



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 30, 2021

Mr. Charles Langley
Executive Director
Public Watchdogs
7867 Convoy Court, Suite 302
San Diego, CA 92111

SUBJECT: NRC STAFF RESPONSE TO THE QUESTIONS TRANSMITTED BY PUBLIC WATCHDOGS ON FEBRUARY 9, AND MARCH 30, 2021

Dear Mr. Langley:

In an email dated February 9, 2021 (Agencywide Documents Access and Management System [ADAMS] Accession Nos. ML21040A262 and ML21040A316), Mr. Paul Blanch submitted 14 questions to the U.S. Nuclear Regulatory Commission (NRC) in advance of the March 9, 2021 public meeting (transcript available in ADAMS under Accession No. ML21084A478) with the Petition Review Board (PRB)¹ related to Public Watchdogs' October 13, 2020 petition (ADAMS Accession No. ML20294A388), pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 2.206, "Requests for action under this subpart." In the NRC's closure letter dated June 2, 2021 (ADAMS Accession No. ML21117A424), the staff informed Public Watchdogs that these questions would be addressed in the form of NRC staff general correspondence.

By email dated April 20, 2021 (ADAMS Accession No. ML21130A041), Mr. Perry Buckberg of the NRC provided a response addressing a number of the February 9, 2021 email questions from Mr. Blanch, pertaining to Management Directive (MD) 8.11, "Review Process for 10 CFR 2.206 Petitions" (ADAMS Accession No. ML18296A043) and the 10 CFR 2.206 petition process in general. The purpose of this correspondence is to provide the remaining NRC staff responses to the respective February 9, 2021 questions from Mr. Blanch, as well as the additional questions received on February 15, 2021 (ADAMS Accession No. ML21048A045), Ms. Amy Rosmarin's questions received on March 12, 2021 (ADAMS Accession No. ML21174A223), and Mr. Charles Langley's questions received on March 30, 2021 (ADAMS Accession No. ML21117A349).

For ease of reference, the questions provided by Public Watchdogs are contained in an Enclosure to this letter. To address the variety of questions submitted by Public Watchdogs in a holistic and effective manner, the NRC staff has grouped the relevant responses by topic, and identified the questions addressed by each topical response.

¹ The PRB informed Public Watchdogs at the beginning of the March 9, 2021 public meeting that the NRC staff would only address questions about the 10 CFR 2.206 process, and would not be responding to petitioner's additional questions, as doing so would not serve the purpose of the 2.206 process discussed in MD 8.11.

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Loss of Confinement is Not Credible

[Addressing Mr. Blanch's February 9, 2021 email Questions 3, 4 and 5; Ms. Rosmarin's March 12, 2021 email Questions 1, 2, 3 and 4; and Mr. Langley's March 30, 2021 email questions on New issues 1 and 3]

The NRC received several questions regarding the potential for a loss of confinement of the Holtec HI-STORM UMAX multipurpose canister (MPC) at the SONGS ISFSI and the supporting analysis that shows that loss of confinement integrity is not credible. The NRC staff responses to these questions are included in the following sections which address credible events, spent fuel storage system integrity, corrosion and aging management, and intentional acts such as terrorism.

Credible Events

The Commission has determined that a credible event for an ISFSI is defined as any natural event or accident with a probability greater than 1×10^{-6} per year. The determination of a credible event for ISFSI operations was established in a 2001 NRC ruling, CLI-01-22, "Private Fuel Storage, LLC, Docket No. 72-22-ISFSI," November 14, 2001 (ADAMS Accession No. ML030420224).

In CLI-20-14, "Interim Storage Partners LLC, Docket No. 72-1050-ISFSI," (ADAMS Accession No. ML20352A359), the Commission referenced the CLI-01-22 ruling and stated that a facility need not be designed to withstand "every conceivable accident," but it must be designed to withstand those found to be credible.

Spent Fuel Storage System Integrity

Storage systems approved by the NRC are required by NRC regulations [10 CFR 72.122(b) and 72.236(l)] to demonstrate that functions that are important to safety are maintained under normal, off-normal, and accident conditions. The NRC reviews these conditions for specific licensed ISFSI applications, as well as Certificate of Compliance (CoC) applications for a dry storage system (DSS) that may be used at a general licensed ISFSI.

