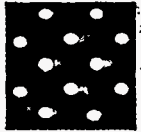


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LLW
FORUM

Meeting Report

Spring Meeting

Monday, Tuesday, Wednesday

April 25-27, 1994

Clarion Hotel

New Orleans, Louisiana

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Prepared by
Afton Associates, Inc.
Washington, D.C.

The Low-Level Radioactive Waste Forum is an association of representatives of states and compacts established to facilitate state and compact commission implementation of the Low-Level Radioactive Waste Policy Act of 1980 and the Low-Level Radioactive Waste Policy Amendments Act of 1985 and to promote the objectives of low-level radioactive waste regional compacts. The Forum provides an opportunity for states and compacts to share information with one another and to exchange views with officials of federal agencies. LLW Forum Participants include representatives from regional compacts, designated host states, unaffiliated states, and states with currently-operating low-level radioactive waste facilities.

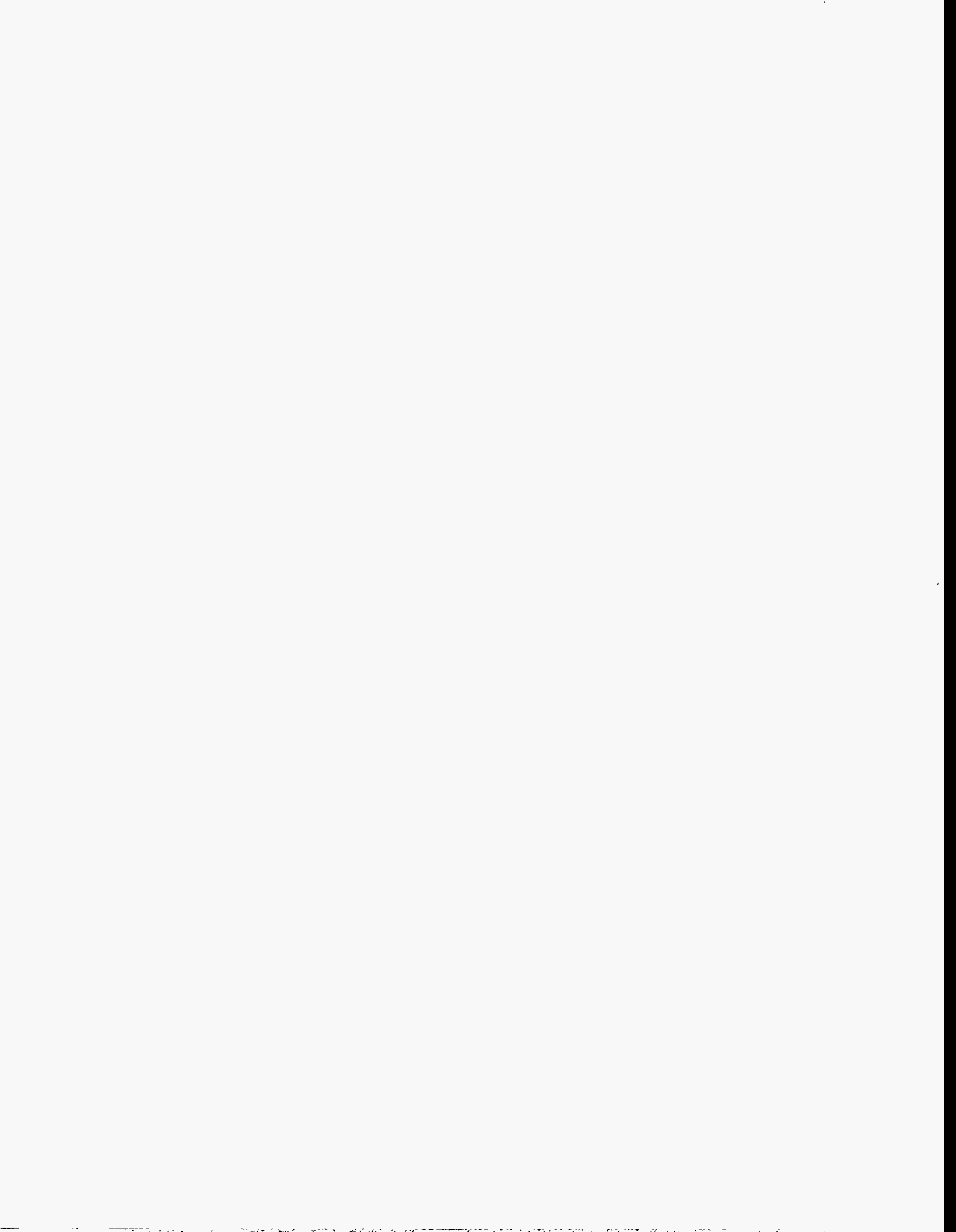
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State of Washington Department of Ecology Contract Number C9400065*

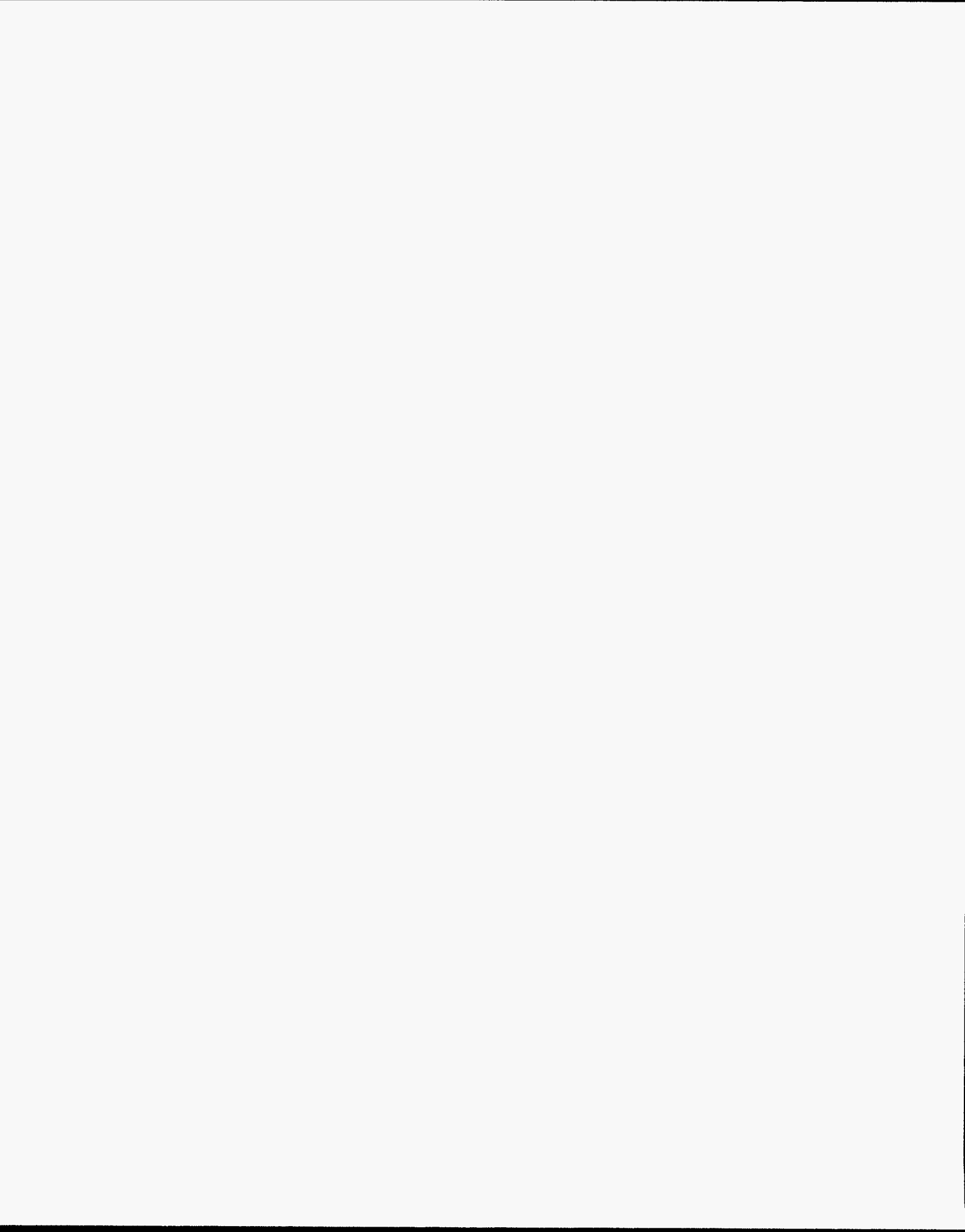
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MONDAY, APRIL 25

LLW FORUM EXECUTIVE SESSION

*Low-Level Radioactive Waste Forum 1994 Budget,
January - December 1994, First Quarter Financial
Report. Afton Associates, Inc. April 1994.*

The meeting was called to order by Gregg Larson, LLW Forum Convenor. Forum Participants and Forum Alternate Participants only were present for this session.

APPROVAL OF AGENDA

On behalf of the LLW Forum Executive Committee, Larson made a recommendation that, in order to allow thorough review and discussion of proposed changes to the *LLW Forum Statement of Principles* and other operating rules, those changes be discussed at the spring LLW Forum meeting but that a final vote on all changes be taken at the summer LLW Forum meeting. Forum Participants agreed to adopt this approach.

M.A. Shaker noted that the April meeting agenda was based on proposed changes to the *LLW Forum Statement of Principles* requested by Forum Participants at the January meeting. She said that, in order for the current meeting agenda to reflect Participants wishes, and without a formal approval of the *Statement of Principles*, a motion approving the agenda and accompanying attendance rules was required.

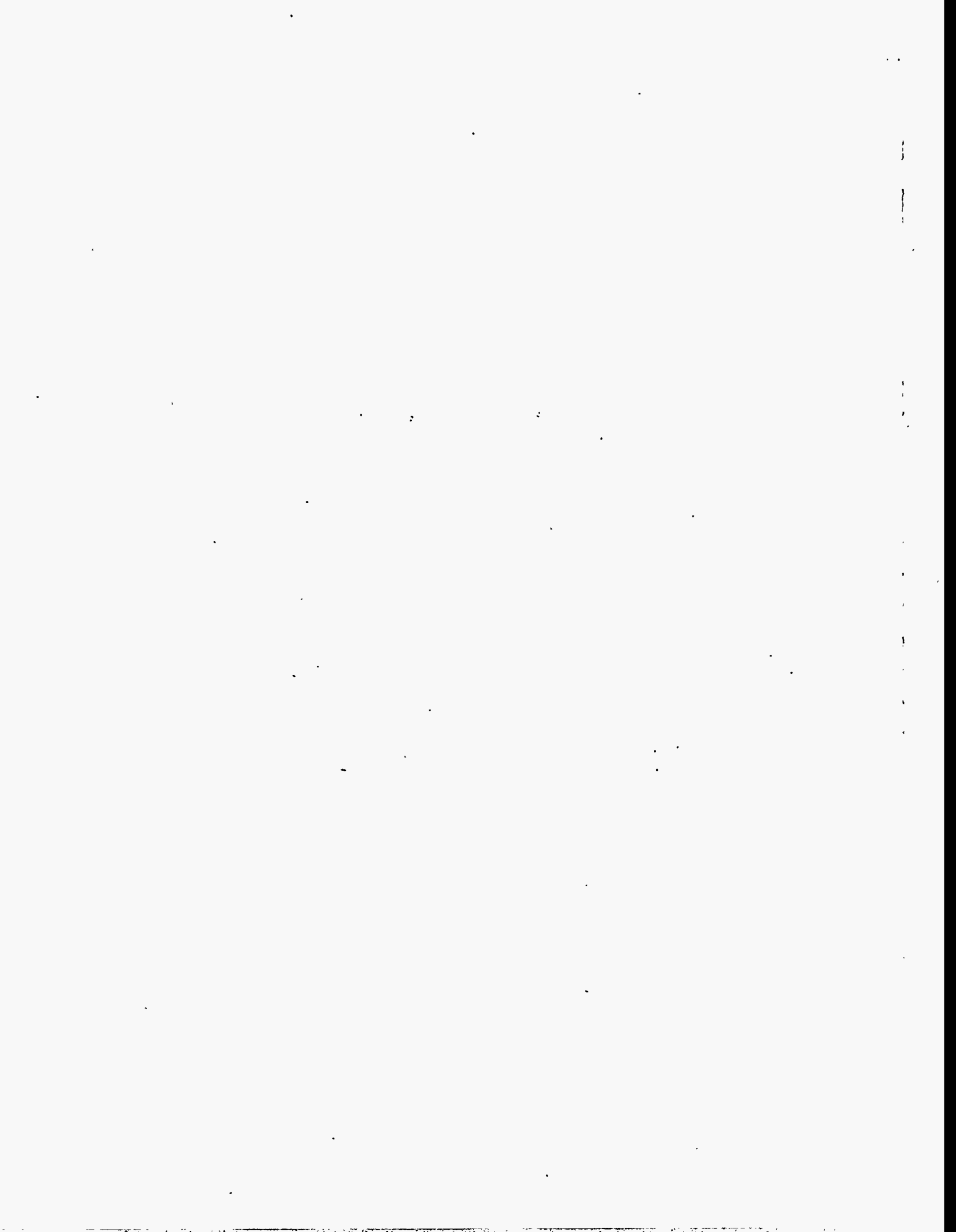
Don Womeldorf then moved to approve the current agenda.

On a second by Leo Roy, the motion carried.

1994 BUDGET REPORT

Gregg Larson reported that the management contractor was on budget for the first quarter of 1994.

The Executive Session of the LLW Forum then adjourned.



**LLW FORUM SPRING MEETING
MONDAY MORNING SESSION**

The meeting was called to order by Gregg Larson, LLW Forum Convenor.

LLW FORUM BUSINESS SESSION

Draft Operating Rules of the Low-Level Radioactive Waste Forum including the LLW Forum Statement of Principles. Afton Associates, Inc. April 1994.

Letter from Gregg Larson, LLW Forum Convenor, to Dan Reicher, Deputy Chief of Staff, U. S. Department of Energy, re expressing appreciation for March 21, 1994 meeting. March 30, 1994.

Letter from Dan Reicher, Deputy Chief of Staff, U.S. Department of Energy, to Gregg Larson, Convenor, LLW Forum, re items discussed on March 21, 1994. April 25, 1994.

Revision of LLW Forum Statement of Principles and Other Operating Procedures.

Gregg Larson reported that, in order to allow thorough review and discussion of proposed changes to the *LLW Forum Statement of Principles* and other operating rules, those changes would be discussed during the current LLW Forum meeting but that a final vote on all changes would be taken at the summer Forum meeting. He noted that M. A. Shaker of Afton Associates would be available throughout the meeting to discuss suggested changes with Forum Participants.

Shaker then summarized the proposed changes to the LLW Forum rules focusing on two basic areas in the *Statement of Principles*—the designation of Forum Participants, Forum Alternates, and meeting alternates; and the revised LLW Forum meeting attendance policy. Discussion followed during which a number of changes were suggested.

Distribution of LLW Notes

Shaker reported that, at the request of the Executive Committee and in response to continuing requests from representatives of industry, anti-nuclear, environmental and citizen groups, as well as other members of the public, Afton has been exploring mechanisms for mailing each issue of *LLW Notes* to members of the public. She noted that the current system of referring such requesters to the appropriate Forum Participant and/or to EG&G Idaho for copies of LLW Forum materials does not satisfy the requesters' interest in receiving *LLW Notes* by mail when it is distributed to Forum Participants and other state, compact and federal officials.

Larson then reported that a request had been made to EG&G to distribute *LLW Notes* to individuals who are not state, compact or federal officials as part of the DOE mandate to provide information to the public. He said that EG&G has agreed to maintain a public information mailing list for *LLW Notes* and to mail each issue to those individuals on that list but that the LLW Forum management contractor would have to cover the cost of reproducing extra copies of the publication. Larson said that the Executive Committee was recommending that this system be set up on a trial basis.

Eugene Gleason then moved that the following statement be adopted as an official LLW Forum procedure.

Members of the public can also apply to the DOE National Low-Level Waste Management Program at EG&G Idaho, Inc. to be placed on a mailing list to receive *LLW Notes* and *Summary Report: Low-Level Radioactive Waste Management Activities in States and Compacts* by mail. The LLW Forum will monitor distribution of these documents to the general public to ensure that information is equitably distributed throughout the states and compacts.

