the enclosed Order requires the Washington Public Power Supply System to pay a civil monetary penalty in the amount of \$100,000, as provided in Section IV of the enclosed Order. We will review the effectiveness of your corrective actions during subsequent inspections.

Washington Public Power
Supply System

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In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice", a copy of this letter and enclosure will be placed in the NRC's Public Document Room.

Sincerely,

James Lieberman, Director
Office of Enforcement

Docket No. 50-397
License No. NPF-21

Enclosure: As Stated

cc w/Encl:
Frederick S. Adair, Chairman
Energy Facility Site Evaluation Council
P.O. Box 43172
Olympia, Washington 98504-3172

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Vice President, Nuclear Operations
Washington Public Power Supply System
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Mr. Rodney L. Webring (Mail Drop PE08)
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Mr. Greg O. Smith (Mail Drop 927M)
MNP-2 Plant General Manager
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Mr. David A. Swank (Mail Drop PE20)
Manager, Regulatory Affairs
Washington Public Power Supply System
P.O. Box 968
Richland, Washington 99352-0968
cc w/Encl: (See Next Page)

Washington Public Power
Supply System

- 3 -

cc w/Encl: (Con't)
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Chief Counsel
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Richland, Washington 99352-0968

Ms. Lourdes C. Fernandez (Mail Drop PE20)
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Mr. Malcolm H. Phillips, Jr., Esq.
Winston & Strawn
1400 L Street, N.W.
Washington, D.C. 20005-3502

UNITED STATES
NUCLEAR REGULATORY COMMISSION

In the Matter of

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
Washington Nuclear Project-2

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Docket No. 50-397
License No. NPF-21
EA 96-327

ORDER IMPOSING CIVIL MONETARY PENALTY

I

Washington Public Power Supply System (Supply System or Licensee) is the holder of reactor operating license NPF-21 issued by the Nuclear Regulatory Commission (NRC or Commission) on April 13, 1984. The license authorizes the Licensee to operate Washington Nuclear Project 2 (WNP-2) in accordance with the conditions specified therein.

II

An inspection of the Licensee's activities was conducted June 28 through September 4, 1996. The results of this inspection indicated that the Licensee had not conducted its activities in full compliance with NRC requirements. A written Notice of Violation and Proposed Imposition of Civil Penalty (Notice) was served upon the Licensee by letter dated November 26, 1996. The Notice described the violations, including the provisions of the NRC's requirements that the Licensee had violated, and the amount of the civil penalty proposed for the violations.

The Licensee responded to the Notice in a letter dated December 23, 1996. In its response, the Licensee admitted that the violations had occurred but requested reconsideration of the proposed civil penalty, citing the following

reasons: 1) a penalty of \$50,000 would be more consistent with the purposes of the NRC's enforcement policy; 2) there was no systemic breakdown in operational activities at WNP-2; 3) additional credit should be given for corrective actions; and 4) the enforcement action placed too much emphasis on a previous surveillance-related violation.

III

After consideration of the Licensee's response and the statements of fact, explanation, and argument for mitigation contained therein, the NRC staff has determined, as set forth in the Appendix to this Order, that the Licensee has not provided a basis for mitigation of the civil penalty and that the penalty proposed for the violations in the Notice should be imposed.

IV

In view of the foregoing and pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205, IT IS HEREBY ORDERED THAT:

The Licensee pay a civil penalty in the amount of \$100,000 within 30 days of the date of this Order, by check, draft, money order, or electronic transfer, payable to the Treasurer of the United States and mailed to James Lieberman, Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738.

The Licensee may request a hearing within 30 days of the date of this Order. Where good cause is shown, consideration will be given to extending the time to request a hearing. A request for extension of time must be made in writing to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission Washington, D.C. 20555, and include a statement of good cause for the extension. A request for a hearing should be clearly marked as a "Request for an Enforcement Hearing" and shall be addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission Washington, D.C. 20555, with a copy to the Commission's Document Control Desk, Washington, D.C. 20555. Copies also shall be sent to the Assistant General Counsel for Hearings and Enforcement at the same address and to the Regional Administrator, NRC Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, TX 76055.

If a hearing is requested, the Commission will issue an Order designating the time and place of the hearing. If the Licensee fails to request a hearing within 30 days of the date of this Order (or if written approval of an extension of time in which to request a hearing has not been granted), the provisions of this Order shall be effective without further proceedings. If payment has not been made by that time, the matter may be referred to the Attorney General for collection.

In the event the Licensee requests a hearing as provided above, the issues to be considered at such hearing shall be:

Whether, on the basis of the violations admitted by the Licensee, this Order should be sustained.

FOR THE NUCLEAR REGULATORY COMMISSION

James Lieberman, Director
Office of Enforcement

Dated at Rockville, Maryland
this 14th day of February 1997

APPENDIX
EVALUATION AND CONCLUSION

On November 26, 1996 a Notice of Violation and Proposed Imposition of Civil Penalty (Notice) was issued for violations identified during an NRC inspection. The Washington Public Power Supply System (Supply System or Licensee) responded to the Notice on December 23, 1996. The Supply System admitted the violations but requested reconsideration of the amount of the civil penalty. A summary of the Licensee's reasons for a reduction in the amount of the civil penalty and the NRC's evaluation of those reasons follow:

Summary of Licensee's Request for Reconsideration and NRC Evaluation

1. The Supply System stated that, given the NRC's recognition of the Supply System's identification of most of the violations and its prompt and comprehensive corrective actions, a more appropriate regulatory message would be a penalty at the base amount of \$50,000. The Supply System cited the intent of the NRC's Enforcement Policy (General Statement of Policy and Procedures for NRC Enforcement Actions, NUREG-1600) to encourage prompt identification and prompt, comprehensive correction of violations.

NRC Response: The NRC recognized that the Supply System identified most of the violations and that its corrective actions were prompt and comprehensive. In fact, as the Supply System noted in its response, the NRC characterized this as a sign of improved performance. Had the NRC considered no additional information, no civil penalty would have been assessed for these violations, in accordance with the civil penalty assessment process described in VI.B.2 of the Enforcement Policy. However, the NRC utilized its enforcement discretion, as described in Section VII.A.1 of the Enforcement Policy, to assess a civil penalty in the amount of \$100,000. This section of the policy permits the NRC to assess a penalty where none might otherwise be proposed, or to increase the amount of a civil penalty, to reflect the safety or regulatory significance of the violations. In this case, the NRC utilized its discretion to propose a \$100,000 civil penalty for two primary reasons. First, the Supply System had been cited in August 1995, for violations in the Supply System's surveillance requirements program as part of an escalated enforcement action (EA 95-096). The number of similar violations that occurred over a relatively short period of time in 1996 demonstrated serious weaknesses in the Supply System's surveillance requirements program and showed that the Supply System's 1995 corrective actions had not gone far enough to address these weaknesses. Secondly, the NRC utilized discretion to emphasize the fundamental importance of the surveillance program and to express its concern that, at this stage in the operation of this facility, weaknesses would exist as serious as those evidenced by the numerous violations forming the basis of this enforcement action. The NRC determined that a civil penalty larger than the \$50,000 civil penalty assessed in 1995 was warranted in these circumstances and proposed a \$100,000 civil penalty for this matter.

2. The Supply System stated that there was no systemic breakdown in operational activities.

NRC Response: The NRC accepts this statement, but it has little relevance to the current enforcement action. The NRC based its action on the serious weaknesses in the surveillance program at MNP-2, as evidenced by several surveillance-related violations occurring over a relatively short period of time, and the ineffectiveness of previous corrective actions to preclude recurrence. These violations were considered collectively as a Severity Level III problem in accordance with Supplement I of the Enforcement Policy. The Supply System's assertion that these violations did not represent a "systemic breakdown" in operational activities does not affect the NRC's perspective or the enforcement action. There was clearly a programmatic issue.

3. The Supply System stated that additional credit should be given for its prompt and comprehensive corrective actions.

NRC Response: As stated above, the NRC recognized that the Supply System took prompt and comprehensive corrective actions. The penalty was not based on any perceived shortcomings in the Supply System's corrective actions for the current (1996) violations. The NRC's concern about corrective actions was based on the aforementioned 1995 enforcement action (EA 95-096), in which surveillance-related violations made up part of a Severity Level III problem that resulted in a \$50,000 civil penalty being assessed. In EA 95-096, issued on August 17, 1995, nine violations were considered in the aggregate as a Severity Level III problem. Violations E(1), E(2) and F of EA 95-096 involved changing operational conditions (modes) with equipment inoperable, a violation of the Technical Specifications. In the current enforcement action, the violations involved changing modes with equipment inoperable and changing modes without having conducted required surveillances. All of these violations involved the programs and processes in place to assure that equipment was operable and that required surveillances had been conducted prior to changing modes. In taking its action in 1995, the NRC specifically stated that it had limited the civil penalty to \$50,000 "in recognition of the fact that you have proposed comprehensive corrective actions." Since those actions were not effective with respect to surveillance-related problems that form the basis for this enforcement action, as well as to emphasize the fundamental importance of surveillance program compliance, the NRC proposed a civil penalty (\$100,000) that was larger than the civil penalty proposed for EA 95-096 (\$50,000). The NRC notes that the Supply System's corrective actions for the 1995 enforcement action did not extend to its processes for assuring compliance with surveillance requirements and that, as of the occurrence of the violations in 1996, no checklist or other verification method existed to ensure that surveillances had been completed prior to changing modes, a commonly used method of verifying compliance.

4. The Supply System stated in its response that the enforcement action placed too much emphasis on the prior surveillance-related violation, noting that only one current violation was similar to a previous violation only in that it involved errors in LCO tracking prior to plant mode changes.

NRC Response: The NRC does not agree that the similarities between the 1995 and 1996 enforcement actions are limited to one example. As noted above, Violations E(1), E(2) and F in the 1995 enforcement action involved making mode changes with required equipment inoperable. In the current enforcement action, Violations A, B (with 3 examples) and C involved changing modes without having conducted required surveillances to show equipment operable. The NRC placed emphasis on this similarity, and in fact relied upon it as one of the primary reasons for utilizing enforcement discretion, to emphasize that escalated enforcement action had been taken in August 1995, less than one year prior to the current violations occurring. The NRC's expectation is that licensees who receive escalated enforcement action will take corrective action that is broad and comprehensive such that a recurrence of the violations is precluded or minimized. In this case, it was apparent that the Supply System's previous corrective actions did not address weaknesses in WNP-2's programs for assuring that surveillances were conducted and that equipment was operable prior to changing plant modes. Thus, the NRC does not agree that too much emphasis was placed on the similarities between the 1995 and 1996 enforcement actions. In addition, as discussed in response to other arguments above, the NRC exercised discretion to emphasize its concern about serious weaknesses in such a fundamental aspect of complying with plant Technical Specifications.

NRC Conclusion

The NRC concludes that its use of enforcement discretion to propose a \$100,000 civil penalty was appropriate and in accordance with the Enforcement Policy's emphasis in Section VII.A.1 of assuring that the enforcement action reflects the significance of the circumstances and conveys the appropriate regulatory message. Consequently, the proposed civil penalty in the amount of \$100,000 should be imposed by order.

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV

611 HYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

April 3, 1997

EA 96-470

Otto L. Maynard, President and
Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
P.O. Box 411
Burlington, Kansas 66839

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$100,000
(NRC INSPECTION REPORT 50-482/96-21)

Dear Mr. Maynard:

This refers to the predecisional enforcement conference held on January 16, 1997, in the NRC's Region IV office in Arlington, Texas. The purpose of the conference was to review the circumstances surrounding apparent violations described in the subject inspection report, which was issued on December 31, 1996. The inspection reviewed the effectiveness of the Wolf Creek Generating Station system and design engineering organizations. The onsite portion of this inspection ended on November 8, 1996. The overall scope and results of the inspection were discussed with your staff on December 31, 1996.

Based on the information developed during the inspection, the information that your staff provided during the conference, and the additional information provided in your staff's January 22, 1997 letter, the NRC has determined that several violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty. The circumstances surrounding them were described in detail in the subject inspection report. The first violation involves five examples of a violation of 10 CFR Appendix B, Criterion XVI. Specifically, while evaluating and responding to a Quality Assurance finding in 1994, your managers and staff failed to identify and correct conflicting positions between Wolf Creek's Technical Specification Clarifications (TSCs) and the actual Technical Specification requirement. As a result of your staff's use of some of these TSCs, Technical Specifications were violated.

Your staff stated that one cause was a "mind set" that permitted the use of operational knowledge in the application of Technical Specifications which, in some cases, compromised compliance. Although the actual safety significance of this violation was low, the circumstances surrounding it are of regulatory significance because of: (1) the management involvement in the violation, and (2) the fundamental importance of complying with Technical Specification requirements.

The second violation involves an inappropriate application of the regulatory guidance for determining the frequency of Reactor Coolant Pump (RCP) flywheel inspections. This is a violation of 10 CFR 50.59 because your staff changed a procedure described in the safety

analysis report without recognizing that it also involved a change to Technical Specifications. This violation is significant because it resulted in a violation of Technical Specifications.

The third violation involves the continuing existence of TSC 001-94 after we informed your staff at the predecisional enforcement conference that the NRC considered it incorrect. This TSC involved an incorrect interpretation of Technical Specification 3.3.1, Table 3.3-1, Functional Unit 6.b, Action 5, associated with positive reactivity additions in conjunction with an inoperable source range nuclear instrumentation channel. Your staff's position at the conference was that this TSC did not conflict with the Technical Specification requirements. We continue to disagree with your position regarding this TSC. This is of concern to us because your staff did not either rescind the TSC after the inspection, request formal clarification from the NRC, or request a change to the Technical Specifications. Although a situation to implement the incorrect clarification has not occurred, this TSC was still in effect and available for use as of March 21, 1997. In a telephone conversation on that date between Mr. Bill Johnson of this office and Mr. Clay Warren of your staff, we informed your staff that the NRC considered that the continued existence of this TSC constituted a continuing violation. Subsequently, on March 21, 1997, the TSC was removed. We conclude that this incorrect interpretation of Technical Specifications, which remained in effect following our stated position at the predecisional enforcement conference on January 16, 1997 until March 21, 1997, represents an inappropriate instruction for an activity potentially affecting quality and, as such, constitutes a violation of Criterion V of 10 CFR Part 50, Appendix B.

Given the regulatory significance of these violations that resulted in noncompliances with Technical Specifications and failure to take corrective actions, they are classified in the aggregate in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Severity Level III problem.

In accordance with the Enforcement Policy, a civil penalty with a base value of \$50,000 is considered for a Severity Level III problem. Because your facility has been the subject of escalated enforcement actions within the last 2 years¹, the NRC considered whether credit was warranted for *Identification and Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy.

In evaluating whether credit is warranted for *Corrective Action*, the NRC carefully considered all your corrective actions. At the predecisional enforcement conference, the time at which the judgement of the adequacy of corrective actions is normally made, your corrective actions included: (1) conducting an extensive evaluation of the existing TSCs and deleting or revising several, (2) the Chief Operating Officer issuing a letter to all personnel detailing expectations for compliance with requirements, (3) chartering an

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¹ A \$300,000 civil penalty was proposed for three Severity Level III violations/problems on July 1, 1996 (EA 96-124) related to a frazil ice condition which rendered one train of the Emergency Service Water inoperable and the other train degraded, in addition to problems related to a degraded turbine driven auxiliary feedwater pump.

Incident Investigation Team, (4) changing the Onsite Review Committee, and (5) arranging for an outside audit of the plant's corrective action program. Also, corrective actions for the violation involving the RCP flywheel inspections included: (1) performing an operability evaluation, (2) requesting a license amendment, and (3) initiating a change to the Updated Safety Analyses Report.

Our deliberations on *Corrective Action* also considered your staff's position in the enforcement conference that certain TSCs "were reviewed and found to not violate Technical Specification requirements and did not constitute a change to the existing specifications." The inspection report identified these TSCs as examples of the apparent Criterion XVI violation. After the conference, your staff reiterated your position in a letter dated January 22, 1997. One of these involved TSC 002-96 (source range power supplies). Your staff's initial position was that this TSC did not conflict with Technical Specification 3.8.2. After questioning by NRC during the conference, your staff changed its position and agreed with the NRC that the interpretation was not conservative. (This position was confirmed in your staff's letter dated January 22, 1997.) Therefore, your corrective actions were not adequate, in this example, to have identified your staff's nonconservative position at the time of the conference.

Further, as stated above regarding the third violation, TSC 001-94 remained available for use after the NRC stated its conclusion that it conflicted with Technical Specifications. Thus, our position is that your corrective actions were not prompt, in this example, because you did not either: (1) immediately resolve the issue with the NRC, or (2) rescind the TSC until the issue was resolved with the NRC.

Based on the above two examples, which involve nonconservative and erroneous interpretations of Technical Specifications (the basis for the citation), it appears your corrective actions were not sufficiently prompt nor comprehensive. As a result, the NRC cannot justify giving you *Corrective Action* credit.

Therefore, to emphasize the importance of compliance with Technical Specifications and of prompt identification and comprehensive correction of violations, and in recognition of your previous escalated enforcement action, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$100,000 for the Severity Level III problem.

At the conference, we also discussed other apparent violations. The first involved four examples of 10 CFR 50.59 violations. At the conference, your staff brought additional information to show that, although the documentation was weak, an evaluation was performed of the Set Point Change Request for the essential service water self cleaning strainer. This is not a violation of 10 CFR 50.59 and is not cited. We have concluded that the remaining 10 CFR 50.59 violations do not represent a programmatic failure and, except the example involving the RCP flywheel inspections discussed above, are therefore cited at Severity Level IV.

The second apparent violation discussed involved noncompliance with Technical Specification 3.5.4 which requires one centrifugal charging pump to be inoperable when in cold shutdown with the reactor vessel head on. After evaluating all the information, we have decided that citing this as another example of the Criterion XVI violation is more appropriate.

Also, one example of the apparent violation of 10 CFR Part 50 Criterion XVI involved TSC 026-85 (quadrant power tilt ratio (QPTR)). Your staff's position, as described in your January 22, 1997, letter, is that, "Action statements [Technical Specification 3.2.4] a.3, and thus a.4, should not be entered until just prior to 24 hours after exceeding the QPTR limit." We have reevaluated this issue and have determined that the wording of the Technical Specification supports your position. As such, this issue is not a violation of a legally binding requirement. However, we continue to believe that your interpretation is nonconservative. If, for example, an unknown stuck rod situation were to occur, your position would not require operators to "[i]dentify and correct the cause of the out-of-limit condition prior to increasing THERMAL POWER..." until just prior to 24 hours after exceeding the QPTR limit. Your position is nonconservative because it could allow for power increases that could ultimately lead to fuel failure. The Office of Nuclear Reactor Regulation will discuss our concern with you further in separate correspondence.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. With regard to the Criterion XVI violation, we note that your staff and the NRC team identified several examples of conflicts between your TSCs and the Technical Specifications. We limited the citation to the more important issues, those examples that actually resulted in violations of the Technical Specifications. Nevertheless, your corrective actions should be sufficiently comprehensive to identify and correct all other conflicting interpretations so that no future Technical Specification violations occur from this problem. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,

Ellis W. Merschoff
Regional Administrator

Docket: 50-482
License: NPF-42

Enclosure: (see next page)

Wolf Creek Nuclear Operating
Corporation

-5-

Enclosure: Notice of Violation and
Proposed Imposition of Civil Penalty

cc w/Enclosure:
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Burlington, Kansas 66839-1798

Wolf Creek Nuclear Operating
Corporation

-6-

Public Health Physicist
Division of Environment
Kansas Department of Health
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NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Wolf Creek Nuclear Generating Corporation
Wolf Creek Generating Station

Docket: 50-482
License: NPF-42
EA 96-470

During an NRC inspection conducted on October 7-25, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the NRC proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

I. Violations Assessed a Civil Penalty

- A. 10 CFR Part 50, Appendix B, Criterion XVI requires, in part, that measures be established to assure that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, on March 31, 1994, the licensee's corrective actions in response to Quality Assurance Audit K381 findings failed to identify and correct conflicts between Technical Specification Clarifications (TSCs) and the Technical Specifications (TS), a condition adverse to quality. Specifically, the licensee's screenings of the following TSCs did not identify conflicts between the TSCs and the TS as indicated by the following examples:

- (1) TSC 009-85 conflicted with TS 3/4.5.3 and TS 3/4.5.4 (applicable in Modes 4 and 5, respectively) by allowing two centrifugal charging pumps to be available while in cold shutdown. TS 3/4.5.3 and TS 3/4.5.4 allowed only one centrifugal charging pump to be available while in cold shutdown.
- (2) TSC 010-85 conflicted with TS 3.5.3 and 4.5.2 by allowing daily containment closeout inspections following multiple containment entries in one day. TS 3.5.3 and 4.5.2 specify a containment visual inspection for loose debris be performed following each containment entry.
- (3) TSC 033-85 conflicted with TS 3.6.1.1 by allowing containment penetrations to be considered operable if dedicated operators were assigned to close inoperable containment isolation valves. TS 3.6.1.1 requires for operability that all containment penetrations be isolable by automatic isolation valves.
- (4) TSC 004-86 conflicted with TS 4.5.1 and 4.0.3 allowing cold leg accumulators to be considered operable upon receipt of level and

pressure alarms if accumulator level and pressure were within prescribed limits. TS 4.5.1 and 4.0.3 require the accumulators to be considered inoperable upon receipt of these alarms.

- (5) TSC 005-94 conflicted with TS 4.8.1.1.2.g.7 by allowing hot restart testing of an emergency diesel generator to be performed any time before or after the 24 hour load test as long as the hot restart test was performed within 5 minutes of a 2 hour diesel run. TS 4.8.1.1.2.g.7 specifies that a hot restart test be performed within 5 minutes following the 24 hour test except that the hot restart test may be done following a warmup run only if it previously failed the test immediately following the 24 hour test. (01013)

- B. 10 CFR 50.59 (a)(1) allows the holder of a license to make changes to the facility and procedures as described in the safety analysis report without prior Commission approval unless the proposed change involves a change in the Technical Specifications or an unreviewed safety question. 10 CFR 50.59(b)(1) requires that the licensee maintain records of changes to the facility and that these records include a written safety evaluation which provides the basis for the determination that the change does not involve an unreviewed safety question.

