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

February 8, 2012

Mr. D.W. Rencurrel
Senior Vice President, Technical
Support and Oversight
STP Nuclear Operating Company
P. O. Box 289
Wadsworth, TX 77483

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE SOUTH TEXAS PROJECT, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION – AGING MANAGEMENT, SET 12 (TAC NOS. ME4936 AND ME4937)

Dear Mr. Rencurrel:

By letter dated October 25, 2010, STP Nuclear Operating Company (STPNOC or the applicant), submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54), to renew the operating licenses NPF-76 and NPF-80 for South Texas Project, Units 1 and 2, for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review.

These requests for additional information were discussed with Arden Aldridge, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301- 415-3873 or by e-mail at john.daily@nrc.gov.

Sincerely,

John W. Daily, Senior Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Enclosure:
Requests for Additional Information

cc w/encl: Listserv

REQUESTS FOR ADDITIONAL INFORMATION
SOUTH TEXAS PROJECT, LICENSE RENEWAL APPLICATION –
AGING MANAGEMENT, SET 12 (TAC NOS. ME4936 AND ME4937)

Thermal Aging Embrittlement of Cast Austenitic Stainless Steel (013)
RAI 3.1.1.57-1a - follow-up

Background
By letter dated November 21, 2011, the applicant responded to RAI 3.1.1.57-1 that addresses the susceptibility of the reactor coolant fittings made of cast austenitic stainless steel (CASS). In its response, the applicant indicated that the Hull's equivalent factor was used to calculate delta ferrite content of Class I fittings using chemistry data from certified material test reports (CMTRs). The applicant also indicated that the screening calculation found that the delta ferrite content of the fittings to be < 20 percent, and accordingly the fittings are not considered susceptible to a loss of fracture toughness due to thermal aging embrittlement.

GALL Report, Revision 2, AMP XI.M12, "Thermal Aging Embrittlement of Cast Austenitic Stainless Steel Program (CASS)," indicates that in the susceptibility screening method, ferrite content is calculated by using the Hull's equivalent factors (described in NUREG/CR-4513, Revision 1) or a staff-approved method for calculating delta ferrite in CASS materials.

Issue
The staff needs to further confirm if the applicant's susceptibility screening method for material is consistent with the GALL Report. The GALL Report addresses the guidance of NUREG/CR-4513, Revision 1 (Section 3.2) for ferrite content calculations using Hull's equivalent factors.

Request
Provide the bounding case chemical composition of the reactor coolant fittings that estimates the highest ferrite content of these CASS components, including the contents of Cr, Mo, Si, Ni, Mn, N and C.

In addition, provide the calculated highest ferrite content in order to confirm that the applicant's screening analysis indicates no susceptibility of these fittings to thermal aging embrittlement. As part of the response, clarify if the applicant's susceptibility screening method is consistent with the GALL Report that addresses the guidance of NUREG/CR-4513, Revision 1, for ferrite content calculations using Hull's equivalent factors.

Flow-Accelerated Corrosion (018)
RAI B2.1.6-1a

Background
GALL AMP XI.M17, "Flow-Accelerated Corrosion," states that the program relies on implementation of the guidelines in NSAC-202L for an effective flow-accelerated corrosion program. NSAC-202L states, in part, that the systems may be susceptible to damage from other corrosion or degradation mechanisms, which include cavitation, erosion, liquid impingement, etc., but these mechanisms are not part of a flow-accelerated corrosion program and should be evaluated separately.

ENCLOSURE

In response to RAI 3.4.2.6-1, dated November 21, 2011, STP stated that components in the auxiliary feedwater system were initially identified as not susceptible to flow-accelerated corrosion due to infrequent operation. The response stated, however, that wear has been noted in some auxiliary feedwater components and that an item was added to Table 3.4.2-6 identifying carbon steel piping exposed to secondary water as being managed for wall thinning by the Flow-Accelerated Corrosion Program. The response also stated that as a result of a review to determine whether other systems in the scope of license renewal should be included in the program, six systems were identified and LRA Section B2.1.6 was revised to indicate that the Flow-Accelerated Corrosion Program manages wall thinning due to other causes, such as erosion/corrosion, in addition to flow-accelerated corrosion. This appears to correlate with information provided in response to RAI 3.3.2.19-1, dated November 4, 2011, which stated that several systems are being monitored for wall thinning due to erosion/corrosion, but these systems had initially not been identified in the license renewal application (LRA) as being subject to wall thinning or as being managed by the Flow-Accelerated Corrosion Program.