Randy Wood seconded the motion.

Following discussion the LLW Forum approved the motion.

Status of Manifest Tracking Working Group

Larson announced an Executive Committee recommendation that the Manifest Tracking Working Group be put on inactive status. He noted that the uniform manifest rulemaking was nearing completion and that the resources budgeted for the group could be used for other LLW Forum activities. He noted that most working group members had concurred with the recommendation and that the group could always be reactivated should it become necessary. Forum Participants supported the recommendation.

Interaction with Federal Agencies

Larson referred Participants to the summary of the recent Executive Committee briefing of Congressional staff and others contained in the April issue of *LLW Notes*. He added that while in Washington, D.C., Executive Committee members and other Forum Participants briefed Dan Reicher, DOE Deputy Chief of Staff and that committee members were pleased with the interactive session. Later in the meeting, Larson reported that most of the topics covered with Reicher were contained in a recent letter from Reicher to Larson. (See above-referenced documents.) In addition, he noted that DOE official Betty Shackleford has agreed to be a DOE point of contact for the LLW Forum on mixed waste issues.

Larson noted that, following past LLW Forum practices, all Forum Participants would be notified of upcoming meetings with federal officials in Washington.

Approval of Texas Compact

Eugene Gleason made the following motion and requested that it be transmitted to the appropriate Governors by the LLW Forum Convenor.

Whereas, the federal Low-Level Radioactive Waste Policy Act of 1986, as amended, provides a process for states to join together to form compacts to manage low-level radioactive waste; and

Whereas, the formation of low-level radioactive waste compacts by states generally reduces the number of potential low-level radioactive waste facilities throughout the nation thereby promoting economic and efficient low-level radioactive waste management; and

Whereas, the states of Maine, Texas and Vermont have taken the necessary legal action to form a low-level radioactive waste compact; now

Therefore, be it resolved that the members of the Low-Level Radioactive Waste Forum congratulate the Governors of the states of Maine, Texas and Vermont upon the formation of a low-level radioactive waste compact.

Departure of Elaine Carlin

Gregg Larson noted that this would be the last LLW Forum meeting for Elaine Carlin who will be leaving her position as Executive Director of the Northwest Interstate Compact on Low-Level Radioactive Waste Management at the end of April. He noted that through the years Carlin has been a very able representative of Washington and the sited states as well as being an important contributor to the work of the LLW Forum, the LLW Forum Executive Committee and the Forum Mixed Waste Working Group. All Participants in the LLW Forum joined him in wishing her well. Carlin later responded that it had been a privilege and a pleasure to work with the LLW Forum.

REPORTS: NEW DEVELOPMENTS IN STATES AND COMPACTS

For additional information, please refer to the *LLW Notes and Summary Report: Low-Level Radioactive Waste Management Activities in the States and Compacts* (February 1994). Only items not included in either of these documents are reported below.

Southwestern Compact

Don Womeldorf reported that the Southwestern Low-Level Radioactive Waste Compact Commission is preparing for the period after Barnwell's scheduled closure in June 1994. To this end, the commission is addressing interim storage and volume reduction issues. It has sponsored two interim storage workshops by the National Low-Level Waste Management Program for the region's generators. The commission is also working to expedite disposal of eligible waste at the Envirocare facility in Utah.

Commission representatives also met with staff of Senator Barbara Boxer (D-CA) and agreed to keep lines of communication open.

California

Hard copies of overheads presented by Harvey Collins before the LLW Forum on April 25, 1994.

Harvey Collins gave a presentation regarding the licensing process for the planned low-level radioactive waste disposal facility at Ward Valley, California. His remarks focused on Senator Barbara Boxer's contentions regarding the licensing process and on the state's response to these contentions. (See document referenced above.)

Central Midwest Compact

Donald Hughes reported on the Central Midwest Interstate Low-Level Radioactive Waste Commission's lawsuit seeking payment of surcharge rebates to the commission. He also noted the following compact activities:

On March 30, representatives of the Central Midwest Commission, the Kentucky Cabinet for Human Resources, the Kentucky Cabinet for Natural Resources and Environment, and the United States Enrichment Corporation met to discuss management of waste from the corporation's facility in Paducah, Kentucky. Corporate officials indicated that they planned to use the SEG facility in Tennessee for waste treatment and the Barnwell facility for disposal. They requested commission authorization to export waste to these facilities, as well as authorization to transport waste between the corporation's two facilities in Kentucky and Portsmouth, Ohio. These requests are under consideration by the compact commission.

Amendments to the Central Midwest Compact, already enacted by Illinois, were recently approved by the Kentucky General Assembly without any dissenting vote and enacted on April 8, although proposed companion enforcement legislation was tabled following introduction of an amendment proposed by the U.S. Enrichment Corporation. The enforcement legislation will be reconsidered in 1996. Staff of the U.S. Nuclear Regulatory Commission are reviewing the compact amendments prior to their introduction in the U.S. Congress.

The compact commission is currently considering a draft interstate access agreement with the Appalachian States Low-Level Radioactive Waste Commission.

Illinois

Michael Klebe reported that the Illinois Low-Level Radioactive Waste Task Group has met six times. In the course of these meetings, the group has handled various organizational and administrative matters, received briefings from state staff and from experts from other states and compacts, and developed a work plan. The group's next meetings are scheduled for May 13 and June 1.

Northeast Compact

Kevin McCarthy reported that the Northeast Interstate Low-Level Radioactive Waste Commission is updating its database on the waste treatment and processing needs of generators in Connecticut and New Jersey. The database covers a five-year period and will be updated on an annual basis. The information is useful in identifying generators using facilities in the Central Midwest Compact and in notifying generators of any special circumstances regarding waste treatment, among other purposes. The commission is also working with facilities and generators on issues of concern, particularly issues that affect small-volume generators.

In addition, the commission is completing an update of its Regional Management Plan, which will include an inventory of the compact region's low-level radioactive waste from 1988-1992, an overview of the region's current and planned waste management efforts, and a historical outline of the commission's dual host state siting plan.

New Jersey

Since no New Jersey officials were able to attend the meeting due to travel restrictions, Kevin McCarthy orally summarized activities in the state. See Appendix for a written summary prepared by Samuel Penza of the New Jersey Low-Level Radioactive Waste Siting Board.

Connecticut

Ron Gingerich reported that a \$7.8 million budget for the state's low-level radioactive waste program for FY 1995 has been approved. He also noted the following activities:

The Department of Environmental Protection is receiving annual generator reports on volume and activity of waste sent out-of-state for treatment and disposal. The department is also working with federal facilities on waste issues pursuant to the Federal Facility Compliance Act (FFCA), and Connecticut officials are serving on the FFCA Task Force facilitated by the National Governors' Association.

The Connecticut Hazardous Waste Management Service has contracted for a study that will consider the feasibility of building a facility for class A low-level radioactive waste only, with some other disposal option for class B and C waste. Using one facility for all three classes of waste will also be considered.

The Connecticut Hazardous Waste Management Service has also initiated site visits under its Waste Minimization Technical Assistance Program and is working on a number of public information projects, including a television documentary about low-level radioactive waste management and meetings concerning the state's volunteer siting process.

District of Columbia

James Murphy reported that the district's city council has been working to develop a system for recouping from generators administrative costs associated with waste management. Legislation was passed placing a flat fee of \$5,000 on all generators to recover operating administrative costs. However, the fee structure is likely to change to one based on volume.

Central Compact

H. A. Caves reported that the Central Interstate Low-Level Radioactive Waste Commission's contractor, US Ecology, continues to respond to licensing interrogatories and expects to issue a revision to the Safety Analysis Report soon.

The compact commission has been meeting with Nebraska state regulators and US Ecology regarding the costs of facility development. Negotiations for a renewed contract between US Ecology and the commission are under way.

Caves provided a brief update on legal matters concerning community consent. He also noted that the commission is holding conflict resolution meetings with interested parties and that the commission's annual meeting is scheduled for June 21.

Nebraska

Randy Wood reported that Nebraska's unicameral legislature just adjourned. During this most recent session, it passed L.B. 72, which removes provisions in Nebraska statute requiring the state to take title to low-level radioactive waste disposed of by generators at a proposed regional disposal facility in Nebraska.

New York

Angelo Orazio orally summarized activities in the state. See Appendix for a written summary prepared by Eugene Gleason.

Orazio and John Williams also provided an update on the New York State Low-Level Radioactive Waste Siting Commission's outreach efforts under the state's volunteer siting process.

Midwest Compact

Gregg Larson reported on recent developments concerning the United States Enrichment Corporation's facility in Portsmouth, Ohio. He noted that the corporation's projected annual waste disposal volume covers a range of 1000 to 54,000 cubic feet. Corporate officials have indicated that they intend to use the SEG facility in Tennessee for waste treatment and the Barnwell facility for disposal to the greatest extent possible.

Ohio officials are completing work on drafting enabling legislation. The state remains committed to having it enacted by the end of 1994.

South Carolina

Virgil Autry reaffirmed that after June 1994 Barnwell will likely close to waste generated outside the Southeast Low-Level Radioactive Waste Compact region. He noted that there had been various legislative attempts to prolong access to the site, but that thus far these efforts have not been successful. The legislature usually remains in session until the first or second week of June.

Autry urged Forum Participants to tell generators in their regions not to wait until the "midnight hour" to ship waste for disposal at Barnwell, since the generators must first obtain a transport permit, which can take approximately 30 days. Generators must also have a disposal contract with the site operator.

In preparation for Barnwell's scheduled closure to all waste in 1996, the South Carolina Department of Health and Environmental Control has closed another 10 acres of the Barnwell site, and another 20 acres will be closed in the fall with a new capping system. State officials are preparing waste storage regulations for the interim period between Barnwell's closure and the opening of a successor regional low-level radioactive waste disposal facility. Storage is planned at about 20 facilities throughout the state.

In the unlikely event that Barnwell is allowed to remain open as a state-owned facility beyond January 1996, state regulators have proposed that the disposal technology be upgraded to subsurface vaults for all low-level radioactive waste.

North Carolina

Since no North Carolina officials were able to attend the meeting due to a scheduling conflict, Kathryn Visocki reported that the North Carolina Low-Level Radioactive Waste Management Authority is meeting on April 26. A decision on the license application for the proposed regional low-level radioactive waste disposal facility in Wake County, North Carolina, is expected in March 1995.

Southeast Compact

Kathryn Visocki reported that the Southeast Low-Level Radioactive Waste Compact Commission will meet April 28–29. In response to questions, she noted that the compact does not intend to discuss at the meeting what actions to take if the Barnwell facility does remain open to out-of-region waste past June. In such a situation, a two-thirds vote of the commission—including the affirmative votes of both South Carolina commissioners—would be required in order to allow import of waste from outside the compact.

Massachusetts

Leo Roy reported on the Massachusetts Low-Level Radioactive Waste Management Board's February 16 vote to initiate a low-level radioactive waste siting process. He noted that the board has issued a request for proposals to review the state's site screening process. The board is also continuing to work on development of a voluntary siting process and will hold community information meetings on the process this spring.

Appalachian Compact

Marc Tenan explained that, although Maryland is the only Agreement State in the Appalachian States Low-Level Radioactive Waste Compact, each member state in the compact is responsible for making sure that generators within its borders are planning for storage.

At the next compact commission meeting, staff will present for consideration a draft interstate access agreement with the Central Midwest Interstate Low-Level Radioactive Waste Commission.

Tenan also briefly discussed the ramifications of a change in the ownership of the Quadrex treatment facility in Tennessee.

Pennsylvania

William Dornsife reported that the state remains on schedule in its siting efforts. The state's contractor—Chem-Nuclear Systems, Inc.—will release a map of the third and final stage of the site disqualification process on May 17. Three potentially suitable sites will be identified by the contractor in early February of next year.

The state continues to pursue limited Agreement State status. Two regulations remain to be updated before Pennsylvania's regulations will be compatible, and these are expected to be finalized by mid-1995, allowing the state to achieve Agreement State status by late 1995.

Texas Compact (pending)

Lee Mathews reported that the Texas Natural Resource Conservation Commission is continuing its review of the license application submitted by the Texas Low-Level Radioactive Waste Disposal Authority. Opponents to the proposed disposal facility are becoming more active as the process moves further along.

Vermont

Press release re Vermont's enactment of legislation to join the Texas Low-Level Radioactive Waste Disposal Compact. State of Vermont, Office of the Governor. April 21, 1994.

Diane Conrad reported that legislation to allow Vermont to join the Texas Compact was passed and signed into law the previous week. (See document referenced above.) The legislation passed in both chambers by a respectable margin. As a result of the legislation, the Vermont Low-Level Radioactive Waste Authority will cease to operate by the end of June.

Maine

Steve Ward reported that Maine has signed a contract for access to the Barnwell disposal facility.

In accordance with state legislation, the Maine Low-Level Radioactive Waste Authority will terminate in June of this year. Maine will be represented on the Texas Low-Level Radioactive Waste Disposal Compact Commission by Don Hoxie, former Director of the Division of Health Engineering within the state's Department of Human Services and now retired after a 30-year career with the agency.

Michigan

Thor Strong reported that the state House of Representatives continues to consider amendments to the state's siting law. All activities related to siting remain suspended pending passage of this legislation.

Generators within the state continue to store low-level radioactive waste on site. MICHRAD—a radioactive materials users' group—recently sponsored a workshop by the National Low-Level Waste Management Program on waste form and waste acceptance criteria. The workshop resulted in a recommendation that generators not create irreversible waste forms or packaging.

Rocky Mountain Compact

Leonard Slosky reported that, at the April meeting of the Rocky Mountain Low-Level Radioactive Waste Board, amendments to board rules were adopted affecting exports and enforcement procedures. The board continues to pursue a number of enforcement proceedings concerning import/export violations.

Northwest Compact

Elaine Carlin provided an update on a lawsuit filed by US Ecology concerning Envirocare that was recently removed from court.

Washington

Dru Butler introduced Joe Stohr, who will serve as the Northwest Compact's new Executive Director as of May 1. Butler reported that a hazardous waste permit under the Resource Conservation and Recovery Act is currently under review for the Hanford disposal facility, and that US Ecology, which operates the low-level radioactive waste disposal facility at Hanford, is included in the permit.

Butler also discussed a planned meeting between the Governor of Washington and U.S. Energy Secretary Hazel O'Leary concerning the Hanford facility.

MONDAY MORNING SESSION ADJOURNED

MONDAY, APRIL 25

AFTERNOON SESSION

PERFORMANCE ASSESSMENT

Branch Technical Position for Performance Assessment of Low-Level Radioactive Waste Disposal Facilities. Presented by the U.S. Nuclear Regulatory Commission. March 2, 1994. Presented at the Waste Management '94 Meeting, Tucson, Arizona.

Laura Scheele of Afton Associates noted that the NRC had circulated a draft branch technical position on performance assessment to Agreement States and host states for review and comment. The comment period ended March 1, 1994. Scheele noted that the Technical Coordinating Committee (TCC) had discussed the branch technical position during its April meeting.

Scheele stated that the branch technical position will be revised by the NRC staff based on comments received and then published for public comment. The NRC staff is considering holding a public meeting on the branch technical position after it is released for general comment. She explained that NRC staff anticipates the branch technical position to be published this fall.

James Kennedy of the NRC pointed out that the branch technical position is still in draft form and will be revised. He encouraged the states to express their opinions regarding performance assessment to the NRC. Kennedy explained that the NRC Commissioners directed the staff to develop thorough technical guidance on performance assessment several years ago when license applicants were expected.

Discussion followed during which the following points were made.

- Several Forum Participants pointed out that although the branch technical position is not legally binding, it obligates states to prove the validity of any approaches to performance assessment that may differ from the branch technical position. This obligation could impact the performance assessment process in states that are further along in the licensing process. They stated that the NRC and the states should consider the policy implications of the branch technical position in addition to the technical considerations.

- Eugene Gleason noted that overall the branch technical position is conservative and seemed well adapted to the complex geology of New York.
- A Forum Participant pointed out that although the NRC issued the branch technical position, the NRC may not license a facility due to the Agreement State status of the known host states.

