

0061816

Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement)

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## Proposed Tri-Party Agreement Modifications for

# Spent Nuclear Fuel Milestones (M-34-00)

Acceleration of K Basins Sludge Treatment and Disposal,  
Basin Remediation, and Delay in Sludge Retrieval

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Public Comment Period  
June 1 to July 16, 2004



*Hanford Federal Facility Agreement and Consent Order  
(Tri-Party Agreement)  
Proposed Modifications for:*

## **Spent Nuclear Fuel Milestones**

### **M-34-00 and M-16-00 Milestones**

**Acceleration of K Basins Sludge Treatment and Disposal  
Basin Remediation, and Delay in Sludge Retrieval**

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Tri-Party Agreement

### TENTATIVE AGREEMENT ON NEGOTIATIONS

#### Acceleration of K Basins Sludge Treatment and Disposal, Basin Remediation, and Delay in Sludge Retrieval

The U. S. Department of Energy, Richland Operations Office (RL) and the U.S. Environmental Protection Agency (EPA) have concluded negotiations on the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) M-034 and M-016 commitments for removal of sludge, debris, water and the K Basins. The M-016 commitments involve the removal of the basins and initiate remediation of contamination in the underlying soil.

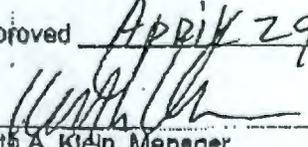
Tentative agreement has been reached and proposed change packages were developed in accordance with the Tri-Party Agreement. The Tri-Party Agreement Change Requests M-34-04-01 and M-16-04-04 were developed by and found mutually agreeable to the Parties.

The Parties intend that these change requests contain the series of milestones to measure progress of the K Basin remedial action, as well as, the remedial action of selected 100 Area Remaining Waste Sites. Both of these are remedial actions under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The accelerated sludge disposal work scope encompassed within the proposed M-034 commitments are deemed by the parties to be supportive of the "final" remediation of the 100 K Area. Spent Nuclear Fuel and Environmental Restoration milestones as described in this change package are considered by the Parties to be a comprehensive pathway to a safe and stable remediation that offers net positive environmental benefits.

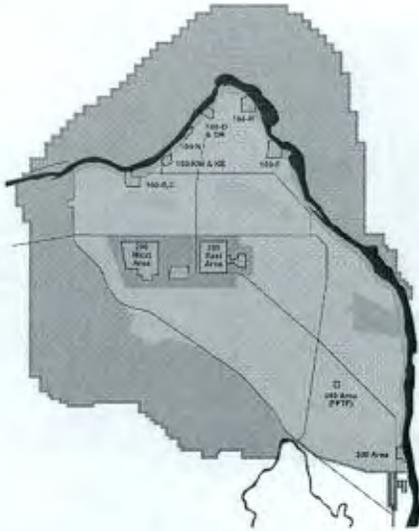
The Parties agree that the Record of Decision (ROD) for the 100-K Area Spent Nuclear Fuel (SNF) Basins will be modified to include treatment of sludge in order to prepare it for shipment to the Waste Isolation Pilot Plant (WIPP). A more detailed description of the waste management process for sludge that is classified as transuranic (TRU) waste will be provided in the Remedial Action Work Plan. While a date for completion of TRU sludge shipments to WIPP cannot be determined at this time, DOE agrees that the Remedial Action for the 100-K Area is not complete until shipment from Hanford to WIPP has taken place. Tri-Party Agreement Major Milestone M-016-00 requires completion of remedial actions for all non-tank farm operable units by September 30, 2024; therefore sludge shipments to WIPP will be completed no later than that date. However, consistent with CERCLA Section 120 requirements for the expeditious completion of all necessary remedial actions, DOE will seek to ship sludge to WIPP by Tri-Party Agreement Interim Milestone M-016-53 completion date of December 31, 2012. This milestone requires completion of Interim Response Actions for the 100-K Area. A portion of the treated sludge may be acceptable for disposal at ERDF as contemplated in the previously issued Interim Action ROD.

Final approval by the Parties is subject to public comment, Washington Department of Ecology consultation, and appropriate change request modifications, if required. The Parties will submit the proposed change package for a 45-day public comment period. Following conclusion of the public comment period, a response to comments document will be prepared and issued, the change request will be updated accordingly and a Conclusion Agreement will be prepared and signed by the Signatories. Following approval, the Spent Nuclear Fuel Tri-Party Change Request will be incorporated into the Tri-Party Agreement.

