



DOE – ENVIRONMENTAL MANAGEMENT SEPARATIONS PROCESS RESEARCH UNIT (SPRU) DISPOSITION PROJECT

FACILITY EE/CA RESPONSE TO COMMENTS DOCUMENT FACT SHEET

December 2006

The DOE prepared a Draft Nuclear Facility Engineering Evaluation/Cost Analysis (EE/CA) for the Separations Process Research Unit (SPRU) Disposition Project in May 2006. The EE/CA described alternatives under consideration for cleanup of SPRU buildings and facilities. This fact sheet addresses many of the comments and concerns raised during the public comment period related to the alternatives described in the EE/CA. After careful review of all comments received, DOE identified five major SPRU facilities topics that were important to the public; this fact sheet addresses these five areas.

Independent Oversight

Community involvement is critical and a key component of the site cleanup process. Multiple meetings are held with local administrators and state agencies. Public meetings are part of the ongoing decision-making process. All of the parties affected by this cleanup are encouraged to review available documentation, attend the public meetings, and submit comments and questions. All comments from all interested parties are reviewed and considered in the development of site cleanup strategies.

During the course of the SPRU project, multiple federal and state agencies are notified, and document reviews requested (including workplans and reports), and all necessary permits obtained. These agencies include the New York State Department of Health (NYSDOH), New York State Department of Environmental Conservation (NYSDEC) Region 4, the U.S. Environmental Protection Agency (USEPA), the State Historical Preservation Office (SHPO), and the local Schenectady Naval Reactors (SNR). While DOE-Environmental Management (DOE-EM) is the

primary responsible party administering these activities, each agency reviews documentation for compliance within its individual purview. Additionally, NYSDEC Region 4 conducts planned and unannounced inspections for compliance with approved workplans and other RCRA requirements. Local administrators and the general public are kept informed of project progress through fact sheets and press releases.

In addition, multiple teams of engineers and scientists are retained by DOE to develop project strategies and work plans to investigate and remediate the SPRU site. Each of these work plans and reports are comprehensively reviewed by DOE-EM, SNR, and SNR's operating contractor, Knolls Atomic Power Laboratory (KAPL). Independent contractors are also retained by DOE to review project documents associated with the proposed activities.

Documents associated with investigations performed to date for the SPRU facilities are available for review at any time in the reading room for this project at the Niskayuna Library.

Characterization

The SPRU facilities were built between 1947 and 1949 at the Knolls Atomic Power Laboratory, and were operated for the government by General Electric for approximately three years. The SPRU mission was to research the chemical process to extract plutonium from irradiated materials. The SPRU facilities were shut down in 1953, the equipment flushed and drained, and bulk wastes were removed. Some residual materials are present in the former SPRU facilities, especially in the tanks, with lesser amounts in buildings H2 and G2, and the interconnecting pipe tunnels.

A comprehensive assessment of the SPRU facilities has been conducted and is documented fully in the Facilities Historical Site Assessment (Facilities HSA), which is available in the public reading room at the Niskayuna Branch of the Schenectady County Public Library. As a matter of routine, contractors

hired to perform cleanup acts will perform additional characterization to ensure the safety of workers, the public, and the environment.

The primary contaminants of concern in the SPRU facilities are cesium-137 and strontium-90. While levels of radioactivity vary throughout the tunnels, tanks, and buildings H2 and G2, cesium-137 and strontium-90 account for approximately 85% of the total radioactivity present throughout the facilities. The remaining 15% of radioactivity is comprised of americium, plutonium, uranium, and other radionuclides.

The SPRU facilities are maintained by KAPL in a safe manner, and have been since operations shut down in 1953. KAPL personnel continue surveillance, maintenance, and capital improvements to ensure the facilities continue to pose no risk to on-site workers, the public, or the environment.

During the course of demolition activities, the local DOE project office will enforce the rules and requirements of the U.S. Environmental Protection Agency (USEPA) and the New York State Department of Environmental Conservation (NYSDEC) regarding the control of hazardous air pollutants, protection of water resources, and management of hazardous wastes; and the U.S. Department of Transportation (USDOT) regarding the proper packaging and transportation of hazardous wastes.

The health and safety of workers, protection of the public and the environment are of the utmost importance and a prime consideration in future cleanup activities. The DOE has developed orders, many of

which were specifically created to ensure the safety of workers, the public, and the environment. In addition to the federal laws mentioned above, DOE has developed additional orders and requirements to assure protection of the public and the environment.

KAPL has provided additional responses regarding health and safety, past operations, and medical monitoring. For additional background information regarding KAPL site operations, see KAPL-4855, Knolls Site Environmental Summary Report, August 2005, and KAPL-4854, Environmental Monitoring Report, Calendar Year 2004. These documents are available to the public in the Niskayuna Library.

Waste materials from the SPRU cleanup activities will be packaged and shipped to permitted and approved facilities. The SPRU Project follows all federal, state, and local regulations for the safe handling, packaging, and transportation of hazardous materials and wastes. These regulations are designed to protect the public from the hazards associated with the transport of radioactive and hazardous wastes. The following agencies are all involved in the creation, implementation, and enforcement of the rules governing the transportation of hazardous wastes:

U.S. Department of Transportation (DOT).

