



**The Secretary of Energy**  
Washington, D.C. 20585

August 27, 2012

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DNF SAFETY BOARD

The Honorable Peter S. Winokur  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, NW, Suite 700  
Washington, DC 20004

Dear Mr. Chairman:

The purpose of this letter is to notify you of the status to the Department of Energy's (DOE) Recommendation 2010-2 Implementation Plan (IP), *Pulse Jet Mixing at the Waste Treatment and Immobilization Plant (WTP)*.

On May 23, 2012, during the Recommendation 2010-2 IP quarterly briefing, the Senior Advisor for Environmental Management informed you that based on scoping test data, non-Newtonian vessel (NNV) verification would not be performed with Newtonian techniques, and that an IP revision is required to address an alternative verification approach for NNV. There are several other reasons to revise the IP. These include:

- Providing adequate time to develop complete rather than interim IP deliverables;
- Adding detail to the IP to assure that the scope of deliverables are clearly understood; and
- Adding activities to appropriately update the Criticality Safety Evaluation Report and reconstitute the Pretreatment Facility authorization basis.

A systematic review of the IP technical assumptions and schedule logic continues in order to improve integration of technical issues into the schedule and assure alignment between Engineering and Nuclear Safety activities. This will result in changes to the IP commitment logic and schedule. The enclosed table lists the IP commitments through the end of this calendar year that have not been and will not be completed by the original date, along with the rationale for the changes.

The Department is working to prepare revised IP commitments, and plans to incorporate the WTP re-planning assumptions into those revised commitments. DOE plans to provide the Board with a revised IP by the end of this calendar year.

With the departure of Mr. Dale Knutson, I have assigned Mr. Scott Samuelson, Manager, Office of River Protection and current Acting Federal Project Director, to be the Department's responsible manager for this Recommendation. He can be reached at (509) 376-8830.

Sincerely,

Steven Chu

Enclosure



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Enclosure for DNFSB Letter Regarding Recommendation 2010-2 IP status

Status of Recommendation 2010-2 IP Commitments due through 12/31/2012

Number	Description	IP Due Date	Status/Rationale
5.1.3.13	Scaling Basis	4/30/2012	Impacted - Completion and resolution of review comments has taken longer than forecast, potential impact from Non-Newtonian vessel trade study.
5.1.3.11	Construction Specifications	5/30/2012	Impacted – Test program development must be complete to ensure test facility can meet all required test objectives.
5.6.3.9	Heel management system design	5/30/2012	Impacted – Definition of waste that can be transferred from Tank Farms (5.5.3.2) and new information on Plutonium needs to be evaluated to define bounding physical parameters for the heel management system design. Update to the Heel Management Functional Design Criteria (5.6.3.1) is pending.
5.0.1	Safety basis approval strategy document	6/30/2012	Impacted - Restructuring commitments based on reconstituting the Pretreatment Facility authorization basis.
Interim 5.7.3.1	Update Environmental and Nuclear Safety procedures to implement DOE-WTP contract direction for nuclear safety deliverables	6/30/2012	Impacted – Restructuring commitments based on reconstituting the Pretreatment Facility authorization basis.
Interim 5.7.3.1	Update engineering procedures to implement DOE-WTP contract direction for nuclear safety deliverables	6/30/2012	Impacted – Restructuring commitments based on reconstituting the Pretreatment Facility authorization basis.
Interim 5.7.3.1	Issue project execution plan for the pretreatment facility safety basis development program	6/30/2012	Impacted – Restructuring commitments based on reconstituting the Pretreatment Facility authorization basis.
Interim 5.7.3.1	Complete an extent of condition review to determine safety bases that are not supported by a technical basis (Construction Project Review [CPR] 5-14)	6/30/2012	Impacted – Restructuring commitments based on reconstituting the Pretreatment Facility authorization basis.

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Number	Description	IP Due Date	Status/Rationale
5.7.3.2	Strengthen our Interface Management Program to improve the integrated management of the technical and safety risks in WTP and the tank farms	7/25/2012	On track.
5.3.3.6	Decision on need for large scale integrated testing (LSIT) to support computational fluid dynamics (CFD) verification and validation (V&V)	7/31/2012	Impacted – CFD V&V testing has been expanded based on Expert Review Team (ERT) feedback. Additional discussions are required to resolve National Energy Technology Laboratory (NETL)/DNFSB staff concerns.
5.1.3.1	Issue the Integrated Pulse Jet Mixer Design and Control Strategy	8/1/2012	Impacted – Submittal will bring the strategy document into alignment with the revised IP. Submittal will be completed following IP revision.
5.1.3.3	Documentation of stakeholder acceptance of recommendation dispositions	8/1/2012	Impacted - Adversely affected by Consortium for Risk Evaluation with Stakeholder Participation (CRESP) availability to start discussions.
5.3.3.1	Update assessment of use of Newtonian analysis techniques to assess non-Newtonian vessel performance	8/31/2012	On track (accelerate).
5.4.3.2	WTP sampling requirement input considering tank farm sampling capability	9/30/2012	Impacted - Originally planned as an interim deliverable.
5.4.3.4	WTP process control sampling requirements	9/30/2012	Impacted - Originally planned as an interim deliverable.
Interim 5.7.3.1	Establish a plan to ensure credited safety functions/functional requirements are preserved as design inputs (CPR 5-14)	9/30/2012	On track.
5.3.3.7	Complete V&V of CFD	10/31/2012	Impacted - Resolution of review comments has impacted start date for testing and additional testing has been defined.
5.3.3.10	Data required to support	10/31/2012	Impacted – Subsequent activity

Enclosure for DNFSB Letter Regarding Recommendation 2010-2 IP status

Number	Description	IP Due Date	Status/Rationale
	assessment of CFD against LSIT		to 5.3.3.6.
5.6.3.3	Heel management system description	11/30/2012	Impacted - Originally planned as an interim deliverable prior to issue of committed design.
5.5.3.1	Initial gap analysis between WTP WAC and tank farm sampling and transfer capability	12/31/2012	On track.
5.3.3.2	Independent review of paper concluding non-Newtonian conditions can be assessed using Newtonian techniques	12/31/2012	Cancel based on 5.3.3.1 conclusion.
5.5.3.8	Issue remote sampler test report	12/31/2012	Impacted – Originally planned with independent completion date, IP revision will logically tie date to testing completion plus nine months.