Nuclear Operating Company
South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

October 16, 2003
NOC-AE-03001580
10CFR50.90

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

South Texas Project
Unit 1
Docket No. STN 50-498
License Amendment Request -
Proposed Amendment to Technical Specification 4.4.5.3a

References:
1. Letter, T. J. Jordan to NRC Document Control Desk, "Revised Proposed Amendment to Technical Specification 4.4.5.3a," dated June 20, 2002 (NOC-AE-02001351)
2. Letter, T. J. Jordan to NRC Document Control Desk, "Response to Request for Additional Information," dated July 3, 2002 (NOC-AE-02001355)
3. Letter, J. L. Minns to W. T. Cottle, "South Texas Project, Unit 1 - Issuance of Amendment on Steam Generator Surveillance Requirements (TAC No. MB3963)," dated July 31, 2002

Reference 1 proposed a one-time change to the steam generator inservice inspection frequency requirements in Technical Specification (TS) 4.4.5.3a for South Texas Project (STP) Unit 1 immediately after refueling outage 1RE10 to allow a 40-month inspection interval. Reference 2 provided additional information in response to an NRC request. Reference 3 issued the amendment change.

Unit 1 was shut down for most of the last six months. As a result, the approved 40-month steam generator inspection interval will expire before the next Unit 1 refueling outage. Therefore, pursuant to 10 CFR 50.90, STP Nuclear Operating Company (STPNOC) hereby requests an additional one-time change to TS 4.4.5.3a to extend the 40-month interval to 44 months for Unit 1 only.

Attachment 1 to this letter provides the Licensee's Evaluation and no significant hazards determination. Attachment 2 provides the TS page marked up with the proposed change. There are no changes proposed to the Bases for TS 3/4.4.5.

The STP Plant Operations Review Committee has recommended approval of this amendment. STPNOC has notified the State of Texas in accordance with 10 CFR 50.91(b).

A047

STI: 31642273

STPNOC requests approval of the revised proposed change prior to May 1, 2004, to support the scope freeze for refueling outage 1RE12. Once approved, the amendment shall be implemented within 30 days.

If there are any questions regarding this proposed amendment, please contact Mr. Mark Kanavos, Manager, Design Engineering at (361) 972-7181 or me at (361) 972-7902.

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

Executed on October 16, 2003

T. J. Jordan
Vice President,
Engineering & Technical Services

jtc

Attachments:
1. Licensee's Evaluation
2. Proposed Technical Specification Change (Mark-up)

cc:
(paper copy)

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Attachment 1

Licensee's Evaluation

LICENSEE'S EVALUATION

1.0 DESCRIPTION

This letter is a request to amend Operating License NPF-76 for South Texas Project (STP) Unit 1. The proposed one-time change revises the steam generator (SG) inservice inspection frequency requirements in Technical Specification (TS) 4.4.5.3a after refueling outage 1RE10 to allow a 44-month inspection interval instead of the current 40-month interval. This is because Unit 1 was shut down for most of the last six months and the 40-month interval will expire before the next Unit 1 refueling outage.

STP Nuclear Operating Company (STPNOC) requests approval of the proposed change prior to May 1, 2004, to support the scope freeze date for refueling outage 1RE12. Once approved, the amendment shall be implemented within 30 days.

2.0 PROPOSED CHANGE

Currently, TS 4.4.5.3a states, in part:

> If two consecutive inspections, not including the preservice inspection, result in all inspection results falling into the C-1 category or if two consecutive inspections demonstrate that previously observed degradation has not continued and no additional degradation has occurred, the inspection interval may be extended to a maximum of once per 40 months;
>
> Note: For Unit 1, a one-time inspection interval of a maximum of once per 40 months is allowed for the inspection performed immediately following 1RE10. This is an exception to 4.4.5.3a in that the interval extension is based on all of the results of one inspection falling into the C-1 category.

The proposed change reads:

> Note: For Unit 1, a one-time inspection interval of a maximum of once per 44 months is allowed for the inspection performed immediately following 1RE10. This is an exception to 4.4.5.3a in that the interval extension is based on all of the results of one inspection falling into the C-1 category.

