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Accession #: D196070279

Document #: SD-LEF-QAPP-001

Title/Desc:

200 AREA LIQUID EFFLUENT FACILITIES QA PROGRAM
PLAN [INCORPORATE SD-LEF-CSCM-001]

ENGINEERING CHANGE NOTICE

1. ECN **192539**

Page 1 of 2

Proj.
ECN

2. ECN Category (mark one) Supplemental <input type="checkbox"/> Direct Revision <input checked="" type="checkbox"/> Change ECN <input type="checkbox"/> Temporary <input type="checkbox"/> Standby <input type="checkbox"/> Supersedure <input type="checkbox"/> Cancel/Void <input type="checkbox"/>	3. Originator's Name, Organization, MSIN, and Telephone No. P.T. Ambre, LEF, S6-71, 373-9387	3a. USQ Required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4. Date 10/06/95	
	5. Project Title/No./Work Order No. 200 Area Liquid Effluent Facility	6. Bldg./Sys./Fac. No. 2025E	7. Approval Designator E, Q	
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-LEF-QAPP-001 Rev. 0	9. Related ECN No(s). N/A	10. Related PD No. N/A	

11a. Modification Work <input type="checkbox"/> Yes (fill out Blk. 11b) <input checked="" type="checkbox"/> No (NA Blks. 11b, 11c, 11d)	11b. Work Package No. N/A	11c. Modification Work Complete N/A _____ Cog. Engineer Signature & Date	11d. Restored to Original Condition (Temp. or Standby ECN only) N/A _____ Cog. Engineer Signature & Date
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12. Description of Change
 Direct revision of Supporting Document WHC-SD-LEF-QAPP-001 Rev. 0, 200 Area Liquid Effluent Facilities Quality Assurance Program Plan. Incorporates changes to references in tables. Revises text to incorporate WHC-SD-LEF-CSCM-001, Computer Software Configuration Management Plan for the 200 East/West Liquid Effluent Facilities.

13a. Justification (mark one)

Criteria Change <input checked="" type="checkbox"/>	Design Improvement <input type="checkbox"/>	Environmental <input type="checkbox"/>	Facility Deactivation <input type="checkbox"/>
As-Found <input type="checkbox"/>	Facilitate Const <input type="checkbox"/>	Const. Error/Omission <input type="checkbox"/>	Design Error/Omission <input type="checkbox"/>

13b. Justification Details
 Criteria relied upon in document have been superseded by other documentation, and new items incorporating QA criteria have been implemented.

14. Distribution (include name, MSIN, and no. of copies) L.K. Fernandez S6-71 1 N.J. Sullivan S6-71 1 M.J. Warn S1-57 1 R.D. Warriner S6-72 1 D.L. Flyckt S6-71 1 R.B. Wurz S6-71 1 M.W. Peres S6-71 1 <i>SEE DISTRIBUTION SHEET</i>	<p style="text-align: center;">RELEASE STAMP</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>OFFICIAL RELEASE</p> <p>BY WHC</p> <p>DATE OCT 10 1995</p> <p><i>Sta 4</i></p> </div>
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ENGINEERING CHANGE NOTICE

1. ECN (use no. from pg. 1)

Page 2 of 2

192539

15. Design Verification Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	16. Cost Impact	ENGINEERING	Additional \$ [NA] Savings \$ []	CONSTRUCTION	Additional \$ [NA] Savings \$ []	17. Schedule Impact (days)	Improvement [NA] Delay []
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18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	<input type="checkbox"/>	Seismic/Stress Analysis	<input type="checkbox"/>	Tank Calibration Manual	<input type="checkbox"/>
Functional Design Criteria	<input type="checkbox"/>	Stress/Design Report	<input type="checkbox"/>	Health Physics Procedure	<input type="checkbox"/>
Operating Specification	<input type="checkbox"/>	Interface Control Drawing	<input type="checkbox"/>	Spares Multiple Unit Listing	<input type="checkbox"/>
Criticality Specification	<input type="checkbox"/>	Calibration Procedure	<input type="checkbox"/>	Test Procedures/Specification	<input type="checkbox"/>
Conceptual Design Report	<input type="checkbox"/>	Installation Procedure	<input type="checkbox"/>	Component Index	<input type="checkbox"/>
Equipment Spec.	<input type="checkbox"/>	Maintenance Procedure	<input type="checkbox"/>	ASME Coded Item	<input type="checkbox"/>
Const. Spec.	<input type="checkbox"/>	Engineering Procedure	<input type="checkbox"/>	Human Factor Consideration	<input type="checkbox"/>
Procurement Spec.	<input type="checkbox"/>	Operating Instruction	<input type="checkbox"/>	Computer Software	<input type="checkbox"/>
Vendor Information	<input type="checkbox"/>	Operating Procedure	<input type="checkbox"/>	Electric Circuit Schedule	<input type="checkbox"/>
OMI Manual	<input type="checkbox"/>	Operational Safety Requirement	<input type="checkbox"/>	ICRS Procedure	<input type="checkbox"/>
FSAR/SAR	<input type="checkbox"/>	IEFD Drawing	<input type="checkbox"/>	Process Control Manual/Plan	<input type="checkbox"/>
Safety Equipment List	<input type="checkbox"/>	Cell Arrangement Drawing	<input type="checkbox"/>	Process Flow Chart	<input type="checkbox"/>
Radiation Work Permit	<input type="checkbox"/>	Essential Material Specification	<input type="checkbox"/>	Purchase Requisition	<input type="checkbox"/>
Environmental Impact Statement	<input type="checkbox"/>	Fac. Proc. Samp. Schedule	<input type="checkbox"/>	Tickler File	<input checked="" type="checkbox"/>
Environmental Report	<input type="checkbox"/>	Inspection Plan	<input type="checkbox"/>		<input type="checkbox"/>
Environmental Permit	<input type="checkbox"/>	Inventory Adjustment Request	<input type="checkbox"/>		<input type="checkbox"/>