Approved April 29, 2004

  
Keith A. Klein, Manager  
U.S. Department of Energy  
Richland Operations Office

  
John Iani, Regional Administrator  
U.S. Environmental Protection Agency  
Region 10



# Proposed Changes to K-Basin Sludge and K-Basin Cleanup Milestones (M-34 and M-16)

U.S. Department of Energy - Washington State Department of Ecology - U.S. Environmental Protection Agency

The U.S. Department of Energy, the U.S. Environmental Protection Agency, and the Washington State Department of Ecology (the Tri-Party Agreement agencies) responsible for Hanford cleanup want your input on proposed changes to the Tri-Party Agreement (TPA). The proposed changes outline a strategy and schedule for accelerating K-Basin sludge treatment and disposal, removing the K-Basins and starting cleanup of the soils under the Basins that were used to store Hanford's Spent Nuclear Fuel (SNF).

## Background

The K-West and K-East Basins are located in the 100 Area on the Hanford Site near the Columbia River. These two basins were built in the 1950s to serve as temporary storage for spent nuclear fuel (SNF) from the K and N Reactors. Each basin is 125 feet long, 67 feet wide and 21 feet deep. They provided under water storage for 2100 metric tons of SNF. The SNF included intact and corroded (crumbling) fuel rods. The floors of the basins contain a collection of leftovers - degrading SNF, bits of materials from other parts in the basins, and the natural accumulation of insects and windblown dust - referred to as sludge (approximately 50 cubic meters).

Fuel removal from the basins began in December 2000. To date, approximately 90% of the fuel has been removed from the basins, dried, and placed in containers (multi-canister over packs) that are housed in a specially designed facility. When completed, the cleanout of the fuel, sludge, water and debris from the K-Basins will remove approximately 95% of the radioactivity from Hanford's 100 Area.



Spent Fuel Assemblies in the K-East Basin

## What are we proposing?

During the month of April the Tri-Party agencies conducted a series of negotiations to define a new strategy for the completion of cleanup activities at the K Basins. The draft change packages negotiated by the agencies revise milestone schedules that accelerate cleanup of the K-East and K-West Basins and treatment and disposal of the basin sludge. The schedule for the retrieval of sludge is slightly delayed from its original date; however, there are new milestones that require the sludge be containerized until retrieved and treated for final disposal at the Waste Isolation Pilot Plant in New Mexico. This interim containerization of the sludge in the basins provides additional environmental protection. In addition, new milestones create schedules for soil cleanup after the basins are removed.

## Public Comment Period

The Tri-Party Agencies want your feedback on proposed changes to K-Basin Sludge and K-Basin Cleanup Milestones.

The public comment period is from **June 1 through July 16, 2004.**



# Fact Sheet

Some of the milestones outlined in the M-34 and M-16 draft change packages include:

- Initiate containerization of K-East sludge by October 31, 2004; complete by March 1, 2005
- Complete containerization of K-West sludge by June 30, 2006
- Initiate treatment of sludge by February 28, 2007
- Complete treatment of sludge by October 31, 2007
- Initiate soil cleanup at K-East Basin by April 30, 2007
- Complete removal of the K-Basins and their content by March 31, 2009.

## How you can become involved

We will hold a 45-day public comment period on the proposed changes from **June 1 through July 16, 2004**. We want your feedback on these proposed schedule changes to the TPA. The agencies will consider all comments relevant to the change packages before the proposed changes are made final. At this time no public meetings have been requested. If you are interested in a public meeting in your community, please contact Yvonne Sherman at [yvonne\\_t\\_sherman@rl.gov](mailto:yvonne_t_sherman@rl.gov) or (509) 376-6216. Please submit comments to:

**Jim Todd**  
U.S. Department of Energy  
Richland Operations Office  
P.O. Box 550 (A5-18)  
Richland, Wa. 99352  
Fax: (509) 376-6621  
[james\\_w\\_todd@rl.gov](mailto:james_w_todd@rl.gov)

**Larry Gadbois**  
U.S. Environmental Protection Agency  
Hanford Project Office  
712 Swift Blvd., Suite 5  
Richland, Wa. 99352  
Fax: (509) 376-2396  
[gadbois.larry@epa.gov](mailto:gadbois.larry@epa.gov)

*If you have questions or would like to request a copy of the draft change packages, call the Hanford Cleanup Line 800-321-2008.*

*The documents can be viewed on line at <http://www.hanford.gov/tpa/changelist.htm>*

The documents are also available for review at the Public Information Repositories listed below.

