SOUTHERN CALIFORNIA
EDISON®
An EDISON INTERNATIONAL® Company

Brian Katz
Vice President

August 15, 2006

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: **San Onofre Nuclear Generating Station, Units 2 and 3**
Docket Nos. 50-361 and 50-362
Response to Request For Additional Information and Submittal of Supplement 2 to Proposed Change Number NPF-10/15-565 License Amendment Request, "Proposed Technical Specification Change, Define the Extent of the Required Tube Inspections and Repair Criteria Within the Tubesheet Region of the Steam Generators"

References:

1. Letter from Brian Katz (SCE) to NRC (Document Control Desk) Dated November 3, 2005, Subject: San Onofre Nuclear Generating Station, Units 2 and 3, Docket Nos. 50-361 and 50-362, Proposed Change Number NPF-10/15-565, License Amendment Request, "Proposed Technical Specification Change, Define the Extent of the Required Tube Inspections and Repair Criteria Within the Tubesheet Region of the Steam Generators."

2. Letter from N. Kalyanam (NRC) to Richard M. Rosenblum (SCE) Dated March 23, 2006, Subject: San Onofre Nuclear Generating Station, Units 2 and 3 – Request for Additional Information on the Proposed C* Amendment for Steam Generator Tube Inspection and Repair in the Tubesheet (TAC NOS. MC8850 and MC8851)

3. Letter from Brian Katz (SCE) to NRC (Document Control Desk) Dated May 1, 2006, Subject: San Onofre Nuclear Generating Station, Units 2 and 3, Docket Nos. 50-361 and 50-362, Response to Request For Additional Information and Submittal of Supplement 1 to Proposed Change Number NPF-10/15-565 License Amendment Request, "Proposed Technical Specification Change, Define the Extent of the Required Tube Inspections and Repair Criteria Within the Tubesheet Region of the Steam Generators."

P.O. Box 128
San Clemente, CA 92674-0128
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A001

Dear Sir or Madam:

Southern California Edison (SCE) submitted Reference 1 on November 3, 2005 to request license amendments for San Onofre Units 2 and 3. Those proposed amendments revise Technical Specification (TS) Section 5.5.2.11 to modify the definitions of steam generator tube "Repair Limit" and "Tube Inspection." The purpose of these changes is to define the extent of the required tube inspections and repair criteria within the tubesheet regions. On May 1, 2006 SCE provided an update to that request (Reference 3) in response to comments from the NRC staff (Reference 2). This letter provides additional information and an associated supplement (Supplement 2) to the proposed amendment, in response to additional comments from the NRC staff. The Technical Specification changes provided in Enclosure (3) Supplement 2, modify Technical Specification change pages included in References 1 and 3.

The No Significant Hazards Consideration and Environmental Evaluation provided with PCN-565 both remain bounding.

Should you have any questions, or require additional information, please contact Mr. Jack Rainsberry at (949) 368-7420.

Sincerely,

Brian Katz

Enclosures

1. Notarized affidavit, Unit 2
2. Notarized affidavit, Unit 3
3. Supplement 2 to the Proposed License Amendment Request, Proposed Change Number NPF-10/15-565, with attachments A – F (modifications to Technical Specification change pages).
4. Responses to NRC Request for Additional Information on License Amendment Request for Proposed Technical Specification Change Regarding Repair Criteria and Inspection Depth for Steam Generator Tubes within the Tubesheet Region Southern California Edison San Onofre Nuclear Generating Station, Units 2 and 3, Docket Nos. 50-361 and 50-362.

cc: B. S. Mallett, Regional Administrator, NRC Region IV
N. Kalyanam, NRC Project Manager, San Onofre Units 2 and 3
C. C. Osterholtz, NRC Senior Resident Inspector, San Onofre Units 2 and 3
S. Y. Hsu, California Department of Health Services, Radiologic Health Branch

Enclosure 1

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. for a Class 103 License to Acquire, Possess, and Use a Utilization Facility as Part of Unit No. 2 of the San Onofre Nuclear Generating Station)	)))))	Docket No. 50-361 Supplement 2 to Amendment Application No. 238

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10 CFR 50.90, hereby submit Supplement 2 to Amendment Application No. 238. This amendment application consists of Proposed Change No. NPF-10-565 which is a request to revise Facility Operating License NPF-10 to define the extent of the required steam generator tube inspections and repair criteria within the tubesheet regions.

