

July 24, 2014

The Honorable Barbara Boxer
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, DC 20510

Dear Madam Chairman:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter of May 15, 2014, about the decommissioning of nuclear power plants. You raise concerns regarding the use of exemptions from emergency preparedness (EP) regulatory requirements, the movement of spent fuel to dry cask storage, and consideration of State and local government views in decommissioning planning.

I recently responded to a May 1, 2014, letter from you and your colleagues that also expressed concern regarding the use of exemptions for decommissioning facilities. In that letter, I provided some general information on the use of exemptions as part of NRC's regulatory process. The practice of considering exemptions is a well-established and important part of the NRC's regulatory process that allows licensees to address site-specific situations or implement alternative approaches for circumstances not necessarily contemplated in the regulations. As noted previously, the NRC will only grant an exemption request that is accompanied by a technical justification that the agency finds demonstrates adequate protection will be maintained if the exemption is granted.

With specific regard to EP, the NRC's regulations do not address that once a reactor permanently ceases operation, the consequences of emergency and security scenarios are reduced. The current practice for EP exemptions, when granted, is not to relieve the licensee of all EP requirements. Rather, the exemptions modify the licensee's EP plans commensurate with the site-specific risks that are present for a permanently shutdown reactor during decommissioning. For EP exemptions, these generally relate to a reduction in radiological risk as spent fuel ages and the preclusion of accidents applicable to an operating reactor. Decommissioning facilities continue to receive NRC oversight to verify compliance with all applicable regulatory requirements, and to verify that adequate safety and security will continue to be maintained.

Your letter also urges the NRC to require expedited transfer of spent fuel to dry cask storage. The Commission recently approved the staff's recommendation that no further generic assessments be pursued related to possible regulatory actions to require expedited transfer of spent fuel to dry cask storage. The Commission's decision was based on consideration of the staff's analysis that concluded that the expedited transfer of spent fuel to dry cask storage would provide only a minor or limited safety benefit, and that its expected implementation costs would not be warranted. However, the Commission did direct the staff to modify the regulatory analysis to address an alternate loading configuration and inform licensees of any added safety

benefit in adopting this configuration. The NRC staff will also develop an information paper regarding the treatment of limited term operational vulnerabilities associated with the discharge of spent fuel from cores into pools. Finally, the Commission also directed the NRC staff to consider the pending National Academy of Science's (NAS) findings and how they comport with further work on spent fuel pool management.

With regard to incorporating the views of State and local governments into decommissioning activities, under the Atomic Energy Act of 1954, as amended, the NRC has sole responsibility for regulating radiological health, safety, and security at commercial nuclear power plants. Our regulations provide opportunities for interested parties, including State and local governments, to communicate their views to the NRC and the licensee regarding radiological decommissioning. NRC regulations provide an opportunity to comment when a licensee submits the Post-Shutdown Decommissioning Activities Report (PSDAR) and a License Termination Plan (LTP), which is reviewed as a license amendment request. In addition, the NRC conducts public meetings in the vicinity of the facility following licensee submission of its PSDAR and LTP, and there is an opportunity for a hearing regarding the LTP. We also strongly encourage licensees to continue the industry practice of communicating with States, local communities, and other interested parties by sponsoring community advisory groups.

States often play a significant role in nuclear facility decommissioning beyond the NRC's responsibility for radiological safety and security, particularly on matters relating to socio-economic impacts, including the funding of additional activities and State-specific remediation standards. For example, regarding a licensee's decommissioning trust funds, the NRC has jurisdiction over a portion of these funds that are designated for radiological decommissioning of the nuclear facility. Recognizing that the decommissioning of power reactor sites may also be subject to regulation of non-radiological hazards by other Federal or State government agencies, it is incumbent upon the licensee to properly allocate funding for the entire decommissioning process, including both Federal and State requirements. Furthermore, it is imperative for the licensee to have an adequate and accurate reporting process in place to ensure that all regulatory bodies, Federal and State alike, are well informed of the status of a licensee's financial ability to comply with regulatory requirements and to complete the various stages of decommissioning in a timely manner.

