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From: nucomm@songs.sce.com [mailto:nucomm@songs.sce.com]

Sent: Friday, September 15, 2017 5:01 PM

To: NUCCOMM <nucomm@songs.sce.com>

Subject: New CEP Message

This is an automated email response from Community Engagement Panel Date Sent: 9/15/2017

First Name: Katie

Last Name: Day

Email address: [REDACTED]

City: Dana Point

State: CA

Message: To: San Onofre Community Engagement Panel

cc: David Victor & Lisa Edwards

Date: September 15, 2017

Re: Surfrider Foundation Comments and Inquiries from September 14 San Onofre CEP

Surfrider Foundation (Surfrider) would like to thank the members of the Community Engagement Panel (CEP) and guest speaker Lisa Edwards for taking the time to listen to our comments at last night's September 14 meeting, and for addressing our inquiries about Southern California Edison's (SCE) plans for nuclear storage via Holtec's UMAX system. We look forward to learning more details about the assurances SCE will take to protect our coast, waves, and beaches from radioactive nuclear waste.

Timeline Inquiries & Comments (Julia Chunn-Heer, San Diego Policy Manager)

1. Has the timeline for starting the movement into dry storage changed, or is it still slated to start in Dec 2017/Jan 2018?
2. According to the settlement agreement, there is a commitment to investigate a monitoring plan by 2020:
 - o When will the monitoring plan be completed?
 - o When will the monitoring plan be implemented?
 - o To truly promote SCE's principles of "safety, stewardship, and engagement", we feel this plan should be fully developed before more spent fuel is moved into dry storage. Why not go above and beyond the bare minimum requirements of the NRC?
3. Is SCE looking into other options for offsite storage since Palo Verde has said publicly they do not want San Onofre's waste?
4. We ask SCE to please provide our communities with more certainty that canisters will remain intact and safe, prior to burying nuclear waste so close to the ocean, on a dynamic coastline and bluff face, exposed to impacts from sea level rise.
5. We urge SCE to continually and thoroughly monitor all canisters onsite due to the significant risks if a leak were to occur, and the amount of unknowns and unintended consequences that could arise.

Canister Integrity Inquiries (Katie Day, Staff Scientist at Surfrider Headquarters)

- The UMAX Safety Evaluation Report was designed for an underground system (hence the U in UMAX). Since SONGS is planning on using a partially buried approach to account for the water table's proximity:
 - Do these safety assurances apply?
 - Is there an approved updated safety evaluation report specific to the model and design used at SONGS?

- The "CEC is meant to further resist corrosion" yet Holtec and SCE have noted that vents could allow rainwater to enter the CEC. They have been designed to capture that water between the CEC and the sealed canister to prevent that water from escaping into the natural environment:
 - Since rain in coastal environments has a higher salt content, how can you be so positive that corrosion will not be exacerbated?
 - How will water be removed and handled when canisters get moved or transferred offsite?
 - Since the CEC has vents, does that mean that there is only one completely sealed barrier between HLRW and the environment, workers, and nearby communities?

- Edison has mentioned that it is possible to transport a cracked canister because Hi-STAR transport casks do not take credit for internal canisters:
 - How would a cracked canister be placed in the transport cask without causing exposure to staff and the surrounding environment?
 - The plan of moving a cracked canister into a larger intact canister as a safety precaution sounds great, except again, how would a cracked canister get transferred without exposing staff and the environment to radioactive gases?

- If a crack, or initial pitting is identified during routine monitoring, will Edison notify the public?

- Is there an NDE in development that would not require moving a canister?

Settlement Inquiries (Denise Erkeneff, South Orange County Chapter Manager)

- What is the significance of the settlement agreement in the decommissioning process?

- How has the settlement agreement made SCE change their plans and operating procedures for the SONGS waste storage issue?

- Are there any updates on the timeline for securing offsite transport?

- Will monthly progress reports, those SCE is required to provide to plaintiffs, be publically available?