Contrary to the above, on January 11, 1995, the licensee made a change to a procedure described in the safety analysis report that involved a change to the Technical Specifications, without prior Commission approval. Specifically, the licensee changed the frequency for scheduled surface and ultrasonic examinations of reactor coolant pump flywheels, as described by Regulatory Guide 1.14, "Reactor Coolant Pump Flywheel Integrity," which is described in Chapters 3A and 5.4.1 of the Updated Safety Analysis Report. However, the licensee did not recognize that the change also involved a change to the Technical Specifications, because the Regulatory Guide's examination schedule was specified by reference in Technical Specification 4.4.10 (which was superseded by Technical Specification 6.8.5.b on October 2, 1995). (01023)

- C. 10 CFR Part 50, Appendix B, Criterion V, "Instructions Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances.

TS 3.3.1, Table 3.3-1, Functional Unit 6.b, Action 5 specifies that with one inoperable source range channel, all operations involving positive reactivity changes be suspended.

Contrary to the above, for an activity affecting quality, a documented instruction was not of a type appropriate to the circumstances in that

TSC 001-94 conflicted with TS 3.3.1, Table 3.3-1, Functional Unit 6.b, Action 5 by allowing the reactor coolant system to be cooled down, an activity which involves a positive reactivity change, with one inoperable source range channel of nuclear instrumentation. This instruction remained in place after the licensee was notified by the NRC, on January 16, 1997, that it conflicted with TS, until it was canceled on March 21, 1997. (01033)

These violations represent a Severity Level III problem. (Supplement I).
Civil Penalty - \$100,000.

II. Violations Not Assessed a Civil Penalty

10 CFR 50.59 (a)(1) allows the holder of a license to make changes to the facility and procedures as described in the final safety analysis report without prior Commission approval unless the proposed change involves a change in the Technical Specifications or an unreviewed safety question. 10 CFR 50.59(b)(1) requires that the licensee shall maintain records of changes to the facility and that these records include a written safety evaluation which provides the basis for the determination that the change does not involve an unreviewed safety question.

Contrary to the above, in the following examples, the licensee made changes to procedures described in the safety analysis report without an adequate written safety evaluation which provided the basis for the determination that the changes did not involve an unreviewed safety question as indicated by the following examples:

- A. On December 13, 1995, the licensee's screening for revisions to Procedures STS PE-049C, "A Train Underground Essential Service Water System Piping Flow Test," and STS PE-049D, "B Train Underground Essential Service Water System Piping Flow Test," failed to indicate that Chapter 9.2 of the Updated Safety Analysis Report was affected by the change. The procedure changes reclassified the systems as non-redundant whereas the Updated Safety Analysis Report described the essential service water system as redundant. As a result, the licensee failed either to submit a request for an alternative to the inservice inspection requirements or process a change to Chapter 9.2 of the Updated Safety Analysis Report and determine whether the change involved an unreviewed safety question.
- B. On March 26, 1996, the licensee performed a 10 CFR 50.59 unreviewed safety question determination regarding changing the main turbine overspeed protection test frequency as stated in Chapter 16.3.2 of the Updated Safety Analysis Report from every 7 days to every 92 days, without providing supporting documentation to conclude that an unreviewed safety question was not involved. The unreviewed safety question determination did not address the licensee's experience with the testing of these valves and did

not contain any information as to the acceptability, by the turbine vendor, of the decreased surveillance frequency of the turbine valves. (02014)

This is a Severity Level IV violation. (Supplement I).

Pursuant to the provisions of 10 CFR 2.201, Wolf Creek Nuclear Operating Corporation (Licensee) is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalty, in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violations listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty, in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to

the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234(c) of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Arlington, Texas,
this 3rd day of April 1997

B. SEVERITY LEVEL I, II, III VIOLATIONS,
NO CIVIL PENALTY

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23185
ATLANTA, GEORGIA 30303

April 24, 1997

EA 97-056
EA 97-057
EA 97-058

Carolina Power and Light Company
ATTN: W. S. Orser
Executive Vice President
P. O. Box 1551
Raleigh, North Carolina 27602

SUBJECT: NOTICE OF VIOLATION
(NRC INSPECTION REPORT NOS. 50-325, 324/97-01, 50-
400/97-02, AND 50-261/97-02)

Dear Mr. Orser:

This letter refers to the inspection conducted at the Carolina Power and Light Company (CP&L) General Office in Raleigh, North Carolina during the period January 13 through February 6, 1997. The inspection included a review of the Access Authorization and Fitness for Duty programs for the Brunswick, Harris, and Robinson plants. Particularly, the inspection reviewed the results of CP&L's audit of these programs conducted during July 1996. The results of the inspection were formally transmitted to you by letter dated February 28, 1997. That letter also provided you the opportunity to respond to the apparent violations or request a predecisional enforcement conference. Subsequently, you declined a conference, and by letters dated March 31, and April 4, 1997, you submitted additional information to us regarding the apparent violations, the root causes, and your corrective actions to preclude recurrence, as requested in our letter dated February 28, 1997. We have reviewed the inspection results and the additional information you provided and have concluded that sufficient information is available to determine the appropriate enforcement action in this matter.

Based on the information developed during the inspection and the information that was provided in your March 31 and April 4, 1997, letters, the NRC has determined that violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding them are described in detail in the subject inspection report. The violations addressed in the Notice are associated with multiple failures to implement various aspects of your Access Authorization and Fitness for Duty programs at the Brunswick and Harris plants. In the area of access authorization, the violations include: (1) the failure to fingerprint and/or

complete the criminal history check of individuals prior to granting unescorted access to the Brunswick plant; (2) the failure to verify properly an individual's prior employment before granting unescorted access to the Brunswick plant; (3) the failure to conduct adequate periodic reviews of the access list for vital areas at the Harris plant; and (4) the failure to document adequately decisions regarding the basis for granting unescorted access authorization at the Brunswick plant. In the area of fitness for duty, the violations include: (1) the failure to include three individuals who were granted unescorted access to the Brunswick plant in the random drug and alcohol testing program; and (2) multiple failures to follow documentation procedures associated with fitness for duty donor chain of custody for the Brunswick and Harris plants. The root cause of the violations appears to be a lack of management oversight and monitoring of program implementation prior to July 1996.

The NRC recognizes that the violations described in the Notice were identified through CP&L's audit and self-assessment program. Although your efforts in identifying the issues and determining the extent of condition were aggressive and are to be commended, collectively, the violations are of significant regulatory concern. Particularly, with the 1995 consolidation of the Access Authorization and Fitness for Duty programs under General Office control, management did not assure sufficient pre-planning, procedure development, and personnel training to facilitate the program's transition and subsequent implementation. As a result, programmatic issues of the type described above emerged. Although the Notice relates primarily to the Brunswick plant and, to a lesser degree the Harris plant, the deficiencies identified had the potential to impact all three of your licensed facilities significantly. Furthermore, the Notice reflects only a sampling of the issues you identified. Of individual concern are Violations A.2 and A.3 which involve the access or potential access of unauthorized individuals to the Brunswick and Harris plants, respectively. Specifically, due to your failure to perform an adequate verification of prior employment, which would have identified derogatory information, an individual was granted unescorted access to the Brunswick plant. Had the subsequently identified derogatory information been known at the time, the individual would not have been granted access. Secondly, the failure to perform adequate 31-day reviews of the vital area access list at the Harris plant resulted in the failure to identify two individuals whose employment had been terminated, but who retained the capability to gain unescorted access to the plant. Therefore, collectively, the violations are classified in the aggregate in accordance with the "General Statement of Policy

and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Severity Level III problem, applicable to both the Brunswick and Harris plants individually.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$55,000 is considered for a Severity Level III problem occurring on or continuing after November 12, 1996, (61 Federal Register 53554). However, since most of the violations occurred prior to November 12, 1996, the base civil penalty considered for this case is \$50,000 (NUREG-1600, July 1995). Because the Brunswick plant has been the subject of escalated enforcement action within the last two years¹, the NRC considered whether credit was warranted for Identification and Corrective Action in accordance with the civil penalty assessment process described in Section VI.B.2 of the Enforcement Policy. The NRC concluded that credit was warranted for Identification because the violations were identified as a result of your audit program. As stated previously and in the subject inspection report, the thoroughness and aggressiveness of this effort are noteworthy. With regard to consideration for Corrective Action, as documented in the inspection report transmitted to you on February 28, 1997, and your March 31 and April 4, 1997, written responses, the corrective actions for the violations include: (1) assignment of new management to address the oversight issues; (2) conduct of training and a review of expectations for appropriate personnel; (3) initiation of a root cause analysis and condition review; (4) revision, either completed or planned, of appropriate access authorization and fitness for duty procedures; (5) conduct of a detailed review of the specific circumstances surrounding the individual access authorization cases; (6) issuance of expectations and more detailed requirements to contractors performing background investigations; (7) the conduct of additional audits of background investigation material to ensure completeness; (8) development of a formalized training program for access authorization personnel; and (9) implementation of a weekly cross-check of the random drug testing pool at the Brunswick plant until it is determined that a problem no longer exists. Based on the above, the NRC determined that your corrective actions were prompt and comprehensive, and credit was warranted for this factor.

Therefore, to encourage prompt identification of and comprehensive corrective action for violations, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case for the

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¹These escalated enforcement actions include EA 95-166, EA 95-228, EA 96-054, EA 96-181, EA 96-354, and most recently EA 96-442 which was issued on December 13, 1996, which related to exceeding the thermal power limit.

Brunswick plant. In addition, no civil penalty is proposed for the Harris plant because the Harris plant has not been the subject of escalated enforcement action within the last two years and credit was determined to be warranted for the factor of Corrective Action as described above. However, significant violations in the future could result in a civil penalty.

With regard to the apparent violations described in the inspection report for the Robinson plant, EBI 50-261/97-02-01 and EEI 50-261/97-02-02, the NRC has concluded that these violations, absent additional violations related to these program areas for Robinson, are less significant. Although the fact that the specific violations identified at Robinson were fewer in number and of minor, overall significance (i.e., documentation issues), due to the programmatic nature of the issues described above, it was only fortuitous that other issues were not identified at Robinson. However, we have concluded that the two violations meet the criteria specified in Section VII.B.1 of the Enforcement Policy, and therefore will not be cited. For tracking purposes, the non-cited violations are identified as NCV 50-261/97-02-01 for access authorization documentation issues and NCV 50-261/97-02-02 for fitness for duty documentation issues.

The NRC has concluded that information regarding the reason for the violations, the corrective actions taken and planned to correct the violations and prevent recurrence, and the date when full compliance will be achieved are already adequately addressed on the docket in your letters to the NRC dated March 31 and April 4, 1997. Therefore, no response to this letter is required unless the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, should you provide one, will be placed in the NRC Public Document Room.

Sincerely,

Luis A. Reyes
Regional Administrator

Enclosure: Notice of Violation

cc w/encl: See Page 5

cc w/encl:

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cc e/encl: (Cont'd on Page 6)

cc w/encl (Cont'd):

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Public Service Commission
State of South Carolina
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Columbia, SC 29211

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K. R. Jury, Manager
Regulatory Affairs
Carolina Power & Light Company
Brunswick Steam Electric Plant
P. O. Box 10429
Southport, NC 28461-0429

cc w/encl: (Cont'd on Page 8)

CPL

8

cc w/encl (Cont'd):
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Brunswick County Board of
Commissioners
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Bolivia, NC 28422

Dan E. Summers
Emergency Management Coordinator
New Hanover County Department of
Emergency Management
P. O. Box 1525
Wilmington, NC 28402

William H. Crowe, Mayor
City of Southport
201 East Moore Street
Southport, NC 28461

NOTICE OF VIOLATION

Carolina Power and Light Company
Brunswick Nuclear Plant
Harris Nuclear Plant

Docket Nos. 50-325, 50-324,
and 50-400
License Nos. DPR-71, DPR-62,
and NPF-63
EA 97-056 and EA 97-057

During an NRC inspection conducted on January 13 through February 6, 1997, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

- A. 10 CFR 73.56(b) requires the licensee to establish and maintain an Access Authorization Program granting individuals unescorted access to protected and vital areas with the objective of providing high assurance that individuals granted unescorted access are trustworthy and reliable, and do not constitute an unreasonable risk to the health and safety of the public including a potential to commit radiological sabotage.

1. 10 CFR 73.56(b)(3) requires that the licensee base its decision to grant, deny, revoke, or continue an unescorted access authorization on review and evaluation of all pertinent information developed.

10 CFR 73.57(b) requires the licensee to fingerprint each individual who is permitted unescorted access to the nuclear facility. Based on the results of the criminal history check on the individual's fingerprint results, the licensee is to determine either to continue, to grant, or to deny further unescorted access to the facility.

Desk Top Instruction PA-DI-05, "In-Processing/Out-Processing," Revision 5, dated April 26, 1996, requires, in part, that employees who have lost access for over 365 days but less than five years shall complete fingerprinting prior to being granted unescorted access authorization.

Contrary to the above, the licensee failed to implement an Access Authorization Program to meet the requirements of 10 CFR 73.56, 10 CFR 73.57, and the requirements of Desk Top Instruction AA-DI-03 as evidenced by the following examples:

- a. From March 31 through May 7, 1994, and July 1 through July 7, 1994, an individual was permitted

final unescorted access to the Brunswick Nuclear Plant without the completion of the criminal history check based on the fingerprints; and

- b. On March 28, 1990, an individual was granted unescorted access to the Brunswick Nuclear Plant; however, fingerprints results were not filed for the individual.
- c. From August 1991 to August 1996, an individual was granted unescorted access to the Brunswick Nuclear Plant for whom more than 365 days but less than five years had elapsed since being initially fingerprinted and being approved for unescorted access. (01013)

- 2. Paragraph 1.0, of Procedure SEC-NGGC-2101, Nuclear Worker Screening Program for Unescorted Access, Revision 0, dated March 20, 1995, requires the licensee to implement an Unescorted Access Authorization Program which satisfies the requirements of 10 CFR 73.56.

Paragraph 5.1.1, of Procedure SEC-NGGC-2101, Nuclear Worker Screening Program for Unescorted Access, requires, in part, that employment history must be obtained for the past five years through contacts with previous employers by obtaining the following information: (1) verification of claimed periods of employment of 30 days or more; (2) reason for termination and eligibility for rehire; and (3) any other information that would adversely reflect upon the reliability and trustworthiness of the worker as it relates to the worker being permitted unescorted access.

Contrary to the above, from January 22 through March 1, 1996, an individual for whom the licensee had not verified prior employment was granted temporary, unescorted access to the Brunswick Nuclear Plant. Subsequently, the individual was determined to have been terminated from a previous employer for record falsification. (01023)

- 3. License Condition No. 2.E of Carolina Power and Light Company Operating License No. NPF-63 requires, in part, that the licensee fully implement and maintain in effect all provisions of the Commission-approved physical security plan.

Paragraph 6.2.1 of the Harris Nuclear Plant's Physical Security Plan (PSP), Revision 0, dated April 29, 1996, and Paragraph 1.6 of Revision 7, dated May 26, 1994,

require that a current access list for vital areas must be upgraded and re-approved by the cognizant licensee manager or supervisor at least every 31 days. The PSP further requires that the names of personnel whose employment is terminated, for whatever reason, are purged from the access authorization list.

Contrary to the above, during the periods March 3 through April 24, 1995, and December 31, 1996 through January 17, 1997, the licensee's 31-day review of the access list for vital areas was inadequate in that it failed to identify and have purged from the access authorization list, two individuals whose employment had been terminated, resulting in their continued capability to gain unescorted access to the Harris Nuclear Plant. (01033)

4. 10 CFR 73.56(b)(3) requires that the licensee base its decision to grant, deny, revoke, or continue an unescorted access authorization on review and evaluation of all pertinent information developed.

Contrary to the above, the licensee failed to accurately document or note that documentation was missing upon which it had based its decision to grant unescorted access authorization as evidenced by the following examples:

- a. On January 22, 1996, an individual was granted unescorted access to the Brunswick Nuclear Plant although adjudication of derogatory credit information was not documented.
- b. On March 26, 1996, a contractor had been granted final clearance to the Brunswick Nuclear Plant without adjudication of the failure to provide a best effort to contact two developed references. (01043)

- C. 10 CFR 26.24(a)(2) requires the licensee to implement unannounced drug and alcohol tests imposed in a statistically random and unpredictable manner so that all persons in the population subject to testing have an equal probability of being selected and tested.

Contrary to the above, the licensee failed to implement unannounced drug and alcohol tests for all persons in the population subject to testing. Specifically, from May 9, 1994, through February 2, 1995; April 26, 1994, through February 21, 1995; and January 24 through March 21, 1996, three individuals who were granted unescorted access to

Brunswick Nuclear Plant were not included in the random drug/alcohol testing program. (01053)

- D. 10 CFR 26.20(c) requires the licensee to develop procedures to be utilized in testing for drugs and alcohol, including procedures for protecting the employee and the integrity of the specimen, and the quality controls used to ensure the test results are valid and attributable to the correct individual.

Procedure SEG-NGGC-2143, Fitness for Duty Drug Testing Specimen Collection, Revision 0, dated September 13, 1996, Section 9.2 requires the licensee, if the specimen is of insufficient volume, to measure temperature and to record the information in the Permanent Record Book and in the Chain of Custody collector's notes section.

Urine Drug Testing Specimen Collection Instruction, dated May 12, 1995, requires, in part, the following: (1) that the collector print the name of the donor and have the donor sign their name on the Chain of Custody form; (2) that the collector enter the date on the Chain of Custody form; and (3) that the Permanent Record Book Form be completed (including a donor certification signature) and that the donor verify that the name, social security number, specimen number, dates signatures, etc... on all fitness for duty paperwork.

Desk Top Instruction-51, Blind Proficiency Sample Processing, Revision 2, dated October 11, 1995, requires the collector to print and sign the blind sample name on the Chain of Custody prior to submission. Contrary to the above, the licensee failed to complete signature or other personal identification information on fitness for duty documentation at all three sites as evidenced by the following examples:

- a. On August 2, 1995, the Brunswick Nuclear Plant fitness for duty staff failed to have the donor sign the Chain of Custody form.
- b. On September 3, 11, and 19, 1996, the General Office fitness for duty staff on four separate occasions failed to ensure that the donor verified their name and signature on various fitness for duty forms.
- c. On October 1, 1996, the Brunswick Nuclear Plant fitness for duty staff misspelled the donor's name on the Chain of Custody form.

- d. On October 1, 1996, the Brunswick Nuclear Plant staff recorded the wrong social security number on the Chain of Custody form.
- e. On October 7, 1996, the Brunswick Nuclear Plant fitness for duty staff failed to record that a specimen was of insufficient volume, in the specified box on the Chain of Custody form.
- f. On November 11, 1996, a Harris fitness for duty staff member failed to date a donor's Chain of Custody.
- g. On December 11, 1996, the General Office fitness for duty staff forwarded a blind sample to the testing laboratory without printing and signing the donor's name on the Chain of Custody form. (01063)

This is a Severity Level III problem (Supplements III and VII) and is applicable to Brunswick Units 1 and 2 and Harris Unit 1.

The NRC has concluded that information regarding the reason for the violations, the corrective actions taken and planned to correct the violations and prevent recurrence, and the date when full compliance will be achieved are already adequately addressed on the docket in your letters to the NRC dated March 31 and April 4, 1997. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to Notice of Violation," and send it to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D. C. 20555 with a copy to the Regional Administrator, Region II, and a copy to the NRC Resident Inspectors at the Brunswick, Harris, and Robinson's plants within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

Under the authority of Section 182 of the Act, 42 U. S. C. 2232, any response shall be submitted under oath or affirmation.

If you choose to provide a response, it will be placed in the NRC Public Document Room (PDR), and to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

Dated at Atlanta, Georgia
this 24th day of April 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

May 30, 1997

EA 96-391

Mr. J. S. Perry
Site Vice President
Dresden Station
Commonwealth Edison Company
6500 North Dresden Road
Morris, IL 60450

SUBJECT: NOTICE OF VIOLATION
(NRC INSPECTION REPORT 50-237/96013(DRP), 50-249/96013(DRP))

Dear Mr. Perry:

This refers to the inspection conducted from September 1 through October 18, 1996 at the Dresden Station's Unit 2 and 3 facilities. This inspection included a review of the circumstances surrounding the failure to maintain the primary containment leakage within the acceptable limits between January and May 1995. This was reported to the NRC in Licensee Event Report 50-249/95007, Revisions 0, 1 and 2, "Leakage Limit Exceeded Due to Valve Internal Damage Caused by Manual Operation of Motor Operated Valves." The written results of this inspection were provided to you on December 31, 1996.

Based on the information developed during the inspection and the information that you provided in a letter from the Dresden Station dated January 28, 1997, the NRC has determined that a violation of NRC requirements occurred. The violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it are described in detail in the subject inspection report. In June 1995, you determined that the Unit 3 inboard and outboard main steam line drain primary containment isolation valves were leaking greater than the local leak rate test equipment could measure. It was subsequently determined that between January 16, 1995, and May 28, 1995, with the reactor critical, primary containment leakage was greater than 60 percent of La due to leakage past the Unit 3 inboard and outboard main steam line drain primary containment isolation valves, 3-220-1 and 3-220-2. Main steam line drain isolation valves 3-220-1 and 3-220-2 are Anchor Darling isolation valves subject to Type B and C tests. The inboard valve leakage was caused by low spots on the valve seat from the poor alignment of the disk to seat. The outboard valve leakage was caused by the missing lower wedge of the valve disk and a bent stem.

The safety significance of this event was related to the potentially increased radiological consequences both on and off-site. Initial calculations determined that under worst case conditions, dose limits established by 10 CFR Part 50, Appendix A, General Design Criterion 19 for control room operators and by 10 CFR Part 100 for the Exclusion Area Boundary (EAB) and the Low Population Zone (LPZ) would have been exceeded during a Design Basis Accident.

Subsequent assessments performed by your staff using expected containment accident parameters and expected main steam line drain leakage values concluded that control room and offsite doses were lower than the initial calculations and were within the regulatory limits. Several weaknesses were identified which contributed to the isolation valves leaking. These weaknesses included the lack of experience on the Anchor Darling double disk gate valves prior to installation, poor maintenance instructions for the Anchor Darling valve assemblies, and the inadequate design modification process which failed to identify that low torque values would damage the valve during normal handwheel operation. If more attention had existed in these areas, and no valve damage had occurred, then containment integrity could have been maintained.

