performance of the vessel mixing and transfer systems.

WTP will perform the first Large Scale Integrated Tests (LSIT) at 4, 8 and 14-foot scale. The project has identified commercially available vessels to support this increment of testing. If test results indicate a larger scale test than the 14-foot vessel is beneficial, a decision point will be included in the implementation plan to determine the scope and benefit of testing at a larger scale. A full technical justification will be provided that will support our decision.

• *These tests must be conducted using appropriate waste simulants with properties that conservatively envelope the properties of the high-level wastes stored in Hanford's tank farms.*

WTP has issued a charter and formed a panel of subject matter experts to review and advise on all aspects of large-scale mixing including the simulants to be used for LSIT that address the physical parameters of testing and represent known properties of tank waste. There are concerns with selection of simulants which include manufacture, use and disposal of large volumes of potentially very hazardous simulant materials that would require a significant waste disposal effort of its own; and potentially prohibitive cost for manufacture and disposal of simulants. It is understood these considerations represent tradeoffs, but the goal is to ultimately not undermine the representative accuracy of the simulants required for testing.

• *Testing must demonstrate that pulse-jet mixed vessels can be adequately operated using prototypic equipment (e.g., control systems) during multi-batch operations.*

DOE has approved an additional scope of work to release the contractor to initiate design, procurement and perform ''informational testing'' activities that will be the predecessor to the more formalized testing; conducted in accordance with NQA–1 requirements, to support design confirmation.

• *The heel removal and cleanout systems must be designed and tested as early as practicable, the performance limits for these systems established, and the limits of their operation factored into the development of the WAC and the operating envelope of WTP.*

Components of large scale testing that will result in a better understanding of mixing characteristics such as bottom motion, zones of influence and partial particle separation will be performed early within the testing program to better define what is required for heel removal and cleanout system designs. The project then intends to test heel removal and cleanout very early in the testing phase and in every scale of LSIT in order to inform design decisions for process vessels.

• *The Board considers that DOE has rejected sub-Recommendation 3 associated with the use of large scale tests to verify and validate computational fluid dynamic (CFD) models of full-scale WTP mixing systems * * * the Board believes that obtaining data from near full-scale tests is necessary to establish within a reasonable range of uncertainty, that the WTP's CFD model is an accurate representation of the full scale mixing systems.*

DOE agrees that it is necessary that the CFD model adequately represent full-scale mixing systems, but has not yet concluded that data from future near-full-scale tests is necessary to complete model verification and validation (V&V). DOE is in the process of determining if existing data sets are sufficient to complete V&V requirements of the CFD model for pulse jet-mixed vessels in accordance with the ASME V&V 20–2009, *Standard for Verification and Validation in Computational Fluid Dynamics and Heat Transfer.* The DOE review is ongoing, including evaluation by subject matter experts from the National Energy Technology Laboratory. If necessary, additional data sets, that may include the upcoming near-full-scale tests, will be collected to support the V&V.

• *The Board also considers that DOE has rejected sub-recommendation 4 associated with the capability of WTP and tank farms to obtain representative samples. The DNFSB also stated that: Testing must demonstrate that representative samples can be taken from waste feed delivery tanks to meet the Waste Acceptance Criteria (WAC), and from WTP process vessels to meet safety related operating requirements.*

WTP distinguishes between *safety samples* and *process samples,* and has plans to accomplish both in a manner that will result in meeting the WAC and conducting safe and reliable operations in WTP. The current control strategy for the Pretreatment Facility safety basis requires confirmatory samples for criticality safety and inventory control samples for the Low-Activity Waste Facility safety basis. The sampling portion of the control strategy for criticality safety is in revision based on previous mixing tests results, which concluded that the assumptions in the Criticality Safety Evaluation could not be sufficiently verified in pulse jet mixed vessels. The samples for Low-Activity Waste Facility safety basis compliance can be obtained with the current sampling design. DOE will continue to work closely with the Board staff to establish a common definition of *representative* samples as applied to the discussion above.