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision
Document Number/Revision

Yearly QA Assessment

20. Approvals	Signature	OPERATIONS AND ENGINEERING	10-6-95	PE	10-6-95
		Cog. Eng. P.T. Ambre		QA	10-6-95
		Cog. Mgr. N.J. Sullivan		SAFETY	10-6-95
		QA M.J. Wain		Design	10-6-95
		Safety		Environ.	10-6-95
		Environ. D.L. Flyckt		Other	10-6-95
		LEF Operations Mgr. R.B. Wurz		DEPARTMENT OF ENERGY	10-6-95
		LEF Manager, M.M. Peres		Signature	10-6-95
		Independent Verifier, N.J. Sullivan		ADDITIONAL	10-6-95

Signature or a Control Number that tracks the Approval Signature

RELEASE AUTHORIZATION

Document Number: WHC-SD-LEF-QAPP-001, REV 1

Document Title: 200 Area Liquid Effluent Facilities Quality Assurance Program Plan

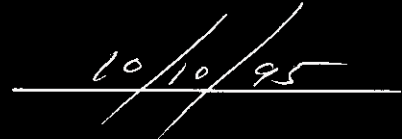
Release Date: 10/10/95

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:


Kara Broz


10/10/95

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SUPPORTING DOCUMENT

1. Total Pages 23

2. Title

200 Area Liquid Effluent Facilities Quality Assurance Program Plan

3. Number

WHC-SD-LEF-QAPP-001

4. Rev No.

1

5. Key Words

Quality Assurance
QAPP
LEF
ETF

6. Author

Name: P.T. Ambre

P.T. Ambre
Signature

Organization/Charge Code 86230 / A260N

7. Abstract

Direct revision of Supporting Document WHC-SD-LEF-QAPP-001, Rev. 0, 200 Area Liquid Effluent Facilities Quality Assurance Program Plan. Incorporates changes to references in tables. Revises test to incorporate WHC-SD-LEF-CSCM-001, Computer Software Configuration Management Plan for 200 East/West Liquid Effluent Facilities.

8. RELEASE STAMP

OFFICIAL RELEASE
BY WHC
DATE OCT 10 1995

3

Sta 4

RECORD OF REVISION

(1) Document Number
WHC-SD-LEF-QAPP-
001 Rev. 0

Page 1

(2) Title
200 Area Liquid Effluent Facilities Quality Assurance Program Plan

CHANGE CONTROL RECORD

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release	
		(5) Cog. Engr.	(6) Cog. Mgr. Date
0	EDT-611038		
1 RS	(7) Complete Revision - issue all new pages ECJ-192539	P.T. Ambre <i>P.T. Ambre</i>	N.J. Sullivan <i>N.J. Sullivan</i> 10-6-88

TITLE: AUTHORIZATION BASES REVIEW

ATTACHMENT 2, AUTHORIZATION BASES REVIEW FORM

Part A:

REFERENCE ITEM # ECN 622265 Proposed Change/Discovery (CIRCLE ONE)

APPROVAL DESIGNATOR E^{CO}, 0

TITLE WHC-SD-LEF-QAPP-001, Rev. 1, 200 Area Liquid Effluent Facility Quality Assurance Project Plan

DESCRIPTION This revision incorporates updated references, and includes LEF computer configuration management plans

Paul J. Amber 9-19-95
Originator Signature Date

Part B:

Does the referenced item:

- A. Increase risk from a hazard - to the workers &/or public beyond that previously analyzed, evaluated, and documented in the Authorization Bases? NO Yes/Maybe ___
- B. Reduce the reliability or effectiveness of features, controls, procedures, or processes used to mitigate hazards? NO Yes/Maybe ___
- C. Introduce a hazard not evaluated in the Authorization Bases? NO Yes/Maybe ___
- D. Reflect new information on existing hazards beyond that currently documented in the Authorization Bases? NO Yes/Maybe ___

DETERMINATION BASES: Record complete justification and reference information below. Use Attachment 3 for continuations. Maintain with submittal package.

The changes in this document do not ~~alter~~ alter the configuration of the facility or introduce hazards to the processes

Potential Impact, No Impact, Item Remains Open ABR Closed

James H. [Signature] Sept 19 95
Authorization Bases Evaluator Date

Engineering Manager Date

WHC-SD-LEF-QAPP-001

200 AREA LIQUID EFFLUENT FACILITIES
QUALITY ASSURANCE PROGRAM PLAN

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1. PURPOSE

This Quality Assurance Program Plan (QAPP) describes the quality assurance and management controls used by the 200 Area Liquid Effluent Facilities (LEF) to perform its activities in accordance with DOE Order 5700.6C.

The 200 Area LEF consist of the following facilities:

- Effluent Treatment Facility (ETF)
- Treated Effluent Disposal Facility (TEDF)
- Liquid Effluent Retention facility (LERF)
- Truck Load-In Facility - (Project W291).

