



Department of Energy
 Richland Operations Office
 P.O. Box 550
 Richland, Washington 99352

MAY 12 2008

08-AMCP-0176

Ms. J. A. Hedges, Program Manager
 Nuclear Waste Program
 State of Washington
 Department of Ecology
 3100 Port of Benton
 Richland, Washington 99354

RECEIVED
 MAY 15 2008
 EDMC

Dear Ms. Hedges:

HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER
 (TRI-PARTY AGREEMENT) INTERIM MILESTONE M-016-14b, CHANGE REQUEST
 M-16-08-03

The purpose of this letter is to submit Tri-Party Agreement Interim Milestone M-016-14b, Change Request M-16-08-03 to the State of Washington Department of Ecology for approval. This change package extends the due date of the 100-NR-01/02 Proposed Plan from August 31, 2008, to December 31, 2009. This action allows for sufficient time to evaluate the effectiveness of the second (full strength) injection of apatite-forming solutions at the 100-N sequestration barrier. This proposal has been vetted through John Price and Dib Goswami of your staff.

Per Tri-Party Agreement Interim Milestone M-16-14b, the U.S. Department of Energy, Richland Operations Office (RL) is required to "submit a draft Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) proposed plan to either amend the 1999 100-NR-01/NR-02 Record of Decision (ROD) for interim action or to propose a new ROD. The proposed plan will evaluate the permeable reactive barrier technology as well as other alternatives and select a new alternative in accordance with CERCLA requirements," by August 31, 2008. The parties have agreed to construct and test a 300 foot permeable reactive barrier across the most concentrated portion of the strontium-90 plume in accordance with an approved, and recently amended, treatability test plan, "Strontium-90 Treatability Test Plan for 100-NR-2 Groundwater Operable Unit (DOE-RL-2005-96)."

The test plan provides an injection strategy designed to minimize the release of strontium-90 to the river by injecting the apatite mineral's components in two phases. The first phase injects relatively weak concentrations to emplace apatite in the barrier without releasing excess strontium-90 to the river. The first injection is to be evaluated for effectiveness and the minerals are allowed to mature from amorphous to crystalline form. This phase is complete and field data support proceeding with the second phase of apatite emplacement. The second injects a stronger concentration and is intended to add robustness and increase the life of the barrier. Both

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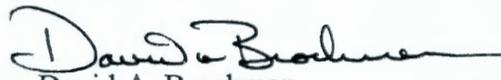
injections are timed for the summer high river stage where groundwater is at its highest elevation to maximize the effectiveness of the barrier. The first injection occurred in the summer of 2007 and the second is scheduled for the summer of 2008. The existing milestone due date of August 31, 2008, will not provide performance data from the second injection test for the required proposed plan.

The Parties agree that the proposed plan will need a year of performance data after the second injection for an adequate evaluation of the barrier's effectiveness. The Parties agree by approving this change package to modify the interim milestones due date to December 31, 2009.

Phytoremediation is anticipated to be a component of the apatite sequestration remedial alternative. Low growth of willows occurred during the summer of 2007 due to high river levels. The low growth slowed the pilot test. RL will continue the phytoremediation tests during 2008, 2009 and beyond, if necessary. RL will evaluate phytoremediation in the proposed plan. This extension also allows for further information to be gathered on this supplemental technology.

If there are any questions, please contact me, or your staff may contact Matt McCormick, Assistant Manager for the Central Plateau, on (509) 373-9971.