[FR Doc. 2011–16138 Filed 6–27–11; 8:45 am]

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DEPARTMENT OF ENERGY

DOE Final Decision in Response to Recommendation 2010–1 of the Defense Nuclear Facilities Safety Board, Safety Analysis Requirements for Defining Adequate Protection for the Public and the Workers

AGENCY: Department of Energy.

ACTION: Notice.

SUMMARY: On April 27, 2011, The Defense Nuclear Facilities Safety Board reaffirmed their Recommendation 2010–1, *Safety Analysis Requirements for Defining Adequate Protection for the Public and the Workers,* to the Department of Energy. In accordance with section 315(b) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2286d(d), the following represents the Secretary of Energy's final decision on the recommendation and the reasoning for his decision.

ADDRESSES: Send comments, data, views, or arguments concerning the Secretary's response to: Defense Nuclear Facilities Safety Board, 625 Indiana Avenue NW., Suite 700, Washington, DC 20004.

FOR FURTHER INFORMATION CONTACT: Ms. Amanda Anderson, Nuclear Engineer, Departmental Representative to the Defense Nuclear Facilities Safety Board, Office of Health, Safety and Security, U.S. Department of Energy, 1000 Independence Avenue SW., Washington, DC 20585.

Issued in Washington, DC on May 27, 2011.

Mari-Josette Campagnone,

Departmental Representative to the Defense Nuclear Facilities Safety Board, Office of Health, Safety and Security.

Report on the Secretary of Energy's Final Decision and Supporting Reasoning Regarding Defense Nuclear Facilities Safety Board (Board) Recommendation 2010–1, *Safety Analysis Requirements for Defining Adequate Protection for the Public and the Workers*

SUMMARY: This report, together with its attachments, documents the Secretary of Energy's final decision and supporting reasoning regarding Defense Nuclear Facilities Safety Board (DNFSB or Board) Recommendation 2010–1, *Safety Analysis Requirements for Defining Adequate Protection for the Public and the Workers.*

DISCUSSION: The Board issued Recommendation 2010–1 on October 29, 2010. The Recommendation focused on the Department of Energy (DOE) requirements for developing and approving Documented Safety Analyses for nuclear facilities. The Recommendation identified six specific sub-recommendations.

As explained in detail in the Department's February 28, 2011, response to the Recommendation (the text of which is included as Attachment 1 to this report), the Secretary of Energy agreed with the intent of the Recommendation, but took exception to some of the included technical details on how best to meet that intent. The Secretary of Energy's response constituted a partial acceptance of the Recommendation.

Per 42 United States Code (USC) Section 2286d paragraph (d), when the Secretary of Energy does not fully accept a Recommendation, the Board must either reaffirm or revise the recommendation, and the Secretary of Energy must then:

* * * consider the Board's action and make a final decision on whether to implement all or part of the Board's recommendations. Subject to subsection (h), the Secretary shall publish the final decision and the reasoning for such decision in the Federal Register and shall transmit to the Committees on Armed Services and on Appropriations of the Senate and to the Speaker of the House of Representatives a written report containing that decision and reasoning.

The Board reaffirmed the Recommendation in a letter to the Secretary of Energy on April 27, 2011. In the letter, the Board provided clarifications regarding the purposes for each sub-recommendation and stated that there was flexibility in the manner in which the sub-recommendations were intended to be implemented by the Department. The Secretary of Energy agreed that the clarifications provided by the Board will allow the Department to develop an Implementation Plan that satisfies DOE's and the Board's mutual objectives of ensuring that DOE requirements are clear and ensure adequate protection of the public, workers, and the environment. For example, the Board clarified that use of the term structures, systems, and components (SSCs) controls is inclusive of administrative controls. Further, the Board clarified that the recommendation did not require that the Department use quantitative risk assessment to make determinations of what constitutes adequate protection for the public.

