04-ESQ-0215

U.S. Department of Energy
Office of River Protection
Mr. R. J. Schepens
Manager
P.O. Box 450, MSIN H6-60
Richland, Washington 99352

CCN: 094059

SEP 15 2004

Dear Mr. Schepens:

CONTRACT NO. DE-AC27-01RV14136 – TRANSMITTAL OF DECISION TO DEVIATE FROM THE AUTHORIZATION BASIS FOR THE HANFORD TANK WASTE TREATMENT AND IMMOBILIZATION PLANT (24590-LAW-DTD-ENS-04-0001, REVISION 0)

The purpose of this letter is to provide notification to the U.S. Department of Energy (DOE), Office of River Protection (ORP) of a decision to deviate (DTD) from the authorization basis for the Hanford Tank Waste Treatment and Immobilization Plant. This DTD is being processed in accordance with the Preliminary Safety Analysis Report and project procedures. This letter satisfies the 72-hour written notification requirement.

An Authorization Basis Amendment Request (ABAR) (24590-WTP-SE-ENS-03-051) will be submitted to ORP that will propose the addition of two 6,000-gallon ammonia vessels. DTD 24590-LAW-DTD ENS-04-0001 allows the installation of three buried ammonia transfer lines that will be used (as part of future proposed design changes in ABAR 24590-WTP-SE-ENS-03-051) to transfer ammonia to the High-Level Waste and Low-Activity Waste facilities from the Balance of Facility ammonia storage facility.

The procurement of these ammonia transfer lines is currently being completed and will occur before the ABAR addressing the implementation of the changes in the design can be processed and approved. This DTD is necessary to minimize unacceptable schedule delays.

Safety Evaluation 24590-WTP-SE-ENS-04-0173, Revision 0, is included as an attachment to the DTD. Project procedures require that an ABAR reconciling deviations be sent to DOE for approval within 30 days of the DTD approval.

This DTD will be tracked in the Recommendation and Issues Tracking System to ensure attention to process and closure schedules.

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DOE-ORP/ORPCC

Please contact Mr. Mark Platt at 371-3365 for any questions or comments on this transmittal.

Very truly yours,

J. P. Henschel
Project Director

MP/slr

Attachment - Decision to Deviate 24590-LAW-DTD-ENS-04-0001, Revision 0, plus accompanying Safety Evaluation 24590-WTP-SE-ENS-04-0173, Revision 0

cc:

Armstead, J. M. w/o	WTP	MS14-3B
Beranek, F. w/o	WTP	MS4-A1
Clements, W. T. w/o	WTP	MS12-2A
Colby, S. A. w/a	WTP	MS12-2B
DOE Correspondence Control w/a	ORP	H6-60
Eschenberg, J. w/a	ORP	H6-60
Garrett, R. L w/o	WTP	MS4-A1
Henschel, J. P. w/o	WTP	MS14-3C
Krahn, D. E. w/a	WTP	MS12-2B
Medsker, M. A. w/a	WTP	MS12-2B
Miller, L. F. w/a	ORP	H6-60
PDC w/a	WTP	MS11-B
Pisarcik, D. J. w/a	WTP	MS4-A2
Platt, M. A. w/a	WTP	MS4-B1
Ryan, T. B. w/a	WTP	MS4-B1
Sautman, M. T. w/a	DNFSB	A5-17
Short, J. J. w/o	ORP	H6-60
Spezialetti, W. R. w/o	WTP	MS4-B1
Tosetti, R. J. w/o	WTP	MS4-A2

Decision to Deviate
24590-LAW-DTD-ENS-04-0001, Revision 0, plus
Accompanying Safety Evaluation
24590-WTP-SE-ENS-04-0173, Revision 0

R10375553

Decision to Deviate from the Safety Envelope

DTD No: 24590-LAW-DTD-ENS-04-0001 Rev No: 0

The approvers of this form have determined that it is critical to project progress to temporarily deviate from the safety envelope as allowed in RL/REG-97-13. This temporary situation will be corrected no later than 90 days from the date this form is approved by the Area Project Manager. Environmental and Nuclear Safety (E&NS) is responsible for notifying DOE verbally within 24 hours, and in writing (including a copy of this form) within 3 working days, after the DTD is approved.

