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TRI-PARTY AGREEMENT

Change Notice Number
TPA-CN- 0712

TPA CHANGE NOTICE FORM

Date:
04/19/2016

housekeeping actions have been recommended, the actions have been or will be completed by RL.

An exterior condition assessment of all SSEs, including 105-D, and exterior radiological conditions will continue to be completed annually. The combination of annual exterior inspections and 10-year interior assessment/repair cycle is adequate to maintain protectiveness of human health and the environment.

Continued

Approvals:

Boyd Hathaway

DOE Project Manager
Boyd Hathaway

6/17/16
Date

Approved Disapproved

Approved Disapproved

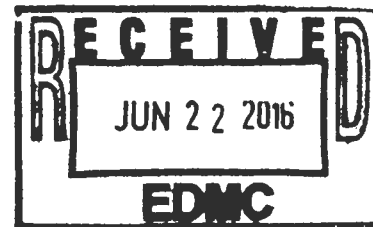
Date

Stephanie Schleif

Ecology Project Manager (105-D, DR, H, N)
Stephanie Schleif

6/20/16
Date

Approved Disapproved



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DOE/RL-2004-59
Draft A

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EDMC

Surveillance and Maintenance Plan for the 105-D Reactor Safe Storage Enclosure



United States
Department of Energy

Facility Description

2.3 SURVEILLANCE AND MAINTENANCE

The primary activity for 105-D SSE is periodic facility surveillance to ensure that structural integrity and hazardous material confinement is maintained. The planned surveillance routes are shown in Figures 2-1 through 2-7. Surveillance requirements are defined in BHI-FS-01, Vol. 1, *Field Support Administration*, Procedure 3.1, "Facility Surveillance." Field work instructions are defined in BHI-FS-02, Vol. 1, *Field Support Work Instructions*. The Bechtel Hanford, Inc. (BHI) Field Support group provides routine maintenance, when required. Maintenance activities are implemented in accordance with the *ERC Maintenance Implementation Plan* (BHI 2000).

The 105-D SSE was designed to be a minimal maintenance facility. A provision for periodic surveillances of the accessible internal areas of the SSE at ^{10-year} 5-year intervals has been included to verify facility status. The surveillance frequency may later be adjusted, based on actual inspection history. Nonroutine activities may include necessary repair work on installed monitoring equipment or the facility.

Insert A > From Revision Page

Access to the existing building roofs is not part of the normal surveillance and inspection route. Prior to accessing any existing roof area within the SSE, requirements for fall protection evaluation and authorization must be met. The existing building roofs over the "C" and "D" elevator machinery rooms have open holes used for equipment removal, and access shall require fall protection (see Figure 2-7). The building existing roof over the "front face" room has no handrail along the south side, and access shall require fall protection (see Figure 2-7). The handrails on the upper-level floor above the "C" and "D" elevator roofs are posted, stating that fall protection is required prior to access to the roofs below.

An external visual inspection of the 105-D SSE roof (e.g., roofing, siding, and flashing) and building structure is conducted annually in accordance with BHI-FS-01, Vol. 1, Procedure 3.1. Access to the roof is not required and should be avoided unless repair is necessary. Visual inspection of the roof can be performed from grade because any potential degradation will be readily apparent (e.g., flashing coming loose).

The 105-D SSE is a deactivated facility and is expected to remain in the S&M program until final decommissioning. Planned S&M activities will include the following areas: structural integrity, barriers and posting, radiological surveys, repair of weather protection systems and structural components, and removal of hazardous substances. These activities are addressed in the following subsections.

Facility Description

the SSE utility room. DS-1 feeds a distribution panel (DP-1) located inside the SSE utility room. DP-1 provides power for lighting, power receptacles, and the instrumentation system. Backup power capability to these loads is not provided.

The 105-D SSE has permanent lighting installed along the surveillance route located on the lower, grade, upper levels, and the stairwells. In the interest of safety, all facility personnel and visitors must carry a spare light source that can be used for egress if the lighting system should fail during entry.

The 110-VAC receptacles are located at the -15-ft level in the passage leading to the lower instrument room and tunnels. Several receptacles are located at the 0-ft level along the surveillance route, and in the SSE access room. Additional receptacles are located on the 13-ft, 42-ft, 56-ft, and 80-ft levels.

2.4.2 Instrumentation

see Item B from revision page

The 105-D SSE is configured with two sets of temperature sensors (resistance temperature detectors [Figures 2-1 and 2-7]) and a set of flooding sensors (float switch [Figure 2-2]), which include installed spares for each sensor. Temperature sensors are located at grade level on the south side of the reactor, near the south stairwell. Temperature sensors are also located at the 80-ft 5¹/₄-in. level near the south wall, and near the center of the attic space. The flooding sensors are located at the south side of the -15-ft level, near the stairwell.

The remote sensors are controlled through a programmable logic controller powered from DP-1. Signals are transmitted (via wireless modem) and monitored at the operation supervisor's workstation, which is currently located in the 1112-N Building. When an alarm is observed at the remote monitoring station, personnel will evaluate the alarm and, if required, will go to D Reactor and take appropriate corrective actions. Due to the need for changes in the location of the remote monitoring station, the system is portable and can be relocated if required.

A loss of continuity to a resistance temperature detector will result in a loss of signal to the monitoring station. The flooding sensor is normally closed-circuit, so a loss of continuity failure will result in a flooding alarm at the monitoring station. The flooding circuit is directly wired to the programmable logic controller. The temperature-monitoring circuits operate on a 4- to 20-mA current loop from transmitters. The transmitters are supplied with 120-VAC for operating power. In the event of an instrument failure, monitoring for the temperature sensors can be manually switched to previously installed spares from the SSE utility room, eliminating the need to make a special entry into the SSE. Instrument replacements will normally be conducted during regularly scheduled surveillance periods. In addition, the redundant flooding sensors can be electrically switched from the workstation at the 1112-N Building to the backup spare sensor.

2.4.3 Ventilation

The 105-D SSE is a deactivated facility that is uninhabited and locked, except during S&M activities. Many of the reactor's components were removed as part of the stabilization effort for

TPA Change Notice (TPA-CN 0712)

Revised language to DOE/RL-2004-59, Surveillance and Maintenance Plan for the 105-D Reactor Safe Storage Enclosure

Insert A as new Paragraph - Section 2.3 Surveillance and Maintenance (DOE/RL-2004-59 Page 2-2)

The regulatory agencies, EPA and Department of Ecology, will be notified and invited to attend annual inspections and ten year surveillance inspections. To support the internal surveillances every 10 years, DOE will submit a report to Ecology and the administrative record documenting all issues and concerns, including the checklists for the past 10 year annual inspections.

Item B - Section 2.4.2 Instrumentation (DOE/RL-2004-59 Page 2-12)

In 2009, the analog cellular system was replaced with a digital system and continuous monitoring was converted to periodic monitoring once per month. Signals were transmitted to remote laptop computer instead of the supervisors work station located in the 1112-N building.

In 2016, the digital telephone modem that allows remote computer access to the monitoring instrumentation will be disconnected in accordance with TPA Change Notice 0712. The interior equipment including sensors and wiring will remain in place, however, the equipment will not be maintained. If required in the future, the telephone modem connection may be reestablished.