CONGRESSIONAL ACTIVITY

Recent Correspondence and Activities

Todd Lovinger of Afton Associates, Inc. reported on several recent letters from members of Congress concerning low-level radioactive waste, including:

- a February 16 letter from 27 members of the U.S. House of Representatives to President Clinton urging him to appoint a presidential commission to perform a comprehensive, public review of the United States' nuclear waste programs;
- a March 15 letter from 12 U.S. Senators to President Clinton with nearly identical language and content as that contained in the earlier House letter;
- a March 15 letter to President Clinton from four members of the Connecticut delegation expressing concern that the current approach to siting low-level radioactive waste disposal facilities is not working; and
- a March 23 letter from U.S. Senator J. Bennett Johnston (D-LA), Chair of the U.S. Senate Committee on Energy and Natural Resources, to U.S. Interior Secretary Bruce Babbitt expressing deep concern over delays in transferring federal land in Ward Valley, California, to the state for use in siting a low-level radioactive waste disposal facility.

A View From the House

Susan Sheridan, Counsel, Subcommittee on Energy and Power, Committee on Energy and Commerce, United States House of Representatives gave a short presentation. Sheridan reported that she is not aware of any plans to institute hearings in the U.S. Congress on issues related to low-level radioactive waste disposal. No legislation on this issue has been introduced during this session. Sheridan noted that members of Congress have spoken most eloquently on this issue by not speaking. The mere fact that there have been no oversight hearings on this issue in years indicates that Congress does not want to encourage any misperceptions that new legislation will be introduced on this topic.

Sheridan reviewed recent federal activity concerning the proposed transferred of federal land in Ward Valley to the state of California for use in siting a low-level radioactive waste disposal facility. Sheridan noted that Secretary Babbitt is given a lot of discretion under the Federal Land Policy and Management Act in determining whether or not to transfer the land. Sheridan reviewed various letters from different Senators and Representatives concerning the proposed land transfer, including a December 21, 1993 letter from Representative Philip Sharp, Chair of the House Subcommittee on Energy and Power. Sheridan noted that Sharp's letter was very careful to avoid offering an opinion on the site. Instead, the letter merely emphasized the importance of making a decision on the proposed land transfer as soon as possible.

Sheridan identified four major themes contained in letters on Ward Valley from Senator J. Bennett Johnston and Representatives Philip Sharp and Richard Lehman.

- Delay by the federal government will politicize an issue which should be beyond politics.
- Any delay or appearance of politicization would be destabilizing to other states and compacts working on site development, as well as to California.
- Safety is not maximized by on-site storage.
- The Department of Interior should reach a decision promptly.

Sheridan discussed the changing membership of the House and Senate and cautioned Participants that it is important to ensure that new Congressional members are aware of their views on this issue.

Discussion followed. In response to a question from a Forum Participant, Sheridan said that the low-level waste program has been cited as a model of the only program that has been effective to date. Sheridan agreed that some members are persuaded of the program's effectiveness when compared to the high-level waste program, but cautioned that others are not.

RESIDUAL CONTAMINATION STANDARDS: EFFECT ON LOW-LEVEL RADIOACTIVE WASTE VOLUMES

Texas Below-Regulatory-Concern (BRC) Rule

Texas BRC Rule. Bureau of Radiation Control,
Texas Health Department. 1991:

Lee Mathews explained that, in 1986, Texas hired Rogers & Associates to prepare a report on safety and economic considerations associated with disposal of short-lived radionuclides. A report was issued that year containing the following conclusions:

- Low-level radioactive waste containing radionuclides with half-lives of less than 300 days could be disposed of safely in Type I sanitary landfills under certain conditions.
- Of the fifty-five radionuclides that would fall into the short-lived category, only about twenty typically would be found in Texas waste streams.
- Restrictions were needed on concentration limits and annual generator limits. Rogers ran multi-pathway risk assessments using methodology developed by the U.S. Environmental Protection Agency to establish these limits. A dose guideline of one millirem per year per individual was used. Rogers also studied the characteristics of two types of landfills—rural and urban—to determine limitations needed under different scenarios.
- In 1986, the economic benefit of the rule to Texas generators was estimated at \$600,000 based on a price of \$30 per cubic foot for disposal in a low-level radioactive waste facility, versus \$2 per cubic foot for disposal in a landfill. The study noted that no special packaging is required for disposal of waste in a landfill, and transportation costs are minuscule compared to costs of shipping to a distant low-level radioactive waste site.

Based on the study, the rule was adopted in 1987, with very little fanfare. Mathews noted that savings from institution of the rule are obviously much greater now than in 1986, due to the increased cost of disposal at Barnwell.

Mathews pointed out the Texas rule is not a "below-regulatory-concern" rule *per se*, since Type I landfills are tightly regulated. In addition, the rule as adopted requires prior approval of the licensee's procedures and a specific license amendment to assure that the licensee has the administrative and technical capability to separate waste, account for concentrations, and properly package short-lived waste for transport. Licensees are required to conduct surveys to ensure that no unauthorized concentrations of short-lived waste are included in shipments to landfills, identification of the personnel involved is required, and the location of the landfill must be identified. Pre-notification of shipments is encouraged but not required.

Since there are only about 12 licensees authorized under the rule, enforcement and compliance are not a problem. The Texas Low-Level Radioactive Waste Disposal Authority expects increased interest in the rule after the Barnwell facility closes.

NRC Residual Contamination Rulemaking

Francis Cameron reported that the U.S. Nuclear Regulatory Commission (NRC) plans to issue a proposed rule in June, along with a draft Environmental Impact Statement. Staff expect to send a draft to the Commissioners by May 25. After the rule is proposed, there will be a 120-day public comment period.

The Commissioners believe that it is important to establish general standards for decommissioning, in order to make the process uniform and ensure that the most current scientific and technical standards are used.

To ensure broad public participation in development of the standards, NRC used an enhanced participatory rulemaking process, through which the agency sought comments before the rule was drafted. Public comments on an appropriate conceptual approach were solicited in a series of workshops involving citizen groups, trade organizations, and others. These comments were used to develop a draft proposed rule, which was then released for comment.

As drafted, the rule contains cleanup standards for all types of licensed facilities, although for Part 61 facilities, the rule would apply only to ancillary facilities. The rule contains cleanup criteria for release for unrestricted use, and for release for restricted use. The latter can only be used if the licensee can demonstrate that it cannot meet the limit for unrestricted release because of technical impossibility, excessive expense, or resultant environmental or other harms. The rule also contains public participation provisions and requires new facilities to minimize contamination by design, so that there will be less cleanup later.

Cameron noted that the U.S. Environmental Protection Agency (EPA) has regulatory authority to establish generally applicable site cleanup standards. NRC has been working with EPA on EPA's rulemaking on this matter, which focuses on cleanup of U.S. Department of Defense and U.S. Department of Energy sites. EPA has agreed that if it finds NRC's standards sufficient to protect health and safety, EPA will exempt NRC licensees from the EPA rules.

NRC staff's draft rule did not recommend which level of compatibility the commission should require for Agreement States, and the proposed rule may not either, because the Commissioners just recently approved a draft overall compatibility policy on which they will be seeking comment.

The NRC Commissioners will be meeting on June 6 to discuss the rulemaking.

EFFECTS OF WETLANDS REGULATIONS ON SITING

*Standard Review Plan 2.4.1—Appendix A.
Guidance on Site Suitability Requirement Related
to Floodplains, Flooding, and Wetlands. Office of
Nuclear Material Safety and Safeguards, U.S.
Nuclear Regulatory Commission.
January 1994. Provides information regarding
the NRC staff's position on siting in
floodplains and wetlands and meeting the
requirements of the 10 CFR 61.50(a).*

Holmes Brown, the LLW Forum Facilitator, explained that the wetlands session was scheduled because revisions to NRC's Standard Review Plan specifically address wetlands. Brown also noted that some states have worked to address wetlands issues in the siting process.

Definition of "Wetlands" and Compatibility Requirements

Ted Johnson noted that NRC staff is in the process of completing Revision 2.4.1 of the Standard Review Plan (SRP) and is interested in getting input. The revisions addressing wetlands are contained in Appendix A of the SRP. The revisions have been based on state comments, state experience, and NRC staff experience.

Johnson explained that in the SRP the "waste disposal area" refers to the area of waste emplacement, while the "site" is the area of waste emplacement and the buffer zone. He stated that it is acceptable to have a small wetlands area in the buffer zone if the wetlands area meets the following criteria:

- the wetlands area is easily removable;
- the wetlands will not return;
- elaborate engineering is not required; and
- the wetlands replacement criteria contained in executive orders 11988 and 11990 are met.

Johnson summarized the guidance for meeting the requirements of 10 CFR 61.50 (a) (5) as follows:

- It is not acceptable to locate the immediate waste disposal area in a wetland.
- It may be acceptable to locate other portions of a site in a wetland, provided that all of the other site suitability requirements are met.
- It is not acceptable to locate a site in a wetland which must be removed by engineering measures, if the wetland will re-occur when those measures cease to perform or if those measures require active maintenance.

He noted that, in general, the last condition will be met as long as a site is not located in a relatively low-lying area with high groundwater tables and/or poor drainage. For instance, it would be acceptable to perform a limited amount of grading to rid a site of small puddles, divert sheet runoff, and to enhance the drainage characteristics of a site. These types of measures might be considered "normal activities" and would not need to be repaired periodically or actively maintained.

However, if an applicant proposed to construct, for example, a gravel drain field and/or pumping system to lower groundwater levels to improve drainage, such a system would be considered out of the ordinary. Such a drainage system would be subject to clogging and would likely need active maintenance to perform its function over a long period of time to prevent return of the original problem. These types of measures would render the site unacceptable under the SRP.

Johnson noted that Revision 4 to the SRP is due out in December 1994. The NRC will be circulating it for copy at that time.

Army Corps of Engineers' Role in Permitting

Ron Ventola explained that the Army Corps of Engineers' role in wetlands regulation is defined in section 4.04 of the Clean Water Act, which authorizes the Corps to issue discharge permits. He stated that although the regulated activities—the discharge of dredged or fill material—are narrowly defined, the area of jurisdiction—the waters of the United States—is very broadly defined. He stated that "very few wetlands are not regulated under Section 4.04."

Ventola said that before a permit is issued, the wetland project is evaluated under Section 4.04 b1 (EPA) guidelines on a pass/fail basis. If it fails, the permit is denied. The guidelines emphasize selection of the site vis-a-vis the impact on the wetland. For instance, if the proposed facility is non-water-dependent, the burden is on the applicant to prove there is no feasible alternative to impacting the wetland by demonstrating that non-water sites do not exist or are not feasible. The Corps also takes into account a public interest review, which is very broad and includes more global determinations, such as the balance of benefits with negative impacts.

Ventola explained that the Corps makes determinations as to which activities fall under Section 4.04 and require permits. The Corps uses the 1987 manual that was developed independently by the Corps for wetland delineation.

Ventola recommended that states and/or compacts contact the regional Army Corps of Engineers office once a potential site is identified. The Corps will then determine whether wetlands exist on the site. If the Corps determines that wetlands do exist, a pre-application meeting would be held between the relevant entities.

The Corps follows a sequential process for wetlands permitting. First, the Corps attempts to avoid impacting wetlands whenever possible. Second, the Corps works to minimize the impact on wetlands when they cannot be completely avoided. Third, the Corps requires the replacement of wetlands that are unavoidably lost.

Finally, Ventola stated that avoiding the need for an Army Corps permit by avoiding wetlands in the siting process is recommended. The Corps has a lengthy permitting process. The Corps also prefers to eliminate negative impacts on wetlands and thus to eliminate the need for permits.

Discussion

Discussion followed during which the following points were made:

- A Forum Participant mentioned that the issue of historic wetlands surfaced during a siting process. Historic wetlands refer to land that is currently dry, but relies upon drain tile or other manmade changes. Ted Johnson responded that if there were assurances that the wetlands would not return for 500 years, siting could still be acceptable. He stated that NRC did not specifically address historic wetlands in the SRP revisions and urged states and compacts to comment upon it if they felt it was important.
- In response to a question, Ventola explained that the Corps is the decision maker for the permitting process. However, the EPA has elevation authority under Section 404 (g) and under Section 4.04 (c) authority to veto a permit that the Corps has issued. He also stated that under the Clean Waste Act, the EPA is the final arbiter regarding wetland delineation. However, a Memorandum of Understanding between EPA and the Corps authorizes the Corps to make the final determination unless the EPA has designated an area a "special case." He said that the number of designated special cases varies by region. He also noted that there is no administrative appeals process at this time for wetlands permitting.
- A Forum Participant asked whether the Corps could provide a predetermination regarding the existence of wetlands. Ventola responded that the Corps could make a broad brush determination early in the process, which would provide applicants with the opportunity to avoid wetlands.

DOE DECISION ON SURCHARGE REBATES

"Surcharge Rebates: Notice of Response to
Comments on Draft Policies and Procedures,
and Final Policies and Procedures."
59 *Federal Register* 15188. Office of
Environmental Restoration and Waste
Management, U.S. Department of Energy.
March 31, 1994.

History of DOE Decision

Terry Plummer reviewed the history of the decision regarding distribution of low-level radioactive waste surcharge rebates, noting that the U.S. Department of Energy is responsible for managing the surcharge rebates funds in interest bearing securities.

Plummer reported that two notices were published in the *Federal Register* on September 30, 1992 concerning the payment of surcharge rebates. The notices addressed two key points: whether states and compacts need to provide for the disposal of mixed waste in order to be eligible to receive the rebates and whether contractual arrangements, such as the Barnwell contracts, satisfy the eligibility requirements.

A final notice on surcharge rebates was published in the *Federal Register* on March 31, 1994. According to Plummer, this notice confirmed that states and compacts do not need to demonstrate that they provide for disposal of mixed waste in order to be eligible to receive surcharge rebates under the Low-Level Radioactive Waste Policy Act. The notice also confirmed that the Barnwell contracts do satisfy the surcharge rebates eligibility criteria.

Decision-Making Process

Tom Todd from the DOE Office of General Counsel discussed the decision-making process. He noted that six attorneys were involved in the deliberations, and that many different views within the legal community were brought to bear on this issue. Todd noted that the Barnwell contracts were not viewed as legally enforceable by most of the attorneys who discussed this matter. However, the passage of time did indicate that disposal capacity was in fact being made available. As a result, the existence of a contract, despite questions regarding its enforceability, combined with actual performance led the department to conclude that states and compacts which had entered into contracts for access to Barnwell satisfied the intent of the act.

With regard to the issue of whether states and compacts need to provide for the disposal of mixed waste in order to be eligible to receive the surcharge rebates, Todd acknowledged that the text of the Act indicates that disposal capacity must be provided for "all" waste, yet by its terms the Act does not set forth that a state is responsible for providing disposal for "all" waste generated within its borders. Accordingly, the department interpreted this provision to mean all waste, the responsibility for which is delineated by the statute. The statute is silent with regard to mixed waste. Therefore, the department concluded that states and compacts need not provide for the disposal of mixed waste in order to be eligible to receive surcharge rebates.

Discussion

A Forum Participant noted that his compact commission has been notified by one utility which indicated that it plans to appeal the department's decision. The utility indicated that it is not actively seeking the rebate funds, but rather that it feels that it needs to contest the decision in order to satisfy its public utility commission.

A Forum Participant commented that a number of states and compacts have been counting on distribution of the surcharge rebate funds as a means of maintaining siting related activities. It was noted that under the law this money can only be used to provide for the disposal low-level radioactive waste and that it may be to the generators advantage to forego further litigation on this issue.

A Forum Participant cautioned that the March 31 notice appears to be ambiguous with regard to the procedure for states and compacts to request rebate payments. The Participant noted that his compact had obtained a letter from Chem-Nuclear to satisfy the requirements of the notice and was submitting the letter along with a renewed request for the rebates to DOE.