Safety Evaluation No. 24590-WTP-SE-ENS-04-0173, Rev 0

Identify the specific design changes that are not in compliance with the safety envelope (include the document numbers of affected design documents).

An ABAR (24590-WTP-SE-ENS-03-051) is being prepared that authorizes the addition of two 6000-gallon ammonia vessels. The two ammonia vessels will be located at the southeast corner of the WTP site, approximately 500 feet from the nearest processing facility.

Affected Design Documents		
Number	**Rev.**	**Title**
24590-LAW-M6-AMR-00001	0	P&ID-LAW ANHYDROUS AMMONIA REAGENT SYSTEM

Planned Design Documents*		
Number	**Rev.**	**Title**
24590-BOF-C5-AMR-00001	0	ANHYDROUS AMMONIA REAGENT DRAWING INDEX, KEY PLAN GENERAL NOTES AND LEGEND
24590-BOF-C5-AMR-00002	0	ANHYDROUS AMMONIA REAGENT PLAN AND PROFILE FOR AMR1 STA. 0+00 TO 3+00
24590-BOF-C5-AMR-00003	0	ANHYDROUS AMMONIA REAGENT PLAN AND PROFILE FOR AMR1 STA. 3+00 TO 6+00
24590-BOF-C5-AMR-00004	0	ANHYDROUS AMMONIA REAGENT PLAN AND PROFILE FOR AMR1 STA. 6+00 TO 9+00
24590-BOF-C5-AMR-00005	0	ANHYDROUS AMMONIA REAGENT PLAN AND PROFILE FOR AMR1 STA. 9+00 TO 12+00
24590-BOF-C5-AMR-00006	0	ANHYDROUS AMMONIA REAGENT PLAN AND PROFILE FOR AMR1 STA. 12+00 TO 15+00
24590-BOF-C5-AMR-00007	0	ANHYDROUS AMMONIA REAGENT PLAN AND PROFILE FOR AMR1 STA. 15+00 TO 18+00
24590-BOF-C5-AMR-00008	0	ANHYDROUS AMMONIA REAGENT PLAN AND PROFILE FOR AMR1 STA. 18+00 TO 21+00
24590-BOF-C5-AMR-00009	0	ANHYDROUS AMMONIA REAGENT PLAN AND PROFILE FOR AMR1 STA. 21+00 TO 22+00
24590-BOF-C5-AMR-00010	0	ANHYDROUS AMMONIA REAGENT MISCELLANEOUS DETAILS
24590-BOF-C5-AMR-00011	0	ANHYDROUS AMMONIA REAGENT MISCELLANEOUS DETAILS

* These documents have not been issued at the time the DTD is issued, but it is anticipated these will be issued during the 90-day window.

Describe the specific deviation from the safety envelope associated with implementing the change. Identify the AB document(s) and the affected section(s).

Three buried ammonia transfer lines (i.e., AMR-GM-00014-C31B-02, AMR-GM-00014-C31B-01, & AMR-GM-00013-C31B-02), used to transfer ammonia to the HLW and LAW facilities, will deviate from the Authorization Basis. See attached Safety Evaluation 24590-WTP-SE-ENS-04-0173, Rev. 0.

Decision to Deviate from the Safety Envelope

DTD No: 24590-LAW-DTD-ENS-04-0001 Rev No: 0

Affected AB Documents			
Number	Rev.	Title	Section
N/A	N/A	N/A	N/A

In addition to the Safety Evaluation referenced above, perform an evaluation to determine the following:

☒ The specific design changes do not cause or threaten imminent danger to the workers, the public, or the environment from radiological, nuclear, or chemical hazards.

Prepared by:

Scott Colby	Scott Colby	9-1-04
Print/Type Name	*Signature*	*Date*

Decision to deviate from the safety envelope concurred with by:

Sean Sweeney		9/2/04
ADS / DEM Staff Supervisor *(Print/Type Name)*	*Signature*	*Date*
RICHARD GARRETT	FOR F. BERNEK	9/9/04
~~Mark Medsker~~		~~9-1-04~~ RLG 9/9/04
E&NS Manager *(Print/Type Name)*	Signature	*Date*

NOTE: E&NS is responsible for the 24-hour verbal and 3-day written notifications to DOE-OSR as described above.

