

UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION RELATED TO AMENDMENT NO. 227 TO FACILITY OPERATING LICENSE NO. DPR-59 POWER AUTHORITY OF THE STATE OF NEW YORK JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 INTRODUCTION

By letter dated October 3, 1994, the Power Authority of the State of New York (the licensee) submitted a request for changes to the James A. FitzPatrick Nuclear Power Plant (FitzPatrick) Technical Specifications (TSs). The proposed changes involve the reactor protection system (RPS), primary containment isolation systems (PCIS), emergency core cooling systems (ECCS), control rod blocks (CRB), and anticipated transient without scram (ATWS)-recirculation pump trips (RPT). The proposed changes will permit (1) extension of the surveillance test intervals and allowable out-of-service times for several instruments in accordance with seven NRC approved General Electric (GE) Licensing Topical Reports prepared under the direction of the Boiling-Water Reactor (BWR) Owners Group; (2) removal of the average power range monitor (APRM) downscale scram function; (3) relocation of several instrument response time values in conformance with NRC Generic Letter 93-L2; and (4) incorporation of a large number of editorial, clarification, and correction changes.

To simplify justifications for the changes, the licensee categorized the proposed changes into the following four Categories:

- Category 1: Increase the surveillance test interval (STI) and allowable outof-service time (AOT) for the ECCS, PCIS, reactor protection system (RPS), CRB, and RPT.
- Category 2: Relocate the instrument response time limits from TSs to Updated Final Safety Analysis Report (UFSAR).
- Category 3: Delete the APRM downscale scram functions listed in TS Table 3.1-1 to avoid plant operation in half scram.
- Category 4: Incorporate more than 400 TS editorial, clarification, and correction changes.

Enclosure 1

The licensee stated that the proposed changes in Category 1 are based on:

- Seven NRC approved Licensing Topical Reports (LTR) NEDC-30851P-A, NEDC-30851P-A (Supplements 1 and 2), NEDC-30936P-A (Parts 1 and 2), NEDC-31677P-A, GENE-770-06-1-A, and GENE-770-6-2-A prepared by General Electric (GE) under the direction of the Boiling Water Reactor (BWR) Owners Group.
- A plant-specific evaluation of the instrument design configurations and surveillance requirements to the generic model used in the GE LTRs.
- A plant-specific evaluation of the instrument setpoint drift expected under the extended STIs, to determine the acceptability of the current setpoint calculations.
- Improvement of the plant safety by reducing the potential for test related reactor scrams, excessive test cycles on equipment, operator errors.

The licensee stated that the proposed Category 2 changes are in accordance with NRC Generic Letter (GL) 93-08 and do not alter the surveillance requirements. The licensee also stated that the proposed Category 3 changes will avoid plant operation in a "half scram" condition. There are six APRM channels and eight Intermediate Range Monitor (IRM) channels which create a mismatch. This mismatch, for some combinations of IRM and APRM channels when a failed APRM channel is bypassed, may leave the plant in a "half scram" condition. The change will permit any one IRM and any one APRM channel in each trip system to be simultaneously bypassed.

The Commission has provided guidance for the contents of TSs in its "Final Policy Statement on Technical Specification Improvements for Nuclear Power Reactors" ("Final Policy Statement," 58 FR 39132, dated July 22, 1993) in which the Commission indicated that compliance with the Final Policy Statement satisfies Section 182a of the Atomic Energy Act of 1954, as amended (the Act). In particular, the Commission indicated that certain items could be relocated from the TSs to licensee-controlled documents.

Consistent with this approach, the Final Policy Statement identified four criteria to be used in determining whether a particular matter is required to be included in the TSs, as follows: (1) installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary; (2) a process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (3) a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (4) a structure, system, or component which operating experience or probabilistic safety assessment has shown to be

significant to public health and safety. As a result, existing TS requirements which fall within or satisfy any of the criteria in the Final Policy Statement must be retained in the TS, while those TS requirements which do not fall within or satisfy these criteria may be relocated to other licensee-controlled documents.

2.0 EVALUATION

The licensee's submittal includes several hundred Category 4 TS changes. The NRC staff has reviewed these changes and concur with the licensee that these changes are strictly editorial and clarification in nature and will not impact plant safety. No further discussion of these changes is necessary.

