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TRI-PARTY AGREEMENT

Change Notice Number TPA-CN- 504	TPA CHANGE NOTICE FORM	Date: February 10, 2012
Document Number, Title, and Revision: Action Memorandum for the Non-Time-Critical Removal Action for the 105-KE and 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*.

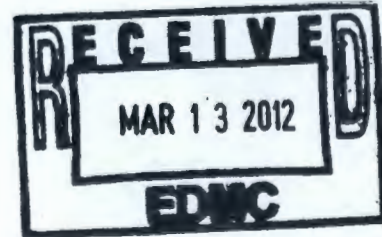
Updated pages 15 & 16. Section 5.1.2 Alternative II: ISS of the 105-KE and 105-KW Reactors followed by long-term S&M, and D4 of Ancillary Facilities and portions of the 105-KE and 105-KW reactor buildings. (See attached redline / strikeout); changes are indicated by strikeout of removed text. And double underline for added text..

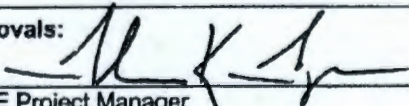
Total number of pages, including this cover: *3/4* including email from T.K. Teynor.
DJ 3/2/12

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:**

	<u>2-28-2012</u>	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
DOE Project Manager	Date	
<u>N/A See attached email T.K. Teynor to D.L. Norman 3/21/2012</u>	<u>3/21/2012</u>	<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved
EPA Project Manager	Date	
Not Applicable		<input type="checkbox"/> Approved <input type="checkbox"/> Disapproved
Ecology Project Manager	Date	

Action Memorandum for the Non-Time Critical Removal Action for the 105-KE and 105-KW Reactor Facilities and Ancillary Facilities

5.1.2 Alternative II: ISS of the 105-KE and 105-KW Reactors followed by long-term S&M, and D4 of Ancillary Facilities and portions of the 105-KE and 105-KW reactor buildings

Alternative II would consist of D4 of portions of the two reactor buildings (up to the reactor shield walls) and all of the remaining ancillary facilities, implementing ISS for the 105-KE and 105-KW Reactors, and associated waste disposal. Also included in this alternative is the construction of an SSE over the reactor block that would prevent advanced structural deterioration and potential release of radionuclide or other hazardous substances to the environment, followed by long-term S&M of the 105-KE and 105-KW Reactor Facilities with the Hanford Site institutional controls prescribed in the Remaining Sites ROD (EPA 1999a).¹ The goal of the ISS is to ensure that the SSE structure provides durable, long-term storage and safe access for interim inspections for the duration of the ISS period, through 2068, during which the reactor block for 105-KE and 105-KW would be prepared for transportation and transported to the 200 Area Plateau for disposal, as determined in the *Final Environmental Impact Statement, Decommissioning of Eight Surplus Production Reactors at the Hanford Site* (DOE 1992). Until the start of work within this alternative, the facilities will remain in the present S&M mode.

Demolition would apply to the ancillary facilities and portions of the 105-KE and 105-KW Reactor Facilities and may be preceded by dismantling building components, such as severing and removing ductwork or selectively removing a wall or structure. Demolition generally means large-scale destruction using heavy equipment (e.g., excavator with a hoe-ram, shears, and concrete pulverizer), explosives, or other industrial methods. Demolition of the facilities would consist of removing all above-grade structures. In some cases, it would also involve removing portions of the below-grade structures and underlying soil, as described in Section 2.3. The first phase of demolition at the 105-KE and 105-KW Reactor Facilities would involve removing the reactor support areas and any associated foundations outside the reactor shield walls, whether at grade or subsurface. Below-grade structures would be removed to a minimum of 0.9 m (3 ft) below surrounding grade. The second phase of reactor demolition would involve removing selected equipment, materials, and structural components from inside the reactor shield walls to prepare for the SSE.

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, ~~The~~ ~~the~~ existing reactor shield walls would be used as the primary enclosure for safe storage. Option B includes ~~Upon~~ ~~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 ~~would be constructed~~ (as required) to enclose the top of the reactor block and adjacent rooms. The roof would consist of structural steel and metal roof decking. The shield walls have supported the roof in earlier SSE structures, and the KE and KW designs are expected to be similar if option B is used. Openings between

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the new roof and top of the shield walls would be closed with wall panel siding similar to that of the new roof. Openings and penetrations within the shield walls would be closed; i.e., large and small openings or penetrations would be sealed by concrete pourbacks or steel plates, as appropriate.

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

As summarized in Table 5-1, the estimated cost of implementing Alternative ~~++II~~ for buildings included in the scope of the EE/CA is \$80.5 million. The cost estimates for Alternative II are provided in Table 5-1 in both the nondiscounted (2006 dollars) and discounted (present-worth) dollars. Discounting of the estimated costs was conducted in accordance with Sections 4 and 5 of the EPA, guidance in *A Guide to Developing and Documenting Cost Estimates During Feasibility Study* (EPA 2000b). A discount rate of 3.1 % was used as noted in Appendix C of *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs* (OMB 1992). All D4 and ISS actions were discounted over a 6-year period to reflect the expected project duration of 2006 to 2012. The long-term S&M costs for the SSE were discounted over a 48-year period to reflect the S&M from the end of ISS work until the start of reactor block removal.

Table 5-1. Cost Summary.

Cost Elements	Nondiscounted Alternative II	Discounted Alternative II	Nondiscounted Alternative III	Discounted Alternative III
All S&M - to include reactor buildings (with roof replacements) and all ancillary facilities	N/A	N/A	\$ 13,924,695	\$ 9,108,969
D4 of ancillary facilities	\$ 34,687,941	\$ 31,214,984	\$ 34,687,941	\$ 24,047,755
D4 of 105-KE and 105-KW without SSE	N/A	N/A	\$ 25,157,349	\$ 4,838,346
D4 of 105-KE and 105-KW with SSE	\$ 33,461,609	\$ 30,111,447	N/A	N/A
Long-term S&M of SSE	\$ 1,440,000	\$ 665,405	N/A	N/A
D4 waste from 105-KE and 105-KW	\$ 2,080,142	\$ 1,871,878	\$ 2,080,142	\$ 400,060
D4 waste from ancillary facilities	\$ 8,832,920	\$ 7,948,568	\$ 8,832,920	\$ 6,123,508
Alternative Totals	\$ 80,502,612	\$ 71,812,282	\$ 84,683,047	\$ 44,518,638

D4 = deactivation, decontamination, decommissioning, and demolition

N/A = not applicable

S&M = surveillance and maintenance

SSE = safe storage enclosure

Norman, Dottie L

From: Teynor, Thomas K
Sent: Tuesday, February 28, 2012 3:36 PM
To: Norman, Dottie L; Kehler, Kurtis L
Cc: Dowell, Jonathan A; Bryson, Dana C; 'Roger_A_Quintero@orp.doe.gov'; Dagan, Ellen B
Subject: Fw: Scanned Documents
Attachments: TPA Change Notice Forms.pdf

Signed CNs for your records. Rod agreed EPA was not a signatory of the Action Memo and did not sign it. Please let me know how to get the originals to you.

R/Tom

From: Snook, Julie A
Sent: Tuesday, February 28, 2012 03:26 PM
To: Teynor, Thomas K
Subject: Scanned Documents

Here you go!

Julie Snook
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