



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

July 28, 2015

Mr. Richard Ayres, Esquire
Ayres Law Group
1707 L St., NW, Suite 850
Washington, D.C. 20036

Dear Mr. Ayres:

This letter responds to the June 18, 2012, petition you filed on behalf of the Friends of the Earth that was referred, in part, to the U.S. Nuclear Regulatory Commission's (NRC's) Executive Director for Operations, under Title 10 of the *Code of Federal Regulations* (10 CFR) Section 2.206, "requests for action under this subpart." It is also in response to your supplemental letters dated November 16, 2012, and February 6, 2013, and comments during the January 16, 2013, Petition Review Board (PRB) meeting.

In your original petition, you requested that the NRC order Southern California Edison (SCE, the licensee) to submit a license amendment application for the design and installation of the San Onofre Nuclear Generating Station (SONGS), Units 2 and 3, replacement steam generators. As the basis for the petition request, you stated that the licensee violated 10 CFR 50.59, "Changes, Tests, and Experiments," when it replaced its steam generators in 2010 and 2011 without first obtaining NRC approval of the design changes through a license amendment.

In the January 16, 2013, meeting with the Office of Nuclear Reactor Regulation (NRR) PRB, you clarified the bases for the petition. During the PRB meeting, you further requested that the NRC suspend SCE's licenses until they are amended. The NRR PRB determined that this request supplemented the petition. The transcript of this meeting is available for inspection at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, MD, and online from the Agencywide Documents Access and Management System (ADAMS) public library component on the NRC's public Web site, <http://www.nrc.gov> (the Public Electronic Reading Room), and in ADAMS under Accession No. ML13029A643.

By letter dated April 30, 2013 (ADAMS Accession No. ML13106A193), the NRC staff acknowledged receiving your June 18, 2012, petition (ADAMS Accession No. ML12171A409), and your November 16, 2012, and February 6, 2013, supplements (ADAMS Accession Nos. ML12325A748 and ML13109A075, respectively), and informed you of the PRB's recommendation to accept the petition for review.

In your June 18, 2012, petition, you raised issues concerning the validity of SCE's 10 CFR 50.59 evaluations for the replacement steam generators at SONGS. After the NRC staff's evaluation of your concerns, the NRC issued the proposed director's decision to both you and the licensee on February 27, 2015 (ADAMS Accession Nos. ML15020A121 and ML15020A165). The licensee responded on March 25, 2015 (ADAMS Accession No. ML15089A045), stating that they had no comments on the proposed director's decision.

The March 27, 2015, response (ADAMS Accession No. ML15103A027) from Friends of the Earth, submitted by Mr. Damon Moglen, contained many comments, including your belief that the NRC's assertion that the issue is moot is insufficient and that the proposed director's decision ignores the conclusions in the Office of the Inspector General (OIG) event inquiry report, "NRC Oversight of the Licensee's Use of 10 CFR 50.59 Process to Replace SONGS' Steam Generators," dated October 2, 2014 (ADAMS Accession No. ML14276A478). The NRC evaluated your concerns, including comments received on the proposed director's decision. The final director's decision responds to your concerns that were accepted for review under the 10 CFR 2.206 process and the attachment to the final director's decision responds to your comments on the proposed director's decision. By letter dated April 3, 2015 (ADAMS Accession No. ML15097A011), the licensee provided a response to the Friends of the Earth's comments on the proposed director's decision. The NRC staff reviewed this response from the licensee and determined that no additional action was required.

Since the submittal of the initial petition and the subsequent supplements, SONGS, Units 2 and 3, have permanently ceased operations and the licensee has permanently removed fuel from the reactor vessels. As such, there is no longer a potential for the SONGS, Units 2 and 3 steam generators to be operated, and the petitioner's request for the NRC to order the licensee to submit a license amendment application for the design and installation of the replacement steam generators and to suspend SCE's licenses until they are amended is moot. Based on the above, the Director of NRR will not be instituting the proceeding you requested, either in whole, or in part, as discussed in the enclosed director's decision.

A copy of the director's decision (DD-15-07) will be filed with the Secretary of the Commission for the Commission to review in accordance with 10 CFR 2.206(c). As provided for by this regulation, this decision will constitute the final action of the Commission 25 days after the date of the decision unless the Commission, on its own motion, institutes a review of the decision within that time. The documents cited in the enclosed decision are available in ADAMS for inspection at the Commission's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, MD, and from the ADAMS public library component on the NRC's public Web site, <http://www.nrc.gov> (the Public Electronic Reading Room).

I have enclosed a copy of the notice of "Issuance of the Director's Decision under 10 CFR 2.206" that has been filed with the Office of the *Federal Register* for publication.

R. Ayres

- 3 -

I appreciate your efforts to bring this matter to the attention of the NRC. Please feel free to contact Thomas Wengert by phone at 301-415-4037 or by e-mail at Thomas.Wengert@nrc.gov to discuss any questions related to this petition.

Sincerely,

A handwritten signature in black ink, appearing to read 'W M Dean', with a long horizontal flourish extending to the right.