The licensee has provided detailed justifications for the other changes (Categories 1, 2 and 3) and a brief description of these changes with justifications are provided below:

- Change 1 TS page 5, Specification 1.0, Definitions: Add a new definition, "T. Surveillance Frequency Notations/Intervals." This change conforms to NUREG-0123, GE BWR Standard Technical Specifications (STS, Reference 17), Table 1.1, page 1-7.
- Change 2 TS pages 30a, 30d, 30e, and 30f, Specification 3.0, General Limiting Conditions for Operation (LCO): Add new specification 3.0. F to permit equipment removed from service or declared inoperable to satisfy a TS action statement to be returned to service in order to perform testing to demonstrate its operability or the operability of other equipment. This addition conforms with NUREG-1433, GE BWR STS LCO 3.0.5, page 3.0-2, and Bases LCO 3.0.5, pages B 3.0-6 and 7 (Reference 18).
- Change 3 TS page 30f, Specification 3.1/4.1, Reactor Protection System:
 Delete references to RPS instrument response time limits which
 will be relocated to the UFSAR in accordance with NRC GL 93-08.
- Change 4 TS page 31, Specification 3.1/4.1, Reactor Protection System:

 Delete the first sentence of Specification 4.1.D that reads "When it is determined that a channel has failed in the unsafe condition, the other RPS channels that monitor the same variable shall be functionally tested immediately before the trip system containing the failure is tripped." This provision is unnecessary based on the absence of a similar provision in GE LTR NEDC-30851P-

The Commission recently adopted amendments to 10 CFR 50.36, pursuant to which the Rule was revised to codify and incorporate these criteria. see Final Rule, "Technical Specifications," 60 FR 36953 (July 19, 1995). The Commission indicated that reactor core isolation cooling, isolation condenser, residual heat removal, standby liquid control, and recirculation pump are to be included in the TSs under Criterion 4, although it recognized that other structures, systems, and components could also meet this criterion (60 FR 36956).

- A (Reference 1) and the amendment approved for Duane Arnold (Reference 20).
- Change 5 TS page 32, Bases 3.1, second paragraph: Add reference to the AOTs provided in GE Topical Report NEDC-30851P-A.
- Change 6
 TS pages 36, 37, 38, Bases 4.1: Delete discussion on instrument reliability criteria unrelated to the reliability data used in the GE LTR NEDC-30851P-A and revise the second paragraph of page 36 to add reference to the GE LTR NEDC-30851P-A.
- Change 7 TS page 38, Bases 4.1, fourth paragraph, second sentence: Replace "once/month" with "once/every three months" in accordance with GE LTR NEDC-30851P-A.
- Change 8 TS page 38, Bases 4.1, last paragraph: Delete the last paragraph to relocate the RPS response time to the USFAR in accordance with NRC GL 93-08.
- Change 9 TS page 39, Bases 4.1, first paragraph: Add reference to Standard Technical Specification (NUREG-0123, Rev. 3) and relocate to page 37.
- Change 10 TS page 39, Bases 4.1, second paragraph: Revise consistent with the RPS response time modifications and relocate to page 38.

 Delete the third and fourth paragraph to remove text containing specific values for the instrument response times in accordance with NRC GL 93-08.
- Change 11 TS page 41a, Table 3.1-1, Reactor Protection System
 Instrumentation: Delete APRM downscale trip function as explained earlier under Category 3 changes.
- Change 12 TS page 42, Table 3.1-1, Reactor Protection System
 Instrumentation: Add 12 hour repair AOT as Note 1. In addition,
 the Note 1 addresses an NRC concern (Reference 16) that a loss of
 scram function may occur if two or more channels are inoperable
 during the 12 hour AOT. Note 1 also requires confirmation within
 1 hour of RPS functional capability after two or more channels
 become inoperable. Further, Note 1 limits the LCO for multiple
 inoperable channels for one trip function to a 6 hour AOT in
 accordance with GE LTR NEDC-30851P-A, pages 5-33 and the
 corresponding NRC Safety Evaluation Report (SER, Reference 8),
 Enclosure 2, page 1.
- Change 13 TS page 42, Table 3.1-1, Reactor Protection System Instrumentation: Add 6 hour AOT as Note 2 to Table 3.1-1 in accordance with GE LTR NEDC-30851P-A, pages 5-34 and NUREG-1433, Specifications 3.3.1.1.

- Change 14 TS page 43, Table 3.1-1, Reactor Protection System: As explained earlier in Category 3 changes, delete Note 9 which pertains to APRM downscale trip function.
- Change 15 TS page 43a, Table 3.1-2, Reactor Protection System
 Instrumentation: Delete Table 3.1-2 in accordance with NRC
 GL 93-08 permitting transfer of RPS response time limits to the
 UFSAR.
- Change 16 TS pages 44 and 45, Tables 4.1-1 and 4.1-2, Reactor Protection System Instrumentation: Revise the frequency of channel functional tests from weekly or monthly to quarterly in accordance with GE LTR NEDC-30851P-A, pages 5-35, 5-36 and the corresponding NRC SER (Reference 8), Enclosure 2, pages 2 and 3. This change includes:
 - · APRM High Flux
 - · APRM Inoperative
 - · APRM Flow Biased High Flux
 - · Reactor High Pressure
 - · Drywell High Pressure
 - · Reactor Low Level
 - Scram Discharge Instrument Volume High Water Level
 - · Main Steam Line Isolation Valve Closure
 - · Turbine Control Valve Fast Closure
 - · Turbine First Stage Pressure Permissive
 - · Turbine Stop Valve Closure
- Change 17 TS page 44, Table 4.1-1, Reactor Protection System
 Instrumentation: Revise the functional test for RPS Channel Test
 Switch from "every refueling outage" to "weekly" in accordance
 with GE LTR NEDC-30851P-A, page 5-21.
- Change 18 TS page 49, Specifications 3.2.A/4.2.A, Primary Containment Isolation Functions: In conformance with NRC GL 93-08, delete references to Table 3.2-9 which specifies the main steam isolation valve actuation instrumentation response time limit.
- Change 19 TS page 50, Specification 3.2.C.2, Control Rod Block Actuation:
 Delete TS 3.2.C.2 test AOT for the rod block monitor and a add a
 revised test AOT to Table 3.2-3 in accordance to GE LTR GENE-77006-01-A (Reference 6), Appendix A, page A-40 and the corresponding
 NRC SER (Reference 14).
- Change 20 TS page 61, Bases 4.2: Add reference to GE LTRs (References 1 through 7) to reflect STI/AOT changes based on GE LTRs and delete statements that have become inapplicable in accordance with the recommendations of the GE LTRs.

