

Change Number M-92-96-01	Federal Facility Agreement and Consent Order Change Control Form <small>Do not use blue ink. Type or print using black ink.</small>	Date June 14, 1996
-----------------------------	---	-----------------------

Originator Ecology/DOE	Phone
---------------------------	-------

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

Change Title
Creation of new Major milestone M-92-00 and its sub-elements governing the acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for the storage, treatment/processing, and disposal of Hanford site Cesium and Strontium capsules (Cs/Sr), Unirradiated Uranium (UU), Bulk Sodium (Na), and 300 Area Special Case Waste (SCW).

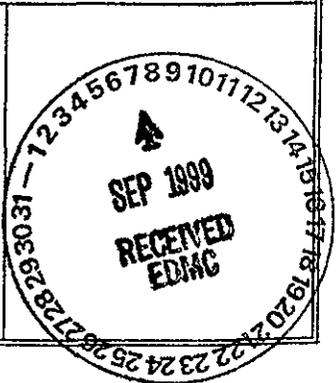
Description/Justification of Change
Agreement Milestone M-33-00 was established to: (1) prompt the development of milestones necessary for the storage, treatment/processing and disposal of Hanford site solid wastes and hazardous materials not yet covered under the Hanford Federal Facility Agreement and Consent Order (Agreement), and (2) prompt the development and incorporation of Agreement modifications designed to aid in achieving integrated management of all aspects of Hanford site "cleanup" (including but not limited to waste and materials management, remedial action, and site closure).

Impact of Change
These M-92-96-01 agreements are made in partial fulfillment of Land Disposal Restriction (LDR) treatment requirements of Agreement milestone M-26-00 (which constitutes an existing Agreement or Order for treatment of mixed waste for purposes of the Federal Facility Compliance Act of 1992 (FFCA)), and as companion documentation to Land Disposal Restriction (LDR) documents submitted by DOE pursuant to Agreement milestone M-26-00. The Parties recognize and agree to establishment of additional schedules and milestones for completion of facility acquisition and for completion of treatment and disposal processes, as adequate information becomes available as determined by the lead regulatory agency or DOE.

Approval of this change request by the Parties establishes a new major milestone, and associated interim milestones and target dates governing the acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities for the storage, treatment/processing, and disposal of Hanford site Cesium and Strontium capsules (Cs/Sr), Unirradiated Uranium (UU), Bulk Sodium (Na), and 300 Area Special Case Waste (SCW). On approval, Hanford site planning and budget development documents (e.g., Sitewide System Engineering control documents, Project Management Plans, and Multi Year Work Plans) will be modified accordingly.

Affected Documents
Hanford Federal Facility Agreement and Consent Order, as amended by its Sixth Amendment, February 1996), Hanford site internal planning and budget documents (e.g., Sitewide System Engineering control documents, Project Management Plans, and Multi Year Work Plans).

Approvals <i>John D. Wagoner</i> DOE	12/16/96 Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
<i>Cheryl Clark</i> EPA	12/14/96 Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved
<i>Mary R. Leland</i> Ecology	12/24/96 Date	<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved



To meet these objectives the Parties have negotiated Agreement modifications under change request numbers L-96-01, M-90-96-01, M-91-96-01, and M-92-96-01.

This M-92-96-01 change request establishes a new major milestone (M-92-00 and its sub-elements) governing the acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for the storage, treatment/processing, and disposal of Hanford site Cesium and Strontium capsules (Cs/Sr), Unirradiated Uranium (UU), Bulk Sodium (Na), and 300 Area Special Case Waste (SCW). Cs/Sr, Na, and SCW Project Management Plans (PMP) described here have been agreed to based on the Parties recognition that milestones established by this M-92-96-01 change request will remain as constraints on PMP design and management of the projects themselves. It is also noted that in the instance of Hanford site Cs/Sr capsules (see milestones M-92-01 through M-92-05) such capsules would not be solid wastes when they can be shown to be recycled by being used or reused as effective substitutes for commercial products as provided in chapter 173.303.017 WAC.