10 CFR Part 72.122, "Overall requirements," is applicable to specific licensed and generally licensed ISFSIs. 10 CFR 72.122(b) "Protection against environmental conditions and natural phenomena," states:

(1) Structures, systems, and components important to safety must be designed to accommodate the effects of, and to be compatible with, site characteristics and environmental conditions associated with normal operation, maintenance, and testing of the ISFSI or a monitored retrievable storage (MRS) installation and to withstand postulated accidents.

(2) Structures, systems, and components important to safety must be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, lightning, hurricanes, floods, tsunamis, and seiches, without impairing their capability to perform safety functions.

10 CFR Part 72.236, "Specific requirements for spent fuel storage cask approval and fabrication," is applicable to a dry storage system CoC. 10 CFR Part 72.236(l) states:

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The spent fuel storage cask and its systems important to safety must be evaluated, by appropriate tests or by other means acceptable to the NRC, to demonstrate that they will reasonably maintain confinement of radioactive material under normal, off-normal, and credible accident conditions.

The NRC's NUREG-2215, "Standard Review Plan (SRP) for Spent Fuel Dry Storage Systems and Facilities" (ADAMS Accession No. ML20121A190), Section 3.5.2.4, lists both natural phenomena and postulated events for the NRC staff to consider in the review of storage systems under normal, off-normal, and accident conditions. An earlier version of that SRP, NUREG-1536, "Standard Review Plan for Spent Fuel Dry Storage Systems at a General License Facility" (ADAMS Accession No. ML101040620), included this information in Section 2.5.2.2. Off-normal events and conditions include variations in temperatures beyond normal, failure of 10 percent of the fuel rods combined with off-normal temperatures, failure of one of the confinement boundaries, partial blockage of air vents, human error, out-of-tolerance equipment performance, equipment failure, and instrumentation failure or faulty calibration. Accident events and conditions include cask tip-over, cask drop, fire, fuel rod rupture, leakage of the confinement boundary, explosive overpressure, and air flow blockage. Natural phenomena events include floods, tornados, earthquakes, burial under debris, lightning, seiches, tsunamis, and hurricanes.

General licensees must comply with 10 CFR 72.122(b), "Protection against environmental conditions and natural phenomena." This requires general licensees to evaluate the storage system for compliance with 10 CFR 72.122(b)(2)(i), which states that structures, systems, and components important to safety must be designed to withstand the effects of natural phenomena and the design bases for these structures, systems, and components must reflect:

(A) appropriate consideration of the most severe of the natural phenomena reported for the site and surrounding area, with appropriate margins to take into account the limitations of the data and the period of time in which the data have accumulated, and

(B) appropriate combinations of the effects of normal and accident conditions and the effects of natural phenomena.

In addition, general licensees must show compliance with 10 CFR 72.122(b)(3), which requires determining the intensity of natural phenomena that may occur for comparison with design bases of structures, systems, and components important to safety.

Acceptance criteria that are acceptable to the staff for off-normal conditions, accidents and natural phenomena events are described in NUREG-1536, Section 12.4, and include dose limits, criticality control, confinement and retrievability for off-normal conditions or recovery capability for accident conditions. Off-normal conditions are evaluated against the requirements of 10 CFR 72.104, "Criteria for radioactive materials in effluents and direct radiation from an ISFSI or MRS." Accidents and natural phenomena events are evaluated against the requirements of 10 CFR 72.106, "Controlled area of an ISFSI or MRS [Monitored Retrievable Storage Installation]," and 10 CFR 72.122(b).

The integrity of storage system components under design basis events including accidents and natural phenomena are determined using established analytical methods. Section 3.5.1.4 of NUREG-1536 states that the applicant's analysis of loads and load combinations resulting from different structural conditions should be consistent with the code or criteria requirements used in designing the component. In addition, it states that the American Society of Mechanical

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Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code Section III, Subsection NB or NC, defines the requirements for categorizing stresses and determining allowable stress limits for the confinement boundary of the storage system. For the fuel basket, ASME B&PV Code Section III, Subsection NG, applies. These ASME B&PV Code subsections also provide definitions of stress categories and stress intensity limits for normal (level A service limits) and off-normal (level B service limits) operating conditions. For level D service limits or accident conditions, ASME B&PV Code Section III, Appendix F, provides definitions of the stress intensity limits.