State of California
County of San Diego

Brian Katz

Brian Katz, Vice President

Subscribed and sworn to (or affirmed) before me on this 15th day of August, 2006,

by Brian Katz

personally known to me ~~or proved to me on the basis of satisfactory evidence~~ to be the person who appeared before me.

Notary Public

MARIANE SANCHEZ
Commission # 1378470
Notary Public - California
San Diego County
My Comm. Expires Oct 14, 2006

Enclosure 2

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. for a Class 103 License to Acquire, Possess, and Use a Utilization Facility as Part of Unit No. 3 of the San Onofre Nuclear Generating Station)	)))))	Docket No. 50-362 Supplement 2 to Amendment Application No. 222

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10 CFR 50.90, hereby submit Supplement 2 to Amendment Application No. 222. This amendment application consists of Proposed Change No. NPF-15-565 which is a request to revise Facility Operating License NPF-15 to define the extent of the required steam generator tube inspections and repair criteria within the tubesheet regions.

State of California
County of San Diego

Brian Katz
Brian Katz, Vice President

Subscribed and sworn to (or affirmed) before me on this 15th day of August, 2006,

by Brian Katz

personally known to me ~~or proved to me on the basis of satisfactory evidence~~ to be the person who appeared before me.

Mariane Sanchez
Notary Public

Enclosure (3)

Supplement 2 to the Proposed License Amendment Request, Proposed Change Number NPF-10/15-565, with attachments A – F (modifications to Technical Specification change pages)

LICENSEE'S EVALUATION

DESCRIPTION FOR PROPOSED CHANGE NPF-10/15-565 SUPPLEMENT 2 PROPOSED TECHNICAL SPECIFICATION CHANGE, DEFINE THE EXTENT OF THE REQUIRED TUBE INSPECTIONS AND REPAIR CRITERIA WITHIN THE TUBESHEET REGION OF THE STEAM GENERATORS San Onofre Nuclear Generating Station Units 2 and 3

PCN-565 SUPPLEMENT 1 PROPOSED TECHNICAL SPECIFICATION PAGES
(PCN-565 Supplement 1 [Attachments E and F] Pages)

Unit 2: see Attachment A
Unit 3: see Attachment B

PCN-565 SUPPLEMENT 2 PROPOSED TECHNICAL SPECIFICATION CHANGE REVISIONS

Unit 2: see Attachment C (PCN-565 Supplement 2 pages - changes are circled)
Unit 3: see Attachment D (PCN-565 Supplement 2 pages - changes are circled)

PCN-565 SUPPLEMENT 2 PROPOSED TECHNICAL SPECIFICATIONS PAGES

Unit 2: see Attachment E (PCN-565 Supplement 2 pages - to replace corresponding PCN-565 Supplement 1 Pages)
Unit 3: see Attachment F (PCN-565 Supplement 2 pages - to replace corresponding PCN-565 Supplement 1 Pages)

1.0 INTRODUCTION

This supplement to PCN-565 provides revised proposed Technical Specification change pages that provide consistency with the SCE responses to comments received from the NRC staff which are addressed in Enclosure (4) to this submittal.

2.0 PROPOSED CHANGE

The following proposed changes address applicable RAI responses as indicated:

Section 5.5.2.11 Steam Generator (SG) Tube Surveillance Program paragraph 5.5.2.11.f has added wording to address RAI question number 2.

