



START

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Department of Energy

Richland Field Office

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Richland, Washington 99352

9206581

SEP 27 1992

92-DSD-003

Mr. Fred A. Olson, Acting Director
State of Washington
Department of Ecology
Mail Stop PV-11
Olympia, WA 98504

Ms. Dana Rasmussen
Regional Administrator
U. S. Environmental Protection Agency
Region 10
Seattle, WA 98101



Dear Mr. Olson and Ms. Rasmussen:

HANFORD FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (TRI-PARTY AGREEMENT)
CHANGE PACKAGE M-01-92-01A

Please find the enclosed copy of change control form M-01-92-01A which provides the Department of Energy's (DOE's) proposal to modify schedules for completion of milestone M-01-00 "Complete 14 Grout campaigns of double-shell tank waste and maintain currency with feed thereafter."

This change package provides the technical justification for the delay in the restart of Grout operations and the modification of the milestones associated with the grouting of Double-Shell tank waste. The proposed delay and modifications stem from: the uncertainty associated with the petition before the NRC challenging the definition of certain Double-Shell tank wastes as incidental wastes; the required rewrite of the Performance Assessment for grout to address the concerns raised by the DOE-HQ Performance Assessment Peer Review Panel; and the on-going problems associated with the heat of hydration of the grout and the need to pour the grout campaigns in lifts. These concerns and issues have been detailed to your technical staffs at the State of Washington's Department of Ecology (WDOE) and the EPA, Region 10, through an issue paper. This issue paper has been further discussed in a meeting with WDOE and EPA.

While I recognize that it is in neither of our best interest to continue to delay the restart of grouting operations, it is essential that we take all the right steps up front before starting the grouting process. Toward this end it is proposed that we take the additional time to ensure that grouting operations will meet regulatory requirements for hazardous waste treatment, NRC requirements which characterize this material as incidental waste and DOE requirements for the protection of the surrounding environment from the disposal of low level radioactive wastes.

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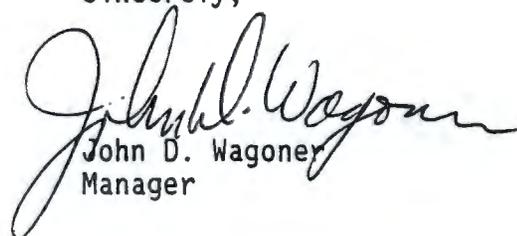
Fred Olson/Dana Rassmussen
92-DSD-003

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The original change request is being forwarded with this letter to Ecology. Once signed, Ecology is requested to forward the change request to EPA for signature and return to DOE-RL.

Please contact me and provide me with any comments or concerns surrounding the delay in the restart of grouting operation. If you or your staff require additional information, John Anttonen (509) 376-7591 or Jim Bauer on (509) 376-7229 will ensure your questions are answered.

Sincerely,


John D. Wagener
Manager

cc: B. A. Austin, WHC
P. T. Day, EPA
D. B. Jansen, Ecology
N. Pierce, Ecology
T. B. Veneziano, WHC

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Change Number

M-01-92-01A

Federal Facility Agreement and Consent Order
Change Control Form

Date

Do not use blue ink. Type or print using black ink.

Originator

G. H. Sanders

Phone

(509) 376-6888

Class of Change

I - Signatories

II - Project Manager

III - Unit Manager

Change Title

Technical Justification For The Delay Of Grout Operations

Description/Justification of Change This change package provides the justification for the delay in the restart of Grout operations and the modification of the milestones associated with the grouting of Double-Shell tank waste. The proposed delay and modifications stem from: the uncertainty associated with the petition before the NRC challenging the definition of certain Double-Shell tank wastes as incidental wastes; the required rewrite of the Performance Assessment for grout to address the concerns raised by the DOE-HQ Performance Assessment Peer Review Panel; and the on-going problems associated with the heat of hydration of the grout and the need to pour the grout campaigns in lifts. These concerns and issues have been detailed to the State of Washington's Department of Ecology (WDOE) and the EPA, Region 10, through an issue paper. That issue paper has been discussed in a meeting with WDOE and EPA, and comments requested. How to proceed with Grout operations while considering these issues and concerns is still in question and requires decision making by DOE, WDOE and EPA.