The level D service limits in ASME B&PV Code Section III Appendix F are intended to ensure that the pressure-retaining boundary will be maintained. The analyses conducted in accordance with Appendix F require that the mechanical and physical properties of components be based on ASME B&PV Code Section II, Part D, Subparts 1 and 2, at the actual temperature of the material. These ASME B&PV Code service levels provide a performance-based approach to ensure the structural integrity of important to safety components.

Holtec International was required by the above NRC regulations to submit information in the Final Safety Analysis Report (FSAR) for the HI-STORM UMAX system describing how it addressed normal, off-normal, and accident conditions, as well as natural phenomenon events. The NRC reviewed the Holtec International application against the regulatory requirements of 10 CFR Part 72 using the guidance in NUREG-1536. As discussed in Section 3.1 of the HI-STORM UMAX FSAR (ADAMS Accession No. ML18192B094), the objective of the structural analyses of the HI-STORM UMAX system is to demonstrate that the system has adequate structural integrity to maintain safety functions under normal, off-normal, and accident conditions, as well as natural phenomenon events. Table 3.1.10 in the HI-STORM UMAX FSAR identifies the origin, type, and significance of stresses in the HI-STORM UMAX system. Table 3.1.11 in the HI-STORM UMAX FSAR provides the multi-purpose canister (MPC) confinement boundary stress intensity limits for different loading conditions. The stress intensity limits for the MPC under normal, off-normal and accident conditions follow the guidance in Section 3.5.1.4 of NUREG-1536 and are consistent with the requirements in ASME B&PV Code Section III, Subsection NB, and Appendix F. The analysis in the HI-STORM UMAX FSAR shows that the confinement integrity of the MPC is maintained under normal, off-normal and accident conditions, as well as natural phenomenon events. The NRC staff's review of the Holtec International application is documented in the staff's Safety Evaluation Report (SER) which is publicly available (ADAMS Accession No. ML15093A510). After determining that the Holtec International application met the regulatory requirements of 10 CFR Part 72, the NRC issued Certificate of Compliance (CoC) 1040 (ADAMS Accession No. ML15093A509) for the HI-STORM UMAX system.

Southern California Edison (SCE) was required by 10 CFR 72.212(b)(5) to perform a written evaluation to establish that the HI-STORM UMAX storage system, once loaded with spent fuel at SONGS, will conform to the terms, conditions, and specifications of the CoC. NRC's review of SCE's 10 CFR 72.212 evaluation for the HI-STORM UMAX system at SONGS is documented in NRC Inspection Report 07200041/2017-001 (ADAMS Accession No. ML18200A400) Page 5.

Corrosion and Aging Management

In response to the 10 CFR 2.206 petition submitted by Public Watchdogs on February 5, 2020 (ADAMS Accession No. ML20036E999), the NRC addressed corrosion of the HI-STORM UMAX MPC in its closure letter for the 2.206 petition, dated September 1, 2020 (ADAMS Accession No. ML20216A610).

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The NRC review of a spent fuel dry storage system for use at a generally licensed ISFSI includes an assessment of the system's design and materials of construction to assure that the system meets the regulatory requirements of 10 CFR 72.236(g) which states, "The spent fuel storage cask must be designed to store the spent fuel safely for the term proposed in the application, and permit maintenance as required." The regulation at 10 CFR 72.240, "Conditions for spent fuel storage cask renewal," describes the requirements for storage system certificate renewals. Applications for the renewal of a spent fuel dry storage system CoC must include design bases information as documented in the most recently updated FSAR, time-limited aging analyses (TLAA) that demonstrate that structures, systems, and components important to safety will continue to perform their intended function for the requested period of extended operation, and a description of the aging management program (AMP) for management of issues associated with aging that could adversely affect structures, systems, and components important to safety. The initial Holtec HI-STORM UMAX CoC was issued on April 6, 2015 for a term of 20 years. The Holtec HI-STORM UMAX CoC will not be up for renewal until April 6, 2035. The NRC review of all spent fuel dry storage system CoC renewals is documented in the NRC's SER and made publicly available in ADAMS.

