CHPRC-0900289 R28
Attachment 11

TRI-PARTY AGREEMENT

Change Notice Number TPA-CN- 503	TPA CHANGE NOTICE FORM	Date: February 10, 2012
Document Number, Title, and Revision: DOE/RL-2005-26 Rev 1, "Removal Action Work Plan for 105-KE/105-KW Reactor Facilities and Ancillary Facilities"		Date Document Last Issued: 2/21/2007
Originator: Dottie Norman		Phone: 373-0040

Description of Change:
Update to identify alternate approach for design / construction of the Safe Storage Enclosure supporting 105-KE/KW Reactor(s) Interim Safe Storage.

T.K. Teynor (**DOE**) and R.A. Lobos (EPA) (**Lead Regulatory Agency**) agree that the proposed change modifies an approved workplan/document and will be processed in accordance with the Tri-Party Agreement Action Plan, Section 9.0, *Documentation and Records,* and not Chapter 12.0, *Changes to the Agreement.*

Updates to the following sections (see attached redline / ~~strikeout~~; changes are indicated by ~~strikeout~~ of removed text. And double underline for added text.):

Section 1.0 Introduction, page 1-11
Section 2.1.5 Safe Storage Enclosure Construction, pages 2-7 through 2-10

Total number or pages, including this cover: 6

Note: Include affected page number(s)

Justification and Impacts of Change:

This change notice provides an alternate approach to the design and construction of a Safe Storage Enclosure for the 105-KE/KW Reactor(s) during Interim Safe Storage.

Approvals:

DOE Project Manager	2-28-2012 Date	[X] Approved [ ] Disapproved
EPA Project Manager	2-28-2012 Date	[X] Approved [ ] Disapproved
Ecology Project Manager (**Not Applicable**)	Date	[ ] Approved [ ] Disapproved

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release to the environment and provided they are sufficiently similar to the sites addressed by the EE/CA such that additional analysis of removal alternatives would not be necessary or appropriate. Approvals for implementing this plug-in approach for such facilities and foundations will be obtained from the EPA.

One of the facilities, the 1706-KE Building, has a small area that is called the "1706-KE Waste Treatment System," which is regulated as a treatment, storage, and disposal (TSD) unit under the *Resource Conservation and Recovery Act of 1976* (RCRA). This TSD unit is composed of several major components including an accumulation tank, an ion-exchange column, an evaporator unit, a condensate collection tank, and a high-efficiency particulate air (HEPA) filtration unit. The Tri-Parties (DOE, EPA, and Washington State Department of Ecology [Ecology]) have agreed to integrate the cleanup and closure of this TSD unit with the CERCLA process. The TSD portion of the 1706-KE Building will be remediated under the authority of the Remaining Sites ROD (EPA 1999a) as provided by the *Explanation of Significant Differences for the 100 Area Remaining Sites Interim Remedial Action Record of Decision* (EPA 2004). However, the removal, treatment (as necessary) and disposal of all equipment and potentially contaminated structural components directly related to the 1706-KE Waste Treatment System will be carried out within the scope of this RAWP. Under the Tri-Party Agreement, DOE must satisfy closure requirements for the TSD unit, and therefore will submit a RCRA closure plan to Ecology for approval to ensure that RCRA closure requirements are met.

This removal action minimizes the potential for a release of hazardous substances from the facilities (listed in Tables 1-1 and 1-2) that could adversely impact human health and the environment; is protective of human health, including the site personnel and the environment; and contributes to the efficient performance of any remedial actions, including any future subsurface soil remediation and reactor block removal. The action includes ~~D4 of the reactor building up to the shield walls that surround the reactor block,~~ the construction of a safe storage enclosure (SSE), and S&M. This alternative also provides D4 of the ancillary facilities and portions of the 105-KE and 105-KW Reactor Facilities, which consist of immediate deactivation and any required decontamination of the facilities followed by demolition and associated waste disposal of the contaminated debris.