An additional matter discussed in your letter is the conditions that might lead to a spent fuel pool fire. Spent fuel pools are designed to prevent the rapid loss of water used to cool the spent fuel. A spent fuel pool loss of cooling event, such as an extended loss of power at the site, would evolve slowly due to the spent fuel pool design and the large volume of water in the pool. The water temperature would increase but continue to provide cooling to the spent fuel rods. In the unlikely event that no action is taken to provide supplemental cooling, damage to the spent fuel is possible if the water boils off sufficiently to uncover the spent fuel. According to recent calculations by the licensee that considered the age of its spent fuel and the volume of its spent fuel pools (enclosed), more than 15 days would be available to take mitigative actions to restore or maintain water levels after a loss of cooling event at San Onofre Nuclear Generating Station (SONGS). This gives licensee personnel sufficient time to implement plant procedures to restore cooling for the spent fuel. Licensees have measures in place to address this condition and to sustain the spent fuel cooling function. These measures include using equipment available onsite or obtaining offsite equipment, as needed. Equipment available

onsite can vary based on the licensee's site- specific plans and procedures, but generally includes large portable generators, pumps, and hoses.

Prior NRC studies acknowledge that fuel cladding could reach its ignition temperature given certain highly unlikely conditions that result in the draindown of the spent fuel pool. These studies are often based on conservative assumptions, such as no effective mitigative measures are taken. The studies also recognize that the scenarios that could result in such conditions have a very low probability of occurrence.

I appreciate hearing your views on these important topics. Please be assured that we give them serious consideration. If you need any additional information, please contact me or Amy Powell, Acting Director of the Office of Congressional Affairs, at (301) 415-1776.

Sincerely,

/RA/

Allison M. Macfarlane

Enclosure:
[As stated](#)

cc: Senator David Vitter

Identical letter sent to:

The Honorable Barbara Boxer
Chairman, Committee on Environment
and Public Works
United States Senate
Washington, DC 20510
cc: Senator David Vitter

The Honorable Bernard Sanders
United States Senate
Washington, DC 20510

The Honorable Edward J. Markey
United States Senate
Washington, DC 20510

September 30, 2013

10 CFR 2.202

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-001

SUBJECT: Docket Nos. 50-361 and 50-362
License Nos. NPF-10 and NPF-15
Request for Rescission of Fukushima Orders (EA-12-049 and EA-12-051)
San Onofre Nuclear Generating Station, Units 2 and 3

References:

1. NRC Order Number EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events dated March 12, 2012. [ADAMS Accession Number ML12054A735]
2. NRC Order Number EA-12-051, Order Modifying Licenses with Regard to Requirements for Reliable Spent Fuel Pool Instrumentation dated March 12, 2012 [ADAMS Accession Number ML12054A679]
3. NRC letter to Duke Energy dated August 27, 2013, Crystal River Unit 3 Nuclear Generating Plan -Rescission of Order EA-12-049 [ADAMS Accession Number ML13212A366]
4. NRC letter to Duke Energy dated August 27, 2013, Crystal River Unit 3 Nuclear Generating Plan -Rescission of Order EA-12-051 [ADAMS Accession Number ML132203A161]
5. SCE letter to NRC, Permanent Cessation of Operations dated June 12, 2013 [ADAMS Accession Number ML131640201]
6. SCE letter to NRC, Permanent Removal of Fuel from the Reactor Vessel, SONGS Unit 3, dated June 28, 2013 [ADAMS Accession Number ML13183A391]
7. SCE letter to NRC, Permanent Removal of Fuel from the Reactor Vessel, SONGS Unit 2, dated July 22, 2013 [ADAMS Accession Number ML13204A304]
8. NEI 12-02, Revision 1, Industry Guidance for Compliance with NRC Order EA-12-051, "To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation"
9. JLD-ISG-2012-03, Revision 0, NRC Interim Staff Guidance for Compliance with Order EA-12-051 Reliable Spent Fuel Pool Instrumentation

Dear Sir or Madam:

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued Reference 1 and Reference 2 to Southern California Edison (SCE). Reference 1 was immediately effective and directed SCE to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool (SFP) cooling capabilities in the event of a beyond-design-basis external event.