Intentional Acts

Intentional acts are addressed by separate requirements for physical security under 10 CFR Part 73. The security requirements at NRC-licensed facilities are based on the potential threat level as well as the potential consequences of an event. An ISFSI licensee complies with the security requirements through its NRC-approved Physical Security Plan, which is not publicly available. Licensees are routinely inspected to ensure they are following their NRC-approved Physical Security Plan. As part of its review of a licensee's Physical Security Plan, the NRC staff considers the results of security assessments that it has conducted for ISFSIs and dry storage system designs. The NRC regularly works with other government agencies including the Federal Bureau of Investigation and the Department of Homeland Security to assess the threat environment. The NRC is continually evaluating threats to stay prepared and is always ready to alert its licensees if a specific or a credible threat is identified.

Occurrence of Non-Credible Events at NRC Licensed Facilities

The NRC staff is not aware of any actual occurrence of an identified non-credible event at ISFSI facilities licensed by the NRC. There have been safety-related events at NRC licensed facilities involving human factors. The NRC has provided information regarding these events to NRC licensees and the public through generic communications, publicly available documents in ADAMS and the NRC public web page. The NRC will continue to provide publicly available information regarding safety-related events at NRC licensed facilities.

Continuation of off-site liability insurance (Price Anderson)

[Addressing Mr. Blanch's February 9, 2021 email Question 6]

Regarding Public Watchdogs' question, "Why does the NRC require the continuation for off-site liability insurance (Price Anderson) if loss of integrity is not credible?" The NRC staff provides the following clarification with respect to this issue which concerns Price-Anderson Act (PAA).

Nuclear power reactor licensees must maintain offsite financial protection coverage until all the radioactive materials have been removed from its site/location. As SONGS is in reactor

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decommissioning status, it will be subject to the Price-Anderson Act until the site is completely decommissioned and no longer under NRC's regulatory oversight.

Price-Anderson Act is codified in Section 170 of the Atomic Energy Act of 1954, as amended, under the title "Indemnification and Limitation of Liability." The NRC implements the PAA through its regulations in 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements." Each licensee that is required to have and maintain financial protection as determined in 10 CFR 140.11(a)(4) must execute an indemnity agreement with the NRC.

Article II of 10 CFR 140.92 Appendix B, states, in part, "the licensee shall maintain such financial protection in effect until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in paragraph 5(b), Article I of this section, or until the Commission authorizes the termination or the modification of such financial protection."

The Price-Anderson Act of 1957 requires that nuclear power reactor licensees have insurance to compensate the public for damages arising from a nuclear incident. As a technical matter, the fact that a reactor has permanently ceased operations is not itself determinative as to whether a licensee may cease providing the offsite financial protection coverage required by the Price-Anderson Act and 10 CFR 140.11(a)(4).

Post-Fukushima Flood Analysis

[Addressing Mr. Blanch's February 9, 2021 email Questions 11 and 12]

The NRC received questions regarding the post-Fukushima site specific flood analysis for SONGS. By letter dated March 12, 2012 (ADAMS Accession No. ML12053A340), the NRC issued a request for information per Title 10 to the *Code of Federal Regulations* (10 CFR), Subpart 50.54(f), to all nuclear power reactor licensees and construction permit holders in response to lessons-learned from Japan's March 2011 earthquake and subsequent tsunami. Enclosures 1 through 4 to the 50.54(f) letter include information requests regarding recommendations 2.1 and 2.3 for seismic and flooding hazard actions, and Enclosure 5 includes recommendation 9.3 for emergency preparedness. These recommendations were in the NRC's report providing insights from the NRC's review of the Fukushima Dai-ichi accident titled "*Near-Term Task Force Recommendations for Enhancing Reactor Safety in the 21st Century*," July 12, 2011 (ADAMS Accession No. ML111861807).

SCE's responses to the NRC's request for information pursuant to 10 CFR 50.54(f) regarding recommendation 2.1 and the flooding aspects of recommendation 2.3 of the Near-Term Task Force (NTTF) report for SONGS Units 2 and 3 are publicly available (ADAMS Accession Nos. ML12159A037 and ML12332A072). On September 30, 2013, SCE informed the NRC that the SONGS, Units 2 and 3, were no longer operating, but permanently shut down and defueled (ADAMS Accession No. ML13276A020). By letter dated January 22, 2014 (ADAMS Accession No. ML13329A826), the NRC determined that the requests included in the March 12, 2012 letter were no longer applicable for SONGS, Units 2 and 3, and no further responses or actions associated with the 10 CFR 50.54(f) letter were required.