This issue is of concern because the inadequate design modification review and poor maintenance instructions for the installation of the primary containment isolation valves resulted in the degradation of the primary containment system. This degradation had the potential for causing control room and off-site radiological doses to exceed regulatory limits during the Design Basis Accident. Therefore, this violation has been categorized in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600 at Severity Level III.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III violation that occurred before November 12, 1996. Because your facility has been the subject of escalated enforcement actions within the last 2 years,¹ the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI B 2 of the Enforcement Policy. The NRC determined that credit for Identification was warranted because in June 1995, your staff identified that the Unit 3 inboard and outboard main steam line drain primary containment isolation valves were leaking greater than the local leak rate test (LLRT) test equipment could measure. Your staff then determined that this leakage was not within the acceptable limits for primary containment leakage, and subsequently wrote a licensee event report. The NRC determined that credit for Corrective Action was warranted based on your prompt and thorough corrective actions. Your determination of the root cause was considered methodical and thorough. The corrective actions were comprehensive and included the repair and replacement of the inboard and outboard valves, respectively, a revision of multiple procedures to formally control motor operated valve handwheel usage, a review of Unit 2 and 3 valves susceptible to damage from handwheel use, evaluation test, and inspection to verify valve integrity, training for operations and maintenance personnel on the manual operation of motor operated valves, and the development of a list of allowable generic torque values for

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¹ A Severity Level III violation with a \$50,000 Civil Penalty was issued on June 13, 1996 (EA 96-115); a Severity Level III violation with a \$50,000 Civil Penalty was issued on December 5, 1995 (EA 95-214); a Severity Level III violation with a \$100,000 Civil Penalty was issued on April 5, 1995 (EA 95-030).

safety related and balance of plant motor operated valves for use during handwheel operation. Your root cause evaluation and subsequent corrective actions were comprehensive, however, the valve failures were considered preventable and were indicative of a weakness in your motor operated valve design control process.

Therefore, to encourage prompt identification and comprehensive correction of violations, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant violations in the future could result in a civil penalty.

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence is already adequately addressed on the docket in Inspection Report Nos. 50-237:249/96013(DRP), LER 249/95007, and your response to the inspection report dated January 28, 1997. Therefore, you are not required to respond to the enclosed Notice unless the description in the docketed materials referenced above do not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

Finally, we note that there is a discrepancy between Revision 2 of LER 249/95007 and your January 28, 1997 letter concerning your staff's initial assessment of control room operator doses and EAB and LPZ doses under worst case conditions. Your LER states that these dose limits *would* have been exceeded (page 5, second paragraph in Section D), while your January 28 letter states that these doses *might* have been exceeded (page 1, second paragraph). While this might have been an oversight in word choice, I want to emphasize to you the importance of ensuring that information that you provide to the Commission be complete and accurate in all material respects, especially when that information is being used for regulatory decision-making. Therefore, we request that you respond to this discrepancy and submit formal clarification on this issue.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the Public Document Room (PDR)

Sincerely,

A. Bill Beach
Regional Administrator

Docket Nos 50-237, 50-249
License Nos DPR-19, DPR-25

Enclosure: Notice of Violation

cc w/encl: T. J. Harman, Senior Vice President
Nuclear Operations Division
D. A. Sager, Vice President,
Generation Support
H. W. Keiser, Chief Nuclear
Operating Officer
T. Nauman, Station Manager Unit 1
M. Heffley, Station Manager Units 2 and 3
F. Spangenberg, Regulatory Assurance
Manager
J. Johnson, Acting Nuclear
Regulatory Services Manager
Richard Hubbard
Nathan Schloss, Economist
Office of the Attorney General
State Liaison Officer
Chairman, Illinois Commerce Commission
Document Control Desk-Licensing

NOTICE OF VIOLATION

Commonwealth Edison Company
Dresden Station

Docket Nos. 50-237; 50-249
License Nos. DPR-19; DPR-25
EA 96-391

During an NRC inspection conducted from September 1 through October 18, 1996, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

Technical Specification 3.7.A.2 requires, in part, that primary containment integrity be maintained at all times when the reactor is critical.

Technical Specification 3.7.A.2.b(2)(a) states, in part, that when primary containment integrity is required, primary containment leakage shall be limited to a combined leakage rate of less than or equal to 60 percent of La for all testable penetrations and isolation valves subject to Type B and C tests.

Contrary to the above, between January 16, 1995 and May 28, 1995, with the reactor critical, primary containment leakage was greater than 60 percent of La due to leakage past the Unit 3 main steam line drain primary containment isolation valves, 3-220-1 and 3-220-2. Main steam line drain isolation valves 3-220-1 and 3-220-2 are isolation valves subject to Type B and C tests.

This is a Severity Level III violation (Supplement I).

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence is already adequately addressed on the docket in Inspection Report Nos. 50-237;249/96013(DRP), LER 249/95007, and your response to the inspection report dated January 28, 1997. However, you are required to respond to the provisions of 10 CFR 2.201 if the description in the docketed materials referenced above does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to Notice of Violation," and send it to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region III, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

Dated at Lisle, Illinois
this 30th of May 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
801 WARRENVILLE ROAD
LISLE ILLINOIS 60532-4351

May 21, 1997

EA 96-532

Mr. J. S. Perry
Site Vice President
Dresden Station
Commonwealth Edison Company
6500 North Dresden Road
Morris, IL 60450

SUBJECT: NOTICE OF VIOLATION
(NRC RESIDENT INSPECTION REPORT 50-010/237/249/96014(DRP))

Dear Mr. Perry:

This refers to the inspection conducted from October 21 through December 6, 1996, at the Dresden Station Unit 2 and 3 facilities. The inspection included a review of the failure to adequately test the control room emergency ventilation system to ensure it conformed to its design basis. The written results of this inspection were provided to you on February 4, 1997. A predecisional enforcement conference was conducted on February 28, 1997.

Based on the information developed during the inspection and the information that you and your staff provided during the conference, the NRC has determined that a violation of NRC requirements occurred. The violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it are described in detail in the subject inspection report. The control room ventilation system had not been maintained or properly tested to ensure that the system operated within its design basis, and was declared inoperable on October 8, 1996. Several control room modifications, which had not been completed, contributed to the inability to pressurize the control room as stated in the Updated Final Safety Analysis Report (UFSAR). The modifications resulted in the inability to maintain the control room at a positive pressure during normal operations and at a positive pressure of 1/8-inch water-gauge (1wg) during emergency pressurization modes with respect to adjacent areas.

Post modification testing was not performed for a 1989 modification of the Unit 1 to Unit 2/3 control room fire-wall. Following the completion of this modification in May 1993, inadequate surveillance tests were performed on the emergency ventilation system. Specifically, the surveillance procedure only required 1/8 1wg positive pressure in the control room and did not ensure that pressure was greater than 1/8 1wg for the surrounding areas. In addition, instrumentation used to verify that the control room pressure was positive in the emergency mode had not been calibrated and had not been installed in accordance with the piping and instrumentation diagram. The instrumentation

used to verify the control room differential pressure also was not calibrated and was not verified to be appropriate for the parameters being measured. Control room instrumentation was mislabeled with respect to the areas being sensed and according to the drawings, other sensing lines were not properly routed or were broken.

The safety significance of this issue was related to the potentially increased radiological consequences to control room operators during a postulated design basis accident. Since the ventilation system was unable to maintain the required positive pressure during the emergency modes, an increased inleakage was likely to occur during the design basis accident. Using this increased inleakage in conjunction with the dose calculation performed in the UFSAR, the dose limits established by 10 CFR 50, Appendix A, General Design Criterion 19 for control room operators potentially would have been exceeded. The barriers in place to ensure these limits would not be exceeded failed. Specifically, post-modification testing was not performed, and surveillance testing was inadequate. While this condition was identified on September 26, 1996, it is possible that the control room emergency ventilation system had not met its design basis since the 1989 modification was completed. In addition, from January 16 to May 28, 1995, leakage from the Unit 3 main steam line drain primary containment isolation valves would have exceeded accident analysis assumptions during a postulated design basis accident. During this period it is quite likely that the accident dose to control room operators would have exceeded regulatory requirements.

The failure to perform post-modification testing of the control room emergency ventilation system to ensure design requirements were maintained is of concern because design modification testing controls were inadequate to ensure that system operability was maintained. In addition, engineering backlog reviews conducted by your staff in the spring of 1996 failed to identify the potential for significant system degradation due to the open control room modification packages. As a result, the control room was found not capable of maintaining the required positive pressure or in-leakage limitations. The as-found degradation was significant in that the potential may have existed for control room radiological doses to be in excess of regulatory limits following a design basis accident. Therefore, this violation has been categorized in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600 at Severity Level III.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III violation. Because Dresden Station has been the subject of escalated enforcement actions within the last 2 years, the NRC considered whether credit was warranted for Identification.

and *Corrective Action* in accordance with the civil penalty assessment process in Section VI B 2 of the Enforcement Policy. The NRC determined that credit for Identification was warranted because on September 26, 1996, while closing out the open 1989 modification, the cognizant system engineer noted that there was no differential pressure between the control room and the outside hallway. This observation prompted the performance of a test to determine the actual control room to outside air differential pressure. On October 7, 1996, when the testing was performed, it was determined that the system was unable to maintain the required positive 1/8 inwg pressure in the control room with respect to all adjacent areas. The system was declared inoperable on October 8, 1997. The NRC determined that credit for Corrective Action was warranted based on your staff's prompt and thorough corrective actions. Immediate corrective actions included sealing system duct work and control room emergency zone penetrations, removing wallboard and cabinets to allow access to walls for leak identification and sealing, and properly identifying installed instrumentation. Dresden personnel also notified Quad Cities of potential problems with adequacy of control room emergency ventilation system testing. The control room ventilation system was restored to full operability on January 21, 1997, after the repairs were completed, the pressurization requirements were verified, the control room differential pressure instruments were repaired, the original test engineer qualifications were revoked, management oversight was improved, and the post modification testing program was improved.

Therefore, to encourage prompt identification and comprehensive correction of violations, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant violations in the future could result in a civil penalty.

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance was achieved is already adequately addressed on the docket in LER 96-017, as supplemented, and the information you provided at the predecisional enforcement conference which is attached to our letter to you dated March 26, 1997. Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed notice.

Sincerely,

for Bill Beach
Regional Administrator

Docket Nos 50-237, 50-249
License Nos DPR-19, DPR-25

Enclosure Notice of Violation

cc w/encl: T. J. Maiman, Senior Vice President
Nuclear Operations Division
D. A. Sager, Vice President,
Generation Support
H. W. Keiser, Chief Nuclear
Operating Officer
T. Nauman, Station Manager Unit 1
M. Heffley, Station Manager Units 2 and 3
F. Spangenberg, Regulatory Assurance
Manager
I. Johnson, Acting Nuclear
Regulatory Services Manager
Richard Hubbard
Nathan Schloss, Economist
Office of the Attorney General
State Liaison Officer
Chairman, Illinois Commerce Commission
Document Control Desk-Licensing

NOTICE OF VIOLATION

Commonwealth Edison Company
Dresden Station

Docket Nos 50-237, 50-249
License Nos DPR-19, DPR-25
EA 96-532

During an NRC inspection conducted from October 21 through December 6, 1996 a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" NUREG-1600, the violation is listed below:

10 CFR 50, Appendix B, Criterion XI, "Test Control," states that a test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents.

Updated Final Safety Analysis Report (UFSAR) section 6.4.2.4, "Interactions with Other Zones and Pressure Containing Equipment," states, in part, that potential adverse interactions between the control room emergency zone and adjacent zones that may allow transfer of toxic or radioactive gases into the control room are minimized by maintaining the control room at a positive pressure of 1/8-inch water-gauge during emergency pressurized modes with respect to adjacent areas.

Contrary to the above, the licensee discovered that the original design modification test and subsequent surveillance tests of the control room Heating, Ventilation, and Air Conditioning system failed to ensure that the requirements and acceptance limits specified in the UFSAR, an applicable design document, section 6.4.2.4 were met. Specifically, the licensee discovered that on September 26, 1996, the control room ventilation system was not able to maintain the control room at 1/8-inch water-gauge positive pressure with respect to adjacent areas during emergency pressurized modes (01013).

This is a Severity Level III Violation (Supplement 1).

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance was achieved is already adequately addressed on the docket in LER 96-017 as supplemented, and the information you provided at the predecisional enforcement conference which is attached to our letter to you dated March 26, 1997. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region III and a copy to the NRC Resident Inspector at the facility that is the subject of the Notice within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

Dated at Lisle, IL
this 21st day of May 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415
March 24, 1997

EA 97-076

Mr. J. E. Cross, President
Generation Group
Duquesne Light Company (DLC)
Post Office Box 4
Shippingport, Pennsylvania 15077

SUBJECT: NOTICE OF VIOLATION
(NRC Inspection Report Nos. 50-334/96-10, 50-412/96-10)

Dear Mr. Cross:

This letter refers to the NRC inspection conducted between December 22, 1996, and February 8, 1997 at the Beaver Valley Power Station facility, the findings of which were discussed with you and members of your staff during exit meetings on February 18 and 19, 1997. During the inspections, apparent violations of NRC requirements were identified, as described in the NRC inspection report sent to you with our letter, dated February 21, 1997. On March 7, 1997, a Predecisional Enforcement Conference was conducted with you and members of your staff to discuss the violations, their causes, and your corrective actions.

Based on the information developed during the inspections, and the information provided during the conference, three violations are being cited and are described in the enclosed Notice of Violation. The violations involve (1) the failure by your staff, on numerous occasions, to follow procedures and implement appropriate work practices and controls, resulting in numerous valves and switches being in an other than normal position; (2) operators inadvertently deenergizing the waste gas decay tank (WGDT) oxygen analyzers because of operator error in that the operators misoperated the oxygen analyzer control switches, and also failed to monitor oxygen concentration when running the degassifier to the WGDT; and (3) failure to take appropriate corrective action, despite numerous configuration control deficiencies being identified in 1995, to ensure that the general problem of configuration control, was adequately corrected.

The NRC recognizes that the numerous 1997 examples of mispositioned valves and switches were identified by your staff, and that you have demonstrated a low threshold for identifying component misconfigurations at Beaver Valley which have contributed to these findings. Nonetheless, the NRC is concerned that broader corrective actions were not taken in 1995 to preclude recurrence of components being mispositioned. One of the recent findings of particular concern was the fact that operators and chemistry technicians were not properly implementing station procedures when repeatedly depressurizing the Unit 2 residual heat removal (RHS) system from January 23 to January 30, 1997, resulting in the mispositioning of a RHS system sample valve. In that case, chemists also entered multiple procedures in parallel, each of which specified different positions for a specific component, which was not permitted by station procedures. In another case, operators failed to properly implement station procedures when securing a component cooling water (CCR) pump in January 1997.

Specifically, the operators did not shut a CCR pump discharge valve and did not annotate system configuration drawings and procedures to reflect this change. Both of these examples are of additional significance given that licensed personnel were involved in not adhering to station procedures.

At the enforcement conference, you acknowledged that inadequate work practices, not implementing existing procedures, not implementing appropriate work controls, inadequate communications among the operations staff at shift turnovers, and procedural inadequacies contributed to these violations. Also, at the conference, you discussed a memorandum from your Vice-President Operations, dated February 13, 1997, entitled "Plant Valve Manipulations," which informed your staff of the importance of precluding and correcting such problems, noting that the improper valve manipulations are precursors to events which could lead to major plant problems. The NRC agrees. Given the number of recent examples of not maintaining appropriate configuration control at Beaver Valley, the repetitive nature of this concern, and the inadequate work practices and work controls that contributed to these problems, the violations collectively represent a potentially significant lack of attention toward licensed responsibilities and therefore, have been classified in the aggregate as a Severity Level III problem in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600.

The violations are cited to emphasize the importance of strict adherence to procedural requirements to ensure components are in their proper position. The violations also reveal the need for greater technical inquisitiveness among your staff and the need for greater sensitivity to maintaining configuration control and promptly identifying and correcting when such control is not maintained. With respect to identification, the NRC does commend the actions of the operator who, while performing a tour of the facility, identified problems with an emergency diesel generator governor cooling water outlet ball valve being in the wrong position. If not for his inquisitiveness, this problem likely would have remained undetected and uncorrected. You should continue to encourage similar inquisitiveness by all your staff.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$55,000 is considered for that Severity Level III violation¹ or problem. Your facility has been the subject of escalated enforcement actions within the last 2 years (for example, a Severity Level III violation without a civil penalty was issued on September 11, 1996, for failure to comply with 10 CFR 50.62(c)(1), in that, the ATWS Mitigation System Circuitry (AMSAC) had not been designed to perform its function in a reliable manner (EA 96-244)). Therefore, the NRC considered whether credit was warranted for *Identification and Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. Credit is warranted for identification because the violations were identified by your staff. Credit is also warranted for corrective actions. Important in this regard are steps you have taken to strengthen station corrective action processes to address broader performance issues. These actions include establishing a lower threshold for identifying and documenting problems, strengthening self-assessment efforts, and increasing management involvement in

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¹ On November 12, 1996, the base civil penalty amounts for Severity Level III violations or problems changed from \$50,000 to \$55,000. Since these violations occurred after November 12, 1996, the base amount for this Severity Level III problem is \$55,000.

verifying effectiveness of corrective actions. Other actions, specific to the configuration control violation, included, but were not limited to: (1) enhancing the number of system lineups to be performed to assure appropriate positioning of the valves; (2) having your ISEG group perform a review of the identified deficiencies to evaluate performance trends; (3) issuing a memorandum to all staff emphasizing the importance of appropriate adherence to procedures, as well as providing an additional letter to operations personnel for further emphasis; (4) reviewing all valves to ensure proper positioning and immobilizing certain valves; (5) instituting a process for discussion of all Condition Reports at the routine morning meetings; (6) revising procedures and logs to ensure oxygen concentration is monitored when sending gas to the WGDT; (7) initiating a procedure validation project to ensure procedures return components to their normal position or effectively track exceptions; and (8) evaluating work around activities at the station to determine areas where components are particularly vulnerable to inadvertent operation.

Therefore, to encourage prompt and comprehensive identification and correction of violations, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant violations in the future could result in a civil penalty. The NRC did consider whether to exercise discretion and issue a civil penalty in this case, given the involvement of licensed staff in some of these findings. However, the NRC has decided not to exercise such discretion in light of your aggressive corrective actions, and in recognition of the broader changes ongoing at Beaver Valley to more aggressively identify problems and improve overall performance. The NRC recently issued a \$160,000 civil penalty to you on March 10, 1997, for, in part, a violation that involved a valve being in the wrong position for several years despite prior opportunities to identify and correct this condition. Similar findings of inadequate configuration control in the future could result in additional enforcement action.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, and its enclosure, and your response, will be placed in the NRC Public Document Room (PDR).

Sincerely,

Hubert J. Miller
Regional Administrator

Docket Nos. 50-334; 50-412
License Nos. DPR-66; NPF-73

Enclosure: Notice of Violation

ENCLOSURE

NOTICE OF VIOLATION

Duquesne Light Company (DLC)
Beaver Valley Power Station

Docket Nos. 50-334; 50-412
License Nos. DPR-66; NPF-73
EA 96-076

During NRC inspections conducted between December 22, 1996, to February 8, 1997 for which exit meetings were held on February 18 and 19, 1997, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the particular violations are set forth below:

- A. Technical Specification (TS) 6.8.1.a requires that written procedures be properly established and implemented covering activities recommended in Appendix A to NRC Regulatory Guide 1.33, Revision 2, "Quality Assurance Program Requirements (Operation)." Section 3 of Appendix A to Regulatory Guide 1.33 specifies that procedures be established for operation of safety related systems. Procedure 1/2 OM-48.2.C, "Adherence and Familiarization to Operating Procedures," Rev 17, NPDAM 1.2.1, "Establishment of written directives and procedures," Rev. 3; and Chemistry Manual Chapter 3, "Sampling and Testing," Rev. 7, specify criteria for implementing procedures as written.

Contrary to the above, on numerous occasions, licensee staff did not implement procedures as written, as evidenced by the following examples.

1. When repeatedly depressurizing the Unit 2 residual heat removal (RHS) system from January 23 to January 30, 1997, operators and chemistry technicians did not properly implement station procedures 2OM-10.4.C, "Residual Heat Removal System Shutdown," Rev. 20, and CM 2-3.40 Part D, "RHS Grab Sample Purging to Sample Sink," Rev. 6. Specifically,
  - a. Operators did not perform RHS depressurization as specified in procedure 2OM-10.4.C in that although operators had reviewed 2OM-10.4.C, they continued to depressurize RHS based on their memory of the procedure instead of performing and signing off the procedure step-by-step, as required by Procedure 1/2 OM-48.2.C; and,
  - b. Chemistry technicians did not properly perform steps in procedure CM 2-3.40 in that steps to reposition 2SSR-SOV129A1/A2 were performed out of the required sequence in Section D of the procedure, and Valve SS-175, a primary system sample valve, was not returned to the correct position.

These errors contributed to mispositioning Valve SS-175, which unexpectedly altered the existing RHS depressurization lineup.

2. On January 14, 1997, Unit 1 operators failed to properly implement station procedures OM 1.15.4.H, "Securing a component cooling water (CCR) pump or placing the spare CCR pump in service," Rev. 1, and "10M-15.3.B.1, Valve List-1CCR," Rev. 7, when securing the 'C' CCR pump. Specifically, the operators did not shut the 'C' CCR pump discharge valve, 1CCR-9, as specified by the Procedure OM 1.15.4.H, Step IV.C.4.b.2, and also failed to annotate system configuration drawings and procedures to reflect this change, as required by Procedure 1/2 OM-48.2.C, Step VI.B.15.

- B. Beaver Valley Power Station Technical Specification 4.11.2.6.1 requires oxygen concentration to be monitored during waste gas decay tank (WGDT) filling operations to ensure that an explosive gas mixture is not present.

Contrary to the above, operators failed to monitor oxygen concentration when running the degassifier to the waste gas decay tank (WGDT) on November 30, 1996, since operators had inadvertently deenergized both Unit 1 oxygen analyzers on November 25, 1996, a repeat problem caused by corrective actions previously implemented to address a known human factors issue (look-alike control switches) not precluding recurring misoperation of the oxygen analyzer control switches.

- C. 10 CFR 50, Appendix B, Criterion XVI, Corrective Actions, requires, in part, that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective actions taken to preclude repetition.

Contrary to the above, following the identification of mispositioned service water valves 2SWS-82 on July 14, 1995, and 2SWS-MOV-105D on October 3, 1995, and other mispositioned components during this time period, which represented a condition adverse to quality involving inadequate management of plant configuration control, the licensee did not take appropriate measures to correct this condition adverse to quality and prevent recurrence, as evidenced by the fact that numerous component mispositionings occurred which were identified by the licensee during the period September 1996 to February 1997. Poor work practices, personnel errors, and failure to properly implement station procedures continued to result in component mispositionings. Several of the affected components were on safety related systems, including the emergency diesel generator, component cooling reactor, service water, and auxiliary feedwater systems.