In a letter dated May 27, 2011, the Secretary of Energy reaffirmed his February 28, 2011, response as his final decision (the text of which is included as Attachment 2 to this report). DOE agrees with the critical importance of the use of the 25 rem evaluation guideline in determining safety controls that provide adequate protection of the public. DOE has appropriately applied this approach in the safety analyses for the overwhelming majority of its nuclear facilities. For the few existing facilities where existing safety controls could not mitigate the dose below the 25 rem guideline in some accident scenarios, DOE has implemented necessary compensatory measures and will continue to strengthen both those and take any additional measures necessary to provide adequate public protection. Further, the Secretary of Energy confirmed continuation of the policy that the 25 rem evaluation guideline will be met for all new facilities.

DOE believes its existing nuclear safety regulatory framework, utilizing the DOE Standard 3009, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses,* as a safe harbor methodology, can continue to be used to effectively implement the 10 CFR 830 safety basis requirements. DOE has committed to and is in the process of revising Standard 3009 and its associated safety analysis review Standard (DOE Standard 1104, *Review and Approval of Nuclear Facility Safety Basis and Safety Design Basis Documents*) to ensure the Standards clearly describe how the 25 rem evaluation guideline is to be applied for designating safety controls and the process that will be followed when mitigated dose cannot be reduced to less than the 25 rem evaluation guideline.

DOE will strengthen its review criteria and approval process for situations where the 25 rem evaluation guideline cannot be met for existing facilities, including designation of appropriate senior management levels of approval authority when the guideline is exceeded. DOE anticipates the review criteria to be deterministic criteria rather than criteria that would required a risk analysis.

Attachment 1

February 28, 2011

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

Dear Mr. Chairman:

This is in response to your October 29, 2010, letter which provided Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 2010–1, *Safety Analysis Requirements for Defining Adequate Protection for the Public and the Workers.*

The Department of Energy (DOE) is strongly dedicated to the safety of the public, our workers, and the environment at all of our facilities. We share your conviction that a clear set of requirements and standards is vital for safe operations. In 2008, we began a comprehensive re-examination of our nuclear safety requirements to assure they were clear, concise, complete, and current. In March 2010, we enhanced our Directives Reform effort to better define and expedite it, and we have made good progress in revising key nuclear safety Directives and the DOE Nuclear Safety Policy.

We have not changed our interpretation of requirements for developing and approving Documented Safety Analyses (DSAs). We have made significant nuclear safety improvements by upgrading facility safety bases and designs and by improving our safety standards and procedures. Much has been learned and will continue to be learned about improving safety. With your assistance, we have applied the lessons learned from industry incidents to upgrade our requirements. Our improving safety record reflects these lessons.

Though DOE has an improving safety record, we always strive to do better. Complacency will not be tolerated. With this in mind, the Department has carefully evaluated Recommendation 2010–1 and how we can use it to improve nuclear safety at the Department. The Department partially accepts the Board's Recommendation; a detailed explanation is provided below. We have clarified aspects of sub-recommendation 1, 2, 3c, 4 and 5e. Several elements of Recommendation 2010–1 will be addressed in the revision of Standard 3009, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses.* As we develop the Implementation Plan for Recommendation 2010–1, we will further engage the Board.

Sub-recommendation 1—Immediately affirm the requirement that unmitigated, bounding-type accident scenarios will be used at DOE's defense nuclear facilities to estimate dose consequences at the site boundary, and that a sufficient combination of SSCs must be designated safety class to prevent exposures at the site boundary from approaching 25 rem TEDE [Total Effective Dose Equivalent].

DOE Standard 3009 details DOE's expectations for accident analyses to identify hazard controls for most DOE nuclear facilities. DOE agrees that Standard 3009 specifies that the consequences of unmitigated accidents should to be compared to the 25 rem TEDE Evaluation Guideline to determine if safety class controls are warranted. As you know, new facilities follow the 25 rem TEDE limit as a siting criteria according to DOE Standard 1189, *Integration of Safety into the Design Process.* For existing facilities safety class Structures, Systems and Components (SSCs) are normally utilized to prevent exposures from exceeding 25 rem TEDE. Standard 3009 also includes provisions for use of other means and controls to assure safety where off-site exposures are not reduced to below 25 rem TEDE, or where SSCs are not available. The revised Standard 3009 will further clarify the use of the Evaluation Guideline in accident analyses for both new and existing facilities.