Flood Analysis for the SONGS HI-STORM UMAX ISFSI

[Addressing Mr. Blanch's February 9, 2021 email Questions 7, 8, 9 and 10; and Mr. Langley's March 30, 2021 email questions on New Issues 2 and 4]

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The NRC received a question on the integrity of the HI-STORM UMAX MPC under flood conditions as well as several questions regarding the flood analysis for the Holtec HI-STORM UMAX ISFSI at SONGS. In response to the 10 CFR 2.206 petition submitted by Public Watchdogs on February 5, 2020 (ADAMS Accession No. ML20036E999), the NRC addressed the integrity of the HI-STORM UMAX MPC after a flooding event and cooling vent blockage in its closure letter for the 2.206 petition dated September 1, 2020 (ADAMS Accession No. ML20216A610). The NRC's response to the additional questions on the flood analysis for the SONGS site are included in the following paragraphs.

The questions on the flood analysis of the Holtec HI-STORM UMAX ISFSI at SONGS included an inquiry as to why that analysis is proprietary. The staff notes that the maximum flood analysis for the SONGS ISFSI is publicly available. As stated in SCE's submittal dated August 26, 2013 (ADAMS Accession No. ML13240A130), the maximum flood height at the SONGS facility, including run up from tsunami and wind driven waves, is 27 feet above sea level. This analysis is also included in Section 2.4.5.3 of the SONGS, Units 2 and 3, Updated Final Safety Analysis Report/Defueled Safety Analysis Report, Revision 4, published in November 2018 (ADAMS Accession No. ML19011A206).

The HI-STORM UMAX ISFSI at SONGS is built on the west side of the SONGS North Industrial Area. The area was elevated so that the top of the HI-STORM UMAX ISFSI pad is at 31.5 feet above sea level, as stated in the August 24, 2018 NRC Inspection Report 07200041/2017-001 (ADAMS Accession No. ML18200A400), Page 7. As stated in the September 1, 2020 NRC closure letter, the HI-STORM UMAX system design includes a cavity enclosure container (CEC), a cylindrical vessel with a closed bottom and an opening at the top to allow for ventilation, but otherwise has no penetrations or other openings. Thus, water from flooding events has no path for subsurface intrusion into the interior space of the CEC, and the top of the HI-STORM UMAX ISFSI pad at SONGS is above the maximum flood height at the SONGS site.

In his February 9, 2021 email (ADAMS Accession Nos. ML21040A262 and ML21040A316), Mr. Blanch asked the following question:

On August 26, 2013, Edison stated under penalty of perjury, that the ISFSI may be submerged during a tropical storm or tsunami resulting in potential rupture of all 72 spent fuel storage casks. This event is likely to result in rupture of multiple casks and the release of millions of curies of long-lived radioactive isotopes. Please explain this inconsistency.

The NRC staff offers the clarification below with respect to SCE's submittal to the NRC on August 26, 2013 (ADAMS Accession No. ML13240A130). The SCE submittal addressed the Diverse and Flexible Coping Strategies [FLEX] equipment in response to Commission Order EA-12-049 on mitigation strategies for beyond-design-basis external events. The SCE document states:

From Reference 2, the tropical storm and tsunami flood elevation is +27 ft. mean lower low water (mllw), including 11.4 ft. from wind driven waves. This flood elevation is below plant grade in the Units 2 and 3 Protected Area (PA) (elevation +30 ft. mllw) and above plant grade in the North Industrial Area (elevation +20 ft. mllw). Consequently, the North Industrial Area, formally Unit 1, cannot be used for storage and deployment of FLEX equipment.

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The August 26, 2013 SCE document describes the storage of FLEX equipment and does not include analyses of the probability or a description of potential consequences of flooding of the SONGS HI-STORM UMAX ISFSI. In addition, the initial HI-STORM UMAX CoC was issued on April 6, 2015 (ADAMS Accession No. ML15093A509), which was well after the SCE submission that included the flood analysis and the storage of FLEX equipment. The first loading of the HI-STORM UMAX MPC at SONGS occurred on January 25, 2018, as stated in the NRC Inspection Report 07200041/2017-001 (ADAMS Accession No. ML18200A400) Page 19, dated August 24, 2018. Hence, SCE's statements regarding potential inundation of FLEX equipment at the 20 feet mllw elevation have no bearing on the subsequently installed HI-STORM UMAX system with openings at 31.5 feet mllw elevation.

