

ARCHIVE: Doc#2016-065A, Amendment by Board Member Sean Sullivan
to YELLOW FOLDER Doc#2016-065, 2015 Annual Report

Doc#2015-065 2015 Annual Report
YELLOW FOLDER AMENDMENT #1 of 2 BY BOARD MEMBER SULLIVAN

Revise the 2015 Annual Report as necessary to delete all references to the UPF Confinement Ventilation System as a new/open safety issue. Revisions required are:

- On page 25, in the table “Design and Construction Projects under Review in 2015”, change “Status of Board Review” to read “Ongoing – no current safety issues.
- On page 52, revise “five new issues were identified” to the appropriate number after consideration of all amendments.
- On page 57, delete paragraph 3 in its entirety and renumber subsequent paragraph(s).
- On page 62, delete the associated entry in the table.
- Revise the table of contents and index as necessary.

Justification

The Board has never declared the UPF Confinement Ventilation System to be a safety issue, and absent a declaration by the Board to that effect it is improper to characterize the matter as a new/open safety issue in the report to Congress.

[REDACTED]

However, by Yellow Folder amendment archived on June 22, 2015, the Board letter was revised to eliminate any use of the words “concern” or “safety issue.” The revised letter merely requested information on whether NNSA planned to rely on an active confinement ventilation system or an alternate approach. The revised letter was addressed to the manager of the NNSA Production Office, not the Administrator or Secretary of Energy. The NNSA Production Office manager provided the information requested by letter dated September 11, 2015, and there has been no further action on the matter.

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Project Name	Location	Projected Cost²	Status of Project	Status of Board Review
	Los Alamos, NM			
Transuranic Waste Processing Center Sludge Processing Facility Buildouts Project	Oak Ridge National Laboratory, Oak Ridge, TN	\$171 million	Preliminary design	Ongoing- no current safety issues
K-Area Complex Purification Area Vault Project	Savannah River Site, Aiken, SC	\$27 million	Construction complete	Complete- issued project letter
Saltstone Disposal Unit #6	Savannah River Site, Aiken, SC	\$143 million	Construction	Ongoing- no current safety issues
Salt Waste Processing Facility	Savannah River Site, Aiken, SC	\$2.32 billion	Construction	Ongoing- no current safety issues
Waste Solidification Building	Savannah River Site, Aiken, SC	\$360 million	Construction complete	Complete- issued project letter
Underground Ventilation System	Waste Isolation Pilot Plant, Carlsbad, NM	\$309 million	Conceptual design	Ongoing- no current safety issues
Uranium Processing Facility	Y-12 National Security Complex, Oak Ridge, TN	\$6.3 billion	Conceptual design	Ongoing- open safety issue
Electrorefining Project	Y-12 National Security Complex, Oak Ridge, TN	\$77 million	Preliminary design	Ongoing- open safety issue
Tank Waste Characterization and Staging Capability	Hanford Site, Richland, WA	\$690 million	Conceptual design	Ongoing- no current safety issues

Beginning in 2007, the Board has provided periodic reports to Congress on the status of significant unresolved safety issues concerning the design and construction of DOE's defense nuclear facilities. Beginning with the *24th Annual Report to Congress*, the Board has included the periodic report as an appendix to the Board's Annual Report to Congress (see Appendix C).

Appendix C: Status of Significant Unresolved Issues with DOE's Design and Construction Projects

Since 2007, the Defense Nuclear Facilities Safety Board (Board) has provided periodic reports to Congress presenting the status of significant unresolved safety issues concerning the design and construction of the Department of Energy's (DOE) defense nuclear facilities. This report summarizes the status of significant unresolved safety issues through December 2015.

The phrase "unresolved safety issue" does not mean the Board and DOE disagree on resolution. Some of the issues noted in these reports await final resolution through further development of the facility design. The significant unresolved safety issues discussed herein have been formally communicated to DOE. Lesser issues that can be easily resolved and that have an agreed-upon path forward are excluded from this report. The Board will follow these items as part of its normal design review process.

The Board may identify additional issues during future design reviews. For this reporting period, one issue was resolved, five new issues were identified, one new project has been listed, and the status of one project has significantly changed. Enclosure C-1 of this report identifies significant unresolved safety issues for current design and construction projects. Enclosure C-2 of this report summarizes significant safety issues that have been resolved by DOE on current design and construction projects.

PROJECT WITH THE MOST SIGNIFICANT UNRESOLVED SAFETY ISSUES

Hanford Site's Waste Treatment and Immobilization Plant (WTP).