Sub-recommendation 2—For those defense nuclear facilities that have not implemented compensatory measures sufficient to reduce exposures at the site boundary below 25 rem TEDE, direct the responsible program secretarial officer to develop a formal plan to meet this requirement within a reasonable timeframe.

DOE's responsible Program Secretarial Officer has evaluated the safety measures planned or currently in place to protect the public at the few remaining defense nuclear facilities that have potential accident doses above the 25 rem TEDE, and has determined that these measures provide adequate protection. This conclusion is based on an evaluation of all protective measures in place at these facilities, including disciplined formal operations, training, safety management programs, control of materials, and layers of controls to prevent accidents and/or mitigate their consequences.

Consistent with DOE's commitment to continuous safety improvement, we will

continue to evaluate options for enhancing the safety of these facilities. In some cases, such as the Plutonium Facility (PF–4) at Los Alamos National Laboratory, DOE anticipates that several near-term planned improvements will reduce the bounding mitigated dose to below 25 rem TEDE. Additionally, we have already made substantial progress in reducing the projected offsite dose that could result from specific types of accidents. For many limited life facilities we will achieve permanent, long-term risk reduction through deactivation and decommissioning. Once we revise DOE Standard 3009, DOE will evaluate the documented safety analyses for all facilities as part of the required periodic update process. The Implementation Plan will describe the steps that will be taken to evaluate safety improvement options for those facilities determined to need such improvements.

Sub-recommendation 3—Revise DOE Standard 3009–94 to identify clearly and unambiguously the requirements that must be met to demonstrate that an adequate level of protection for the public and workers is provided through a DSA. This should be accomplished, at a minimum, by: (followed by four paragraphs labeled a–d).

DOE is revising DOE Standard 3009 to clearly indicate which of its provisions are mandatory. DOE will implement the specific steps identified in paragraphs (a), (b), and (d) of this sub-recommendation. However, DOE will not commit to implementing paragraph (c) as written, because doing so would predetermine a specific outcome to the current revision process without any technical basis. This would be contrary to DOE's standards development process. DOE will consider the advice provided in paragraph (c) (i.e., identification of the criteria that must be met for safety class Systems, Structures and Components (SSCs)), during the Standard 3009 revision process.

The Implementation Plan will outline the development process and how the steps identified in all the paragraphs in this sub-recommendation will be followed.

Sub-recommendation 4—Amend 10 CFR Part 830 by incorporating the revised version of DOE Standard 3009–94 into the text as a requirement, instead of as a safe harbor cited in Table 2.

The purpose of a ''safe-harbor'' is to provide a standard methodology that, if followed, will provide credible analyses and adequate safety. Nothing in the concept implies that ''safe-harbor'' methodologies are the only way to meet requirements. Of course, alternative approaches must be approved by DOE, and the criteria for accepting these alternatives should be clearly defined.

DOE is planning to review 10 CFR 830 (issued in 2001), which identifies nuclear safety requirements, but we cannot commit to the exact language prescribed in the Recommendation-that is placing Standard 3009 in the body of the rule. As a part of our review, we will update DOE Standard 3009, clearly identifying those provisions that are mandatory. When DOE Standard 3009 is not applied, appropriate means for reviewing and improving alternative methodologies will be established. This will assure implementation of DOE Standard 3009, where appropriate, while maintaining the flexibility to improve the standard, as needed. This approach has allowed DOE to make several important improvements to DOE Standards in the past. Details of the revision process will be provided in the Implementation Plan.