This QAPP is specific to the LEF providing guidance for the implementation of requirements set forth in WHC-CM-4-2 "Quality Assurance Manual," and is applicable to all LEF personnel. The guidance of QAMS 005/80 (EPA 1982) is met with WHC-LEF-QAPP-002, "200 Area Treated Effluent Facility Quality Assurance Project Plan." The intent is to ensure that all activities such as collection of effluents, treatment, concentration of secondary wastes, verification, sampling and disposal of treated effluents and solids related with the LEF operations, conform to established requirements.

2. SCOPE

The requirements of this QAPP will be applied to the LEF in a graded approach commensurate with the safety class, relative risk to safety, safeguards, security and the environment.

The ETF is classified as a "Radiologically Controlled Facility" in accordance with Environmental Management (EM) guidance standard DOE-EM-STD-5502-94. The commitments are limited to ensuring LEF-specific programs are in place to implement the controls and safety requirements assuring that the safety basis and hazard category remain valid, via an inventory control program and DOE order 5480.1B for environmental protection requirements.

3. GENERAL REQUIREMENTS

3.1 LEF ORGANIZATION

The LEF are operated by WHC under contract from the U.S. Department of Energy (DOE). The organizational structure, functional responsibilities and lines of communication of the LEF and other WHC departments are described in WHC-CM-4-2, *Quality Assurance Manual* QR 1.0 "Organization". LEF Management is responsible for QA Program Plan implementation, assessment and improvement in accordance with WHC-CM-1-3.

All LEF management and staff are responsible for understanding and implementing the quality program as specified in this QAPP. All individuals are responsible for maintaining a Quality Climate and a working knowledge of this plan. Each contributor is responsible to implement the quality elements applicable to their defined work scope and for their quality of work.

The organizational responsibilities and guidelines for the LEF are defined in WHC-IP-0932, "200 Area Liquid Effluent Facilities Conduct of Operations", Section 1 "Organization and Administration," and listed in the Quality Assurance Program Index (QAPI), Appendix A.

3.1.1 Process Engineering

The Process Engineering Organization provides engineering support for LEF systems and components for safe operation of the facilities. Engineering maintains configuration control in accordance with WHC-SD-ETF-CM-001, "Configuration Management Plan for Project C-018H, 200-E Area Effluent Treatment Facility" and ensure integrity of engineering documentation.

- Perform System Assessments to ensure initial operational readiness and readiness for subsequent restarts of the LEF. In addition, provide on call engineering coverage to assist in operations of the LEF.
- Generate and maintain operational procedures, procedure changes & revisions and ensure technical adequacy of operational, maintenance and calibration requirements and procedures.
- Provide technical assistance for work package generation, resolution of corrective maintenance for repairs/changes to systems/components.
- Assist in timely investigations and reporting of "off-normal" plant events and unusual occurrences meeting WHC-IP-0932, Section 6, "Abnormal Events Investigation".

3.1.2 Operations

The Operations organization ensures that plant operations are conducted safely and within the bounds of DOE 5480.19 "Conduct of Operations" approved procedures. In addition Operations must maintain the broadest perspective of operational conditions affecting the safety of personnel and the plant as the highest priority.

WHC-IP-0932, "200 Area Liquid Effluent Facilities Conduct of Operations" Section 2 "Shift Routines and Operating Practices", provides standards of professional conduct and operational routines for the LEF personnel.

- Maintain qualified Nuclear Process Operators, Shift Engineers and Shift Managers for safe and efficient operation of the facility at all times as defined in WHC-IP-932 Sec.1, "Organization and Administration".
- Review proposed changes to ensure compliance to operations requirements.
- Establish priorities for all maintenance/operations tasks.
- Assume responsibility for emergency response in the absence of higher management.

3.1.3 Operations Analysis & Support (OA&S)

The OA&S organization ensures compliance with company mandated policies, programs and regulations including DOE directives, personnel safety, and safety of general public.

- Implement and perform self assessments to enhance Conduct of Operations and facility compliance.
- Control procedure generation and changes. Generate occurrence reports and root cause analysis. Emergency procedures, staffing, training and preparedness.
- Generates emergency preparedness procedures, implements drill & monitoring programs and provides self assessment for preparedness programs.
- In conjunction with Hanford Site Training Organization, plans, administers and maintains training manuals, materials and a training program to ensure Operator, Supervisor, Maintenance, Technical and Administrative staff training requirements are complied with and records are current.

3.1.4 Work Control

The Work Control organization supports LEF mission objectives and ensure schedules meet established priorities for corrective action management activities, plant operations, system assessments, configuration control, plant maintenance, work packages and perform as LEF point of contact for site wide job control issues.

- Manage and control work process, ensure work packages meet quality and safety standards. Implement and maintain the Job Control System for the LEF.

3.1.5 Maintenance

The Maintenance organization ensures all maintenance activities are performed on time and safely in accordance with established directives.

- Perform maintenance activities for the operating plant systems and components.
- Maintain a qualified staff with required training related to facility maintenance that encourages employee commitment.

3.1.6 Environmental Engineering/Regulatory Compliance

The Environmental Engineering/Regulatory Compliance organization manages, implements and ensures compliance with WHC-CM-7-5, "Environmental Compliance" as well as all applicable laws, regulations, and relevant DOE orders as they apply to the facilities.