William M. Dean, Director
Office of Nuclear Reactor Regulation

Docket Nos. 50-361 and 50-362

Enclosures:

1. Director's Decision 15-07
2. *Federal Register* Notice

cc: Mr. Thomas J. Palmisano
Vice President and Chief Nuclear Officer
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

Listserv

ENCLOSURE 1

DIRECTOR'S DECISION

ADAMS Accession No. ML15183A164

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION

William M. Dean, Director

In the Matter of)	Docket Nos. 50-361 and 50-362
)	
)	
SOUTHERN CALIFORNIA EDISON)	License Nos. NPF-10 and NPF-15
)	
)	
San Onofre Nuclear Generating Station,)	
Units 2 and 3)	

DIRECTOR'S DECISION UNDER 10 CFR 2.206

I. Introduction

By letter dated June 18, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12171A409), the Friends of the Earth (the petitioner) filed an intervention petition and hearing request, as well as a stay of any decision to authorize restart of San Onofre Nuclear Generating Station (SONGS), Units 2 and 3, following the steam generator tube leak that led to the rapid shutdown of Unit 3 in January 2012. As part of its filing, the petitioner argued that the licensee violated Title 10 of the *Code of Federal Regulations* (10 CFR) 50.59, "Changes, Tests, and Experiments," when the steam generators for SONGS, Units 2 and 3, were replaced in 2010 and 2011 without a license amendment.

In its November 8, 2012, memorandum and order on this matter (ADAMS Accession No. ML12313A118), the U.S. Nuclear Regulatory Commission (NRC or the Commission) referred the portion of the June 18, 2012, petition that concerns the asserted 10 CFR 50.59

violation to the NRC's Office of the Executive Director for Operations (EDO) for consideration as a petition under 10 CFR 2.206, "Request for action under this subpart."

The petition was supplemented by letters dated November 16, 2012, and February 6, 2013 (ADAMS Accession Nos. ML12325A748 and ML13109A075, respectively).

Actions Requested for June 18, 2012, Petition

In the June 18, 2012, petition, the petitioner requested that the NRC take enforcement action against Southern California Edison (SCE, the licensee). The petitioner requested that the NRC order SCE to submit a license amendment application for the design and installation of the SONGS, Units 2 and 3, replacement steam generators. As the basis for the petition request, the petitioner stated that the licensee violated 10 CFR 50.59 when it replaced its steam generators in 2010 and 2011 without first obtaining NRC approval of the design changes through a license amendment.

On January 16, 2013, the petitioner met with the Office of Nuclear Reactor Regulation (NRR) Petition Review Board (PRB) to clarify the bases for the petition. During the PRB meeting, the petitioner further requested that the NRC suspend SCE's licenses until they are amended.

The NRC treated the transcript of the PRB meeting (ADAMS Accession No. ML13029A643) as a supplement to the petition, and it is available for inspection at the NRC's Public Document Room (PDR), located at One White Flint North (O1F21), 11555 Rockville Pike (first floor), Rockville, MD 20852. Publicly available documents created or received at the NRC are accessible electronically through ADAMS in the NRC library at <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC's

PDR reference staff by telephone at 1-800-397-4209 or 301-415-4737, or by e-mail to pdr.resource@nrc.gov.

The NRC's acknowledgment letter to the petitioner for the June 18, 2012, petition, dated April 30, 2013 (ADAMS Accession No. ML13106A193), addressed the original petition dated June 18, 2012, as supplemented by letter dated November 16, 2012, comments made during the January 16, 2013, PRB meeting, and by letter dated February 6, 2013. The November 16, 2012, and February 6, 2013, supplements did not request additional actions, but did provide supporting information. In the acknowledgment letter, the NRC informed the petitioner that the petition had been accepted for review under the 10 CFR 2.206 process. In this letter, the NRC stated that it would also consider the safety significance and complexity of the information submitted on April 4, 2013 (ADAMS Accession No. ML15044A057), and that it would determine whether the new information should be consolidated with the existing petition. The April 4, 2013, letter included several assertions related to SCE's "... knowledge regarding the defects in the RSG [replacement steam generator] design at the time it conducted its 50.59 evaluations." The letter requested no additional actions.

On February 27, 2015 (ADAMS Accession Nos. ML15020A121 and ML15020A165, respectively), the NRC issued the proposed director's decision for comment to the petitioner and the licensee. The petitioner provided comments in a response dated March 27, 2015 (ADAMS Accession No. ML15103A027). The NRC evaluation of these comments is provided as an attachment to this final director's decision. In addition, the NRC forwarded the petitioner's March 27, 2015, letter to the NRC's Office of the Inspector General (OIG) because it contained assertions of NRC staff wrongdoing.

By letter dated March 25, 2015 (ADAMS Accession No. ML15089A045), the licensee stated that it had no comments on the proposed director's decision. By letter dated

April 3, 2015 (ADAMS Accession No. ML15097A011), the licensee provided a response to the petitioner's comments on the proposed director's decision. The NRC staff reviewed the response from the licensee and determined that, because the licensee's comments are direct rebuttals to the petitioner's comments and raised no concerns with the proposed director's decision, no changes to the director's decision are required as a result of these comments.

II. Discussion

Disposition of the June 18, 2012, Petition

Under 10 CFR 2.206(b), the director of the NRC office with responsibility for the subject matter shall either institute the requested proceeding or shall advise the person who made the request in writing that no proceeding will be instituted in whole or in part, with respect to the request, and the reason for the decision. Accordingly, the decision of the NRR Director is provided below.