The Petition before the NRC, submitted by the States of Washington and Oregon, asks the NRC for formal rule making defining incidental waste and to (continued, Pg. 2)

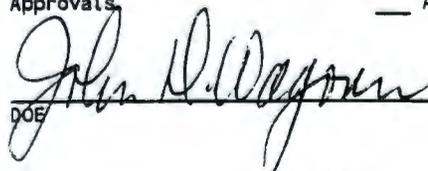
Impact of Change The delay in grouting double-shell tank (DST) waste will delay the Grout milestone, M-01, and create potential safety issues in the near future by reducing the availability of DST space. This reduction impacts the ability to mitigate tank waste with demonstrated safety concerns as well as the ability to separate, treat and stage HWVP feed material. These activities include other TPA milestones such as M-05, Stabilization, M-07, Retrieval and M-08 Closure. The delay will precipitate changes to the implementation of the grout program. Work scope which is no longer critical path, such as new vault construction and the operational readiness review, will be delayed until this work is required to support the next grout campaign.

Affected Documents The Federal Facility Agreement and Consent Order and related documents and data bases. The Grout Program planning and baseline documentation. Tank Waste Remediation System Decision Plan and related TWR documentation.

Approvals

Approved

Disapproved



9/27/92
Date

EPA

_____ Date

Ecology

_____ Date

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Description/Justification of Change (Cont.)

reevaluate the application of the incidental waste definition to certain double-shell tank (DST) waste at Hanford. These DST wastes are currently slated for disposal as low level waste utilizing the grouting process and near surface disposal vaults. At the heart of the petition issue is the quantity of radionuclides disposed of in the nearsurface vaults. Should the NRC accept the premise that additional radionuclides are required to be removed from this waste before grouting, all the waste currently in double-shell tanks, including double-shell slurry (DSS) and double-shell slurry feed (DSSF) would require pretreatment.

Currently, DOE is proceeding at risk while working toward the restart of grout operations without an NRC resolution of the petition. Should pretreatment be required for DSS/DSSF, it is likely that a 5-10 year delay in the grout program will result. New facilities must be designed and constructed to carry out pretreatment operations. Further, the requirement to treat the waste will physically change the waste characteristics, precipitating changes to the PA, grout formulations and possibly grout vault design. This could invalidate much of the ongoing work in these areas. The continued uncertainty associated with the NRC ruling dictates that prudent management suspend the construction of new grout vaults and the restart of the grout facility until the NRC decision and petition resolution have been finalized.

Significant comments have been received from the HQ PA Peer Review Panel relative to the long-term performance of grout. The Grout PA is being rewritten to address these comments. The PA provides the documentation to the public and DOE management that disposal of low-level radioactive waste in grout meets the established criteria for protection of the public and the environment from the hazards of radioactive wastes. As such, it is essential that a defensible PA be written.

The Grout program will continue to work at risk on the Grout Performance Assessment (PA) to expand and reevaluate the PA in accordance with the Peer Review Panel's guidance. The DOE-HQ Peer Review Panel concluded the PA must provide justification for each assumption made, that sensitivity analyses be performed on the calculations, and that projections be carried to the peak release of radionuclides to the environment. In addition, the Peer Review Panel requested comparison of analyses to compliance requirements and demonstration of the protection of ground water. The requested additional documentation, new calculations and additional analyses greatly expands the scope of the PA.

Currently, the schedule projects a delay in the completion and approval of the PA until 9/93. This will delay the proposed restart of the grout operation to 10/93. The DOE internal milestone for completion of the PA draft submittal to the HQ Peer Review Panel will be established for 3/93 and an internal milestone for the Peer Review Panel submittal of comments back on the draft PA will be established for 6/93. Resolution of the PA Peer Review Panel comments and the completion of the remaining documentation for startup of Grout operations once the PA has been finalized is expected to take an additional 3 months. DOE proposes that milestone M-01-01A, Complete and verify 2 campaigns of double-shell tank waste, be reestablished for 10/94. Additional milestones will be established in September 1993 as part of milestone M-01-02. These two milestones are contingent on a favorable NRC decision and petition resolution by June of 1993. If the NRC decision and petition resolution are not reached by June 1993, the September 1993 milestone negotiation will reflect this impact on the schedule.

Description/Justification of Change (Cont.)