Major and interim milestones, and associated target dates established by approval of this change request are as follows:

M-92-00	Complete acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for the storage, treatment/processing, and disposal of Hanford site Cesium and Strontium capsules (Cs/Sr), bulk Sodium (Na), and 300 Area Special Case Waste (SCW).	TBE (by October 1998)
---------	--	-----------------------

CESIUM AND STRONTIUM CAPSULES (Cs/Sr)

M-92-01	Complete commercial disposition and/or acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for sitewide consolidation, and storage prior to commercial use, or treatment and/or repackaging by DOE TWRS.	December 2009
---------	--	---------------

Completion of this milestone requires the completion of commercial disposition and/or all construction, internal/external facility(s) modifications, and startup activities necessary for the treatment /processing, repackaging (if necessary), and storage of Cs/Sr (to include unencapsulated salts) located at the: (1) ARECO facility in Lynchberg VA (25 capsules), (2) Hanford 300 Area (13 capsules at the 327 pool facility and excess Cs/Sr salts at the 324 facility), and (3) Hanford Waste Encapsulation and Storage Facility (WESF) in the 200 East Area.

- M-92-02 Submit Hanford Site Cs/Sr Project Management Plan (PMP) to Ecology pursuant to Agreement Action Plan section 11.5. September 1997
- The Hanford Site Cs/Sr PMP will include all plan elements required by Agreement Action Plan section 11.5 (to include a final feasibility evaluation and determination regarding vitrification of 300 Area Cs/Sr at the 324 melter). Approval of the Cs/Sr PMP and accompanying Agreement change requests will establish all major project tasks and deliverables for treatment, storage, disposal of Hanford Cs/Sr including commercial sector management activities, modification of existing facilities, and/or construction of new facilities.
- M-92-03 Submit modified Hanford facility Part A permit application to Ecology incorporating all Hanford site Cs/Sr capsules (300 Area and unencapsulated salts) for which a commercialization contract has not been executed. December 1997
- M-92-04 Complete transfer of all 300 Area Cs/Sr to WESF and/or an approved storage location. December 1998
- M-92-05 Inclusion of Hanford site Cs/Sr "treatment and/or repackaging parameters" in DOE TWRS phase II Request For Proposals (treatment and/or repackaging of all remaining Cs/Sr). June 2003

UNIRRADIATED URANIUM

- MX-92-06-T01 Complete commercial disposition and/or the acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for storage, treatment/processing, and disposal/disposition of all Hanford site UU. December 2000
- This target date includes all UU located in 300 Area Fuel Supply Facilities (Uranium dioxide powder and pellets stored in cans, pins, assemblies, and drums), Uranium Trioxide (UO₃) powder stored in T-hoppers adjacent to the U Plant, depleted UO₃ stored in 55 gallon drums in the 200 West Area and the 4713 building.
- MX-92-07-T01 Submit Hanford Site UU Project Management Plan (PMP) to Ecology pursuant to Agreement Action Plan section 11.5. December 1997
- The UU PMP and accompanying Agreement change requests will establish all major project tasks and deliverables for treatment, storage, disposal of Hanford UU including sale or commercial sector management activities, modification of existing facilities, and/or construction of new facilities.

MX-92-08-T01 Submit Hanford site UU Disposition Assessment Report. June 1998

The Hanford Site UU Disposition Assessment Report shall include a facility needs assessment should UU treatment, repackaging, and/or consolidation be necessary. This report shall also include an assessment of expected impacts on other Agreement projects.

SODIUM

M-92-09 Complete acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for storage, treatment/processing, and disposal of Hanford site sodium. TBE (by October 1998)

M-92-10 Submit Hanford Site Sodium Project Management Plan (PMP) to Ecology pursuant to Agreement Action Plan section 11.5. October 1998

The Hanford Site Sodium PMP will include all plan elements required by Agreement Action Plan section 11.5.

Should DOE determine (pursuant to the Hanford Site Sodium PMP and Agreement interim milestone M-50-03) that TWRS use of Hanford Site radioactive sodium (FFTF, Hallam & Sodium Reaction Experiment) is warranted, it shall specify in its TWRS, High Level Waste Vitrification Plant Request For Proposal(s) that use of Hanford site radioactive sodium is a requirement.

Should the Hanford Site PMP and findings pursuant to Agreement interim milestone M-50-03 determine that TWRS use of Hanford site radioactive sodium is not warranted DOE shall issue accompanying proposed Agreement change requests for alternate Hanford Site radioactive sodium disposition (e.g., necessary milestones and target dates associated with the construction of the sodium reaction facility). See also Agreement target date M-81-02-T01.