Section 5.5.2.11 Steam Generator (SG) Tube Surveillance Program paragraph 5.5.2.11.h is modified to address RAI question number 3.

3.0 REGULATORY SAFETY ANALYSIS

The No Significant Hazards Consideration and Environmental Evaluation provided with PCN-565, both remain bounding.

Attachment A

(PCN-565 Supplement 1 Proposed Technical Specification Pages)

SONGS Unit 2

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

e) Imperfection - An exception to the dimensions, finish, or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections;

f) Repair Limit - The imperfection depth at or beyond which the tube shall be removed from service or repaired and is equal to 44% of the nominal tube wall thickness. Sleeves shall be removed from service upon detection of service-induced degradation of the sleeve material or any portion of the sleeve-to-tube weld.

For tubes that have not been repaired (sleeved): Degradation detected below the bottom of the hot leg expansion transition or hot leg top of the tubesheet, whichever is higher, shall be removed from service or repaired on detection. Degradation detected below the bottom of the cold leg expansion transition or cold leg top of the tubesheet, whichever is higher, shall be removed from service or repaired on detection.

This Repair Limit is not applicable in the portion of the tubing within the hotleg tubesheet as follows:

For tubes that have not been repaired: Greater than 10.6 inches below the bottom of the hot leg expansion transition or top of the hot leg tubesheet, whichever is lower.

For tubes that have been repaired: Below the bottom of the pressure retaining portion of the parent tube in contact with the sleeve (the lower joint that is formed by hard-rolling) or greater than 10.6 inches below the bottom of the hot leg expansion transition, whichever is lower.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

g) Preservice Inspection - An inspection of the full length of each tube in each SG performed by eddy-current techniques prior to service to establish a baseline condition of the tubing. This inspection shall be performed prior to initial MODE 1 operating using the equipment and techniques expected to be used during subsequent inservice inspections. These examinations may be performed prior to steam generator installation. Similarly, for tube repair by sleeving, an inspection of the full length of the pressure boundary portion of the sleeved area shall be performed by eddy current techniques prior to service. This includes pressure retaining portions of the parent tube in contact with the sleeve, the sleeve-to-tube weld, and the pressure retaining portion of the sleeve.

h) Tube Inspection - For a tube with no portion of a sleeve extending below (a) 10.6 inches from the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches from the bottom of the cold leg expansion transition or the top of the tubesheet (whichever is lower), a tube inspection means an inspection of the steam generator tube from 10.6 inches below the bottom of the hot leg expansion transition or top of the tubesheet (whichever is lower) completely around the U-bend to 11.0 inches below the bottom of the cold leg expansion transition or top of the tubesheet (whichever is lower).

For all other tubes, a tube inspection means an inspection from the bottom of the sleeve completely around the U-bend to either (a) 10.6 inches below the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches below the bottom of the cold leg expansion transition or the top of the tubesheet (whichever is lower), as appropriate.

i) Unserviceable - The condition of a tube if it leaks or contains a defect large enough to affect its structural integrity in the event of an Operational Basis Earthquake, a loss-of-coolant accident, or a steam line of feedwater line break accident as specified in Specification 5.5.2.11.e.

(continued)

Attachment B

(PCN-565 Supplement 1 Proposed Technical Specification Pages)

SONGS Unit 3

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

e) Imperfection - An exception to the dimensions, finish, or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections;

f) Repair Limit - The imperfection depth at or beyond which the tube shall be removed from service or repaired and is equal to 44% of the nominal tube wall thickness. Sleeves shall be removed from service upon detection of service-induced degradation of the sleeve material or any portion of the sleeve-to-tube weld.

For tubes that have not been repaired (sleeved): Degradation detected below the bottom of the hot leg expansion transition or hot leg top of the tubesheet, whichever is higher, shall be removed from service or repaired on detection. Degradation detected below the bottom of the cold leg expansion transition or cold leg top of the tubesheet, whichever is higher, shall be removed from service or repaired on detection.