In response to questions from a Forum Participant, Terry Plummer made the following points:

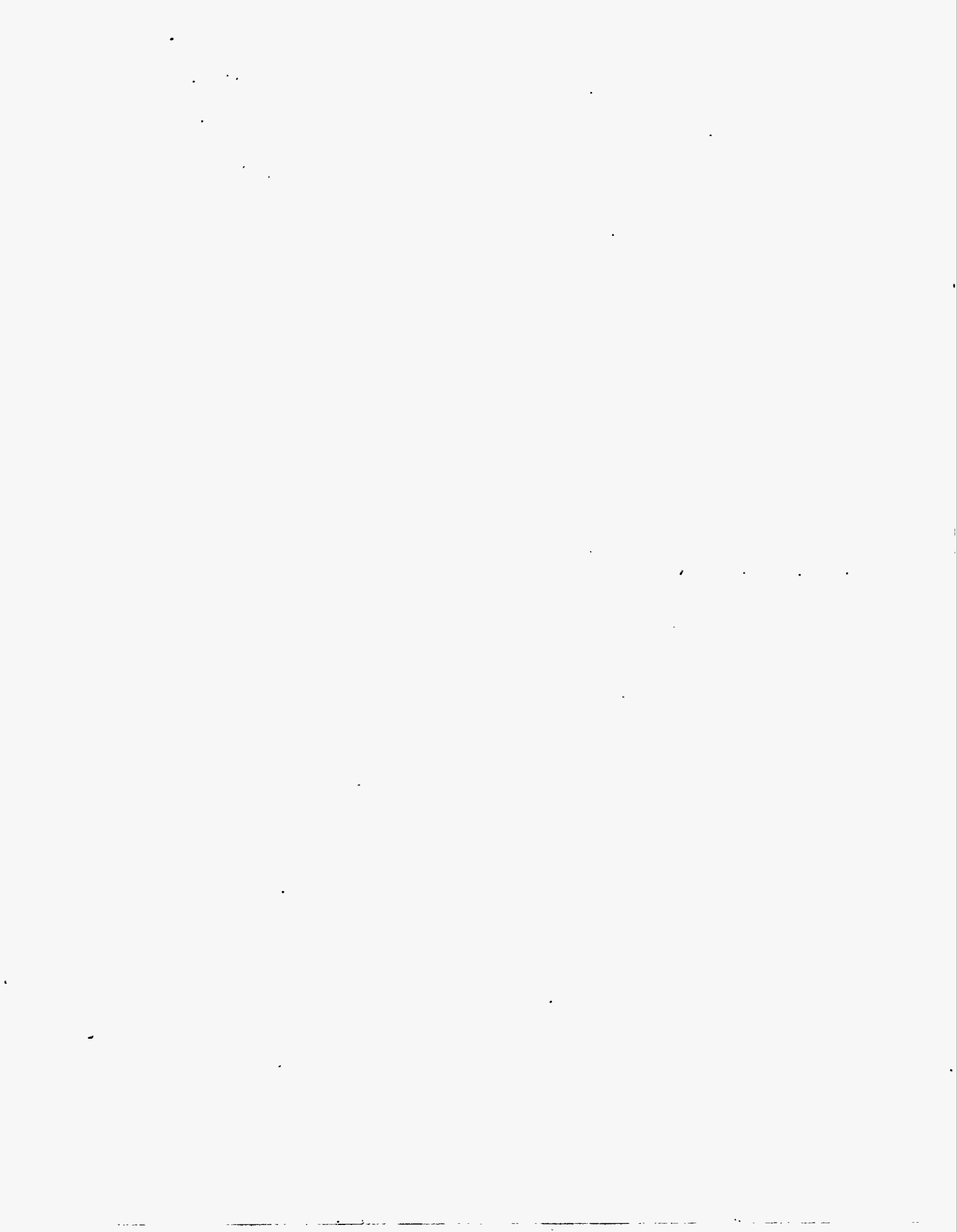
- Although the March 31 *Federal Register* notice did not request comments, it does provide that no funds would be distributed for at least 30 days.
- States and compacts do not have to reapply for distribution of the rebate funds if they have previously submitted an application.
- Plummer agreed to work with Afton Associates, Inc. to establish a system whereby Forum Participants would be notified of future litigation involving the surcharge rebate funds.

In response to questions by Forum Participants, Tom Todd made the following points:

- He is not aware of any discussion within the department to change the eligibility requirements as written in the March 31 *Federal Register* notice. Todd pointed out, however, that there is a pending lawsuit—*Central Midwest Interstate Low-Level Radioactive Waste Commission v. O'Leary*—which may alter the decision. Todd indicated that the department is not prepared to say at this point whether it will delay payment of all rebate funds pending resolution of the litigation.
- If the current surcharge rebate litigation is appealed, a decision by the federal court of appeals would probably be expected about one year after the federal district court issues its decision.
- Department of Justice representatives have indicated that they feel very comfortable in defending the surcharge rebates decision. One element supporting the decision is that it is hard to rationalize giving the rebates to generators during a period of time when a state or compact region can show that the generator has not been harmed.

- The policy of both the past and current administrations has been to convey as much assistance as possible to the states and compacts in order to help them with the siting of low-level radioactive waste disposal facilities.

MONDAY AFTERNOON SESSION ADJOURNED



TUESDAY, APRIL 26

MORNING SESSION

LLW FORUM AGENDA PLANNING

*Agenda-Planning Ballot. Afton Associates.
April 1994.*

Cynthia Norris explained the revised, longer ballot that the LLW Forum's management firm had developed to facilitate more efficient agenda planning. The floor was then opened for suggestions on additional topics for July 1994 meeting sessions, and a number of suggestions were made. Forum Participants were requested to complete their ballots and turn them in later during the day.

Norris also solicited Participants' views on a new schedule for the July meeting, which would involve starting earlier on the first day and adjourning in mid-afternoon so that the Executive Committee could meet. There was general agreement that the new schedule should be implemented on a trial basis.

DO STATES NEED CLARIFICATION OF NRC'S DISPOSAL SITE LAND OWNERSHIP REQUIREMENTS?

Letter from Carlton Kammerer, Director, Office of State Programs, U.S. Nuclear Regulatory Commission, to Dianne Nelson, Executive Director, Utah Department of Environmental Quality, and enclosure (Agreement, Establishing of Restrictive Covenants), re review of Utah's radiation control program and land ownership exemption. June 28, 1993.

Land Ownership Requirements. 10 CFR 61.59(a). U.S Nuclear Regulatory Commission. Section of 10 CFR 61 regarding land ownership requirements. January 1, 1987.

NRC Position on Augmenting Envirocare Process

Holmes Brown directed Forum Participants' attention to the meeting documents and stated that the correspondence between Utah and NRC raised questions as to whether there were alternatives to state or federal ownership of the land on which a disposal facility is located.

Cameron stated that after Utah received the authority from the NRC to regulate a LLW disposal facility, the State licensed the Envirocare facility to receive low-level radioactive waste. In doing so, Utah extended a previous exemption from land ownership for the site that had been applied to the previously operating NORM facility. During NRC's review of Utah's agreement state status, there were questions raised concerning the status of the Envirocare facility's land ownership requirements.

Cameron explained that U.S. Ecology filed a 2.206 petition to request the NRC to revoke Utah's agreement status because the state licensed a low-level waste facility that was not currently under state or federal ownership, and the state did not plan to require such ownership. The NRC Commission ultimately approved Utah's exemption of Envirocare from ownership requirements and found Utah's program to be adequate and compatible.

Cameron noted that the ownership requirements were intended to reduce the potential for inadvertent intrusion into the facility and to ensure stable ownership of land. Utah demonstrated that the substitute mechanisms of restrictive covenants for land ownership qualified as adequate control for the site.

During the review, NRC staff took into consideration the deed annotation that informed future owners and users that a disposal facility was there. Cameron stated that Utah and Envirocare also put into effect a restrictive covenant that required the following: that no excavation take place; that prior written consent be obtained from the Utah Division of Radiation Control for any change in the use of the land; and that the site be indicated by markers. Any federal or state agency affected by the covenant could sue to uphold the covenant.

Cameron noted that the important policy issue that was raised with the commission is that the Utah situation is not unique. Conceivably, another state could show that an exemption could be applicable to its site. Subsequently, the Commissioners directed NRC staff to prepare an Advance Notice of Proposed Rulemaking (ANPR) on the land ownership requirements. The ANPR has been drafted, but not issued at this time.

Utah has an exemption provision in its low-level waste regulations similar to that which NRC has in 10 CFR part 61. Utah utilized that provision in granting Envirocare its exemption from land ownership. An unanswered policy question is whether a state's granting of a land ownership exemption to a new low-level waste facility could endanger that states agreement state status because its licensing procedures would be incompatible with NRC's requirements.

Discussion

Discussion followed during which the following points were made:

- if there is a state law that requires the disposal site land to be owned by the federal or state government, the state law would likely be controlling and no exemption could be granted by the state agency.
- there is no basis for denying an exemption for a state that does not have a state law requiring federal or state land ownership. However, if the granting of exemptions becomes commonplace, the NRC staff would be likely to reexamine the issue.
- restrictive covenants have failed in the past, most notably in the Love Canal situation, where the land was sold and used for purposes barred by the covenant. The key to restrictive covenants is enforcement. In the Utah case, both the federal and state government can act to enforce the covenant.
- states and compacts have told the public that long-term safety of disposal facilities is assured because the state or federal government would own and care for the land. The restrictive covenant for Envirocare does not provide the same type of surety. Some Forum Participants feel that covenants provide lesser protection and thus emphasized the importance of state ownership and responsibility for the land. In Utah, the covenant provided for a trust fund that can be used by the state for monitoring purposes.
- if a state has a provision forbidding it from owning the site, there is a mechanism that would permit the state to transfer ownership to the U.S. Department of Energy, but this provision of the Nuclear Waste Policy Act of 1982 has never been utilized.

CONCENTRATION AVERAGING: IMPACT ON DISPOSAL FACILITY VOLUMES AND CURIES

Technical Position on Concentration Averaging and Encapsulation. Hard copies of slides presented by William Lahs before the Host State Technical Coordinating Committee in Phoenix, Arizona, on November 30, 1993.

Concentration Averaging and Current Practice: the Barnwell Rule of 10

Factor of 10 Rule For Classification of Class C Irradiated Hardware Components. Virgil Autry, Director, Division of Radioactive Waste Management, Bureau of Solid and Hazardous Waste, South Carolina Department of Health and Environmental Control. April 1994.

Appendix E: RHA 3.56 Classification and Characteristics of Low-Level Radioactive Waste, South Carolina Department of Health and Environmental Control. Regulation 61-63.

Virgil Autry provided the following definition:

Concentration Averaging is the means to determine the classification of radioactive waste by calculating the concentration of the specific radionuclides in a homogeneous waste form and averaging this concentration over the volume of the waste or weight of the waste, as applicable.

He explained that, in a non-homogeneous waste form, specific or piecemeal averaging—such as the factor of 10 rule—has to be done to determine classification, but only for irradiated components and hardware. It is not permissible to achieve a lesser classification by use of container volume and interstitial space in containers, or by addition of non-waste such as metals or resin or of waste of much lesser value for the purpose of dilution.

Autry then provided a detailed example of how to apply the standards for concentration averaging for disposal at Barnwell and described the waste form and characteristics requirements for low-level radioactive waste acceptable at the facility. (See documents referenced above.) He noted that the state of South Carolina has stricter controls for disposal of low-level radioactive waste than the federal government.

Practical Application of the NRC Proposed Change

NRC BTP on *Concentration Averaging: Overall Guidelines*. Peter Tuite, President, WMG Inc. 1994.

Holmes Brown explained that the U.S. Nuclear Regulatory Commission (NRC) is in the process of finalizing changes in the provisions of its Branch Technical Position on Concentration Averaging. He then introduced Peter Tuite, who has been an expert consultant on this matter to a number of companies and federal agencies.

Tuite noted that the branch technical position has been under development for several years. He gave a brief overview of the position in its current form, and then explained in detail the position's impact on concentration averaging of specific homogeneous and non-homogeneous waste types. (See document referenced above.) He concluded that the changes in NRC's guidance are unlikely to have a significant affect on state source terms.

James Kennedy added that NRC staff agree with Tuite's assessment of the impact on source term. He alerted Forum Participants that the E-5 Committee of the Council of Radiation Control Program Directors is currently reviewing the branch technical position and that NRC would like to receive input on the position.

REPORT ON ILLINOIS SITING PROCESS COMMISSIONED BY DOE LOW-LEVEL WASTE MANAGEMENT PROGRAM

Lessons Learned Activities of the Illinois LLRW Siting Commission. Presentation by Frederic Snider, Raytheon Engineers and Constructors, Ebasco Division. Presented at the April LLW Forum meeting. April 26, 1994.

Lessons Learned Report on the Activities of the Illinois Low-Level Radioactive Waste Disposal Facility Siting Commission. (DOE/LLW-196). Prepared by Ebasco Environmental for the National Low-Level Waste Management Program at EG&G Idaho, Inc. January 1994. Executive summary.

Letter from members of the Illinois Radiation Protection Advisory Council to Governor James Edgar (R-IL) concerning the Illinois Siting Commission Report on Martinsville. February 14, 1994.

Background

Introduction Frederic Snider of EBASCO gave a presentation on a report entitled, "Lessons Learned Report on the Activities of the Illinois Low-Level Radioactive Waste Disposal Facility Siting Commission." Snider is one of four authors who worked on the report, which was commissioned by the Department of Energy Low-Level Waste Management Program. The objective of the report was to review the report issued by the Illinois Siting Commission and to determine lessons which could be learned by other states and compacts working on a siting process.

Scope of the Project Snider reviewed the scope of the project, which required that EBASCO:

- review the report issued by the siting commission,
- identify major issues associated with the siting commission's decision,
- summarize the approach and conclusions determined by the siting commission in the report,
- critique the siting commission's approach, and
- identify applicable lessons learned.

Illinois Siting Process Snider briefly reviewed the history of the Illinois siting process and the Martinsville Alternative Site as a basis for his discussion on the siting commission's decision. The siting commission was created by statute in 1990 in order to review the work of the Illinois Department of Nuclear Safety (IDNS), which under the original statute was both the selector of and licensing agency of the site. The siting commission's hearing process for the Martinsville Alternative Site took approximately one year, generating almost 21,000 pages of transcripts. In October 1992, the siting commission unanimously rejected the Martinsville Alternative Site.

Criteria Applied by Siting Commission Snider reviewed the six statutory criteria which were applied to the Martinsville Alternative Site by the siting commission. According to Snider, the authors of the Ebar report concluded that one of the difficulties in the Illinois hearing process was that the siting commission was not given specific standards by which to judge the site.

As an example, Snider noted that the siting commission spent a lot of time trying to establish what constitutes an acceptable dose. Unfortunately, the best that the siting commission was able to say at the end of the process was that existing standards are "helpful guideposts." The authors of the report concluded that the siting commission applied a de facto no release standard, despite the existing federal and Illinois radiation standards.

Issues Identified and Lessons Learned

Snider reviewed six major issue categories, and the lessons identified by the EBASCO report for each category.

- **Calculation of Source Term:** Proponents of the site provided three individual performance assessments in an effort to prove the validity of their conclusions. The problem with this approach, as identified by the authors of the report, is that it created a great deal of uncertainty among siting commission members as to what was the actual source term. As a result, the commission concluded that uncertainties "robbed the analysis of credibility." The lesson to be learned is that more consistent data and/or a probabilistic assessment approach could have been helpful.
- **Facility Durability:** The major issue is the long-term durability and viability of concrete. No one was able to prove that concrete would be "leak tight" for 500 years. As a result, the commission concluded that it is, "unlikely the facility could provide adequate protection against long-lived radionuclides." The lesson to be learned is that the standard of performance should be preestablished, since in this case, the facility designers and proponents never claimed that the concrete would remain "leak tight" for such an extended period.
- **Quality Assurance:** The commission was very concerned with review and verification of the data. The QA plan written for the project said that senior review people would actually go back and validate raw data. Technically, procedures were not followed exactly. As a result, the siting commission concluded that, "failures of the project's quality assurance and control seriously detracted from the proponents' case." The lesson to be learned is that any perceived flaw in the QA program or procedures undermines the credibility of the entire technical process.

- **Seismicity:** The issue was whether shaking by earthquakes could make already existing cracks in the facility get larger. The commission concluded that the earthquake risk increases the likelihood of cracking of concrete and liners and may provide pathways of water and contaminants. The lesson to be learned is that the communication of the results of technical evaluations, such as that of seismic activity, must be based, in part, on a consistent application of conservatism and a clear definition of the framework within which the results should be interpreted.
- **Use of Models:** The groundwater flow modeling effort was discussed extensively in the siting commission's report. The commission questioned the validity of each part of the model, concluding that the magnitude of potential errors was large. The lesson to be learned is that preestablished standards are necessary, so that any model will be judged taking into consideration the assumptions upon which it was based.
- **Strategy for Site Characterization:** There was a perceived lack of interdisciplinary coordination. As a result, the commission concluded that the "study produced only limited hydrogeological data inadequate to resolve critical issues about the site." The lesson to be learned is that groundwater and performance assessment models must be integral to the characterization process; reduction in uncertainty is paramount.