- Setup and maintain a regulatory file and establish programs and guidance to meet the requirements as they apply to the operation of the facility. This includes facility specific requirements found in environmental permits and the Tri-Party Agreement.
- Report, prioritize, trend, analyze and correct environmental compliance issues in accordance with WHC-CM-1-3 MRP 5.2, "Quality Assurance". Integrate results of trend data review, root cause analysis and lessons learned evaluations into environmental planning and project development. Review designs and design changes for compliance with environmental requirements in accordance with WHC-CM-7-5, Section 13.5.
- Ensure all training, reporting and documentation is in compliance with applicable requirements. Technical point of contact for response to hazardous material spills.

- Perform and document periodic self-assessments of facility operations to ensure that the environmental requirements found in WHC-CM-7-5 are being met and corrective actions are being recommended and implemented as needed.
- Assist facility manager for interface with RL and regulatory agencies. Serve as facility point of contact for environmental issues.

Environmental Engineering/Regulatory compliance directives and requirements are implemented by the use of controlled procedures as listed in WHC-SD-LEF-QAPP-002, "200 Areas Treated Effluent Facility Quality Assurance Project Plan" (QAPjP).

3.1.7 Health Physics

Provide health physics support and services to the LEF facilities to ensure a radiologically safe and healthy workplace.

- Health physics will implement a radiological surveillance program designed to support operations, maintenance, effluent monitoring and laboratory activities.
- Provide oversight and management of the radiological protection program in the facility.

3.2 QUALITY ASSURANCE PROGRAM

This Quality Assurance Program Plan (QAPP) conforms to the requirements of WHC-CM-4-2 QR 2.0, "Quality Assurance Program". Planning and implementation of this QAPP are carried out in various sections of WHC-IP-0931 *200 Area Liquid Effluent Facilities Administrative Policies*, and WHC-IP-0932, *200 Area Liquid Effluent Facilities Conduct of Operations*. Facility equipment is controlled in accordance with WHC-CM-4-46, *Safety Analysis Manual*, Section 9.0 "Safety Classification of System, Components and Structures".

The extent to which QA controls applies to specific activities according to the requirements of WHC-CM-4-2, QI 2.2, "Quality Assurance Program Planning", are summarized in the QAPI, Appendix A.

The LEF Environmental Engineering/Compliance Group activities conforms to the requirements of EPA quality requirement guidelines identified in EPA QAMS-005/80 (EPA 1983). Process sampling and analysis activities and validation criteria for the Environmental Engineering/Compliance Group are defined in the WHC-CM-LEF-QAPP-002, "200 Area Treated Effluent Facility Quality Assurance Project Plan."

The responsible group considers the importance of the task, operational safety, radiological safety, complexity of task, and consequences of failure to select the appropriate procedure to be applied for a given task. WHC-CM-0932 Sec.8.2 establishes the requirements for effective management of the work control system and "Appendix L" defines the examination requirements. WHC-IP-0932 Section 16, discusses operating procedures preparation and special procedure processing.

The LEF complies with the training requirements of WHC-CM-1-1. This is documented in WHC-IP-0931 Section 4, "Training Administration". The LEF Facility Manager has overall responsibility for personnel training. Line managers ensure implementation and aid in proper training of their personnel.

The Environmental Engineering/Regulatory Compliance Manager will ensure the specific training for his organization, reporting, and documentation are in compliance with the applicable requirements.

The LEF has a designated Plant Review Committee to evaluate and provide direction in the resolution of adverse conditions (See section 3.16 for details). The purpose of the Plant Review Committee is to evaluate impacts to LEF operations, improve the LEF facility programs and better focus on problem areas to avoid recurrences.

To ensure that this QAPP is implemented correctly, the LEF facility manager shall require an annual Management Assessment. This assessment shall assess the adequacy, appropriateness and implementation of the program and require written recommendations to the manager. The manager shall then take prudent steps in addressing problem areas.

The facility management team shall provide reports of operating performance relative to performance goals to the Facility Manager on a monthly basis in accordance with WHC-IP-0932 Sec.1. "Organization"

3.3 DESIGN CONTROL

LEF Requirements and responsibilities for Engineering design activities are accomplished in accordance with CM-6-1, *Standard Engineering Practices*. Specific procedures controlling designs are EP-1.3, "Engineering Drawing Requirements," EP-2.2, "Engineering Document Change Control;" and EP-4.1, "Design Verification Requirements."

Requirements for independent verification of design drawings, specifications, instructions, revisions, adequacy and correctness are described in WHC-CM-6-1, EP-4.1, "Design Verification Requirements". Qualification testing is also defined in EP-4.1.

Design Changes shall be initiated, approved and controlled by Engineering Change Notices (ECN) in accordance with WHC-CM-6-1, EP-2.2, "Engineering Document Change Control". Changes to vendor supplied design documents shall be transmitted via ECN to the WHC document control for approval per WHC-CM-6-1, EP-3.3, "Vendor Information Requirements".

3.4 PROCUREMENT DOCUMENT CONTROL

Requirements for the contents of procurement documents, procurement planning, supplier selection, bid evaluation, supplier performance evaluation, control of supplier generated documents or services, control of changes in items or services, and acceptance of items or services are contained in WHC-CM-2-1, *Procurement Manual and Procedures*, and WHC-CM-2-2, *Materials Management Manual*.

