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NUCLEAR REGULATORY COMMISSION AND DEPARTMENT OF ENERGY SIGN MEMORANDUM OF UNDERSTANDING ON PILOT PROGRAM FOR EXTERNAL REGULATION

The Nuclear Regulatory Commission and the Department of Energy (DOE) have signed a Memorandum of Understanding for a pilot program to test the feasibility and desirability of the NRC regulating certain DOE facilities.

The document -- recently signed by NRC Chairman Shirley Ann Jackson and Energy Secretary Federico Pena -- sets out the scope and objectives of the pilot program, which will be used to evaluate the costs and potential benefits of NRC regulatory oversight.

Congress has appropriated funds for the pilot program separate from the NRC budget for the agency's existing health and safety mission.

The pilot program will be conducted initially at three DOE installations this fiscal year, with the goal of applying it at six to 10 facilities within two years. The first facilities slated to participate are the Lawrence Berkeley National Laboratory (California) and the Radiochemical Engineering Development Center (Tennessee). A spent fuel storage installation is currently under consideration and may be selected later. Activities currently performed at these facilities are described in an attachment to this press release.

In a letter today to Secretary Pena, Chairman Jackson said the Commission has requested that, at the end of the Lawrence Berkeley pilot, the NRC staff draft a revised MOU incorporating lessons learned for both their signatures. The revised MOU would allow DOE and NRC to promptly seek enabling legislation granting the NRC regulatory authority for a specific pilot facility or class of facilities, based on information gained from this pilot and each successive pilot in the program.

In December 1995, the Advisory Committee on External Regulation of Department of Energy Nuclear Safety, charged with providing advice to DOE on regulating its new and existing

facilities, recommended external regulation of DOE by an independent regulatory agency. A DOE working group was then created which recommended the NRC as the external regulator. In September 1996, NRC addressed this issue as part of the agency's strategic assessment and rebaselining initiative, where it received considerable public support. The NRC has since announced its willingness to regulate certain DOE facilities, so long as the necessary legislation and resources are provided, and so long as clear lines of authority are delineated for the NRC to exercise over these facilities.

The pilot program will use "simulated regulation," as defined in the MOU, to test regulatory concepts at DOE facilities by evaluating them against standards set by the NRC, and will focus on areas of greatest safety significance. Although each facility will be evaluated separately, an effort will be made to address core issues consistently. Significant inspection findings that impact health and safety will not be cited by NRC, but rather reported to the DOE for its action. Throughout the pilot program, DOE will remain responsible for the safety of its facilities.

The facilities chosen for the pilot program were selected, in part, because they are:

(1) non-defense facilities;
(2) similar to current NRC licensees;
(3) facilities where NRC has existing regulatory requirements and guidance that could be applied through a test of regulatory concepts;
(4) new facilities or existing ones expected to operate for a long time;
(5) facilities willing to participate in the pilot program.

Public involvement will primarily target organizations and individuals residing and working near the pilot facilities. Comments will also be sought at the national level, and through DOE's existing stakeholder participation program. At the end of the pilot program, the agencies will jointly analyze the results and recommend whether external regulation is believed to be the best way to ensure the safety of DOE nuclear facilities, protect the safety and health of DOE workers, and build public trust.

The NRC currently provides technical assistance to DOE through such programs as the Hanford Tank Waste Remediation Project and the West Valley Demonstration Project, and regulates the gaseous diffusion uranium enrichment plants operated by the US Enrichment Corp, which has leased them from DOE.

A web site has been established for the public to access ongoing information on the pilot program at http:/www.nrc.gov/NRC/NMSS/doepilot.html

Copies of the Memorandum of Understanding are available at NRC's Public Document Room at 2120 L Street, N.W., Washington, D.C. 20037.

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NATURE OF ACTIVITIES ONGOING AT FACILITIES PROPOSED FOR PILOT PROGRAM

LAWRENCE BERKELEY NATIONAL LABORATORY

This summary was submitted by the Department of Energy (DOE) Berkeley Site Office. Because of the dynamic variety of research conducted at Lawrence Berkeley National Laboratory (LBNL), broad categories of tasks are identified. A specific commitment has been made not to possess, handle, or store critical mass quantities of fissile special nuclear material (SNM). This commitment preludes operation of high risk facilities, such as power reactors, and precludes classified Department of Defense projects involving critical mass quantities of fissile SNM at LBNL.

Since its establishment in 1931 as a single-purpose accelerator-based University research facility, LBNL has evolved into a multi program national laboratory with a mission to:

- Perform leading multi-disciplinary research in the energy sciences, general sciences, and biosciences in a manner that ensures employee and public safety and the protection of the environment. The energy sciences include materials research, chemistry, earth sciences, and energy and environmental research. The general sciences include nuclear and high-energy physics and accelerator research. The biosciences include the life sciences and structural biology research.

- Develop and operate unique national experimental facilities, for use by qualified investigators from around the world. These facilities include the Advanced Light Source, the 88-inch Cyclotron, the National Center for Electron Microscopy, and the National Tritium Labeling Facility.

- Educate and train future generations of scientists and engineers. Over 440 graduate students pursue research at LBNL, with about 100 students receiving advanced degrees each year. Pre-college programs are conducted for science educators and students.