Decision to deviate from the safety envelope approved by:

Janet Roth / Ken Khianey	Janet Ken Roth	9/2/04
APEM / DEM *(Print/Type Name)*	*Signature*	*Date*
Bill Clements	~~W.J. Clements~~	~~9/7/04~~
Area Project Manager *(Print/Type Name)*	*Signature*	*Date*
	W.J. Clements	9/13/04

Attachment: Safety Evaluation 24590-WTP-SE-ENS-04-0173, Rev. 0

Safety Evaluation For Design

Safety Evaluation No.:	24590-WTP-SE-ENS-04-0173	Rev. # 0
EDR No.:	N/A	Rev. # N/A
Design Documents Evaluated:	24590-LAW-DTD-ENS-04-0001	Rev. # 0
Consists of Parts: ☒ 1 ☐ 2		
Title: Installation of Buried Ammonia Transfer Lines		

Part 1 Safety Evaluation

Complete Part 1 for all design changes requiring this form. Refer to Appendix 4 of 24590-WTP-GPP-SREG-002 for guidance. Part 1 determines whether the design change requires an ABAR. For all questions, provide a "Basis" for the answer in sufficient detail that a knowledgeable individual can identify the technical issues considered and the basis for the determinations. If the answer to questions 2, 3, or 4 is "Yes", an ABAR is required. "Broad scope" and SRD changes also require an ABAR. A "Yes" answer to questions 5 or 6 means that the design change is unacceptable and must be withdrawn and re-engineered. For any change that does cause an SED change, prepare a redline markup of the applicable sections of that document. For BNI-approved changes, print the SE, sign, obtain concurrence signatures, including the affected FNS Supervisor or Regulatory Safety Manager, and return the form to the design document originator for forwarding to PDC with the evaluated design document. Provide a copy of an original of the completed SE and SED redline markup to the E&NS AB Coordinator.

Note: The SED represents the currently approved PSAR safety envelope sections, plus approved changes.

Description of change:

DTD 24590-LAW-DTD-ENS-04-0001 allows the installation of three buried ammonia transfer lines that will be used (as part of future proposed design changes) to transfer ammonia to the HLW and LAW facilities from the BOF ammonia storage facility.

An ABAR is being prepared (24590-WTP-SE-ENS-03-051) to address the impacts of the addition of an ammonia storage facility at the BOF in place of the current 1200-gallon ammonia storage tank at the HLW facility. This ABAR identifies additional design basis events, controls, and standards associated with this proposed change.

This safety evaluation is limited to the scope of the decision to deviate - the installation of three buried transfer lines for future use. This proposed change to the design does not include actual ammonia supply through the lines, so the hazards identified within ABAR 24590-WTP-SE-ENS-03-051 are not introduced as part of this design change.

The transfer lines are being designed to the most conservative set of requirements that can be driven from chemical events - they will be quality level 2, seismic category III, and performance category 2. Therefore there is little project risk from early installation of these lines. These lines will be capable of performing any required safety function for ammonia confinement in support of the future ammonia supply changes associated with ABAR 24590-WTP-SE-ENS-03-051.

		N/A	YES	NO
1.	Does the change affect the safety envelope (SRD and applicable facility SED[s]), or is it a "broad scope" change? (Do not answer this question if already answered on corresponding safety screening/EDR)	☐	☐	☒
	Basis: The transfer lines from the BOF to the HLW and LAW facilities would normally be described in Chapter 2.0 of the BOF PSAR. Chapter 2.0 is not included within the BOF SED, and the presence of transfer lines that have no services provided through them (they are for future use when the ABAR described in the system description is submitted and approved) does not introduce any hazards or require any controls that would necessitate any change to the facility SEDs.			
2.	Does the change create a new DBE?		☐	☒
	Basis: The presence of transfer lines for future use do not represent a hazard that requires any additional DBEs to be addressed in any of the facility-specific safety envelopes. The use of ammonia in the transfer lines will be addressed as part of ABAR 24590-WTP-SE-ENS-03-051.			
3.	Does the change result in more than a minimal (≥10 %) increase in the frequency or consequence of an analyzed DBE as described in the SED?		☐	☒