3.0 BACKGROUND

The inspection of the SG tubes ensures that the structural integrity of this portion of the reactor coolant system (RCS) is maintained. Inservice inspection of SG tubes is essential in order to maintain surveillance of the condition of the tubes in the event that there is evidence of mechanical damage or progressive degradation due to design, manufacturing errors, or inservice conditions that lead to corrosion. Inservice inspection of SG tubes also provides a means of characterizing the nature and cause of any tube degradation so that timely corrective measures can be taken.

Reference 1 proposed a one-time change to the SG inservice inspection frequency requirements in TS 4.4.5.3a for STP Unit 1 immediately after refueling outage 1RE10 to allow a 40-month inspection interval. Reference 2 provided additional information in response to an NRC request. Reference 3 issued the requested amendment.

The bases for the amendment request in Reference 1 were:

- The inspection requirements of TS 4.4.5.2 for the first Unit 1 inservice inspection after SG replacement (1RE10) were exceeded by inspecting 100% of the tubes in all four SGs.
- The results of the 1RE10 SG tube inspection fell into Category 1 (less than 5% of the total tubes inspected are degraded tubes and none of the inspected tubes are defective).
- The results of the Condition Monitoring Assessment performed at 1RE10 showed that all performance criteria had been met based on full-length bobbin inspection of all of the tubes of all four SGs.
- The Operational Assessment performed at 1RE10 found that the operational requirements for continued SG operation over the next three cycles (Cycles 11, 12, and 13) are met without exceeding the structural integrity recommendations of draft Reg Guide 1.121.
- The replacement SGs are the Westinghouse Delta 94 model, which have significantly improved corrosion-resistant features.

The NRC Safety Evaluation (Ref. 3) stated in part:

> The NRC staff concluded that the replacement SGs incorporate both design and material improvements that are expected to improve the SG's tubing resistance to all forms of service induced degradation, especially during the first several cycles of operation. In addition, the Fall 2001 inspection scope, the results of the inspection, and the conclusions of the operational assessment indicate that the tubing is not experiencing any service induced degradation and can be safely operated during the proposed extension. Lastly, the industry operating experience with both the thermally treated Alloy 690 tubing and the improved Westinghouse Delta design provides added assurance that the SGs can be safely operated over the proposed period of operation without an inspection of the SG tubing.

4.0 TECHNICAL ANALYSIS

The bases for the amendment request in Reference 1 have not changed and are applicable to this license amendment request.

During the shutdown period, the Unit 1 SGs were in a cold shutdown/wet lay-up condition with chemistry being maintained in accordance with the EPRI Secondary Chemistry Guidelines (Ref. 5). Cold shutdown/wet lay-up conditions maintained in accordance with the EPRI Guidelines are not conducive to any known degradation mechanism in the SGs.

The actual Unit 1 SG operating time from 1RE10 to the scheduled SG tube inservice inspection during 1RE12 will be less than 38 months, although the calendar interval may be as much as 44 months.

Based on the above, there is no change in risk associated with extending the Unit 1 SG tube inservice inspection interval from 40 months to 44 months.

5.0 REGULATORY SAFETY ANALYSIS

No Significant Hazards Consideration

STPNOC has evaluated whether a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of Amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   The proposed change does not alter the plant design. The scope of inspections performed during 1RE10, the first refueling outage following SG replacement, exceeded the TS requirements for the first two refueling outages after replacement combined. That is, more tubes were inspected than were required by TS. Currently, South Texas Project Unit 1 does not have an active SG damage mechanism and will meet the current industry examination guidelines without performing inspections during the next refueling outage. The results of the Condition Monitoring Assessment after 1RE10 demonstrated that all performance criteria were met during 1RE10. The results of the 1RE10 Operational Assessment show that all performance criteria will be met over the proposed operating period.

   Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No

   The proposed change does not alter any plant design basis or postulated accident resulting from potential SG tube degradation. The scope of inspections performed during 1RE10, the first refueling outage following SG replacement, significantly exceeded the TS requirements for the scope of the first two refueling outages after SG replacement combined.