This Repair Limit is not applicable in the portion of the tubing within the hotleg tubesheet as follows:

For tubes that have not been repaired: Greater than 10.6 inches below the bottom of the hot leg expansion transition or top of the hot leg tubesheet, whichever is lower.

For tubes that have been repaired: Below the bottom of the pressure retaining portion of the parent tube in contact with the sleeve (the lower joint that is formed by hard-rolling) or greater than 10.6 inches below the bottom of the hot leg expansion transition, whichever is lower.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

g) Preservice Inspection - An inspection of the full length of each tube in each SG performed by eddy-current techniques prior to service to establish a baseline condition of the tubing. This inspection shall be performed prior to initial MODE 1 operating using the equipment and techniques expected to be used during subsequent inservice inspections. These examinations may be performed prior to steam generator installation. Similarly, for tube repair by sleeving, an inspection of the full length of the pressure boundary portion of the sleeved area shall be performed by eddy current techniques prior to service. This includes pressure retaining portions of the parent tube in contact with the sleeve, the sleeve-to-tube weld, and the pressure retaining portion of the sleeve.

h) Tube Inspection - For a tube with no portion of a sleeve extending below (a) 10.6 inches from the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches from the bottom of the cold leg expansion transition or the top of the tubesheet (whichever is lower), a tube inspection means an inspection of the steam generator tube from 10.6 inches below the bottom of the hot leg expansion transition or top of the tubesheet (whichever is lower) completely around the U-bend to 11.0 inches below the bottom of the cold leg expansion transition or top of the tubesheet (whichever is lower).

For all other tubes, a tube inspection means an inspection from the bottom of the sleeve completely around the U-bend to either (a) 10.6 inches below the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches below the bottom of the cold leg expansion transition or the top of the tubesheet (whichever is lower), as appropriate.

i) Unserviceable - The condition of a tube if it leaks or contains a defect large enough to affect its structural integrity in the event of an Operational Basis Earthquake, a loss-of-coolant accident, or a steam line of feedwater line break accident as specified in Specification 5.5.2.11.e.

(continued)

Attachment C

(PCN-565 Supplement 2 Proposed Pages – changes are circled)

SONGS Unit 2

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

e) Imperfection - An exception to the dimensions, finish, or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections;

f) Repair Limit - The imperfection depth at or beyond which the tube shall be removed from service or repaired and is equal to 44% of the nominal tube wall thickness. Sleeves shall be removed from service upon detection of service-induced degradation of the sleeve material or any portion of the sleeve-to-tube weld.

For tubes that have not been repaired (sleeved): Degradation detected below the bottom of the hot leg expansion transition or hot leg top of the tubesheet, whichever is higher, shall be removed from service or repaired on detection. Degradation detected below the bottom of the cold leg expansion transition or cold leg top of the tubesheet, whichever is higher, shall be removed from service or repaired on detection.

This Repair Limit is not applicable in the portion of the tubing within the hotleg tubesheet as follows:

For tubes that have not been repaired: Greater than 10.6 inches below the bottom of the hot leg expansion transition or top of the hot leg tubesheet, whichever is lower.

For tubes that have been repaired: Below the bottom of the pressure retaining portion of the parent tube in contact with the sleeve (the lower joint that is formed by hard-rolling) or greater than 10.6 inches below the bottom of the hot leg expansion transition or greater than 10.6 inches below the top of the hot leg tubesheet, whichever of these three is lowest.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

g) Preservice Inspection - An inspection of the full length of each tube in each SG performed by eddy-current techniques prior to service to establish a baseline condition of the tubing. This inspection shall be performed prior to initial MODE 1 operating using the equipment and techniques expected to be used during subsequent inservice inspections. These examinations may be performed prior to steam generator installation. Similarly, for tube repair by sleeving, an inspection of the full length of the pressure boundary portion of the sleeved area shall be performed by eddy current techniques prior to service. This includes pressure retaining portions of the parent tube in contact with the sleeve, the sleeve-to-tube weld, and the pressure retaining portion of the sleeve.

