June 26, 1998

FOR: The Commissioners

FROM: L. Joseph Callan /s/
Executive Director for Operations

SUBJECT: STATUS REPORT OF THE U.S. NUCLEAR REGULATORY COMMISSION TASK FORCE ON OVERSIGHT OF THE U.S. DEPARTMENT OF ENERGY, IN RESPONSE TO COMSECY-96-053-DSI 2 (REPORT NO. 4)

PURPOSE:

The purpose of this paper is to inform the Commission of the status of the work of the U.S. Nuclear Regulatory Commission (NRC) Task Force (hereafter Task Force) formed to identify, in conjunction with the U.S. Department of Energy (DOE), the policy, legal, and regulatory issues needing analysis and resolution before seeking NRC oversight responsibility for DOE nuclear facilities. This report covers the period March 13, 1998, to June 12, 1998.

SUMMARY:

This paper provides a status report on the Task Force's work from March 13, 1998, to

June 15, 1998. During this period, the Task Force worked primarily on: (a) completing the site report for the Lawrence Berkeley National Laboratory (LBNL) pilot project; (b) completing on-site work for the Oak Ridge National Laboratory (ORNL) Radiochemical Engineering and Development Center (REDC) pilot project, and writing the first draft of the site report; and (c) conducting a familiarization meeting at the Savannah River Site (SRS) Receiving Basin for Offsite Fuel (RBOF) and establishing the overall schedule for the RBOF pilot project. The team also prepared testimony to support the Chairman as she testified before two Congressional committees, and the team participated in a number of meetings relating directly to the ongoing pilot program.

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BACKGROUND:

Previous status reports on the work of the Task Force are found in: SECY-97-206, dated September 12, 1997; SECY-97-301, dated December 29, 1997; and SECY-98-080, dated April 14, 1998.

DISCUSSION:

A. STATUS OF LBNL PILOT PROJECT

NRC and DOE completed work at LBNL on January 15, 1998. On May 15, 1998, a draft version of the final report was provided to NRC senior management and the DOE Steering Committee for review and approval. NRC management reviewed and approved the draft report. The DOE Steering Committee has provided comments on the draft report, but, to date, has not provided formal approval of the DOE input to the paper. When the DOE Steering Committee finalizes and approves the DOE portions of the report, NRC senior management will need to conduct a final review of the document prior to submittal to the Commission.

Revisions to Memorandum of Understanding

In a Staff Requirements Memorandum dated November 13, 1997, on SECY-97-237, "Memorandum of Understanding with the Department of Energy," the Commission directed the staff, in consultation with DOE, to prepare a revised Memorandum of Understanding (MOU) for Secretary of Energy and Commission consideration, on completion of the LBNL pilot project. The revised MOU should incorporate lessons learned during the LBNL pilot, as well as language that allows DOE and NRC to seek legislation for NRC regulatory authority for a specific pilot facility or class of facilities, based on information from the pilot program. The NRC staff has initiated discussion of a proposed revision to the MOU. However, the DOE staff does not want to consider revising the MOU until after receiving feedback from the DOE Steering Committee expected in early July 1998.

On the timing of proposed legislation, in the Congressional hearings on May 20 and 21, 1998, DOE committed to preparing draft legislation for the fiscal year (FY) 2000 budget cycle, that would give NRC jurisdiction over single-purpose Energy Research laboratories, without defining that class. The staff is preparing a Notation Vote SECY paper seeking policy direction from the Commission on issues that are necessary or desirable to address in a legislative package, such as: (1) Who should be the licensee? (2) Who should be the regulator? (3) By what method would funding occur? (4) What if anything to do about legacy materials and buildings? (5) Should the legislation call for regulation of LBNL or the class of facilities similar to LBNL? and (6) Should NRC seek jurisdiction over DOE accelerators and DOE naturally-occurring and accelerator produced radioactive materials? The NRC staff will draft proposed legislation, for Commission consideration, within one month after receiving the Commission direction.

B. STATUS OF ORNL-REDC PILOT PROJECT

The following activities have taken place at the REDC:

- Stakeholder meeting on the evening of March 24, 1998;
- Phase I site visit during the week of April 6, 1998;
- Phase II site visit during the week of May 4, 1998; and
- Phase II site visit continuation during the week of June 1, 1998.

The goal of the Phase II continuation visit was to conduct a "horizontal-slice" review of ORNL facilities operated by Lockheed Martin Energy Research Corporation (LMER) and to examine REDC's operating-basis versus its "as-exists" condition. In addition to REDC, this review included the High-Flux Isotope Reactor (HFIR); DOE Nuclear Hazard Category 2 and 3 LMER facilities; Holifield Accelerator; and an ORNL/LMER radiological facility at Y-12, and did not include Defense Program (DP) facilities and environmental restoration activities. The purposes of the horizontal slice were:

(1) To evaluate the extent to which the "lessons-learned" from the LBNL and REDC Pilot Projects can be extrapolated to draw conclusions concerning the external regulation of DOE research laboratories across the ORNL complex operated by LMER;

(2) To estimate the NRC resources needed for the regulation of ORNL facilities operated by LMER, both during and after transition to NRC oversight;

(3) To develop information on whether the ORNL site operated by LMER can be covered by a broad-scope license, including all LMER facilities other than the HFIR and Building 3019 (a DP facility);

(4) To develop information on whether the HFIR could be certified or licensed by NRC under 10 CFR Part 50;

(5) To examine the Occupational Safety and Health Administration (OSHA) and NRC interface;

(6) To determine if there are legacy materials or buildings in the horizontal slice; and

(7) To provide these conclusions in the ORNL Pilot Project Report.

