ENVIRONMENTAL RESTORATION PROGRAM

Addendum to the Health and Safety Plan for Waste Area Grouping 6 at Oak Ridge National Laboratory, Oak Ridge, Tennessee

This addendum to the Health and Safety Plan for Waste Area Grouping 6 contains revisions to Sects. 3, 5, 6, 7, 10, and the addition of the KEMA fuel storage information. Specifically, the changes within the numeric Sects. contain only minor revisions to the information provided in the original document. The KEMA information consists of nuclear criticality safety information with regards to the location of the nuclear material. Volume 1 of this document is not being reissued as a D2 version because the changes to the total document are minor.

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Energy Systems Environmental Restoration Program
ORNL Environmental Restoration Program

**Addendum to the Health and Safety Plan for Waste Area
Grouping 6 at Oak Ridge National Laboratory
Oak Ridge, Tennessee**

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PREFACE

There are three purposes for this addendum to the health and safety plan for Waste Area Grouping 6. The first purpose is to provide record of a corrective action response concerning an occurrence on WAG 6 in October 1994 (ORO-MMES-ENVRES-1994-0016.) This occurrence involved a precautionary evacuation of subcontractor field crews due to malfunctioning monitor alarms for organic vapors. The corrective action is to revise the WAG 6 Site health and safety plan to improve communications during emergency events.

The second purpose is to incorporate any outstanding health and safety issues not addressed in the original health and safety plan for WAG 6 document (ORNL/ER-183). The only variance of note is tritium air monitoring in the Tumulus building. The tritium air monitor is added in this addendum as monitoring equipment for WAG 6 with description of action level and calibration.

The third purpose of this addendum is to satisfy a condition of approval for the pending Nuclear Criticality Safety Assessment (NCSA) pertaining to KEMA fuel storage at WAG 6. This approval condition requires the following:

"The location of the KEMA burial shall be recorded and maintained in a controlled document that identifies the quantity and the general physical conditions at the time of the entombment with an admonishment to obtain nuclear criticality safety guidance before altering the burial condition."

In order to satisfy the approval, this document must be controlled. The predecessor to the pending NCSA is NSR #0002WM22001.

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1. CORRECTIVE ACTION RESPONSE

The following information is to provide a corrective action in response to an evacuation incident that occurred on October 13, 1994 on WAG 6. Three major changes are as follows:

1. Revise the *Health and Safety Plan for Waste Area Grouping 6 at Oak Ridge National Laboratory* (ORNL/ER-183) to create a role. This role will be assigned to the best qualified to serve as the central communication contact for WAG 6 Health and Safety activities including emergency response.
2. Provide the Site Safety and Health Manager (SSHM) or the Environmental Safety and Health Manager (ESHM) with the authority to mandate safety meeting attendance from all personnel responsible for the Health and Safety of active field activities.
3. Require attendance at the WAG 6 facility manager's biweekly field coordination meeting of all personnel planning field activities on WAG 6.

1.1 SITE SAFETY AND HEALTH MANAGER

This information pertains to ORNL/ER-183, Sect. 3.2.2, page 12.

The SSHM or the ESHM will serve as the central communication contact for WAG 6 Health and Safety activities, including emergency response. Any unsafe conditions exceeding the work boundary of a specific project will require that the SSHM or the ESHM be contacted to initiate further actions, including reporting the emergency to the lab shift supervisor (LSS) and the facility manager. Reporting requirements through other channels will begin simultaneously.

The SSHM or the ESHM will be required to communicate to Waste Management and the U.S. Department of Energy, Environmental Restoration (ER) activities for a given day.

1.2 FIELD COORDINATION AND SAFETY MEETINGS

This information pertains to ORNL/ER-183, Sect. 7.2, pages 61-62.

Field coordination meetings will be held by the WAG 6 facility manager to coordinate all field activities planned during the 3 weeks following the meeting. Every field task must be represented at the field coordination meeting. The meetings will be held on a biweekly or on an as-needed basis.

1.3 SITE PERSONNEL RESPONSIBILITIES

This information pertains to ORNL/ER-183, Sect. 10.1.1, page 77-78.