As stated previously, the NRC accepted for review the June 18, 2012, petition request for the NRC to order the licensee to submit a license amendment application for the design and installation of the SONGS, Units 2 and 3, replacement steam generators and to suspend SCE's licenses until they are amended. The SONGS, Units 2 and 3, reactors have been shut down since January 9, 2012, and January 31, 2012, respectively. On June 7, 2013, the licensee verbally notified the NRC of its determination not to seek restart of SONGS, Units 2 and 3.

On June 12, 2013 (ADAMS Accession No. ML131640201), the licensee provided the certifications required by 10 CFR 50.82(a)(1)(i) to the NRC staff that SONGS, Units 2 and 3, had permanently ceased power operations. On June 28 and July 22, 2013 (ADAMS Accession Nos. ML13183A391 and ML13204A304, respectively), the licensee provided certifications required by 10 CFR 50.82(a)(1)(ii) that all fuel had been permanently removed from the

SONGS, Units 3 and 2 reactors, respectively. In accordance with 10 CFR 50.82(a)(2), upon docketing of these two certifications, the licensee's 10 CFR Part 50 ("Domestic Licensing of Production and Utilization Facilities") licenses no longer authorize operation of the SONGS reactors or placement or retention of fuel into the reactor vessels. Accordingly, the licensee is prohibited by regulation from restarting SONGS, Units 2 and 3, or loading fuel into the reactor vessels. Since the licensee is prohibited from operating the reactors by 10 CFR 50.82(a)(2), there is no longer an open question whether action is needed to require the SONGS licenses to be amended to allow continued operation of the reactors with the replacement steam generators. In addition, requiring the SONGS licenses to be amended regarding the replacement steam generators would have no impact on the safe operation of the permanently shutdown and defueled facility. Thus, the petitioner's request for the NRC to order the licensee to submit a license amendment application for the design and installation of the SONGS, Units 2 and 3, replacement steam generators and to suspend SCE's licenses until they are amended is moot.

NRC Actions for Concerns that Are Outside the Scope of the June 18, 2012, Petition

Consistent with 10 CFR 2.206, the scope of the June 18, 2012, petition to which this director's decision applies is the request that the Commission take enforcement-related action to order the licensee to submit a license amendment application for the design and installation of the SONGS, Units 2 and 3 replacement steam generators and to suspend SCE's licenses until they are amended. The director's decision is not intended to address concerns raised by the petitioner and others related to NRC procedures or regulations. These concerns are being addressed through other efforts. Accordingly, the NRC staff provides the following additional information summarizing these actions:

1. In 2012, the NRC's Office of Investigations initiated an investigation (OI 4-2012-038) to determine if an SCE employee at SONGS willfully failed to provide complete and accurate information concerning the SONGS steam generator replacement to NRC inspectors. Based on the evidence developed during the investigation, the allegation was not substantiated. Consequently, the PRB determined that the results of the investigation had no impact on the petition request. That investigation was closed in May 2014.
2. In 2013, the OIG initiated an event inquiry in response to concerns regarding the NRC's oversight of the replacement steam generators at SONGS. The event inquiry examined the NRC's oversight of SCE's application of the 10 CFR 50.59 process for the replacement steam generators at SONGS, Units 2 and 3. The OIG also sought to ascertain from NRC officials whether SONGS required a license amendment for the steam generator replacements and whether the problems at SONGS could have been identified through the NRC's license amendment review process. The OIG event inquiry report, "NRC Oversight of the Licensee's Use of 10 CFR 50.59 Process to Replace SONGS' Steam Generators," dated October 2, 2014 (ADAMS Accession No. ML14276A478), included several findings related to the SONGS 10 CFR 50.59 evaluations for the replacement steam generators. The OIG inquiry included topics similar to the petitioner's request, but focused primarily on NRC staff actions and processes, rather than on SCE's actions. Thus, the NRC staff evaluated the OIG report as part of the SONGS lessons learned effort discussed below, and not as part of this petition request.

3. On December 23, 2013, the NRC issued the Final Significance Determination of White Finding and Notice of Violation (ADAMS Accession No. ML13357A058) for the licensee's failure to verify the adequacy of the thermal-hydraulic and flow-induced vibration design of the Unit 3 RSGs, a violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," with an associated violation of Technical Specification 5.5.2.11, "Steam Generator Program." The NRC determined that the SONGS Unit 3 steam generator tube leak and subsequent shutdown on January 31, 2012, were the result of this violation, which occurred on January 28 and April 2, 2008. The circumstances surrounding the violation are described in detail in NRC Inspection Report 05000361/2012009 and 05000362/2012009, dated September 20, 2013 (ADAMS Accession No. ML13263A271). In accordance with the NRC Enforcement Policy, this violation is considered an escalated enforcement action because it is associated with a White finding.
4. In a memorandum dated March 20, 2014 ("San Onofre Steam Generator Tube Degradation Lessons Learned Report," ADAMS Accession No. ML14028A028), the EDO directed the NRC staff to evaluate the lessons learned from the recent experiences related to the SONGS steam generator tube degradation event and to identify and implement appropriate actions. The tasks for the review of lessons learned included, in part, an examination of the 10 CFR 50.59 process in light of the SONGS event. On March 6, 2015, the NRC staff issued a report, "Review of Lessons Learned from the San Onofre Steam Generator Tube Degradation Event" (ADAMS Accession No. ML15062A125), along with an accompanying report, "White Paper—10 CFR 50.59; the Process, Application to Substantial Modifications to Licensee Facilities, and NRC Staff Assessment of

Licensee Implementation,” dated February 25, 2015 (ADAMS Accession No. ML13066A237). Although these efforts have reaffirmed that the 10 CFR 50.59 regulatory requirements continue to be adequate, including those for assessments of major or complex component replacements, the NRC staff determined that improvements related to the 10 CFR 50.59 process can be made and are underway.

