

NOTICE OF INTENT TO REISSUE A HAZARDOUS WASTE MANAGEMENT PERMIT TO U.S. DEPARTMENT OF ENERGY'S OAK RIDGE NATIONAL LABORATORY

The Tennessee Department of Environment and Conservation's (TDEC) Division of Solid Waste Management (DSWM) proposes to reissue a hazardous waste management permit to U.S. Department of Energy (DOE), Oak Ridge National Laboratory (ORNL), to continue to store and treat hazardous mixed waste in containers at its facility located on Bethel Valley Road in Oak Ridge, Roane and Anderson Counties, TN 37831. This action follows the Pre-Application Public Meeting conducted by the facility on February 28, 2007, as required by Tennessee Rule 1200-11-.07(2)(c)3(i). No comments were received at this meeting.

ORNL (EPA ID No.: TN1 89 009 0003) is currently permitted under Tennessee Permit Number TNHW-097. The original permit, issued on September 30, 1997, was effective for ten years. DOE submitted a Part A and Part B Application to DSWM for renewal of the facility's hazardous waste management permit on March 28, 2007, thus enabling the facility to continue to operate under the current permit until a final decision is made. This current permit allowed the facility to store a maximum quantity of 1,757,251 gallons of hazardous waste in containers in sixteen storage areas.

This permit was later modified to add storage units for the Transuranic (TRU) Waste Processing Center (TWPC): TWPC-1 (11,000 gallons), TWPC-2 (11,000 gallons), TWPC-3 (37,180 gallons), TWPC-4 (5,500 gallons), TWPC-5 (36,300 gallons), TWPC-6 (66,000 gallons), and TWPC -7 (1,320 gallons). The maximum storage capacity of these units were 168,300 gallons. These modifications also included adding treatment at the TWPC. The maximum capacity of hazardous waste to be treated by: T-1 Macroencapsulation is 1000 cubic feet per hour, T-2 Amalgamation is 10 pounds per hour, T-3 Solidification/Stabilization is 50 gallons per hour, T-4 Hot Cell Table is 825 gallons per 24 hours, and T-5 Size Reduction is 2,255 gallons per 24 hours.

The renewal application is for the continuance of storage in fourteen of the remaining container storage areas with the same capacity in Buildings: 7572, 7574, 7823, 7855, 7879, 7883, Portable Unit 1; and at the Transuranic (TRU) Waste Processing Center (TWPC): TWPC-1, TWPC-2, TWPC-3, TWPC-4, TWPC-5, TWPC-6, and TWPC-7. The maximum storage capacity of these units is 881,800 gallons. The maximum quantity of hazardous waste to be treated is same as above. Buildings 7576, 7577, 7580, and 7884 were never constructed and will no longer be needed. Buildings 7842 and 7878 have been closed. Six waivers were granted in the original permit and they will be continued in this renewal. These waivers are for aisle space requirements for RH-TRU wastes; storage of equipment at the units when storing TRU and high-activity LLW wastes; weekly inspection requirements for storage of RH-TRU, CH-TRU and high-activity LLW wastes; containment system requirements for RH-TRU and high-activity LLW wastes; and for the alternate secondary containment standards for Building 7823.

A Fact Sheet has been prepared that summarizes the draft permit requirements. If issued, the permit would be effective for ten years.

Solid waste management units (SWMUs) and Areas of Concern (AOCs) at the ORR, including previous or ongoing investigations or corrective actions for all releases of hazardous wastes or hazardous constituents, has been included in DOE's site-wide corrective action permit, TNHW-121, issued on September 28, 2004. The conditions of this permit require that any future and

existing SWMUs or AOCs be evaluated for potential releases and remediation, as necessary. The conditions for both permits will require notification of imminent hazards, and when applicable, compliance with the requirements developed under land disposal restrictions and organic emission standards.

The permit is proposed to be reissued under the authority of the Tennessee Hazardous Waste Management Act of 1977, as amended, Tennessee Code Annotated, Section 68-212-101 et seq., and Rule Chapter 1200-1-11, Hazardous Waste Management.

