

October 25, 2012

Mayor Joe Brown
Mayor Pro Tem
City of Laguna Niguel
City Council
30111 Crown Valley Parkway
Laguna Niguel, California 92677

Dear Mayor Brown:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter to me, dated July 27, 2012, in which you conveyed your constituents' concerns about the safety of the San Onofre Nuclear Generating Station (SONGS).

As you noted in your letter, SONGS Units 2 and 3, are currently shut down to investigate the causes of excessive steam generator tube wear on the replacement steam generators. On March 15, 2012, the NRC sent an augmented inspection team to the site in response to the January 31, 2012, steam generator tube leak in Unit 3 and the subsequent discovery of significant tube-to-tube wear on both of the Unit 3 steam generators and lesser tube-to-tube wear on one of the two Unit 2 steam generators. For several months, this team of NRC inspectors, with assistance from other NRC experts, closely followed the licensee's actions to evaluate the causes of the excessive tube wear and to develop corrective actions to prevent further tube degradation. On June 18, 2012, NRC staff met with representatives of Southern California Edison, the licensee, in San Juan Capistrano, California, to present the NRC's issues and observations resulting from the inspection. As discussed in that meeting, the NRC understands the steam generator thermal hydraulic conditions that resulted in the tube degradation and that these conditions were not accurately predicted during design of the replacement steam generators. In addition, the licensee is evaluating additional actions to prevent additional tube-to-tube degradation due to excessive vibration.

On March 27, 2012, the NRC issued a Confirmatory Action Letter to Southern California Edison, identifying the specific actions the licensee has committed to take prior to returning the units to power operation. On October 3, 2012, Southern California Edison provided its response to the Confirmatory Action Letter for Unit 2, which included both an assessment of the causes of the steam generator tube degradation and a proposed plan for restart of Unit 2. The NRC has a public website dedicated to the oversight of the SONGS where both of these documents can be assessed, as well as a summary of the issues and many additional relevant documents. It can be found at <http://www.nrc.gov/info-finder/reactor/songs/tube-degradation.html>.

The NRC will continue its independent, in-depth inspections and detailed review of the issues at SONGS, including aspects of the approval process for replacing the steam generators. The NRC will not allow the plant to restart until we are satisfied that the licensee can operate the plant without undue risk to public health and safety. The NRC will take the time needed to

determine the appropriate actions to ensure the safety of the public, and will communicate its determinations regarding the restart of SONGS, Units 2 and 3.

The NRC has heard the safety concerns of the citizens in your community and others located near SONGS, and has committed itself to ensuring that the public is informed about the condition of the plant and our work to assure its safety. On October 9, 2012, the NRC held a public meeting in Dana Point, California, to discuss the status of the issues at SONGS and to hear the views of interested local stakeholders. In addition, the NRC plans to have future public meetings concerning SONGS. Public meetings are announced on the NRC's website at <http://www.nrc.gov/public-involve/public-meetings/index.cfm>.

You also expressed concerns about the seismic and flooding hazards at SONGS. These hazards are being addressed for all U.S. nuclear plants as part of the lessons learned from the Fukushima Dai-ichi event in Japan. On March 12, 2012, the NRC issued a formal request for information, requesting all operating reactor licensees to (1) reevaluate seismic and flooding hazards (including tsunami hazards) at their sites using present-day methods and information and (2) conduct walkdowns of their facilities to ensure protection against the seismic and flooding hazards in their current design basis. The NRC will evaluate Southern California Edison's response to the request for information in determining whether plant modifications or further enhancements to address seismic and flooding hazards at SONGS are needed. These requests for information, as well as other information on the agency's response to the Fukushima event, are accessible on the NRC Web site at <http://www.nrc.gov/reactors/operating/ops-experience/japan-info.html>.

Among the additional issues identified by the NRC staff as having a nexus to the Fukushima event and as expressed in your letter, was the basis of the emergency planning zone size. The Commission defines two emergency planning zones around each nuclear plant. The exact size and configuration of these zones may vary from plant to plant due to local emergency response needs and capabilities, demography, topography, land characteristics, access routes, and jurisdictional boundaries. The two emergency planning zones are the plume exposure pathway emergency planning zone and the ingestion exposure pathway emergency planning zone.

A plume exposure pathway emergency planning zone is an area of approximately 10 miles in radius around each nuclear power plant. Site-specific, predetermined emergency plans are in place for this emergency planning zone and include provisions for protective actions designed to avoid or reduce dose from exposure to radioactive materials in the event of a radiological emergency. These actions include evacuation, sheltering, and the use of potassium iodide, where appropriate.

An ingestion exposure pathway emergency planning zone is an area of approximately 50 miles in radius around each nuclear power plant. Site-specific emergency plans are in place for this emergency planning zone as well, and include provisions to avoid or reduce dose from the possible ingestion of radioactive materials that could contaminate water and food sources as the result of a radiological emergency.

Over the years, the NRC staff has conducted several studies that provided additional insights regarding the adequacy of the plume exposure pathway emergency planning zone. The results of these studies have been published as NRC documents. They include: (1) NUREG/CR 6953, "Review of NUREG-0654, Supplement 3, 'Criteria for Protective Action Recommendations for Severe Accidents'," December 2007, which evaluated the efficacy of various protective action strategies within the emergency planning zone; (2) NUREG/CR-6864, "Identification and Analysis of Factors Affecting Emergency Evacuations," January 2005, which examined large evacuations in the U.S. between 1990 and 2003 to more fully understand the dynamics involved; and (3) Draft NUREG-1935, "State of the Art Reactor Consequence Analyses," January 2012, which evaluated hypothetical evacuations within emergency planning zones and beyond in response to a series of accident scenarios. These studies are available on the NRC's public website and support the NRC's basis for concluding that the existing emergency preparedness framework and regulations provide reasonable assurance of adequate protection of public health and safety in the event of a radiological emergency at a U.S. nuclear power plant. Nevertheless, in response to Fukushima, the NRC staff is planning to review the basis for the emergency planning zones to determine whether any enhancements to existing strategies are warranted.

Finally, you expressed concerns raised by your residents concerning the storage of spent nuclear fuel. SONGS currently stores spent nuclear fuel onsite, in an independent spent fuel storage installation (also known as dry cask storage), and in the spent fuel pools in SONGS Units 2 and 3. The NRC has reviewed and approved the designs of the spent fuel storage structures and facilities with consideration for the unique characteristics of the SONGS site, including the design basis seismic ground motion. The NRC and the licensee will continue to evaluate the spent fuel storage structures, as needed, based on the results of ongoing seismic reviews and other lessons learned in response to the Fukushima events.

On behalf of the NRC, I want to thank you for your continued involvement in matters related to nuclear safety. The City Council's and its constituents' interest and feedback help us to fulfill our mission of keeping the American public safe in an open and transparent manner.

Sincerely,

/RA/

Allison M. Macfarlane

cc: Senator Barbara Boxer

Identical letters sent to:

Mayor Joe Brown
Mayor Pro Tem
City of Laguna Niguel
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Laguna Niguel, California 92677

Ms. Linda Lindholm
City of Laguna Niguel
City Council Member
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