III. Conclusion

The petitioner raised concerns regarding the validity of SCE's 10 CFR 50.59 evaluations for the steam generators at SONGS, Units 2 and 3. The NRC evaluated the petitioner's concerns, including the comments received from the petitioner on the proposed director's decision.

Since the submittal of the initial petition and the subsequent supplements, SCE has submitted written certifications to the NRC in accordance with 10 CFR 50.82, "Termination of License," that it has permanently ceased power operations at SONGS, Units 2 and 3, and that fuel has been permanently removed from the reactor vessels. In accordance with 10 CFR 50.82, upon docketing these certifications, SCE is prohibited by regulation 10 CFR 50.82(a)(2) from operating SONGS, Units 2 and 3, or loading fuel into the reactor vessels. Thus, there is no longer a potential for the SONGS, Units 2 and 3 steam generators to be operated, and the petitioner's request for the NRC to order the licensee to submit a license amendment application for the design and installation of the replacement steam generators and to suspend SCE's licenses until they are amended is moot. Based on the above, the NRR Director will not be instituting the proceeding requested by the petitioner, either in whole or in part.

As provided in 10 CFR 2.206(c), a copy of this director's decision will be filed with the Secretary of the Commission for the Commission to review. As provided for by this regulation, the decision will constitute the final action of the Commission 25 days after the date of the decision unless the Commission, on its own motion, institutes a review of the decision within that time.

Dated at Rockville, Maryland, this 28 day of July 2015.

For the Nuclear Regulatory Commission.

A handwritten signature in black ink, appearing to read 'W M Dean', with a long horizontal flourish extending to the right.

William M. Dean, Director,
Office of Nuclear Reactor Regulation.

Attachment:
Resolution of Petitioner's Comments

COMMENTS RECEIVED FROM THE PETITIONER
ON THE PROPOSED DIRECTOR'S DECISION
DATED FEBRUARY 27, 2015

The U.S. Nuclear Regulatory Commission (NRC) sent a copy of the proposed director's decision to Mr. Richard Ayres, representing the Friends of the Earth (the petitioner), for comment on February 27, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15020A167). The petitioner responded with comments by letter from Mr. Damon Moglen dated March 27, 2015 (ADAMS Accession No. ML15103A027). The NRC's response to the comments received is provided below:

Comment 1 (summarized)

The petitioner made several comments asserting that, in its proposed director's decision, the NRC did not address the original concerns of the petition, including (1) how such an abdication of responsibility was allowed to occur, and (2) what will be done in response? The petitioner also commented that the statement that the issue is "moot" is insufficient, as is the proposed conclusion that the agency will not take action to address the problems with the Title 10 of the *Code of Federal Regulations* (10 CFR) 50.59, "Changes, Tests, and Experiments," and 10 CFR 2.206, "Requests for action under this subpart," processes. The petitioner also commented that the NRC did not explain why closure of the reactors was sufficient instead of investigating and reforming the 50.59 process.

Response:

The fundamental issue in this case revolved around whether Southern California Edison's (SCE's) replacement of its steam generators in 2010 and 2011 under 10 CFR 50.59, and subsequent operation until January 2012, without first obtaining NRC approval through a license amendment, was in violation of NRC regulations. As stated in Section I of the director's decision, the petitioner requested that the NRC take enforcement action against SCE in the form of an NRC order that requires the licensee to submit a license amendment application for the design and installation of the SONGS, Units 2 and 3, replacement steam generators and suspend SCE's licenses until they are amended. Because SONGS is now permanently shut down—and will not restart—there is no reasonable expectation that the asserted violation will recur.

The regulation in 10 CFR 50.59(c)(2) requires a licensee to obtain a license amendment under 10 CFR 50.90, "Application for Amendment of License, Construction Permit, or Early Site Permit," before implementing a proposed change that meets any of the criteria in 10 CFR 50.59(c)(2)(i)-(viii). The effect of the relief requested by the petitioner in the 2.206 petition would have been that SCE would not restart the SONGS, Units 2 or 3, reactors and operate the replacement steam generators without undergoing a review and subsequent approval of a license amendment by the NRC staff. The permanent shutdown of Units 2 and 3 has eliminated any potential for additional effects of the asserted violation, as the reactors and the replacement steam generators are prohibited from being operated. The effect of the permanent shutdown is the same result sought by the petitioner.

