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

April 15, 2013
NOC-AE-13002992
10CFR50.90

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Supplement to License Amendment Request for
Proposed Revision to Technical Specification 3.3.3.6, "Accident Monitoring Instrumentation"
(TAC Nos. ME9168, ME9169)

Reference: STPNOC letter dated August 12, 2012, from D. W. Rencurrel to the NRC Document Control Desk, "License Amendment Request – Proposed Revision to Technical Specification 3.3.3.6, "Accident Monitoring Instrumentation," (NOC-AE-12002877) (ML12222A008)

In the referenced letter, STP Nuclear Operating Company (STPNOC) submitted a license amendment request for South Texas Project Operating Licenses NPF-76 and NPF-80. The proposed license amendment would revise Technical Specification (TS) 3.3.3.6, "Accident Monitoring Instrumentation," with respect to the required actions and allowed outage times for inoperable instrumentation for Neutron Flux (Extended Range) and Neutron Flux - Startup Rate (Extended Range). Based upon discussions with NRC staff, STPNOC hereby submits a supplement to the referenced submittal.

The additional information provided in this supplement is identified by use of bordered text and dashed revision bars. This information, located in the technical evaluation section of the Enclosure, is for clarification only and does not impact the Technical Specification changes proposed in the original submittal or the information provided in the original Determination of No Significant Hazards.

There are no commitments in this letter.

STI: 33681357

A001
NRR

If there are any questions regarding the proposed amendment, please contact Jim Morris at (361) 972-8652.

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

Executed on 4/15/2013.
Date

D. W. Rencurrel
Senior Vice President, Operations

jrm

Enclosure: Evaluation of the Proposed Change

cc:
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ENCLOSURE

Evaluation of the Proposed Change

Subject: Proposed Revision to Technical Specification 3.3.3.6, "Accident Monitoring Instrumentation"

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3.0 TECHNICAL EVALUATION

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1. Technical Specification Page Markups
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ENCLOSURE

1.0 SUMMARY DESCRIPTION

The proposed license amendment revises the Technical Specification (TS) 3.3.3.6, "Accident Monitoring Instrumentation," with respect to the required actions and allowed outage times for inoperable instrumentation for Neutron Flux (Extended Range) and Neutron Flux - Startup Rate (Extended Range).

The proposed amendment will revise the required actions to enhance plant reliability by reducing exposure to unnecessary shutdowns and increase operational flexibility by allowing more time to effect required repairs for inoperable Neutron Flux (Extended Range) and Neutron Flux - Startup Rate (Extended Range) instrumentation. The proposed changes are consistent with requirements generically approved as part of NUREG-1431, Standard Technical Specifications, Westinghouse Plants, Revision 4 (TS 3.3.3, "Post Accident Monitoring (PAM) Instrumentation").

Attachment 1 provides the markups for the TS pages. Attachment 2 provides the associated Bases inserts for information.

2.0 DETAILED DESCRIPTION

TS 3.3.3.6, Table 3.3-10, "Accident Monitoring Instrumentation," directs entry into Action 36 in the event that the Total Number of Channels column requirements or Minimum Channels Operable column requirements are not met for Neutron Flux (Extended Range) and Neutron Flux - Startup Rate (Extended Range). Action 36 states:

a. With the number of OPERABLE channels one less than the Total Number of Channels requirements, restore one inoperable channel to OPERABLE status within 7 days, or be in at least HOT SHUTDOWN within the next 12 hours.

b. With the number of OPERABLE channels less than the Minimum Channels Operable requirements, restore at least one inoperable channel to OPERABLE status within 48 hours, or be in at least HOT SHUTDOWN within the next 12 hours.

The proposed amendment directs entry into Action 42 in the event that the Total Number of Channels column requirements or Minimum Channels Operable column requirements are not met for Neutron Flux (Extended Range) and Neutron Flux - Startup Rate (Extended Range). Action 42 states:

a. With one required channel inoperable, restore the required channel to OPERABLE status within 30 days; otherwise, a Special Report shall be submitted within the next 14 days. The report shall outline the preplanned alternate method of monitoring, the

cause of the inoperability, and the plans and schedule for restoring the instrumentation channels to OPERABLE status.

b. With two required channels inoperable, restore one required channel to OPERABLE status within 7 days; otherwise, be in HOT STANDBY within 6 hours, and in HOT SHUTDOWN in the next 6 hours.