1.1 PURPOSE AND OBJECTIVE OF THE REMOVAL ACTION WORK PLAN

The purpose of this RAWP is to establish the methods and activities required to perform the following functions:

- Complete deactivation and demolition (D&D) of the 27 ancillary facilities addressed within the ancillary facilities EE/CA (DOE-RL 2004) and the related action memorandum (EPA 2005)

- Modify structures as necessary and construct an ISS enclosure for the 105-KE and 105-KW Reactor Buildings

materials to remove loose contamination. Water may be used to clean equipment in the decontamination area; however, the use of large volumes of water will be minimized. Soaps, detergents, or other cleaning agents will not be added to the washwater. Pressure washing (if required) will normally be performed using cold water (however, hot water may be used to avoid icing). Wet grit blasting, grinding, or steam cleaning will be used only after other decontamination methods prove to be ineffective.

Spent decontamination water and associated contamination from the decontamination of equipment (e.g., trackhoe excavators, front-end loaders) will be discharged to the ground within the decontamination area. The EPA and DOE Richland Operations Office will agree on a case-by-case basis whether (or not) a decontamination area shall be clean closed at the end of D&D/D4 and ISS activities or whether the final cleanup can be deferred to a later remedial action. Closeout of decontamination areas will be performed in accordance with the Remaining Sites ROD (EPA 1999a) prior to closeout of the project. Decontamination practices will be documented in the field superintendent's/craft supervisor's (as appropriate) daily logbook. Personnel responsible for equipment decontamination will be knowledgeable of the applicable requirements of this RAWP.

2.1.5 Safe Storage Enclosure Construction

The 100K Area ISS reactor facilities will be enclosed to provide the SSEs, either by construction of an independent metal structure (option A) or by using the existing walls as the primary enclosure with construction of a new roof (option B). Either option may be used for each reactor.

Option A is to remove applicable components from inside the SSE and construct an independent metal structure around the reactors that will enclose the reactors to grade. Under this approach, a reinforced concrete foundation will be built that is supported entirely by the adjacent soil. The foundation will be a continuous grade beam with no connections to the existing reactor building. Upon this foundation, a steel-framed metal-sheathed building will be constructed to entirely enclose the reactor(s).

Under option B, ~~T~~the existing reactor shield walls will be used as the primary enclosure for safe storage. Option B includes~~Upon~~ removal of the applicable components from inside the SSE and D4 of the reactor support areas surrounding the shield wall, and the construction of a roof ~~will be constructed~~ (as required) to enclose the top of the reactor block and adjacent rooms. The roof will consist of structural steel and metal roof decking. The shield walls have supported the roof in earlier SSE structures, and the 105-KE and 105-KW designs are expected to be similar if option B is used. Openings between the new roof and top of the shield walls will be closed with wall panel siding similar to that of the new roof. Openings and penetrations within the shield walls will be closed (i.e., large and small openings or penetrations will be sealed by concrete pourbacks or steel plates, as appropriate). Figures 2-1 and 2-2 provide the conceptual layout of the 100-K Area D4 Ancillary Facilities and the SSE for the 105-KE and 105-KW Reactor Facilities.

A single-door entry into each SSE will be provided to limit and control access and will have the~~be~~ capability of being welded shut. Necessary ventilation ducting will be installed inside the SSE that can be ~~will be~~ connected to an external portable exhaust unit for use prior to entry for maintenance activities, as needed. A remote monitoring system will be installed inside the reactor enclosure so that key parameters can be monitored between S&M entries. ~~The final configuration of the building will feature the existing shield walls as the exterior of the building, a single-entry door that will be used for inspections, and a metal roof with similar siding.~~ The equipment associated with the monitoring and electrical power and lighting will be installed in a utility room located outside of the SSE so that entry into the SSE will not be necessary to service this equipment.

Figures 2-1, ~~and~~ 2-2a, and 2-2b show graphical "before" and "after" representations of what the SSE will look like when completed.

Figure 2-1. 105-KE/105-KW Safe Storage Enclosure (Before).