In addition, requiring SCE's licenses to be amended regarding the replacement steam generators would have no impact on the safe operation of the permanently shutdown and defueled facility. Thus, the director's decision concludes that the petitioner's request for the NRC to order the licensee to submit a license amendment application for the design and installation of the replacement steam generators and to suspend SCE's licenses until they are amended is moot.

In response to these comments, the director's decision has been revised to more clearly indicate the reasons why the requested actions are moot, and that related issues raised by the petitioner and others that are not appropriate for review through the 2.206 petition process, such as concerns related to NRC procedures or regulations, are addressed through other processes or programs. The director's decision includes a summary of several of these other activities, some of which were still in progress when the proposed director's decision was issued, and indicates where additional information on these activities can be obtained.

Comment 2 (summarized)

The petitioner commented that when SCE sought bidders for the replacement steam generators (RSGs), it specified that the steam generators should be designed and constructed such that no license amendment would be required under 10 CFR 50.59. The licensee asked the supplier to "guarantee in writing that the RSG design is licensable and provide all support necessary to achieve that end." A design specification for the second steam generator required the supplier to provide "an engineering evaluation ...justifying that the RSGs can be replaced under the provision of 10 CFR 50.59 (without prior NRC approval)."

Response:

Following the January 2012 SONGS steam generator tube degradation event, there was public concern expressed about whether the licensee decided to design the new steam generators so that they could be replaced under 10 CFR 50.59 to avoid scrutiny provided by NRC staff review of a license amendment. In the March 6, 2015, "San Onofre Steam Generator Tube Degradation Lessons Learned Report" (Lessons Learned Report) (ADAMS Accession No. ML15062A125), the NRC staff evaluated whether it is acceptable for a licensee to intentionally design a facility change such that it could be implemented under 10 CFR 50.59 without the need for prior NRC approval. The report concludes that such an approach does not represent a safety concern or a compliance concern. Page 16 of the report states, in part:

A change that conforms to the 10 CFR 50.59 criteria demonstrates the continued adequate protection of public health and safety due to the fact that it does not result in a more than minimal increase in the frequency or consequences of an accident or a system failure, does not affect fission product barrier limits, and does not involve a departure from the method of evaluation. The NRC-approved 10 CFR 50.59 guidance of NEI [Nuclear Energy Institute] 96-07, Revision 1 ["Guidelines for 10 CFR 50.59 Implementation," dated November 17, 2000 (ADAMS Accession No. ML003771157)], Section 4.5, "Disposition of 10 CFR 50.59 Evaluations," states that if a licensee determines that a proposed activity would require prior NRC approval, it has the option to "[r]edesign the proposed activity so that it may proceed without prior NRC approval."

A licensee's decision to design RSGs so that they can be replaced without prior NRC approval would not avoid NRC oversight. The NRC provides oversight of plant modifications through the inspection process, regardless of whether a licensee's evaluation under 10 CFR 50.59 determines that prior NRC approval is required for the change. The NRC also periodically inspects licensee implementation of the 10 CFR 50.59 process, as well as design and configuration control processes. The March 6, 2015, Lessons Learned Report discusses the NRC inspection activities and results associated with the replacement of the SONGS steam generators and following the January 2012 steam generator tube degradation event. On June 27, 2008, SCE requested amendments to the SONGS, Units 2 and 3, licenses (NPF-10 and NPF-15, respectively) to support the replacement of its steam generators. The NRC completed its review and approved the amendments on June 25, 2009, which modified the Units 2 and 3 technical specifications to reflect revised steam generator inspection and repair criteria and revised peak containment post-accident pressures resulting from the planned installation of the replacement steam generators.

No changes were made to the director's decision as a result of this comment.

Comment 3 (summarized)

The petitioner commented that both the NRC augmented inspection and SCE's investigation of the tube degradation at SONGS, Units 2 and 3, identified fluid elastic instability as the immediate cause of the excessive tube wear, but that neither determined the root cause of the premature and extensive tube degradation of the RSGs. The petitioner further asserted that the NRC permitted the licensee to design, construct, install, and operate defective steam

generators, and the NRC only came to recognize that there was a problem after there had been the release of radiation.

Response:

As the comment indicated, the NRC Augmented Inspection Team (AIT) that was established following the January 2012 event initially identified design control issues associated with the thermal-hydraulic modeling of the steam generators as the probable cause of the steam generator tube degradation. Followup inspections of the unresolved issues identified by the AIT identified violations of 10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," Criterion III, "Design Control," for the failure to verify the adequacy of certain design features of the RSGs, which resulted in excessive and unexpected steam generator tube wear after one cycle of operation. Following the event, both SCE and the manufacturer of the RSGs (Mitsubishi Heavy Industries) initiated efforts to identify the root and contributing causes of the tube-to-tube wear that led to the event. Pages 24 and 25 of the March 6, 2015, Lessons Learned Report provide the following summary of their findings:

Southern California Edison (SCE) and the vendor (Mitsubishi Heavy Industries) determined [(ADAMS Accession No. ML12285A265)] that the mechanistic cause of the Unit 3 tube-to-tube wear was U-bend in-plane fluid-elastic instability associated with adverse thermal-hydraulic conditions in the steam generator, combined with a lack of effective in-plane tube support for the U-bends. Mitsubishi determined that the tube-to-anti-vibration bar contact forces used in the replacement steam generators were not high enough to prevent the in-plane motion, given the thermal-hydraulic conditions in the secondary side of the steam

generators. Mitsubishi also found that its design models had not appropriately calculated the secondary side flow conditions for the design configuration of the San Onofre steam generators. As a result, there was significantly less margin to fluid-elastic instability in the actual steam generators than anticipated by the models.