h) Tube Inspection - For a tube with no portion of a sleeve extending below (a) 10.6 inches from the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches from the bottom of the cold leg expansion transition or the top of the tubesheet (whichever is lower), a tube inspection means an inspection of the steam generator tube from 10.6 inches below the bottom of the hot leg expansion transition or top of the tubesheet (whichever is lower) completely around the U-bend to 11.0 inches below the bottom of the cold leg expansion transition or top of the tubesheet (whichever is lower).

For all other tubes, a tube inspection means an inspection from the bottom of a sleeve with a portion extending below (a) or (b) completely around the U-bend to either (a) 10.6 inches below the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches below the bottom of the cold leg expansion transition or the top of the tubesheet (whichever is lower) or (c) the bottom of the other sleeve (if sleeves are installed at both ends of the tube within the tubesheet and both have a portion extending below (a) or (b), as appropriate.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

i) Unserviceable - The condition of a tube if it leaks or contains a defect large enough to affect its structural integrity in the event of an Operational Basis Earthquake, a loss-of-coolant accident, or a steam line of feedwater line break accident as specified in Specification 5.5.2.11.e.

(continued)

Attachment D

(PCN-565 Supplement 2 Proposed Pages – changes are circled)

SONGS Unit 3

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

e) Imperfection - An exception to the dimensions, finish, or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections;

f) Repair Limit - The imperfection depth at or beyond which the tube shall be removed from service or repaired and is equal to 44% of the nominal tube wall thickness. Sleeves shall be removed from service upon detection of service-induced degradation of the sleeve material or any portion of the sleeve-to-tube weld.

For tubes that have not been repaired (sleeved): Degradation detected below the bottom of the hot leg expansion transition or hot leg top of the tubesheet, whichever is higher, shall be removed from service or repaired on detection. Degradation detected below the bottom of the cold leg expansion transition or cold leg top of the tubesheet, whichever is higher, shall be removed from service or repaired on detection.

This Repair Limit is not applicable in the portion of the tubing within the hotleg tubesheet as follows:

For tubes that have not been repaired: Greater than 10.6 inches below the bottom of the hot leg expansion transition or top of the hot leg tubesheet, whichever is lower.

For tubes that have been repaired: Below the bottom of the pressure retaining portion of the parent tube in contact with the sleeve (the lower joint that is formed by hard-rolling) or greater than 10.6 inches below the bottom of the hot leg expansion transition or greater than 10.6 inches below the top of the hot leg tubesheet, whichever of these three is lowest.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

g) Preservice Inspection - An inspection of the full length of each tube in each SG performed by eddy-current techniques prior to service to establish a baseline condition of the tubing. This inspection shall be performed prior to initial MODE 1 operating using the equipment and techniques expected to be used during subsequent inservice inspections. These examinations may be performed prior to steam generator installation. Similarly, for tube repair by sleeving, an inspection of the full length of the pressure boundary portion of the sleeved area shall be performed by eddy current techniques prior to service. This includes pressure retaining portions of the parent tube in contact with the sleeve, the sleeve-to-tube weld, and the pressure retaining portion of the sleeve.

h) Tube Inspection - For a tube with no portion of a sleeve extending below (a) 10.6 inches from the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches from the bottom of the cold leg expansion transition or the top of the tubesheet (whichever is lower), a tube inspection means an inspection of the steam generator tube from 10.6 inches below the bottom of the hot leg expansion transition or top of the tubesheet (whichever is lower) completely around the U-bend to 11.0 inches below the bottom of the cold leg expansion transition or top of the tubesheet (whichever is lower).