General Observations

Snider made some general observations about the Illinois Siting Commission's decision which should be recognized by other states and compacts during their siting processes, including the following.

- The credibility of witnesses was critical to the siting commission's decision.
- Illinois law allowed wide latitude in judgment to the siting commission.
- The siting commission was not held to existing performance standards.

Discussion

In response to a question from a Forum Participant, Snider said that EG&G is the client for whom the report was prepared. Snider identified the purpose of the report as being a means of condensing the siting commission's report into a tool which could be used by the states and compacts. Philip Wheatley added that the report is intended to review the Illinois siting process and draw out lessons that could be learned by other states and compacts working on siting efforts.

In response to a question, Michael Klebe noted that the state of Illinois has not commented on the report. The position of the state of Illinois is that it will abide by the decision of the siting commission.

PENNSYLVANIA STUDY ON RATES OF DECAY FOR CLASSES OF LOW-LEVEL RADIOACTIVE WASTE

Analysis of Long-Term Toxicity of Class C Waste Shipped for Disposal from Pennsylvania in 1990-91. Prepared by the Pennsylvania Department of Environmental Resources. Updated 1994.

Class A LLRW. Hard copies of slides presented by William Dornsife before the LLW Forum on April 26, 1994.

New Technique for Analyzing Low-Level Radioactive Waste

William Dornsife reported on his development of a new analytical technique that is aimed at providing more detail on waste toxicity for specific low-level radioactive waste streams. He noted that the technique, which analyzes what really contributes to waste toxicity, can help explain waste toxicity to non-regulators and members of the public.

Dornsife explained that the traditional way of analyzing low-level radioactive waste streams for annual reports is to provide information on volumes and activity (number of curies) by generator groups. This technique usually shows that nuclear power plants produce the most activity or the largest number of curies. He noted that studying generator groups by waste class provides information on curies, but that is not a good measure of the toxicity of the waste. Another approach is to look at the longevity of the waste, but that also does not accurately describe waste toxicity.

Dornsife said that toxicity depends on the chemical behavior of the specific radionuclide when it enters your body. For example, some radionuclides seek out the bones of a living organism and may also concentrate in critical organs.

Dornsife explained the new system he developed to analyze data for the Pennsylvania annual report on low-level radioactive waste generated in the Commonwealth. He said that his system recognizes that ground water is the critical pathway. It takes radionuclide activity, divides it by volume, divides again by the EPA standard drinking water limit (a dose of 4 millirem per year, assuming a person drinks two liters per day) and results in a measure of intrinsic toxicity. The result is a measure of the comparative intrinsic geotoxicity of low-level radioactive waste.

Dornsife noted that he has developed a simple LOTUS-based IBM computer program for plugging in activities and volumes including information on generator, class, nuclide, and total activity per class.

Application of the System to Pennsylvania Data

Dornsife then demonstrated how the system measures toxicity using radium as an example. Using the system, Dornsife found that, for most class A low-level radioactive waste, the rate of toxicity is flat after 300 years. He also found that, in analyzing the 1992 Pennsylvania waste stream, radium was the biggest contributor to toxicity in all classes of waste. The radium in the waste was primarily generated by the medical class of generators. Waste from the Three Mile Island II reactor accident also was a major contributor to long-term toxicity. Neither of these waste streams will be disposed of at the Pennsylvania facility.

Using the same system, Dornsife also found that radium also predominates the toxicity in class C low-level radioactive waste.

Dornsife then made the following additional points about the system and his findings for 1992 Pennsylvania waste. (see documents referenced above.)

- The system can be used to compare the toxicity of classes A, B, and C low-level radioactive waste with soil.
- His findings show that, in Pennsylvania, the long-term toxicity of class A and B wastes are almost identical.
- Using a very low estimate for low-level radioactive waste generated by non-nuclear entities, most toxicity from radium medical waste.
- His findings show that, looking at relative contributions of low-level radioactive waste per generator for toxicity, the radium disposed by the medical generators have the highest toxicity of all of the waste.
- If the waste generated by the one-time occurrence at Three-Mile Island is subtracted, nuclear power plants rank very low in terms of long-lived toxicity.

- The program and system allow regulators to estimate a "realistic" source term, subtracting one-time occurrences and kinds of waste that will be excluded, such as sealed sources.
- The system demonstrates that the only isotope in nuclear power plant class A waste that exceeds soil toxicity is carbon 14.
- The system can take into consideration revised estimates of iodine 129 in calculations because it is general knowledge that generator estimates for this isotope are over inflated.
- Findings on class C waste show that after 500 years toxicity is dominated by long-lived radionuclides that are low-energy beta emitters. It is therefore difficult for living organisms to be exposed at significant levels since the form of the waste is metal and therefore very stable and a minimal threat to public health and safety.

Dornsife also noted that both EPA and the National Council on Radiation Protection are in the process of developing classification systems based on total hazard including chemicals, not just curies. In response to questions he added the following information.

- While the presentation was based on actual waste streams, the system can be used for projected waste streams.
- This information is being presented for the first time at the LLW Forum meeting.
- Drinking water limits use common risk factors for all radionuclides and therefore is an appropriate yardstick for the groundwater pathway.
- Medical wastes' hazard exceeded nuclear power plant wastes' hazard for all waste streams when radium was included, but most radium sealed sources will not be sent to a low-level radioactive waste disposal facility in Pennsylvania.
- Under any realistic scenario, industrial low-level radioactive waste will most likely dominate the long-term toxicity compared to other low-level radioactive waste generators.

TUESDAY MORNING SESSION ADJOURNED

TUESDAY, APRIL 26

AFTERNOON SESSION

LIAISON REPORT: THE HOST STATE TECHNICAL COORDINATING COMMITTEE

Preliminary Agenda: Host State Technical Coordinating Committee. St. Louis, Missouri. April 14-15, 1994.

Laura Scheele of Afton Associates, the LLW Forum liaison to the Host State Technical Coordinating Committee (TCC), stated that the TCC had met on April 14 and 15 in St. Louis, Missouri. The TCC discussed the Ebasco Report on the Illinois Siting Commission, the NRC draft branch technical position on performance assessment, a carbon 14 migration study, and final waste forms for low-level mixed wastes. She then updated the LLW Forum regarding the TCC's tentative plans for the next meeting.

Scheele noted that the TCC had directed staff to draft a letter to the NRC outlining the priorities that NRC should adopt over the next year. James Kennedy of the Nuclear Regulatory Commission then stated that Revision 4 of the Standard Review Plan remains a high priority with NRC and that it should be out by the end of the year. In response to a question from a Forum Participant, Scheele mentioned that the TCC members had not expressed strong opinions regarding NRC's branch technical position on performance assessment during the TCC meeting.

INTERREGIONAL TRANSPORTATION OF WASTE FOR PROCESSING

Interregional Access Agreement for Waste Management Map. Afton Associates, Inc. March 1994. Map of the signatories to the Interregional Access Agreement for Waste Management by Low-Level Radioactive Waste Disposal Compact Membership.

Leonard Slosky reported that he had requested that Afton Associates, Inc. add a standard session to all future LLW Forum agendas relating to the interregional transportation of waste for processing. The addition of such a session would provide an open forum to discuss developments that have an effect on interregional processing.

Slosky inquired about the potential effects of the proposed implementation of bonding requirements for Illinois processors. Michael Klebe explained that the purpose of the requirements is to ensure that processors in the state of Illinois have the necessary financial surety to cover the management—and potential disposal costs—of the waste that they have in their possession. In response to a question, Klebe noted that it is not the intention of the state of Illinois to drive anyone out of business, but that Illinois does have certain licensing requirements for which compliance is mandatory.

Janice Deshais reported that the Northeast Compact has received expressions of concern from some of its generators regarding the type of waste that is returned to them after treatment. For instance, some generators have isotopic specific licenses and are concerned that the waste that is returned to them will be different than what is permitted under their licenses. In response to a question, a Forum Participant noted that most compacts have agreed not to interfere with the return of waste to the point of origin. They have not agreed to accept that which was not originally generated in the region.

A Forum Participant noted that another interregional issue may arise in a situation where a university in one region conducts field studies for an entity in another region. In that instance, a question may arise regarding who generated the waste—the university or the entity for which the study was conducted—and whether contractual arrangements between the parties as to ownership of the waste would interfere with compact authority. In response, another Forum Participant suggested that if the contractual arrangements interfere with compact authority, then the contract is in violation of state law and therefore is not a valid contract.

NRC PROGRESS ON THE UNIFORM MANIFEST RULEMAKING

James Kennedy reported that the U.S. Nuclear Regulatory Commission continues to make progress on the uniform manifest-rulemaking. He noted that the process has been delayed slightly because NRC has learned that the rule cannot be reviewed simultaneously by its Commissioners and the Office of Management and Budget (OMB). Instead, the rule must be reviewed in sequence—first by the NRC Commissioners, then by OMB. Accordingly, the revised schedule for review and issuance of the rule is as follows:

- A Commission paper conveying the “rule package”—which includes the *Federal Register* notice, instructions for the forms, and the forms—will begin to move through the NRC concurrence process in May.

- A meeting between staff and the NRC Commissioner's could be scheduled for June.
- Once the rule is approved by the NRC Commissioners, it will be sent to OMB for review. OMB has a 60-day, built-in review period.
- The final rule will be published in the *Federal Register* after it has been approved by OMB. This is now anticipated to occur some time in August or September, at the earliest.

Discussion followed. In response to a question from a Forum Participant, Kennedy noted that final rules are generally available to the public within 10 days of approval by the NRC Commissioners. However, the Commission could chose not to make the rule available until after it has been approved by OMB.

TRACKING OF WASTE FOR TREATMENT AND DISPOSAL

Since the Manifest Tracking Working Group has been put on inactive status, William Dornsife recommended that the Low-Level Radioactive Waste Forum establish a new working group to develop interregional agreements, work on tracking systems, and deal with other issues associated with implementation of the final uniform manifest rule.

Dornsife then moved that

Whereas the NRC's uniform manifest final rulemaking is nearing completion, and

Whereas there are issues that need to be resolved concerning its implementation,

Be it resolved that

The LLW Forum establish a working group to recommend ways of implementing the uniform manifest.

Michael Klebe seconded the motion.

M. A. Shaker of Afton Associates asked for an indication from those Forum Participants interested in serving on the working group. Virgil Autry, Janice Deshais, William Dornsife, Michael Klebe, and Kevin McCarthy expressed an interest.

The motion was passed unanimously on a voice vote.

Discussion followed. An NRC official noted that Forum Participants should discuss the new working group at the June 22 meeting with NRC's Commissioners.

In response to a question, Michael Klebe of the Illinois Department of Nuclear Safety said that the manifest information tracking system used in the Central Midwest Compact is currently in operation. No rules have been implemented that require generators to cooperate by providing data, but generators have been doing so on a voluntary basis.

Philip Wheatley reported that the National Low-Level Waste Management Program's waste tracking system, Low Track, has been completed. A users' manual for the system has been completed. The NLLWMP has received requests to demonstrate the system in certain states and compacts.

After further discussion, Ronald Sandwina reported that DOE received a proposal to combine the NLLWMP's system with that used in the Central Midwest Compact. However, DOE declined to act on the proposal.

Sandwina said that the NLLWMP has not yet investigated the national capabilities of its waste tracking system. He said that Forum Participants need to notify the NLLWMP if they want this to be done.

A Forum Participant noted that an advantage of the NLLWMP tracking system is that it can be used by all generators without cost. The Participant expressed concern that the system used in the Central Midwest Compact imposes a cost on generators, although the Participant noted that the system can be used in conjunction with the NLLWMP system.

REPORT OF THE LLW FORUM MIXED WASTE WORKING GROUP

Teresa Hay explained that the Federal Facilities Compliance Act (FFCA) Task Force, a group of 21 states that meets under the auspices of the National Governors' Association, is scheduled to meet with Department of Energy (DOE) on May 25 and 26 in Washington, D.C. Hay stated that the FFCA Task Force meeting was a primary topic of discussion during the LLW Forum Mixed Waste Working Group meeting. She noted that a primary objective of the Working Group is to present the issue of DOE acceptance of commercial mixed waste to the state representatives on the FFCA Group and to obtain agreement to add the issue to NGA's FFCA process.

Teresa Hay moved

that Forum Participants contact their state representatives to the NGA FFCA Task Force and urge their support in adding the issue of DOE acceptance of commercial mixed waste to the FFCA process.

Don Womeldorf seconded the motion, and it passed unanimously.

ENVIRONMENTAL JUSTICE: IMPACT ON LOW-LEVEL RADIOACTIVE WASTE SITING

Executive Order 12898 of February 11, 1994.
"Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations." 59 *Federal Register* 7629.
Office of the President of the United States of America. February 16, 1994.

New York State Assembly Bill 5197-A. New York State Assembly. March 2, 1993. An Act to amend the environmental conservation law, in relation to establishing a task force on environmental equity.

Environmental Justice: An Overview

Dru Butler opened the discussion by providing an overview of environmental justice and a description of activities that the state of Washington has undertaken to address environmental justice issues. She noted that Washington's experience is directed toward siting a RCRA facility rather than a low-level radioactive waste facility.

She explained that environmental justice may be best defined by first explaining what it is not. Environmental justice is not the following:

- three out of five African-Americans and Hispanics live near a hazardous waste site;
- it takes three times as long to settle enforcement actions in poor and/or minority neighborhoods;
- African-Americans, regardless of incomes, are heavily over represented in metropolitan areas near hazardous waste facilities; and

- greater health impacts are borne by racial and ethnic minorities due to exposure to toxic emissions.

Butler stated that environmental justice promises equal environmental protection to all people. Environmental racism, on the other hand, has been defined as the denial of equal environmental protection based upon race. In the Committee on Racial Justice Report to the United Church of Christ, environmental racism was defined as "racial discrimination in environmental policy making and the enforcement of regulations and laws."

Butler noted that environmental justice works to include minorities and low-income people in the decision-making and leadership roles of environmental policy making from which they have traditionally been excluded. Two central concerns of the environmental justice movement have been facility siting and disproportionate impacts of toxic releases on minority and low-income populations. She noted that the recent federal environmental justice executive order has provisions related to both of these issues:

The State of Washington is conducting detailed studies of Indian populations and their lifestyle habits to help determine their level of risk from historic radioactive releases. Butler stated that one of the core values adopted by the Washington Department of Ecology directs employees to "account for ethnic, cultural and economic factors in our decision making and policy setting." Earlier this year, the state legislature approved funding for a study to begin building an information base on the distribution of environmental risk.

Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations: EPA Overview

James Gruhlke opened the discussion by noting that he was appearing in place of another EPA speaker who had experienced travel difficulties. He stated that the main goal of the executive order is to make environmental justice a primary part of the mission of every federal agency. The basic administrative mechanism created by the executive order is an interagency working group that will develop guidance for incorporating environmental justice concerns into agency actions and deliberations.

Gruhlke explained that the interagency working group will serve as a clearinghouse and advisor on environmental justice issues and that it will develop criteria to further identify and define environmental justice considerations. He also noted that the executive order provided a timeline for the development of a strategy and contained provisions relating to data collection to better evaluate environmental justice concerns. He stated that public involvement and participation, particularly targeted to traditionally excluded populations, will be a central component of the federal environmental justice activities.

Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations: NRC Perspective

Francis Cameron stated that NRC will be developing an environmental justice strategy based upon the guidance from the interagency working group. He referenced NRC's development of the site cleanup rule, during which NRC worked to ensure that environmental justice representatives participated in the development process. He stated that the executive order applies only to federal agencies and that traditionally the NRC has not required that Agreement States adopt provisions such as this.

Discussion

Discussion followed during which the following points were made:

- Eugene Gleason mentioned that the New York state assembly had considered a bill addressing environmental equity issues. Under the bill, a task force on environmental equity would be created and charged with the following activities: 1) fulfilling an advocacy function by evaluating the environmental justice effects of state activities; 2) increasing the awareness of environmental justice issues with state and local entities; and 3) giving grants and using state funds to help community groups and others obtain more input into the decision-making process.
- Kevin McCarthy stated that the Connecticut Department of Environmental Protection has hired an individual to coordinate environmental justice considerations.
- Several participants noted that environmental justice encompasses social concerns as well as environmental issues.