These violations are classified in the aggregate as a Severity Level III problem (Supplement 1).

Pursuant to provisions of 10 CFR 2.201, Duquesne Light Company (DLC) is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region I, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of

Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other actions as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at King of Prussia, Pennsylvania
this 24th day of March 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30333-0190

March 12, 1997

EA 96-365
EA 96-465
EA 96-527

Florida Power Corporation
Crystal River Energy Complex
Mr. Roy A. Anderson (SA2A)
Sr. VP, Nuclear Operations
ATTN: Mgr., Nuclear Licensing
15760 West Power Line Street
Crystal River, Florida 34428-6708

SUBJECT: NOTICE OF VIOLATION AND EXERCISE OF ENFORCEMENT DISCRETION
(NRC INSPECTION REPORT NOS. 50-302/96-12 AND 50-302/96-19)

Dear Mr. Anderson:

This refers to NRC inspections completed on December 6, 1996, at Florida Power Corporation's (FPC) Crystal River Unit 3 nuclear facility. During these reviews, the NRC examined a number of issues related to your implementation of the Engineering program at Crystal River. The results of the inspections were formally transmitted to you by letters dated November 4, 1996 and January 7, 1997. An open predecisional enforcement conference was conducted in the Region II office on January 24, 1997, with members of your staff to discuss the apparent violations, the root causes, and corrective actions to preclude recurrence. A summary of the conference was sent to FPC by letter dated January 31, 1997.

Based on the information developed during the inspections and the information you provided during the conference, the NRC has determined that violations of NRC requirements occurred. The violations are discussed in detail in Enclosure 1. Enclosure 2 provides the Notice of Violation (Notice). The circumstances surrounding the violations are described in the subject inspection reports.

The violations identified during our inspections indicate a broad spectrum of problems existed in FPC's Engineering program. Our review of these violations disclosed major weaknesses in three specific areas. Six violations were identified for failure to meet the requirements of 10 CFR 50.59. These violations have been categorized in the aggregate as a Severity Level II problem, identified as Violation A in the enclosed Notice, due to the regulatory and safety significance associated with the programmatic deficiencies in the performance of 10 CFR 50.59 safety evaluations and operation of the Crystal River facility with a number of unidentified unreviewed safety questions (USQ) that impacted the design margin and operability of safety-related equipment. Violation B indicates programmatic weaknesses with the implementation of measures to ensure that regulatory and plant design basis requirements are met. Violation B has been categorized as a Severity Level III violation. Violation C involves three examples of untimely and inadequate corrective actions resulting in the failure to identify significant USQs and containment integrity issues and has been categorized as a Severity Level III violation.

FPC's significantly poor performance in these areas is evidence of a systemic breakdown in control of engineering processes at the Crystal River facility. Violation A is of particular concern because of the regulatory significance associated with the failure to implement an adequate 10 CFR 50.59 program and the potential safety consequences that could result from the introduction of a number of USQs that significantly reduced the design margin of certain safety-related systems. Failure to resolve these USQs is a serious safety concern because, in certain accident scenarios, vital equipment could have failed resulting in the loss of the one train of onsite emergency power and unavailability of an emergency feedwater pump. Reactor safety also could have been compromised due to inadequate boron precipitation control in the event of a loss of coolant accident. In addition, failure to identify many of these USQs indicates that your staff failed to recognize design conditions that seriously degraded the margin of safety in several safety-related systems. With regard to Violation B, we are concerned that numerous examples were identified where FPC engineering design control programs lacked sufficient rigor to ensure that design inputs and controls properly maintained the design and licensing bases. Similar weaknesses in the engineering program were identified previously in an escalated enforcement action (EA 95-126), dated July 10, 1996. In addition, FPC failed to take advantage of several opportunities to correct the root causes of these violations prior to NRC involvement and therefore, missed the opportunity to resolve the USQs related to the emergency diesel generator and identify and correct containment configuration control deficiencies.

In accordance with the Enforcement Policy, civil penalties would normally be considered for the Severity Level II problem and Severity Level III violations. However, I have been authorized, after consultation with the Director, Office of Enforcement, and the Deputy Executive Director for Regulatory Effectiveness, Program Oversight, Investigations and Enforcement, to exercise enforcement discretion in accordance with Section VII.B.(6) of the Enforcement Policy and not propose a civil penalty in this case. It should be stressed that the NRC considered the proposed imposition of a significant civil penalty in this case. However, the NRC has concluded that discretion is appropriate in that: (1) NRC issued a \$500,000 civil penalty on July 10, 1996 (EA 95-126) which included sanctions for engineering violations; (2) following NRC identification of the current issues, FPC voluntarily extended the shut down of the Crystal River facility and developed a comprehensive program for problem identification and correction; (3) FPC has demonstrated that remedial action will be taken to ensure reestablishment of design margins for plant systems prior to plant restart; and, (4) FPC's decision to restart the Crystal River facility requires NRC concurrence in accordance with a Confirmatory Action Letter issued on March 4, 1997. FPC's corrective actions will include: (1) completion of a comprehensive restructuring of management; (2) completion of in-depth reviews and corrective actions to ensure compliance with the design bases of the facility; and, (3) implementation of broad and in-depth engineering program changes.

The exercise of this discretion is intended to recognize that FPC has placed the unit in a safe configuration and has committed significant resources to identify and correct deficient conditions. Nonetheless, the NRC must emphasize that failure to implement your improvement plans successfully and substantially improve performance in the engineering area at Crystal River could lead to more significant regulatory sanctions and substantially delay NRC concurrence with restart of Crystal River Unit 3.

As discussed with you at the predecisional enforcement conference, we believe it is imperative that FPC conduct rigorous reviews to ensure that the extent of the deficiencies are bounded and root causes of the conditions are well understood. It is also important to implement long lasting, comprehensive corrective actions that not only correct the deficiencies identified but also strengthen the engineering organization and design review processes. Effective measures to ensure the qualifications of the engineering staff and strong management oversight of the engineering process are also key elements in precluding recurrence of the violations. As part of the responsibility to ensure safe plant operation, the NRC expects licensees with identified programmatic breakdowns to reestablish, without delay, a high level of confidence that design requirements are correctly reflected in the installation and operation of plant equipment and that licensee staff is fully qualified and dedicated to ensuring safe operation of the facility. As discussed at the predecisional enforcement conference, FPC has committed to provide the NRC with additional information as implementation of its improvement plans proceeds to ensure that design margins are appropriately re-established. The NRC will continue to monitor implementation of the improvement program and rigorously review your preparations for restart of Crystal River Unit 3.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be placed in the NRC Public Document Room.

Should you have any questions concerning this letter, please contact us.

Sincerely,

Luis A. Reyes
Regional Administrator

Docket No. 50-302
License No. DPR-72

Enclosures: 1. Description of Violations
2. Notice of Violation

cc w/encls: (See page 4)

cc w/encs:

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DESCRIPTION OF VIOLATIONS

A. Inadequate Implementation of 10 CFR 50.59

The NRC determined that a number of unreviewed safety questions (USQs) had been created by plant modifications at Crystal River, and the USQs were not identified in the safety evaluations performed. Each failure to perform an adequate evaluation to determine if a proposed change to the facility or procedures constitutes a USQ is a violation of 10 CFR 50.59. The NRC views each failure to meet the requirements of 10 CFR 50.59 where a USQ existed and the required license amendment was not sought as a significant regulatory issue.

The USQs identified included increases in the emergency diesel generator (EDG) loads for certain accident scenarios in excess of three design load limits which reduced the margin of safety as defined in the Final Safety Analysis Report (FSAR) and Technical Specification (TS) bases; hydraulics and potential net positive suction head (NPSH) problems created by a change to the initiation logic of the alternate steam admission valve for the turbine-driven emergency feedwater (EFW) pump resulting in an increase in the probability of damage to the pump; disabling of one of the automatic steam supplies to the turbine-driven EFW pump, reducing the reliability and increasing the probability of failure of the pump; and, a change to the primary method credited for prevention of boron precipitation in the core following a postulated loss of coolant accident.

The safety consequences of these violations included the potential loss of the "A" train EDG, potential failure of the turbine-driven EFW pump, and potential inadequate control of boron precipitation in the core in the event of a loss of coolant accident. The violations also introduced significant errors in the defined licensing envelope of the plant because documents defining the licensing bases were not updated or were inaccurate.

Commensurate with the regulatory significance of the programmatic deficiencies in the evaluation of plant modifications and procedure changes under the 10 CFR 50.59 program and the potential safety consequences of operating with a number of unidentified USQs, these violations are classified in the aggregate in accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Severity Level II problem.

B. Inadequate Design Control

Five examples of the failure of FPC's engineering design control programs to assure that design inputs and controls properly maintained the design and licensing bases were identified. These examples indicated a significant breakdown in the control of engineering processes at Crystal River. The failure to establish measures to ensure that regulatory requirements and the design basis are correctly translated into specifications, procedures and instructions is a violation of 10 CFR 50, Appendix B, Criterion III, Design Control.

Enclosure 1

Design control requirements were violated in the following cases: (1) the FSAR, the Enhanced Design Basis Document, and the TS Bases were not updated with regard to operation of the turbine-driven EFW pump (EFP-2) for certain accident scenarios resulting in inadequate evaluation of EDG loading; (2) automatic opening of Valve ASV-204 was disabled preventing the auto-start of EFP-2 in certain accident scenarios; (3) the heat input to the nuclear closed cycle cooling system (SW) heat exchangers was not correctly modeled; (4) unverified calculations were used to support modifications to the EFW system; and, (5) configuration control of containment penetrations was lost in that a significant number of valves and blind flanges were not included in surveillances required to ensure containment integrity. Therefore, this violation has been categorized in accordance with the Enforcement Policy, NUREG-1600, at Severity Level III.

C. Failure to Take Timely and Comprehensive Corrective Actions

Three examples were identified involving the failure to implement timely and appropriate corrective actions and to ensure corrective actions were adequate to preclude recurrence of significant conditions adverse to quality. Failure to take appropriate corrective actions resulted in the creation of USQs and led to reductions in safety margins as discussed below.

The potential for EDG loading in excess of TS limits, identified in May and July of 1996, had not been corrected as of October 11, 1996. Corrective actions identified in a 1994 Licensee Event Report for failure to test containment penetrations in accordance with TS requirements, were inadequate to prevent a recurrence, resulting in failure to identify that numerous additional valves/blind flanges were omitted from surveillance procedures and therefore, were not verified to be closed.

The failure to establish measures to assure that conditions adverse to quality are promptly corrected is a violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action. Therefore, this violation has been categorized in accordance with the Enforcement Policy, NUREG-1600, at Severity Level III.

NOTICE OF VIOLATION

Florida Power Corporation
Crystal River Nuclear Plant
Unit 3

Docket No. 50-302
License No. DPR-72
EA 96-365, 96-465, 96-527

During NRC inspections completed on December 6, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

- A. 10 CFR 50.59, "Changes, Tests and Experiments," provides, in part, that the licensee may make changes in the facility or procedures as described in the safety analysis report (SAR) without prior Commission approval, unless the proposed change involves a change in the Technical Specifications (TS) or an unreviewed safety question (USQ). A proposed change shall be deemed to involve a USQ if the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the SAR may be increased, if a possibility for an accident or malfunction of a different type than any evaluated previously in the SAR may be created, or if the margin of safety as defined in the basis for any TS is reduced. 10 CFR 50.59 further requires that a written safety evaluation be documented providing the bases for a determination that the changes do not involve a USQ.

The TS bases for TS 3.8.1, AC Sources - Operating, states that the service rating of the emergency diesel generator (EDG) is, in part, 3251 to 3500 kilowatts (KW) on a cumulative 30 minute basis.

The Final Safety Analysis Report (FSAR), Rev. 19, dated December 21, 1994, Section 8.2.3, Sources of Auxiliary Power, provides the load ratings for both EDGs, including a 2851 - 3000 KW cumulative 2000 hour rating and a 3251 - 3500 KW cumulative 30 minute rating. (The maximum load rating shown for any period of time is 3500 KW). It also states that the "A" EDG auto-connected load is within the 2000 hour rating at one minute into the scenario. FSAR, Rev. 20, dated April 1, 1994, Table 8-1, Emergency Diesel Generator "A" Auto & Manually Connected Loads, lists the largest auto-connected load as make-up pump 1A (615.5 KW). This FSAR information remained current through 1996.

The FSAR, Rev. 10, dated July 1, 1988, Table 8-1, Emergency Diesel Generator "A" Auto & Manually Connected Loads, lists the largest auto-connected load as make-up pump 1A (615.5 KW). This FSAR information remained current through 1990.

The FSAR, Rev. 10, dated July 1, 1988, Section 10.5, Emergency Feedwater (EFW) System, states that upstream of the turbine-driven emergency EFW pump turbine steam supply line, there are redundant, normally closed direct current (DC) motor operated valves (ASV-5 and ASV-204) which are opened upon actuation from the emergency feedwater initiation and control (EFIC) system. FSAR, Rev. 8, dated July 1, 1987, Section 7.2.4, Emergency Feedwater Initiation and Control, states that the EFIC trip module located in the "A" cabinet actuates the "A" train of EFW (motor-driven pump) and the trip module located in the "B" cabinet actuates the "B" train of EFW (turbine-driven pump)(EFP-2). This FSAR information was the first description of the EFIC system, and it remained current through 1992. Section 7.2.4 of the

Enclosure 2

FSAR, was revised on January 17, 1993, Rev. 18, as follows: "The trip module located in the "A" cabinet starts the "A" train motor-driven EFW pump and the "B" train turbine-driven EFW pump. The trip module located in the "B" cabinet starts only the "B" train turbine-driven EFW pump. The starting of both EFW pumps on "A" train EFIC actuation is necessary to assure that the turbine-driven pump will be operable in the event of a failure of the ES "B" 250/125V DC system coincident with a loss of offsite power and a [engineered safeguards] actuation. Under this scenario, EFP-2 will be relied upon to share the emergency feedwater load with the motor driven emergency feedwater pump in order to decrease the electrical load on diesel generator EDG-3A." This FSAR information remained current through 1996.

1. Contrary to the above, in April 1996, the licensee made a change to the facility as described in the FSAR, which involved three USQs, without prior Commission approval. Specifically, the modification, installed by Modification Approval Record (MAR) 96-04-12-01 changed the EFW initiation logic to allow the motor-driven EFW pump to provide all EFW during certain analyzed accidents which increased the calculated post-accident motor-driven EFW pump load from about 616 KW to about 668 KW. As a result, the "A" EDG accident loads were in excess of the limits specified in FSAR Section 8.2.3, TS 3.8.1 Basis (3500 KW limit), TS surveillance requirement (SR) 3.8.1.11 Basis (3100 KW one-minute load), and TS SR 3.8.1.8 Basis (616 KW largest single post-accident load that could be rejected). This change reduced the margin of safety as defined in the FSAR and three TS Bases, resulting in three USQs. The 10 CFR 50.59 safety evaluation for this modification was inadequate in that it did not address electrical loading effects on the "A" EDG and did not recognize the USQs. (01012)
2. Contrary to the above, in April 1996, the licensee made a change to a procedure as described in the FSAR, which involved three USQs, without prior Commission approval. Specifically, Emergency Operating Procedure EOP-13, EOP Rules, was changed by Rev. 2 to require operators to take manual control of the motor-driven EFW pump to increase EFW flow under certain conditions, resulting in an increase in EFW pump load from about 668 KW to about 713 KW. As a result, the "A" EDG accident loads were in excess of the limits specified in the FSAR and TS 3.8.1 Basis (3500 KW limit), TS SR 3.8.1.11 Basis (3100 KW one-minute load), and TS SR 3.8.1.8 Basis (616 KW largest single post-accident load that could be rejected). This change reduced the margin of safety as defined in the FSAR and three TS Bases, resulting in three USQs. The 10 CFR 50.59 safety evaluation for this procedure change was inadequate in that it did not address electrical loading effects on the "A" EDG and did not recognize the USQs. (01022)
3. Contrary to the above, in June 1990, the licensee made a change to a procedure as described in the FSAR, which involved a USQ, without prior Commission approval. Specifically, Operating Procedure OP-402, Makeup and Purification System, was changed by Rev. 64 to allow operators to select, for Engineered Safeguards, the swing "B" makeup pump to either EDG. This resulted in an increase in the largest single post-accident load on the "A" EDG, from 616 KW ("A" makeup pump) to 691 KW ("B" makeup pump). The

691 KW exceeded the largest single post-accident load, that could be rejected by the "A" EDG, specified in the FSAR (616 KW) and in TS SR 3.8.1.2.2 (515 KW). This change in the largest single post-accident load required a TS change which was not made, and therefore resulted in a USQ. The 10 CFR 50.59 safety evaluation for this procedure change was inadequate in that it did not address electrical loading effects on the "A" EDG and did not recognize the USQ. (01032)

4. Contrary to the above, in May 1987 and in March 1992, the licensee made changes to the facility as described in the FSAR, which involved a USQ, without prior Commission approval. Specifically, modifications TMAR 87-10-09-01 and MAR 87-10-09-01A changed the EFW system electrical power supply for the turbine-driven EFW pump alternate steam admission valve, ASV-204, from "B" train to "A" train DC power and changed the automatic opening of ASV-204 from a "B" train to an "A" train EFW initiation signal. The change introduced a USQ in that, in certain accident scenarios, a failure of the "B" battery would cause the turbine-driven EFW pump to go to runout with its flow control valves failed fully open which would increase the probability of failure of the turbine-driven EFW pump. If the event were also concurrent with a loss of offsite power, the "B" EDG would not operate (due to failure of the "B" battery). Also, the licensee's design basis relied on the turbine-driven EFW pump to share the EFW flow requirements with the motor-driven EFW pump in order to maintain the "A" EDG within its loading limits. The plant operated in various modes from 1987 through April 1996 with this design. The 10 CFR 50.59 safety evaluations for the TMAR and MAR were inadequate in that they did not address hydraulics, potential net positive suction head (NPSH) problems, a resulting potential increase in the probability of a malfunction of the turbine-driven EFW pump, or consequential effects on the "A" EDG; and did not recognize the USQ. (01042)
5. Contrary to the above, in May 1996, the licensee made changes to the facility, which involved a USQ, without prior Commission approval. Specifically, the 10 CFR 50.59 safety evaluation for MAR 96-04-12-01 (installed in May 1996) was inadequate in that the safety evaluation did not identify that removal of the automatic open signal from valve ASV-204 increased the probability of occurrence of a malfunction of equipment important to safety and therefore was a USQ. Removal of the automatic open signal from valve ASV-204 disabled one of the two automatic steam supplies to EFP-2, which reduced the reliability and increased the probability of a failure of EFP-2. (01052)
6. Contrary to the above, in 1994, the FSAR was revised in Rev. 21, dated December 1, 1994, Section 4.3.10.1, Boron Dilution, to add information on the boron precipitation methods following a loss of coolant accident ((LOCA), and the 10 CFR 50.59 evaluation was inadequate in demonstrating that a USQ did not exist. Specifically, after identifying deficiencies in the active methods (decay heat drop line and the pressurizer auxiliary spray line) used for boron precipitation control, the FSAR and Design Basis Documents were inappropriately changed to specify flow through gaps in the reactor vessel internals (a passive method) as the first and preferred method. This departed

from the original licensing basis of the plant. Also, flow through reactor vessel internal gaps had been identified as acceptable to the NRC (Letter dated March 9, 1993) only as a backup method and not as the primary method. (01062)

These violations represent a Severity Level II problem (Supplement I).

- B. 10 CFR 50, Appendix B, Criterion III, Design Control, requires in part, that measures be established to assure that applicable regulatory requirements and the design basis, as defined in 10 CFR 50.2, Definitions, and as specified in the license application, are correctly translated into specifications, procedures, and instructions. In addition, 10 CFR 50, Appendix B, Criterion III, requires that design control measures provide for verifying or checking the adequacy of design, by individuals other than those who performed the original design. It also requires that design control measures shall be applied to items such as the following: reactor physics, stress, thermal, hydraulic, and accident analyses.

The licensee's Quality Program commitments, as described in Table 1-3 of the FSAR, states that in all cases, the design verification shall be completed prior to relying on the component, system, or structure to perform its safety-related function.

Contrary to the above, measures were not established to assure that applicable regulatory requirements and the design basis were correctly translated into specifications, procedures and instructions in the following examples:

1. The design basis information from calculation E91-0026, approved by the licensee's engineering group on May 11, 1989, was not adequately translated into design documents, in that, the FSAR, Enhanced Design Basis Document, and the TS Bases were not updated to state that the turbine-driven EFW pump (EFP-2) was assumed to be running when the motor-driven EFW pump (EFP-1) tripped automatically at 500 psig reactor coolant system pressure.
2. Design basis information was not correctly translated into the design input requirements for MAR 96-04-12-01, "ASV-204 EFIC Auto Open Removal," in that the previous credit being taken for EFP-2 operating after EFP-1 automatically tripped when RCS pressure decreased to 500 psig during a LOCA concurrent with a loss of offsite power (LOOP) and failure of the train B vital battery was not recognized in the preparation of the MAR. As a result, MAR 96-04-12-01, which was installed in May 1996, removed the train "A" EFW initiation and control (EFIC) automatic open signal from valve ASV-204, one of the two steam supplies to EFP-2, which would have prevented EFP-2 from automatically starting during certain accident scenarios. The design basis was not met from May 1996 through September 1996. In an event, there would have been no EFW for the period of time between the 500 psig actuation signal and when RCS pressure is reduced below the low pressure injection pump shutoff head (approximately 185 psig), when EFW is no longer required for residual heat removal.