Copies of the application, draft permit, Fact Sheet, and public notice are available for public inspection at: TDEC's Knoxville Environmental Field Office, Public Access Area, 3711 Middlebrook Pike, Knoxville, TN 37921 (865-594-6035); Oak Ridge Public Library, Civic Center, 1401 Oak Ridge Turnpike, Oak Ridge, TN (865-482-8455); Kingston Public Library, 1004 Bradford Way, Kingston, TN (865-376-9905); DOE Information Center, 475 Oak Ridge Turnpike, Oak Ridge, TN (865-576-0885); and TDEC Department of Energy Oversight Division Office, 761 Emory Valley Road, Oak Ridge, TN (865-481-0995). Normal state office hours are 8:00 a.m. to 4:30 p.m. on weekdays, excluding legal holidays.

Any interested person may submit written comments on DSWM's proposal or request a public hearing by contacting: Ms. Dilraj Mokha; Treatment, Storage and Disposal Section; Division of Solid Waste Management; TDEC; 5th Floor, L & C Tower; 401 Church Street; Nashville, TN 37243-1535; telephone 615-532-0821; or e-mail to Dilraj.Mokha@tn.gov The comments or request for a public hearing must be received by 4:30 p.m., November 16, 2009, to assure consideration. After considering all public comments received, the DSWM Director will issue a final permit decision and a Response to Comments.

TDEC is committed to principles of equal opportunity, equal access, and affirmative action. Contact the EEO/AA Coordinator at 1-888-867-7455 or the ADA Coordinator at 1-866-253-5827 for further information. Hearing impaired callers may use the Tennessee Relay Service (1-800-848-0298).

Persons who wish to be on DSWM's mailing list should request a Mailing List Request form by calling or writing: Public Participation Officer; Division of Solid Waste Management; TDEC; 5th Floor, L & C Tower; 401 Church Street; Nashville, TN 37243-1535 (615-532-0798); or e-mail Solid.Waste@tn.gov

NOTICE ISSUED: September 30, 2009

FACT SHEET

INTENT TO REISSUE A HAZARDOUS WASTE MANAGEMENT PERMIT

Facility Name: Oak Ridge National Laboratory

Location: Oak Ridge, Roane and Anderson Counties, Tennessee

Facility Address: Oak Ridge National Laboratory
U.S. Department of Energy (U.S. DOE)
P.O. Box 2001
Oak Ridge, Tennessee 37831-2001

Owner/Operator: U.S. Department of Energy

Co-Operators: Bechtel Jacobs Company LLC and EnergX TN LLC

Facility Contact: Mr. Steve Foster
Environmental Compliance Manager
P.O. Box 4699
Building K-1580, MS-7593
Oak Ridge, Tennessee 37831
Phone No. (865) 574-3933

Ms. Catherine Alstatt
Director of Regulatory Interface and Integration
EnergX TN, LLC
Transuranic Waste Processing Center (TWPC)
100 WIPP Road
Lenoir City, TN 37771
Phone No. (865) 241-1402

Units: Storage: RH-TRU Buildings: 7855 and 7883;
CH-TRU Buildings: 7572, 7574, 7823, 7879 and
Portable Unit No. 1;
TWPC-1 (Contact Handled Storage Area (CHSA)),
TWPC-2 (Second Floor WPB), TWPC-3 (Drum Aging
Criteria (DAC)), TWPC-4 (First Floor WPB), TWPC-5
(Container Storage Area (CSA)), TWPC-6 (Contact
Handled Marshalling Building (CHMB)), and TWPC-7
(Drum Venting Building (DVB))

Treatment: T-1 Macroencapsulation, T-2 Amalgamation,
T-3 Solidification/Stabilization, T-4 Hot Cell Table, and
T-5 Size Reduction

EPA Identification Number: TN1 89 009 0003

Comment Period: Begins: September 30, 2009
Ends: November 16, 2009

FACILITY DESCRIPTION

ORNL (Facility ID No.: TN1 89 009 0003) is one of three major complexes located on the DOE federal reservation, known as the Oak Ridge Reservation (ORR). It is a multipurpose research and development (R&D) facility which focuses on technology development of national importance, including the identification and development of solutions to complex problems in energy-based technologies such as materials development, separation techniques, chemical processes, biological screening, and biotechnology. Hazardous wastes, radioactive wastes, and mixed wastes (both radioactive and hazardous) are generated as a result of this research.

