

Change Number M-93-97-01	Federal Facility Agreement and Consent Order Change Control Form <small>Do not use blue ink. Type or print using black ink.</small>	Date 3/28/97
Originator Agreement Negotiation Team		Phone
Class of Change <input checked="" type="checkbox"/> I - Signatories <input type="checkbox"/> II - Executive Manager <input type="checkbox"/> III - Project Manager		
Change Title Negotiation of initial commitments for the completion of Hanford surplus production reactor final facility disposition. Establishment of new Hanford Federal Facility Agreement and Consent Order (Agreement) major milestone series M-93-00.		
Description/Justification of Change See page 2 for Description/Justification of Change.		
Impact of Change Approval of this change request by the parties establishes a new major milestone, and associated interim milestones and target dates governing decommissioning/disposition of the DOE's 100 Area surplus production reactors. No other Agreement major or interim milestones are affected. This approach is consistent with the Environmental Restoration Program's existing baseline and the Environmental Restoration Long-Range Plan. On approval, Hanford Site planning and budget development documents (e.g., Sitewide Systems Engineering control documents and Multi Year Work Plans) will be modified accordingly.		
Affected Documents Hanford Federal Facility Agreement and Consent Order, as amended. Hanford Site planning and budget development documents (e.g., Sitewide Systems Engineering control documents and Multi Year Work Plans).		
Approvals		
DOE <i>John D. Wagoner</i>	8/22/97 ✓ Approved ___ Disapproved ___ Date	
EPA <i>Randall J. Smith</i>	8/28/97 ✓ Approved ___ Disapproved ___ Date	
Ecology <i>Tom [Signature]</i>	8-25-97 ✓ Approved ___ Disapproved ___ Date	

Description/Justification of Change (continued):

The Agreement's Fourth Amendment (January 1994), and subsequent Environmental Restoration Refocusing negotiations (See Agreement change request M-16-94-03, May 1995), documented the parties commitment to negotiate schedules for the cleanup and removal of eight of Hanford's surplus production reactors, and to complete these negotiations no later than December 31, 1996. A subsequent Agreement in Principle covering these reactor negotiations was approved by the U.S. Department of Energy (DOE), the Washington State Department of Ecology (Ecology) and U.S. Environmental Protection Agency (EPA) [the parties] on December 31, 1996 which extended this commitment date to March 31, 1997.

DOE has considered the environmental impacts, risks, benefits and costs, and institutional and programmatic needs associated with the decommissioning of eight surplus production reactors at the Hanford Site (C, F, B, D, DR, H, KE & KW). This analysis was documented in DOE's Final Environmental Impact Statement (FEIS), Decommissioning of Eight Surplus Production Reactors at the Hanford Site, Richland, Washington (DOE/EIS-0119F, December 1992). The results of this review resulted in a 1993 record of decision (ROD) which documented the selected (final disposition) alternative of interim safe storage followed by deferred one-piece removal of the eight surplus reactors (Due to interest in a B reactor engineering accomplishment museum and/or landmark, it was recognized that cleanup activities at B reactor may take a different course). With this potential exception noted, final disposition of Hanford's surplus production reactors will be conducted in a phased approach as follows:

- Disposition Phase I: Interim Safe Storage (ISS) of the Reactors - Interim Safe Storage (ISS) is the first stage of final disposition. It consists of (i) ensuring that facility hazardous substances are, and will remain, safe and secure, and (ii) reducing the footprint of the reactor building to the primary shield wall, and sealing all openings such that the facility is in an environmentally safe and secure condition prior to initiation of disposition phase II. During reactor ISS all ancillary structures surrounding the shield wall will be removed. Resulting wastes will be disposed at Hanford's Environmental Restoration Disposal Facility (ERDF), or other disposal facility as may be approved by the parties. On completion of ISS, surveillance and maintenance systems will be upgraded as appropriate to provide for remote monitoring of the remaining structure prior to disposition phase II.

- Disposition Phase II: Final Disposition of the Reactors - Final disposition of the reactors will consist of removing the reactor cores from their present location to a disposal facility in the 200 Area of the Hanford Site as specified in the FEIS-ROD. Associated structure(s) and residual wastes will be removed so as to meet established cleanup requirements pertaining to Hanford's 100 Area. Resulting wastes will be disposed at Hanford's ERDF, or other disposal facility as may be approved by the parties.