### HANFORD PUBLIC INFORMATION REPOSITORY LOCATIONS

**Portland**  
Portland State University  
Branford Price and Millar Library  
934 SW Harrison  
Attn: Michael Bowman (503) 725-3690

**Richland**  
U.S. Department of Energy Public Reading Room  
Washington State University, Tri-Cities  
Consolidated Information Center, Room 101-L  
2770 University Drive  
Attn: Janice Parthree (509) 372-7443

**Seattle**  
University of Washington  
Suzzallo Library  
Government Publications Division  
Attn: Eleanor Chase (206) 543-4664

**Spokane**  
Gonzaga University Foley Center  
East 502 Boone  
Attn: Sarah Nelson (509) 323-6548

Information Repository web site address:  
<http://www2.hanford.gov/arpir/>

|  |   |   |                |  |
|--|---|---|----------------|--|
| <b>Change Number</b>   | <b>Federal Facility Agreement and Consent Order<br/>Change Control Form</b> |   | <b>Date:</b>   |  |
| M-034-04-01  | Do not use blue ink. Type or print using black ink.                         |   | April 29, 2004 |  |
| <b>Originator:</b> K. A. Klein   |   | <b>Phone:</b> (509) 376-7395                    |                |  |
| <b>Class of Change:</b>  |   |   |                |  |
| <input checked="" type="checkbox"/> I - Signatories  |   | <input type="checkbox"/> II - Executive Manager |                | <input type="checkbox"/> III - Project Manager |
| <b>Change Title:</b>   |   |   |                |  |
| Acceleration of K Basins Sludge Treatment and Disposal, Basin Remediation, and Delay in Sludge Retrieval   |   |   |                |  |
| <b>Description/Justification of Change:</b>  |   |   |                |  |
| <p>The Parties have agreed on a series of Tri-Party Agreement milestones to measure progress on, and ensure the safe accelerated remediation of the K East and K West Basins and treatment and disposal of the sludge. Retrieval of the sludge will be delayed, however sludge will be containerized to provide additional environmental protection until sludge is retrieved. The milestones described in this change package are considered by the Parties to be a comprehensive pathway to a safe and stable remediation that offers net positive environmental benefits. This strategy is consistent with the goals of the Parties to minimize waste handling and reduce risk to human health and the environment.</p> <p>A total of eleven Tri-Party Agreement milestone/target date changes are necessary to implement this strategy as shown on the next page.</p> <p>Modifications established by approval of this Tri-Party Agreement Change Request are denoted as <del>strikeout</del> for deletions/modification and shading for new text.</p> |   |   |                |  |
| <b>Impact of Change:</b>   |   |   |                |  |
| A total of eleven Tri-Party Agreement interim milestones and target dates would be impacted (accelerated, extended, deleted, or revised) by this change. Specifically, one major Tri-Party Agreement milestone is being extended, 6 interim milestones are being added, 3 interim milestones are being deleted and 1 target date is being deleted.   |   |   |                |  |
| <b>Affected Documents:</b>   |   |   |                |  |
| The Hanford Federal Facility Agreement and Consent Order, as amended, and Hanford Site internal planning management, and budget documents (e.g., USDOE and USDOE contractor Baseline Change Control documents; Multi-Year Work Plan; Sitewide Systems Engineering Control Documents; Project Management Plans, and, if appropriate, LDR Report requirements).  |   |   |                |  |
| <b>Approvals:</b>  |   |   |                |  |
| _____  | _____   | __ Approved                                     | __ Disapproved |  |
| K. A. Klein, RL Manager  | Date  |   |                |  |
| _____  | _____   | __ Approved                                     | __ Disapproved |  |
| L. J. Iani, EPA Region 10 Administrator  | Date  |   |                |  |
| _____  | _____   | __ Approved                                     | __ Disapproved |  |
| L. Hoffman, Ecology Interim Director   | Date  |   |                |  |