Mitsubishi identified the root cause of the in-plane fluid-elastic instability of the tubes to be insufficient programmatic requirements for ensuring effective anti-vibration bar support that would prevent the in-plane fluid-elastic instability. The susceptibility to fluid-elastic instability was caused by the thermal-hydraulic conditions that existed in certain parts of the San Onofre replacement steam generators during full power operations.

The NRC staff reviewed the root and contributing causes and concluded that they were programmatically and technically reasonable.

The petitioner's assertion that the NRC regulations allowed SCE to design, construct, install, and operate its RSGs without prior NRC approval, and that the NRC only became aware of the design issue after one of the Unit 3 steam generators developed a leak that was detected by plant radiation alarms due to a release of radiation, is factually correct. However, before the January 2012 leak, the NRC had no reason to believe that the RSGs were defective or would fail prematurely. Regardless, these issues are outside the scope of the petition, and the NRC is otherwise taking actions to address these issues. The NRC staff assessed the NRC's response to the event and potential enhancements to NRC processes and programs based on lessons

learned from the event, and documented its recommendations in the March 6, 2015, Lessons Learned Report.

Specifically, the report states, in part:

At San Onofre, the NRC identified violations of 10 CFR Part 50, Appendix B, Criterion III, for the failure to verify the adequacy of the thermal-hydraulic and flow-induced vibration design of the San Onofre replacement steam generators, resulting in excessive and unexpected steam generator tube wear after one cycle of operation. The 10 CFR 50.59 rule, NEI 96-07, Revision 1, and the results of the San Onofre 10 CFR 50.59 evaluation did not have any bearing on the underlying, unrecognized design control issue that actually caused the San Onofre steam generator tube leak event.

In addition, Topic 3, "Steam Generator Technical Review," and Topic 8, "Vendor Inspection," of the report look at the technical aspects of the event and describe, in part, ongoing actions related to working with the nuclear industry and professional organizations to update standards and guidelines based on the experience at SONGS. The report also explores potential updates to the Reactor Oversight Process inspection procedures to flag major plant modifications that might require review and inspection by technical experts before operation.

As discussed in the response to Comment 1, the director's decision has been revised to more clearly identify the related issues that are outside of the scope of this petition, including the enforcement action associated with the RSGs described above.

Comment 4 (summarized)

The petitioner commented that the proposed director's decision ignores the conclusions in the NRC's OIG October 2, 2014, event inquiry report, "NRC Oversight of the Licensee's Use of 10 CFR 50.59 Process to Replace SONGS' Steam Generators," the majority of which led to 10 CFR 50.59 flaws and the need for a license amendment, and did not address the issue of whether SCE needed a license amendment to replace the steam generators at SONGS, Units 2 and 3. In addition, the petitioner noted that the OIG stated that a former NRC deputy regional administrator said that the licensee should have applied for a license amendment because if it had, the RSGs would not have been approved. The petitioner also stated that there was no conclusion reached on a violation despite evidence suggesting some staff felt there should have been.

Response:

The March 6, 2015, Lessons Learned Report describes the results of NRC inspections of SCE's 10 CFR 50.59 evaluation and whether SCE needed a license amendment to replace the steam generators at SONGS, Units 2 and 3, as follows:

In 2010 and 2011, Southern California Edison (SCE) installed replacement steam generators at San Onofre Units 2 and 3, respectively, following a 10 CFR 50.59 evaluation that concluded no license amendment would be required . . . except for the relevant technical specification changes related to steam generator inspection and tube repair criteria and changes to the peak containment post-accident pressure. In preparation for the steam generator replacements, the NRC inspectors reviewed the 10 CFR 50.59 evaluation performed on Unit 2

by SCE as part of a baseline inspection of plant modifications and as part of the focused steam generator replacement inspection [(ADAMS Accession Nos. ML093100051 and ML111300448)]. The inspection did not identify any issues with the licensee's 10 CFR 50.59 evaluation.

Following the January 2012 steam generator tube leak event, the NRC conducted additional inspections [(ADAMS Accession Nos. ML12188A748 and ML12318A342)] at San Onofre, including a review of the event, a review of the steam generator replacement process, and another review of the 10 CFR 50.59 evaluations. As part of this additional inspection and technical review, several issues were raised, including some specific to the San Onofre 10 CFR 50.59 evaluation. ...

OIG Issue #2 noted that the 2012 AIT review of the licensee's 10 CFR 50.59 evaluation did not document the answer to the question of whether a license amendment was required. The AIT review considered many issues, among which was whether or not the licensee correctly concluded that a license amendment was not required. The AIT and its followup inspections reviewed the licensee's 10 CFR 50.59 evaluations related to replacing the steam generators and determined that the licensee's conclusion that no license amendment was required was consistent with the requirements of 10 CFR 50.59.