INTRODUCTION TO THE WEDNESDAY SPECIAL SESSION: HIGH-VOLUME, LOW-ACTIVITY WASTE

State Disposal Responsibilities

Holmes Brown noted that there are many types of high-volume, low-activity waste. Some of these are low-level radioactive wastes and a state disposal responsibility, although many of them were not recognized when the Low-Level Radioactive Waste Policy Act was adopted in 1985. Examples are sites on the U.S. Nuclear Regulatory Commission's Site Decommissioning Management Plan, waste generated as a result of Department of Defense base cleanups, radioactive waste from Superfund sites, and some rubble and soil from reactor decommissioning. Other high-volume, low-activity wastes not classified as low-level radioactive waste include mill tailings, naturally occurring radioactive materials (NORM), and pipe scale from oil and gas drilling.

Brown also alluded to several rulemaking efforts currently under way in both the U.S. Environmental Protection Agency (EPA) and U.S. Nuclear Regulatory Commission (NRC) that could affect the volume of waste requiring disposal. EPA is currently developing both a general cleanup standard and a disposal standard for low-level radioactive waste. In addition, the NRC is about to issue its final enhanced participatory rulemaking on radioactive cleanup standards.

Northwest Compact Guidelines for Waste Accepted at Envirocare

Resolution and Order. Northwest Interstate Compact on Low-Level Radioactive Waste Management. May 28, 1992.

Elaine Carlin provided some political background on the Envirocare facility in Clive, Utah. She then explained the Northwest Interstate Compact on Low-Level Radioactive Waste Management's policy on importation of out-of-region low-level radioactive waste to Envirocare. (See document reference above.)

Why Allow Any Waste to Be Imported? The compact committee is willing to allow certain out-of-region wastes to be disposed of at Envirocare because the committee members wish to facilitate site cleanup nationally and to promote the low-level radioactive waste management process laid out in the Low-Level Radioactive Waste Policy Amendments Act.

What Action Could the Committee Take to Promote These Goals? Committee members are examining both the real and perceived impacts of allowing in certain types of waste under various conditions. The compact has solicited input from other states and compacts on this matter and has received many thoughtful responses. The compact committee plans to meet on May 2 to discuss how to clarify the compact's policy on waste eligible for disposal at Envirocare.

Carlin noted that even after the compact clarifies its position, it would still be receptive to state and compact feedback on the impact of the policy.

Proposed Louisiana NORM Facility

Ronnie Wascom explained that in 1989 Louisiana became the first state to regulate NORM contamination and disposal, especially radium 226 generated during oil and gas exploration. Concentrations of the radionuclide vary widely, but may range up to thousands of picocuries per gram.

Louisiana promulgated rules because of concern over potential radon risk and direct exposure from future construction of contaminated land, risk to workers who cut and clean contaminated pipe and equipment, and the release of contaminated items for unrestricted use. Among other things, the rules prohibit the release of contaminated equipment and land for unrestricted use, address soil cleanup, and provide for worker protection.

State regulations also provide for disposal of contaminated material. The two most used options for disposal are to place material within the casing of a well that is to be plugged and abandoned, and typical commercial disposal.

In March 1993, the state received a proposal from a private company to treat non-hazardous oil-field waste containing up to 200 picocuries per gram of radium 226 or radium 228 until the waste reaches the exempt concentration of 5 picocuries per gram or less.

A license for the facility was issued in June 1993, and the facility began receiving material in mid-April 1994. Waste is treated by mixing shipments together and then adding additional material until the waste reaches the desired concentration. The waste is then placed in storage cells.

In response to questions, Wascom noted that the facility's license does not prohibit it from accepting out-of-state waste.

Discussion William Dornsife commented that Pennsylvania regulations contain exemptions allowing oil sludge containing up to 200 picocuries of radioactivity per gram to be disposed of in a class A sanitary landfill that practices land spreading.

Leonard Slosky noted that the state of New Mexico is close to proposing regulations for NORM including waste generated during oil and gas production. Any disposal facilities—including down-hole disposal operations—within the compact region would be considered regional facilities under the Rocky Mountain Low-Level Radioactive Waste Compact and would need to meet the compact's requirements, because the compact has authority over radium and NORM waste.

Military Waste Streams, Including Base Closure Waste

Base Closure Update. Hard copies of slides presented by Randall Morin before the LLW Forum on April 26, 1994.

Randall Morin noted that there have been three Base Realignment and Closure (BRAC) Commission reports to date: in 1988, 1991, and 1993. There is a new list of bases recommended for closure currently being assembled for the 1995 commission's consideration. As in the past, the list recommended by the commission and submitted to Congress must be approved or rejected in its entirety. No revisions are permitted.

Morin then provided information on a number of currently planned base closures. (See document referenced above.)

Larry McNamara reported that his office continues to work with Department of Defense (DOD) headquarters. He reiterated that all waste from DOD for disposal must go through his office.

McNamara and Morin then answered questions from Forum Participants on specific base closures.

TUESDAY AFTERNOON SESSION ADJOURNED



WEDNESDAY, APRIL 27

**SPECIAL SESSION—GETTING A HANDLE ON VOLUMES AND CURIES:
POTENTIAL FACTORS IN LONG-RANGE PROJECTIONS**

*Standard Contract for Disposal of Spent Nuclear
Fuel and/or High-Level Radioactive Waste. U.S.
Department of Energy. May 1, 1987.*

REGULATORY CHANGES AND AGENCY INTERPRETATION

**Policy Issues Involving DOE Acceptance of Non-Fuel Bearing Components:
Timing, Storage, Costs**

Holmes Brown posed a series of questions to William Dornsife, who had agreed to serve as a panelist for this session.

What percentage of Pennsylvania's curies are contained in non-fuel bearing components?

Dornsife reported that in 1992, about 80 percent of the curies were class C waste and virtually all of that was non-fuel bearing components. However, the figure varies from year to year. In addition, from a toxicity perspective, 90-95 percent of the non-fuel bearing components have very short half-lives. As a result, only a small degree of risk remains after 50 years.

In your opinion, would DOE acceptance of non-fuel bearing components make your region's low-level waste disposal facility more acceptable to the public? Would DOE acceptance of non-fuel bearing components make your facility easier to license?

Dornsife explained that the disposal problems associated with class C waste in Pennsylvania arise out of a negative public perception concerning low-level radioactive waste disposal and waste from nuclear power plants. Consequently, he does not believe that DOE acceptance of non-fuel bearing components would make the proposed disposal facility more acceptable to the public. However, Dornsife does believe that DOE acceptance of this waste would make it easier to license the facility because it would reduce the complexity of the design and applicable regulatory issues.

Would DOE acceptance of non-fuel bearing components reduce the cost of constructing, maintaining, and monitoring the facility?

Dornsife agreed that DOE acceptance of non-fuel bearing components would reduce the cost of constructing, maintaining, and monitoring the facility. Class C waste drives the 500 year hazardous life issue which is a specific requirement in Pennsylvania. If no class C waste was going to be disposed of at the facility, then it may be possible to justify a hazardous life of 300 years. That is 200 years' less monitoring and remediation than would be required. This would also mean that lower surcharges would need to be collected from generators to pay for these activities.

Holmes Brown posed a series of questions to Mike Alissi, who had agreed to serve as a panelist for this session.

Is it the Nuclear Energy Institute's view that non-fuel bearing components are covered under the standard contract?

Mike Alissi responded that many non-fuel bearing components are clearly covered under the standard contract. It is part of what DOE defines as spent-fuel under the contract. Alissi said that it is not a question of whether non-fuel components are covered, but rather the question is which components are covered. Some components are excluded from the definition under the contract. In addition, non-standard fuel is dealt with differently under the contract.

Dornsife added that Participants should be aware that not all non-fuel bearing components constitute class C waste.

Are the costs of disposal by DOE of non-fuel bearing components covered by the 1 mill kw/h assessed on utilities?

Alissi reported that everything covered under the standard contract is paid for under the 1 mill kw/h assessment. Alissi pointed out, however, that this is a full cost recovery program, so any expenses that DOE incurs will be passed on to the utilities.

Absent present federal storage or disposal options, are utilities inclined to dispose of non-fuel bearing components as low-level radioactive waste at commercial facilities?

Alissi answered that most of the non-fuel components included under the standard contract are kept with the spent fuel and will eventually be delivered to DOE. However, there are some components that are kept separate. These have traditionally been disposed of as low-level radioactive waste at commercial disposal facilities if they meet the class A, B or C limits. The utilities plan to continue this practice in the future.

Is it accurate to conclude that even if DOE adopted a policy of eventually accepting non-fuel bearing components under the standard contract, most of the utilities will probably—rather than store on-site—dispose of those non-fuel bearing components which qualify as low-level radioactive waste until DOE will accept them for storage or disposal?

Alissi said that he believes that this is an accurate conclusion for several reasons. For one thing, if an on-site storage policy is adopted, this would take up storage space which could be used for spent fuel. In addition, there is a desire to keep storage pools as clean as possible. NRC has a policy that disposal is preferable to storage. There are also a number of uncertainties associated with the acceptance of non-fuel bearing components by DOE. Non-fuel components are not likely to be accepted until long after DOE initiates operation of a repository, since priority will be given to spent fuel.

Discussion followed. Alissi noted that even if the broadest possible definition of non-fuel bearing components was used by DOE, there are still other class C wastes that will go to commercial disposal facilities. Therefore, acceptance of an expansive view of non-fuel bearing components by DOE will not eliminate the class C waste problem.

Dornsife commented that storage of class C waste at the disposal site for approximately 50 years should be investigated as an option because it may resolve many of the public perception problems.

Summary of Other Issues: Concentration Averaging, Emergency Access

Holmes Brown summarized other regulatory and agency-related issues that could potentially affect long-range volume and curie projections. He noted that the prior day's presentation made it clear that the concentration averaging rule probably will not make any major difference in the amount of curies going into the disposal sites. Brown also noted that NRC has made it clear that the emergency access provision is not likely to be a major factor in affecting the volumes and curies going into these sites. Given the law and NRC's own guidance on this issue, it is exceedingly unlikely that the emergency access provision would ever be used, and if it were, it would likely only be for a very short period of time.

National Advisory Council for Environmental Policy and Technology (NACEPT): Radiation Cleanup Regulation Subcommittee

William Dornsife reported on recent activities of the Radiation Cleanup Regulation Subcommittee of the National Advisory Council for Environmental Policy and Technology (NACEPT), on which he serves as the chair. The subcommittee is assisting the U.S. Environmental Protection Agency in developing cleanup standards. EPA has authority to develop generally applicable standards that other federal agencies are expected to adopt, although EPA does not have enforcement powers.

Dornsife reported that the subcommittee met in October of last year. At that time, they reviewed the issues. A telephone conference was subsequently held to discuss these issues. A meeting is currently scheduled for May 19-20 to develop standards. Dornsife noted that EPA is moving at a very fast speed. The proposed standard is expected to be out by the fall.

Dornsife listed factors and issues of interest to the states on EPA's cleanup standards:

- the standard must be measurable and verifiable;
- the standards impact on waste disposal infrastructures is very important to the states; as is the availability of waste disposal options
- the facilities being developed may not want to take all of the waste generated from decommissioning;
- the states are concerned that EPA consider other radiation risks in developing cleanup standards.
- the states are concerned with compatibility issues.

Discussion In response to a question from a Forum Participant, Dornsife noted that it has not yet been decided whether EPA's cleanup standard will apply to NORM. Dornsife said that in the interim, this is a state responsibility.

EPA's Low-Level Waste Standard

"LLW and Cleanup Standards: What's the Connection?" Hard copies of slides presented by James Gruhlke before the LLW Forum on April 27, 1994.

James Gruhlke reported that two developments over the last few years have led EPA to revisit the development of a low-level radioactive waste standard. EPA is developing cleanup standards for contaminated buildings and land. Considerable volumes of low-level radioactive waste are expected from decommissioning and site cleanup activities in the future, which could be addressed by EPA standards for low-level radioactive waste management and disposal. In addition, EPA has developed a comprehensive groundwater protection strategy which provides a clear statement of Agency policy and commits Agency programs to incorporate associated principles. At this point, the EPA staff is leaning towards retaining three aspects of the former draft standards.

- EPA plans to deal with the management and storage of low-level radioactive waste.
- EPA plans to include an all pathways provision for long-term disposal site performance.
- EPA plans to retain groundwater protection requirements but in a much simpler form.

Two aspects of the former draft standards will not be retained:

- Below Regulatory Concern (BRC), and
- Disposal provision for high activity NARM

The BRC provision is not viewed as practicable. The NARM provision has been dropped as a part of this rulemaking because the primary rationale for inclusion of NARM has changed, namely, that small volumes of NARM disposed at low-level radioactive waste sites would have a negligible impact on site performance. Recent information on volumes of high activity NARM (greater than 2,000 pCi/g) indicate much larger volumes than previously estimated, however.

Discussion In response to questions from Forum Participants, Gruhlke stated the following.

- It is EPA's intention to try to issue the low-level radioactive waste standard and the cleanup standards around the same time. Currently, the cleanup standard is expected to be issued some time in the fall and the low-level waste standard is expected to be issued by the end of the year.
- The standards are not expected to have a major effect on low-level radioactive waste volumes.

3R-STAT Method for Determination of Source Term

"The Role of 3R-STAT in LLW Source Term
Projections and Facility Inventory Estimates."
Hard copies of slides presented by Jene Vance
before the LLW Forum on April 27, 1994.

Jene Vance gave a presentation on the 3R-STAT method for determination of source term. Vance noted that a topical review of the 3R-STAT method is being conducted by Brookhaven for the NRC.

Vance gave background information on issues related to the development of the 3R-STAT method. The problem, according to Vance, is that most commercial laboratories do not have the capability to measure I-129 at very low levels. As a result, the industry uses scaling factors that are too high by factors of 1,000 to 10,000.

Vance explained that the 3R-STAT method for source term calculations is a computer code that mathematically models the release of radionuclides from the reactor core. It was developed in order to provide an alternative to expensive laboratory measurements and the inaccuracies contained therein. 3R-STAT ultimately determines the release rates of I-129 and Tc-99 from reactor fuel, not concentrations in waste. The assumption is that once the radionuclides are released from the fuel they will ultimately end up in the low-level radioactive waste.

Discussion In response questions, Vance stated the following.

- The 3R-STAT method could be retroactively applied to Barnwell if the reactor coolant data could be obtained.
- Vance has developed another method for source term calculations, known as RADSOURCE. This method generates scaling factors and can be used for all radionuclides except iodine and technetium.

COMMERCIALIZATION OF FEDERAL ACTIVITIES

Draft Rocky Flats Strategic Plan. U.S. Department of Energy. Excerpts from a draft strategic plan regarding disposal options for waste generated by remediation of the Rocky Flats plant. February 22, 1994.

Leonard Slosky reported that several issues have emerged which indicate a change in the rules under which the states and compacts have been operating. For instance, the United States Enrichment Corporation, which was created under the Energy Policy Act of 1992, may create a new and unanticipated waste stream for certain commercial low-level radioactive waste disposal facilities. Although the corporation was created as a wholly owned government corporation, the act provides that its ownership will eventually transfer to private investors. The corporation has informed the Midwest Compact and the Central Midwest Compact—the two regions in which it currently has operating facilities—that it regards any waste which its facilities generate to be a state responsibility rather than a federal responsibility.

As another example of changing policies, Slosky cited the Rocky Flats Strategic Plan which references the use of commercial disposal facilities. Slosky noted that most compacts have taken the position that commercial disposal facilities will not accept waste from nuclear defense facilities. Slosky believes that this position is in accord with the provisions of the Low-Level Radioactive Waste Policy Act of 1980 and its 1985 amendments. However, Slosky expressed concern that in the several recent instances, the Department of Energy has not consulted with the states and compacts about activities which may impact upon commercial disposal facilities.

Slosky then made the following motion, which was seconded by Michael Klebe:

Whereas several recent federal actions suggest that low-level radioactive waste which was previously deemed to be a federal responsibility may be disposed of at commercial disposal facilities,

Be it resolved that

The LLW Forum Convenor write immediately to the Secretary of the Department of Energy to notify her that Participants in the LLW Forum are concerned about the proposed use of commercial facilities for the disposal of DOE waste and the privatization of activities formerly conducted by DOE with the potential shifting of waste disposal responsibilities to the states and compacts. The Forum requests that these issues be placed on the agenda of future meetings between Forum Participants and DOE officials.