The surplus reactor FEIS ROD also documented DOE's commitment to complete surplus reactor disposition consistent with Agreement remedial action cleanup schedules, and its recognition that doing so would result in reactor safe storage period(s) of less than the

reactor FEIS ROD prove to be inconsistent with Agreement CERCLA and RCRA activities (e.g., activities under Agreement milestone M-16-00), it would re-evaluate the priority of selected alternative actions, and whether it may be more appropriate to proceed with the selected alternative on an Operable Unit-by-Operable Unit basis. In recognition: (i) of this commitment; (ii) of the conservatism associated with some reactor disposition assumptions (e.g., land use planning, environmental impact, cost, risk, public and worker health and safety, and coordination with other Agreement activities); and (iii) of the potential that more efficient and effective decommissioning may be achieved through the use of new and innovative technologies and designs, the parties have agreed to the issuance of a reactor disposition Competitive Procurement Initiative. This initiative will be designed with the objective of aiding the parties in ascertaining the most effective and efficient approach to selected alternative implementation for the final disposition of the reactors. The procurement initiative will evaluate the existing baseline assumptions and technologies, incorporate new approaches, and present recommendations for continuing with the ISS approach or proceeding directly to final removal of the reactor. The timing of this initiative (February 2002) has been designed so as to complement and coincide with knowledge gained through interim safe storage of Hanford's first two surplus reactors (C&F).

Following acquisition of this information, the parties have committed to negotiate remaining surplus reactor disposition schedules (see M-93-14 and 15).

Prior to the initiation of reactor disposition phase II the DOE will place and maintain Hanford's surplus production reactors in a condition sufficient for "interim safe storage" (see definitions and associated work schedules within this tentative agreement). The parties recognize that though Hanford's eight surplus production reactors have not undergone formal "facility transition", each has been transferred organizationally to DOE'S Environmental Restoration (ER) Program, and are under Surveillance and Maintenance (S&M). Hanford's 105&109-N reactor facilities will be placed under S&M when deactivation is complete in 1997. Final disposition of the reactors (with the potential exception of B reactor) will consist of the removal of the reactor cores from their present locations along the Columbia River to a waste disposal facility in the 200 Area of the Hanford Site, in accordance with the FEIS-ROD.

N reactor specific considerations: Because Hanford's N reactor had yet to be shut down, DOE'S FEIS ROD was restricted to the site's eight other reactor facilities. Consequently, DOE has committed to prepare, and to present for public comment, appropriate environmental documentation. N reactor is expected to follow a disposition path similar to Hanford's other surplus production reactors, and by agreement of the parties its disposition is within the scope of this M-93-00 milestone series.

In addition, and due to design considerations, the parties agree that ISS of Hanford's N reactor will include both the 105 and 109-N buildings. The 109-N building (Heat Exchanger Building) contains a portion of the N reactor primary cooling water system. Consequently, it is impracticable to consider 109-N as a facility separate from 105-N and its reactor confinement system.

B reactor specific considerations: The parties recognize that B reactor has been placed on the National Register of Historic Places, and that the reactor may be converted into a national engineering accomplishment museum and/or landmark. However, the path forward for making necessary reactor disposition cleanup decisions, and facility configuration decisions should B reactor be preserved have not been fully identified at this time. Consequently, for purposes of this Agreement, the parties' activities focus on ensuring the integration of Agreement "cleanup" decision processes and those conducted pursuant to the National Historic Preservation Act (NHPA). Prior to final decision making, B reactor will be placed and maintained in a safe and environmentally secure condition (see M-93-04, 05 and 06-T01).

C reactor specific considerations: The parties are proceeding with Interim Safe Storage (ISS) of the C Reactor (105-C) as a Large-Scale Demonstration Project supported by DOE'S Office of Science and Technology (EM-50). This project will demonstrate full scale field testing of at least twenty (20) facility decommissioning technologies. Completion of C reactor ISS will provide a far safer S&M work environment prior to reactor disposition phase II, and will greatly reduce the potential for environmental release, and intrusion. C reactor ISS (disposition phase I) activities will fully support implementation of the FEIS ROD.

The parties recognize that C Reactor ISS implementation is a demonstration and that future ISS is contingent on success in the demonstration.

This change control form establishes the following major and interim milestones and target dates for the disposition of the surplus reactors:

<u>MILESTONE</u>	<u>DESCRIPTION</u>	<u>DUE DATE</u>
M-93-00	Complete final disposition of all 100 Area surplus production reactor buildings. 100 Area surplus production reactor buildings consist of the following: 105-D, 105-DR, 105-H, and 105/109-N (Ecology lead), and 105-B, 105-C, 105-F, 105-KE, and 105-KW (EPA lead).	TBD