Sincerely,


David A. Brockman
Manager

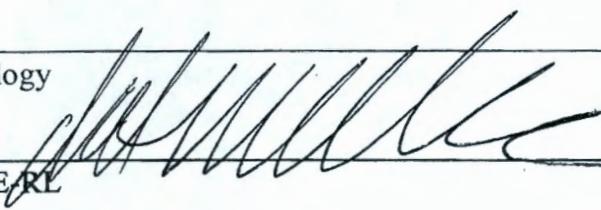
AMCP:KMT

Attachment

cc w/attach:

N. Ceto, EPA
D. Goswami, Ecology
R. E. Piippo, FHI
J. B. Price, Ecology
J. G. Vance, FFS

Administrative Record
Environmental Portal

Change Number M-16-08-03	Federal Facility Agreement and Consent Order Change Control Form Do not use blue ink. Type or print using black ink.	Date March 20, 2008
Originator Mike Thompson		Phone (509) 373-0750
Class of Change <input type="checkbox"/> I – Signatories <input checked="" type="checkbox"/> II – Executive Manager <input type="checkbox"/> III – Project Manager		
Change Title Modification of Hanford Federal Facility Agreement and Consent Order (HFFACO) interim milestone M-016-14b due date extension for good cause.		
Description/Justification of Change Approval of this change package extends the due date of Hanford Federal Facility Agreement and Consent Order (HFFACO) interim milestone M-016-14b. Per Milestone M-16-14b, DOE is required to "submit a draft CERCLA Proposed Plan (PP) to either amend the 1999 100-NR-01/NR-02 ROD for the Interim Action or to propose a new ROD. The PP will evaluate the permeable reactive barrier technology as well as other alternatives and select a new alternative in accordance with CERCLA requirements" by August 31, 2008. The parties have agreed to construct and test a 300 foot permeable reactive barrier across the most concentrated portion of the strontium-90 plume in accordance with an approved, and recently amended, treatability test plan, "Strontium-90 Treatability Test Plan for 100-NR-2 Groundwater Operable Unit (DOE-RL-2005-96)." (Continued on Page 2)		
Impact of Change This change will not have any impact to the health and safety of workers or the environment.		
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; Site Wide Systems Engineering Control Documents; Project Management Plans, and, if appropriate, LDR Report requirements).		
Approvals		
Ecology	 _____ Date	_____ Approved _____ Disapproved
DOE/RL	_____ Date	_____ X _____ Approved _____ Disapproved
N/A	_____ Date	_____ Approved _____ Disapproved
EPA	_____ Date	_____ Approved _____ Disapproved

Description/Justification of change

The test plan provides an injection strategy designed to minimize the release of strontium-90 to the river by injecting the apatite mineral's components in two phases. The first phase injects relatively weak concentrations to emplace apatite in the barrier without releasing excess strontium-90 to the river. The first injection is to be evaluated for effectiveness and the minerals are allowed to mature from amorphous to crystalline form. This phase is complete and field data support proceeding with the second phase of apatite emplacement. The second injects a stronger concentration and is intended to add robustness and increase the life of the barrier. Both injections are timed for the summer high river stage where groundwater is at its highest elevation to maximize the effectiveness of the barrier. The first injection occurred in the summer of 2007 and the second is scheduled for the summer of 2008. The existing milestone due date of August 2008 will not provide performance data from the second injection test for the required proposed plan. The Parties agree that the proposed plan will need a year of performance data after the second injection for an adequate evaluation of the barrier's effectiveness. The Parties agree by approving this change package to modify the interim milestones due date to December 31, 2009.

Phytoremediation had been anticipated a polishing part of a remedial alternative relying on apatite sequestration. Low growth of willows occurred during the 2007 summer due to high river levels. The low growth slowed the pilot test. DOE will continue the phytoremediation tests during 2008, 2009 and beyond, if necessary. DOE will evaluate phytoremediation in the proposed plan. This extension allows for further information to be gathered.

Modifications to existing Tri-Party Agreement milestones are denoted with ~~strikeout~~; new milestone/text are denoted with shading.

M-016-14b	Submit a draft CERCLA Proposed Plan (PP) to either amend the 1999 100-NR-01/NR-02 ROD for the Interim Action or to propose a new ROD. The PP will evaluate the permeable reactive barrier technology as well as other alternatives and select a new alternative in accordance with CERCLA requirements	08/31/2008 12/31/2009
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