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STATUS OF RCRA PERMITTING
October 16-17, 1991

Grout Treatment Facility

The Grout Treatment Facility consists of processing equipment and disposal vaults. Liquid waste is piped from a waste feed tank into the transportable grout equipment. The dry blend from the Dry Materials Facility, which blends commercially produced cement-based materials, is hauled in trucks to the transportable grout equipment where it is mixed with the liquid waste. The resulting slurry is then pumped to large underground concrete vaults where it will harden. The grout vaults are designed to meet the requirements established by Ecology and EPA for hazardous waste disposal, including a double liner/leachate collection system.

The Grout Treatment Facility was in the permitting process before the Federal Facility Agreement and Consent Order was completed. The Grout Treatment Facility Dangerous Waste Permit Application was submitted to the Washington State Department of Ecology (Ecology) and the U.S. Environmental Protection Agency (EPA) on November 18, 1988. The first notice of deficiency was received from Ecology and EPA on July 5, 1989. Two of the applications and notice of deficiency response tables have taken place since the original notice of deficiency. Construction of the vaults continues under Resource Conservation Recovery Act Interim Status regulations. The permit is tentatively scheduled to be issued in 1992.

(S-6-1) 616 Nonradioactive Dangerous Waste Storage Facility

The 616 Nonradioactive Dangerous Waste Storage Facility is located in the 600 Area of the Hanford Site between the 200 East and 200 West Areas. This facility was designed and constructed in accordance with the requirements for hazardous waste container storage units.

The 616 Nonradioactive Dangerous Waste Storage Facility Dangerous Waste Permit Application was submitted to Ecology and EPA on July 31, 1989, in compliance with Milestone M-20-02 of the Federal Facility Agreement and Consent Order. The first notice of deficiency was received from Ecology on November 21, 1989. Four additional notice of deficiency cycles and a revised permit application have been completed since then. The 616 permit is scheduled to be issued in calendar year 1992.

(TS-2-5) Hanford Waste Vitrification Plant

The Hanford Waste Vitrification Plant will immobilize pretreated high-level and transuranic waste currently stored in underground double-shell tanks at the Hanford Site. The facility will process the waste into a borosilicate glass waste form in stainless steel canisters for temporary storage in the facility until shipment to an offsite federal geologic repository.

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The Hanford Waste Vitrification Plant Dangerous Waste Permit Application was submitted to Ecology and EPA on July 31, 1989, in compliance with Milestone M-20-01 of the Federal Facility Agreement and Consent Order. The first notice of deficiency was received from Ecology on November 27, 1989. A revised permit application review strategy was enacted to meet a permit issuance date of April 1992. In addition, an innovative permitting strategy has been developed to allow the Resource Conservation Recovery Act permitting process to mesh with the DOE design/construct schedule for the Hanford Waste Vitrification Plant. A response table was prepared and submitted to Ecology on August 22, 1990 in response to the second notice of deficiency received on May 24, 1990. A revised permit application was submitted in November 1990. Ecology issued another notice of deficiency in January 1991 and DOE submitted a revised permit application in October 1991. The Double-Shell Tank, 242-A Evaporator, and Liquid Effluent Retention Facility hazardous waste permit applications were submitted to Ecology and are currently under review.

(D-2-9) Low-level Burial Grounds

The low-level burial grounds are constructed to receive solid low-level radioactive mixed wastes. These wastes are generated from many different operations both on and off the Hanford Site. The wastes are packaged in steel, concrete, or wooden containers and then placed into disposal trenches. Past practices placed radioactive mixed-waste throughout the facility. Future radioactive mixed-waste will be placed in specific areas meeting RCRA requirements.

The Low-Level Burial Grounds Dangerous Waste Permit Application was submitted to Ecology and EPA on December 22, 1989. A "Request for Interim Approval to Operate 218-E-12B Trench 94 as a Chemical Waste Landfill for Disposal of Polychlorinated Biphenyl Wastes in Submarine Reactor Compartments" (DOE/RL-90-12) was submitted to EPA. A request for exemption from the requirements to have a leachate collection and removal system has been submitted for review. This request addresses both the requirements for mixed waste and polychlorinated biphenyl waste. Two notices of deficiency have been issued and responded to for the Low-Level Burial Ground permit application.

305-B Mixed Waste Storage Facility

The 305-B Chemical Waste Storage Facility primarily services research and development operations in the 300 Area. Wastes are brought into the facility for storage, repackaging, and/or consolidation, generally into 55-gallon drums prior to final disposition.

The 305-B Storage Facility Dangerous Waste Storage Permit Application was submitted to Ecology and EPA on January 31, 1990. Ecology issued the first notice of deficiency on April 26, 1990. Responses were formulated for the first round notices of deficiency for the first draft of the permit application. The response table was transmitted to Ecology on schedule on July 26, 1990. Ecology issued a second notice of deficiency on September 29, 1990.