- Foster productive relationships with industry. The Center for Advanced Materials, the Center for X-Ray Optics, and the California Institute for Energy Efficiency are examples of collaborations with industry. Technology transfer programs promote the application of research results.

To support the national infrastructure for fundamental science and engineering research, LBNL provides a range of unique research facilities and centers to investigators from industry, universities, and government. In fiscal year (FY) 1992, LBNL had over 200 facility users and signed 43 user agreements, for a total of $3.3 million. The major national facilities available to qualified users include:

- The Advanced Light Source (ALS) which provides photon beams of unprecedented brightness and coherence and with picosecond time structure. The Injector was commissioned in FY 1992 and the storage ring was commissioned in FY 1993. The facility began operation in the fall of 1993.

- The 88-inch Cyclotron provides light ions, polarized protons and deuterons, and intense and high-charge-state beams of heavy ions (up to krypton) at energies up to about 35 MeV per nucleon. The cyclotron facility has experimental areas for conducting nuclear science experiments, as well as research in other areas such as life sciences, atomic physics, and radiation damage in semiconductors.

- The National Center for Electron Microscopy consists of the High Voltage Electron Microscope which operates at up to 1.5 MeV (the highest energy in the United States); the Atomic Resolution Microscope offers 1.5-angstrom resolution; and analytical microscopes and support facilities. An upgrade of the facility is planned.

- The National Tritium Labeling Facility provides advanced instrumentation to investigators needing high-specific activities of tritiated compounds as tracers in chemical and biomedical research.

In addition to these national facilities, other research facilities involved in collaborative research include the Center for Computational Seismology, the Sky Simulator, the Mobile Window Thermal Test Facility, and the Low Background Counting Facility. The Laboratory has established programmatic research centers with the specific objectives of fostering collaborative research with industrial and educational institutions. These Centers include, for example, the Center for Advanced Materials, the Human Genome Center, the Center for X-Ray Optics, the Center for Computational Seismology, the Center for Building Sciences, and the Center for Isotope Geochemistry. In addition, at LBNL, radiochemical and radiobiological studies are performed in many laboratories in a controlled environment and typically research projects use extremely small (millicurie) quantities of a large number of radionuclides. At the accelerator facilities, radiation fields are well characterized and controlled.

- A new Hazardous Waste Handling Facility (HWHF) has replaced the existing HWHF. The new HWHF is located at the east end of the site and is built to meet the latest waste management requirements incorporating improved facility safety design for worker and environmental protection and complete multiple waste-stream capability.

Some examples of anticipated future activities and facilities at LBNL include:

a. Human Genome Laboratory

The Human Genome Laboratory will be a large three-story building located near the Biomedical Laboratory and the Cell Culture Laboratory. This state-of-the-art molecular genetics research facility will contain open laboratory areas furnished with modular wet benches and desks. Support facilities, including cold rooms, darkrooms, cell tissue rooms, autoclaves, and laboratories for radiological work, robotics, instrumentation and computation, will be adjacent to the laboratory area.

b. Chemical Dynamics Research Laboratory

Located in a new three-story large building adjacent to the ALS, the Chemical Dynamics Research Laboratory (CDRL) will be a state-of-the-art national facility for chemical-dynamics research using laser and synchrotron radiation. The laboratory includes an infrared free-electron laser, ALS beamlines optimized for chemical sciences research, advanced lasers and molecular-beam apparatus, universal-particle mass detectors, computer-based modeling systems, and auxiliary instrumentation. The building includes eight support laboratories, and 40 offices.

c. Building Technology Initiative

A new light laboratory and office building, the Energy and Environment Facility, will support Energy and Environment Division programs in building energy conservation, solar heat technologies, electrochemical energy storage, and thermal energy storage. In progress is a conceptual design for a building to provide offices and laboratory space for Environmental Protection; Occupational Safety; Radiation Assessment; Environmental Health and Safety (EH&S) Training, and EH&S Division Administration.

The pilot program at LBNL will begin one week after the Memorandum of Understanding is signed.

RADIOCHEMICAL ENGINEERING DEVELOPMENT CENTER

The Radiochemical Engineering Development Center (REDC) is the production, storage, and distribution center for the DOE heavy-element research program. The facility, composed of two buildings adjacent to the High Flux Isotope Reactor, processes irradiated fuel elements and targets for DOE programs. Base funding comes from Energy Research, with supplemental funding coming from Defense Programs and Environmental Management. The Transuranium Element Program processes irradiated targets to chemically separate and purify berkelium, californium, einsteinium, and fermium for shipment to the research community and other end users. The Mark 42 Processing Program entails processing ten Mark 42 assemblies, which were irradiated at the Savannah River Site in the early 1980s, to recover plutonium-242, americium-243, and curium-244. One assembly per year is processed, with the radionuclides being shipped to Los Alamos National Laboratory for a classified end use. One of the two-story buildings contains three hot cells dedicated to target fabrication, four for chemical processing, and one each for analytical sample analysis and waste-handling. The other building contains six heavily shielded hot cells, one unshielded hot cell, and a water-filled pool, used as a storage basin for fabricated neutron sources.

The pilot program at REDC will begin five months after the start of the LBNL pilot, in order to take advantage of the experience gained at the latter facility.