Milestone M-01-02A calls for the initiation of the construction of grout vaults 106-109 starting in November of 1992. The completion of design and the start of vault construction are proposed to be delayed to consider design changes which may be required by the approved PA and the NRC rulings. Changes may also result from the expansion of the ORR based on recent experience on DOE facility startups and feed back received on these startups from the congressionally established Defense Nuclear Facility Safety Board which is responsible for overseeing DOE activities.

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The current milestone schedule for the completion of grout campaigns calls for up to 4 campaigns a year. This aggressive schedule, as emphasized during the negotiations in the spring of 1991 and in Change Request M-01-90-03 establishing the current schedule, was based on resolving heat of hydration problems. Resolution of the heat of hydration problems would allow pouring grout in a single pour without encountering the high heat generation which could degrade the performance of the grout structurally and environmentally. While progress has been made to date, the heat of hydration problems have not been completely resolved. Grout formulation work has ameliorated some of the heat problems, but that has not eliminated the need to pour grout campaigns in lifts. Pouring grout campaigns in lifts will slow the process and lengthen the time to complete the grouting of a million gallons of waste from a single tank. Because a final solution to the heat of hydration is not readily apparent, it is likely the grout campaigns will be poured in lifts.

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There are two basic alternatives for approaching the heat of hydration problem. The first alternative is to reduce the number of campaigns projected each year. This would result in an extended schedule to meet M-01-00. The second alternative is to perform an engineering evaluation of process and design improvements which would maintain the current projection of grouting four million gallons of waste each year. DOE proposes the latter and requests that an interim milestone for August, 1993 be established to deliver the study to the regulators. The time between grout campaigns will be established at this point and new milestones would be established for future grout operations and for grout vault construction.

CURRENT GROUT MILESTONES

M-01-00	Complete 14 grout campaigns of double-shell tank waste by December 1996 and maintain currency with feed thereafter.	Dec. 1996
M-01-01	Complete a total of 3 grout campaigns of double-shell tank wastes (includes one campaign of phosphate-sulfate waste) (Replaced by M-01-01A and M-01-01B.)	Sept. 1991
M-01-01A	Complete and verify 2 campaigns of double-shell tank waste (this includes one campaign of phosphate-sulphate waste)	Sept. 1993

M-01-01B	Complete 1 additional campaign of double-shell tank waste (this makes a total of three campaigns including 1 phosphate-sulfate waste campaign)	Dec. 1993
M-01-02	Complete 3 campaigns of double-shell tank waste in CY 1994	Dec. 1994
M-01-02A	Initiate construction of vaults 106-109	Nov. 1992
M-01-03	Complete 4 campaigns of double-shell tank waste in CY 1995	Dec. 1995
M-01-03A	Initiate construction of vaults 110-113	Nov 1993
M-01-04	Complete 4 campaigns of double-shell tank waste in CY 1996	Dec. 1996
M-01-04A	Initiate construction of vault 114	Nov. 1994
M-01-05	Commitments for additional grout campaigns after December 1996 will be incorporated as interim milestones	Biennially beginning Sept. 1996

PROPOSED GROUT MILESTONES

M-01-00	Complete 14 grout campaigns of double-shell tank waste and maintain currency with feed thereafter.	TBD
M-01-01	Complete an engineering study on the heat of hydration process and design improvements	Aug. 1993
M-01-01A	Complete and verify 2 campaigns of double-shell tank waste (this includes one campaign of phosphate-sulphate waste), contingent on a favorable NRC decision and petition resolution by June 1993	Oct. 1994
M-01-02	Propose new milestones for the completion of double-shell tank waste grout campaigns, maintaining currency with feed and building new grout vaults. The new milestones will be contingent on a favorable NRC decision and petition resolution by June 1993	Sept. 1993

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M-01-01B	Complete 1 additional campaign of double-shell tank waste (this makes a total of three campaigns including 1 phosphate-sulfate waste campaign	Delete
M-01-02A	Initiate construction of vaults 106-109	Delete
M-01-03	Complete 4 campaigns of double-shell tank waste in CY 1995	Delete
M-01-03A	Initiate construction of vaults 110-113	Delete
M-01-04	Complete 4 campaigns of double-shell tank waste in CY 1996	Delete
M-01-04A	Initiate construction of vault 114	Delete
M-01-05	Commitments for additional grout campaigns after December 1996 will be incorporated as interim milestones	Delete

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