The acquisition of quality affecting items that are procured are controlled by issuing purchase orders in accordance with WHC-CM-2-1, WHC-CM-2-2, and WHC-CM-6-1, EP-1.2, "Engineering Specification Requirements", EP-2.3 "Engineering Procurement Waivers", and EP-3.3, "Vendor Information".

Quality requirements for procurement required by LEF are implemented by WHC-IP-0931 Section 5, "Material Control".

The requirements of WHC-CM-3-5 Section 12.7, "Approval of Environmental, Safety and Quality Affecting Documents", are applied to procurement documentation involving activities affecting quality.

3.5 INSTRUCTIONS, PROCEDURES AND DRAWINGS

Engineering tasks that result in documented design media/drawings, process flow sheets, operating guidance, or deliverable items are performed in accordance WHC-CM-6-1, "Standard Engineering Practices", EP-1.1 "Engineering Document Identification", EP-1.3, "Engineering Drawing Requirements", and EP-4.1 "Design Verification Requirements".

The LEF are operated in accordance with WHC-IP-0931, and WHC-IP-0932. WHC-IP-0931 Section 10 "Administrative Procedure Development and Processing" for control of LEF administrative policy. WHC-IP-0932 Sections 16.1, 16.2, 16.3 "Operating Procedures" direct the generation and modification of procedures that are necessary for the safe operation of the facilities.

Specific procedures are developed for the Operations, Maintenance, Environmental Engineering and Regulatory Compliance groups. A listing of these procedures is maintained by Operations Analysis & Support (OA&S) in the operations procedure history files.

3.6 DOCUMENT CONTROL

LEF complies with the requirements of WHC-CM-4-2, QR-6.0, "Document Control". The procedures and requirements for preparing engineering documents are defined in WHC-CM-6-1, EP-1.1 "Engineering Document Identification;" EP-1.2, "Engineering Specifications;" and EP-1.3 "Engineering Drawing Requirements."

Engineering documents are controlled by WHC-CM-6-1. Engineering documents are initially released by an engineering data transmittal (EDT) according to EP-1.6, "Engineering Data Transmittal", revised by an engineering change notice (ECN) per EP-2.2, "Engineering Document Change Control Requirements", and in compliance with requirements provided in EP-1.7, "Engineering Document Approval and Release."

The procedures, requirements, and responsibilities associated with the initiation, review, approval, release, and incorporation of changes to engineering documents, and the controls administered by Configuration Documentation are defined in WHC-CM-6-1, EP-1.6, "Engineering Data Transmittal", EP-1.12, "Supporting Document Requirements", and EP-2.2, "Engineering Document Change Control Requirements".

WHC-IP-0931, Section 10, "Administrative Procedure Development and Processing", WHC-IP-0932, Sec.8.2 "Work Control", Sec.16.1, 16.2, and 16.3 "Procedure Processing", specify preparation, approval, and control of LEF procedures, manuals and other documents. WHC-IP-0932 Section 16.1, 16.2, and 16.3 implement the requirements of WHC-CM-3-5 Section 12.5 "Technical Procedure Standard".

All technical procedures including revisions, are reviewed for adequacy and approved in accordance with WHC-CM-3-5 Section 12.7, "Approval of Environmental, Safety and Quality Affecting Documents".

Operating records not maintained by upper-tier guidance are controlled by WHC-IP-0931, Section 14 "Operations Records Control" that identifies, maintains, and dispositions facility records produced by LEF Operations, Environmental Compliance, Operations Analysis and Support.

3.7 CONTROL OF PURCHASED ITEMS OR SERVICES

The procurement of purchased items and services associated with the LEF are controlled in accordance with WHC-CM-4-2, QR 7.0 "Control of Purchased Material, Equipment, and Services". QA provides independent inspection for all procured items affecting quality in accordance with WHC-CM-4-2, QR 7.0, "Control of Purchased Items and Services".

Acquisition, documentation, and control of purchased items is specified by WHC-CM-6-1, EP-1.2, "Engineering Specification Requirements", EP-2.3 "Engineering Procurement Waivers", and EP-3.3, "Vendor Information". Quality requirements for procurement required by LEF are implemented by WHC-IP-0931 Section 5, "Material Control". Section 5 defines the responsibilities and describes the administrative requirements for handling, storing, controlling the inventory of materials procured for LEF. Section 6 "Letters of Instruction" applies to request for services, or work by organizations external to LEF.

3.8 IDENTIFICATION AND CONTROL OF ITEMS

The requirements and procedures for identification, receipt, acceptance, tracking, distribution, revision and filing of documents provided by vendors are defined in WHC-CM-6-1, EP-3.3 "Vendor Information".

Engineering requirements for configuration control are applied to the LEF systems, subsystems, and components as specified by WHC-CM-4-46, *Safety Analysis Manual*, Section 9.0 "Safety Classification of System, Components and Structures". WHC-CM-6-1, EP-2.2 "Engineering Document Change Control" directs SSC modification design, review, approval, installation, testing and documentation.

WHC-IP-0932 Section 8.2, "Work Control", Section 18 "Equipment and Piping Labeling", and WHC-IP-0931 Section 5, "Material Control" define the requirements for identification and control of items.

3.9 CONTROL OF PROCESS

Responsibility and control of normal operational processes (e.g. equipment alignment, lockout/tagouts, deficiencies, work authorization, testing, etc.) are required by WHC-IP-0932, Section 8.1, "Control of Equipment and System Status".