Thank you for your consideration of our comments and inquiries regarding SCE's dry nuclear storage plan and safety assurances. We look forward to hearing from you soon.

Sincerely,

Julia Chunn-Heer
Policy Manager, Surfrider San Diego

[REDACTED]

Katie Day
Staff Scientist, Surfrider Headquarters

[REDACTED]

Denise Erkeneff
Chapter Manager, Surfrider South Orange County

[REDACTED]

Response

SCE Responses to Surfrider Questions From September 15, 2017

Thank you for your questions. Please find responses below.

Timeline Inquiries & Comments (Julia Chunn-Heer, San Diego Policy Manager)

- 1. Has the timeline for starting the movement into dry storage changed, or is it still slated to start in Dec 2017/Jan 2018?**

Response: No the timeline has not changed. Fuel transfer from wet to dry storage could start as early as December 2017 following on-site NRC reviews.

- 2. According to the settlement agreement, there is a commitment to investigate a monitoring plan by 2020:**
 - o When will the monitoring plan be completed?**

Response: The Coastal Development Permit approved by the Coastal Commission in 2015 includes a condition requiring SCE to develop an Inspection & Maintenance (I&M) Program by October 2022. As part of the settlement agreement, SCE agreed to expedite preparation of that program by two years, to 2020.

It is important to note, all dry cask storage facilities at U.S. nuclear plants are monitored once the system is in use. This activity is separate from the I&M Program discussed above.

Routine monitoring includes:

- 24/7 Monitoring by Highly Trained Operations and Security Force
- Continuous Temperature Monitoring
- Daily Walkdowns of ISFSI
- Radiation Surveys
- Periodic Inspections

In addition, the NRC requires an Aging Management Plan (AMP) to be in place after the system has been licensed for 20 years.

o **When will the monitoring plan be implemented?**

Response: As noted in the prior question, routine monitoring of the UMAX system will commence immediately upon installation of the first canister, as required by the NRC. This monitoring, which includes temperature surveillance and operator visual inspections, is consistent with the system technical specifications and final safety analysis report, and was not impacted by the settlement agreement.

o **To truly promote SCE's principles of "safety, stewardship, and engagement", we feel this plan should be fully developed before more spent fuel is moved into dry storage. Why not go above and beyond the bare minimum requirements of the NRC?**

Response: Under NRC regulations, the AMP is not required until 2035. Therefore, SCE has gone above and beyond NRC requirements by agreeing to develop an I&M Program by 2020, which will provide for more formal monitoring at an earlier stage. In addition, as mentioned earlier, routine monitoring of dry cask storage facilities is performed as soon as the fuel is moved into dry storage.

3. **Is SCE looking into other options for offsite storage since Palo Verde has said publicly they do not want San Onofre's waste?**

Response: SCE is closely monitoring, in particular, the proposed consolidated interim storage facilities in West Texas and East New Mexico. SCE will be submitting a formal request to Palo Verde to store the San Onofre used nuclear fuel.

4. **We ask SCE to please provide our communities with more certainty that canisters will remain intact and safe, prior to burying nuclear waste so close to the ocean, on a dynamic coastline and bluff face, exposed to impacts from sea level rise.**

We urge SCE to continually and thoroughly monitor all canisters onsite due to the significant risks if a leak were to occur, and the amount of unknowns and unintended consequences that could arise.

Response: Used nuclear fuel has been safely stored in dry storage facilities for more than three decades in the United States. The canisters are licensed by the NRC. In addition, state regulatory review was performed to ensure the dry storage facility complies with the California Coastal Act. The California Coastal Commission found that the project would be consistent with the hazards, marine resources, water quality and view protection policies of the Coastal Act. These federal and state regulatory processes included a thorough evaluation of radiological and environmental concerns, and provide confidence that the fuel can be safely stored at San Onofre.