For all other tubes, a tube inspection means an inspection from the bottom of a sleeve with a portion extending below (a) or (b) completely around the U-bend to either (a) 10.6 inches below the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches below the bottom of the cold leg expansion transition or the top of the tubesheet (whichever is lower) or (c) the bottom of the other sleeve (if sleeves are installed at both ends of the tube within the tubesheet and both have a portion extending below (a) or (b), as appropriate.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

i) Unserviceable - The condition of a tube if it leaks or contains a defect large enough to affect its structural integrity in the event of an Operational Basis Earthquake, a loss-of-coolant accident, or a steam line of feedwater line break accident as specified in Specification 5.5.2.11.e.

(continued)

Attachment E

(PCN-565 Supplement 2 Proposed Pages to replace corresponding PCN-565 Supplement 1 Pages)

SONGS Unit 2

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

e) Imperfection - An exception to the dimensions, finish, or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections;

f) Repair Limit - The imperfection depth at or beyond which the tube shall be removed from service or repaired and is equal to 44% of the nominal tube wall thickness. Sleeves shall be removed from service upon detection of service-induced degradation of the sleeve material or any portion of the sleeve-to-tube weld.

For tubes that have not been repaired (sleeved): Degradation detected below the bottom of the hot leg expansion transition or hot leg top of the tubesheet, whichever is higher, shall be removed from service or repaired on detection. Degradation detected below the bottom of the cold leg expansion transition or cold leg top of the tubesheet, whichever is higher, shall be removed from service or repaired on detection.

This Repair Limit is not applicable in the portion of the tubing within the hotleg tubesheet as follows:

For tubes that have not been repaired: Greater than 10.6 inches below the bottom of the hot leg expansion transition or top of the hot leg tubesheet, whichever is lower.

For tubes that have been repaired: Below the bottom of the pressure retaining portion of the parent tube in contact with the sleeve (the lower joint that is formed by hard-rolling) or greater than 10.6 inches below the bottom of the hot leg expansion transition or greater than 10.6 inches below the top of the hot leg tubesheet, whichever of these three is lowest.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

g) Preservice Inspection - An inspection of the full length of each tube in each SG performed by eddy-current techniques prior to service to establish a baseline condition of the tubing. This inspection shall be performed prior to initial MODE 1 operating using the equipment and techniques expected to be used during subsequent inservice inspections. These examinations may be performed prior to steam generator installation. Similarly, for tube repair by sleeving, an inspection of the full length of the pressure boundary portion of the sleeved area shall be performed by eddy current techniques prior to service. This includes pressure retaining portions of the parent tube in contact with the sleeve, the sleeve-to-tube weld, and the pressure retaining portion of the sleeve.

h) Tube Inspection - For a tube with no portion of a sleeve extending below (a) 10.6 inches from the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches from the bottom of the cold leg expansion transition or the top of the tubesheet (whichever is lower), a tube inspection means an inspection of the steam generator tube from 10.6 inches below the bottom of the hot leg expansion transition or top of the tubesheet (whichever is lower) completely around the U-bend to 11.0 inches below the bottom of the cold leg expansion transition or top of the tubesheet (whichever is lower).

For all other tubes, a tube inspection means an inspection from the bottom of a sleeve with a portion extending below (a) or (b) completely around the U-bend to either (a) 10.6 inches below the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches below the bottom of the cold leg expansion transition or the top of the tubesheet (whichever is lower) or (c) the bottom of the other sleeve (if sleeves are installed at both ends of the tube within the tubesheet and both have a portion extending below (a) or (b), as appropriate.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

i) Unserviceable - The condition of a tube if it leaks or contains a defect large enough to affect its structural integrity in the event of an Operational Basis Earthquake, a loss-of-coolant accident, or a steam line of feedwater line break accident as specified in Specification 5.5.2.11.e.