DOT oversees transportation safety and security requirements by highway, rail, air, and sea. DOT's Office of Hazardous Materials Safety (OHM) issues regulations on the shipment of hazardous materials. Title 49 of the Code of Federal Regulations defines and classifies hazardous materials, outlines safety procedures for shipping, and provides strict specifications for containers and packaging of the hazardous materials.

U.S. Nuclear Regulatory Commission (NRC).

NRC oversees the design and use of special packaging for shipping radioactive materials. NRC is responsible for protecting the public from the effects of radiation from nuclear reactors, materials, and waste facilities. Regulating the safety of transported radioactive material is the joint responsibility of NRC and the DOT.

U.S. Department of Energy (DOE).

DOE is responsible for implementation of the federal and state rules at its sites for the shipment of radioactive waste, which includes coordinating,

planning, and arranging for the transportation of this material with a comprehensive system of safety checks and responses.

Individual State Agencies.

In the United States, each state has programs on radiation protection and on the transportation of hazardous materials within states' borders.

Wastes anticipated from decontamination and/or demolition of the SPRU facilities are not expected to be hazardous as defined by the Resource Conservation and Recovery Act (RCRA), which primarily is concerned with organic and inorganic chemical contamination. The radioactive wastes generated from the disposition of the SPRU facilities are expected to be similar to those generated by any other commercial nuclear facility. Wastes generated from SPRU activities are expected to go to either DOE or other approved and permitted facilities. Most wastes are expected to contain relatively low concentrations of radioactivity.

As discussed during the public meeting, traffic impacts associated with removal of wastes and importing of backfill material along Balltown Road, River Road, and the general area of the site are expected to be less than one percent of current traffic volume. Balltown Road receives approximately 13,000 vehicles per day. DOE estimates an increase of approximately 100 vehicles entering and exiting the site daily; this is an increase of less than one percent. DOE does not believe there would be a noticeable impact on Balltown Road or in the local area.

The U.S. Department of Energy (DOE) has developed laws (10 CFR 835 – Occupational Radiation Protection) and requirements documented in DOE orders, many of which were specifically created to ensure worker safety. These DOE orders, along with the requirements of the Occupational Safety and Health Administration (OSHA) have recently (since the Facilities EECA was released) been incorporated and promulgated as law in 10 CFR 851- Worker Safety and Health Programs. In addition to the Worker Safety and Health Program being promulgated as law, the new rule strengthens enforcement. The Applicable and/or Relevant and Appropriate Requirements (ARARs) section of the Engineering Evaluation and Cost Analysis (EECA) for the SPRU facilities identifies the DOE orders that must be followed to conduct any actions at the SPRU site. These orders are in addition to the requirements of OSHA. The DOE orders implement the laws and in many cases are more stringent. Some of the DOE orders that must be followed include:

DOE Order 5400.5 Radiation Protection of the Public and the Environment.

This order establishes standards and requirements for DOE operations with respect to protection of members of the public against radiation, and contains a discussion of DOE’s “As Low As Reasonably Achievable” (ALARA) approach.

DOE Order 5480.1B, Chg. 5 Environment, Safety, and Health Program for DOE Operations.

This order establishes the requirements for an environmental, safety, and health program for DOE operations.

DOE Order 5480.3 Safety Requirements for the Packaging and Transportation of Hazardous Materials, Hazardous Substances, and Hazardous Wastes.

This order establishes packaging and transportation requirements for hazardous materials, substances, and wastes.

DOE Order 5480.8 Contractor Occupational Medical Program.

This order establishes the requirements for an occupational medical monitoring program for contractor personnel.

DOE Order 5480.9 Construction Safety and Health Program.

This order establishes the requirements for a program to protect DOE, contractor employees, and the general public.

DOE Order 5480.10 Contractor Industrial Hygiene Program.

This order establishes the requirements for implementing an industrial hygiene program.

DOE Order 5480.20A Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities.

This order establishes DOE requirements for staff and contractor personnel selection, qualification, and training.

DOE Order 420.1 Facility Safety.

This order establishes facility safety requirements related to nuclear safety, criticality safety, fire protection, and mitigation of natural hazards.

A comprehensive Facility Engineering Evaluation/Cost Analysis Response to Public Comments document is available in the Niskayuna Branch of the Schenectady County Public Library. This document was prepared in response to questions and concerns raised during the public comment period for the Nuclear Facility Engineering Evaluation/Cost Analysis for the Separations Process Research Unit (SPRU) Disposition Project. As discussed during the public meeting, contaminated soil and groundwater issues associated with the SPRU Disposition Project are being addressed in a separate document, and a separate public meeting will be held to discuss these issues. The narratives in this fact sheet are included in Section 2 of the Response Document.

The Response Document is organized into the following sections:

- Section 1 Public Meeting Transcript - May 2006
- Section 2 Major SPRU Facilities Topics

- Section 3 Outstanding Questions and Answers
- Section 4 NYSDEC Review Letter
- Section 5 Additional KAPL Responses

Questions asked and answered during the public meeting are summarized in Section 2, Major SPRU Facilities Topics. Section 3 contains questions asked during the public meeting requiring additional responses and those submitted in writing during or after the public meeting. The questions and responses are organized alphabetically and tabbed with names for ease of reference. A letter received from the New York State Department of Environmental Conservation (NYSDEC) and the Department of Energy responses to the concerns raised in this letter are included in Section 4. Finally, certain questions asked by the public required a response directly from Knolls Atomic Power Laboratory (KAPL); these responses are in Section 5, alphabetically tabbed by name.

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