Issue

The guidance document for the flow-accelerated corrosion programs, NSAC-202L, states that the systems may be susceptible to damage from other corrosion or degradation mechanisms, which include cavitation, erosion, liquid impingement, etc., but these mechanisms are not part of a flow-accelerated corrosion program and should be evaluated separately. However, since STP has chosen to include mechanisms other than flow-accelerated corrosion in its program, this is an enhancement to the flow-accelerated corrosion program that needs to be further described in the LRA.

Request

1) Provide detailed information describing the apparent enhancement to the Flow-Accelerated Corrosion Program, including which of the 10 program elements are affected and how they are affected.

2) Since the initial integrated plant assessment did not identify the aging effects acknowledged in response to RAI 3.4.2.6-1, provide information regarding corrective actions taken and extent of condition conducted that provide reasonable assurance that there are no other aging effects that have been overlooked during the preparation of the LRA.

Cast Austenitic Stainless Steel (073)
RAI 3.1.1.80-1a

Background

By letter dated November 21, 2011, the applicant responded to RAI 3.1.1.80-1 that addresses the need for AMR line items to manage cracking or loss of material of reactor vessel internal components using the ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD Program. In its response, the applicant revised LRA Table 3.1.2-1 and Section 3.1.2.2.12. The applicant's revisions indicate that consistent with MRP-227, Revision 0, the PWR Reactor Internals Program is not an applicable aging management program for managing cracking of the components listed in the revised LRA Section 3.1.2.2.12. One of these components listed in the revised LRA Section 3.1.2.2.12 is the upper core support plate. The applicant also indicated

that cracking of the upper core plate is managed by the ASME Section XI Inservice Inspection, Subsections IWB, IWC, and IWD Program.

Sections 3.2.2 and 4.1.1 of the staff's safety evaluation (June 22, 2011; ADAMS Accession No. ML111600498) of MRP-227, Revision 0, address Topical Report Condition 1 for high consequence components. This condition specifies the upper core plate and lower support forging or casting as the expansion components linked to the control rod guide tube (CRGT) assembly lower flange welds, which are the primary components. Section 3.2.2 of the staff's safety evaluation also indicates that inspections of these high consequence components shall be triggered by the degradation of the primary component (in this case, CRGT lower flanges). The staff's safety evaluation further indicates that the examination method for these additional inspections shall be consistent with the examination method used to detect the degradation of the primary component (in this case, EVT-1).

Issue
The staff needs clarification as to whether the PWR Reactor Internals Program identifies the upper core plate as an expansion component linked to the CRGT lower flange welds to manage loss of material due to wear and cracking due to fatigue, as specified in the staff's safety evaluation (June 22, 2011) of MRP-227, Revision 0.

The staff also needs clarification as to whether the applicant's PWR Reactor Internals Program identifies lower internals assembly lower support forging or casting as an expansion component linked to the CRGT lower flange welds to ensure adequate aging management and structural integrity, consistent with the staff's safety evaluation (June 22, 2011) of MRP-227, Revision 0.

Request
1. Clarify whether the applicant's PWR Reactor Internals Program identifies the upper core plate as an expansion component linked to the CRGT lower flange welds to manage loss of material due to wear and cracking due to fatigue, consistent with the staff's safety evaluation (June 22, 2011) of MRP-227, Revision 0.

2. Clarify whether the applicant's PWR Reactor Internals Program identifies the lower internals assembly lower support forging or casting as an expansion component linked to the CRGT lower flange welds to ensure adequate aging management and structural integrity, consistent with the staff's safety evaluation (June 22, 2011) of MRP-227, Revision 0.