Engineering documentation controls that specify requirements for facility configuration are implemented at LEF in accordance with WHC-CM-6-1, EP-1.6 "Engineering Data Transmittal Requirements", EP-1.7 "Engineering Document Approval and Release Requirements", EP-1.12 "Supporting Document Requirements", EP-2.2 "Engineering Document Change Control Requirements", EP-4.1 "Design Verification Requirements", EP-4.2 "Testing Requirements".

The use of special processes that control or verify shall be controlled in accordance with WHC-CM-4-2, QR 9.0, "Control of Processes". The WHC controls for nondestructive examination are defined in WHC-CM-4-38, NDE procedures. Quality Assurance overview of NDE activities are described in WHC-CM-4-2, QI-9.1 "Control of Nondestructive Examination". Requirements for welding and brazing are implemented in accordance with WHC-CM-4-2, QI 9.2, "Control of Welding and Brazing", and technical procedures defined in WHC-CM-6-10, Welding Manual and WHC-SD-MA-SPP-001, Welding Procedures Supporting Document.

3.10 INSPECTION AND SURVEILLANCE

QA/QC performs inspections required to assure that a product or an activity meets the specifications or requirements in accordance with WHC-CM-4-2, QR 10.0, "Inspection and Surveillance". These quality requirements apply to inspections and/or surveillance required to verify conformance of an item or activity with specified requirements.

LEF includes inspection points and criteria in work control packages, procurement documents, shipping/receiving documents, equipment installation instructions, test plans, procedures, operating documents, maintenance procedures, internal fabrication packages, sampling procedures and other documents controlling quality affecting work. Documents proving quality are treated as Quality Assurance records in accordance with WHC-CM-3-5, Section 9.0 "Quality Assurance Records". Such documents include inspection characteristics, methods, acceptance criteria, and appropriate inspection records. Nonconformances are controlled as indicated in Section 3.15 of this QAPP.

Personnel performing inspections or verification of work activities are qualified and/or certified per WHC-CM-4-2, QR 2.0, "Quality Assurance Program". Inspection personnel are trained for the specific work procedures to the extent of having a basic understanding of the work accomplished by the procedure and having a detailed knowledge of the required inspection and documentation.

When in-process inspection is more appropriate than final inspection or testing for assuring product quality, the work shall be done using approved procedures and qualified personnel in accordance with the requirements in WHC-CM-4-2, QR 9.0, "Control of Processes", and QR 10.0, "Inspection and Surveillance".

WHC-IP-0932 Section 1, "Organization and Administration", Section 6, "Abnormal Event Investigation", Section 7, "Notification", Section 8.2, "Work Control", Section 10, "Independent Verification", and WHC-IP-0931 Section 8, "Preventive Maintenance and Surveillance", describes the LEF organization and provide instructions for inspection, evaluation, surveillance and reporting.

3.11 TEST CONTROL

Testing shall be controlled in accordance with the requirements of WHC-CM-4-2, QR 11.0, "Test Control". The requirements for the content and implementation of a test plan or test specification that addresses test controls and references controlling procedures, are defined in WHC-CM-6-1, EP-4.2, "Testing Requirements". The requirements for characteristics to be tested, test method(s), documentation of test results, conformance to acceptance criteria, and the development testing to establish design inputs, are also defined in EP-4.2. The specific testing methods are based on Safety Class, and is detailed in WHC-CM-4-46, Safety Analysis Manual, No. 9.0 "Safety Classification of System, Components and Structures" for the types and rigors required for the assigned class.

Wherever possible, test procedures shall reference, but not excerpt into the text, accepted national or industrial test standards and methods (e.g., ASTM, ANSI, etc.). Records resulting from the use of such test procedures are to be considered quality records, and controlled in accordance with WHC-CM-3-5, Section 9.0 "Quality Assurance Records".

Requirements for the performance of functional, operability, and acceptance testing to ensure that equipment maintenance work is performed satisfactorily, are controlled WHC-IP-0932 Section 16.3, "Operations Special Procedure Processing", and WHC-IP-0931, Section 8 "Preventative Maintenance and Surveillance". In addition, work completion and retest requirements are also defined and controlled by the WHC-IP-0932, Section 8.2, "Work Control". Cognizant Managers ensure that all personnel involved in testing are trained in the use of test procedures.

3.12 CONTROL OF MEASURING AND TEST EQUIPMENT

Tools, gages, instruments, and other Measuring and Test Equipment (M&TE) used for activities affecting quality, shall be controlled in accordance with WHC-CM-4-2, QR 12.0, "Control of Instruments". All instruments used for accepting material or equipment, controlling special processes or obtaining data, shall be calibrated and be traceable to nationally recognized standards.

WHC-CM-8-7, Operations Support Services, Section 802, establishes the administrative requirements for the Component Based Recall System (CBRS), which implements the requirements of WHC-CM-4-2, QR 12.0.

LEF M&TE calibration control is implemented by WHC-IP-1149, *200 Area Liquid Effluent Facilities Maintenance Administration Manual*, Section 4.1, "Control and Calibration of Measuring and Test Equipment". Section 4.1 requires qualified technicians use calibrated, traceable calibration standards to written guidance for calibration of M&TE. WHC-IP-0932 Section 8.2 "Work Control" requires use of appropriate M&TE during performance of maintenance activities.

3.13 HANDLING, STORAGE AND SHIPPING

Requirements for packaging, handling, shipping and storage of items which are purchased, fabricated, shipped or stored, are contained in WHC-CM-4-2 QR-13, "Handling Storage and Shipping".