PURPOSE

This fact sheet is prepared pursuant to Tennessee Rule 1200-1-11-.07(7)(d) for the draft permit developed by the Tennessee Department of Environment and Conservation's (TDEC) Division of Solid Waste Management (Division). The purpose of this permitting process is to afford any interested persons the opportunity to evaluate the ability of the permittee to apply the applicable hazardous waste management requirements. The proposal is for the renewal permit to be reissued under the authority of the Tennessee Hazardous Waste Management Act of 1977, as amended, Tennessee Code Annotated, Section 68-212-101 et seq., and Rule Chapter 1200-1-11, Hazardous Waste Management. The permit is prepared in accordance with the provisions of Tennessee Rule 1200-1-11-.07.

PERMIT HISTORY AND PROPOSED PERMIT

Bechtel Jacobs Company (BJC) as a co-operator manages the waste storage units. EnergX TN LLC. manages the waste storage and treatment units located at the Transuranic (TRU) Waste Processing Center (TWPC). The TWPC was built to treat/or package the waste streams for off-site disposal, generated by past and present ORNL activities. The TRU waste is subcategorized as contact-handled (CH) waste and remote-handled waste (RH). The RH waste stored, or to be stored, in the RH units are primarily solids such as metal, plastic, cloth, paper, and glass materials. RH waste is generated from operations and experiments conducted in hot cells using radioisotopes and is common to wet chemistry laboratories. The CH waste to be stored in the CH units are primarily solids such as metal, plastic, cloth, paper, and glass materials. Other potential CH mixed waste forms may include sludges, aerosol cans, gas cylinders, solvent pipes, or liquids. Mixed Low Level waste (MLLW) may be stored in any of the units and this include waste oils, lab packs, soils, sludges, wastewater, spill residues, solvent wipes, aerosol cans, gas cylinders, and/or liquids from operations and experiments conducted in glove boxes or from other ORNL processes.

ORNL (EPA ID No.: TN1 89 009 0003) is currently permitted under Tennessee Permit Number TNHW-097. The original permit, issued on September 30, 1997, was effective for ten years. DOE submitted a Part A and Part B Application to DSWM for renewal of the facility's hazardous waste management permit on March 28, 2007, thus enabling the facility to continue to operate under the current permit until a final decision is made. The receipt of the renewal application was public noticed on June 11, 2007. DOE also held a Pre-Application Public Meeting on February 28, 2007, which was public noticed on January 26, 2007, as required by Tennessee Rule 1200-1-11-.07(2)(c)3(i). No comments were received at this meeting.

When the current permit was issued, it allowed the facility to store a maximum quantity of 1,757,251 gallons of hazardous waste in containers in sixteen storage areas, namely, Buildings:

7572 (220,000 gallons), 7574 (94,800 gallons), 7576 (245,000 gallons), 7577 (219,632 gallons), 7578 (22,040 gallons), 7579 (168,422 gallons), 7580 (68,000 gallons), 7823 (89,586 gallons), 7824 (5,500 gallons), 7842 (94,800 gallons), 7855 (96,433 gallons), 7878 (75,840 gallons), 7879 (114,708 gallons), 7883 (96,433 gallons), 7884 (144,517 gallons), and Portable Unit No. 1 (1,540 gallons).

On January 25, 2007, the storage units at the Transuranic (TRU) Waste Processing Center (TWPC) were transferred from Permit No. TNHW-100 (managed by Foster Wheeler Environmental Corp.) to Permit No. TNHW-097 (currently managed by EnergX TN LLC.) by modification. The storage units at the TWPC include: TWPC-1 (11,000 gallons), TWPC-2 (11,000 gallons), TWPC-3 (37,180 gallons), TWPC-4 (5,500 gallons), TWPC-5 (36,300 gallons), TWPC-6 (66,000 gallons), and TWPC -7 (1,320 gallons). The maximum storage capacity of these units were 168,300 gallons. Subsequent modifications included adding treatment at the TWPC. The maximum capacity of hazardous waste to be treated by: T-1 Macroencapsulation is 1000 cubic feet per hour, T-2 Amalgamation is 10 pounds per hour, T-3 Solidification/Stabilization is 50 gallons per hour, T-4 Hot Cell Table is 825 gallons per 24 hours, and T-5 Size Reduction is 2,255 gallons per 24 hours.