MX-92-11-T01 Complete disposition options for all Hanford non-radioactive sodium. March 2002

	Associated interim milestones and/or target dates established under other Agreement major milestones.	
M-81-02-T01 (Revised)	Submit Final Sodium Disposition Evaluation Report/ Decision Point	June 1998
From TPA Amendment V	<p>Under this target DOE will submit its final report following evaluation of the acceptable sodium product form for the TWRS tank sludge pretreatment process (i.e., caustic washing). This evaluation will be conducted in concert with TWRS TPA milestone M-50-03 (due date March 31, 1998). This Hanford Site radioactive (FFTF, Hallam, and Sodium Reaction Experiment) sodium evaluation will address other conversion options for disposal of the sodium if the product use for TWRS is not viable. Regardless of which option is selected, a new sodium reaction facility will be constructed adjacent to the sodium storage facility to convert the bulk metallic sodium to the appropriate chemical form. This report will include a decision on the final disposition of the Hanford Site radioactive sodium (e.g., disposal or reuse). Appropriate milestones and target dates will be established for construction and operation of the sodium reaction facility based on the option selected.</p> <p style="text-align: center;">300 AREA SPECIAL CASE WASTE* <i>* (See attached inventory listing for description)</i></p>	
M-92-12	Complete acquisition of new facilities, modification of existing facilities, and/or modification of planned facilities necessary for consolidated storage prior to disposal of Hanford site 300 Area Special Case Waste (SCW).	September 2006
M-92-13	Submit 300 Area SCW Project Management Plan (PMP) to Ecology pursuant to Agreement Action Plan section 11.5.	September 2000
	<p>The 300 Area SCW PMP will include all plan elements required by Agreement Action Plan section 11.5. including but not limited to: (i) 300 Area SCW wastes and materials inventory (buildings 325, 327, and other 300 Area buildings/facilities), (ii) characterization and hazardous waste designation results associated with inventory wastes and materials, (iii) detailed descriptions of phases I, II, and III SCW removal, transport and storage, and (iv) an analysis of the sufficiency of site wide SCW storage capabilities.</p>	
M-92-14	Complete removal and transfer, and initiate storage of phase I 300 Area SCW waste and materials.	September 2002
	<p>Phase I inventory will consist of, at minimum, one-third the total curie content of all 300 Area SCW.</p>	

M-92-15 Complete removal and transfer, and initiate storage of phase II 300 Area SCW waste and materials. September 2004

Phase II inventory will consist of, at minimum, half of the remaining curie content of 300 Area SCW.

M-92-16 Complete removal and transfer, and initiate storage of phase III 300 Area SCW wastes and materials. September 2006

Phase III inventory will consist of any remaining 300 Area SCW wastes and materials.

Associated interim milestones established under other TPA major milestones.

M-89-05 Complete 324 Facility SCW Assessment in support of 324 closure. June 1998

(Reference
TPA
Amendment V)

LISTING OF SPECIAL WASTES AND MATERIALS IN THE 300 AREA
CATEGORIZED AS "300 AREA SPECIAL CASE WASTE" UNDER
THE TPA M-92 MILESTONE
JUNE 13, 1996

The attached list describes the inventory of wastes and materials in the 300 Area which are subject to the requirements of the M-92 milestones for "300 Area Special Case wastes" (SCW). For purposes of developing this inventory, SCW is considered to be radioactive waste generated by DOE-funded activities for which there is no economic disposal or storage pathway provided via the most recent version of the "Hanford Site Solid Waste Acceptance Criteria", WHC-EP-0063. Material residues in building systems (such as particulates in ventilation systems which are still active) are not included. Typical SCW types in the 300 Area include:

- - > Cat3 Low-level Waste (GTC3LLW)
- High-activity, high dose rate streams of:
 - Low-level mixed waste (LLMW)
 - Transuranic and transuranic mixed waste (TRU/TRUM)
- Residual material from the testing of irradiated fuel. These residues are comprised of fuel pin fragments, dispersed particulate, and/or chemically altered fuel that cannot be readily retrieved and packaged with the fuel assemblies and intact pins.

The inventory was developed through consultation with staff responsible for the materials and with environmental support personnel. The inquiry was focused on areas (such as hot cells) which were judged to be likely locations for SCW, although non-hot cell facilities were also queried.

The inventory reflects best judgement as to which materials meet the definition of SCW. For instance, several fuel assembly-type materials in inventory are not shown because it is believed that the fuel can be readily retrieved, packaged with their assemblies, and managed pursuant to the requirements for spent fuel.

Omitted from this inventory is any material covered under other existing and currently proposed milestones, such as M-89, M-90, M-91, or covered under other portions of M-92 (e.g., 324 B-Cell and HLV tank wastes, unirradiated uranium, spent nuclear fuel, cesium and/or strontium capsules).

This 300 Area SCW inventory will be updated as necessary. Updates may be necessary in the event that the WHC-EP-0063 acceptance criteria are revised or that additional 300 Area wastes and materials are identified during the planned facility waste and material assessments or during disposition activities for the identified wastes and materials. As a result, this inventory list may increase or decrease over time.

