April 14, 1998

FOR: The Commissioners

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

SUBJECT: STATUS REPORT OF THE NUCLEAR REGULATORY COMMISSION TASK FORCE ON OVERSIGHT OF THE U. S. DEPARTMENT OF ENERGY, IN RESPONSE TO COMSECY-96-053-DSI 2 (REPORT NO. 3)

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 December 13, 1997, to March 13, 1998.

SUMMARY:

This paper provides a status report on the Task Force's work from December 13, 1997, to

March 13, 1998. During this period, the Task Force focused primarily on: (a) completing the field work for the Lawrence Berkeley National Laboratory (LBNL) pilot project; (b) writing the LBNL report, which includes an analysis of the major policy, legal, and regulatory issues and is due to the Commission on April 18, 1998; (c) developing the work plan for the Radiochemical Engineering Development Center (REDC) at the Oak Ridge National Laboratory (ORNL);

(d) conducting an information-gathering visit to REDC; and (e) holding a REDC stakeholder meeting in Oak Ridge, Tennessee, on March 24, 1998.

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BACKGROUND:

In SECY-97-301, "Status Report on the Nuclear Regulatory Commission Task Force on Oversight of the Department of Energy, in Response to COMSECY-96-053-DSI 2 (Report 2)" dated December 29, 1997, the staff provided the second quarterly status report to the Commission, about the Task Force's work.

DISCUSSION:

**STATUS OF LBNL PILOT PROJECT**

The work plans for pilot projects are "living documents" until a decision is made that no more field work is required. NRC and DOE approved the final LBNL Work Plan in March 1998 (see Attachment 1). Phase I of the Work Plan took place from December 8 through December 12, 1997, and is discussed in SECY-97-301.

NRC and DOE carried out Phase II of the Work Plan, at the LBNL, from January 12 through January 15, 1998. LBNL, the University of California (UC), and the State of California Department of Health Services (DHS) also participated during this time. About half a day was devoted to addressing each of the eight objectives in the NRC/DOE November 21, 1997, Memorandum of Understanding (MOU). Based on the experience gained during Phase I, NRC inspectors examined additional LBNL and DOE documents and visited the major LBNL facilities, where they interviewed LBNL technical and managerial staff.

Since the Phase II visit, NRC and DOE (and occasionally LBNL and UC) have held approximately weekly telephone conference calls or meetings, during which preparation of the LBNL Report has been discussed, writing assignments have been given, and major issues that had to be addressed in the report have been identified, developed, and analyzed. That process will continue, as appropriate, until the LBNL Report is completed.

The current outline of the LBNL Report is given in Attachment 2. The major issues include: (1) who the regulator should be [the State, NRC, Defense Nuclear Facilities Safety Board (DNFSB) or Occupational Safety and Health Administration (OSHA)]; (2) who the licensee should be (UC or DOE, or both); (3) what the DOE oversight role would be under NRC (or California) regulation of LBNL; (4) whether the LBNL project can be extrapolated to other DOE facilities; (5) what the timing of the first legislative proposal should be; (6) how stakeholders should be involved; (7) how NRC funding for oversight should be obtained; (8) what regulatory and legislative changes would be needed; (9) whether NRC should seek jurisdiction over some or all DOE electronic sources of ionizing radiation; (10) how timeliness in decommissioning should be approached; (11) whether there should be NRC or DOE Price-Anderson coverage; (12) to whom should violations be issued; and (13) to what extent would conflict-of-interest issues arise with the current technical support being given to NRC by DOE? DOE and NRC Task Forces are developing viable options for resolving these issues, and the advantages and disadvantages of each option. The DOE and NRC staffs currently believe that consensus can be achieved on these aspects of the analyses. However, regarding recommendations to the Commission and the Secretary of Energy on resolution of the issues, consensus may be more difficult and time-

consuming. To the extent possible, and as appropriate, the report will contain the views of UC, DHS, LBNL, DOE, and NRC staffs, as well as other stakeholders. NRC intends to send the LBNL report to the Commission, with the NRC staff views on the issues, by April 18, 1998, even if DOE has not completed its internal coordination process. There are ongoing discussions with DOE on how to facilitate the decision-making process.

**STATUS OF REDC PILOT PROJECT**

In SECY 97-301, the staff indicated its plans to make the first site visit to the REDC facility on January 23, 1998, and to conduct the Phase I assessment during the week of February 13, 1998. However, because of ORNL/REDC scheduling conflicts, including the holding of an emergency response exercise involving REDC and the High-Flux Isotope Reactor (HFIR), the familiarization site visit did not occur until February 25, 1998. There were over 60 attendees at the February 25-26 meeting, including 5 from OSHA, 6 from the Tennessee Department of Environment and Conservation, and from the DNFSB. On the first day, ORNL/REDC personnel discussed ORNL operations, including ORNL criticality and facility safety programs, followed by tours of REDC Buildings 7920 and 7930 and the HFIR. On the second day, plans were developed for the public meeting with stakeholders; issues arising from the first day were discussed further (e.g., safeguards and security, allegation program), and the REDC Work Plan was refined.

At this two-day meeting, ORNL proposed to have the Phase I visit in early May and to complete the REDC pilot report in September 1998. After extensive discussions, ORNL/REDC agreed to the following schedule: stakeholder meeting in the evening of March 24; Phase I during the week of April 6; Phase II during the week of May 4; Phase II continuation (if necessary) during the week of June 1; and report completion by July 24. The selection of the March 24 stakeholder meeting was based on lessons learned from the LBNL stakeholder process, where some stakeholders commented that they had been brought into the process too late. Therefore, the date was selected to allow time well in advance of the meeting and well in advance of the Phase I visit, to publish a Federal Register notice announcing the stakeholder meeting, and to send letters of invitation to the stakeholders.