   The proposed change does not affect the design of the SGs, the method of operation, or reactor coolant chemistry controls. No new equipment is being introduced and installed equipment is not being operated in a new or different manner. The proposed change involves a one-time extension to the SG tube inservice inspection interval, and therefore will not give rise to new failure modes. In addition, the proposed change does not impact any other plant system or components.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   Response: No

   Steam generator tube integrity is a function of design, environment, and current physical condition. Extending the SG tube inservice inspection frequency by four months does not alter the function or design of the SGs. Inspections conducted prior to placing the SGs into service (preservice inspections) and inspection during the first refueling outage following SG replacement demonstrate that the SGs do not have fabrication damage or an active damage mechanism. The scope of those inspections significantly exceeded those required by the TS. These inspection results were comparable to similar inspection results for the same model of RSGs installed at other plants, and subsequent inspections at those plants yielded results that support this extension request. The improved design of the replacement SGs also provides reasonable assurance that significant tube degradation is not likely to occur over the proposed operating period.

   Therefore, the proposed change does not involve a significant reduction in a margin of safety.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

The proposed amendment changes an inspection requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

7.0 REFERENCES AND PRECEDENT

7.1 References

1. Letter, T. J. Jordan to NRC Document Control Desk, "Revised Proposed Amendment to Technical Specification 4.4.5.3a," dated June 20, 2002 (NOC-AE-02001351)

2. Letter, T. J. Jordan to NRC Document Control Desk, "Response to Request for Additional Information," dated July 3, 2002 (NOC-AE-02001355)

3. Letter, J. L. Minns to W. T. Cottle, "South Texas Project, Unit 1 - Issuance of Amendment on Steam Generator Surveillance Requirements (TAC No. MB3963)," dated July 31, 2002

4. Letter, D. Modeen (NEI) to S. Collins (NRC), "Revised Industry Steam Generator Program Generic License Change Package," Enclosure 9, NEI 97-06, "Steam Generator Program Guidelines," draft Revision 1, December 11, 2000

5. "PWR Secondary Water Chemistry Guidelines - Revision 5," EPRI, Palo Alto, CA: 2000. TR-102342-R5.

7.2 Precedent

Beaver Valley Unit 2	Docket No. 50-412
August 4, 2000	TAC No. MA7248

Attachment 2

Proposed Technical Specification Change

(Mark-up)

SURVEILLANCE REQUIREMENTS (Continued)

4.4.5.3 Inspection Frequencies - The above required inservice inspections of steam generator tubes shall be performed at the following frequencies:

a. The first inservice inspection following steam generator replacement shall be performed after 6 Effective Full Power Months but within 24 calendar months of initial criticality after the steam generator replacement. Subsequent inservice inspections shall be performed at intervals of not less than 12 nor more than 24 calendar months after the previous inspection. If two consecutive inspections, not including the preservice inspection, result in all inspection results falling into the C-1 category or if two consecutive inspections demonstrate that previously observed degradation has not continued and no additional degradation has occurred, the inspection interval may be extended to a maximum of once per 40 months;

   Note: Inservice Inspection is not required during the steam generator replacement outage.

   Note: For Unit 1, a one-time inspection interval of a maximum of once per ~~40~~ 44 months is allowed for the inspection performed immediately following 1RE10. This is an exception to 4.4.5.3a in that the interval extension is based on all of the results of one inspection falling into the C-1 category.

b. If the results of the inservice inspection of a steam generator conducted in accordance with Table 4.4-2 at 40-month intervals fall in Category C-3, the inspection frequency shall be increased to at least once per 20 months. The increase in inspection frequency shall apply until the subsequent inspections satisfy the criteria of Specification 4.4.5.3a.; the interval may then be extended to a maximum of once per 40 months; and

c. Additional, unscheduled inservice inspections shall be performed on each steam generator in accordance with the first sample inspection specified in Table 4.4-2 during the shutdown subsequent to any of the following conditions:

   1) Primary-to-secondary tube leaks (not including leaks originating from tube-to-tube sheet welds) in excess of the limits of Specification 3.4.6.2, or

   2) A seismic occurrence greater than the Operating Basis Earthquake, or

   3) A loss-of-coolant accident requiring actuation of the Engineered Safety Features, or

   4) A main steam line or feedwater line break.