The proposed changes to Technical Specification 3.3.3.6 are consistent with generically approved requirements provided in NUREG-1431, "Standard Technical Specifications, Westinghouse Plants," Revision 4 (TS 3.3.3, "Post Accident Monitoring (PAM) Instrumentation").

3.0 TECHNICAL EVALUATION

STP Updated Final Safety Analysis Report (UFSAR) Table 7.5-1, "Post-Accident Monitoring Instrumentation," provides a listing of the post-accident monitoring variables identified in the task analysis performed in response to Regulatory Guide (RG) 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Revision 2. UFSAR Table 7.5-1 includes the following information on the instrumentation utilized for each variable: (a) instrument range; (b) type and category (per the definitions found in Appendix 7B); (c) environmental qualification; (d) seismic qualification; (e) number of channels available; (f) display device and location; (g) the schedule for implementation; (h) power supply; and (i) a statement of conformance to RG 1.97, Rev. 2, or justification for deviations.

TS 3.3.3.6, Table 3.3-10, Action 36 applies to inoperable extended range nuclear instrumentation associated with the following variables:

Instrument 19, "Neutron Flux (Extended Range)," is shown in UFSAR Table 7.5-1 as a RG 1.97 B1 and D2 variable. There are two channels indicating from 10^{-8} to 200% full power. Indication is provided on the Qualified Display Parameter System (QDPS) in the control room.

Neutron Flux (Extended Range) is used immediately following an accident or receipt of a reactor trip signal to confirm subcriticality. The operators will determine the need for a manual reactor trip based on rod bottom lights, indication that reactor trip breakers are open, and decreasing neutron flux. The extended range neutron flux indication can provide indication of decreasing neutron flux to confirm subcriticality. If the extended range neutron flux indication is not available, an alternate method of monitoring subcriticality is a combination of either the intermediate range or source range neutron flux indications.

Instrument 23, "Neutron Flux – Startup Rate (Extended Range)," is shown in UFSAR Table 7.5-1 as a RG 1.97 B1 and D2 variable. There are two channels indicating from -1.0 decades per minute (dpm) to +7.0 dpm. Indication is provided on the QDPS in the control room.

After subcriticality is achieved, the extended range neutron flux monitor can be used to confirm continued subcriticality by monitoring the startup rate. A positive startup rate indicates that core reactivity is changing in a direction that may result in a criticality. The extended range neutron flux startup rate indication can be used as a backup to the extended range neutron flux indication during shutdown to determine whether sufficient negative reactivity (e.g., boron, Reactor Coolant System (RCS) temperature during RCS cooldown) is available for long term subcriticality. If the extended range startup rate indication is not available, an alternate method of monitoring startup rate is a combination of either the intermediate range or source range neutron flux indications.

In the event one or more channels of the variables discussed above are inoperable, TS Table 3.3-10 directs entry into the required actions provided in Action 36. Currently, Action 36.a requires that with the number of Operable channels one less than the Total Number of Channels requirements, one channel must be restored to Operable status within 7 days, or the plant must be placed in Hot Shutdown within the next 12 hours. STP proposes to apply Action 42.a to require that with the number of Operable channels one less than the Total Number of Channels requirements, the inoperable channel must be restored to Operable status within 30 days, or a special report must be submitted within the next 14 days outlining the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the inoperable channels to OPERABLE status.

The 30-day Allowed Outage Time is acceptable because there is one channel of instrumentation that remains operable, the applicable instrumentation provides indication only (i.e., no automatic actuations are required to occur from the associated instrumentation post-accident), and because of the low probability of an event requiring post-accident monitoring instrumentation during this 30-day interval. The action to submit a special report in lieu of a plant shutdown is acceptable because alternative actions are identified before a loss of functional capability, and given the low likelihood of plant conditions that would require information provided by this instrumentation. The report discusses the results of the root cause evaluation of the inoperability and identifies proposed restorative actions.

Currently, Action 36.b requires that with the number of Operable channels less than the Minimum Operable Channels requirements, one inoperable channel must be restored to Operable status within 48 hours, or the plant must be placed in Hot Shutdown within the next 12 hours. STP proposes to apply Action 42.b to require that with the number of Operable channels less than the Minimum Operable Channels requirements, one inoperable channel must be restored to Operable status within 7 days, or the plant must be placed in Hot Shutdown within the next 12 hours.