The issues identified in the OIG report, including issues associated with NRC's oversight of the 10 CFR 50.59 process at SONGS, were incorporated into the lessons learned activity for

appropriate response actions. The lessons learned report also discussed the NRC staff's consideration of varying NRC perspectives regarding the 10 CFR 50.59 process that OIG also highlighted in its report. To respond to this issue, the lessons-learned report identified actions to enhance training on the 10 CFR 50.59 process (e.g., the determination of whether a license amendment is required). Therefore, although not specifically identified in the lessons-learned report, the NRC staff considered the perspectives of the former deputy regional administrator.

No changes were made to the director's decision as a result of this comment.

Comment 5 (summarized)

The petitioner stated that it would continue to work with Senator Barbara Boxer and Senator Dianne Feinstein, who it said are concerned about the NRC's role in the "plant's demise" to ensure that this will not happen in the future.

Response:

The NRC shares the concerns of the petitioner and is taking steps to prevent a similar event from occurring in the future. As indicated in the March 6, 2015, Lessons Learned Report, the NRC Executive Director for Operations issued a March 20, 2014, tasking memorandum that directed the NRC staff to evaluate the lessons learned from this event, apply appropriate process improvements, and clearly communicate the outcomes to all NRC stakeholders to improve NRC regulatory effectiveness and efficiency and meet the NRC's safety and security mission. The report identified 17 actions across the 8 topic areas identified in the tasking memorandum, and the NRC staff is taking steps to implement these actions. The most substantial of these actions are in the technical areas related to the cause of the tube

degradation and in the area of external communications. As discussed in the response to Comment 3, the report identified actions related to working with the nuclear industry and professional organizations to update standards and guidelines based on the experience at SONGS. In addition, several actions are focused on improving the communications related to complex, technical subjects to the public and other stakeholders.

No changes were made to the director's decision as a result of this comment.

Comment 6 (summarized)

The petitioner provided several comments about the 2.206 review process, including the timeliness of the NRC's 2.206 review, the number of petition managers assigned to the petition over the course of the petition review, and the NRC management's ownership of the proposed director's decision. The petitioner also asked that the draft director's decision be rejected, proposing that the NRC rule on the information provided by the petitioner and in accordance with the information in the OIG report.

Response:

The issues associated with the SONGS steam generator tube degradation event were highly complex, requiring the involvement of individuals with expertise in multiple technical and regulatory disciplines. The NRC expended significant effort to assess the issues following the event, including immediately initiating an AIT reactive inspection to assess the circumstances surrounding the event, establishing dedicated teams of technical experts and inspectors to evaluate the licensee's response to the event and corrective actions, and establishing a team to assess lessons learned from the NRC's response to the event. The effort also included

activities conducted by the NRC's Office of Investigations and the OIG, as well as multiple public meetings conducted both near SONGS and at the NRC headquarters. Although the requested actions accepted for review under this 2.206 petition by the Petition Review Board (PRB) were only one part of the overall effort, the petitioner raised a number of issues that touched on multiple aspects of the overall effort. The PRB did not finalize its recommendations for the director's decision until after it was able to give due consideration to the information obtained from these other related activities. The final director's decision considered all available information, including the OIG report.

As recognized in the March 6, 2015, Lessons Learned Report, the NRC agrees that there are a number of improvements that can be made to NRC processes and programs based on lessons learned from the response to the SONGS event. The NRC is committed to addressing the recommendations and actions in this report, and to continue to improve its programs and processes to enhance its ability to carry out its safety mission.

To ensure the concerns related to the staff's actions involving this 2.206 petition are given proper consideration, the NRC has also forwarded the petitioner's comments to the OIG.

No changes were made to the director's decision as a result of this comment.

ENCLOSURE 2

FEDERAL REGISTER NOTICE

ADAMS Accession No. ML15183A481

NUCLEAR REGULATORY COMMISSION

[Docket Nos. 50-361 and 50-362; NRC-20YY-XXXX]

Southern California Edison

San Onofre Nuclear Generating Station, Units 2 and 3

AGENCY: Nuclear Regulatory Commission.

ACTION: Director's decision under 10 CFR 2.206; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has issued a final director's decision with regard to a petition dated June 18, 2012, filed by Mr. Richard Ayres, Counsel for Friends of the Earth (the petitioner), requesting that the NRC take action with regard to Southern California Edison (SCE or the licensee) at the San Onofre Nuclear Generating Station (SONGS). The petitioner's requests and the final director's decision are included in the SUPPLEMENTARY INFORMATION section of this document.

ADDRESSES: Please refer to Docket ID <INSERT: NRC-20YY-XXXX> when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID <INSERT: NRC-20YY-XXXX>. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**

You may obtain publicly-available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search.](#)" For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced in this document (if that document is available in ADAMS) is provided the first time that a document is referenced.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Thomas Wengert, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; telephone: 301-415-4037, e-mail: Thomas.Wengert@nrc.gov.

SUPPLEMENTARY INFORMATION:

Notice is hereby given that the Director, Office of Nuclear Reactor Regulation, has issued a director's decision (ADAMS Accession No. ML15183A164) on a petition filed by the petitioner on June 18, 2012 (ADAMS Accession No. ML12171A409). The petition was supplemented on November 16, 2012, January 16, 2013, and February 6, 2013 (ADAMS Accession Nos. ML12325A748, ML13029A643, and ML13109A075, respectively).