3. Revise the LRA consistent with the applicant's response.

RAI 3.1.1.80-2a

Background
By letter dated November 21, 2011, the applicant responded to RAI 3.1.1.80-2 that addresses the aging management for loss of fracture toughness of the CRGT assembly lower flanges and related components. The applicant indicated that the CRGT assembly lower flange welds are sub-components of the reactor vessel internal (RVI) CRGT assembly listed in LRA Table 3.1.2-1. The applicant also indicated that the CRGT lower flanges are fabricated of stainless steel and cracking is the only aging effect to be managed by MRP-227 for these components. The applicant further indicated that upon detection of cracking in a component susceptible to

loss of fracture toughness, the PWR Reactor Internals Program defines an assessment of cracking with limit load and/or fracture mechanics evaluations.

In comparison, LRA Table 3.1.2-1 indicates that loss of fracture toughness due to irradiation embrittlement of the CRGT assembly made of stainless steel is managed by the PWR Reactor Internals Program. In addition, Table 3-3 of MRP-227, Revision 0, indicates that the CRGT lower flanges made of CASS are susceptible to cracking due to stress corrosion cracking (SCC) and fatigue, and loss of fracture toughness due to thermal aging embrittlement and irradiation embrittlement.

In its response, the applicant also indicated that the bottom mounted instrumentation (BMI) column bodies are listed in LRA Table 3.1.2-1 as RVI in-core instrumentation (ICI) support structures–instrument column (BMI). The applicant further indicated that cracking is the only aging effect to be managed by MRP-227 for the BMI column bodies. In comparison, Table 3-3 of MRP-227, Revision 0 indicates that the BMI column bodies made of Type 304 stainless steel are susceptible to cracking due to fatigue, and loss of fracture toughness due to irradiation embrittlement.

Issue

The staff needs clarification as to whether the CRGT lower flanges are made of CASS. If the CRGT lower flanges are made of CASS, the staff needs to further clarify if loss of fracture toughness, in addition to cracking, is considered as an aging effect to be managed by the PWR Reactor Internals Program for these components. In addition, the staff needs clarification as to why cracking is the only aging effect to be managed by the PWR Reactor Internals Program for the BMI column bodies, without inclusion of aging management for loss of fracture toughness.

Request

1. Clarify whether the CRGT lower flanges are made of CASS.

   If the CRGT lower flanges are made of CASS, clarify why cracking is the only aging effect to be managed by the PWR Reactor Internals Program for these components, without inclusion of aging management for loss of fracture toughness due to thermal aging embrittlement and irradiation embrittlement.

   In addition, resolve the apparent conflict between the applicant's claim that cracking is the only aging effect to be managed by the PWR Reactor Internals Program for the CRGT lower flanges and the applicant's aging management review results in LRA Table 3.1.2-1 indicating that loss of fracture toughness of the CRGT assembly is managed by the PWR Reactor Internals Program.

2. Clarify why cracking is the only aging effect to be managed by the PWR Reactor Internals Program for the BMI column bodies, without inclusion of aging management for loss of fracture toughness due to irradiation embrittlement.

3. Revise the LRA consistent with the applicant's response. As part of the revision, if loss of fracture toughness is identified as an applicable aging effect of the BMI column bodies, add an AMR line item to manage this aging effect.

RAI 3.1.2.1-1a

Background
By letter dated November 21, 2011, the applicant responded to RAI 3.1.2.1-1 that addresses the aging management of inaccessible locations of the reactor vessel internal components. In its response, the applicant indicated that the applicant's program will inspect one hundred percent of the volume/area of each accessible component in accordance with MRP-227 as approved by the NRC safety evaluation report dated June 22, 2011. The applicant also indicated that the minimum examination coverage for primary and expansion inspection categories is 75 percent of the component's total (accessible plus inaccessible) inspection area/volume or, when addressing a set of like components (e.g. bolting), the inspection will examine a minimum sample size of 75 percent of the total population of like components. The applicant further indicted that a technical justification will be required of any minimum coverage requirements below 75 percent of total inspection area/volume or sample size. In addition, the applicant indicated that the PWR Reactor Internals Program is consistent with these conditions regarding the minimum examination coverage addressed in Section 3.3.1 of the staff's safety evaluation of MRP-227, Revision 0.

In RAI 3.1.2.1-1, the staff requested that, if an aging effect has been identified in accessible locations of the reactor vessel internal components, the applicant should provide further evaluation to ensure that the aging effect is adequately managed for the inaccessible locations as recommended in GALL Report, Revision 2 (items IV.B2.RP-268 and IV.B2.RP-269) and SRP-LR, Revision 2 (Sections 3.1.2.2.9 and 3.1.2.2.10).

