

APPENDIX 4

**REQUEST FOR BOARD ACTION BY A BOARD MEMBER**

Requester: Sullivan November 3, 2017

Brief description of Requested Action: Revise the agenda for staff review of the UPF Preliminary Documented Safety Analysis, scheduled for November 29-30, 2017. Delete the follow-up discussion on Standard Industrial Hazards, paragraph A.2 of the agenda. For reference, paragraph A.2 is attached.

Justification

The cited standard industrial hazards are asphyxiation, freezing by liquid nitrogen, oxygen displacement by inert gases, and shrapnel/pipe-whip hazards. Congress formed the Board as “experts in the field of nuclear safety.” Enforcement of OSHA standards is not within the field of nuclear safety.

Attachments (init) agenda excerpt, paragraph A.2 .

Summarize any time sensitive considerations: the review is scheduled for later this month.

Requestor signature  November 3, 2017

Executive secretary  November 3, 2017

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICPATING	COMMENT	DATE
Sean Sullivan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Bruce Hamilton	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Jessie H. Roberson	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Daniel J. Santos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Joyce L. Connery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Final Disposition Summary						

Executive Secretary signature \_\_\_\_\_ Click here to enter a date.

2. [LOI #2] In response to the questions related to the Standard Industrial Hazards (SIH), Reference 2 states: “The SIHA is underway (approximately 50% complete) and the preliminary draft report is scheduled for completion in March 2017.”
  - a. Describe the status of this activity and provide a copy if completed.
  - b. Discuss (i) the results of the SIH hazard analysis related to asphyxiation, freezing by liquid nitrogen, oxygen displacement by inert gases, and shrapnel/pipe-whip hazards; (ii) any safety-significant controls that are identified; and (iii) justification if none are needed.
  - c. Reference 2 refers to Reference 8 for an analysis that was performed to determine the Oxygen Deficient Atmospheres (ODA) created by a leak from the pressurized gas systems. Reference 2 concludes that: “none of the current pipe configurations will result in a rapid release into a small volume that would create an immediate ODA for the worker. Therefore, none of the piping containing potential asphyxiants has been categorized as SDC-2.”

Reference 8 relies on small leaks from a single gas delivery system for its analysis and concludes (Appendix A) that many rooms meet its criteria for ODA, for example: SAB rooms S130 and S222; MPB rooms P173, P140, P153, P142, P120, and S222 exceed the proposed criteria for ODA.

Additionally, Reference 8 defines oxygen deficient as situations where oxygen concentration is below 17.2%, whereas OSHA, Reference 9, defines such condition when oxygen concentration is below 19.5%.

Describe (i) the rationale for Reference 2 conclusion that there was no concern due this hazard despite Reference 8 conclusions, (ii) the rationale for assuming a small leak in the analysis and not a full rupture of the pipe, considering that the pipes do not appear to be credited safety features or designed to not rupture during an earthquake, (iii) the consequences of common-cause events (e.g., earthquake) on rooms like P140, Special Oxide in MPB (W), where Nitrogen, Helium, and Argon gas delivery systems exist in one room (iv) the rationale for deviation from OSHA standards and its implications (such as disorientation and lack of coordination before asphyxiation), and (v) any design changes or controls that have been identified to prevent the hazards.
  - d. Section 3.3.5.1 of Reference 7 (SDS) states the following regarding asphyxiation: “Asphyxiants will be addressed and controlled within UPF based on requirements associated with this type of hazard in 29 CFR 1910 and 29 CFR 1926, Safety and Health Regulations for Construction, along with 10 CFR 851 and the associated guide DOE G 440.1-1B.” Section 6.3 of the DOE Guide, regarding hazards abatement, states: “For hazards identified...in the facility design...controls must be incorporated in the appropriate facility design...hazards that pose a serious threat to employee safety and health should be either eliminated or effectively controlled [emphasis added].” Describe what controls have been implemented in the design of the UPF to prevent or abate asphyxiation hazards.

**AFFIRMATION OF BOARD VOTING RECORD**

**SUBJECT: RFBA by Chairman Sullivan to Revise the agenda for staff review of the UPF Preliminary Documented Safety Analysis**

**Doc Control#2018-300-005**

The Board, with Board Member(s) Sean Sullivan, Bruce Hamilton *approving*, Board Member(s) Daniel J. Santos, Joyce L. Connery *disapproving*, Board Member(s) none *abstaining*, and Board Member(s) Jessie H. Roberson *not participating*, have voted to disapprove the above document on November 6, 2017.

The votes were recorded as:

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIPATING*	COMMENT	DATE
Sean Sullivan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11/03/17
Bruce Hamilton	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11/03/17
Jessie H. Roberson	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	11/06/17
Daniel J. Santos	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11/06/17
Joyce L. Connery	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11/06/17

\*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.