The petitioner requested that the NRC order SCE to submit a license amendment application for the design and installation of the SONGS, Units 2 and 3, replacement steam generators.

As the basis of the request, the petitioner asserted that the licensee violated Title 10 of the *Code of Federal Regulations* (10 CFR), section 50.59, "Changes, Tests, and Experiments," when the steam generators for SONGS, Units 2 and 3, were replaced in 2010 and 2011 without a license amendment request.

On January 16, 2013, the petitioner met with the NRC's Petition Review Board (PRB). The meeting provided the petitioner and the licensee an opportunity to provide additional information and to clarify issues cited in the petition. During the PRB meeting, the petitioner further requested that the NRC suspend SCE's licenses until they are amended. The transcript for that meeting was treated as a supplement to the petition and is available in ADAMS under Accession No. ML13029A643.

The NRC sent a copy of the proposed director's decision to the petitioner and the licensee for comment on February 27, 2015 (ADAMS Accession Nos. ML15020A121 and ML15020A165, respectively). The petitioner and the licensee were asked to provide comments within 30 days on any part of the proposed director's decision that was considered to be erroneous or any issues in the petition that were not addressed. Comments were received from the petitioner and are addressed in an attachment to the final director's decision. The licensee had no comments on the proposed directors decision; however, the licensee did provide a response to the petitioner's comments. The NRC staff reviewed the response from the licensee and determined that, because the licensee's comments are direct rebuttals to the petitioner's comments and raised no concerns with the director's decision, no changes to the director's decision are required as a result of these comments.

The Director of the Office of Nuclear Reactor Regulation has determined that the requests for the NRC to order the licensee to submit a license amendment application for the design and installation of the SONGS, Units 2 and 3, replacement steam generators and to suspend SCE's licenses until they are amended be denied. The reasons for this decision are explained in the director's decision (DD-15-07) pursuant to 10 CFR 2.206, "Requests for action

under this subpart,” of the Commission’s regulations.

The NRC will file a copy of the director’s decision with the Secretary of the Commission for the Commission’s review in accordance with 10 CFR 2.206. As provided by this regulation, the director’s decision will constitute the final action of the Commission 25 days after the date of the decision unless the Commission, on its own motion, institutes a review of the director’s decision in that time.

Dated at Rockville, Maryland, this 28 day of July 2015.

For the Nuclear Regulatory Commission.

A handwritten signature in black ink, appearing to read 'W. M. Dean', followed by a long horizontal line extending to the right.

William M. Dean, Director,
Office of Nuclear Reactor Regulation.

I appreciate your efforts to bring this matter to the attention of the NRC. Please feel free to contact Thomas Wengert by phone at 301-415-4037 or by e-mail at Thomas.Wengert@nrc.gov to discuss any questions related to this petition.

Sincerely,

/RA/

William M. Dean, Director
Office of Nuclear Reactor Regulation

Docket Nos. 50-361 and 50-362

Enclosures:

1. Director's Decision 15-07
2. Federal Register Notice

cc: Mr. Thomas J. Palmisano
Vice President and Chief Nuclear Officer
Southern California Edison Company
San Onofre Nuclear Generating Station
P.O. Box 128
San Clemente, CA 92674-0128

Listserv

DISTRIBUTION: G20120891; LTR-15-0172-1

PUBLIC

LPL4-2 R/F

NrrWebServices Resource (DD only)

RidsAcrsAcnw_mailCTR Resource

RidsEdoMailCenter Resource

RidsNrrDorl Resource

RidsNrrDorlLpl4-2 Resource

RidsNrrLAPBlechman Resource

RidsNrrMailCenter Resource

RidsNrrOd Resource

RidsNrrPMSanOnofre Resource

KAzaria-Kribbs, ADM

RidsOcaMailCenter

RidsOgcMailCenter Resource

RidsOpaMail Resource

RidsRgn4MailCenter Resource

RidsNrrDprPgcb Resource

EJulian, SECY

MBanic, NRR

LCasey, NRR

MRoss-Lee, NRR

RidsNrrDorlLpl1-2 Resource

KHanley, OE

RidsOeMailCenter Resource

ADAMS Accession Nos.: Package: ML15092A234; Incoming ML12325A748

Petition Ltr: ML15183A158; Final DD: ML15183A164

FRN: ML15183A481

*via email

OFFICE	NRR/DORL/LPL4-2/PM	NRR/DORL/LPL4-2/LA	NRR/DPR/PGCB/PM*	NRR/DPR/PGCB/BC*
NAME	TWengert	PBlechman	LBanic (TMensah for)	SStuchell
DATE	7/17/2015	7/6/2015	7/14/2015	7/15/2015
OFFICE	Tech Editor*	REGION 4/BC*	OE/EB*	NRR/DORL/LPL1-2/BC
NAME	CHsu	GWerner	KHanley	DBroaddus
DATE	7/9/2015	7/14/2015	7/14/2015	7/21/2015
OFFICE	PRB CHAIR	OGC – NLO*	NRR/DORL/(A)D	NRR/D
NAME	MRoss-Lee (AMohseni for)	DCylkowski	LLund	WDean
DATE	7/22/2015	7/21/2015	7/23/2015	7/28/2015

OFFICIAL RECORD COPY