The motion passed unanimously.

WASTE FROM OUTSIDE THE UNITED STATES

DOD Overseas Waste

Larry McNamara reported that most Department of Defense materials which are overseas will come back to the United States through the normal supply system. In some cases, waste generated outside of the United States will be consolidated and then shipped back as waste. A review of the DOD program indicates that less than 1000 cu/ft per year of overseas waste is expected to be shipped to the United States. Mostly, this consists of articles of clothing and instruments. It is very low-activity, high-volume waste. McNamara noted that some sealed sources are brought back from overseas. These are recycled. The majority of overseas waste, however, is class A.

The only exception to this scenario, according to McNamara, would be in a war situation such as Desert Storm. Rules and regulations for waste generated during this war are currently being developed. Materials which are expended as a result of war are not traditionally recovered and would not be deemed our responsibility.

Discussion In response to questions from Forum Participants, McNamara made the following points.

- The rule has been and will continue to be that the point of entry into the U.S. of overseas waste is considered to be the point of generation.

- The point of entry for the east coast in the past has generally been Charleston, South Carolina. McNamara noted that this will need to be reevaluated since that facility is scheduled to close.
- Overseas waste is sometimes shipped by plane, but the point of entry is still Charleston.

In response to a question from a Forum Participant, James Kennedy of the Nuclear Regulatory Commission noted that the NRC's rule on import/export authority states that compact approval is supposed to be obtained before waste from other countries may be accepted into the U.S. Kennedy noted that the import/export rule has not been finalized, although this provision is not expected to change. The rule has not been a high priority for the NRC.

A Forum Participant suggested that Kennedy should notify the NRC that this rule is important to the states and compacts.

NAFTA and Compact Authority

Import/Export of Waste Between the U.S. and Mexico Lee Mathews reported on the North American Free Trade Agreement (NAFTA), which was signed by President Bush on December 17, 1992. Mathews noted that NAFTA is not an environmental regulation agreement. It is a document that speaks primarily to the removal of trade restrictions between Canada, Mexico, and the U.S. The document that primarily speaks to the import and export of waste between the U.S. and Mexico is the La Paz Agreement of 1983. It governs the transboundary shipment of hazardous waste between the two countries. Article III of the La Paz Agreement establishes notification and consent procedures which require the exporting country to provide written notice to, and to obtain consent from, the country of import prior to commencing exports. Other articles require

- that the exporting country readmit any shipment of hazardous waste returned for any reason by the importing country, and
- that hazardous waste generated from raw materials admitted to either country for processing must be readmitted by the country from which the raw materials originated.

Mathews emphasized that the La Paz Agreement does not specifically cover radioactive materials or waste.

Import/Export of Waste Between the U.S. and Canada Janice Deshais reported that NAFTA and the NAFTA Report on Environmental Issues are very sensitive to ensuring that NAFTA does not impinge on each party's right to enforce its own environmental legislation. NAFTA expressly states that, in the event of any inconsistency between NAFTA and the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal* or the *Agreement Between the Government of Canada and the Government of the United States of America Concerning the Transboundary Movement of Hazardous Waste*, the specific trade obligations of the two hazardous waste agreements shall prevail over NAFTA to the extent of any inconsistency. Deshais also pointed out that NAFTA provides that all laws remain in place and that any conflicts should be resolved in favor of existing laws.

The Effect of NAFTA on Compact Authority Lee Mathews noted that there is no mandatory language in NAFTA that imposes any new waste import or export requirements on the states or the federal government. Negotiators for NAFTA were careful to state that existing environmental regulations would be maintained, and that no laws were being superseded or modified by NAFTA. This issue is covered largely by section 102, which states the following.

- "No provision of the Agreement, nor the application of any such provision to any person or circumstance, which is inconsistent with any law of the United States shall have effect."
- "Nothing in this Act shall be construed ... to amend or modify any law of the United States, including any law regarding ... the protection of human, animal, or plant life or health, ... [or] the protection of the environment."
- "The Trade Representative shall establish within the Office of the United States Trade Representative a Federal-State consultation process for addressing issues relating to the Agreement that directly relate to, or will potentially have a direct impact on, the States."
- "No state law, or the application thereof, may be declared invalid as to any person or circumstance on the ground that the provision or application is inconsistent with the Agreement, except in an action brought by the United States for the purpose of declaring such law or application invalid."

Mathews concluded that NAFTA will not preempt existing laws, rules and regulations on the import and export of foreign waste. Mathews noted that compact provisions are federal law. Accordingly, in the unlikely event of any inconsistency with NAFTA, he believes that the compact provisions would prevail. In addition, Mathews pointed out that if an import or export issue arises, a mechanism is provided in NAFTA for resolving the issue.

Deshais reported that she agrees with Mathews interpretation of the effect of NAFTA on compact authority. Deshais noted that a treaty implies political relations and is not by nature a legislative act. Treaties cannot change the U.S. Constitution or be inconsistent with our form of government. Accordingly, Deshais concluded that treaties are not any greater legal obligation than acts of Congress.

Deshais then made the following motion:

Whereas importation of waste generated outside of the United States has been raised by the public in a number of areas of the country, and

Whereas the U.S. Nuclear Regulatory Commission initiated a rulemaking on the import and export of radioactive waste in 1990,

Be it resolved that ..

The LLW Forum Convenor write immediately to the Chair of the U.S. Nuclear Regulatory Commission to notify him that Participants in the LLW Forum encourage the NRC to proceed with issuance of revisions to its rulemaking on the import and export of radioactive waste as soon as possible.

The motion was seconded by Leo Roy and carried unanimously by voice vote.

EARLY CLOSURE OF NUCLEAR POWER FACILITIES

Spent Nuclear Fuel Discharges from U.S. Reactors 1991 (SR/CNEAF/93-01). Energy Information Administration, Office of Coal, Nuclear, Electric and Alternative Fuels, Survey Management Division, U.S. Department of Energy. February 1993.

Technical Failure, Unanticipated Repairs and/or Cost

Closure of Three Mile Island William Dornsife reported on waste generated by the Three Mile Island accident. He stated that much of the higher activity waste generated from the Three Mile Island accident has been disposed. The slight amount of waste that will continue to be generated in the future will mainly be the result of maintenance and monitoring. Final decommissioning will occur when the TMI I reactor is decommissioned resulting in additional waste generation.

Closure of Yankee Rowe Leo Roy reported on the early closure of Yankee Rowe. Roy said that the facility was shut down on October 1, 1991 in response to regulatory concerns regarding the reactor vessel. In February 1992, it was decided that Yankee Rowe should close permanently. The reactor license was scheduled to end in the year 2000, so the facility closed 8 years early. The facility closed early due to economic considerations.

Roy said that what is being done at the plant now is a hybrid between decommissioning and safe-store. They have removed as much from the facility as can be removed in the short term. The remainder will be left on site until Massachusetts develops a disposal facility.

Roy reported that the quantity of decommissioning waste is really not affected by the premature closure. Instead, the main impact of the premature shutdown on facility planning is lost revenue. Originally, it was predicted that between 30,000 and 35,000 cu/ft per year of low-level radioactive waste would be generated in state, not including decommissioning waste. This figure has been reduced by approximately 5,000 cu/ft per year due to the premature closure of Yankee Rowe. Roy said that this will result in higher costs to other generators.

Legislative Actions or Electoral Initiatives

Spent Fuel Storage at Prairie Island Gregg Larson reported on recent activities at the Prairie Island facility. The facility is operated by the Northern States Power Company (NSP). It has two 520-megawatt units which began operation in 1973 and 1974. The operating licenses for the units expire in the years 2013 and 2014.

Larson said that a few years ago, NSP determined that it needed 48 dry metal casks to store spent fuel at the plant to continue operations until an MRS is available. This required a certificate of need from the public utility commission, which NSP requested. The public utility commission held a contested case hearing on the request in the summer of 1991. An environmental impact statement was issued which determined that approval of the casks would have no significant environmental impacts. Nonetheless, the administrative law judge recommended that the public utility commission deny the permit until the legislature authorizes the project or until NSP can establish with a reasonable degree of certainty the date that an MRS will be available. The decision was based upon a 1977 Minnesota statute which states that "... no person shall construct or operate a radioactive waste management facility within Minnesota unless expressly authorized by the Minnesota legislature."

In August 1992, the public utility commission rejected the administrative law judge's recommendation and issued an order authorizing only 17 dry casks. The Indian community and opponents of the facility appealed the decision to the Minnesota Court of Appeals arguing that the public utility commission could not authorize the dry casks without legislative approval. Sixty-nine legislators filed amicus-briefs. In June 1993, the appeals court ruled in favor of the plaintiffs. The Supreme Court subsequently refused to hear the case.

Larson reported that legislative hearings began in October 1993. The Senate has approved authorizing legislation for 17 casks. The House voted to approve storage off-site, somewhere else. The legislation is now in conference committee.

Maine Referenda Steve Ward reported that there have been several attempts in Maine to pass referenda on closing Maine Yankee, the only nuclear power plant in the state. Petition drives to force a referendum—in 1980, 1985, 1987 and 1992—represented efforts by nuclear power opponents to shut down the plant by passing a law stating that no nuclear power plant could operate after a certain date. In three cases (1980, 1985 and 1987), a public vote was held. The votes were close, but the referenda never succeeded.

Ward reported that each time a referendum was attempted, there were legal questions put forward about whether a state law can shut down a nuclear power facility licensed by the federal government on the basis of health and safety issues. The legal questions were never answered.

Ward noted that the referenda have had a significant impact on Maine, even though they have not been successful. They have greatly increased public concern about waste disposal due to increased exposure of the issue.

REFURBISHING OR CLOSING NUCLEAR POWER FACILITIES: TIMING AND TECHNOLOGY

Utility Decisions to Refurbish or Close Nuclear Power Facilities

Lynnette Hendricks of the Nuclear Energy Institute gave a presentation on issues related to the refurbishing or closing of nuclear power facilities. She reported that there are two main factors that affect the timing of the receipt of waste from a nuclear power facility decommissioning.

- **Term of the license:** The facility operators may decide to shutdown a unit prematurely, continue the unit's operation until the end of its life, or renew the unit's operating license for a term of up to 20 years.
- **Decommissioning option chosen:** There are three options available—immediate dismantlement, SAFSTOR for up to 60 years, and entombment.

Hendricks said that many regional and plant specific variables affect life cycle decisions. As a result, there are large uncertainties in long-range projections of timing for receipt of volumes and curies. Some of the variables affecting the life cycle decision include:

- plant economic performance,
- demand for power,
- regional costs for replacement power,
- NRC's regulations for license renewal,
- regulations for site cleanup and restoration,
- availability and cost of waste disposal, and
- environmental externalities.

Hendricks gave two case studies to demonstrate the different outcomes that can be produced once all of the variable are plugged into the equation. In the first case, the use of an integrated resource planning study by Wisconsin Electric Power Company (Wepco) determined that the Point Beach plant would have a savings of \$297 million if it continued operations beyond 1998, and a savings of \$414 million if it continued operations through 2019. In the second case, however, Portland General Electric's Trojan Plant determined that it would save approximately \$340 million if it shuts down in five years as opposed to continuing operations through the end of the life of the plant.

Hendricks reviewed some of the factors which influence the choice of decommissioning options, including:

- cost and availability of low-level radioactive waste disposal,
- availability of off-site storage/disposal of spent fuel,
- regulations for site cleanup and restoration,
- future use of plant,
- other activities at the site,
- status of funding/decommissioning economics,
- other financial/environmental drives to reuse the site, and

- regulatory predictability.

Discussion followed, during which the following points were made.

- One of the key factors which influenced the decision to close Yankee Rowe early was that there was a surplus of power.
- The uncertain cost of future disposal may have the effect of making the cost of decommissioning considerably greater by forcing utilities to use the SAFSTOR option instead of immediate dismantlement.

State Role in Affecting Utility Decisions

Forum Participants discussed the role of states in affecting utility decisions regarding closure or refurbishment of nuclear power facilities. During the discussion, Forum Participants made the following points.

- SAFSTOR has been the preferred method of decommissioning nuclear power plants in New York State.
- SAFSTOR offers certain advantages because it reduces the risks of exposure; however, some utility commission's have a policy of favoring immediate dismantlement.
- With immediate dismantlement, there is still a problem of what to do with spent fuel. This creates a de facto SAFSTOR situation.

Waste Streams

Revised Analyses of Decommissioning for the Reference Pressurized Water Reactor Power Station (NUREG/CR-5884 PNL-8742). Prepared by G. J. Konzek, R. I. Smith, M. C. Bierschbach, and P. N. McDuffie of Pacific Northwest Laboratory for the U.S. Nuclear Regulatory Commission. October 1993. Executive Summary.

Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities (NUREG-0586). Office of Nuclear Regulatory Research. U.S. Nuclear Regulatory Commission. August 1988.

James Kennedy reported on various studies by NRC concerning decommissioning. He reported that a draft of the revised report on decommissioning for pressurized water reactors has been issued for comment, but a draft report for boiling water reactors has not yet been issued. He noted that NRC is finding that today's estimates of decommissioning volumes are much less than originally predicted. The original estimates for decommissioning volumes from boiling water reactors and pressurized water reactors were similar. The revised estimate for pressurized water reactors is approximately 37 percent of the original projection. A similar reduction in volume for boiling water reactors is anticipated, although the draft report on boiling water reactors has not been completed yet. Kennedy noted that even though decommissioning volume estimates are lower than originally predicted, the activity and curies remain the same.

Kennedy attributed the reduced decommissioning estimates to various factors, including new technologies and increased disposal costs. He noted that it is not possible to give a good comparison of decommissioning volume estimates with actual decommissioning volumes because decommissioning has been used so infrequently to date.

Discussion Forum Participants noted that part of the reason for the difference in estimated volumes between the original and revised studies is that waste minimization and other processes which were not presumed to be used in earlier estimates are applicable today due to the economics of higher disposal costs.

Future Use of Closed Facility Sites

Lynnette Hendricks reported that many utilities will retain ownership of the site after the facility closes. She said that NRC regulations should permit realistic consideration of future uses of closed facility sites in performing the dose assessments for determining compliance with release criteria.

Gregg Larson reported on the conversion of the LaCrosse plant in Wisconsin to gas combined-cycle. The plant was shut down in 1987 due to increasing costs of operation, a surplus of power, and access to inexpensive coal by other generating plants. The plant was closed and a safe storage plan was implemented so as to minimize public and occupational exposures and reduce waste volume and radioactivity. The decommissioning plan, as approved in 1991, provides for limited dismantlement.

Subsequently, the management of the plant decided to use the plant as a gas-combined cycle facility. The plant will begin operation in 1998 for a 30-year operating period. The management has decided to remove from the plant all of the secondary portions strictly used for nuclear operations and leave the remainder which is required for gas-combined cycle operations. Larson noted that this will result in unanticipated volumes of waste.