Tri-Party Agreement Change Request

M-34-04-01

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Tri-Party Agreement Milestone M-034-18B and M-034-25-T01 remain unchanged. Modifications to existing Tri-Party Agreement milestones are denoted with ~~redline/strikeout~~; new milestones/text are denoted with shading

| Number       | Description  | Date                                      |
|--------------|--|---|
| M-034-00A    | <p>Complete removal of the K Basins and their content. <del>spent nuclear fuel, sludge, debris and water at DOE's K Basins.</del></p> <p>Note: Unless otherwise noted, the term "K Basins" is used to denote both K East and K West Basins.</p> <p>This milestone will be complete when both K East and K West Basins, spent nuclear fuel, sludge, debris and water are removed.</p> | <p><del>7/31/2007</del><br/>3/31/2009</p> |
| M-034-08     | <p><del>Initiate full scale K East Basin sludge removal</del><br/>DOE shall complete and approve K East sludge removal definitive design documents, all associated construction, and readiness assessments, and initiate removal of sludge from the Basin.</p>   | 12/31/2002                                |
| M-034-09-T01 | <p><del>Complete K Basins rack and canister removal.</del><br/>All fuel storage racks and empty fuel canisters shall be removed from the K Basins.</p>   | 1/31/05                                   |
| M-034-10     | <p><del>Complete sludge removal from K Basins.</del><br/>Fuel processing in K Basins shall be complete, including the capture of fuel canister sludge in the integrated water treatment system and removal of visible floor and pit sludge.</p>  | 8/31/04                                   |
| M-034-21-T01 | Initiate full scale K West Basin water removal   | <p>10/31/2005<br/>12/31/2005</p>          |
| M-034-22     | Complete K West Basin water removal  | 8/31/06                                   |
| M-034-23     | Initiate full scale K East Basin water removal   | 9/30/04                                   |
| M-034-24     | Complete K East Basin water removal.   | 9/30/05                                   |
| M-034-30     | <p>Initiate Sludge Treatment</p> <p>This interim milestone will be complete following treatment and packaging of the first unit of sludge for disposal at WIPP into a form that is certifiable under the RH-TRU WIPP WAC at the time of treatment.</p>   | 2/28/07                                   |
| M-034-31     | <p>Complete Sludge Treatment</p> <p>This interim milestone will be complete following treatment and packaging of all sludge for disposal at WIPP or other facility as appropriate and approved by EPA into a form that is certifiable under the RH-TRU WIPP WAC at the time of treatment.</p>  | 10/31/07                                  |
| M-034-32     | <p>Complete Removal of the K East Basin Structure</p> <p>This interim milestone will be complete when spent nuclear fuel, sludge, debris and water are removed from the K East Basin and the upper building and concrete basin are removed.</p>  | 3/31/07                                   |

| Number   | Description  | Date   |
|----------|--|--|
| M-034-33 | Containerize K East Sludge, all K East sludge is placed in containers.<br>Sludge containerization initiation (10/31/2004)<br>Sludge containerization complete (03/01/2005) | As specified in the descriptive text of this milestone |
| M-034-34 | Complete removal of K East sludge  | 01/31/2006   |
| M-034-35 | Containerize K West Sludge<br>All K West sludge is placed in containers  | 06/30/2006   |

This change adds sludge processing to the scope of Tri-Party Agreement M-034 thereby accelerating its disposal. This change also adds the removal of the K East and K West Basin structures in advance of the current time table established in M-016-52 and M-016-53.

This change has evolved through programmatic reviews assessing the use of existing 200 Area waste management facilities for the interim storage of sludge for an unspecified time and the viability of treatment and packaging of the sludge for disposal at WIPP. The grout and remove approach toward deactivation of the basins will eliminate the need to remove all basin debris and reduce the potential worker exposure by minimizing the amount of decontamination required to attain acceptable radiation levels caused by radiological contamination that has migrated into the basins' concrete walls and floor.

The benefits of these changes are:

1. Accelerates sludge treatment for disposal
2. Reduces handling of sludge
3. Eliminates risks from long-term storage of untreated sludge
4. Accelerates sludge disposal at WIPP
5. Sequences and integrates basin deactivation activities with sludge removal activities.

Specific milestones for completion of water removal are no longer necessary, because water removal will be an integral component of the grout process and water must be removed prior to removal of the basin physical structure.

The M-034-30 milestone to initiate sludge treatment is not satisfied by treatment of the K East Basin sludge within the north loadout pit.