SRP-LR Sections 3.1.2.2.9 and 3.1.2.2.10 state that if aging effects are identified in accessible locations, the GALL Report recommends further evaluation of the aging effects in inaccessible locations on a plant-specific basis to ensure that this aging effect is adequately managed.

Issue
The staff noted that the applicant confirmed that the minimum examination coverage criteria of the applicant's program are consistent with the Topical Report Conditions in the staff's safety evaluation (June 22, 2011) of MRP-227, Revision 0. However, the staff noted that in its response, the applicant did not indicate whether the applicant performed further evaluation for the aging effect in the inaccessible locations of partially accessible components (including a set of multiple components such as bolts), consistent with the GALL Report and SRP-LR, when an aging effect was detected in the accessible locations of the components.

In addition, the staff needs clarification as to whether the applicant's aging management will perform further evaluation to ensure adequate aging management for the inaccessible locations of partially accessible components if an aging effect is identified in the accessible locations of the components.

Request
1. If an aging effect was detected in the accessible locations of partially accessible reactor vessel internal components (including a set of multiple components such as bolts), describe the plant-specific evaluation of the aging effect in the inaccessible locations of the components, which was performed to ensure that this aging effect is adequately managed.

2. Clarify whether the applicant's aging management program will perform plant-specific evaluation to ensure adequate aging management for the inaccessible locations of partially accessible components (including a set of multiple components such as bolts) if an aging effect is identified in the accessible locations of the components.

3. Revise the LRA consistent with the applicant's response.

RAI 3.0-1a (Follow-up to RAI 3.0-1)

Background
LRA Table 3.0-1 states that the applicant's environment of "plant indoor air" encompasses the GALL Report defined environments of "air-indoor controlled," "air-indoor uncontrolled," "condensation," "air, moist," "air with steam or water leakage," etc., depending on whether the "plant indoor air" is an internal or external environment. The applicant used the term "plant indoor air" in its AMR tables and did not use the GALL Report defined environments. The GALL Report identifies the potential for different aging effects when components are exposed to each of these different environments.

By letter dated September 22, 2011, the staff issued RAI 3.0-1 requesting that the applicant identify which AMR items in the LRA are exposed to a "plant indoor air" environment for which humidity, condensation, or moisture is present. In its response dated November 21, 2011, the applicant stated that some AMR items were inadvertently associated with a GALL Report item for exposure to "air-indoor controlled" that should have been associated with a GALL Report item for exposure to "air-indoor uncontrolled," and the applicant made the associated changes to the LRA. The applicant did not revise its definition of "plant indoor air" or make any other changes to the LRA to indicate whether the AMR items that have an environment of "plant indoor air" are exposed to humidity, condensation, or moisture. In a teleconference held December 12, 2011, the applicant clarified that anytime the environment "plant indoor air" is used in the LRA, there is a potential for moisture in the air.

The staff identified several instances in the LRA in which NUREG-1800, "Standard Review Plan for License Renewal of Nuclear Power Plants" (SRP-LR), Table 1 items for exposure to "air-indoor uncontrolled" are being used inappropriately for components with a "plant indoor air environment." As a result, the applicant has inappropriately concluded that the components have no aging effects requiring management. Examples include:

- Several aluminum components in the LRA exposed to "plant indoor air" reference SRP-LR Table 3.2-1, item 50, which is for aluminum components exposed to "air-indoor uncontrolled" and recommends that there are no aging effects requiring management. However, since the applicant's definition of "plant indoor air" includes condensation and moisture, these components are susceptible to loss of material, as documented in SRP-LR Revision 2 Table 3.3-1, item 92.

- Several stainless steel, copper alloy, and nickel alloy components in the LRA exposed to "plant indoor air" reference SRP-LR Table 3.4-1, item 41, which is for components exposed to "air-indoor uncontrolled" and recommends that there are no aging effects requiring management. However, these components are susceptible to loss of material

when exposed to condensation and moisture, as documented in SRP-LR Revision 2 Table 3.3-1, items 79 and 95.