SPECIAL WEDNESDAY SESSION AND MEETING ADJOURNED



Low-Level Radioactive Waste Forum

Quarterly Meeting New Orleans, Louisiana

April 25 - 27, 1994

Attendance List

Low-Level Radioactive Waste Compacts Their Affiliated Member States, Host States and Sited States

Appalachian Compact

4/25, 4/26, 4/27

Participant Appalachian Compact

Marc Tenan

Executive Director

Appalachian States Low-Level Radioactive Waste
Commission

Pennsylvania

4/25, 4/26

Catherine Cowan

Deputy Secretary for Air and Waste Management
Department of Environmental Resources
State of Pennsylvania

Pennsylvania

4/25, 4/26, 4/27

Participant Pennsylvania

William Dornsife

Director
Bureau of Radiation Protection
Department of Environmental Resources
Commonwealth of Pennsylvania

Central Compact

4/25, 4/26, 4/27

Participant Central Compact

H. A. Caves

Chair
Central Interstate Low-Level Radioactive Waste
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Chief
Hazardous Waste Management
Department of Environmental Quality
State of Oklahoma

Central Compact

4/25, 4/26, 4/27

Michael Henry

Program Manager
Radiation Protection Division
Department of Environmental Quality
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Central Compact

4/25, 4/26, 4/27

Alternate 1 Central Compact

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Executive Director & General Counsel
Central Interstate Low-Level Radioactive Waste
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Nebraska

4/25

William Spell
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Participant Nebraska

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Central Midwest Compact

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Alternate 1 Central Midwest Compact

Donald Hughes
Commissioner
Central Midwest Compact Commission

Illinois

4/25, 4/26, 4/27

Alternate 1 Illinois

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Illinois

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4/25, 4/26, 4/27

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Midwest Compact

4/25, 4/26, 4/27

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State of Connecticut

Connecticut

4/25 ,4/26 ,4/27

Domenic Forcella

Chair and Executive Officer

Connecticut Hazardous Waste Management Service

State of Connecticut

Connecticut

4/25 ,4/26 ,4/27

Ronald Gingerich

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Low-Level Radioactive Waste Program

Connecticut Hazardous Waste Management Service

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4/25 ,4/26 ,4/27

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Technical Assistance and Regulatory Coordination

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Northwest Compact

4/25 ,4/26

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Northwest Interstate Compact on Low-Level

Radioactive Waste Management

Washington

4/25 ,4/26 ,4/27

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Dru Butler

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Southeast Compact

4/25, 4/26

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South Carolina

4/25, 4/26, 4/27

Meeting Alternate South Carolina

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Bureau of Solid and Hazardous Waste
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State of South Carolina

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4/25, 4/26, 4/27

Participant Southwestern Compact

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4/25, 4/26, 4/27

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Unaffiliated States

District of Columbia

4/25, 4/26, 4/27

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Massachusetts

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Executive Office of Environmental Affairs
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Massachusetts

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4/25, 4/26, 4/27

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Low-Level Radioactive Waste Authority
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State of Michigan

New York

4/25, 4/26, 4/27

Participant New York

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New York

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Low-Level Radioactive Waste Siting Commission
State of New York

New York

4/25, 4/26, 4/27

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Texas

4/25, 4/26, 4/27

Participant Texas

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General Counsel

Texas Low-Level Radioactive Waste Disposal
Authority

Vermont

4/25, 4/26, 4/27

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Diane Conrad

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Radioactive Waste Management Program

State Geologist

Vermont Geological Survey

Agency of Natural Resources

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Federal Agencies - U.S. DOE

DOE

4/25, 4/26

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U.S. Environmental Protection Agency

Federal Agencies - U.S. NRC

NRC

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NRC

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U.S. Nuclear Regulatory Commission

NRC

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Other Federal Agencies and Commissions

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4/25, 4/26, 4/27

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Army

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United States Congress

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4/25, 4/26

Susan Sheridan

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Subcommittee on Energy and Power

Committee on Energy and Commerce

United States House of Representatives

LLW Forum

Afton Associates, Inc.

4/25, 4/26, 4/27

Holmes Brown

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M. A. Shaker

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Resource Person

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Resource Person

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Lynnette Hendricks
Senior Project Manager
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Peter Tuite
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Resource Person

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Jene Vance
Consultant
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Resource Person

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Resource Person

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Ronnie Wascom
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Office of Air Quality and Radiation
State of Louisiana

Observers

Association

4/25, 4/26, 4/27

Rick Becker

Associate to the Counsel for the Committee
Boyd County Local Monitoring Committee
State of Nebraska

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Jack Reiman

Member
Boyd County Local Monitoring Committee
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Company

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Sue Rice

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Company

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Charles Judd

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Jerry Scoville

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Pennsylvania Power and Light

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Daniel Caulk

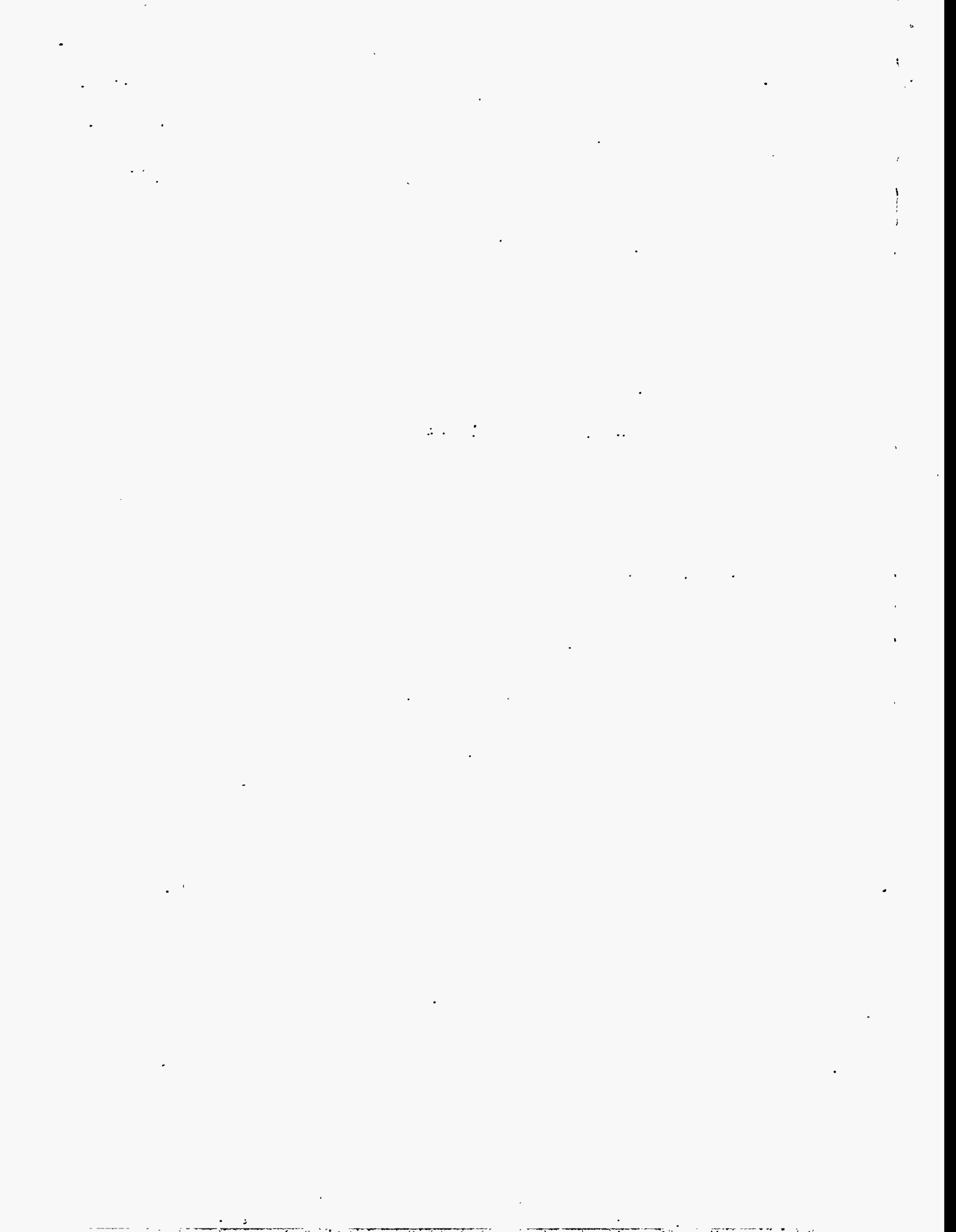
Treasurer
Nuclear Waste Brokers and Processors Association
President/CEO
RSO, Inc.

Company
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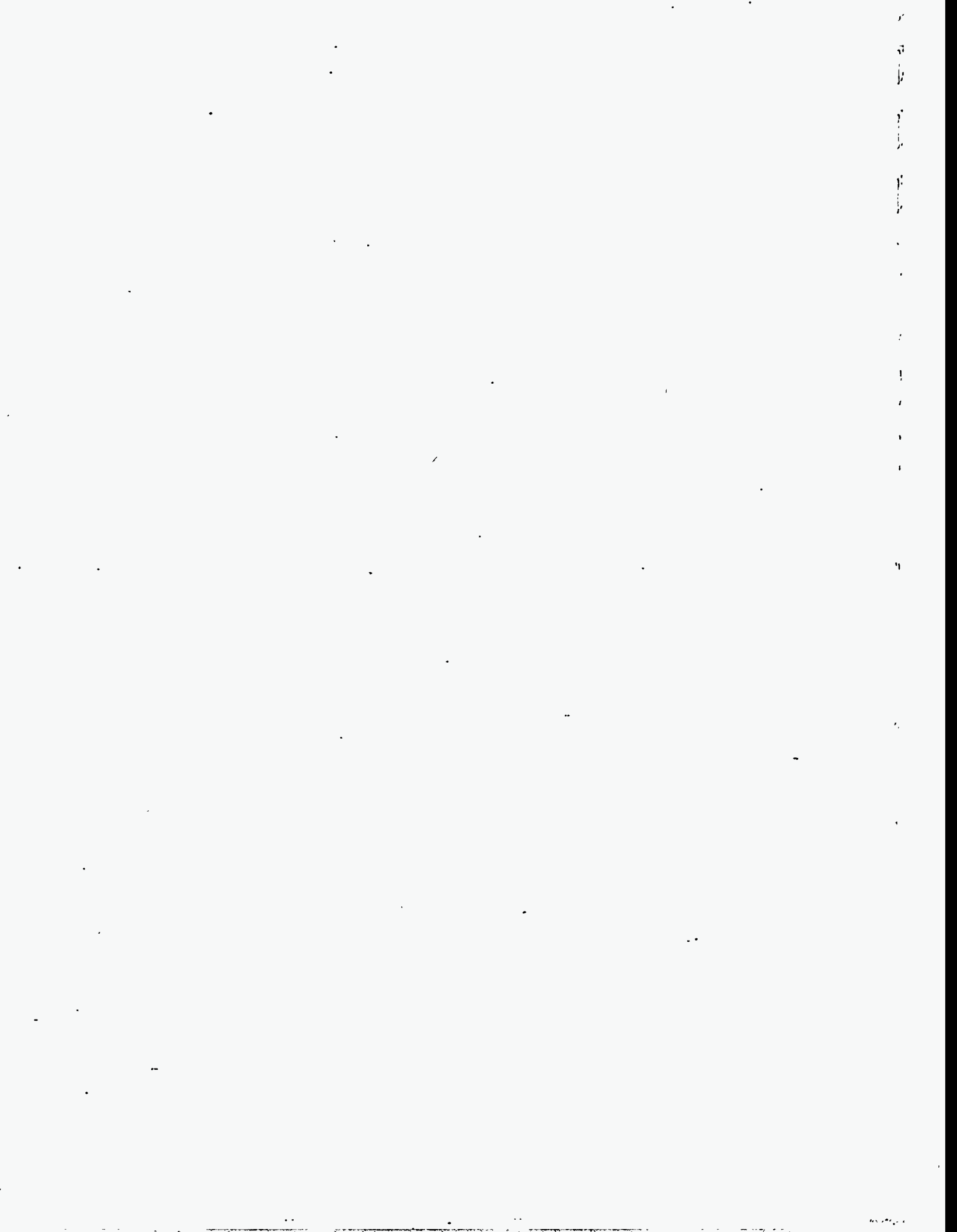
Richard Paton
Vice President
US Ecology, Inc.

Company
4/25, 4/26, 4/27

William Riethle
Group Manager
Yankee Atomic Electric Company



APPENDIX





State of New Jersey
**Low Level Radioactive Waste Disposal Facility
Siting Board**

SITING BOARD MEMBERS

Patricia Clark
Paula M. Gettn, Ph.D.
Richard J. McGoey
Leland Merrill, Ph.D.
Steven Miller, Ph.D.
Gerald Nicholls, Ph.D.
James A. Shissias
K. David Steidley, Ph.D.
Joseph R. Stencel

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CHAIRMAN

Paul E. Wyszowski, P.E.

EXECUTIVE DIRECTOR

Samuel F. Penza

Street Address:

44 South Clinton Ave.
Station Plaza III, 4th Floor

April 18, 1994

Mr. Holmes Brown, Forum Coordinator
Low Level Radioactive Waste Forum
c/o Afton Associates, Inc.
403 East Capitol Street
Washington, DC 20003

Dear Mr. Brown:

I regret I will be unable to attend the Low-Level Waste Forum meeting on April 25-27, 1994 in New Orleans, Louisiana. I would appreciate it if you can report on New Jersey's progress during the States' Report session.

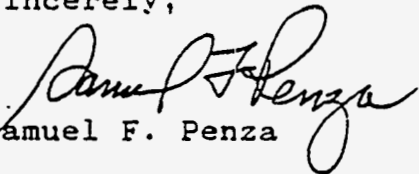
In early January, the NJ Low-Level Radioactive Waste Disposal Facility Siting Board approved for public comment the Advisory Committee's recommendation as the Proposed Voluntary Siting Plan for Developing a Low-Level Radioactive Waste Disposal Facility in New Jersey. During the last few months, the Board has received reaction from municipal officials on the proposed plan. They were supportive of the voluntary approach to siting and thought the process designed was fair. In addition, several news articles and editorials were favorable of the Board's approach. The Board continues to seek public input and comment prior to adopting the final plan.

The Board briefed the new administration on low-level radioactive waste issues including the siting program and interim storage. On April 11, 1994, Governor Whitman transmitted correspondence to the Southeast Compact Commission expressing her commitment to New Jersey's efforts to meet statutory responsibilities regarding low-level radioactive waste (LLRW) management.

The New Jersey Radioactive Waste Management Group, a generators group, sponsored a meeting with officials from the US Nuclear Regulatory Commission and NJ Department of Environmental Protection & Energy. The session focussed on interim storage.

The Board continues to work on revising its Disposal Plan with projections of anticipated LLRW for the New Jersey disposal facility. In addition, it will be revising its fee assessment rule this summer.

Sincerely,


Samuel F. Penza

c: Richard J. Sullivan, NJ Commissioner to the Northeast Compact
Jan B. Deshais, Executive Director, Northeast Compact
LLRW Disposal Facility Siting Board Members
Radioactive Waste Advisory Committee Members

JE8:LLW17



MEMORANDUM

TO: LLW Forum April 18, 1994

FROM: Eugene J. Gleason *EJG*

SUBJECT: New York State Progress Report
(January 24, 1994 - April 18, 1994)

The following highlights major activities of departments associated with New York's low-level radioactive waste management program during the past quarter. A supplemental report on the activities of the New York State Low Level Radioactive Waste Siting Commission will be delivered by Chairman Angelo Orazio and Executive Director John Williams.

FY 94-95 Budget

The New York State budget for April 1, 1994 - March 31, 1995 for state agency operations was approved and has been signed into law. A breakdown by agency follows:

LLRW Siting Commission	\$ 7.1 million
Department of Environmental Conservation	\$ 2.1 million
Department of Health	\$ 1.7 million
Energy Research & Development Authority	<u>\$ 1.4 million</u>
TOTAL	\$12.3 million

National Research Council

In response to 1990 amendments to the State LLRW Management Act (Chapter 673 of the Laws of 1986), an independent scientific and technical review of the siting process is underway by the National Academy of Sciences' National Research Council. The 22-member panel held a second set of public meetings in Ithaca, New York, on March 24 and 25. It heard presentations from Siting Commission representatives, as well as interested citizens.

Department of Health

The Department's revision of 10 NYCRR Part 16, which incorporates the new radiation protection standards in 10 CFR Part 20, are now in place.

As a follow-up to a statewide survey of public libraries, the Department is disbursing informational materials, plus exploring additional ways to disseminate information.



Department of Environmental Conservation

The Department's amendments to 6 NYCRR Part 380, Rules and Regulations for Prevention and Control of Environmental Pollution by Radioactive Materials, are now effective. These revisions incorporate the new radiation protection standards in 10 CFR Part 20.

Energy Research and Development Authority

Pursuant to the State LLRW Management Act of 1986, any person who generates LLRW in New York State must submit an annual report on such waste to the Energy Authority. To date, it has received approximately 300 responses from facilities that generated LLRW in calendar year 1993. A report is expected in July.

Citizens Advisory Committee

The Committee continues to hold public meetings across the State. It met in New York City in January and in Buffalo in March. The next meeting is scheduled for Manhasset on May 11.

An eighth member was recently appointed to the panel; Lenore Clesceri, Ph.D., a biology professor at the Rensselaer Polytechnic Institute in Troy, New York.

/ta