The 7-day Allowed Outage Time is acceptable because of the low probability of an event requiring post-accident monitoring instrumentation operation and the availability of alternate means to obtain the required information. Continuous operation with two channels not available for any one variable is not acceptable because the alternate indications may not fully meet all performance qualification requirements applied to the post-accident monitoring instrumentation. Therefore, requiring restoration of one inoperable channel limits the risk that the post-accident monitoring function will be in a degraded condition should an accident occur.

The proposed actions and allowed outage times are consistent with those approved generically in NUREG-1431, Revision 4, (TS 3.3.3, "Post Accident Monitoring (PAM) Instrumentation").

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

General Design Criteria (GDC) 13, "Instrumentation and Control," of 10 CFR 50, Appendix A, includes a requirement that instrumentation be provided to monitor variables and systems over their anticipated ranges for accident conditions as appropriate to ensure adequate safety.

GDC 19, "Control Room," of 10 CFR 50, Appendix A, includes a requirement that a control room be provided from which actions can be taken to maintain the nuclear power unit in a safe condition under accident conditions, including loss-of-coolant accidents, and that equipment, including the necessary instrumentation, at appropriate locations outside the control room be provided with a design capability for prompt hot shutdown of the reactor.

Regulatory Guide (RG) 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," Revision 2, describes a method acceptable to the NRC staff for complying with the Commission's regulations to provide instrumentation to monitor plant variables and systems during and following an accident in a light-water-cooled nuclear power plant.

The referenced requirements of GDC 13, GDC 19, and the guidance of RG 1.97 continue to be met because the proposed changes do not delete or add any post-accident monitoring variables to the Technical Specifications, do not revise the number of instrumentation channels required for any variable, and do not revise the instrumentation ranges for any of the post-accident monitoring variables included in the Technical Specifications.

4.2 Precedent

The Nuclear Regulatory Commission (NRC) has approved similar changes for Turkey Point Units 3 and 4 (Amendment No. 227 to Facility Operating License No. DPR-31, and Amendment No. 223 to Facility Operating License No. DPR-41), dated January 6, 2005 (Reference 1).

In addition, the NRC has previously approved similar changes to TS 3.3.3.6, Table 3.3-10, Action 35, for STP Units 1 and 2 in Amendments 177 and 164 (for Unit 1 and Unit 2, respectively), dated June 13, 2007 (Reference 2).

4.3 Significant Hazards Consideration

STP has evaluated whether a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10CFR50.92, "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 changes revise the actions and allowed outage times of the neutron flux (extended range) and neutron flux - startup rate (extended range) accident monitoring instrumentation. The instrumentation is not an initiator of any accident previously evaluated. As a result, the probability of any accident previously evaluated is not significantly increased by these proposed changes. The Technical Specifications continue to require the instrumentation to be operable. Therefore, the neutron flux (extended range) and neutron flux - startup rate (extended range) instrumentation will continue to provide sufficient information on selected plant parameters to monitor and assess these variables following an accident. The consequences of an accident during the extended allowed outage times are the same as the consequences during the current allowed outage time. As a result, the consequences of any accident previously evaluated are not significantly increased by these proposed changes. Therefore, the proposed changes do not increase 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 changes do not alter the design, physical configuration, or mode of operation of the plant. The neutron flux (extended range) and neutron flux - startup rate (extended range) accident monitoring instrumentation is not an initiator of any accident previously evaluated. No changes are being made to the plant that would introduce any new accident causal mechanisms. The proposed changes do not affect any other plant equipment. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously analyzed.

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

Response:

No. The proposed changes do not change the operation, function, or modes of the plant or equipment operation. The proposed changes do not change the level of assurance that the neutron flux (extended range) and neutron flux - startup rate (extended range) accident monitoring instrumentation will be available to perform its function. The proposed changes provide a more appropriate time to restore the inoperable channel(s) to operable status, and only apply when one or more channels of the required instrument are inoperable. The additional time to restore an inoperable channel to operable status is appropriate based on the low probability of an event requiring a neutron flux (extended range) accident monitoring instrument during the interval, providing a reasonable time for repair, and other means which may be available to obtain the required information. Therefore, the proposed changes do not result in a reduction in a margin of safety.

Based on the above, STP concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

4.4 Conclusions

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.

5.0 ENVIRONMENTAL CONSIDERATIONS

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance 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 effluents 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.