Similar situations occur for other aluminum, steel, galvanized steel, stainless steel, copper alloy, and nickel alloy components exposed to a "plant indoor air environment" for which no aging effects requiring management are identified in the LRA.

Issue
It is not clear to the staff why there are aluminum, steel, galvanized steel, stainless steel, copper alloy, and nickel alloy AMR items in the LRA exposed to an environment of "plant indoor air" that do not have any aging effects identified. It is also not clear to the staff how SRP-LR Table 1 items for components exposed to "air-indoor uncontrolled" are adequate references for components in the LRA that are exposed to "plant indoor air." The applicant's "plant indoor air" environment includes moisture or condensation, which is not part of the SRP-LR environment of "air-indoor uncontrolled."

Request
For all of the aluminum, steel, galvanized steel, stainless steel, copper alloy, and nickel alloy AMR items in the LRA with an environment of "plant indoor air" that do not have any aging effects identified, explain why the components have no aging effects requiring management or identify appropriate aging effects and aging management programs consistent with the guidance in the GALL Report, Revision 2, for air environments that contain moisture.

Future consideration of Operating Experience
RAI B1.4-2

Background
In request for additional information (RAI) B1.4-1, issued on May 24, 2011, the staff asked the applicant to describe the programmatic activities that will be used to continually identify aging issues, evaluate them, and as necessary, enhance the AMPs or develop new AMPs for license renewal. In its response dated June 23, 2011, the applicant stated that it maintains procedures for feedback of operating information, including aging-related issues, pursuant to NUREG-0737, "Clarification of TMI Action Plan Requirements," Item I.C.5, "Procedures for Feedback of Operating Experience to Plant Staff." The applicant also stated that the Corrective Action Program (CAP) complements the Operating Experience (OE) Program to monitor aging-related issues.

Issue
The applicant's response provides a general description of how it considers operating experience on an ongoing basis; however, it does not directly address several areas in RAI B1.4-1 on which the staff requested information. Further, in certain areas, the applicant's response does not provide enough information on how the operating experience review activities address issues specific to aging. The staff identified the following issues with the applicant's response:

(a) It is not clear as to whether the applicant only reviews certain sources of plant-specific and industry operating experience information. Additional information is needed to

determine whether the applicant's processes would preclude the consideration of relevant operating experience information, because it is not from a prescribed source.

(b) The applicant did not describe how it ensures the timely completion of operating experience evaluations, nor did it describe how it prioritizes the evaluations. It is therefore unclear as to whether the operating experience evaluations will be completed in a timely manner or whether they will be appropriately prioritized.

(c) The applicant provided example sources of plant-specific and industry operating experience that it monitors on an ongoing basis to identify potential aging issues and stated that the results of the monitoring are documented and maintained in accordance with plant records management and administration procedures. It is unclear as to whether "results of the monitoring" includes the operating experience evaluations. Also, the applicant did not describe what's recorded on the operating experience evaluations with respect to addressing aging issues. In addition, it is not clear whether maintenance "in accordance with plant records management and administration procedures" is equivalent to keeping the evaluations in an auditable and retrievable form.

(d) The applicant indicated that it only would record the monitoring results for the example sources of operating experience it provided. It is therefore not clear how the applicant will keep the monitoring or evaluation results for reviews of other sources of plant-specific and industry operating experience.

(e) The applicant listed example sources of plant-specific and industry operating experience that are monitored on an ongoing basis to identify potential aging issues and stated that they are placed in the CAP, as appropriate. Additional information is needed to determine how enhancements to the aging management activities, including the development of new AMPs, will be implemented.

(f) For its OE Program, the applicant stated that it maintains procedures for the feedback of operating information pursuant to NUREG-0737 Item I.C.5. Additional information is needed on how the applicant ensures the effectiveness of this program.

(g) The applicant did not describe its criteria for identifying and categorizing operating experience items as related to aging.

(h) The applicant stated that it does not review under its OE Program NRC regulatory guides, license renewal interim staff guidance, revisions to the GALL Report, and revisions to industry standards on which the AMPs are based. However, guidance documents, like the GALL Report, can provide a convenient source of operating experience information, useful recommendations, and best practices, the consideration of which would help to ensure the effectiveness of the AMPs, or indicate the need to enhance the AMPs or develop new AMPs.