The Parties agree that the Record of Decision (ROD) for the 100-K Area Spent Nuclear Fuel (SNF) Basins will be modified to include treatment of sludge in order to prepare it for shipment to the Waste Isolation Pilot Plant (WIPP). A more detailed description of the waste management process for sludge that is classified as transuranic (TRU) waste will be provided in the Remedial Action Work Plan. While a date for completion of TRU sludge shipments to WIPP cannot be determined at this time, DOE agrees that the Remedial Action for the 100-K Area is not complete until shipment from Hanford to WIPP has taken place. Tri-Party Agreement Major Milestone M-016-00 requires completion of remedial actions for all non-tank farm operable units by September 30, 2024, therefore sludge shipments to WIPP will be completed no later than that date. However, consistent with CERCLA Section 120 requirements for the expeditious completion of all necessary remedial actions, DOE will seek to ship sludge to WIPP by Tri-Party Agreement Interim Milestone M-016-53 completion date of December 31, 2012. This milestone requires completion of Interim Response Actions for the 100-K Area. A portion of the treated sludge may be acceptable for disposal at ERDF as contemplated in the previously issued Interim Action ROD.

|                      |  |                |
|----------------------|--|----------------|
| <b>Change Number</b> | <b>Federal Facility Agreement and Consent Order<br/>Change Control Form</b><br>Do not use blue ink. Type or print using black ink. | <b>Date:</b>   |
| M-16-04-04           |  | April 29, 2004 |

|                                |                              |
|--------------------------------|------------------------------|
| <b>Originator:</b> K. A. Klein | <b>Phone:</b> (509) 376-7395 |
|--------------------------------|------------------------------|

|  |  |  |
|--|--|--|
| <b>Class of Change:</b>                |  |  |
| <input type="checkbox"/> - Signatories | <input checked="" type="checkbox"/> II - Executive Manager | <input type="checkbox"/> III - Project Manager |

|  |
|--|
| <b>Change Title:</b>   |
| Establish Tri-Party Agreement Interim Milestones under the M-016 series milestones to support K Basin Remediation Acceleration |

**Description/Justification of Change:**

The Parties have agreed on a series of TPA milestones to measure progress on, and ensure the safe accelerated soil remediation activities associated with the K East and K West Basins nuclear facilities. The milestones described in this change package are considered by the Parties to be a comprehensive pathway to a safe and stable soil remediation that offers net positive environmental benefits. This strategy is consistent with the goals of the Parties to minimize waste handling and reduce risk to human health and the environment.

This change establishes interim milestones for the acceleration of soil remediation after the complete removal of the 100 KE and 100 KW Basins. The proposed change is aligned with M-016 major milestone, *Complete All Interim Response Actions for the 100 Areas* due December 31, 2012.

Modifications established by approval of this Tri-Party Agreement Change Request are denoted as ~~strikeout~~ for deletions/modification and shading for new text.

| Milestone | Description  | Date       |
|-----------|--|------------|
| M-016-57  | Initiate Soil Remediation at K East Basin<br>Initiate full scale remedial action of the 105-KE fuel storage basin waste site within one month of completing milestone M-34-32  | 04/30/2007 |
| M-016-58  | Initiate Soil Remediation at K West Basin<br>Initiate full scale remedial action of the 105-KW fuel storage basin waste site within one month of completing milestone M-34-00A | 04/30/2009 |

**Impact of Change:**

Integrates M-034 and M-016 activities to ensure that the work is conducted in an efficient manner and modifies regulatory requirements governing Hanford response activities. Administrative action required to incorporate this change in to Appendix D of the Tri-Party Agreement.

**Affected Documents:**

The Hanford Federal Facility Agreement and Consent Order, as amended, and Hanford Site internal planning management, and budget documents (e.g., USDOE and USDOE contractor Baseline Change Control documents; Multi-Year Work Plan; Sitewide Systems Engineering Control Documents; Project Management Plans, and, if appropriate, LDR Report requirements).

|  |       |             |                |  |
|--|-------|-------------|----------------|--|
| <b>Approvals:</b>                          |       |             |                |  |
| _____                                      | _____ | __ Approved | __ Disapproved |  |
| J. B. Hebdon, RL IAMIT Representative      | Date  |             |                |  |
| _____                                      | _____ | __ Approved | __ Disapproved |  |
| N/A  | Date  |             |                |  |
| J. E. Rasmussen, ORP IAMIT Representative  | Date  |             |                |  |
| _____                                      | _____ | __ Approved | __ Disapproved |  |
| N. Ceto, EPA IAMIT Representative          | Date  |             |                |  |
| _____                                      | _____ | __ Approved | __ Disapproved |  |
| M. A. Wilson, Ecology IAMIT Representative | Date  |             |                |  |