During the first day of the familiarization meeting at ORNL/REDC, a Deputy Assistant Secretary of Labor indicated that OSHA planned to conduct a pilot project on the entire ORNL site. OSHA did not believe that its plans could be developed in time to overlap with the NRC pilot project. The Deputy Assistant Secretary indicated that if OSHA were to have regulatory jurisdiction over DOE facilities, it would need to develop an extensive training program in radiation safety. The NRC Deputy Executive Director for Regulatory Programs has asked for a meeting with DOE and OSHA, to better understand the scope of OSHA's interest in oversight of DOE facilities. Subsequently, the NRC staff worked with OSHA to schedule a joint visit to ORNL to permit both agencies to take a look at the larger regulatory issues involved in external regulation of the entire site.

**STATUS OF THIRD PILOT PROJECT**

In SECY 97-301, the staff identified the Savannah River Site (SRS) planned independent spent fuel storage installation as the third FY 1998 pilot project. Since then, DOE has determined that the uncertainty about the schedule of, and funding for, that planned facility was sufficiently large that it should no longer be considered as a pilot project in FY 1998. In its place, DOE proposed the "SRS Receiving Basin for Offsite Fuel (RBOF)" as the third pilot. This project has been approved by the site and the DOE program office. A draft letter to the Chairman formalizing this pilot project has been sent to the Deputy Secretary of Energy for signature.

RBOF provides for the receipt and interim storage of irradiated spent fuel elements from SRS reactors and test and research reactors, domestic and foreign. Located in the H Area near the center of the site, RBOF has been operating and receiving offsite fuels since 1964. The facility is about 15,000 square feet, somewhat larger than a baseball infield. It consists of an unloading basin, two storage basins, a repackaging basin, a disassembly basin, and an inspection basin, all under water. The basins and their interconnecting transfer canals hold about 500,000 gallons of water. A typical SRS-irradiated spent fuel element is about 14 feet long, and 3 to 4 inches in diameter. In comparison, offsite research-reactor elements are typically about 2 feet long, and 3 inches square, and are packaged in 14-foot aluminum containers for underwater storage. The packaged fuel is placed in two storage basins lined with phenolic-coated resin-based paint. Spent fuel elements arrive at RBOF's receiving and storage area in lead-lined casks weighing from 24 to 70 tons. The casks are lifted by crane from a railroad car or truck trailer and placed in the unloading basin, which is 13 feet wide, 27 feet long, and 29 feet deep. All work is performed under water, starting with removal of the elements from their cask. An overhead monorail hoist transfer system moves individual fuel elements through canals to work basins, as required, and finally to one of the storage basins. One storage basin is 40 feet wide, 27 feet long, and 22 feet deep; the other is 13 feet wide, 27 feet long, and 29 feet deep. About 10 feet of water cover the tops of the fuel packages, providing shielding from radiation.

RBOF was originally built to hold off-site spent fuel elements for reprocessing in the site's chemical separation facilities (F and H canyons). RBOF currently stores a variety of fuels that can be processed in the existing SRS facilities. The options for disposition of aluminum-clad fuels in RBOF are now being evaluated. These options include reprocessing, treatment, and dry storage. About 30 percent of the fuels in RBOF are uranium clad in stainless steel or zirconium, which cannot be processed in existing SRS facilities without process modifications. These elements await development of either chemical treatment or dry-storage technology, which may be several years away. With its current fuel configuration, RBOF's storage capacity for aluminum-clad fuel elements is 85 percent full, with room for about 700 more assemblies. SRS is investigating reconfiguration of the fuel storage arrangements to increase the short-term storage capacity. RBOF as a pilot project would give the Task Force the opportunity to address: (1) backfitting 10 CFR Part 72 to an existing facility; (2) examining the significance of the Charleston earthquake; and (3) recreating the design basis of a facility constructed in the early 1960s.

**STATUS OF PILOT PROJECTS FOR FISCAL YEAR 1999**

In a meeting between Secretary Peña and Chairman Jackson on December 22, 1997, Chairman Jackson expressed NRC's interest in having DOE identify, soon, additional pilot projects, to support FY 1999 program development and plans. In a letter dated January 13, 1998, the NRC Deputy Executive Director for Regulatory Programs sent the DOE Acting Assistant Secretary for Environment, Safety and Health a partial list of additional pilot projects, to serve as a starting point for discussions on the FY 1999 pilot program. The goal is to develop a set of pilot facilities from which will be

garnered a more complete understanding of the issues involved with possible NRC regulation of non-Defense Program DOE facilities. The Deputy Assistant Secretary responded on February 25, 1998, indicating that DOE is in the process of identifying additional pilot projects for discussion with NRC and that DOE program officials had been requested to give the matter priority consideration.

**THE DOE STEERING COMMITTEE**

On January 15, 1998, the Deputy Secretary of DOE established a high-level Steering Committee, consisting of members from each program office and the Office of the General Counsel, as a means for resolving important policy issues from DOE's perspective. The Deputy Secretary also established a task force, reporting to the Steering Committee, with three full-time and three part-time members. To date, the task force has briefed the Steering Committee four times. Formation of the Steering Committee is expected to facilitate both decision-making within DOE and the selection of FY 1999 pilot projects.

COORDINATION:

The OGC has reviewed this paper and has no legal objection.

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Attachments:
1. Final LBNL Work Plan
2. Current outline of the LBNL Report