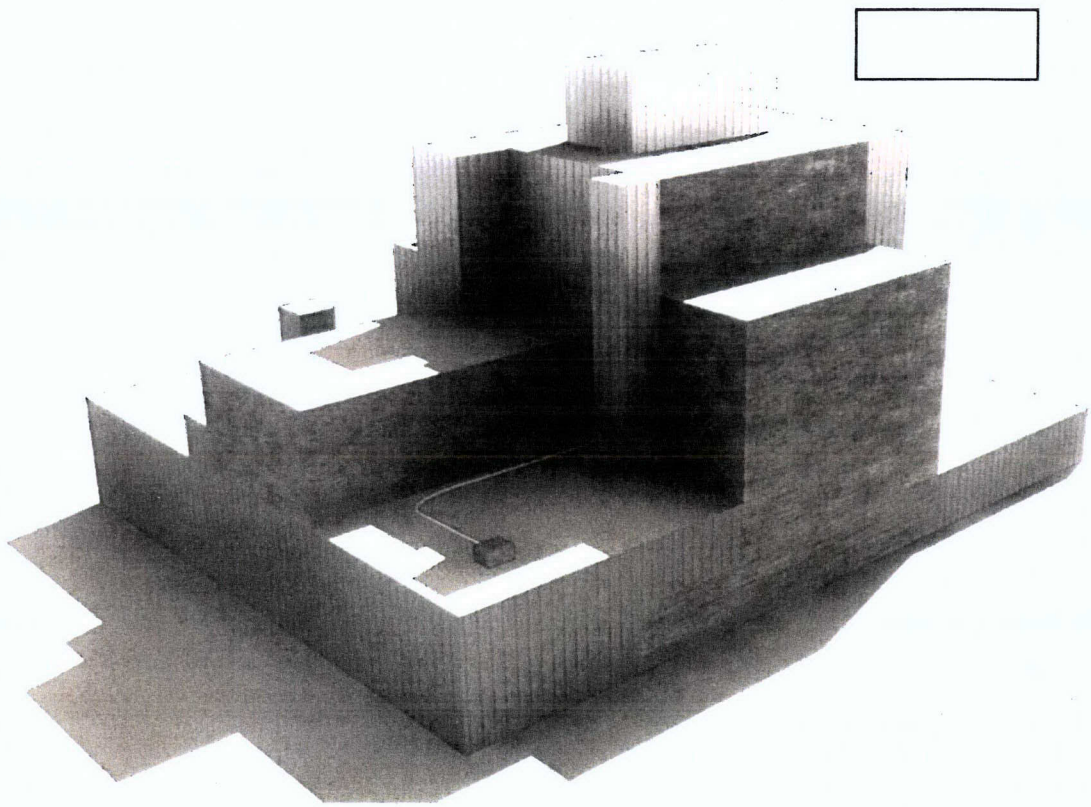


Figure 2-2a. 105-KE/105-KW Safe Storage Enclosure (Option A).