3. On December 6, 1994, the design basis was not correctly translated into procedures in that, Calculation M94-0056, performed to generate Procedure OP-103B, Curve 15, Nuclear Closed Cycle Cooling System (SW) Heat Exchanger Fouling versus Ultimate Heat Sink (UHS) Temperature, did not correctly model the heat input to the SW Heat Exchangers from the Reactor Building Fan Coolers. As a result, Curve 15 allowed a larger number of SW Heat Exchanger tubes to be blocked, which could have resulted in the SW Heat Exchanger outlet temperature exceeding the 110° F limit during accident conditions and the system not being capable of removing design basis heat from safety-related equipment.
4. Regulatory requirements were not translated into procedures and the licensee failed to provide measures to verify the adequacy of design by an individual other than those who performed the original design. Specifically, Engineering Procedure NEP-210, Modification Approval Records, Rev. 15, dated January 16, 1996, was inadequate in that it allowed unverified calculations to be relied upon to support modification installation and return to service. As a result, REA 96-047, EDG Loading Case Study, was not verified and was used to support modification MAR 96-04-12-01 approval in April 1996 which contributed to the introduction of three USQs related to EDG loading.
5. As of June 5, 1996, design basis information was not correctly translated into TS Surveillance Procedures (SP) SP-324, Containment Inspection, SP-341, Monthly Containment Isolation Valve Operability Check, and SP-346, Containment Penetrations Weekly Check During Refueling Operations. Engineering Procedure NEP-210, Modification Approval Records was inadequate in that it did not provide sufficient guidance to incorporate containment isolation valve surveillance requirements in the review of modifications and calculations. In 1988, 1990, and 1996, modifications were installed that would have required revisions to SP-324, 346, and 341, to include certain valves/blind flanges. In 1991, a reanalysis of two containment penetrations resulted in reclassification of the penetrations such that a revision to SP-341, to include valves/blind flanges in the procedure was necessary. In 1996, a review of surveillance compliance to TSs regarding containment integrity was conducted. This review failed to consider the surveillance requirements for containment penetrations in the context of maintenance conditions in SP-346. As a result of the modifications, reanalysis and review of surveillance compliance, SP-341 did not include 18 valves/blind flanges in the monthly performance check; SP-324 did not include nine valves/blind flanges in the mode 4 to mode 5 surveillance requirement; and SP-346 did not include 55 valves/blind flanges in the surveillance requirement. (02013)

This is a Severity Level III violation (Supplement I).

- C. 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, requires that measures be established to assure that conditions adverse to quality, such as nonconformances, are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and the corrective action taken to preclude repetition.

Contrary to the above, the licensee failed to correct conditions adverse to quality and failed to take measures to assure that corrective actions were taken to preclude repetition of significant conditions adverse to quality as follows:

1. Precursor Card 96-2750, dated May 31, 1996, and Problem Report 96-0210, dated July 3, 1996, identified that changes made to the facility in April 1996 introduced EDG loads that were in excess of the TS limits, a significant condition adverse to quality; however, adequate corrective actions were not implemented. The adverse conditions were not corrected as of October 11, 1996. As a result, the plant operated for several months with USQs related to EDG loading.
2. Problem Report 94-0218, dated June 24, 1994, described a problem where engineers failed to address EDG loading effects of several modifications in the 10 CFR 50.59 evaluations; however, the licensee failed to take adequate corrective actions for this significant condition adverse to quality. As a result, in April 1996, the 10 CFR 50.59 evaluation for modification MAR 96-04-12-01 did not address EDG loading effects and MAR 96-14-12-01 was inappropriately installed and placed in operation with USQs.
3. On October 12, 1994, the licensee identified that penetrations were not being tested in accordance with TS 3.6.3.3, as reported in Licensee Event Report 94-007; however, the corrective actions taken for LER 94-007, dated November 10, 1994, were not adequate to prevent recurrence, resulting in numerous additional valves/blind flanges that were omitted from the surveillance procedures being identified in 1996. (03013)

This is a Severity Level III violation (Supplement I).

Pursuant to the provisions of 10 CFR 2.201, Florida Power Corporation (Licensee) is hereby required to submit a written statement or explanation to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D. C. 20555 with a copy to the Regional Administrator, Region II, and a copy to the NRC Resident Inspector at the Crystal River facility, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not

be taken. Where good cause is shown, consideration will be given to extending the response time.

Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Atlanta, Georgia
this 12th day of March 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23785
ATLANTA, GEORGIA 30303

June 6, 1997

EA 97-094

Florida Power Corporation
Crystal River Energy Complex
Mr. Roy A. Anderson (SA2A)
Sr. VP, Nuclear Operations
ATTN: Mgr., Nuclear Licensing
15760 West Power Line Street
Crystal River, Florida 34428-6708

SUBJECT: NOTICE OF VIOLATION AND EXERCISE OF ENFORCEMENT DISCRETION
(NRC SPECIAL INSPECTION REPORT NO. 50-302/97-04)

Dear Mr. Anderson:

This letter refers to a Nuclear Regulatory Commission (NRC) inspection conducted during the period January 27 through March 21, 1997, at Crystal River Unit 3. The purpose of the inspection was to review Florida Power Corporation's (FPC) program for reporting certain conditions and problems to the NRC. The results of the inspection were discussed with members of your staff at exit meetings conducted on January 31, February 27, and March 21, 1997, and were formally transmitted to you by letter dated April 11, 1997. That letter also provided you the opportunity to respond to the apparent violations in writing or request a predecisional enforcement conference. Subsequently, you declined a conference, and by letter dated May 15, 1997, you submitted additional information to us regarding the apparent violations, the root causes, and your corrective actions to preclude recurrence, as requested in our April 11, 1997 letter. We have reviewed the inspection results and the additional information you provided and have concluded that sufficient information is available to determine the appropriate enforcement action in this matter.

Based on the information developed during the inspection and the information that was provided in your May 15, 1997 letter, the NRC has determined that violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding them are described in detail in the subject inspection report. Three of the violations involved failures to report significant conditions to the NRC in the time frames required by NRC regulations. The fourth violation involved a failure to follow required plant procedures for ensuring timely evaluation of a potentially reportable event. In your letter dated May 15, 1997, you stated that the root causes of the violations included the lack of ownership of the reportability process, lack of a formal process for resolution of open issues which potentially required reportability determinations, lack of adequate checks to ensure prompt reportability determinations, lack of knowledge of reportability requirements, poor past reporting practices, and ineffective corrective actions for previous reporting deficiencies.

As discussed in Section IV.D of the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, the NRC expects licensees to provide timely reports of safety significant issues. In this case, significant conditions that were determined to be unanalyzed or outside the design basis of the plant were not reported in a timely manner. The NRC issued escalated enforcement actions on February 28, 1997 (EA 97-012), and March 12, 1997 (EAs 96-365, 96-465 and -527), which included violations related to the safeguard system vulnerability and the emergency feedwater system capability, respectively. The root causes of many of the deficiencies in your reporting process, such as the lack of management guidance with regard to ownership of plant programs, the lack of knowledge of regulatory requirements and ineffective corrective actions are similar to the engineering program deficiencies that resulted in the shutdown of Crystal River Unit 3 in September 1996. The NRC considers the deficiencies in your reporting process to be a significant regulatory concern because the deficiencies could have resulted in the failure to recognize the potential impact on public health and safety of significant adverse conditions discovered at the facility. Therefore, these violations have been categorized in the aggregate in accordance with the Enforcement Policy as a Severity Level III problem.

In accordance with the Enforcement Policy, a civil penalty would normally be considered for a Severity Level III problem. However, I have been authorized, after consultation with the Director, Office of Enforcement, to exercise enforcement discretion in accordance with Section VII.B.(6) of the Enforcement Policy and not propose a civil penalty in this case. The NRC has concluded that discretion is appropriate in that: (1) the Crystal River facility is shutdown for an extended period of time due to engineering performance issues (ref. EAs 96-365, -465, and -527), which contributed to the reporting deficiencies identified in the violations described in the enclosed Notice; (2) the NRC issued a \$500,000 civil penalty on July 10, 1996 (EA 95-126) which included sanctions for engineering violations; (3) the NRC issued a \$50,000 civil penalty on March 28, 1997 (EA 97-012) that included a sanction for a security violation related to the current reporting issue; and (4) FPC's decision to restart the Crystal River facility requires NRC concurrence in accordance with a Confirmatory Action Letter issued on March 4, 1997.

Although the NRC is exercising discretion to not propose a civil penalty in this case, the corrective actions proposed in your May 15, 1997 letter to ensure that other significant issues have been promptly reported to the NRC were narrowly defined. Limiting your Extent of Condition review to precursor cards marked with a note to perform an evaluation may preclude identification of other reporting deficiencies. The NRC expects that your currently ongoing design basis system reviews should uncover additional issues that have not been previously reported. While correction of deficiencies in your reporting program is related to issues required for facility restart, you need to assure that your reporting program has been sufficiently corrected to capture these additional issues. Therefore, you are required to respond to this letter and address how you will ensure that your Extent of Condition review and other

actions are sufficient to ensure adequacy of your reporting program. The NRC will consider your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

The NRC has concluded that information regarding the reason for the violations, the date when full compliance will be achieved, and corrective actions taken and planned to correct the violations and prevent recurrence other than the narrow focus of your Extent of Condition reviews are adequately addressed on the docket in your letter to the NRC dated May 15, 1997.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

Sincerely,

Luis A. Reyes
Regional Administrator

Docket No. 50-302
License No. DPR-72

Enclosure: Notice of Violation

cc w/encl:
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B. J. Hickie, Director
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cc w/encl cont'd: (See page 4)

cc w/enc1 cont'd:

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NOTICE OF VIOLATION

Florida Power Corporation
Crystal River Nuclear Plant
Unit 3

Docket No.: 50-302
License No.: DPR-72
EA 97-094

During a Nuclear Regulatory Commission (NRC) inspection conducted during the period January 27 through March 21, 1997, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

- A. 10 CFR 50.72 (b)(1) requires, in part, that the licensee notify the NRC as soon as practical and in all cases within one hour of the occurrence of any condition during operation that results in the nuclear power plant being in a condition outside the design basis of the plant.

10 CFR 50.73 requires, in part, that the licensee submit a Licensee Event Report, within 30 days after the discovery of the condition, regardless of the plant mode or power level, any condition that resulted in the nuclear power plant being in an unanalyzed condition that significantly compromised plant safety or being in a condition outside the design basis of the plant.

1. Contrary to 10 CFR 50.72 (b)(1) and 50.73, the licensee failed to report to the NRC, within one hour of the occurrence of the condition and within 30 days after the discovery, a condition that the licensee determined was outside the design basis of the plant. In December 1995 (while the plant was operating), a licensee engineer identified that a manual transfer switch, which provides safety-related power to Engineered Safeguards (ES) status lights from two different vital buses, was incorrectly installed as non-safety-related. The licensee made a 10 CFR 50.72 report of this condition on June 13, 1996 and made a 10 CFR 50.73 report on July 15, 1996. (01013)
2. Contrary to 10 CFR 50.73, the licensee failed to report to the NRC, within 30 days after discovery, an unanalyzed condition that significantly compromised plant safety. The condition was inadequate net positive suction head for the turbine-driven emergency feedwater pump which could have rendered the emergency feedwater system incapable of fulfilling its intended safety and accident mitigation functions. The condition was identified in April 1996 (while the plant was shut down) and had not been reported to the NRC as of January 27, 1997. After NRC identification of this issue, the licensee reported it on February 27, 1997 in Licensee Event Report No. 97-001. (01023)

Enclosure 1

- B. 10 CFR 73.71(b)(1) requires licensees to report to the NRC, within one hour, any discovered vulnerability in a safeguard system that could allow unauthorized or undetected access to a protected area.

Contrary to the above, on January 30, 1997, the licensee failed to report to the NRC a vulnerability in a safeguard system, the protected area boundary, within one hour. Specifically, on January 30, 1997, at 6:45 p.m., the licensee identified a breach in the protected area boundary located at a main condenser circulating waterbox that could allow unauthorized or undetected access to the protected area. At approximately 10:30 p.m. on January 30, 1997, the licensee determined that the breach was in excess of the allowable Security Plan breach size and therefore the breach was a reportable vulnerability. The licensee failed to meet the one hour reporting requirement in that the licensee did not report the breach to the NRC until 1:18 a.m. on January 31, 1997. (01033)

- C. Technical Specification (TS) 5.6.1.1, Procedures, requires that written procedures be established, implemented, and maintained for the activities recommended in Appendix A of Regulatory Guide (RG) 1.33, Quality Assurance Program Requirements, Revision 2, February 1978. Appendix A of RG 1.33 includes administrative procedures required for review of significant safety issues.

Compliance Procedure (CP) 111, Processing of Precursor Cards for Corrective Action Program, Revision 55, Section 3.2.1.2, requires, in part, that the originator of a precursor card (PC) must hand carry it to the Shift Manager for immediate evaluation if it is believed or suspected that the event or condition involves a reportable or safety issue.

Contrary to the above, on January 31, 1997, the licensee failed to ensure that the originator of PC No. 97-055 hand carried the PC to the Shift Manager for immediate evaluation. PC No. 97-055 documented a situation where components were potentially outside their design basis and was annotated by the originator as potentially reportable due to the suspected design basis problem. The PC was sent to the Shift Manager for review via the normal licensee mail system and was received on February 6, 1997. (01043)

These violations represent a Severity Level III problem (Supplement I).

Pursuant to the provisions of 10 CFR 2.201, the Florida Power Corporation (Licensee) is required to submit a supplemental written statement or explanation to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D. C. 20555 with a copy to the Regional Administrator, Region II, and a copy to the NRC Resident Inspector at the Crystal River facility, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to Notice of Violation" and should include the specific information requested in the cover letter to this Notice. Your response may reference or include previously docketed correspondence, if the correspondence adequately

addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Atlanta, Georgia
this 6th day of June 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23785
ATLANTA, GEORGIA 30303

May 29, 1997

EA 97-161

Florida Power Corporation
Crystal River Energy Complex
Mr. Roy A. Anderson (SA2A)
Sr. VP, Nuclear Operations
ATTN: Mgr., Nuclear Licensing
15760 West Power Line Street
Crystal River, FL 34428-6708

SUBJECT: NOTICE OF VIOLATION
(NRC INSPECTION REPORT NO. 50-302/97-03)

Dear Mr.-Anderson:

This letter refers to a Nuclear Regulatory Commission (NRC) inspection conducted during the period March 17 - 21, 1997, at Crystal River Unit 3. The purpose of the inspection was to review the implementation of your security program which included an evaluation of your control of Safeguards Information (SGI). The results of the inspection were discussed with members of your staff on March 21, 1997, at the exit meeting and were formally transmitted to you by letter dated April 18, 1997. That letter also provided you the opportunity to respond to the apparent violations in writing or request a predecisional enforcement conference. At your request, an open predecisional enforcement conference was conducted in the Region II office on May 22, 1997. A listing of conference attendees, Florida Power Corporation's (FPC) presentation materials, and NRC slides are enclosed.

Based on the information developed during the inspection and provided at the conference, the NRC has determined that violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding them are described in detail in the subject inspection report. The violations involved two instances where the staff at Crystal River failed to control SGI adequately to assure access by authorized persons only. Specifically, on January 16 and March 15, 1997, SGI was left unattended and unsecured outside the protected area for periods of approximately 16 hours. The materials were located in the locked security office and the document control area of the Nuclear Administration Building, respectively.

At the conference, your staff admitted the violations and identified the root cause as the lack of centralized control for SGI. Also, at the conference, NRC was informed that FPC had identified an additional event on April 7, 1997, where an individual, who was not fingerprinted, handled SGI. This event has not been reviewed by NRC; however, your staff stated that the corrective actions presented at the conference also addressed this most recent event.

NRC recognizes that many of the documents associated with the two violations could have been downgraded to non-SGI; however, some of the material did contain SGI and was being used as part of the physical security upgrade project. Regardless of the actual safety implications of the violations, it is NRC's expectation that all information classified as SGI be safeguarded and controlled. In this case, it does not appear that the SGI was compromised, but the material was located in an area outside the protected area, and a reasonable probability existed that unauthorized persons could have accessed it. Furthermore, NRC is particularly concerned regarding your inability to correct previously identified violations in this program area. Specifically, since March 1996, ten events (including FPC's most recent event in April 1997) involving inadequate control of SGI have occurred. NRC Notices of Violation were issued for several of these issues on May 1 and September 4, 1996, with the latter Notice highlighting the violation as repetitive in nature. As your staff discussed at the conference, corrective actions were implemented for previous violations; however, the events were treated as isolated instances of human performance errors, and the actions did not address the programmatic root cause. In addition, even though more extensive corrective actions were identified following the three September 1996 SGI events, the schedule for completion of the planned activities was protracted and did not prevent the additional occurrences in 1997. It is the responsibility of licensee management to emphasize the importance of and to ensure the implementation of lasting and effective corrective actions. Based on the above, the violations have been categorized in the aggregate in accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$55,000 is considered for a Severity Level III problem occurring after November 12, 1996. Because your facility has been the subject of escalated enforcement actions within the last two years, the NRC considered whether credit was warranted for Identification and Corrective Action in accordance with the civil penalty assessment process described in Section VI.B.2 of the Enforcement Policy. NRC determined that credit was warranted for Identification in that both violations were identified by your staff. At the conference, your staff stated that corrective actions taken or initiated included the following: (1) securing the unattended SGI upon discovery; (2) counselling and/or disciplinary action for the individuals involved in the events; (3) establishing a single point of control for SGI within the protected area which was completed on May 5, 1997 (an additional area was also established in the Emergency Operations Facility for emergency use; (4) reducing the quantity of SGI through declassification and destruction scheduled for completion by September 30, 1997; (5) establishing a personnel

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¹ On July 10, 1996, multiple Severity Level III violations with a \$500,000 civil penalty were issued related to unauthorized testing, engineering, and corrective action (EA 95-126). On February 28, 1997, a Severity Level III problem with a \$50,000 civil penalty was issued related to security violations (EA 97-012). On March 12, 1997, a Severity Level II problem and two Severity Level III violations were issued related to engineering issues (EA 96-365, 96-465, 96-527).

access list for SGI which was completed on May 19, 1997; and (6) including security in the formal corrective action/precursor card program. In addition, to address the broader programmatic issues highlighted by these violations as well as those cited in another recent escalated enforcement action related to security (EA 97-012), your staff indicated that the following actions were planned: (1) employment of a new Security Manager effective June 2, 1997; (2) conduct of increased and improved training for security personnel; and (3) development and implementation of a Security Improvement Plan. Although corrective actions for prior violations have been ineffective, based on the above, the NRC determined that the corrective actions for the current violations appeared to be prompt and comprehensive and that credit was warranted for the factor of Corrective Action.

Therefore, to encourage prompt identification and comprehensive corrective actions for violations, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant or further repetitive violations in the future could result in a civil penalty.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence of the violation. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements. Please be advised that this enforcement action does not address the April 7, 1997, SGI event. NRC will review and disposition this matter at a later date.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

Sincerely,

Luis A. Reyes
Regional Administrator

Docket No. 50-302
License No. DPR-72

Enclosures: 1. Notice of Violation
2. List of Conference Attendees
3. Licensee Presentation Materials
4. NRC Slides

cc w/encls: (See Page 4)

cc w/encs:

John P. Cowan, Vice President
Nuclear Production (SA2C)
Florida Power Corporation
Crystal River Energy Complex
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Crystal River, FL 34428-6708

B. J. Hickie, Director
Nuclear Plant Operations (NA2C)
Florida Power Corporation
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David F. Kunsemiller, Director (SA2A)
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Joe Myers, Director
Division of Emergency Preparedness
Department of Community Affairs
2740 Centerview Drive
Tallahassee, FL 32399-2100

cc w/encs: (Cont'd on Page 5)

FPC

5

cc w/enc's (Cont'd):
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Board of County Commissioners
Citrus County
110 N. Apopka Avenue
Inverness, FL 34450-4245

Robert B. Borsum
Framatome Technologies
1700 Rockville Pike, Suite 525
Rockville, MD 20852-1631

NOTICE OF VIOLATION

Florida Power Corporation
Crystal River Nuclear Plant
Unit 3

Docket No.: 50-302
License No.: DPR-72
EA 97-161

During a Nuclear Regulatory Commission (NRC) inspection conducted during the period March 17 - 21, 1997, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

10 CFR 73.21(d)(2) requires, in part, that while unattended, Safeguards Information shall be stored in a locked security storage container.

- A. Contrary to the above, on January 16, 1997, outdated Physical Security and Training and Qualification Plans; 1990 MRC Safeguards Information Inspection Reports; and 1990 Safeguards Information Licensee Event Reports were left unattended and not locked in a security storage container in a locked, security office, a location outside of the protected area, for approximately 16 hours; and (01013)
- B. Contrary to the above, on March 15, 1997, 152 aperture cards containing Safeguards Information were left unattended and not locked in a security container in the document control area of the Nuclear Administration Building, a location outside the protected area, for approximately 16 hours. (01023)

This is a repeat Severity Level III problem (Supplement III).

Pursuant to the provisions of 10 CFR 2.201, the Florida Power Corporation (Licensee) is required to submit a written statement or explanation to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D. C. 20555 with a copy to the Regional Administrator, Region II, and a copy to the NRC Resident Inspector at the Crystal River facility, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to Notice of Violation" and should include: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Enclosure 1

Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Atlanta, Georgia
this 29th day of May 1997

June 5, 1997

EA 97-162

Florida Power Corporation
Crystal River Energy Complex
Mr. Roy A. Anderson (SA2A)
Sr. VP, Nuclear Operations
ATTN: Mgr., Nuclear Licensing
15760 West Power Line Street
Crystal River, Florida 34428-6708

SUBJECT: NOTICE OF VIOLATION AND EXERCISE OF ENFORCEMENT DISCRETION
(NRC INSPECTION REPORT NO. 50-302/97-06)

Dear Mr. Anderson:

This refers to the inspection conducted March 19-21, 1997, at Florida Power Corporation's (FPC) Crystal River Unit 3 nuclear facility. The purpose of the inspection was to assess changes made to the unit's Final Safety Analysis Report (FSAR) and operating procedures that involved a substantial increase in the number of operator actions necessary to mitigate a design basis small break loss of coolant accident (LOCA). The results of the inspection were formally transmitted to you by letter dated April 17, 1997.

Based on the information developed during the inspection, the NRC has determined that a violation of NRC requirements occurred. The violation is cited in the enclosed Notice of Violation (Notice), and the circumstances surrounding the violation are described in detail in the subject inspection report. The violation involved (1) the failure to identify that the addition of required operator actions to mitigate a design basis small break LOCA constituted an unreviewed safety question (USQ); and (2) the subsequent failure to obtain NRC review and approval of that mitigation strategy. The apparent root causes of the violation were inadequate safety evaluations for procedure and FSAR revisions that added operator actions for design basis small break LOCA mitigation. Specifically, FPC failed to identify that, per 10 CFR 50.59(a)(2), the addition of operator actions to the previously approved design basis accident mitigation strategy may result in an increase in the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the FSAR and the possibility of a malfunction of a different type than any evaluated previously in the FSAR. The changes introduced additional opportunities for operator error during small break LOCA mitigation and an increase in the probability of reactor coolant pump seal failure. Accordingly, FPC failed to identify that the changes involved an USQ that required NRC review and approval prior to implementation. Further, when FPC recognized that the additional operator actions were required, it failed to incorporate this latest developed information into an FSAR revision that was intended to reflect this change. This violation is a significant failure to meet the requirements of 10 CFR 50.59, including a failure such that a required license amendment was not sought and, therefore, has been categorized as a Severity Level III violation.