(continued)

Attachment F

(PCN-565 Supplement 2 Proposed Pages to replace corresponding PCN-565 Supplement 1 Pages)

SONGS Unit 3

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

e) Imperfection - An exception to the dimensions, finish, or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections;

f) Repair Limit - The imperfection depth at or beyond which the tube shall be removed from service or repaired and is equal to 44% of the nominal tube wall thickness. Sleeves shall be removed from service upon detection of service-induced degradation of the sleeve material or any portion of the sleeve-to-tube weld.

For tubes that have not been repaired (sleeved): Degradation detected below the bottom of the hot leg expansion transition or hot leg top of the tubesheet, whichever is higher, shall be removed from service or repaired on detection. Degradation detected below the bottom of the cold leg expansion transition or cold leg top of the tubesheet, whichever is higher, shall be removed from service or repaired on detection.

This Repair Limit is not applicable in the portion of the tubing within the hotleg tubesheet as follows:

For tubes that have not been repaired: Greater than 10.6 inches below the bottom of the hot leg expansion transition or top of the hot leg tubesheet, whichever is lower.

For tubes that have been repaired: Below the bottom of the pressure retaining portion of the parent tube in contact with the sleeve (the lower joint that is formed by hard-rolling) or greater than 10.6 inches below the bottom of the hot leg expansion transition or greater than 10.6 inches below the top of the hot leg tubesheet, whichever of these three is lowest.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

g) Preservice Inspection - An inspection of the full length of each tube in each SG performed by eddy-current techniques prior to service to establish a baseline condition of the tubing. This inspection shall be performed prior to initial MODE 1 operating using the equipment and techniques expected to be used during subsequent inservice inspections. These examinations may be performed prior to steam generator installation. Similarly, for tube repair by sleeving, an inspection of the full length of the pressure boundary portion of the sleeved area shall be performed by eddy current techniques prior to service. This includes pressure retaining portions of the parent tube in contact with the sleeve, the sleeve-to-tube weld, and the pressure retaining portion of the sleeve.

h) Tube Inspection - For a tube with no portion of a sleeve extending below (a) 10.6 inches from the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches from the bottom of the cold leg expansion transition or the top of the tubesheet (whichever is lower), a tube inspection means an inspection of the steam generator tube from 10.6 inches below the bottom of the hot leg expansion transition or top of the tubesheet (whichever is lower) completely around the U-bend to 11.0 inches below the bottom of the cold leg expansion transition or top of the tubesheet (whichever is lower).

For all other tubes, a tube inspection means an inspection from the bottom of a sleeve with a portion extending below (a) or (b) completely around the U-bend to either (a) 10.6 inches below the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches below the bottom of the cold leg expansion transition or the top of the tubesheet (whichever is lower) or (c) the bottom of the other sleeve (if sleeves are installed at both ends of the tube within the tubesheet and both have a portion extending below (a) or (b), as appropriate.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Tube Surveillance Program (continued)

i) Unserviceable - The condition of a tube if it leaks or contains a defect large enough to affect its structural integrity in the event of an Operational Basis Earthquake, a loss-of-coolant accident, or a steam line of feedwater line break accident as specified in Specification 5.5.2.11.e.

(continued)

Enclosure (4)

Responses to NRC Request for Additional Information on License Amendment Request for Proposed Technical Specification Change Regarding Repair Criteria and Inspection Depth for Steam Generator Tubes within the Tubesheet Region Southern California Edison San Onofre Nuclear Generating Station, Units 2 and 3, Docket Nos. 50-361 and 50-362

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By letter dated November 3, 2005 (ML053110284), Southern California Edison submitted an application to change the San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 technical specifications (TS) related to steam generator tube inspection. The changes would define the depth of the required tube inspections and plugging criteria within the tubesheet, with the depth of inspection defined as "C*" ("C-star"). In a letter dated May 1, 2006 (ML061240320), the licensee responded to a staff request for additional information dated March 23, 2006 (ML060830024).