The renewal application is for the continuance of storage in fourteen of the remaining container storage areas with the same capacity in Buildings: 7572, 7574, 7823, 7855, 7879, 7883, Portable Unit 1; and at the TWPC: TWPC-1, TWPC-2, TWPC-3, TWPC-4, TWPC-5, TWPC-6, and TWPC-7. The maximum storage capacity of these units is 881,800 gallons. The maximum quantity of hazardous waste to be treated is same as above. Buildings 7576, 7577, 7580, and 7884 were never constructed and will no longer be needed. Buildings 7842 and 7878 have been closed.

Six waivers were granted in the original permit and they will be continued in this renewal. These waivers are:

Waiver #1 - Under General Facility Conditions, paragraph II.H.5. PREPAREDNESS AND PREVENTION

Required Aisle Space: TDEC has approved ORNL's request of waivers of the aisle space requirement for the RH-TRU waste storage units. The request for waivers is justified given the design of the units (for radiation controls); the restricted access to the units when storing these wastes (due to radiation levels inside the units); and the stored wastes are mostly solids with a low flammability and spill potential. Personnel access is limited because of high radiation levels and the need to keep radiation exposures to ALARA (As Low as Reasonably Achievable) levels. In the RH-TRU units, the stored wastes are predominantly solids, have multiple layers of containment, and are not expected to be flammable. A waiver is not requested from the weekly inspection requirements for the containers of low-activity MLLW. Regularly scheduled inspections of the low-activity MLLW stored in any of these units will be performed according to the schedule in Attachment 4.

Waiver #2 - Under General Facility Conditions, paragraph II.H.2. PREPAREDNESS AND PREVENTION

Required Equipment: TDEC has approved ORNL's request for waivers for storage of preparedness and prevention equipment at the units when storing TRU and high-activity LLW wastes. At a minimum, the permittee shall equip ORNL with the equipment listed in the contingency plan, Attachment 6, and with the following:

- (a) An internal communications or alarm system;
- (b) Devices, such as a telephone;
- (c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and;
- (d) Water at adequate volume and pressure.

The request for waiver is justified given the radiation levels inside the units or immediately outside the units when storing the specified higher-activity wastes and based on the nature of the wastes stored: typically solids with low flammability. Thus, required equipment is maintained near the units so they will not be radiologically contaminated before use.

Waiver #3 - Under Specific Conditions For Storage In Containers, paragraph III.E.1. INSPECTION OF THE CONTAINER MANAGEMENT UNIT(S)

Weekly Inspection: TDEC has approved ORNL's requested waivers of the weekly inspection requirements for storage of RH-TRU, CH-TRU, and high-activity LLW wastes. This waiver is justified given the radiation levels inside the units, the stored wastes are mostly solids with low flammability and spill potential. Also the high radiation dose a worker would receive by performing weekly inspections would be a violation of ALARA policies, and would endanger the health and safety of the facility employees.

Waiver #4 - Under Specific Conditions For Storage In Containers, subparagraph III.F.1. CONTAINMENT, DETECTION, AND MANAGEMENT OF LEAKS OR SPILLS

Containment System: TDEC has approved ORNL's request for waivers of the containment system requirements for the RH-TRU and high-activity LLW waste storage units (refer to Attachment 8). This waiver is justified for the RH-TRU and high-activity MLLW because the stored wastes are mostly solids with a low spill potential. In addition, the wastes have multiple layers of containment with the outer containment being concrete cask which is compatible with the waste being stored.