In a March 30, 2021 email, Mr. Langley requested, "Please identify the documents establishing that a seawall prevents damage to spent fuel, and is therefore a component important to safety." Mr. Langley also requested, "Please provide documentation proving that the seawall is engineered to withstand a tsunami or other large wave." The seawalls at SONGS are not relied on for protection of the ISFSIs against flooding. The North Industrial Area seawall at SONGS was originally constructed for the protection of SONGS, Unit 1. The top of the North Industrial Area seawall is 28.2 feet mllw. A second seawall, the top of which is 30 feet mllw, was constructed for the protection of SONGS, Units 2 and 3. While SONGS, Unit 1, has been decommissioned and SONGS, Units 2 and 3, are permanently defueled, the seawalls remain at the site. As noted by SCE in 2011 (ADAMS Accession No. ML110980789), the North Industrial Area seawall was inadvertently excluded from the 2009 Tsunami Inundation Map For Emergency Planning, which was prepared jointly by the State of California Office of Emergency Services, California Geologic Survey, the University of Southern California Tsunami Research Center, and the National Oceanic and Atmospheric Administration (see https://www.conservation.ca.gov/cgs/Documents/Publications/Tsunami-Maps/Tsunami_Inundation_SanOnofreBluff_Quad_SanDiego.pdf).

In a March 30, 2021 email, Mr. Langley requested the NRC to provide a list of the equipment on site at the SONGS ISFSI for recovery from a flooding event. SCE has plant procedures in place for maintaining and performing periodic surveillance of those structures, systems and components that are important to safety for its ISFSIs at SONGS. These plant procedures cover personnel, equipment, and actions to be taken for off normal and accident conditions and credible natural phenomena. The plant procedures are considered facility internal information and are not publicly available, however, these plant procedures are subject to NRC's periodic inspections.

We are providing the following additional references for your information:

- NRC, "Issuances Opinions and Decisions of the Nuclear Regulatory Commission with Selected Orders, July 1, 2001 – December 31, 2001," NUREG-0750, Volume 54, pp. 255-266, 2001. (<https://www.nrc.gov/docs/ML0304/ML030420224.pdf>)
- NRC, "Interim Storage Partners LLC, Docket No. 72-1050-ISFSI – Memorandum and Order," CLI-20-14, December 17, 2020. (<https://www.nrc.gov/docs/ML2035/ML20352A359.pdf>)

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Thank you for your continued interest in the safety and security of spent nuclear fuel.

Sincerely,

Kevin Williams, Director
Division of Materials Safety, Security, State,
and Tribal Programs
Office of Nuclear Material Safety
and Safeguards

Enclosure: Question Sets from Public Watchdogs

Docket Nos.: 50-361, 50-362,
72-41, and 72-1040

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SUBJECT: NRC STAFF RESPONSE TO QUESTIONS TRANSMITTED BY PUBLIC
WATCHDOGS ON FEBRUARY 9, 2021, AND MARCH 30, 2021

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ADAMS Accession No.: ML21132A096

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NAME	TBoyce	FMiller	BWatson
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OFFICE	NMSS/DFM/STLB:BC	NSIR/DSO/ILTAB:BC	OGC (NLO)
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NAME	SHelton	KWilliams	
DATE	8/25/2021	8/30/2021	

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Question Sets from Public Watchdogs

February 9, 2021 Email from Paul Blanch

(ADAMS Accession Nos. ML21040A262 and ML21040A316)

1. According to MD 8.11, a rejection letter will state "Reasons for the staff's action will be documented in the closure or acknowledgment letter."

NRC Response: This question was addressed by Perry Buckberg of NRC via email to Mr. Blanch on April 20, 2021.

2. What is the process for appealing the proposed rejection of the acceptance of a petition? Specifically, how long does the petitioner have to appeal the rejection of the petition?

NRC Response: This question was addressed by Perry Buckberg via email to Paul Blanch on April 20, 2021.

3. The NRC and Holtec both state that loss of integrity of the fuel canister is "not credible."
 - a. For what time period?
 - b. For terrorism?
 - c. Transportation?
 - d. Corrosion?
 - e. Prolonged long-term loss of cooling?