Since 2002, the Board has identified a number of significant safety issues with the design of WTP. Many of the unresolved safety issues apply to multiple facilities at WTP, with the majority of the issues associated with the Pretreatment (PT) and High-Level Waste (HLW) Facilities. In 2012, DOE restricted engineering, procurement, and construction work at the PT and HLW facilities due to unresolved safety issues and misalignment of the designs and nuclear safety bases. During the last reporting period, on August 19, 2014, DOE authorized the contractor to resume engineering work to finalize the design of the HLW Facility, with limited procurement and construction. However, a considerable amount of work still remains to resolve the open safety issues.

To mitigate the impact of technical and safety issues with the PT Facility, DOE is pursuing a new project—the Low-Activity Waste Pretreatment System (LAWPS)—to pretreat the liquid portion of the Hanford tank waste and directly feed it to the LAW Facility. This approach would enable the LAW Facility to begin vitrifying waste before completion of WTP's PT Facility. In 2015, DOE approved the LAWPS project to move into the preliminary design phase.

During this reporting period, DOE continued work to resolve open safety issues, with a focus on the PT and HLW Facilities. The Board identified two new safety issues associated with

could result in penetrations through the C5V confinement boundary that compromise safety functions protecting the workers, public, and the environment. As a result, the preferred nuclear safety control strategy described in the SDS does not meet DOE requirements for protecting the public and workers.

In its July 24, 2015, response, DOE acknowledged that the safety control strategy for a seismic event could result in potential unfiltered flow paths out of the facility. However, DOE stated the potential unfiltered releases may not result in a significant loss of confinement due to continued operation of the C5V system. DOE plans to evaluate the seismic event and validate the seismic classification of SSCs through hazard analyses scheduled for completion in 2017.

3. Project: Y-12 National Security Complex, Uranium Processing Facility

New Issue—Confinement Ventilation System. The Board transmitted a letter to the National Nuclear Security Administration (NNSA) Production Office on June 25, 2015, expressing concerns that the UPF confinement ventilation strategy might not meet the criteria of DOE Order 420.1C, *Facility Safety* with respect to confinement of radioactive material following a design basis earthquake. The Board's letter noted that the design strategy was unclear as to whether the facility would rely on an active confinement ventilation system or an alternate approach with a commensurate technical evaluation. DOE responded on September 11, 2015, with a letter outlining a strategy for confinement. The Board's staff is evaluating the technical adequacy of the new approach.

4. Project: Hanford Site, Sludge Treatment Project

New Issue—Site Boundary and Columbia River Control. In an August 21, 2015, letter to DOE, the Board communicated a concern that a Specific Administrative Control (SAC) had been removed from the control strategy identified in Revision 1 of the Engineered Container Retrieval and Transfer System Preliminary Documented Safety Analysis. In Revision 0, the SAC was included to protect the public by controlling public access to portions of the Columbia River prior to and during slurry transfers of radioactive material. Relying on emergency response would not adequately protect individuals located on the Columbia River in the event of a rapidly developing accident, such as a spray release. In the letter, the Board requested a written response within 45 days documenting DOE's position on controlling Columbia River access and protecting public receptors from accidents during slurry transfers and the technical basis supporting this position.

The Board received DOE's response on November 18, 2015. DOE believes that Revision 1 of the Sludge Treatment Project Engineered Container Retrieval and Transfer System Preliminary Documented Safety Analysis demonstrates adequate protection of the public and workers and that the SAC is not needed.

DECEMBER 2015 REPORT SUMMARY OF SIGNIFICANT UNRESOLVED ISSUES WITH NEW DEFENSE NUCLEAR FACILITIES			
SITE	FACILITY	Critical Decision (CD) Approved	ISSUES
Y-12 National Security Complex	Uranium Processing Facility	CD-1	1. Post-seismic confinement approach— (Dec. 15)
	Metal Purification Process	Electrorefining: CD-1	1. Analysis of safety systems and components— (Dec. 15)

AFFIRMATION OF BOARD VOTING RECORD

SUBJECT: Amendment by Board Member Sean Sullivan to YELLOW FOLDER Doc#2016-065, 2015 Annual Report

Doc Control#2016-065A


The Board, with Board Member(s) Jessie H. Roberson, Sean Sullivan, Daniel J. Santos, Bruce Hamilton *approving*, Board Member(s) Joyce L. Connery *disapproving*, Board Member(s) none *abstaining*, and Board Member(s) none *recusing*, have voted to approve the above document on March 28, 2016.

The votes were recorded as:

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIPATING*	COMMENT	DATE
Joyce L. Connery	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03/28/16
Jessie H. Roberson	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03/25/16
Sean Sullivan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03/24/16
Daniel J. Santos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03/24/16
Bruce Hamilton	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03/24/16

*Reason for Not Participating:

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Board Members.