(i) The applicant did not describe how evaluations of operating experience related to aging consider the potentially affected plant for the following:

- systems, structures, and components

- materials
- environments
- aging effects
- aging mechanisms
- AMPs

(j) The applicant did not describe criteria for considering when AMPs should be modified or new AMPs developed due to operating experience.

(k) The applicant stated that conditions adverse to quality, including adverse results of inspections performed under the AMPs, are monitored on an ongoing basis to identify potential aging issues and placed in the CAP. Additional information is needed on how the applicant will consider as operating experience the results of the inspections, tests, analyses, etc., conducted through implementation of the AMPs, particularly when the results meet the AMP's acceptance criteria.

(l) The applicant stated that engineering support personnel have been trained on the equipment reliability process, which includes age-related inputs, and on the Electric Power Research Institute's aging assessment field guide. Additional information is needed on the training that will be provided for those plant personnel responsible for screening, assigning, evaluating, and submitting operating experience items.

(m) The applicant stated that it shares lessons learned with other utilities to promote industry-wide safety and reliability; however, the applicant did not provide criteria for reporting its plant-specific operating experience on age-related degradation to the industry.

Request

Provide a response to each item below.

(a) Indicate whether plant-specific and industry operating experience is only considered from a prescribed list of sources. If only prescribed sources are considered, provide a justification as to why it is unnecessary to consider other sources.

(b) Describe how plant-specific and industry operating experience evaluations will be prioritized and completed in a timely manner.

(c) Describe the operating experience evaluation records with respect to what will be considered and recorded for aging. Indicate whether the evaluation records will be maintained in auditable and retrievable form.

(d) Indicate whether there are any differences between evaluation records kept for the review of operating experience from the list of example sources and records kept for the review of other sources of plant-specific and industry operating experience. If there are differences, describe and justify them.

(e) Describe how enhancements to the aging management activities will be implemented, including the development of new AMPs, when it is determined through an operating experience evaluation that enhancements are necessary.

(f) Describe the administrative controls for the OE Program and indicate whether they include periodic audits to ensure the program's effectiveness

(g) Describe how operating experience issues will be identified and categorized as related to aging. If an identification code is used, provide its definition or the criteria for its application. Also, describe how age-related operating experience will be trended.

(h) Provide a plan for considering the content of guidance documents, such as the GALL Report, as operating experience applicable to aging management.

(i) Describe how evaluations of operating experience issues related to aging will consider the following:

- systems, structures, or components
- materials
- environments
- aging effects
- aging mechanisms
- AMPs

(j) Describe criteria for considering when AMPs should be modified or new AMPs developed due to operating experience.

(k) Describe how the results of the AMP inspections, tests, analyses, etc. will be considered as operating experience, both when they meet and do not meet the applicable acceptance criteria.

(l) Describe the training requirements and justify the level of training on aging issues for those plant personnel responsible for screening, assigning, evaluating, and submitting plant-specific and industry operating experience. Also, provide the periodicity of the training and describe how it will account for personnel turnover.

(m) Provide criteria for reporting plant-specific operating experience on age-related degradation to the industry.

RAI A1-1

Background
In RAI B1.4-1, the staff asked the applicant to provide, in accordance with 10 CFR 54.21(d), an updated final safety analysis report (UFSAR) supplement summary description of the

programmatic activities for the ongoing review of operating experience. By letter dated August 18, 2011, the applicant provided this description:

> Operating experience is applied to all aging management programs discussed in Sections A1 and A2. Plant-specific and industry operating experience is continuously reviewed to confirm the effectiveness of AMPs and is utilized, as necessary, to enhance each AMP or to develop new AMPs in order to adequately manage the effects of aging so that the intended function(s) of structures and components are met.

Issue
As described above in RAI B1.4-2, the applicant described generally how it intends to consider operating experience on an ongoing basis; however, it did not provide specific information on how its operating experience review activities will address issues related to aging. Similarly, the above entry for UFSAR supplement also lacks details on how aging is considered in the ongoing operating experience reviews.

Request
Consistent with the response to RAI B1.4-2, provide additional details in the FSAR supplement on how the ongoing operating experience review activities address issues related to aging.