In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, a civil penalty normally would be considered for a Severity Level III violation. However, I have been authorized, after consultation with the Director, Office of Enforcement, to exercise enforcement discretion in accordance with Section VII.B.(6) of the Enforcement Policy and not propose a civil penalty in this case. The NRC has concluded that discretion is appropriate in that: (1) the Crystal River facility is shutdown for performance reasons including engineering violations such as the ones in this case and those issued on March 12, 1997 (EAs 96-365, 96-465 and 96-527) which involved a Severity Level II problem for the failure to perform adequate reviews pursuant to 10 CFR 50.59; (2) the Crystal River facility will remain shut down until completion of a comprehensive program of improvements in the engineering area; (3) FPC has demonstrated that remedial action is being taken to ensure reestablishment of design margins for plant systems prior to plant restart; (4) NRC issued a \$500,000 civil penalty on July 10, 1996 (EA 95-126) which included sanctions for engineering violations; and, (5) FPC's decision to restart the Crystal River facility requires NRC concurrence in accordance with a Confirmatory Action Letter issued on March 4, 1997.

During the NRC review of the safety evaluation for FSAR Revision 23, it was determined that errors in the evaluation are similar to those identified in the March 12, 1997 escalated enforcement action described above. The FSAR Revision 23 safety evaluation contains inappropriate reasoning for determining if a USQ exists. For example, the evaluation states that no change was made to the function of any safety-related equipment when in fact automatic functions assumed in the safety analysis were replaced by manual actions. In addition, the evaluation utilizes industry guidelines that have not been accepted by the NRC. These and other statements are of concern to the NRC because FPC had indicated that this safety evaluation was a final product of its reanalysis effort at the time of the March 1997 inspection. Therefore, FPC is requested to include in its response those corrective actions necessary to ensure that safety evaluations contain sound reasoning and complete analysis to support a determination that a USQ does not exist. The NRC also noted that the FSAR Revision 23 safety evaluation contained a reevaluation of a letdown line break which concluded that the potential offsite dose was greater than stated in the FSAR. The NRC will conduct further reviews of this FSAR change.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room.

Should you have any questions concerning this letter, please contact us.

Sincerely,

Original signed by
Luis A. Reyes

Luis A. Reyes
Regional Administrator

Docket No. 50-302
License No. DPR-72

Enclosure: Notice of Violation

cc w/encl:
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Florida Power Corporation
Crystal River Energy Complex
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cc w/encl cont'd: (See page 4)

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Chairman
Board of County Commissioners
Citrus County
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Robert B. Borsum
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Rockville, MD 20852-1631

NOTICE OF VIOLATION

Florida Power Corporation
Crystal River Nuclear Plant
Unit 3

Docket No. 50-302
License No. DPR-72
EA 97-162

During NRC inspections conducted March 19-21, 1997, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

10 CFR 50.59(a)(1) states, in part, that licensees may make changes to the facility or procedures as described in the safety analysis report, without prior Commission approval, unless the proposed change involves an unreviewed safety question (USQ). 10 CFR 50.59(a)(2) states, in part, that a proposed change shall be deemed to involve a USQ (i) if the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased or (ii) if a possibility for a malfunction of a different type than any evaluated previously in the safety analysis report may be created. 10 CFR 50.59 (b)(1), in part, states that the licensee shall maintain records of changes in the facility and of changes in procedures made pursuant to this section. These records must include a written safety evaluation which provides the bases for the determination that the change does not involve a USQ. 10 CFR 50.59(c) states that a licensee who desires to make a change in the facility or procedures described in the safety analysis report which involves a USQ shall submit an application for amendment of his license pursuant to 10 CFR 50.90.

Prior to May 2, 1996, the facility Final Safety Analysis Report (FSAR) described the facility's mitigation strategy for a design basis small break Loss of Coolant Accident (LOCA), and that strategy included two operator actions. Those actions were: initiate high pressure injection (HPI) flow through all four injection lines within 20 minutes (per FSAR Table 6-19); and balance flows in the HPI injection lines within 20 minutes (per FSAR Sections 6.1.3.1.2 and 4.2.2.5.7.2). The NRC had previously (in 1979) approved the use of one operator action to mitigate a design basis small break LOCA, i.e., initiate HPI flow through all four injection lines by 10 minutes after the LOCA.

Contrary to the above, on the dates indicated below, the licensee made changes to the facility and procedures described in the FSAR that involved USQs. The changes involved the addition of the operator actions described below to ensure that the design basis requirements for small break LOCA mitigation were met. The FSAR itself was also changed to include some of the operator actions. These changes were made based on inadequate safety evaluations, and as a result, a license amendment was not sought for conditions that involved USQs.

The facility was changed by analysis in Calculation M96-0032, Reevaluation of High Pressure Injection Requirements During Small Break Loss of Coolant Accidents, dated May 2, 1996, such that additional operator actions were required to mitigate the consequences of a design

basis small break LOCA. However, the additional operator actions had not been approved by the NRC to be relied upon for mitigation of a design basis small break LOCA. The operator actions added or changed included:

- (1) isolate letdown within 10 minutes.
- (2) isolate normal makeup within 20 minutes.
- (3) isolate reactor coolant pump (RCP) seal injection within 20 minutes.
- (4) isolate a broken HPI injection line within 20 minutes. and
- (5) control steam generator level above the Emergency Feedwater Initiation and Control automatic setpoint within 20 minutes.

In summary, this change added operator actions [(1), (2), (3), and (5), above] and changed one operator action [(4) above, which replaced the previous operator action to balance flows in the HPI injection lines within 20 minutes] in the facility's mitigation strategy for a design basis small break LOCA.

Procedures described in the FSAR, i.e., the emergency operating procedures, were changed by Short Term Instructions (STI) 95-0061, effective November 8, 1995 to February 8, 1996; STI 96-0068, effective February 8, 1996 to May 6, 1996; and Revision 4 to Emergency Operating Procedure EOP-03, dated May 2, 1996; to add the operator action to isolate RCP seal injection. The remaining operator actions had been in the emergency operating procedures since the late 1970s, but at least four of them had not been relied upon to satisfy the design basis as stated in the FSAR.

The FSAR was changed by Revision 23, titled "FSAR Revision due to HPI Reevaluation," dated November 18, 1996, to incorporate the results of Calculation M96-0032 into the FSAR. This change included the operator actions listed above, with the exception of action (5). The safety evaluation for FSAR Revision 23 was dated April 30, 1996.

The required safety evaluations that supported Revision 23 to the FSAR, STI 95-0061, STI 96-0068, and Emergency Operating Procedure EOP-03, Rev. 4, were inadequate in that they failed to recognize the introduction of USQs. (There was no separate safety evaluation for Calculation M96-0032.) The inadequacies involved a failure to recognize that the increase in the number of operator actions required to mitigate a design basis small break LOCA introduced the possibility of a malfunction of a different type than any evaluated previously in the FSAR, and also increased the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the FSAR. The changes introduced additional opportunities for operator errors. The inadequacies also involved a failure to recognize that the addition of the action to isolate RCP seal injection increased the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the FSAR in that it increased the probability of seal failure. Therefore, the changes involved USQs.

The safety evaluation for FSAR Revision 23 was also inadequate in that it failed to address, and failed to ensure that the FSAR included, all of the required operator actions for small break LOCA mitigation that were stated in Calculation M96-0032. Operator action (5) was not addressed by the safety evaluation for FSAR Revision 23 and was not included in the FSAR revision. (01013)

This is a Severity Level III violation (Supplement I).

Pursuant to the provisions of 10 CFR 2.201, Florida Power Corporation (Licensee) is hereby required to submit a written statement or explanation to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D. C. 20555 with a copy to the Regional Administrator, Region II, and a copy to the NRC Resident Inspector at the Crystal River facility, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Under the authority of Section 182 of the Action, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Atlanta, Georgia
this 5th day of June 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV

611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

March 27, 1997

EA 96-500

William T. Cottle, Group Vice
President, Nuclear
Houston Lighting & Power Company
Post Office Box 289
Wadsworth, Texas 77483

SUBJECT: NOTICE OF VIOLATION AND EXERCISE OF ENFORCEMENT DISCRETION
(NRC SPECIAL INSPECTION REPORT 50-498/96-25; 50-499/96-25)

Dear Mr. Cottle:

This refers to the February 6, 1997, letter submitted by Houston Lighting & Power Company (HL&P) in response to the apparent violations identified in NRC Inspection Report 50-498/96-25; 50-499/96-25, issued on December 11, 1996. NRC's inspection was completed on December 6, 1996. As indicated in the NRC letter transmitting the inspection report, two apparent violations were identified involving leakage from a valve in the safety injection system at South Texas Project (STP), Unit 2. HL&P was given a choice of requesting a predecisional enforcement conference or submitting a written response to the apparent violations. HL&P first opted for a conference, but rescinded that request on January 23, 1997, and chose to submit a written response to the apparent violations.

In its February 6 response, HL&P did not dispute the apparent violations and described specific actions taken to correct each of them and the broader issues associated with them. These actions included repairing the leaking valve, assuring that no other leakage paths existed, and implementing various measures aimed at ensuring a careful assessment of any plant conditions that may impact design basis margins. A more detailed description of these actions is contained in HL&P's February 6 letter.

Based on the information developed during the inspection, and the information that HL&P provided in its response to the inspection report, the NRC has determined that a violation of NRC requirements occurred. This violation is cited in the enclosed Notice of Violation (Notice) and concerns a failure to promptly identify and correct a significant nonconforming condition, namely a safety injection system valve that was leaking excessively and at a rate greater than that described in the facility's Updated Final Safety Analysis Report (UFSAR). Consequently, this failure to identify the significance of the condition led to a failure to perform an evaluation pursuant to the requirements of 10 CFR 50.59, to determine if operation of the safety injection system in a manner different from that described in the UFSAR constituted an unreviewed safety question.

The NRC's primary concern about this violation is the failure of plant staff to recognize the significance of safety injection system leakage outside containment. Leakage from this valve into the Fuel Handling Building, a significant condition adverse to quality, was identified by plant operators in February 1996, and was not scheduled for repair until June 1997. As discussed in the inspection report, at least six reviewers of the condition report which described this leakage, including licensed operators and the system engineer, failed to recognize the potential impact of system leakage on doses to control room personnel in the event of a loss of coolant accident. Further, the leakage was approximately 20 times the amount assumed for dose calculations contained in UFSAR Table 15.6-12, and this condition was not evaluated in accordance with 10 CFR 50.59 in order to determine if an unreviewed safety question existed or if it was appropriate to delay repairs until June 1997. The NRC considers that degraded or nonconforming conditions not permanently resolved at the first available opportunity are, in essence, de facto changes to the facility that should be evaluated under 10 CFR 50.59. In this case, the failure to fully evaluate the degraded condition resulted in the failure to identify an unreviewed safety question. Appropriate action was finally taken in October 1996, but only after the issue was raised by the NRC's resident inspector at STP in September 1996. Thus, for approximately 8 months, a condition existed which would have resulted in significantly higher doses to control room personnel and to increased radioactivity released from the facility had a loss of coolant accident occurred.

In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, the violation described above and in the Notice has been categorized at Severity Level III. In accordance with the Enforcement Policy, a civil penalty with a base value of \$50,000 is considered for a Severity Level III violation. Because your facility has been the subject of escalated enforcement action within the last 2 years¹, the NRC considered whether credit was warranted for *Identification and Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. As indicated above, this problem was identified by the NRC, thus HL&P is not deserving of credit for identification. Based on our review of the actions you have taken, as described in your February 6 letter, we have determined that credit for corrective action is warranted.

The NRC's consideration of the factors described above normally would result in the assessment of a civil penalty at the base value. However, we note as HL&P did in its February 6 letter, that the events that led to the escalated enforcement actions summarized in Footnote 1, occurred more than 2 years prior to the discovery of the violations at issue in this case. The NRC has taken this into consideration and has determined that this fact, in conjunction with the recent overall good performance at STP

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¹ On October 17, 1995, a Notice of Violation and Proposed Imposition Civil Penalty in the amount of \$160,000 was issued for violations involving discrimination of security personnel in 1992. On September 19, 1996, a Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$200,000 was issued for violations involving discrimination of contract personnel at STP in 1991 and early 1994.

warrants the exercise of discretion in accordance with Section VII.B.6 of the Enforcement Policy. Therefore, after consultation with the Director, Office of Enforcement and the Deputy Executive Director for Regulatory Effectiveness, Program Oversight, Investigations and Enforcement, no civil penalty is being proposed in this case. However, HL&P is on notice that significant violations in the future, particularly a recurrence of the violation described in the Notice, could result in a civil penalty.

The NRC has concluded that information regarding the reasons for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence, and the date when full compliance was achieved is already adequately addressed on the docket in Inspection Report No. 50-498/96-25; 50-499/96-25 and HL&P's letter dated February 6, 1997. Therefore, you are not required to respond to this letter unless the description in the referenced correspondence does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and any response you choose to submit will be placed in the NRC Public Document Room (PDR).

Sincerely,

Ellis W. Merschoff
Regional Administrator

Dockets: 50-498; 50-499
Licenses: NPF-76; NPF-80

Enclosure: Notice of Violation

cc w/enclosure:
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Austin, Texas 78704

Houston Lighting &
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-4-

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Office of the Governor
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Matagorda County Courthouse
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Houston Lighting &
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-5-

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NOTICE OF VIOLATION

Houston Lighting and Power Company
South Texas Project

Dockets: 50-498; 50-499
Licenses: NPF-76; NPF-80
EA 96-500

During an NRC inspection completed December 6, 1996, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

10 CFR Part 50, Appendix B, Criterion XVI requires that "Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to appropriate levels of management."

10 CFR 50.59 paragraph (a)(1) states, in part, "The holder of a license authorizing operation of a production or utilization facility may (i) make changes in the facility as described in the safety analysis report . . . unless the proposed change, test or experiment involves a change in the technical specifications incorporated in the license or an unreviewed safety question."

Updated Final Safety Analysis Report (UFSAR) Table 15.6-12 lists the maximum potential recirculation loop leakage external to containment and into the Fuel Handling Building as 4,140 cubic centimeters per hour. The leakage assumed for dose calculations following a postulated large-break loss of coolant accident was selected as twice the leakage rate listed in the table.

Contrary to the above, from February 22 through October 3, 1996, excessive leakage from an emergency core cooling system valve, a significant condition adverse to quality, existed and was not promptly identified and corrected, in that, a condition report documenting valve leakage in the system was not evaluated for possible adverse safety consequences nor was the valve repaired. Further, the licensee continued to operate the facility with a degraded condition that was not evaluated to determine whether the condition constituted a change to the facility as described in the UFSAR resulting in an unreviewed safety question. Specifically, leakage from an emergency core cooling system valve, approximately 20 times greater than that allowed by UFSAR Table 15.6-12, was identified and not properly evaluated. (01013)

This is a Severity Level III violation (Supplement I).

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence, and the date when full compliance was achieved is already adequately addressed on the docket in Inspection Report No. 50-498/96-25; 50-499/96-25, issued on December 11, 1996 and a letter from the Licensee dated February 6, 1997. Therefore, no response to this Notice is required. However, the Licensee is required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description in the referenced correspondence does not accurately reflect its corrective actions or its position. In that case, or if HL&P chooses to respond, clearly mark the response as a "Reply to a Notice of Violation," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011.

Dated at Arlington, Texas
this 27th day of March 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV

611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

June 25, 1997

EA 97-017

G. R. Horn, Senior Vice President
of Energy Supply
Nebraska Public Power District
1414 15th Street
Columbus, Nebraska 68601

SUBJECT: NOTICE OF VIOLATION AND EXERCISE OF ENFORCEMENT DISCRETION
(NRC Inspection Report Nos. 50-298/96-24 and 96-31)

Dear Mr. Horn:

This refers to inspections conducted at the Nebraska Public Power District's (NPPD) Cooper Nuclear Station which were documented in the subject NRC inspection reports. These inspections identified several apparent violations related to the accuracy of Cooper's Updated Safety Analysis Report (USAR) and the adequacy of certain analyses performed under the provisions of 10 CFR 50.59. The results of the inspections and our concerns were discussed with Mr. Phil Graham and others of your staff on February 19, 1997. The inspection reports were issued on February 25, 1997, and February 28, 1997, respectively. A predecisional enforcement conference was held in Arlington, Texas on April 15, 1997, to discuss the apparent violations. The issues discussed during the predecisional enforcement conference also included a review of NPPD's January 24, 1997, letter (reference the NRC's letter to you dated February 28, 1997), and a review of whether Cooper's LER 96-14-01 identified a loss of control of the license basis (reference NRC's letter to you dated April 8, 1997). The NRC issued a meeting summary related to the topics discussed at the predecisional enforcement conference in a letter to you dated May 14, 1997.

Based on the information developed during the inspections and the information that you provided during the conference, as well as communications with your staff on specific issues following the conference, the NRC has determined that violations of NRC requirements occurred. These violations are cited in Enclosure 1, the Notice of Violation (Notice), and the circumstances surrounding them were described in detail in the subject inspection reports and above referenced letters. The first violation contains eight examples of a failure to update the USAR as required by 10 CFR 50.71(e). The second violation contains three examples of a failure to perform adequate written safety evaluations in accordance with 10 CFR 50.59.

During the conference, your staff contested five of the examples that the NRC had identified as apparent violations. The NRC has reviewed NPPD's reasons for contesting these five examples, and has decided in three cases not to include the examples in the Notice of Violation. Our basis for this decision and our decision that violations did occur in the remaining two contested examples, are discussed in detail in Enclosure 2.

In 1996, your staff determined that Cooper's USAR had many inaccuracies. However, your staff delayed in addressing the problem such that by the time of our inspection in October 1996, our inspectors identified further examples of USAR discrepancies in addition to those which your staff had identified and had not yet corrected. None of the issues impacted current operability, and the safety significance for these violations is low. Nonetheless, in the aggregate, these two violations are of regulatory significance because they represent a programmatic failure to meet the requirements of 10 CFR 50.71(e) and 10 CFR 50.59. This shows a significant lack of attention to detail on your part and has resulted in our current regulatory concern about the accuracy of the USAR. Therefore, these violations are classified in the aggregate in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600 as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III problem. Because your facility has been the subject of escalated enforcement actions within the last 2 years¹, the NRC considered whether credit was warranted for Identification and Corrective Action in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. The NRC has determined that credit is not warranted for identification because (1) although your staff identified the general problem of USAR inaccuracies in May 1996, the issues were not addressed in a timely manner, and (2) most of the specific issues that were the subject of the predecisional enforcement conference were identified by the NRC. However, the NRC determined that credit is warranted for Corrective Action. This determination is based on the numerous and comprehensive corrective actions you have undertaken to address the underlying cause of the problem. Some of the corrective actions include: the USAR has been changed or clarified for the identified items; an audit has been conducted on-site to verify the accuracy of the USAR; Cooper management has increased the focus on using Problem Identification Reports (PIRs) to identify USAR inconsistencies; training has begun on conducting evaluations required by 10 CFR 50.59; additional management oversight of the evaluations will be provided; Cooper's procedures for performing the evaluations have been upgraded; Cooper has developed an action plan to review potential unauthorized modifications that have resulted from past maintenance activities; and Cooper has developed a USAR rebaselining project, which includes developing a database of design and licensing basis documentation that will facilitate performance of more comprehensive 10 CFR 50.59 evaluations.

The normal civil penalty assessment process in this case would result in a \$50,000 civil penalty being proposed. However, after consultation with the Director, Office of Enforcement, I have been authorized not to propose a civil penalty in this case in accordance with the provisions provided in Section VII.B.6 of the NRC's Enforcement Policy. This decision is based on (1) consideration of the generally low safety significance

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¹ The most recent case involved a Severity Level III violation issued on December 20, 1996 (EA 96-488), with no civil penalty, for a failure to meet station blackout requirements

of the violations; (2) the comprehensiveness of NPPD's corrective actions; (3) the fact that the inspections were occurring at about the same time the NRC's Enforcement Policy was revised to place additional emphasis on USAR accuracy problems; and (4) our recognition that communications with the NRC may have inadvertently contributed to delaying your USAR upgrade program². However, significant violations in the future could result in a civil penalty.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,

fw
Ellis W. Merschoff
Regional Administrator

Docket No. 50-298
License No. DPR-46

Enclosures: As stated

cc w/enclosures: (see next page)

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² NPPD planned to update the USAR to include all safety basis information and eliminate nonsafety basis information using 10 CFR 50.59. NRC concerns about the acceptability of removing nonsafety basis information (i.e., the basis for using 10 CFR 50.59 was being questioned) resulted in NPPD placing the project on hold pending resolution of these questions. During a May 9, 1996 meeting (reference NRC Memorandum dated May 20, 1996), the licensee informed the NRC that the overall USAR upgrade program was on hold. Additional guidance on the use of 10 CFR 50.59 to remove information from the USAR was not available at the time of the meeting.

Nebraska Public
Power District

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cc w/enclosures:
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Nebraska Public
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- 5 -

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NOTICE OF VIOLATION

Nebraska Public Power District
Cooper Nuclear Station

Docket No. 50-298
License No. DPR-46
EA 97-017

During NRC inspections conducted on October 7 through February 19, 1997, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

- A. 10 CFR 50.71(e) requires that the Updated Safety Analysis Report be updated periodically to assure that the information in the Updated Safety Analysis Report contains the latest material developed. 10 CFR 50.71(e)(4) requires that revisions be filed annually or 6 months after each refueling outage provided the interval between successive updates does not exceed 24 months. The revisions must reflect all changes up to a maximum of 6 months prior to the date of filing.

Contrary to the above, the licensee did not update the USAR within the required timeframe for the following examples, each of which constitutes a separate violation.