  
Assistant 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:** Sean Sullivan

**SUBJECT:** RFBA by Chairman Sullivan to Revise the agenda for staff review of the UPF Preliminary Documented Safety Analysis

**Doc Control#2018-300-005**

Approved   *X*                        Disapproved                             Abstain         
Recusal – Not Participating       

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

  
\_\_\_\_\_  
Sean Sullivan  
11/3/17  
\_\_\_\_\_  
Date

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

**FROM: Bruce Hamilton**

**SUBJECT: RFBA by Chairman Sullivan to Revise the agenda for staff review of the UPF Preliminary Documented Safety Analysis**

**Doc Control#2018-300-005**

**Approved**  X                       **Disapproved** \_\_\_\_\_                      **Abstain** \_\_\_\_\_

**Recusal – Not Participating** \_\_\_\_\_

**COMMENTS:**      **Below** \_\_\_\_\_      **Attached** \_\_\_\_\_      **None**  X  \_\_\_\_\_

*Bruce Hamilton*

\_\_\_\_\_  
**Bruce Hamilton**

\_\_\_\_\_  
**11/03/2017**

**Date**

**Member voted by e-mail dated November 03, 2017.**

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

**FROM:** Jessie H. Roberson

**SUBJECT:** RFBA by Chairman Sullivan to Revise the agenda for staff review of the UPF Preliminary Documented Safety Analysis  
Doc Control#2018-300-005

Approved \_\_\_\_\_ Disapproved \_\_\_\_\_ Abstain \_\_\_\_\_

Recusal – Not Participating  X

**COMMENTS:** Below  X  Attached \_\_\_\_\_ None \_\_\_\_\_

**Based on the feedback from OTD, this part of the staff's planned review may be outside the necessary boundary of the Board's work to fulfill its statutory duties at this time on this project.**

**However, based on the stated justification I am concerned that the staff might erroneously interpret this action to be a generic policy by the Board which could lead to the staff not pursuing or reviewing potential nonnuclear concerns that could have material impact on nuclear safety and subsequently adequate protection determinations.**

**I wholeheartedly support the Board providing guidance to the staff regarding the Board's statutory boundaries, including those areas expressly prohibited by the statute like functions relating to the safety of atomic weapons.**

  
\_\_\_\_\_  
Jessie H. Roberson

  
\_\_\_\_\_  
Date

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

**FROM:** Daniel J. Santos

**SUBJECT:** RFBA by Chairman Sullivan to Revise the agenda for staff review of the UPF Preliminary Documented Safety Analysis


Doc Control#2018-300-005

Approved \_\_\_\_\_ Disapproved X \_\_\_\_\_ Abstain \_\_\_\_\_

Recusal – Not Participating \_\_\_\_\_

**COMMENTS:** Below X \_\_\_\_\_ Attached \_\_\_\_\_ None \_\_\_\_\_

Following the subject review, I am interested in learning from DNFSB staff how the cited standard industrial hazards could lead to radiological consequences/impact nuclear safety at UPF. I am also interested in gaining a better understanding of DNFSB staff's approach to reviews involving non-nuclear hazards to determine if further Board Policy/staff guidance is necessary to provide additional clarity regarding jurisdiction of the DNFSB and scoping of future reviews.

  
\_\_\_\_\_  
Daniel J. Santos  
\_\_\_\_\_  
11/6/17  
\_\_\_\_\_  
Date

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

**FROM:** Joyce L. Connery

**SUBJECT:** RFBA by Chairman Sullivan to Revise the agenda for staff review of the UPF Preliminary Documented Safety Analysis

**Doc Control#2018-300-005**

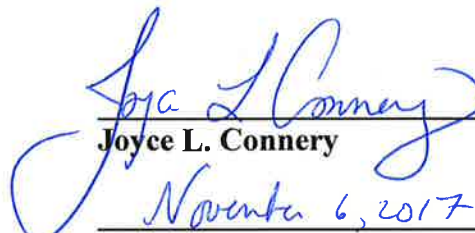
Approved \_\_\_\_\_ Disapproved **X** \_\_\_\_\_ Abstain \_\_\_\_\_

Recusal – Not Participating \_\_\_\_\_

**COMMENTS:** Below **X** \_\_\_\_\_ Attached \_\_\_\_\_ None \_\_\_\_\_

The DNSFB reviews of Preliminary Document Safety Analysis (PDSA) typically encompass the total suite of controls defined by that document. Any nexus between those controls and nuclear safety, if they exist, would be identified during the course of that review. As a Board Member, I would prefer the full review to take place as designed by the staff in order to understand the interactions of all of the controls and any nuclear specific controls that would depend on an operator that may be incapacitated due to a nonnuclear event.

Once the review is concluded, it will become evident as to whether there are nuclear safety concerns that relate to other hazards identified or controls within the PDSA.

  
\_\_\_\_\_  
Joyce L. Connery  
November 6, 2017  
\_\_\_\_\_  
Date