Staff members of OSHA were present during the Phase II continuation visit to examine potential approaches to regulating worker safety at the ORNL/REDC facility. The OSHA staff suggested using the existing OSHA/NRC MOU for the Gaseous Diffusion Plants with minor modifications to delineate each agency's jurisdictional areas, activities, interfaces, and coordination efforts to avoid regulatory gaps and minimize overlaps in worker safety.

Prelimary Findings

The team's tentative findings from the ORNL/REDC pilot project include:

- NRC licensing of REDC and the facilities examined in the "horizontal slice" appears feasible with modest costs (less than a total of 10 staff years, over a two-year period, including the HFIR) for the transition period. The facilities that would be included under NRC regulation are:

  Radiochemical Research Facilities

  Radioactive Materials Analytical Laboratory, Bldg 2026
  Transuranium Research Laboratory, Bldg 5505
  Radiochemical Technical Facilities
  Radioisotope Development Laboratory, Bldg 3047
  Special Nuclear Materials Vault, Bldg 3027

  Irradiated Materials Facilities

  Materials Examination and Testing Facility, Bldg 3025E
  Fuel Examination Laboratory, Bldg 3525

  Other Facilities

  Mammalia Genetics Facility ("mouse house"), Bldg 9210
  Holifield Heavy Ion Research (Accelerator) Facility, Bldg 6000

- The LMER facilities could be covered by a Part 70 broad-scope license.
- The remaining "horizontal slice" facility, the 100-megawatt thermal non-power reactor, the Bldg 7900HFIR Facility, appears to be licensable under 10 CFR Part 50.
- Matters requiring very careful technical, legal, and administrative consideration to prepare for a transitioning to NRC regulatory jurisdiction with minimal regulatory burden are as follows:

  (1) Defining and establishing responsibility and jurisdiction for legacy contamination and conditions at the site.

  (2) Developing a "compliance plan" for existing requirements that are determined to be necessary by NRC, but would not be completed by the date regulatory jurisdiction is transferred to NRC. The plan would include compensatory measures for acceptable control of risks in the interim until compliance is achieved at a specified date.

  (3) Coordinating and controlling "shared site" risks; e.g., activities under the joint jurisdiction of both NRC and DOE (including its contractors,

subcontractors, and leasees).

(4) Mitigating or controlling the impacts of "piecemeal" regulation of the ORNL site arising from jurisdictional complexity. During the transition period, there is a potential for regulatory gaps, overlaps (double jeopardy), and incompatible requirements concerning common areas, structures, roads, railways, and activities.

(5) Delineating NRC and State of Tennessee jurisdiction regarding use of less than critical mass quantities of radioactive material at ORNL.

(6) Requiring regulatory changes to distinguish between the various isotopes of plutonium in terms of safeguards controls and addressing actinides other than uranium and plutonium in terms of safety and safeguards.

C. STATUS OF THE SRS/RBOF PILOT PROJECT

A familiarization meeting was held at the SRS/RBOF facility on May 21, 1998. Major topics discussed included:

- RBOF purpose, status and location;
- Existing and anticipated operating safety, safeguards, and security basis, including:
    - Dominant safety, safeguards, and security risks,
    - Principal risk controls (engineered and human), and
    - Risk-significant performance (noncompliance with operating basis and events).
- Operating-basis vs "as-exists" configuration/activities; and
- Organizational framework for operations and regulation.

Proposed Schedule

The following schedule has been agreed to by the facility:

- Stakeholder meeting - June 25, 1998;
- Phase I site visit - week of July 20, 1998;
- Phase II site visit - week of August 24, 1998;
- Phase II continuation (if necessary) - week of September 21, 1998; and
- Final Report - November 20, 1998.

Anticipated Staff Technical Support

As the pilot projects increase in scope and complexity, additional technical disciplines are required to support the work. For RBOF, the staff anticipates that the following technical support will be required:

- Licensing project manager (Spent Fuel Pool Expertise)
- Nuclear Criticality Safety,
- Fire Protection,
- Radiation Protection,
- Chemical Safety and Pool Water Chemistry,
- Safeguards (Material Control and Accounting and Physical Protection), and
- Security (Classified Material Protection)

D. STATUS OF THE PACIFIC NORTHWEST NATIONAL LABORATORY PILOT PROGRAM

The NRC and DOE members of the Task Force have participated in several meetings and one conference call, to begin preparations for the Pacific Northwest National Laboratory (PNNL) pilot project. The members of the DOE Task Force have indicated that PNNL is very willing to participate in the pilot program, requesting that its pilot project begin in FY 1998. Presently, this is not feasible because of allocation of NRC resources to the other three pilot projects discussed above.

E. STATUS OF ADDITIONAL PILOT PROJECTS FOR FY 1999

At the Congressional hearings on May 20 and 21, 1998, DOE committed to consider more complex (than FY 1998) pilot projects for FY 1999. DOE staff has indicated that it is considering a non-power reactor and an Environmental Management facility. The DOE Steering Committee will consider this issue at its mid-June 1998 meeting.

F. ASSOCIATED MEETINGS

During the past quarter, the Task Force met with or briefed the following entities on the status of Task Force activities: the Office of the Inspector General; the General Accounting Office; a Committee of the National Academy of Public Administration, including OSHA and DOE representatives; a Committee of the National Governors Association; the Atomic Safety and Licensing Board Panel; the Oak Ridge Nuclear Facility Managers Forum; the

DOE Laboratory Directors performing research for NRC; the DOE Steering Committee; the Office of Management and Budget; the Defense Nuclear Facility Safety Board; the Oak Ridge and Knoxville Section of the American Nuclear Society; and the National Laboratory Improvement Council.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection.

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