Reference 2 was immediately effective and directed SCE to provide reliable SFP level indications. Implementation of both orders was required to be completed no later than two (2) refueling cycles after submittal of the respective overall integrated plan, or December 31, 2016, whichever comes first.

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A151

Enclosure

SCE hereby requests rescission of Orders EA-12-049 and EA-12-049 for SONGS Units 2 and 3. Based on the rescission of Orders EA-12-049 and EA-12-051 for Crystal River Unit 3 in References 3 and 4, SCE considers that it has good cause for rescission of the Orders as described below:

With respect to the requirements of Order EA-12-049:

- All nuclear fuel at SONGS Units 2 and 3 has been permanently removed from the reactor vessels and containments (References 5, 6 and 7). The reactor coolant system and secondary coolant systems (steam and feedwater) systems have also been removed from service. The lack of fuel in the reactor vessels and the absence of challenges to the containments render the development of guidance and strategies to maintain or restore core cooling and containment capabilities unnecessary.
- At the current decay heat levels, the time to boil in each SFP is approximately 90 hours (3.75 days) and the time to reduce SFP water inventory to a point 10 feet above the top of the spent fuel racks is an additional approximately 11 days. As such, reliance on SFP inventory for passive cooling provides an equivalent level of protection as that which would be provided by the initial phase of the guidance and strategies for maintaining or restoring SFP cooling per Order EA-12-049. Further, the low decay heat and long time to boil off the inventory to a point at which makeup would be necessary for radiation shielding purposes obviate the need for transition phase guidance and strategies using on site portable equipment per Order EA-12-049. Lastly, the low decay heat and long time to boil off the inventory also provides sufficient time for SCE to obtain off site resources on an ad hoc basis to sustain the SFP cooling function indefinitely, obviating the need for the final phase of guidance and strategies per EA-12-049.

With respect to the requirements of Order EA-12-051:

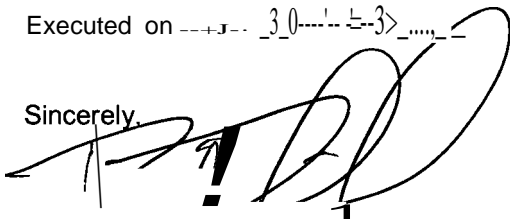
- Since SCE has certified the permanent removal of fuel from the reactor vessels and containments, the safety of the fuel in the SFP becomes the primary safety function for site personnel. In the event of a challenge to the safety of the fuel stored in the SFP, decision-makers would not have to prioritize actions and the focus of the staff would be on the SFP condition. Further, because the irradiated fuel in the SONGS Units 2 and 3 SFPs was last used for power generation in January 2012 and full compliance is not required until December 31, 2016, the fuel will have decayed nearly 5 years by the time reliable SFP instrumentation would be required. Section 2.3 of the applicable industry guidance for SFP level instrumentation (Reference 8, which was endorsed by Reference 9), states that for implementation of the order, a SFP "is a water filled structure housing storage racks that contain irradiated fuel discharged from the reactor vessel that has been used for power generation within the last five years". The nuclear fuel most recently discharged from the SONGS Units 2 and 3 reactor vessels will have reached five years of decay time shortly after December 31, 2016 (in early and late January 2017, respectively).

This letter contains no new regulatory commitments. If there are any questions regarding this plan, please contact Mr. Mark Morgan at (949) 368-6745.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 9/30/13

Sincerely,



cc: S. A. Reynoldson, Regional Administrator, NRC Region IV
 G. G. Warnick, NRC Senior Resident Inspector, San Onofre Units 2 and 3
 R. Hall, NRC Project Manager, San Onofre Units 2 and 3
 B. Benney, NRC Project Manager, San Onofre Units 2 and 3