WHC-CM-2-2 *Material Management Manual* specifies controls for the receipt, handling, disbursing, storage, and shipping of material used at LEF.

Administrative requirements and responsibilities for LEF handling, packaging, storage and shipping of drums, are specified by WHC-CM-7-5, *Environmental Compliance*, Section 7.0 "Solid Waste Management". LEF implements those requirements for solid mixed waste and hazardous waste in various Plant Operating Procedures.

WHC-IP-0931, Section 5.0 "Material Control" implements WHC-CM-4-2, QR-13 at LEF. When special handling equipment is involved, it is specified and inspected in accordance with approved applicable operations/maintenance procedures.

3.14 INSPECTION, TEST AND OPERATING STATUS

The inspection, test and operating status of equipment is specified in WHC-CM-4-2, QR 14.0, "Inspection, Test, and Operating Status". The control of items used at LEF is implemented by WHC-IP-0932 Section 8.1 "Control of Equipment and System Status", Section 8.2 "Work Control", Section 8.3 "Jumper and Lifted Lead Controls", Section 8.4 "Valve Status Seals". WHC-IP-0932 Section 9 "Lockouts and Tagouts" controls operating status of systems at LEF.

Operational and maintenance test plans and inspections required by procedures are written to the standards contained in WHC-IP-0932 Section 16.3 "Operations Special Procedure Processing", and WHC-IP-1140, *Technical Procedure Development and Control* Section 1.0 "Technical Procedure Process", and Section 2.0 "Technical Procedure Writer's Guide".

3.15 CONTROL OF NONCONFORMING ITEMS

Adverse conditions requiring corrective action are specified by and controlled by WHC-CM-1-4 *Corrective Action Management Manual*, Section 1.0 "Corrective Action Management".

Nonconformance item reporting, control and disposition is specified in WHC-CM-4-2, QR 15.0, "Control of Nonconforming Items", and shall be processed in accordance with QI 15.1 "Nonconforming Item Reporting", and QI 15.2 "Nonconformance Report Processing".

Control of LEF nonconforming items and materials is implemented by WHC-IP-0931, Section 5, "Material Control". WHC-IP-0932, Section 8.1, "Control of Equipment & System Status", and Section 8.2, "Work Control".

Adverse conditions noted by LEF are controlled by WHC-IP-0932 Section 19 "Authorization Bases Review", Section 6 "Abnormal Events Investigation".

3.16 CORRECTIVE ACTION

Corrective action requirements are specified by WHC-CM-1-4 *Corrective Action Management Manual*, Section 1.0 "Corrective Action Management".

LEF corrective actions are implemented by WHC-IP-0931 Section 7, "Plant Review Committee", and WHC-IP-0932 Section 6, "Investigation of Abnormal Events", Section 8.2 "Work Control", Section 19, "Authorization Bases Review". LEF relies internally on the Management Oversight Program, Voluntary Protection Plan, Authorization Bases Review, JCS, Tickle File, and externally, QA Management Oversight to perform audits and surveillances. The Corrective Action Management system is used to document formal findings.

The LEF Facility Management Team meets on a regular basis to discuss the status of recent submittals to ensure that the root cause is correctly identified, to determine the status of corrective actions, and to ensure that corrective actions include the means to prevent recurrence. The Plant Review Committee is convened as required, to evaluate and resolve the issue.

3.17 QA RECORDS

Records management requirements and responsibilities for the LEF are maintained in accordance with WHC-CM-3-5, "Document Control and Record Management Manual". These include program objectives, contract requirements, and restrictions affecting the maintenance and disposal of record and non-record information. Correction to quality records is performed in accordance with WHC-CM-3-5 Section 9, "QA Records."

WHC-IP-0931 Section 14 "Operations Records Control" establishes responsibilities, and implements controls for managing 200 Area LEF records in accordance with the requirements of WHC-CM-3-5.

Environmental compliance records and files are controlled by WHC-CM-7-5 Section 5.0 "Records, Reporting and Response Activities".

WHC-CM-3-6, *Uniform Publication Systems* Section PS-2-02 "External Publication" controls external publications that are usually one of a kind, and as such are QA records.

3.18 AUDITS/SURVEILLANCE

WHC-CM-4-2, QR 10.0 "Inspection and Surveillance" specifies planning, scheduling, performance, documentation, reporting, and follow up of surveillance activities. LEF implements external audit through scheduling annual assessment by the Quality Assurance Organization. Any deficiencies discovered are documented and corrected in accordance with WHC-CM-1-4 Section 1.0 "Corrective Action Management System Policy".

In accordance with WHC-IP-0932 Section 1.1 "Management Oversight Program", the LEF Facility Manager ensures the Management Team performs regular management oversight tours (internal self-assessments) that evaluate effectiveness, adequacy and implementation of quality practices and the conduct of operations used at LEF. These assessments provide surveillance of LEF programs, the adequate implementation of policy, and effectiveness of corrective actions.

Tickle File Items are required by WHC-IP-0931 Section 16, "Tickle File Administration". Quarterly internal review of Operating Procedure control integrity is performed.

3.19 SOFTWARE

WHC-CM-3-5, Section 2 "Record or Nonrecord Material" specifies machine-readable material as being record material when the other record qualifications apply.

Computer software acquisition, development, documentation, maintenance, management, configuration control, revision, and application requirements are contained in WHC-CM-3-10 *Software Practices*. These requirements apply to computer software, including commercial computer software, and are used to document software for the LEF applications.