Heat Exchangers (085)
RAI 3.3.2.2.4-1a

Background:
In RAI 3.3.2.2.4-1, the staff asked the applicant to clarify whether the non-regenerative heat exchangers will be included in the sample of components to be inspected using the One-Time Inspection Program and to justify why eddy current testing is not used to detect cracking in the heat exchanger tubes. In its response, dated November 21, 2011, the applicant stated that non-regenerative heat exchangers are included in the material/environment component population in its One-Time Inspection Program and that the LRA Basis Document for B2.1.16, One-Time Inspection Program, "scope of program" element will be revised to add a specific requirement to perform eddy current inspections of the tubes in one of the non-regenerative heat exchangers. Also in its response, the applicant revised LRA Section 3.3.2.2.4.1 by stating that the one-time inspection will perform eddy current inspection of the tubes in one of the non-regenerative heat exchangers.

Issue:
The staff finds the technical portion of response acceptable because the applicant will perform eddy current testing of the non-regenerative heat exchanger tubes, which will manage potential cracking as recommended in SRP-LR 3.3.2.2.4.1. However, it was not clear to the staff that this specific license renewal activity had been appropriately captured in the current licensing basis.

Request:
Revise LRA Section A.1.16, associated with the One-Time Inspection Program, to include a description of the eddy current testing of non-regenerative heat exchanger tubes, or provide another licensing basis document to accomplish a comparable commitment.

B2.1.39-1

Background
The generic aging lessons learned (GALL) Report AMP XI.S8 recommends using American Society for Testing and Materials(ASTM) D 5163, in as much as it defines the Service Level 1 coating inspection frequency to be each refueling outage or during other major maintenance outages, as needed. The LRA Section B2.1.39 states that general visual inspections of Service Level 1 coatings are conducted as part of American Society of Mechanical Engineers (ASME) Section XI, Subsection IWE program and the Structures Monitoring Program at intervals not exceeding five years.

Issue
The LRA does not state the specific standards used to perform coating assessment (e.g., ASTM D 5163). In addition, the frequency of Service Level 1 coating inspection seems to be inconsistent with the recommendations of the GALL Report.

Request
Please discuss the standards and/or guidance used (e.g., ASTM standards) to perform coating assessments and discuss the frequency of coating inspections and how it is consistent with the GALL Report.

B2.1.39-2

Background
The Standard Review Plan (SRP) -LR Section A.1.2.3.10 provides guidance on required information for the operating experience program element for aging management programs. In particular, SRP-LR states that the operating experience of AMPs that are existing programs, including past corrective actions information operating resulting in program enhancements or additional programs, should be included in this program element. This information can show where an existing program has succeeded and where it has failed (if at all) in intercepting aging degradation in a timely manner.

The LRA operating experience program element gives a general overview of the program and does not provide specific instances of degradation and its associated repair or other corrective actions performed.

Issue
The staff does not have adequate information in the LRA operating experience program element to determine whether this program element is acceptable.

Request
Please discuss any instances of degradation and repair of Service Level 1 coatings. In addition, provide information that demonstrates the effectiveness of corrective actions performed.

Mr. D. W. Rencurrel
Senior Vice President, Technical
Support and Oversight
STP Nuclear Operating Company
P. O. Box 289
Wadsworth, TX 77483

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE SOUTH TEXAS PROJECT, UNITS 1 AND 2 LICENSE RENEWAL APPLICATION – AGING MANAGEMENT, SET 12 (TAC NOS. ME4936 AND ME4937)

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Sincerely,

/RA/
John Daily, Senior Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Enclosure:
Requests for Additional Information

cc w/encl: Listserv

ADAMS Accession No.: ML12009a117

OFFICE	LA:RPB1:DLR	PM:RPB1:DLR	BC:RPB1:DLR	PM:RPB1:DLR
NAME	Y. Edmonds	J. Daily	D. Morey	J. Daily
DATE	02/ 08 /12	02/ 08/12	02/ 08 /12	02/ 08 /12

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Letter to D.W. Rencurrel from J. Daily dated February 8, 2012

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE SOUTH TEXAS PROJECT, LICENSE RENEWAL APPLICATION

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