1. As of November 1, 1996, Updated Final Safety Analysis Report Section XII-2.3.5.2.2, "[Seismic Analysis] Piping," and Updated Safety Analysis Report, Appendix C, "Structural Loading Criteria," Section 3.3.3.2, "Piping Seismic Analysis," was not updated to accurately reflect the seismic analysis practices at the time. Since initial construction of the facility, these sections of the Updated Safety Analysis Report (and the Final Safety Analysis Report), have described, in detail, the procedure for dynamically analyzing Class-I seismic piping systems without restricting the requirement for dynamic analysis to large bore piping. However, as of November 1, 1996 (and since initial construction), the dynamic seismic analysis described in the Updated Safety Analysis Report was not performed for 2-inch and smaller piping systems.
2. As of November 1, 1996, Updated Safety Analysis Report, Section III-9.3, "[Standby Liquid Control System] Description," was not updated to accurately reflect the expected room temperatures for the standby liquid control system and the controls in place to ensure safe operation with a room temperature of 50°F. Updated Safety Analysis Report, Section X-10.3.2 "[Heating, Ventilation and Air Conditioning Systems] Station Heating System," states that winter design temperatures for the system are given in Table X-10-1. Table X-10-1, "[Heating, Ventilation and Air Conditioning Systems] Station Heating System Design Temperatures (Winter)," states that the normal minimum indoor temperature for the reactor building is 50°F. The equipment containing the solution is installed in a room in the reactor building. However, as of November 1, 1996 (and since initial construction), Updated Safety Analysis Report, Section III-9.3,

"[Standby Liquid Control System] Description," stated that, "The equipment containing the solution is installed in a room in which the air temperature is to be maintained within the range of 65°F to 100°F."

3. As of November 1, 1996, Updated Safety Analysis Report, Section III-9.4, "[Standby Liquid Control System] Safety Evaluation," was not updated to correctly describe the safety basis for the standby liquid control system relief valves. Design Change 86-34A, "SLC/ATWS Modifications," Revision 0, dated March 4, 1988, changed the safety basis for the standby liquid control system relief valve settings from:

assuring injection into the reactor above the *normal* [emphasis added] pressure of approximately 1030 psig in the bottom of the reactor,

to:

assuring injection into the reactor above the anticipated transient without scram reactor pressure conditions, which would equal the reactor safety/relief valves' setpoints plus the accumulation at the maximum anticipated transient without scram steam flow, (i.e., approximately 1100 psig plus the static head in the reactor vessel).

Specifically, Section III-9.4 continued to state that "The SLC system and pumps have sufficient pressure margin, up to the allowed system relief valve setting range of 1450 to 1680 psig, to assure solution injection into the reactor above the *normal* [emphasis added] pressure of approximately 1030 psig in the bottom of the reactor."

4. As of November 1, 1996, Updated Safety Analysis Report, Section III-9.3, "[Standby Liquid Control] Description," was not updated to be consistent with Technical Specification Figure 3.4.2. The Updated Safety Analysis Report states that, at the minimum room temperature of 65°F, the maximum permitted solution concentration is 12.5 weight percent. Section III-9.3 also states that a concentration of 11.5 percent corresponds to an adjusted saturation temperature of 61°F. The Updated Safety Analysis Report adjusted saturation temperature includes a 10°F margin over saturation, which corresponds to the definition for the Technical Specification minimum allowable temperature. However, Technical Specification Figure 3.4.2, "Percent Sodium Pentaborate by Weight of Solution versus Temperature," indicates that at 65°F, the maximum permitted concentration was 12.1 percent. At 11.5 percent concentration, the minimum allowable temperature was 62°F.
5. As of November 1, 1996, Updated Safety Analysis Report Section IV-9.3, "[Reactor Water Cleanup System] Description," was not updated to clearly indicate the effect of a modification on the reactor water cleanup system isolation valves' control logic. Further, neither Section IV-9.3 nor

Section III-9.3, "[Standby Liquid Control System] Description," were updated to indicate that following the modification it was always necessary to operate both SLC trains to close both motor operated valves and maintain comparable defense against a single failure of the reactor water cleanup isolation valves.

At the time of the inspection, Updated Safety Analysis Report, Section IV-9.3, "[Reactor Water Cleanup System] Description," stated that, "In the inlet piping to the cleanup recirculation pumps, two motor operated isolation valves, one on either side of the primary containment, are automatically closed by... standby liquid control system actuation." Design Change 86-34A, "SLC/ATWS Modifications," Revision 0, March 4, 1988, changed the reactor water cleanup system isolation valves' control logic such that initiation of one train of the SLC system no longer closed both motor operated valves. In order to achieve comparable defense against a single failure of the reactor water cleanup isolation valve, the licensee implemented administrative procedures which require the operators to always operate both trains of the standby liquid control system.

6. In 1994, during the surveillance test validation program status review, the licensee identified at least two discrepancies in the Updated Safety Analysis Report, which were not corrected in the July 22, 1996 update to the Updated Safety Analysis Report.
  - (a) Updated Safety Analysis Report, Table VII-3-1, "Pipeline Penetrating Containment," Note 4 incorrectly stated that the control rod drive system solenoid valves open during a reactor scram. On reactor SCRAM the solenoid valves remain closed and the air-operated SCRAM valves open to insert the control rods and to exhaust water to the SCRAM discharge volume.
  - (b) Updated Safety Analysis Report, Section VII-4.5.44, "[Core Spray System Control and Instrumentation] Core Spray Valve Control," incorrectly stated that two pressure switches monitor system pressure (for the low pressure permissive). In addition, it indicates that either switch can initiate opening of the discharge valves for core spray. There actually are four pressure switches designed in a 1-out-of-2 twice logic and a minimum of two switches are required to actuate to initiate opening of the core spray valves.
7. As of March 16, 1996, Updated Safety Analysis Report, Table V-2-2, "Penetration Schedule," pages V-2-9 to V-2-12, was not updated to correctly list all the penetrations; the quantity of lines in three penetrations; and line descriptions in five penetrations.

8. As of May 4, 1996, Updated Safety Analysis Report, Table V-2-7, "Testable Primary Containment Isolation Valves," pages V-2-44 to V-2-46, did not list 23 penetrations (X20, X-30E and -30F, X-33E and -33F, X-35A through E, X-45D, and X-229A through L) and their associated valves.
- B. 10 CFR 50.59(b)(1) requires that the licensee maintain records of changes in the facility and of changes in procedures made pursuant to this section, to the extent that these changes constitute changes in the facility as described in the safety analysis report or to the extent that they constitute changes in the procedures as described in the safety analysis report. Further, these records must include a written safety evaluation which provides the bases for the determination that the change does not involve an unreviewed safety question.

Contrary to the above, the licensee either did not perform the required written safety evaluation or performed an inadequate safety evaluation as shown in the following examples, each of which constitutes a separate violation.

1. Updated Safety Analysis Report, Section X.B.2.8.C, "Common Mode Failure Analysis - Fire," required that combustibles not be located in the service water booster pump room area since both trains of the service water system were located in close proximity. However, Procedure 0.7.1, "Control of Combustibles," Revision 6, allowed up to 90 pounds of wood or 5 gallons of flammable liquid for this area of the plant. In addition, on December 2, 1996, combustible materials (rags, papers, and flammable chemicals) were located in the service water system booster pump room. The written safety evaluation for this change in procedure was inadequate, in that, a common mode failure analysis had not been performed to justify the presence of combustible materials in the service water booster pump area, and therefore, the safety evaluation did not provide a bases for the determination that the change does not involve an unreviewed safety question.
2. Updated Safety Analysis Report, Section XII.2.2.7.1, "Intake Structure," states, in part, that in order to keep ice away from the intake structure during cold weather, an ice deflector is installed during the winter months. Although a portion of the ice deflector was installed on December 18, 1996, the deflector had not been fully installed at any time during the winter months. The failure to fully install the ice deflector by the winter months was a configuration changes that had not been evaluated, through a written safety evaluation, as a change to the facility.
3. Updated Safety Analysis Report, Section IV.10.3, "Nuclear System Leakage Rate Limits - Description," states, in part, that each containment drywell sump has an alarm system and automatic starting sequence on rising water level. Both containment drywell sumps are equipped with a fill rate timer and alarm. This alarm can be set at or below the Technical Specification limits and would provide immediate indication when this praselected rate is reached or exceeded. However, the safety evaluation dated December 20,

1996, that addressed the failure of the automatic pump starting system, and the failure of the sump fill rate timer and high level alarm, was inadequate in that it did not address the lack of control room alarm. A separate written safety evaluation did not exist for this change to the facility.

These violations represent a Severity Level III problem (Supplement I) (50-298/96024-14).

Pursuant to the provisions of 10 CFR 2.201, Nebraska Public Power District is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region IV, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Arlington, TX
this 25th day of June 1997

ENCLOSURE 2

On April 15, 1997, the management of the Nebraska Public Power District and the NRC met in a predecisional enforcement conference to discuss the apparent violations which were identified in NRC Inspection Reports 50-298/96-24 and 50-298/96-31. The licensee did not agree that four of the examples presented at that conference were violations of 10 CFR 50.71(e). They also did not agree that one of the examples presented was a violation of 10 CFR 50.59(b)(1). The contested examples, the licensee's view, and the basis for the NRC's conclusion are described below.

10 CFR 50.71(e)

10 CFR 50.71(e) requires that the Updated Safety Analysis Report (USAR) be updated periodically to assure that the information in the USAR contains the latest material developed. Contrary to the above, the NRC identified the following examples of apparent violations of 10 CFR 50.71(e):

Contested Example 1

USAR, Section VII-2.3.5.1, "Alternate Rod Insertion (ARI)," indicated that the time delay for initiating alternate rod insertion should be applied only to the low reactor water level initiation signal and not for the high reactor pressure initiation signal. This was consistent with Drawing 945E632, "ARI/ATWS Recirc Pump Trip," Sheets 3 and 7, dated January 15, 1995. However, as of November 1, 1998, USAR, Section III-5.5.3.4, "Alternate Rod Insertion," was incorrectly updated to state that the time delay for initiating alternate rod insertion should be applied to both the low reactor water level initiating signal and the high reactor pressure initiating signal.

Licensee's View

During the predecisional enforcement conference, the licensee stated that they were not in violation of 10 CFR 50.71(e) at the time of NRC Inspection 50-298/96-24. Cooper personnel acknowledged that in 1993, the USAR had been inaccurately updated following the modification to install alternate rod insertion capability. However, licensee personnel had detected the error and initiated a change to the USAR to correct the inaccuracy prior to the arrival of the NRC inspection team.

Basis for NRC Conclusion

The NRC agreed that the licensee was not in violation of 10 CFR 50.71(e) at the time of the inspection. Since the licensee had already corrected the violation which occurred in 1993, this example was not included in the final citation.

Contested Example 2

Design Change 86-34A, "SLC/ATWS Modifications," Revision 0, dated March 4, 1988, indicated that the standby liquid control system (SLC) relief valve settings were intended to assure injection into the reactor above the anticipated transient without scram reactor pressure conditions, which would equal the reactor safety/relief valves' setpoints plus the

accumulation at the maximum anticipated transient without scram steam flow, (i.e., approximately 1100 psig plus the static head in the reactor vessel). However, as of November 1, 1996, USAR, Section III-9.4, "(Standby Liquid Control System) Safety Evaluation," had not been accurately updated. Specifically, Section III-9.4 continued to state that, "The SLC system and pumps have sufficient pressure margin, up to the allowed system relief valve setting range of 1450 to 1680 psig, to assure solution injection into the reactor above the *normal* [emphasis added] pressure of approximately 1030 psig in the bottom of the reactor." The original standby liquid control system design was based on normal operation.

Licensee's View

The licensee offered two reasons for the acceptability of the current USAR wording.

1. The licensee believed that the stated information accurately described the design basis for the standby liquid control system. They noted that anticipated transient without scram (ATWS) was specified as a beyond design basis event in several licensing documents. In their view, the license basis was separate from the design basis and it was appropriate to preserve information about both in the USAR.
2. NPPD believed that to update this paragraph to also describe the license basis (i.e., need to comply with the 10 CFR 50.62, "Requirements for reduction of risk from anticipated transients without scram (ATWS) events for light-water-cooled nuclear power plants") was beyond the level of detail which was required for the USAR.

Basis for NRC Conclusion

The NRC disagreed with the licensee's positions and included this example in the final citation.

1. The NRC acknowledged that ATWS was not a Chapter 14 design basis event for the Cooper Nuclear Station. As such, the licensee was not required to implement all of the design requirements which would normally apply to equipment needed to mitigate a design basis event (for example full 10 CFR Part 50, Appendix B, requirements or full single failure analysis). However, the NRC determined that the ability to mitigate an ATWS was part of the design basis as defined in 10 CFR 50.2. In the 10 CFR 50.2 sense, the design basis is that information which identifies specific functions to be performed by a structure, system or component of a facility, and the specific values or ranges of values chose for controlling parameters referenced in the design. During rule making, 10 CFR 50.62 back fit onto all licensee's requirements to ensure facilities would be capable of mitigating an ATWS. The bounding changes in parameters which are necessary to combat an ATWS constitute the new design basis of the facility and the USAR should clearly describe the bounding parameters.

The NRC noted that Section III-9.4 was the safety evaluation for the standby liquid control system. The NRC determined that the licensee's policy of trying to separately track the "license basis" and the "design basis" provided

nonconservative and confusing information regarding safety basis for the facility. It was not evident from reading this portion of Section III-9.4 that the standby liquid control system and pumps are required to have sufficient pressure margin, up to the allowed system relief valve setting range of 1450 to 1680, to assure solution injection into the reactor above the reactor safety/relief valves' setpoints plus the accumulation at the maximum anticipated transient without scram steam flow. The nonconservatism could easily lead to an incorrect operability determination or an incorrect 10 CFR 50.59 evaluation.

2. The NRC also disagreed with the licensee's level of detail argument. The NRC determined that the level of detail was already established with the existing paragraph. The NRC expects that the facility be accurately discussed (i.e., the bounding safety parameters be described) at the current level of detail.

Contested Example 3

Technical Specification Figure 3.4.1 and Calculation NEDC 93-142, Revision 0, dated August 2, 1993, "SLC Storage Tank Setpoints and Concentration Requirements," required the minimum volume of sodium pentaborate solution in the standby liquid control system storage tank to be between 3132 and 4414 gallons for concentrations between 16 and 11.5 percent respectively. USAR, Section III-9.4, "[Standby Liquid Control System] Safety Evaluation," and Technical Specifications 4.4.A.1 and 4.4.A.2.b, "Standby Liquid Control System," stated that the minimum required flow rate for the standby liquid control system pumps was 38.2 gpm. Based on these values, the minimum time for one pump to inject the required volume of solution would have been 82 to 116 minutes, and 41 to 58 minutes for two pumps. However, the following USAR sections were not correctly updated when the standby liquid control injection criteria was changed to meet the ATWS rule:

1. USAR, Section III-9.3, "[Standby Liquid Control System] Description," stated that, "Each positive displacement pump is capable of injecting the required weight of solution into the reactor in 53 to 120 minutes, independent of the amount of solution in the tank (within the required volume), and the pump rate (within the specified Technical Specification limits)."
2. USAR, Section III-9.4, "[Standby Liquid Control System] Safety Evaluation - Compliance with the NRC ATWS Rule," stated, "With the simultaneous operation of both positive displacement pumps, the solution can be injected into the reactor in 27 to 60 minutes, independent of the amount of solution in the tank (within the required volume), and the pump rates (within the specified Technical Specification limits)."

Licensee's View

The licensee stated that they agreed that this section accurately reflected the system design basis. CNS has always understood that this text to be the design basis requirements. They determined that it was an issue of clarity and noted that the NRC had

interpreted the text to be system capability not design basis requirements. They stated that they had clarified the section but that they did not believe it was a violation of 10 CFR 50.71(e).

Basis for NRC Conclusion

The NRC agreed with the licensee's presentations and this example was not included in the final citation. The need for clarification was discussed in NRC Inspection Report 50-298/96-24.

Contested Example 4

Alarm Procedure 2.3.2.28, "Panel 9-5-2, Window F-8, [Standby Liquid Control] SLC Tank Hi/Low Level," Revision 26, dated March 15, 1996, specified the high and low alarm setpoints for the standby liquid control system sodium pentaborate storage tank as 84 and 74 percent respectively. Surveillance Procedure 6.SLC.601, "[Standby Liquid Control] SLC Tank Sampling," Revision 0, dated November 17, 1996, indicated that these setpoints corresponded to 3835 and 3378 gallons, respectively. However, USAR, Section III-9.3, "[Standby Liquid Control System] Description," inaccurately stated that these alarms were set at 3850 and 3350 gallons, respectively.

Licensee's View

The licensee stated that the USAR should be clarified and that the values presented were nominal values. The actual settings were determined using the setpoint change process and they were conservative. The low level alarm would annunciate before the USAR low level value was reached. The high level alarm would annunciate before the USAR high level value was reached. The licensee also noted that different numbers were used because of the graduations on the gage in the control room. The actual settings needed to be in whole number percentages in this instance.

Basis for NRC Conclusion

The NRC agreed that a violation of 10 CFR 50.71(e) had not occurred primarily because the actual settings were conservative with respect to the USAR values. The NRC noted that the licensee planned to clarify the USAR and this example was not included in the final citation.

10 CFR 50.59(b)(1)

Contested Example 1

USAR, Section X.8.2.8.C, "Common Mode Failure Analysis - Fire," required that combustibles not be located in the service water booster pump room area since both trains of the service water system were located in close proximity. However, Procedure 0.7.1, "Control of Combustibles," Revision 6, allowed up to 90 pounds of wood or 5 gallons of flammable liquid for this area of the plant. In addition, on December 2, 1996, combustible materials (rags, papers, and flammable chemicals) were located in the service water

system booster pump room. The safety evaluation for this change in procedure was inadequate, in that a common mode failure analysis had not been performed to justify the presence of combustible materials in the service water booster pump area.

Licensee's View

The licensee noted that the USAR as literally written was unrealistic and had, therefore, been interpreted by plant personnel in a way which was realistic. They stated that a minor level of transient combustibles is always necessary to support maintenance activities. In the past, plant staff had interpreted the absolute requirement that combustibles not be located in the service water booster pump area to really mean no significant level of combustibles should be allowed in the service water booster pump rooms. The licensee also noted that the appropriate level of combustibles had been established during NRC staff review of the Fire Hazards Analysis, which was the basis for Procedure 0.7.1, "Control of Combustibles." The licensee did acknowledge that the USAR should have been updated to accurately describe the requirements for control of combustibles in the service water booster pump area.

Basis for NRC Conclusion

The NRC disagreed with the licensee's conclusions, primarily because the choice to deviate from the absolute requirement that combustibles not be located in the service water booster pump room had not been evaluated. The requirement was originally included in the USAR as the result of a common mode failure analysis. The impact of the addition of the some transient combustibles on the common mode failure analysis had not been evaluated. The NRC included this example in the final citation.

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
801 WARRENVILLE ROAD
Lisle, Illinois 60532-4351

April 30, 1997

EA 97-073

Mr. M. D. Wadley, Vice President
Nuclear Generation
Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

SUBJECT: NOTICE OF VIOLATION
(NRC ROUTINE INSPECTION REPORT NO. 50-306/97002(DRP))

Dear Mr. Wadley:

This refers to the inspection conducted from January 8 through February 20, 1997, at the Prairie Island Nuclear Generating Plant, Unit 2 facility. This inspection included a review of the circumstances surrounding the movement of a twenty-one ton reactor coolant pump motor rotor and bracket over a fully fueled reactor vessel. The written results of this inspection were provided to you on February 25, 1997. A predecisional enforcement conference was conducted on March 18, 1997.

Based on the information developed during the inspection and the information that you provided during the conference, the NRC has determined that a violation of NRC requirements occurred. The violation is cited in the enclosed Notice of Violation and the circumstances surrounding it are described in detail in the subject inspection report. On February 3, 1997, due, in part, to a miscommunication between members of your maintenance, engineering, and operations departments, your staff improperly executed the movement of a heavy load (a twenty-one ton reactor coolant pump motor rotor and bracket) over irradiated fuel in a reactor vessel with the reactor head removed. This activity was performed without establishing containment integrity, since both maintenance and personnel airlocks were open.

The safety significance of this event pertains to the failure to establish containment integrity. If the heavy load had fallen into the reactor vessel, the potential existed that the refueling cavity seal and several fuel assemblies could have been damaged. While the refueling cavity was flooded to the maximum level during the transfer, significant damage to the cavity seal could have caused the refueling cavity to have been drained. If the refueling cavity was drained, and several fuel assemblies were damaged, then a significant amount of fission products could have been released outside of the containment.

The regulatory significance of this event pertains to the failure of at least two administrative barriers. The first was the significant failure to follow procedures. Specifically, your staff did not refer to procedure D58, "Control of Heavy Loads," prior to the lift. Maintenance workers did not follow guidance in the procedure governing the evolution which instructed them to comply with procedure D58, and the reactor coolant pump system engineer was not knowledgeable of the D58 procedural requirements. The

second control failed when your staff did not establish containment integrity prior to moving a heavy load over the open reactor vessel. These administrative barriers are important since the containment polar crane is not single failure proof. While the system engineer was directly responsible for the heavy load transfer, the safe passage should have been the responsibility of all involved personnel. It is especially imperative that operations personnel fully understand activities which need control room approval to ensure that these activities are safely completed.

The administrative controls that should have been in place to allow the containment to perform its safety function failed. If the reactor coolant pump motor rotor had fallen into the reactor vessel it could have caused a significant release of fission products outside of containment. Therefore, this violation has been categorized in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600 as a Severity Level III violation.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III violation. Because your facility has been the subject of escalated enforcement actions within the last two years,¹ the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. The NRC determined that credit for Identification was warranted because the error was promptly identified and reported by alert shift supervision on February 4, 1997. The shift supervisor realized the error when maintenance personnel attempted to return the reactor coolant pump motor rotor to the reactor coolant pump vault using the incorrect path traversed on February 3, 1997. The NRC determined that credit for Corrective Action was warranted based on the results of the licensee's root cause analysis and prompt corrective actions. The reactor coolant pump system engineer was instructed on the requirements of D58, and subsequently prepared a procedure with the appropriate controls to return the pump motor rotor to the reactor coolant pump vault. This transfer was successfully completed. Training provided to maintenance workers on the event and on heavy load requirements was effectively completed. Finally, the Error Reduction Task Force Investigation initiated to review this event successfully identified program weaknesses and recommended several programmatic improvements.

Therefore, to encourage prompt identification and comprehensive correction of violations, I, after consultation with the Director, Office of Enforcement, have been authorized to issue the enclosed Notice of Violation with no Civil Penalty in this case. However, significant violations in the future could result in a civil penalty.

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¹A Severity Level III violation with a \$50,000 civil penalty was issued on January 23, 1997 (EA 96-402) and a Severity Level III violation with no civil penalty was issued on October 1, 1996 (EA 96-266).

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice of Violation when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room.