105-C Reactor Interim Safe Storage

- M-93-01 Submit recommendation for final disposition of the 105-C Fuel Storage Basin to EPA for approval. December 1997
- The decision for final disposition of 105-C Fuel Storage Basin will be made based on the results of the Data Quality Objectives process, and concrete and soil sampling analysis. The final disposition decision will be consistent with the 100-B/C Remedial Action Interim Record of Decision.
- M-93-02 Submit 105-C Surveillance and Maintenance Plan for EPA approval in part. July 1998
- This Milestone will be met by a S&M Plan submittal for the 105-C Reactor, or an addendum to an existing S&M Plan, covering conditions after ISS of the reactor is complete. The details of the S&M activities will be covered by project procedures.
- M-93-03 Complete 105-C Reactor Interim Safe Storage Large-Scale Demonstration Project. September 1998
- This milestone includes the completion of all activities necessary to place the 105-C Reactor facility in a safe storage mode in preparation for final disposition (consistent with an approved S&M Plan and Project Design Report). The ISS of C Reactor includes the demonstration of innovative D&D technologies and the dismantlement of all 105-C facility structures outside the reactor primary shield wall. These activities include hazard stabilization, asbestos abatement, facility decontamination, pipe-cutting, fuel basin clean out, and structure removal to the primary shield wall.

105-B Reactor Interim Safe Storage

105-B Reactor Agreement activities will be coordinated with, and dependent in part on National Historic Preservation Act (NHPA) decision processes.

- M-93-04 Submit 105-B hazards assessment and characterization report to EPA. June 1999

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| M-93-05 | Issue B Reactor Phase II Feasibility Study Engineering Design Report for public comment. | June 2000 |
| M-93-06-T01 | Submit B Reactor Surveillance and Maintenance Plan for EPA approval in part. | June 2001 |

This target will be modified to a specific interim milestone date on the completion of M-93-05.

105-F Reactor Interim Safe Storage

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| M-93-07 | Initiate 105-F ISS characterization and design. | October 1999 |
| M-93-08-T01 | Submit 105-F hazards assessment and characterization report to EPA. | June 2000 |

The hazards assessment and characterization report will identify hazardous substances that will be addressed during ISS. The information will be used to assist the project in providing a safe work environment during ISS and for determining the disposal requirements and costs. The assessment will be submitted to the lead regulatory agency.

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| M-93-09 | Initiate 105-F ISS field activities. | October 2000 |
| M-93-10 | Submit 105-F Surveillance and Maintenance Plan for EPA approval in part. | July 2003 |
| M-93-11 | Complete 105-F Interim Safe Storage. | September 2003 |

This milestone includes the completion of all activities necessary to place the 105-F Reactor facility in a safe storage mode in preparation for final disposition (consistent with an approved S&M Plan and Project Design Report). The ISS of F Reactor includes the dismantlement of all 105-F facility structures outside the reactor primary shield wall. These activities include hazard stabilization, asbestos abatement, facility decontamination, pipe-cutting, fuel basin clean out, and structure removal to the primary shield wall.

105-DR reactor Competitive Procurement Initiative

M-93-12 Issue 105-DR disposition competitive procurement package February 2002
for ascertaining the most effective and efficient
approach to FEIS ROD selected alternative
implementation.

The 105-DR disposition competitive procurement package initiative will be designed to aid the parties in selecting the most effective and efficient approach to implement or revise the Final Environmental Impact Statement Record of Decision selected alternative. This initiative will request an evaluation of existing baseline assumptions and lessons learned from the 105-C and 105-F Interim Safe Storage projects. It will also request an evaluation of new and innovative approaches for final disposition and will request a recommendation whether to continue with ISS approach or proceed directly to final disposition. Initiative deliverables will include, but are not limited to: (i) a detailed review of the technical baseline for surplus reactor removal and final disposition, (ii) a detailed evaluation of present day engineering and technology capabilities, (iii) updated evaluations of other FEIS ROD assumptions, (iv) a recommended alternative for final disposition, (v) a revised conceptual design for final disposition based on the above analysis and recommended alternative, and (vi) an analysis comparing proceeding with ISS versus proceeding directly to final disposition. This initiative will include incentive clauses to ensure that the most innovative and comprehensive technical evaluations are presented.

- M-93-13 Initiate Characterization and Design of ISS for the 105-DR reactor October 2002
- M-93-14 Initiate negotiation of remaining surplus reactor disposition schedules. June 2003
- M-93-15 Complete negotiation of remaining surplus reactor disposition schedules. December 2003
- M-93-16-T01 Complete 105-DR Reactor Interim Safe Storage. September 2005
Completion of this target date includes the completion of all activities necessary to place the DR Reactor facility in a safe storage mode in preparation for final disposition. See also interim milestone M-93-12.

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M-93-18-T01	Complete Interim Safe Storage for the 105-H Reactor.	September 2009
M-93-19-T01	Complete 105/109-N Reactor ISS design.	September 2009
M-93-20-T01	Complete 105-N Interim Safe Storage.	TBD
M-93-21-T01	Complete 105-KW Interim Safe Storage.	TBD
M-93-22-T01	Complete 105-KE Interim Safe Storage.	TBD