Waiver #5 - Under Specific Conditions For Storage In Containers, subparagraph III.F.2(f), CONTAINMENT, DETECTION, AND MANAGEMENT OF LEAKS OR SPILLS

Containment System: A waiver is requested for the alternate secondary containment standards for the RH-TRU, CH-TRU and high-activity MLLW in Building 7823. This waiver is justified because the stored wastes are mostly solids with a low spill potential. In addition, the wastes have multiple layers of containment with the outer containment being concrete cask which is compatible with the waste being stored. The waiver for casks in the 7823 facility also provides more storage flexibility for this type of container which results in more efficiency and less overall movement of wastes to accommodate treatment and disposal. The reduced movement and contact with the waste reduces the radiological exposures for employees conducting the work which meets the goal of reducing radiological exposures to levels as low as reasonably achievable.

Waiver #6 - Under Attachment 8, Container Management (Management Practices)

A waiver is requested for RH containers in accordance with TN Rule 1200-1-11-.10(4)(a)1.(ii)(I) due to the inaccessibility of the RH waste already placed in the concrete storage containers and special handling requirements for newly generated RH wastes. General information about the hazardous waste constituents that may be present in the RH containers is available through historical records. All other hazardous waste containers will be labeled with the words "Hazardous Waste" as required, and marked with the accumulation start date.

Solid waste management units (SWMUs) and Areas of Concern (AOCs) at the ORR, including previous or ongoing investigations or corrective actions for all releases of hazardous wastes or hazardous constituents, has been included in DOE's site-wide corrective action permit, TNHW-121, issued on September 28, 2004. The conditions of this permit require that any future and existing SWMUs or AOCs be evaluated for potential releases and remediation, as necessary. The conditions for both permits will require notification of imminent hazards, and when applicable, compliance with the requirements developed under land disposal restrictions and organic emission standards.

COMMENTS

Copies of the application, draft permit, Fact Sheet, and public notice are available for public inspection at: TDEC's Knoxville Environmental Field Office, Public Access Area, 3711 Middlebrook Pike, Knoxville, TN 37921 (865-594-6035); Oak Ridge Public Library, Civic Center, 1401 Oak Ridge Turnpike, Oak Ridge, TN (865-482-8455); Kingston Public Library, 1004 Bradford Way, Kingston, TN (865-376-9905); DOE Information Center, 475 Oak Ridge Turnpike, Oak Ridge, TN (865-576-0885); and TDEC Department of Energy Oversight Division Office, 761 Emory Valley Road, Oak Ridge, TN (865-481-0995). Normal state office hours are 8:00 a.m. to 4:30 p.m. on weekdays, excluding legal holidays.

Because a public hearing was not scheduled by the Division, the public may request a public hearing on the proposed actions during the comment period under Rule 1200-1-11-.07(g). A public hearing will be required if on the basis of requests (1) a significant degree of public interest in the proposed actions is found and/or (2) upon written notice of opposition to the draft

permit and request for a hearing. If a public hearing is to be held, a public notice shall be given at least 30 days before the hearing.

All persons, including the applicant, who believe that the tentative decision to reissue this permit is inappropriate must raise all ascertainable issues and submit all available arguments and factual grounds supporting their position by sending comments or requesting a public hearing to: Ms. Dilraj Mokha; Treatment, Storage and Disposal Section; Division of Solid Waste Management; Tennessee Department of Environment and Conservation; 5th Floor, L & C Tower; 401 Church Street; Nashville, Tennessee 37243-1535; telephone 615-532-0821 or e-mail to Dilraj.Mokha@tn.gov. Requests for a public hearing must state the nature of the issues proposed to be raised at the hearing. To assure consideration, comments or requests for a public hearing must be received by 4:30 p.m., **November 16, 2009**

When the Division makes a final permit decision to either reissue or deny the permit, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final decision. The final permit decision shall become effective upon signing by the Division Director.

Persons who wish to be on the Division's mailing list should request a Mailing List Request form by calling or writing: Public Participation Officer; Division of Solid Waste Management; Tennessee Department of Environment and Conservation; 5th Floor, L & C Tower; 401 Church Street; Nashville, Tennessee 37243-1535; telephone 615-532-0798; or e-mail Solid.Waste@tn.gov.