Safety Evaluation For Design

Safety Evaluation No.:	24590-WTP-SE-ENS-04-0173	Rev. # 0
EDR No.:	N/A	Rev. # N/A

		YES	NO
	Basis: The presence of transfer lines for future use do not change the current frequencies or consequences as reported in the facility-specific safety envelope documents (SEDs). Ammonia storage and use at the HLW facility as currently discussed in the HLW SED is not affected by the installation of these lines.		
4.	Does the change result in more than a minimal decrease in the safety functions of important-to-safety SSCs or change how a Safety Design Class, Safety Class, or Safety Significant SSC meets its respective safety function?	☐	☒
	Basis: The current safety functions described in the facility-specific SEDs are not altered by the presence of transfer lines for future use. Existing controls and safety functions will remain in effect until process changes are approved via ABAR 24590-WTP-SE-ENS-03-051.		
5.	Does the change result in a noncompliance with applicable laws and regulations (i.e., 10 CFR 820, 830, and 835) or nonconformance with top-level safety standards (i.e., DOE/RL-96-0006)?	☐	☒
	Basis: 10 CFR 820 – *Procedural Rules for DOE Nuclear Activities*, sets forth the procedural rules for conduct of persons involved in DOE nuclear activities, in particular to achieve compliance with DOE nuclear safety requirements. The proposed changes are not related to any compliance, violation, or enforcement issue, exemption from safety requirements, or reporting of supplier defective products or inaccurate or incomplete information. 10 CFR 830 – *Nuclear Safety Management*, requires establishment and maintenance of safety bases and classifies QA work process requirements applicable to standards and controls adopted to meet regulatory or contract requirements that may affect nuclear safety. This included certain aspects of technical safety requirements (TSRs), unreviewed safety questions, facility safety basis, facility ITS SSCs, and the quality assurance program (QAP). The proposed changes are consistent with the requirements of 10 CFR 830 for ITS SSCs. 10 CFR 835 – *Occupational Radiation Protection*, sets forth rules to establish radiation protection standards, limits, and program requirements for protecting individuals from radiation resulting from conduct of DOE activities. The proposed changes do not affect the radiation protection program or challenge any requirements of 10 CFR 835. 24590-WTP-SRD-ESH-01-001-02, *Safety Requirements Document*, Volume II - The proposed changes conform to the SRD.		
6.	Does the change fail to provide adequate safety?	☐	☒
	Basis: The addition of the transfer lines to the design does not represent a safety concern. No changes to the process are proposed as a result of the transfer line installation. No radioactive or hazardous chemicals will be transferred through these lines as part of this decision to deviate - their use for ammonia transfer will be addressed as part of ABAR 24590-WTP-SE-ENS-03-051. As identified previously, the design of the transfer lines to the highest possible design standards that can result from chemical-related events will ensure that they will be capable of performing any required safety function for ammonia confinement, and therefore will not have a negative safety impact on the ABAR in development.		

Affected Authorization Basis and/or SED Documents:

Title	Document Number	Rev	Section
N/A	N/A	N/A	N/A

Safety Evaluation For Design

Safety Evaluation No.:	24590-WTP-SE-ENS-04-0173	Rev. # 0
EDR No.:	N/A	Rev. # N/A

Safety envelope change required? ☐ Yes ☒ No

ABAR required? ☐ Yes ☒ No

Sign below and return form to design document originator. If an ABAR is required, sign Part 1, complete Part 2, and submit both to the E&NS AB Coordinator.

Safety Evaluation Preparer:	Dwight Krahn *Print/Type Name*	Dwight Krahn *Signature*	9-01-04 *Date*
Design Document Originator/Supervisor	Scott Colby *Print/Type Name*	Scott Colby *Signature*	9-01-04 *Date*

Signature of Originator/Supervisor concurs that description of change is accurate and complete

FNS Supervisor or Regulatory Safety Manager:	Mark Medsker *Print/Type Name*	Brett Hall for *Signature*	9-01-04 *Date*

Attachments:

No page changes are required for this proposed change. Page changes associated with the addition of the ammonia storage facility to the BOF are being submitted via ABAR 24590-WTP-SE-ENS-04-007.