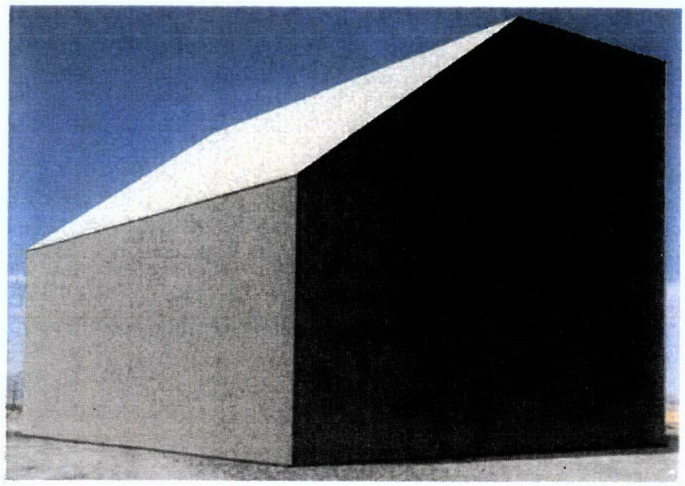
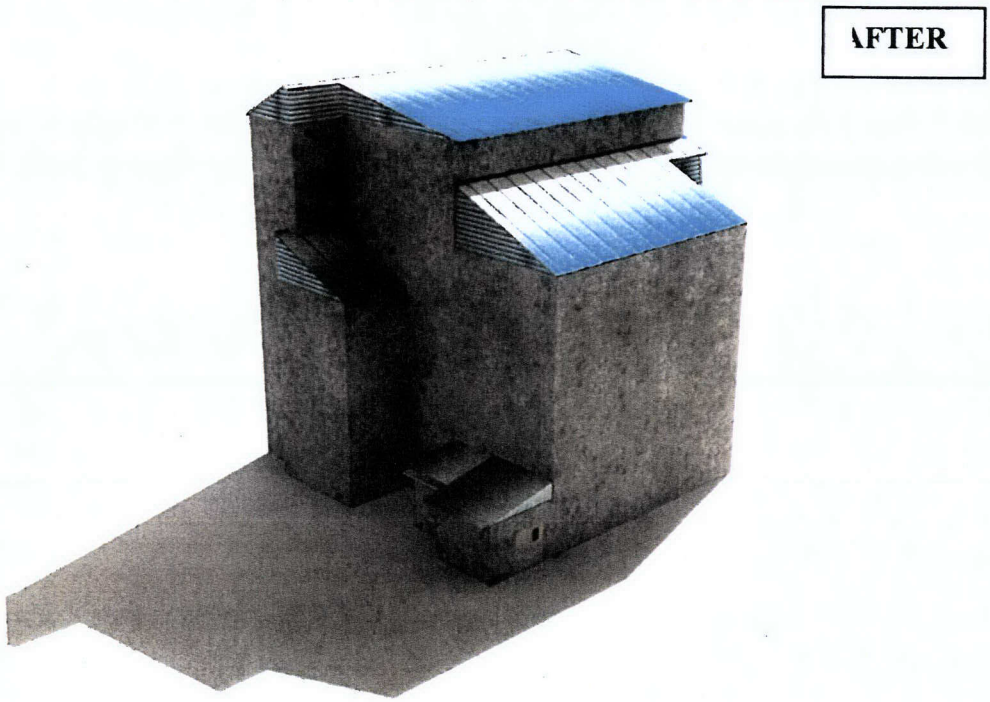


Figure 2-3~~32~~ab. 105-KE/105-KW Safe Storage Enclosure (Option B)~~After)~~.



Key elements of the SSE design are as follows:

- Provide effective enclosure for 100K Area ISS reactor facilities through:
  - Construction of a free-standing enclosure structure over the reactor building, or
  - Use existing 105-KE and 105-KW shield walls as the basis for establishing the SSE footprint and as prime components of the structure
- Remove exterior floors and decking to within the minimal acceptable distance of the walls for integrity of the remaining structure
- Place covers over openings in the reactor building and repair openings in damaged exterior siding panels to minimize intrusion by birds and pests (applies for option A)
- Plug large and small openings and penetrations (e.g., concrete pourbacks or sheet steel), as appropriate to the hazard (applies for option B)~~Seal all wall penetrations securely so penetration closures will not be dislodged in a seismic event or from wind loads~~
- Provide limited, nonroutine access into the SSE for S&M activities
- Identify and enclose/seal~~Address closure of~~ all subsurface tunnels and pipes (and other penetrations) that will be left in place to prevent water or pest intrusion and as isolation of the SSE from the environment
- Allow for decontamination of equipment and structural components to the extent reasonable for radioactive and hazardous material volume reduction, ALARA practices, and, if practical, the release of material for unrestricted use
- Provide a remote monitoring system for flooding and temperature monitoring with a readout at a central monitoring station.

2.1.6 Waste Site Integration

The D&D/D4 and ISS activities will need to be integrated with the remediation of the 100-KR-1 and 100-KR-2 soils such that there are no negative impacts between the two efforts.

Wells may be located near or within the footprint of the structures undergoing D&D/D4 and ISS activities. The wells may or may not be affected by the D&D/D4 and ISS activities. If required to facilitate D&D/D4 and ISS, the wells will be decommissioned.

Other contaminated underground structures (including french drains, pipelines, pipe tunnels, and pipe trenches) may be exposed or affected by removing the below-grade facility structures. The condition of these sites will be documented as part of the D&D/D4 and ISS process. The documentation shall include location of pipelines/pipe tunnels/pipe trenches (as appropriate) that intersect the site as an aid to future remediation