Even in the unlikely event that a leak were to occur, this would not give rise to significant risks or consequences. There would be minimal to no impact to the site or public, where the following is anticipated:

- Inert helium release
- Any fission gases that did escape would diffuse into the air, and have minimal to no impact to the public

- No high-pressure forces in canister to cause a release
- Solid fission products would remain in fuel rods in canister

To address potential flaws, SCE is working with vendors/industry to develop mitigation techniques. Techniques under development include:

1. Remote weld repair
2. Canister-in-canister encapsulation
3. Transport cask to store/contain compromised canister

Safety is our core principle. SCE has and will continue to monitor the dry cask systems and safeguard the used nuclear fuel until government approved long-term storage options are available in order to protect the people and environment surrounding San Onofre.

Canister Integrity Inquiries (Katie Day, Staff Scientist at Surfrider Headquarters)

5. The UMAX Safety Evaluation Report was designed for an underground system (hence the U in UMAX). Since SONGS is planning on using a partially buried approach to account for the water table's proximity:

o Do these safety assurances apply?

Response: Yes, since the SONGS system is not fully underground, an additional analysis was conducted for the UMAX system based on the SONGS configuration using the berm design.

o Is there an approved updated safety evaluation report specific to the model and design used at SONGS?

Response: Yes, the dry storage system at SONGS is approved by the NRC for storage (as well as transportation). An NRC approved cask is one that has undergone a technical review of its safety aspects and been found to be adequate to store used fuel at a site that has been evaluated by the licensee to meet all of the NRC's requirements in 10 CFR Part 72.

6. The "CEC is meant to further resist corrosion" yet Holtec and SCE have noted that vents could allow rainwater to enter the CEC. They have been designed to capture that water between the CEC and the sealed canister to prevent that water from escaping into the natural environment:

o Since rain in coastal environments has a higher salt content, how can you be so positive that corrosion will not be exacerbated?

Response: The stainless steel material (Type 316L) used in the SONGS dry cask storage system is resistant to corrosion and degradation. Currently there are over 2,000 stainless steel canisters loaded with used fuel in the U.S. – some in marine environments similar to San Onofre, such as Calvert Cliffs Nuclear Power Plant, located on the shores of the Chesapeake Bay, Maryland. Calvert Cliffs has stainless steel canisters that have been in service for over 20 years. See ["SONGS Used Fuel Management – Defense in Depth Report, September 8, 2017"](#)

Regarding rain water, as described in the Final Safety Analysis Report, the HI-STORM UMAX is designed to direct storm water and snow/ice melt-off away from the Cavity Enclosure Container (CEC) Flange and the Closure Lid where the air passages are located. Additionally, storm water intrusion tests found no water collected inside the module. In the unlikely event that rainwater enters the inlet vents, it would remain within the space between the CEC and the divider shell and therefore have little potential contact with the Multi-Purpose Canister (MPC) (what you refer to as the “sealed canister”) which contains the used nuclear fuel. If the CEC experiences any degradation, a local repair would be performed and would not affect the overall integrity of the ISFSI.

- **How will water be removed and handled when canisters get moved or transferred offsite?**

Response: If water is detected within the CEC, it would be pumped out.

- **Since the CEC has vents, does that mean that there is only one completely sealed barrier between HLRW and the environment, workers, and nearby communities?**

Response: There are two barriers between the used fuel pellets and the outside environment: the zirconium fuel-pin cladding and the stainless steel MPC. Uranium fuel pellets are placed within zirconium tubes during manufacturing, which are sealed shut, and the Uranium and all of the fission products created during operation remain within the sealed tubes during normal operation and thereafter. In the UMAX dry storage system, the assemblies of fuel pins (“fuel assemblies”) are placed inside the 5/8” thick stainless steel MPC.