The minimum requirements, in addition to those listed in Sect. 10.1.1 of the health and safety plan for WAG 6, of an individual during an emergency situation is to know who is assigned the responsibility of SSHM and ESHM.

1.4 REPORTING AN EMERGENCY

This information pertains to ORNL/ER-183, Sect. 10.1.2, page 78.

The individual who initiates an emergency response activity must notify the SSHM or the ESHM. The SSHM or the ESHM will then notify the LSS and/or the Laboratory Emergency Control Center (ECC) of the emergency situation as described in Sect. 10.1.2 of the health and safety plan for WAG 6.

Lockheed Martin Energy Systems (Energy Systems) organizations (including subcontractors) under Energy Systems responsibility will notify the ER facility manager in addition to the LSS of abnormal events that occur on ER managed sites. In special cases that require subcontractors to notify the LSS, (per direction of the contracting officer's representative), the LSS agrees to notify the ER facility manager. The ER facility manager has a list of key personnel in other organizations that will be informed by the facility manager of details of the event, as appropriate. This notification can occur without altering other policies or procedures followed by ORNL, Waste Management, and Environmental Safety & Health. This emergency notification information is based on a Memorandum of Understanding Ltr.#ER-ORNL-95/017, dated February 27, 1995.

1.5 EMERGENCY COORDINATOR

This information pertains to ORNL/ER-183, Sect. 10.1.3, page 79.

In the event of an emergency situation, the SSHM or the ESHM will act in the part of the SSHO, where the SSHO is a key point of contact during all types of emergencies as defined in the health and safety Plan for WAG 6.

1.6 PERSONAL PROTECTION REQUIREMENTS

This information pertains to ORNL/ER-183, Sect. 5.3, page 42.

In all circumstances, field clothes worn by Energy Systems personnel and their subcontractors while conducting ORNL ER activities must be issued by Energy Systems.

2. FREQUENCY AND TYPES OF MONITORING

This information pertains to ORNL/ER-183, Sect. 6.1.1, page 55.

During WAG 6 operations in building 7859A, Tumulus Monitoring building, the health physicist (HP) must be contacted prior to entry. The HP will monitor airborne concentrations of tritium and approve entry when concentrations are below action levels. Additional ventilation may be provided when operations are performed in the Tumulus Monitoring building to purge any airborne tritium.

2.1 MONITORING EQUIPMENT/ACTION LEVELS

This information pertains to ORNL/ER-183, Sect. 6.2, page 56-57.

- **Tritium Air Monitor:** May be used to detect airborne tritium concentrations. These instruments will be electronically calibrated prior to use and gas calibrated once a year by qualified personnel. Action level is 1 Derived Air Concentration (DAC) at 200 microcuries per meter³.

3. NUCLEAR CRITICALITY SAFETY

The following information pertains to waste on the WAG 6 site which requires nuclear criticality safety guidance.

3.1 KEMA FUEL STORAGE VESSEL DISPOSAL (NSR 0002WM22001)

Fissile well WF-104 in SWSA-6 is closed. WF-104 contains grouted KEMA fuel waste material (microspheres) with a ^{235}U content of 5.193 kilograms. Nuclear criticality safety guidance shall be obtained prior to any future disposal or retrieval operations involving this material and/or well WF-104 or any construction operations within the vicinity of this well. See NSR 0002WM22001 for further information. A site map showing WF-104 can be found in Fig. 1.

3.2 FISSILE MATERIAL DISPOSAL AND STORAGE LIMITS (NSR 0017WM220)

Four locations in SWSA 6 are transferred to Environmental Restoration for inclusion in a new NCSA.

- Fissile Wells
- Concrete Silo
- Biological Trenches
- Tumulus Pads I & II

Nuclear criticality safety guidance shall be obtained prior to any construction, disposal, or retrieval operations in the vicinity of this material. A location map for each of the areas identified above can be found in Fig. 2, Fig. 3, Fig. 4, and Fig. 5, respectively.

Fig. 1. Location map for KEMA fuel storage well, WF-104.

Fig. 2. Location map for WAG 6 fissile disposal wells.

Fig. 3. Location map for WAG 6 concrete silos.

Fig. 4. Location map for WAG 6 biological trenches.

Fig. 5. Location map for WAG 6 tumulus pads.

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