4. What are the radiological consequences of loss of integrity for each issue outlined in question three (a through e)?

5. Can you provide analysis and/or supporting information proving that a loss of fuel canister integrity is "not credible" for items a through e above?

6. Why does the NRC require the continuation for off-site liability insurance (Price Anderson) if loss of integrity is not credible?

7. Should an event such as flooding and cooling blockage occur at the San Onofre ISFSI, how long will canister integrity be maintained?

8. The current license basis maximum flood level at the SONGs and ISFSI are unknown and proprietary. Why is flood level proprietary?

9. On August 26, 2013, Edison stated under penalty of perjury, that the ISFSI may be submerged during a tropical storm or tsunami resulting in potential rupture of all 72 spent fuel storage casks. This event is likely to result in rupture of multiple casks and the release of millions of curies of long-lived radioactive isotopes.
 - a. Please explain this inconsistency

10. What is the lowest level of the canisters on the ISFSI pad vs maximum flood level?

11. Did SCE ever complete the post-Fukushima integrated, site-specific flood analysis?

Enclosure

12. What did the results of the SONGs post-Fukushima preliminary flood analysis show for the maximum flood level?
13. MD 8.11 states: "If the staff plans to take an action that is contrary to an immediate action requested in the petition before issuing either the closure letter or acknowledgment letter, the petition manager should informally notify the petitioner promptly by telephone and/or e-mail of the pending staff action. Reasons for the staff's action will be documented in the closure or acknowledgment letter."
 a. Why has the NRC staff failed to provide this information?

NRC Response: This question was addressed by Perry Buckberg of NRC via email to Paul Blanch on April 20, 2021 (ADAMS Accession No. ML21130A041).

14. Over the past 7 years, how many 2.206 petitions have been rejected from consideration by the Nuclear Regulatory Commission?

NRC Response: This question was addressed by Perry Buckberg of NRC via email to Paul Blanch on April 20, 2021 (ADAMS Accession No. ML21130A041).

February 15, 2021 Email from Paul Blanch, Public Watchdogs
 (ADAMS Accession No. ML21048A045)

In your letter inviting us to meet with you, you said that your (or perhaps more precisely the Staff's) preliminary determination was that at least some of the issues raised in our petition had previously been resolved.

In your letter of January 12, 2021, you state:

"Specifically, the concerns expressed in this petition have previously been evaluated or considered in NRC staff licensing reviews and in the evaluation of prior 2.206 petition requests submitted by Public Watchdogs."

Please provide supporting evidence for the above statement that I believe not be accurate.

NRC Response: This question was addressed in the June 2, 2021 petition closure letter (ADAMS Accession No. ML21117A424).

Page 10 of MD 8.11 seems to say that if the staff made any such determination, it should have identified any documentation that supported the determination:

(ii) In other cases involving prior reviews, the staff should determine, in its technical judgment, whether or not the listed circumstances in Section III.C.1(b)(ii) apply. In most cases, if the staff determines that an issue has been resolved, the staff should identify its supporting documentation.

Could you send us any documentation that the staff identified? It should be quite easy for you to do so; and it seems pretty clear that we need it if we are to be able to address the subject at our upcoming meeting.

NRC Response: This question was addressed in the June 2, 2021 petition closure letter (ADAMS Accession No. ML21117A424).

March 12, 2021 Questions from Amy Rosmarin, affiliated with Public Watchdogs
(ADAMS Accession No. ML21174A223)

1. What is meant by “not credible” and where is it defined in 10 CFR or elsewhere? This term is used in numerous licensee submittals and part of Final Safety Analysis Reports and Safety Evaluation Reports.
2. What process does the NRC use to establish that an event is “not credible”?
3. What “not credible” events have occurred at an NRC licensed facility? Please provide a list referenced by ML number of all occurrences at nuclear facilities where a “not credible” event occurred.
4. What is the origin of the use by the NRC of the term “not credible”? Also, in what context and when was it first used in a licensing document by the NRC?
5. In a letter to Public Watchdogs, the NRC stated that “concerns expressed in this [Public Watchdogs’] petition were previously evaluated or considered in NRC staff licensing reviews.” Please supply the analysis supporting this statement as well as the analysis of the impact of such an event on people and the environment.

NRC Response: This question was addressed in the June 2, 2021 petition closure letter (ADAMS Accession No. ML21117A424).