The Department of Energy and Pacific Northwest Laboratories responded with page changes dated January 30, 1991. Ecology issued a third notice of deficiency on April 26,

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coating the salt cake, (2) the sludge contained within the tanks as part of operations, and (3) small, isolated pockets of freestanding liquid.

The Single-Shell Tank System Closure/Corrective Action Work Plan addresses activities associated with the final disposition of the single-shell tank system operable units. The plan will serve as the basis for the more detailed documentation that will be prepared as work proceeds. The work plan was submitted to Ecology and EPA on September 29, 1989 in compliance with Milestone M-20-03 of the Federal Facility Agreement and Consent Order. Notice of deficiency comments were received from Ecology on February 28, 1990. Response to the comments have been provided to Ecology and EPA and are currently under review.

303-K Mixed Waste Storage Facility and 304 Concretion Facility

The 303-K Storage Facility, located in the 300 Area of the Hanford Site, consists of a building and outside storage pad and is used for the storage of radioactive mixed wastes in Department of Transportation specification steel drums. Liquid wastes are stored on a 600-square-foot pad within the building. Solid wastes are stored outside the building on a 3,500-square-foot asphalt and concrete pad.

The 304 Concretion Facility, located in the 300 Area of the Hanford Site, consists of a container storage pad and a building housing a concretion unit that was used to treat radioactive mixed wastes generated during the fuel fabrication process. The wastes were concreted into 30- and 55-gallon Department of Transportation containers using portland cement to treat the wastes and eliminate the hazard of ignitability.

The 303-K Mixed Waste Storage Facility (303-K) and the 304-M Concretion Facility (304 Concretion) closure plans were submitted to Ecology and EPA on April 20, 1990, in compliance with Federal Facility Agreement and Consent Order Milestones M-20-13 and M-20-15, respectively. Ecology issued a notice of deficiency for both of these units on July 5, 1990. DOE issued a response on October 4, 1990. Ecology issued a second notice of deficiency for the response tables on March 25, 1991 (303-K) and on April 2, 1991 (304-Concretion), DOE/RL will submit the first draft revisions on October 31, 1991 (304 Concretion) and November 15, 1991 (303-K).

300 Area Waste Acid Treatment System

The 300 Area Waste Acid Treatment System was used for the storage and treatment of radioactive mixed waste generated during the fuel fabrication operation in the 300 Area of the Hanford Site. The 300 Area Waste Acid Treatment System consists of several buildings and tanks plus various equipment which have ben used for storage and treatment such as ph adjustment, filtering and centrifuging of wastes.

The 300 Area Waste Acid Treatment System (300 WATS) closure plan was submitted to Ecology and EPA in compliance with Federal Facility Agreement and Consent Order Milestone M-20-10. Ecology completed reviewing the closure plan and sent a notice of deficiency to DOE in September 1990.

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105-DR Sodium Fire Facility and Nonradioactive Dangerous Waste Landfill

The 105-DR Large Sodium Fire Facility, located in the 100 D and DR Area of the Hanford Site, consists of a portion of the original 105-DR Reactor Facility. After reactor termination, the facility was modified and primarily used to conduct experiments for studying the behavior of molten alkali metals (sodium and lithium). A secondary mission was to treat nonradioactive alkali metal waste material from various Hanford Site operations by means of thermal treatment.

The 105-DR Large Sodium Fire Facility Closure Plan was submitted to the EPA and Ecology for review on September 30, 1990 meeting interim milestone M-20-41.

Nonradioactive Dangerous Waste Landfill

The Nonradioactive Dangerous Waste Landfill is a waste disposal facility located approximately 2 miles southeast of the 200 East Area. The landfill was used for the disposal of dangerous wastes generated by various sources on the Hanford Site. Some of these sources included process operations, research and development laboratories, and maintenance and transportation functions throughout the Hanford Site.

The Nonradioactive Dangerous Waste Landfill Closure Plan was submitted to the EPA and Ecology for review on August 31, 1990 meeting interim Milestone M-20-07. Based upon the closure plan, Ecology has requested DOE to evaluate the possibility of clean closing this facility.

The Simulated High-Level Waste Slurry Treatment and Storage Unit Closure

The Simulated High-Level Waste Slurry Treatment/Storage Unit in the 1100 Area of the Hanford Site is an area used to store containerized, simulated, commercial power reactor metal nitrate slurries representing two PUREX waste streams. The unit was also used to treat the stored slurry, using in-place grouting techniques, in November 1988.

A revised closure plan was submitted to Ecology on June 29, 1990. The revised closure plan is currently undergoing review. Efforts are underway to dispose of the nonhazardous grouted material at a solid waste landfill which meets applicable regulatory requirements.