Executive Secretary to the Board

Attachments:

1. Voting Summary
2. Board Member Vote Sheets

cc: Board Members
OGC
OGM Records Officer
OTD

DEFENSE NUCLEAR FACILITIES SAFETY BOARD
NOTATIONAL VOTE RESPONSE SHEET


FROM: Joyce L. Connery

SUBJECT: Amendment by Board Member Sean Sullivan to YELLOW FOLDER
Doc#2016-065, 2015 Annual Report

Doc Control#2016-065A

Approved _____ Disapproved _____ Abstain _____
Recusal – Not Participating _____

COMMENTS: Below _____ Attached _____ None _____



Joyce L. Connery
March 24, 2016

Date

DEFENSE NUCLEAR FACILITIES SAFETY BOARD
NOTATIONAL VOTE RESPONSE SHEET

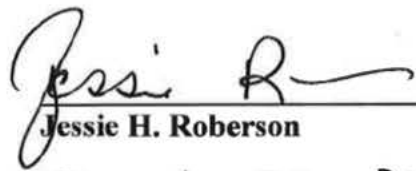
FROM: Jessie H. Roberson

SUBJECT: Amendment by Board Member Sean Sullivan to YELLOW FOLDER
Doc#2016-065, 2015 Annual Report

Doc Control#2016-065A

Approved Disapproved _____ Abstain _____
Recusal - Not Participating _____

COMMENTS: Below _____ Attached _____ None



Jessie H. Roberson
march 25, 2016

Date

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

NOTATIONAL VOTE RESPONSE SHEET

FROM: Sean Sullivan

SUBJECT: Amendment by Board Member Sean Sullivan to YELLOW FOLDER
Doc#2016-065, 2015 Annual Report

Doc Control#2016-065A

Approved **Disapproved** **Abstain**

Recusal – Not Participating

COMMENTS: **Below** **Attached** **None**



Sean Sullivan

3/24/16

Date

Lotus Smith

From: Daniel J. Santos
Sent: Thursday, March 24, 2016 4:22 PM
To: Shelby Qualls; Lotus Smith
Subject: Re: Notational Vote: Doc#2016-065A, Amendment by Board Member Sean Sullivan to YELLOW FOLDER Doc#2016-065, 2015 Annual Report - BLUE FOLDER

Approved without comments.

From: Shelby Qualls
Sent: Thursday, March 24, 2016 1:34 PM
To: Bruce Hamilton; Daniel J. Santos; Jessie Roberson; Joyce Connery; Sean Sullivan
Cc: Lotus Smith; Shelby Qualls; James Biggins; Katherine Herrera; Nora Khalil
Subject: Notational Vote: Doc#2016-065A, Amendment by Board Member Sean Sullivan to YELLOW FOLDER Doc#2016-065, 2015 Annual Report - BLUE FOLDER

This email is an electronic record of Notational Vote. Voting ballot will follow shortly. Also, accepting electronic votes.

**DEFENSE NUCLEAR FACILITIES SAFETY BOARD
NOTATIONAL VOTE RESPONSE SHEET**

FROM: Members of the Board
TO: Amendment by Board Member Sean Sullivan to YELLOW FOLDER Doc#2016-065, 2015 Annual Report
16-065A

ectors have provided their input.

ved_____

Not Participating_____

NTS:

None_____

Shelby Qualls
Assistant Executive Secretary

Shelby Qualls

From: Bruce Hamilton
Sent: Thursday, March 24, 2016 3:24 PM
To: Shelby Qualls
Subject: RE: Notational Vote: Doc#2016-065A, Amendment by Board Member Sean Sullivan to YELLOW FOLDER Doc#2016-065, 2015 Annual Report - BLUE FOLDER

I approve.
I have no comments.

Bruce Hamilton
Global cell & text: [REDACTED]

From: [Shelby Qualls](#)
Sent: 3/24/2016 11:34
To: [Bruce Hamilton](#); [Daniel J. Santos](#); [Jessie Roberson](#); [Joyce Connery](#); [Sean Sullivan](#)
Cc: [Lotus Smith](#); [Shelby Qualls](#); [James Biggins](#); [Katherine Herrera](#); [Nora Khalil](#)
Subject: Notational Vote: Doc#2016-065A, Amendment by Board Member Sean Sullivan to YELLOW FOLDER Doc#2016-065, 2015 Annual Report - BLUE FOLDER

This email is an electronic record of Notational Vote. Voting ballot will follow shortly. Also, accepting electronic votes.

DEFENSE NUCLEAR FACILITIES SAFETY BOARD NOTATIONAL VOTE RESPONSE SHEET

FROM: Members of the Board
SUBJECT: Amendment by Board Member Sean Sullivan to YELLOW FOLDER Doc#2016-065, 2015 Annual Report

DOC# 2016-065A

Office Directors have provided their input.

Approved _____
Disapproved _____
Abstain _____
Recusal – Not Participating _____

COMMENTS:

Below _____
Attached _____
None _____

Shelby Qualls
Assistant Executive Secretary