WHC-SD-LEF-CSCM-001 "Computer Software Configuration Management Plan for 200 East/West Liquid Effluent Facilities" implements the requirements contained in WHC-CM-3-10. Changes to the software controlled by the above management plan will use the process specified by WHC-CM-6-1, EP-2.2, "Engineering Document Change Control Requirements"

APPENDIX A - LEF QUALITY ASSURANCE PROGRAM INDEX

WHC-CM-4-2	WHC-CM-46	WHC-CM-6-1	OTHER PROCEDURES	LEF - IP
QR 1.0 Organization				WHC-IP-0932 Sec.1, 2
QR 2.0 QUALITY ASSURANCE PROGRAM			WHC-CM-4-2	WHC-IP-0931 Sec. 4 WHC-IP-0932 Sec.1, 8.2, 16
QR 3.0 DESIGN CONTROL		EP-1.3 EP-2.2 EP-4.1		
QR 4.0 PROCUREMENT DOCUMENT CONTROL		EP-2.3 EP-3.3	WHC-CM-2-1 WHC-CM-2-2 WHC-CM-3-5, Sec. 12.7	WHC-IP-0931 Sec. 5.0
QR 5.0 INSTRUCTIONS PROCEDURES AND DRAWINGS		EP-1.1 EP-1.3 EP-4.1		
QR 6.0 DOCUMENT CONTROL		EP-1.1 EP-1.2 EP-1.3 EP-1.6 EP-1.7 EP-1.12 EP-2.2	WHC-CM-3-6 WHC-CM-3-5, Sec. 12.5, 12.7	WHC-IP-0931 Sec.14 WHC-IP-0932 Sec. 8.2, 16.1, 16.2, 16.3
QR 7.0 CONTROL OF PURCHASED ITEMS AND SERVICES		EP-2.3	WHC-CM-2-1, WHC-CM-2-2, WHC-CM-4-2 QI 7.1, 7.2, 7.3, 7.5, 7.6	WHC-IP-0931 Sec.5, 6
QR 8.0 IDENTIFICATION AND CONTROL OF ITEMS	Section 9.0	EP-3.3 EP-2.2	WHC-CM-3-5 Sec. 12.7 WHC-CM-4-2 QI 8.1	WHC-IP-0932 Sec.8.2, 18 WHC-IP-0931 Sec.5
QR 9.0 CONTROL OF PROCESSES		EP-1.6 EP-1.7 EP-2.2 EP-4.1 EP-4.2	WHC-CM-6-10 WHC-CM-4-38 WHC-CM-4-2 QI 9.1, 9.2	WHC-IP-0932 Sec. 8.1
QR 10.0 INSPECTION AND SURVEILLANCE			WHC-CM-4-5 QAI 1.0 thru 2.2, 7.1, 10.1, 10.4, 10.6, 10.7 WHC-CM-4-2 QR 10.0	WHC-IP-0931 Sec.8 WHC-IP-0932 Sec. 1, 6, 7, 8.2 & 10.
QR 11.0 TEST CONTROL	Section 9.0	EP-4.2		WHC-IP-0931 Sec.8 WHC-IP-0932 Sec. 8.2, 16.3
QR 12.0 CONTROL OF MEASURING AND TEST EQUIPMENT			WHC-CM-8-7 Sec.802 WHC-IP-1149, Section 4.1	WHC-IP-0932 Sec.8.2
QR 13.0 HANDLING, STORAGE AND SHIPPING			WHC-CM-2-2 WHC-CM-7-5, Sec.7	WHC-IP-0931 Sec.5
QR 14.0 INSPECTION, TEST AND OPERATING STATUS			WHC-CM-4-2 QI 14.1 WHC-IP-1140, Sec. 1.0, 2.0	WHC-IP-0932, Sec. 8.1, 8.2, 8.3, 8.4, 9.0, 16.3
QR 15.0 CONTROL OF NONCONFORMING ITEMS	Section 5.2		WHC-CM-1-4, Sec.1 WHC-CM-4-2 QI 15.1, 15.2	WHC-IP-0931 Sec.5 WHC-IP-0932 Sec. 6, 8.1, 8.2, 19
QR 16.0 CORRECTIVE ACTION	Section 5.14		WHC-CM-4-5 QAI 15.1	WHC-IP-0931 Sec.7 WHC-IP-0932 Sec. 6, 8.2, 19

WHC-CM-4-2	WHC-CM-46	WHC-CM-6-1	OTHER PROCEDURES	LEF - IP
QR 17.0 QUALITY ASSURANCE RECORDS		EP-1.1 EP-1.2 EP-1.3 EP-1.6 EP-1.7 EP-1.12 EP-2.2	WHC-CM-3-5 Sec.9.0 WHC-CM-3-6 Sec. PS-2-02, WHC-CM-7-5, Sec.5.0	WHC-IP-0931 Sec.14
QR 18.0 AUDITS			WHC-CM-4-2, Sec.10, WHC-CM-1-4, Sec.1.0	WHC-IP-0932 Sec.1.1 WHC-IP-0931 Sec.16
QR 19.0 SOFTWARE QUALITY ASSURANCE REQUIREMENTS			WHC-CM-3-5, Sec 2.0 WHC-CM-3-10 WHC-SD-LEF-CSCM-001 WHC-CM-6-1, EP-2.2	