6.0 REFERENCES

1. Letter from NRC to Mr. J. A. Stall, "Turkey Point Units 3 and 4 – Issuance of Amendments Regarding Accident Monitoring Instrumentation Outage Times (TAC Nos. MC2884 and MC2885)," January 6, 2005 (Accession No. ML043480388).
2. Letter from NRC to Mr. J. J. Sheppard, "South Texas Project, Units 1 and 2 – Issuance of Amendments re: Changes to Technical Specification 3.3.3.6, "Accident Monitoring Instrumentation" (TAC Nos. MD0934 and MD0935)," June 13, 2007 (Accession No. ML071430234).

ENCLOSURE, ATTACHMENT 1

Technical Specification Page Markups

NO CHANGES ON THIS PAGE

TABLE 3.3-10

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	TOTAL NO. OF CHANNELS	MINIMUM CHANNELS OPERABLE	ACTION
1. Containment Pressure	4	1	43
2. Reactor Coolant Outlet Temperature- T_{HOT} (Wide Range)	4 (1/loop)	4	35
3. Reactor Coolant Inlet Temperature- T_{COLD} (Wide Range)	4 (1/loop)	4	35
4. Reactor Coolant Pressure - Wide Range and Extended Range	3	1	37
5. Pressurizer Water Level	4	1	43
6. Steam Line Pressure	4/steam generator	1/steam generator	43
7. Steam Generator Water Level - Narrow Range	4/steam generator	1/steam generator	43
8. Steam Generator Water Level - Wide Range	4(1/steam generator)	4	35
9. Refueling Water Storage Tank Water Level	3	1	37
10. Auxiliary Feedwater Storage Tank Water Level	3	1	37
11. Auxiliary Feedwater Flow	4(1/steam generator)	4	35
12. Reactor Coolant System Subcooling Margin Monitoring	2	1	36

TABLE 3.3-10 (Continued)

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	TOTAL NO. OF CHANNELS	MINIMUM CHANNELS OPERABLE	ACTION
13. Containment Water Level (Narrow Range)	2	1	36
14. Containment Water Level (Wide Range)	3	1	37
15. Core Exit Thermocouples	**2	**1	42
16. Steam Line Radiation Monitor	1/steam line	1/steam line	40
17. Containment - High Range Radiation Monitor	2	1	39
18. Reactor Vessel Water Level (RVWL)	2*	1*	41
19. Neutron Flux (Extended Range)	2	1	~~36~~ **42**
20. Not Used			
21. Containment Pressure (Extended Range)	2	1	36
22. Steam Generator Blowdown Radiation Monitor	1/blowdown line	1/blowdown line	40
23. Neutron Flux - Startup Rate (Extended Range)	2	1	~~36~~ **42**

* A channel is eight sensors in a probe. A channel is OPERABLE if four or more sensors, one or more in the upper section section and three or more in the lower section, are OPERABLE.

** A channel is OPERABLE if at least two core exit thermocouples per core quadrant are OPERABLE, and at least one quadrant has at least four OPERABLE thermocouples.

ENCLOSURE, ATTACHMENT 2

TS Bases Inserts

(For information only)

TS 3.3.3.6 Bases inserts for information:

Action 42.a requires that with the number of Operable channels one less than the Total Number of Channels requirements, one inoperable channel must be restored to Operable status within 30 days, or a special report must be submitted within the next 14 days outlining the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the inoperable channels to OPERABLE status. The 30-day Allowed Outage Time is acceptable because there is one channel of instrumentation that remains operable, the applicable instrumentation provides indication only (i.e., no automatic actuations are required to occur from the associated instrumentation post-accident), and because of the low probability of an event requiring post-accident monitoring instrumentation during this 30-day interval. The action to submit a special report in lieu of a plant shutdown is acceptable because alternative actions are identified before a loss of functional capability, and given the low likelihood of plant conditions that would require information provided by this instrumentation. The report discusses the results of the cause evaluation of the inoperability and identifies proposed restorative actions.

Action 42.b requires that one inoperable channel must be restored to Operable status within 7 days, or the plant must be placed in Hot Shutdown within the next 12 hours. The 7-day Allowed Outage Time is acceptable because of the low probability of an event requiring post-accident monitoring instrumentation operation and the availability of alternate means to obtain the required information. Continuous operation with two channels for any one variable is not acceptable because the alternate indications may not fully meet all performance qualification requirements applied to the post-accident monitoring instrumentation. Therefore, requiring restoration of one inoperable channel limits the risk that the post-accident monitoring function will be in a degraded condition should an accident occur.