Summary Information for Proposed M-92 Milestones on Special Case Waste In The 300 Area
(May 30, 1996)

300 Area Location	Location in Building	Waste/Material	Approximate Wt/Vol/Cl	Risk	Comment
324 Bldg	A-Cell	German Glass Logs	34 cans, 12 in X 48 in, 8.3 MCl total	low	Funding is in place from Germany to remove.
	D-Cell	Nonfuel Bearing Hardware		low	Funding for removal is in place,
	Basement	Neptunium Oxide Powder (basement)	9.05 Kg	low	
325 Bldg. 325-A Cells					
	B-Cell	Pieces of Fuel Rod Material and Pins From Fuel Rods-- (Shipingsport, Yankee, and Saxton Fuel)	1.2 Kg, 1.1 Cl		In a 2" Swagelock Nipple labeled as B-Cell Blend
	B-Cell	Fragments of Yankee Fuel	1.7 Kg, 1.8 Cl		3" x 3" Pipe
	B-Cell	Saxton Fuel-derived Plutonium	5.7 g, 0.5 Cl		2" x 1" Pipe labeled as Saxton Fuel
	B-Cell	Np-237	23 mCl		In TK-13 (A tank under the tray in B-Cell). A nitrate solution.
	Gloveboxes	Dissolved N-Reactor Fuel (unirradiated)	5.8 Kg		Room 516-- 5.8 Kg in Nitric Acid

12/12/98 11:37 09 372 3508 RL AMW FED I/A *** WPD 200 EAST

300 Area Location	Location in Building	Waste/Material	Approximate Wt/Vol/Ci	Risk	Comment
325 Bldg. 325-B Cells (Note: These cells are part of the 325 IIWTUs, an interim status storage and treatment unit)	Cell 1	1. RH-TRU mixed waste from TWRS tank characterization 2. RH-TRU miscellaneous hot cell dry waste with fuel pieces mixed in. 3. High dose rate hot cell waste, incl. cladding, cell wipes, miso.	1. (20) 5-quart containers 2. (10) 1-gallon containers. 3. (35) 4&5 quart containers.		1. Dose rate precludes economical packaging for transfer to CWC. 2. ~1/3 of containers grouted. ~2/3 of containers not grouted. 3. High dose rate LLW and/or TRU waste. No hazardous constituents.
	Cell 3	Oxides of pieces of irradiated fuel.	17 sections of pipe with diameters 1-3", length 6-12".		Fragmented fuel segments, includes chopped up cladding.
327 Bldg	A-Cell	Pieces of fuel.	~150+ 1-gallon buckets.		Stored throughout hot cells.
	D-Cell	Pieces of irradiated fuel pellets.	Stored in Al tubes 3/4" diam, 1-2' long.		Fuel originally from Peachbottom, HB Robinson, Turkey Point.
	H-Cell	Pieces of irradiated fuel pellets.	Stored in Al tubes 3/4" diam, 1-2' long.		Fuel originally from Peachbottom, HB Robinson, Turkey Point.
	R-Cell	Solvent-contaminated wipes, sorbents, etc.	1-2 1-gallon cans		Waste isolated from fuel cans in A-Cell

300 Area Location	Location in Building	Waste/Material	Approximate Wt/Vol/Cl	Risk	Comment
	Water Storage Basin	Spent ion exchange column.	SS pipe, 16' long, 2' diameter, dose rate ~200 R/hr.	low	Column used for removal of Cs-134, Cs-137, possible TRU.
	Dry Storage Cell	1. Pieces of irradiated fuel pellets. 2. Pieces of irradiated fuel pellets. 3. Pieces of irradiated fuel pellets embedded in resin blocks.	1. ~100 small (in cans. Cans limited to 7g fissile. 2. Stored in Al tubes 3/4" diam, 1-2' long. 3. ~400 small cans, ~1.5g fuel material per resin block, <7 g material per can.		1. Pellets and pieces are stored in Al tubes within cans. 2. Fuel originally from Peachbottom, HD Robinson, Turkey Point. 3. Each resin block contains ~ half a fuel pellet.
NonPNNL Bldgs in 300 Area					
340	Throughout	Tank heels and heels in ancillary equipment and containment structures (and/or decontamination waste resulting from future closure activities)	TBD	low	This system is still in service, but will be closed at a date to be determined soon. Removal from service is expected in or before 1999, at which time closure activities would begin.
340-A	Throughout	Tank heels (sludge) which has settled out from waste held in the tanks	60-120 ft ³	low	The sludge in these tanks is category 3 TRU-mixed waste.