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1991. DOE/RL-PNL responded with a revised draft permit application and response table dated July 26, 1991, but submitted to Ecology on September 5, 1991 following approval of a one-month extension on the submittal date by Ecology. This submittal was overdue.

The PUREX Tunnels

The PUREX Tunnels are located adjacent to the PUREX facility in the 200 East Area of the Hanford Site. The PUREX Tunnels consist of two concrete reinforced tunnels in which loaded railroad cars are placed to provide container storage systems for radioactive mixed waste. Only a small percentage of the material (880 pounds) currently stored in the tunnels is known to be dangerous waste. These wastes include lead mercury and silver nitrate.

The PUREX Tunnels Dangerous Waste Permit Application was submitted to the EPA and Ecology for review on September 28, 1990 meeting Interim Milestone M-20-11. It is currently undergoing the first review by Ecology.

Status of Closure Plans

(D-2-1) 2101-M Pond

The 2101-M Pond is a U-shaped earthen pond located in the 200 East Area of the Hanford Site. It was constructed in 1953 to receive nondangerous waste water from the 2101-M Building.

The 2101-M Pond Closure Plan was submitted to Ecology and EPA on September 29, 1989, in compliance with Milestone M-20-04 of the Federal Facility Agreement and Consent Order. Since then, the closure plan has undergone revision and the pond has been resampled. Closure is anticipated for calendar year 1992.

(T-1-4) 183-H Solar Evaporation Basins

The 183-H Solar Evaporation Basins are located in the 100-H Area, near the northern end of the Hanford Site. Four of the 100-H Area deactivated concrete basins (formerly used for water treatment) were designated for use as solar evaporation basins in 1973. The basins were used for the storage/treatment of radioactive mixed wastes generated at the N Reactor fuel-fabrication facilities. The last shipment of wastes to the 183-H Basins took place in November 1985.

The 183-H Solar Evaporation Basins were in the permitting process before the Federal Facility Agreement and Consent Order was completed. The 183-H Solar Evaporation Basins Closure/Postclosure Plan was submitted to Ecology and EPA in November 1985. The closure plan is anticipated to be approved in calendar year 1991. The closure plan has gone through a number of notices of deficiency cycles resulting in DOE's submittal of final page changes for Ecology approval.

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(D-2-5) 216-B-3 Pond System

The 216-B-3 Pond has served as a disposal facility at the 200 East Area on the Hanford Site. The pond has received process and cooling waters from the PUREX Plant, B Plant, and other 200 Area facilities. The 216-B-3 Pond has also received potentially corrosive dangerous wastes from PUREX operations. These wastes were neutralized before reaching the pond by successive additions of acidic and caustic wastes.

The 216-B-3 Pond System Closure/Postclosure Plan was submitted to Ecology and EPA on March 30, 1990, to meet Federal Facility Agreement and Consent Order Milestone M-20-09. Sediment sampling of the pond system has been completed and analytical results are being compiled. Ecology issued the notice of deficiency on July 2, 1990. A partial response was submitted to Ecology in November 1990. The complete response will be submitted after the analytical data has been compiled.

(T-3-1) 300 Area Solvent Evaporator

The 300 Area Solvent Evaporator was in the permitting process before the Federal Facility Agreement and Consent Order was completed. The 300 Area Solvent Evaporator Closure Plan was originally submitted to Ecology and EPA in October 1985. A Unit Manager's Meeting was held on February 26, 1990 to discuss closure strategies. Ecology has issued the final notice of deficiency to DOE. The closure plan is anticipated to be approved in calendar year 1991.

(S-2-5) 2727-S Nonradioactive Dangerous Waste Storage Facility

The 2727-S Nonradioactive Dangerous Waste Storage Facility is located in the southeast portion of the 200 West Area and provides container storage for nonradioactive dangerous wastes generated in the research and development laboratories, process operations, and maintenance and transportation function throughout the Hanford Site.

The 2727-S Nonradioactive Dangerous Waste Storage Facility was in the permitting process before the Federal Facility Agreement and Consent Order was finalized. The 2727-S Nonradioactive Dangerous Waste Storage Facility Closure Plan was submitted to Ecology and EPA in November 1987. Based on comments from Ecology, and the potential costs associated with the original closure plan, DOE has decided to completely revise the closure strategy. A new plan is currently being prepared by DOE with input from Ecology. This plan is anticipated to be approved in calendar year 1991.

(S-2-4) Single-Shell Tanks

The single-shell tanks were used to store highly radioactive liquid wastes through the 1970s. The tanks are made of reinforced concrete with a single carbon-steel liner. These tanks were finally taken out of service in 1980 and replaced with double-shell tanks that were built in part to store liquid removed from the single-shell tanks. The free liquid in the single-shell tanks was concentrated by evaporation and pumped out, leaving (1) the liquid

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