Sub-recommendation 5—Formally establish the minimum criteria and requirements that govern Federal approval of the DSA, by revision of DOE Standard 1104–2009, and other appropriate documents. The criteria and requirements should include: (followed by five paragraphs labeled a–e).

DOE agrees with the need for clear guidelines and requirements on the appropriate delegation of nuclear safety authorities and will revise DOE Standard 1104–2009 and other appropriate DOE documents to achieve this. DOE will implement the specific steps identified in paragraphs (a) through (d) of this sub-recommendation. However, DOE cannot commit to implementing paragraph (e) as written, because it implies that quantitative risk-based decision making must be established and used. The Department is exploring how quantitative methods could be applied to support decision-making on safety issues at our sites and will keep the Board apprised of developments in this area. Today, deterministic and qualitative means are used.

The Department agrees that the decision to approve safety bases must rest on a documented conclusion. The conclusion should indicate that the safety basis provides a reasonable assurance that the facility can be operated safely, that the hazards have been adequately analyzed, and that the engineered and administrative controls provide adequate protection for the public, workers and the environment. The Implementation Plan will outline DOE's revision to standard 3009 and the safety basis development process, will clarity the safety basis approval process, and identify how the steps in this sub-recommendation will be addressed.

Sub-recommendation 6—Formally identify the responsible organization and identify the processes for performing independent oversight to ensure the responsibilities identified in Item 5 above are fully implemented.

DOE has already identified the responsible organization for performing independent oversight for the Secretary: the Office of Independent Oversight, within the Office of Health, Safety and Security (HSS). However, HSS Independent Oversight protocols and delegation processes will be reviewed and modified as necessary to assure adequate oversight of nuclear safety delegations. The Implementation Plan will describe the steps DOE will take review and update the protocols and delegation processes.

We appreciate your advice and will continue working closely with the Board to improve the Department's Directives in a manner that meets our shared objectives to the safe, effective, and efficient execution of our mission. We look forward to working further with the Board and its staff as we prepare the Implementation Plan.

If you have any further questions please contact Glenn Podonsky, Chief, Office of Health, Safety and Security, at 202–287–6071.

Sincerely,

Steven Chu.

Attachment 2

May 27, 2011

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

Dear Mr. Chairman:

Thank you for the clarification provided in the Defense Nuclear Facilities Safety Board's letter dated April 27, 2011, reaffirming Recommendation 2010–1, *Safety Analysis Requirements for Defining Adequate Protection for the Public and the Workers.* As described in our initial response, dated, February 28, 2011, we had largely agreed with the intent of your Recommendation, but had disagreed on some of its technical details. Your letter addressed those details, and indicated that you intended for there to be flexibility in implementing them.

Since last February, our staffs have worked closely to ensure that we understood the original intent of Recommendation 2010–1, as well as the underlying safety improvements that were sought. Valuing the significance of this recommendation, and the importance I place upon having an effective working relationship with your office, I have also directed that Deputy Secretary Dan Poneman and Associate Deputy Secretary Mel Williams maintain an active engagement with the Board members to facilitate effective communications between our organizations on all safety matters. The clarifications you provided in your reaffirmation letter have furthered that dialogue, and will help guide our work to develop an Implementation Plan that satisfies our mutual objectives of ensuring that our requirements are clear, ensure adequate protection of the public, workers and the environment, and can be implemented as written.

We are well on our way to making some of the improvements that our staffs have discussed. I deeply appreciate the efforts both the DNFSB and DOE have made in working together, especially in the past month. While the analysis and conclusions in my enclosed letter dated February 28, 2011, still hold and constitute my final decision, I believe our implementation plan will meet the underlying safety improvement objectives of your Recommendation. I have assigned Dr. James B. O'Brien, Acting Director, Office of Nuclear Safety, within the Office of Health, Safety and Security, to be the Department's responsible manager for developing the Implementation Plan. Dr. O'Brien can be reached at (301) 903–3331.

Sincerely,

Steven Chu.

Attachment 2

[FR Doc. 2011–16141 Filed 6–27–11; 8:45 am]

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