7. Edison has mentioned that it is possible to transport a cracked canister because Hi-STAR transport casks do not take credit for internal canisters:

- **How would a cracked canister be placed in the transport cask without causing exposure to staff and the surrounding environment?**

Response: We first want to clarify that your initial statement may misunderstand SCE’s prior comments on transporting casks. SCE has been asked if it’s possible to transport a cracked SONGS canister. We’ve responded by saying, it is possible, but with conditions. Some transport casks may accept a canister with defects, and others may require modification or additional evaluation. These types of transport may require additional license evaluation at the time of shipment. Additional evaluation will need to be done should a cracked canister in the US be identified. No leaks have been identified in the 2000 welded steel canisters in the U.S.

Understanding that these discussions are hypothetical, the cracking of concern would be microscopic in nature. Some relatively benign fission product gases may be released initially through microscopic cracks; the particulate will be retained within the canister. Microscopic cracking will not result in a tangible decrease in shielding effectiveness and does not impact canister integrity for transportation or dose to workers. Also note that the transportation cask provides the majority of radiation shielding during handling and transportation.

- **The plan of moving a cracked canister into a larger intact canister as a safety precaution sounds great, except again, how would a cracked canister get transferred without exposing staff and the environment to radioactive gases?**

Response: See response above.

8. If a crack, or initial pitting is identified during routine monitoring, will Edison notify the public?

Response: As with all issues important to the public, SCE intends to keep the public updated, such as through the Community Engagement Panel.

9. Is there an NDE in development that would not require moving a canister?

Response: Yes. For example, see the eddy current array inspection probe described in EPRI's September 14, 2017, [CEP presentation](#). In general, the industry's goal is to employ in-situ NDE equipment.

Settlement Inquiries (Denise Erkeneff, South Orange County Chapter Manager)

- **What is the significance of the settlement agreement in the decommissioning process?**

Response: The Settlement Agreement does not directly pertain to the decommissioning process. The Settlement Agreement specifically addresses SCE's onsite ISFSIs and steps SCE will take to assess the feasibility of relocating SONGS spent fuel to an offsite storage facility. In exchange for SCE's commitments made as part of the Settlement, Plaintiffs dismissed their legal challenge. This allows for SCE to complete the ISFSI and to transfer all spent fuel to dry storage pending the availability of an offsite storage facility. The timely transfer of fuel to dry storage will help ensure that SCE can promptly proceed with decommissioning the facility.

Please see attached Settlement Agreement and Press Release/Settlement Agreement summary.

- **How has the settlement agreement made SCE change their plans and operating procedures for the SONGS waste storage issue?**

Response: SCE's plans for offloading spent fuel to the ISFSI have not changed. In addition, SCE's operating procedures are in accordance with NRC requirements and those are not impacted by the Settlement Agreement.

In terms of SCE's long-term plans, the Settlement Agreement requires SCE to use commercially reasonable efforts to relocate the spent fuel to an offsite storage facility. In furtherance of that objective, the settlement identifies specific steps SCE will take, including the following:

- Maintain an "Experts Team" to advise SCE on any proposed relocation of spent fuel;
- Develop a conceptual plan for the offsite transportation of spent fuel;
- Develop a strategic plan to support the development of a commercially reasonable offsite storage facility;
- Make a formal, written request to the owners of Palo Verde regarding the development of an expanded ISFSI to store spent fuel

These commitments could result in the transfer of fuel offsite in a shorter timeframe than SCE originally contemplated. SCE's plans anticipated that SONGS spent fuel would be transferred to a government-owned federal repository, which would result in fuel remaining onsite until 2049. In fulfilling its settlement commitments, SCE may be successful in improving this schedule. Pending availability of an offsite storage facility, SCE will continue to safely store the spent fuel in the onsite ISFSIs.

- **Are there any updates on the timeline for securing offsite transport?**

Response: No, not at this time. SCE is diligently working to satisfy its commitments under the Settlement Agreement, which includes the development of a conceptual transportation plan.

- **Will monthly progress reports, those SCE is required to provide to plaintiffs, be publically available?**

Response: Yes. SCE plans to make these reports available through the Community Engagement Panel.