Sincerely,

A. Bill Beach
Regional Administrator

Docket No. 50-306
License No. DPR-60

Enclosure: Notice of Violation

cc w/encl: Plant Manager, Prairie Island
John W. Ferman, Ph.D.,
Nuclear Engineer, MPCA
State Liaison Officer, State
of Minnesota
State Liaison Officer, State
of Wisconsin
Tribal Council
Prairie Island Dakota Community

NOTICE OF VIOLATION

Northern States Power Company
Prairie Island Nuclear Generating Plant

Docket No. 50-306
License No. DPR-60
EA 97-073

During an NRC inspection conducted from January 8, 1997 through February 20, 1997, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violation is listed below:

10 CFR 50, Appendix B, Criterion V, states, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

Technical Specification 6.5.C.3 requires that detailed written procedures shall be prepared and followed for activities that perform preventative or corrective maintenance of plant equipment and systems that could have an effect on nuclear safety.

Procedure D58, revision 25, dated December 19, 1996, "Control of Heavy Loads," step 5.3.1.C.1, required that with the reactor head removed, loads greater than 2100 pounds shall not be moved within 15 horizontal feet of the irradiated fuel without specific written procedures.

Additionally, Procedure D58, Step 5.8, required, in part, containment isolation by closure of the containment purge and inservice purge valves and by closing at least one door in each of the two air locks before performing a heavy load lift over irradiated fuel in the reactor vessel.

Contrary to the above, on February 3, 1997, the licensee moved a heavy load greater than 2100 pounds (the No. 22 reactor coolant pump motor rotor and upper bracket) within 15 horizontal feet of irradiated fuel that was in an open reactor vessel without a written procedure. In addition, both doors of the containment maintenance and personnel airlocks were open and the inservice purge system was operating.

This is a Severity Level III violation (Supplement I).

Pursuant to the provisions of 10 CFR 2.201, Northern States Power Company is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region III, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved.

Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at Lisle, IL
this 30th day of April 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION 1
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19061-1475

February 3, 1997

EA 96-144
96-243

Mr. D. M. Smith, President
PECO Nuclear
Nuclear Group Headquarters
Correspondence Control Desk
Post Office Box 196
Wayne, Pennsylvania 19087-0196

SUBJECT: NOTICE OF VIOLATION
(NRC Inspection Report Nos. 50-352/96-03 and 96-06; 50-353/96-03 and 96-08; 50-277/96-11, and 50-278/96-11)

Dear Mr. Smith:

This letter refers to the two NRC inspections conducted between March 5 and May 6, 1996, and between October 3 and November 27, 1996, at your Limerick Generating Station (LGS) as well as at your Chesterbrook Engineering Information Center facilities. The purpose of the inspections was to review the circumstances associated with your failure to control Safeguards Information (SGI) at your facilities. The findings of the inspections were discussed with members of your staff during exit meetings on May 6 and November 27, 1996. The inspection reports were sent to you on June 13, 1996, and December 19, 1996, respectively. Both letters provided you with an opportunity to attend a predecisional enforcement conference to discuss these findings. In your response letters, dated July 15, 1996, and January 21, 1997, you indicated that a predecisional enforcement conference would not be necessary.

Based on the information developed during the inspections, and information contained in your July 15, 1996, and January 21, 1997, responses to the inspection reports, two violations are being cited involving the failure to control SGI in accordance with the requirements in 10 CFR 73.21. The violations are set forth in the enclosed Notice of Violation.

The first violation of failure to protect SGI occurred at the Limerick station in March 1996 when an individual working on a computer to make revisions to the Limerick Physical Security Plan (a document containing SGI), inadvertently saved the plan on the PECO Local Area Network (LAN) computer hard drive. As a result, access to the Plan was not controlled until a licensed operator discovered the condition on April 11, 1996. The NRC commends the licensed operator who identified this condition and immediately notified your security department. As a result, your computer specialists were promptly contacted to delete the document from the LAN. However, the NRC is concerned that this vulnerability created the opportunity for unauthorized individuals to gain access to the SGI. The NRC recognizes your contention that the name of the file on the LAN did not indicate any relationship to SGI, and such access was unlikely.

The second violation of failure to control SGI was also discovered by your staff and was documented in your investigation report on October 17, 1996. Your report documented separate instances of failure to control SGI information (affecting both Limerick and Peach Bottom) at several locations, including your offices in Chesterbrook, Pennsylvania. In these cases, the SGI primarily consisted of aperture cards (of equipment drawings) which had been stored in an uncontrolled manner at five different locations for periods of up to eight years. While the NRC similarly commends your effort in (1) investigating and identifying the magnitude of this problem, and (2) including your vendors as part of this review, the NRC is concerned that a breakdown in the control of SGI existed for an extended period, because of organizational changes, unclear roles, and a lack of assigned responsibility, as you found during your investigation.

Although your staff determined that the uncontrolled SGI did not constitute the potential to significantly assist an individual in an act of radiological sabotage, these failures to protect SGI, represent a significant regulatory concern. Therefore, the violations have been categorized in the aggregate at Severity Level III in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG-1600.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III violation or problem. You have been the subject of escalated enforcement actions within the last two years. For example, a Severity Level III violation without a civil penalty issued on October 17, 1996, failure to have an appropriate foreign material exclusion program for the suppression pool at Limerick Unit 1 (EA 96-209). Therefore, the NRC considered whether credit was warranted for *Identification and Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. Credit is warranted for identification since you identified all of the examples of this violation of 10 CFR 73.21. Credit is also warranted for your corrective action because those actions were considered both prompt and comprehensive once the violation was identified in 1996. Your corrective actions included, but were not limited to (1) promptly deleting the computer file containing the copy of the Physical Security Plan at Limerick; (2) performing a comprehensive review to determine whether other SGI was stored on the LAN; (3) designating a stand-alone computer that is controlled by the LGS Security Section for generation and revisions to safeguards information; (4) retraining the LGS Security Secretary on the procedures for control of SGI; (5) temporary suspension of duplication, filing, and distribution of SGI while your investigation was in progress; (6) recall of SGI from various sites to restrict the number of access locations; (7) establishing a single supervisory point of contact for approving access to SGI; (8) training of individuals involved with SGI; (9) planned revision of the procedure for control of SGI to upgrade expectations for handling SGI.

Therefore, to encourage prompt and comprehensive identification and correction of violations, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant violations in the future could result in a civil penalty.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you may reference, as appropriate, your prior submittals to the NRC. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, and its enclosure, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,

Hubert J. Miller
Regional Administrator

Docket Nos. 50-352; 50-353; 50-277; 50-278
License Nos. NPF-39; NPF-85; DPR-44; DPR-56

Enclosure: Notice of Violation

cc w/encl:

G. Hunger, Jr., Chairman, Nuclear Review Board and Director - Licensing
W. MacFarland, Vice President - Limerick Generating Station
J. Kantner, Regulatory Engineer - Limerick Generating Station
T. Mitchell, Vice President, Peach Bottom Atomic Power Station
G. Rainey, Senior Vice President, Nuclear Operations
D. Fetters, Vice President, Nuclear Station Support
T. Niessen, Director, Nuclear Quality Assurance
C. Schaefer, External Operations - Delmarva Power & Light Co.
G. Edwards, Plant Manager, Peach Bottom Atomic Power Station
G. Lengyel, Manager, Experience Assessment
J. Durham, Sr., Senior Vice President and General Counsel
P. MacFarland Goetz, Manager, Joint Generation, Atlantic Electric
B. Gorman, Manager, External Affairs
R. McLean, Power Plant Siting, Nuclear Evaluations
J. Vannoy, Acting Secretary of Harford County Council
R. Ochs, Maryland Safe Energy Coalition
J. Walter, Chief Engineer, Public Service Commission of Maryland
L. Jacobson, Peach Bottom Alliance
Secretary, Nuclear Committee of the Board
Commonwealth of Pennsylvania
State of Maryland
TMI - Alert (TMIA)

ENCLOSURE

NOTICE OF VIOLATION

PECO Nuclear
Limerick & Peach Bottom

Docket Nos. 50-352; 50-353;
50-277; 50-278
License Nos. NPF-39; NPF-85;
DPR-44; DPR-56
EA 96-144; 96-243

During two NRC inspections conducted between March 5 and May 6, 1996, and between October 3 and November 27, 1996, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the violations are listed below:

10 CFR 73.21(a) requires, in part, that each licensee who is authorized to operate a nuclear power reactor shall ensure that Safeguards Information is protected against unauthorized disclosure.

10 CFR 73.21(b) requires, in part, the specific types of information, documents and reports that shall be protected are as follows: (i) the composite physical security plan for the nuclear facility or site, and (ii) site specific drawings, diagrams, sketches or maps that substantially represent the final design features of the physical protection system.

10 CFR 73.21(d) requires, in part, that while in use, matters containing Safeguards Information shall be under the control of an authorized individual, and while unattended, Safeguards Information shall be stored in a locked security container.

- a. Contrary to the above, from March 19, 1996 to April 11, 1996, an electronic copy of the Limerick Physical Security Plan, which contains Safeguards Information, was located on the PECO Nuclear Local Area Network (LAN), and the document was not under the control of an authorized individual and was available to personnel who were not authorized access to Safeguards Information.
- b. Contrary to the above, from approximately 1988 through 1996, approximately 150 items (including aperture cards, film cartridges, and hard copies of drawing change information), which contained design features of the physical protection system that contained Safeguards Information (concerning both the Limerick and Peach Bottom sites), were stored in an uncontrolled manner at various PECO sites, including, but not limited to, its Chesterbrook offices, its Plymouth Meeting Building, and its Philadelphia main office, and at the time, the items were not under the control of an authorized individual and was available to personnel who were not authorized access to Safeguards Information. (01013)

This is a Severity Level III problem (Supplement III).

Pursuant to provisions of 10 CFR 2.201, PECO Nuclear is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region I, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other actions as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at King of Prussia, Pennsylvania
this 3rd day of February 1997

UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

January 3, 1997

EA 96-370

Mr. D. M. Smith, President
PECO Nuclear
Nuclear Group Headquarters
Correspondence Control Desk
Post Office Box 195
Wayne, Pennsylvania 19087-0195

SUBJECT: NOTICE OF VIOLATION AND EXERCISE OF ENFORCEMENT DISCRETION
(NRC Inspection Reports No. 50-277/96-07 and 50-278/96-07)

Dear Mr. Smith:

This letter refers to the NRC inspection conducted at the Peach Bottom Nuclear Power Plant between August 5-9, 1996, for which the exit meeting was held on August 9, 1996. The inspection report was sent to you on October 9, 1996. Based on the inspection, an apparent violation of NRC requirements was identified. On November 15, 1996, a predecisional enforcement conference was conducted with you and members of your staff to discuss the apparent violations identified during the inspection, their causes, and your corrective actions.

Based on our review of the inspection findings, and information provided during the conference, one violation is being cited and is described in the enclosed Notice of Violation (Notice). The violation involves the failure to establish, for several structures, systems, and components (SSC), adequate performance criteria to monitor the effectiveness of preventive maintenance, as required by 10 CFR 50.65(a)(2). For those criteria that were established, several were found that you had not justified as adequate for monitoring of SSCs in accordance with the Maintenance Rule. Specifically, although you had indicated that you would follow Regulatory Guide 1.160 and the guidance in NUMARC 93-01, entitled, "Industry Guideline for Monitoring the Effectiveness of Maintenance of Nuclear Power Plants," as the method by which PECO Nuclear demonstrates the effectiveness of preventive maintenance, you did not implement that guidance in the selection of performance criteria for certain classes of systems, nor did you justify an alternate approach. For example, at the time the inspection was performed, you did not have availability criteria for numerous systems, such as the reactor protection system, and did not use the appropriate criteria of unplanned capability loss factor for some systems. The details of the violation are described in the enclosed Notice.

Since this violation involved multiple examples of failures to establish, or adequately establish, performance criteria pursuant to 50.65(a)(2), and these failures indicate a programmatic failure to implement a key aspect of the Maintenance Rule, the violation has been categorized at Severity Level III in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG-1600.

These findings demonstrated that management had not taken effective action to assure adequate implementation of new requirements at the facility. Additionally, the inspection team found weaknesses in nearly all parts of your Maintenance Rule implementation program.

The Commission determined that a Maintenance Rule was necessary to assure licensees continuously monitor the effectiveness of maintenance to minimize the likelihood of failure of safety-significant equipment that could initiate or adversely affect a transient or accident. Even though the final rule was issued in July 1991, it did not become effective until July 1996. Within this five year period, the Commission provided the staff and the industry the first two years to develop implementation and inspection guidance and the remaining three years for licensees to implement the requirements such that by July 10, 1996, all requirements would be satisfied.

During the five years of guidance development and implementation, the staff and the industry worked in concert to assure licensees had developed good guidance and clearly understood the manner in which NRC would inspect implementation, once the rule became effective. This was accomplished through multiple public workshops and a pilot inspection program. Results from these activities were documented and shared with the industry.

Although the NRC has previously assessed overall maintenance performance at Peach Bottom to be excellent, and the material condition of the systems examined was generally very good, your actions taken to implement the Maintenance Rule were weak, in that the Rule was not fully integrated into the existing maintenance program at Peach Bottom. For example, while system managers frequently possessed thorough knowledge of their systems and performed very good management of their systems' material conditions, the performance criteria that were established by your staff, in accordance with the Rule, were not always fully understood by the system managers. As discussed above, there was a general problem of not fully documenting a justification when Maintenance Rule methods and processes did not follow the guidance in Regulatory Guide 1.160 and NUMARC 93-01. At the conference, you acknowledged program deficiencies and noted that implementation of the Maintenance Rule program did not meet your expectations.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III violation. Your facility has been the subject of escalated enforcement actions within the last two years, (namely, a Severity Level III violation without a civil penalty was issued on January 13, 1995, for violations of 10 CFR Part 26 (EA 94-254). Therefore, the NRC considered whether credit was warranted for *Identification and Corrective Action*, in accordance with the civil penalty assessment process in Section V1.B.2 of the Enforcement Policy. Credit is not warranted for *Identification* because the violations were identified by the NRC. Credit is warranted for *Corrective Actions* because your corrective actions, once the violations were identified by the NRC, were considered prompt and comprehensive. These actions, which were discussed during your presentation at the conference, include, but are not limited to (1) revision of your governing document for the Maintenance Rule to reflect the guidance in NUMARC 93-01; (2) revision and validation of the Maintenance Rule program, including revision of performance criteria, and additional review and documentation of the bases for Rule compliance; (3) transfer of program ownership from the maintenance program core team to the system managers, and reinforcing expectations that

the system managers own the Rule and the core team acts as a consultant to the system managers; (4) consideration of integration of existing programs for trending declining equipment performance (such as the Performance Enhancement Program and the Equipment Performance and Material Condition Focus List) into the Maintenance Rule; (5) plans to perform an independent assessment of the program by April 1997; and (6) plans to benchmark the program by June 1997, against plants recognized by the NRC as having good programs.

Therefore, to encourage appropriate implementation of the Maintenance Rule, a civil penalty in the amount of \$50,000 would normally be issued for this violation. However, I have been authorized, after consultation with the Director, Office of Enforcement, and the Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations, and Research, to exercise enforcement discretion and not propose a civil penalty for this violation because of the overall excellent material condition of the plant and because Peach Bottom has a very good performance record in the maintenance area. For example, during the last SALP issued on December 5, 1995, you received a Category 1 rating in the maintenance area, and the letter transmitting the SALP report noted that site management's aggressive attention to maintenance and surveillance activities continued and contributed to excellent performance. That letter also noted strengths in the planning and execution of corrective maintenance, equipment outages, and on-line maintenance. In addition, the NRC has observed good results in region-based and resident inspections, including limited and well-managed maintenance backlogs, and few examples of performance-based maintenance problems. Therefore, by exercising discretion and not proposing a civil penalty in this case, the NRC is balancing your programmatic failure to comply with the Maintenance Rule with your strong overall performance in the maintenance area.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR).

Sincerely, .

Herbert J. Miller
Regional Administrator

Docket Nos. 50-272, 50-311, 50-354
License Nos. DPR-70, DPR-75, NPF-57

Enclosure: Notice of Violation

cc w/encl:

G. Hunger, Jr., Chairman, Nuclear Review Board and Director, Licensing
 T. Mitchell, Vice President, Peach Bottom Atomic Power Station
 G. Rainey, Senior Vice President, Nuclear Operations
 D. Feters, Vice President, Nuclear Station Support
 T. Niessen, Director, Nuclear Quality Assurance
 C. Schaefer, External Operations - Delmarva Power & Light Co.
 G. Edwards, Plant Manager, Peach Bottom Atomic Power Station
 G. Lengyel, Manager, Experience Assessment
 J. Durham, Sr., Senior Vice President and General Counsel
 P. MacFarland Goetz, Manager, Joint Generation, Atlantic Electric
 B. Gorman, Manager, External Affairs
 R. McLean, Power Plant Siting, Nuclear Evaluations
 J. Vannoy, Acting Secretary of Harford County Council
 R. Ochs, Maryland Safe Energy Coalition
 J. Walter, Chief Engineer, Public Service Commission of Maryland
 L. Jacobson, Peach Bottom Alliance
 Commonwealth of Pennsylvania
 State of Maryland
 TMI - Alert (TMIA)

ENCLOSURE

NOTICE OF VIOLATION

PECO Nuclear
Peach Bottom Atomic Power Station
Units 2 & 3

Docket Nos. 50-277 and 50-278
License Nos. DPR-44 and DPR-56
EA 96-370

During an NRC inspection conducted between August 5-9, 1996, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," NUREG-1600, the particular violation is set forth below:

10 CFR 50.65(a)(1) requires, in part, that the holders of an operating license shall monitor the performance or condition of structures, systems, or components, against licensee-established goals, in a manner sufficient to provide reasonable assurance that such structures, systems, and components, within the scope of the rule, are capable of fulfilling their intended functions. When the performance or condition of a structure, system, or component does not meet established goals, appropriate corrective action shall be taken. 10 CFR 50.65(a)(2) requires, in part, that monitoring as specified in paragraph (a)(1) is not required where it has been demonstrated that the performance or condition of a structure, system, or component is being effectively controlled through the performance of appropriate preventive maintenance, such that the structure, system, or component remains capable of performing its intended function.

Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Revision 1, endorses NUMARC 93-01, "Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," as an acceptable method for implementing the requirements of 10 CFR 10.65. Regulatory Guide 1.160 states that the methods described in the guide will be used in the evaluation of the effectiveness of maintenance activities of licensees who are required to comply with 10 CFR 50.65 unless a licensee has proposed an acceptable alternative method for compliance.

NUMARC 93-01, Section 9.3.2, states, in part, that performance criteria for risk significant structures, systems, and components should be established to assure that reliability and availability assumptions used in the plant-specific probabilistic risk assessment, individual plant examination, or other risk determining analysis are maintained or adjusted when necessary. Standby systems are to be treated similarly. NUMARC 93-01 also indicates that non-risk-significant operating systems are monitored using appropriate plant-level performance criteria.

Contrary to the above, on August 9, 1996, PECO Nuclear was not adequately monitoring the performance or condition of numerous systems and components against established goals, nor had PECO Nuclear demonstrated the effectiveness of preventive maintenance on these systems and components. The affected systems included the reactor protection system, emergency ventilation systems for the diesel generator building and the control room, the reactor recirculation system, the electrohydraulic control system, the feedwater system, the turbine bypass valves and the main steam

safety relief valves (MSRVs). The monitoring of the effectiveness of preventive maintenance had not been adequately demonstrated in that the selected system performance criteria were not demonstrated to be fully effective because the licensee did not always follow the guidance of Regulatory Guide 1.160/NUMARC 93-01 and did not adequately justify those criteria selected that deviated from Regulatory Guide/NUMARC for all SSCs in the Maintenance Rule scope, as evidenced by the following examples:

- Safety Grade Instrument Gas (SGIG), the Control Rod Drive (CRD) standby pump, the Reactor Protection System (RPS), Control Room Emergency Ventilation (CREV), and the Emergency Diesel Generator (EDG) building ventilation, are risk-significant standby systems, which had train level performance criteria that did not include an unavailability criterion.
- Reactor Recirculation, EHC, and Feedwater are nonrisk-significant systems with performance criteria established at the plant level. However, the performance criteria did not include unplanned capability loss factor, which was needed to measure functional performance.
- Adequate performance criteria for the EHC, turbine bypass valves, and MSRV systems were not implemented to effectively monitor an important Maintenance Rule function (reactor pressure control) of these systems. These systems were only monitored using the plant level criteria of unplanned shutdowns.
- The MSRV system is a risk-significant standby system, which was only monitored at the plant level using unplanned shutdowns. (01013)

This is a Severity Level III violation (Supplement 1).

Pursuant to the provisions of 10 CFR 2.201, PECO Nuclear is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555 with a copy to the Regional Administrator, Region I, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at King of Prussia, Pennsylvania
this 3rd day of January 1997

BIBLIOGRAPHIC DATA SHEET

(See instructions on the reverse)

1. REPORT NUMBER
(Assigned by NRC. Add Vol., Supp., Rev.,
and Addendum Numbers, if any.)

NUREG-0940, PART II
VOL. 16, No. 1

2. TITLE AND SUBTITLE

Enforcement Actions: Significant Actions Resolved
Reactor Licensees
Semiannual Progress Report
January - June 1997

3. DATE REPORT PUBLISHED

MONTH	YEAR
September	1997

4. FIN OR GRANT NUMBER

5. AUTHOR(S)

Office of Enforcement

6. TYPE OF REPORT

Technical

7. PERIOD COVERED (Inclusive Dates)

8. PERFORMING ORGANIZATION - NAME AND ADDRESS (If NRC, provide Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address. If contractor, provide name and mailing address.)

Office of Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

9. SPONSORING ORGANIZATION - NAME AND ADDRESS (If NRC, type "Same as above". If contractor, provide NRC Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address.)

Same as above

10. SUPPLEMENTARY NOTES

11. ABSTRACT (200 words or less)

This compilation summarizes significant enforcement actions that have been resolved during the period (January - June 1997) and includes copies of letters, Notices, and Orders sent by the Nuclear Regulatory Commission to reactor licensees with respect to these enforcement actions. It is anticipated that the information in this publication will be widely disseminated to managers and employees engaged in activities licensed by the NRC, so that actions can be taken to improve safety by avoiding future violations similar to those described in this publication.

12. KEY WORDS/DESCRIPTORS (List words or phrases that will guide researchers in locating the report.)

Technical Specifications, Quality Assurance, Radiation Safety
Program, Safety Evaluation

13. AVAILABILITY STATEMENT

Unlimited

14. SECURITY CLASSIFICATION

(This Page)

Unclassified

(This Report)

Unclassified

15. NUMBER OF PAGES

16. PRICE