It is the staff's understanding that the licensee's application to adopt the TSTF-449 "Steam Generator Tube Integrity" technical specifications will most likely be processed before the C* tube inspection and repair criteria, and that the C* submittal will therefore need to be modified to match the TSTF-449 format and wording. For example, TS 5.5.2.11.c will need to be modified to reference the C* repair limits by incorporating language similar to, ".... through application of the alternate tube repair criteria discussed in TS 5.5.2.11.c.1," where TS 5.5.2.11.c.1 would define the C* repair limits.

SCE Response: SCE understands and is in agreement.

In addition, the staff needs the additional information requested below in order to complete its review of the C* license amendment for SONGS Units 2 and 3.

1. Your response to RAI #4 on reporting requirements questions the value of reporting end-of-cycle (EOC) accident-induced leakage from tubesheet indications within the inspected regions of the tubesheet because the corresponding tubes would be plugged upon detection of the indications. although the staff recognizes the current approach of plugging flaws on detection in this region should provide very high confidence that no potential leaking or structurally significant flaws are identified in this region, such an approach can not ensure it with certainty. The purpose of the reporting requirement is to confirm this expectation.

As a result, please confirm that under your reporting requirement to submit the results of your condition monitoring assessment (under the TSTF-449 reporting requirements), you will provide your assessment of accident-induced leakage from all tubesheet indications. In addition, please confirm that you will provide the information requested in the original RAI #4 regarding the nature and number of indications in the tubesheet under the

TSTF-449 reporting requirement to provide the location, orientation, and measured sizes of service-induced indications.

SCE Response: SCE will comply with all Technical Specification reporting requirements including those new reporting requirements that will result from NRC staff approval of SCE PCN-564 that incorporates TSTF-449 "Steam Generator Tube Integrity." These reports will provide the requested information.

2. In proposed TS section 5.5.2.11.f (page 5.0-18), an exception to the tube repair criteria for tubes that have been repaired states,

For tubes that have been repaired: Below the bottom of the pressure retaining portion of the parent tube in contact with the sleeve (the lower joint that is formed by hard-rolling) or greater than 10.6 inches below the bottom of the hot leg expansion transition, whichever is lower.

The above wording is acceptable provided the bottom of the hot-leg expansion transition (BET) is at or below the top of the tubesheet (TTS), but it does not adequately address cases where the BET is above the TTS. Since the intent of the C* criteria is to permit degradation to remain in the hot-leg tubesheet only when it is located 10.6 inches below the hot-leg BET, 10.6 inches below the TTS, or below the lower sleeve joint, whichever of these three is lowest, please discuss your plans to revise this TS to make it consistent with the intent of the C* criteria.

SCE Response: Supplement 2 to Proposed Change NPF-10/15-565 provides the revision.

3. Proposed TS 5.5.2.11.h (pages 5.0-18a and 5.0-18b) defines tube inspection requirements for tubes in which a lower sleeve joint is located below the C* distance in at least one of the tubesheets as follows:

For all other tubes, a tube inspection means an inspection from the bottom of the sleeve completely around the U-bend to either (a) 10.6 inches below the bottom of the hot leg expansion transition or the top of the tubesheet (whichever is lower) or (b) 11.0 inches below the bottom of the cold leg expansion transition or the top the tubesheet (whichever is lower), as appropriate.

This proposal does not require an adequate depth of inspection in cases where a tube has sleeves installed at both ends within the tubesheet, and both sleeve ends extend below the C* distance. Please discuss your plans to modify your specification in order to address all three possible cases of sleeve ends extending below the C* distance: (1) lower sleeve end extending below the C* distance in the hot-leg tubesheet, (2) lower sleeve end extending below the C* distance in the cold-leg tubesheet, and (3) lower

sleeve end extending below the C* distance in both the hot-leg and cold-leg tubesheets.

SCE Response: Supplement 2 to Proposed Change NPF-10/15-565 provides the modification.

Finally, the staff notes that if your TSTF-449 amendment is not approved before the C* amendment, we may request additional information concerning the operational leakage limit at Unit 3.