6. Is MD 8.8 a legal requirement and part of the regulations?

NRC Response: Management Directive (MD) 8.8, “Management of Allegations,” contains the associated regulatory background and relevant details. It is available in ADAMS under Accession No. ML102110541.

7. Please cite the regulation that prohibits questions from the public to the NRC Petition Review Board and prohibits the NRC from responding to questions by a 2.206 petitioner.

NRC Response: MD 8.11, “Review Process for 10 CFR 2.206 Petitions,” (ADAMS Accession No. ML18296A043) Section III, Petition Review Board (PRB), provides the roles and responsibilities of the PRB.

March 30, 2021 Questions from Charles Langley, Public Watchdogs
(ADAMS Accession No. ML21117A349)

We have new information related to our October 13, 2021 [*sic*; 2020] 10 CFR 2.206 petition.

This information is the result of a March 18, 2021 SONGS "Community Engagement Panel Meeting," which was recorded by the licensee, Southern California Edison at www.songscommunity.com, and also as a result of new NRC disclosures made during our recent PRB meeting.

New issue 1: Water intrusion into canisters is an unanalyzed condition

In an official email from the NRC to Tom Palmisano of SCE discussing:

RE: Criticality impact of thin-wall dry storage canisters

Date: Thursday, December 21, 2017 2:15:00 PM the NRC stated:

"the criticality safety control during storage does rely on the exclusion of water from the canister, and that is what led the NRC staff to ask Holtec to evaluate how criticality will be prevented." (emphasis ours).

The radiological impact of criticality in the event of internal flooding and loss of canister integrity has not been analyzed. The risk of this event has not been assessed by either the NRC or the licensee other than unsupported statements that this event is "not credible." This is an unanalyzed event.

QUESTION: What is the radiological impact of an inadvertent criticality in the event of a loss of canister integrity and internal flooding?

New issue 2: Emergency response equipment inventory

In its FSAR Technical Specifications (TS) the licensee discusses recovery from an analyzed flooding event as inserting some type of suction device to remove water and debris. This procedure is allegedly discussed in the site emergency plan.

FOIA 2021-000114 requested this site emergency plan and the FOIA branch provides a reference to this document at <https://www.nrc.gov/docs/ML2025/ML20255A126.html>.

Unfortunately, this emergency plan does not discuss flooding or recovery from a flooding event. The licensee appears to have no equipment such as pumps, special high temperature hoses, disposal provisions for radioactive water, pure water supplies, readily available and sufficient time to prevent fuel damage that is stated to be either 8 or 32 hours according to the analysis summary.

QUESTION: Please provide a list of the equipment on site at the San Onofre ISFSI for recovery from a flooding event. Please identify the suction device used for removing sand, mud, water and gravel from the Canister Enclosure Cavity.

New issue 3: Analyses supporting "not credible" finding

The licensee has submitted its FSAR and COC for the ISFSI. The NRC has approved these documents. Within these documents the licensee has stated numerous times that failure of the Holtec Canisters is "Not Credible" in response to the integrity requirement of 10 CFR 72.236(l) therefore avoiding any and all requirements to assure integrity. The NRC has formally declined to answer these questions. The NRC has stated in writing that it agrees with this statement.

The licensee and the NRC have avoided addressing all the requirements of 10 CFR 72.122 and 10 CFR 72.236 by making an unsupported statement that loss of integrity is "not credible."

QUESTION: Please identify a fact-based analysis that supports the statement that loss of canister integrity is "not credible."

New issue 4: Seawall as a damage barrier for spent nuclear fuel

The sea wall between the SONGS ISFSI and the beach is considered to be a component important to safety as defined in 10 CFR 72.3 “to prevent damage to the spent fuel, the high-level radioactive waste, or reactor-related GTCC waste container during handling and storage;”

This “sea wall” is not designed, constructed, tested to assure its assumed capability to restrain or prevent the impact of the forces of a storm surge or a tsunami as required by 10 CFR 72, Subpart G—Quality Assurance. There is no docketed information discussing compliance of this wall as required.

The licensee must provide documentation that this barrier, assumed to prevent flooding, is designed and qualified to meet its intended function.

QUESTION: Please identify the documents establishing that a seawall prevents damage to spent fuel, and is therefore a "component important to safety."

QUESTION: Please provide documentation proving that the seawall is engineered to withstand a tsunami or other large wave.