- Change 21 TS page 61, Bases 4.2: Delete the first three sentences of the second paragraph in accordance with NRC GL 93-08 regarding relocating response time limits from the TS to the UFSAR.
- Change 22 Revised TS page 63, Table 3.2-1, Primary Containment Isolation System Instrumentation Requirements: In accordance with the STS (Reference 17) and to resolve the NRC concern expressed in Inspection Report No. 50-333/88-01 (Reference 19), relocate the following eight instruments from Table 3.2-2, Instrumentation that Initiates or Controls the Core and Containment Cooling Systems, to Table 3.2-1 because these instruments perform isolation functions and not ECCS functions:
 - · HPC1 turbine steam line high flow

· HPCI steam line low pressure

- · HPCI turbine high exhaust diaphragm pressure
- HPCI stram line/area temperature
- . RCIC turbine steam line high flow

· RCIC steam line low pressure

- · RCIC turbine high exhaust diaphragm pressure
- RCIC steam line/area temperature
- Change 23 Revised TS page 65, Table 3.2-1: Add Action statement 3.F which states, "Isolate the affected penetration flow path(s) within one hour and declare the affected system inoperable". This action statement is similar to the action statement in the STS (Reference 17), page 3-12 and 3-14, Action 22, and the first part of this statement conforms with action statement F.1 of NUREG-1433 (Reference 18), page 3.3-2.
- Change 24 Revised TS page 63, Table 3.2-1: For HPCI and RCIC Steam Line/Area Temperature instruments, change the Total Number of Instrument Channels Provided by Design for Both Trip Systems from 2 and 1, to 16 and 8, respectively. This change reflects the actual design of the trip system.
- Change 25
 TS page 64, Table 3.2-1, Main Steam Line Leak Detection High Temperature: Revise the Total Number of Instrument Channels Provided by Design for Both Trip Systems from 4 to 16 and Minimum No. of Operable Instrument Channels Per Trip System from 2 to 8. This change reflects the actual design of the trip system.
- Change 26
 TS page 65, Table 3.2-1, Primary Containment Isolation System: Add 6 hour testing AOT as Note 2. This AOT conforms to (1) GE LTR NEDC-30851P-A, Supplement 2, (Reference 3), (2) GE LTR NEDC-31677P-A (Reference 5) page D-3, (3) NRC SER (Reference 10), Enclosure 1, Table 2; and Enclosure 2, page 3-16, and (4) NRC SER (Reference 13), Enclosure 1, page 2, and Enclosure 2, page 3-14. The wording of the AOT is consistent with NUREG-1433, Specification 3.3.6.1.

- Change 27 TS page 65, Notes 1 and 2: Delete the first sentence of Note 2 and add longer repair AOTs to Note 1. The change adds a 12-hour AOT for isolation instruments common to RPS i strumentation, and a 24-hour AOT for isolation instrumentation not common to RPS. The AOT values conform to: (1) GE LTR NEDC-30851P-A, Supplement 2 (Reference 3), (2) GE LTR NEDC-31677P-A (Reference 5), page D-1 and D-2, (3) NRC SER (Reference 10), Enclosure 1, Table 2 and Enclosure 2, page 3-9, and (4) NRC SER (Reference 13), Enclosure 1, page 2 and Enclosure 2, page 3-9.
- TS page 71, Table 3.2-2, Core and Containment Cooling System Initiation and Control Instrumentation Operability Requirements: Add a 6-hour test AOT and a 24 hour repair AOT. The changes for all instruments except those in the RCIC system conform to GE LTR NEDC-30936P-A (Reference 4), Part 2, pages A-17 and A-18 and NRC SERs (References 11 and 12). The change for RCIC system instruments conforms to GE LTR GENE-770-06-2-A (Reference 7), Appendix C, pages C-4-3 and C-4-4, and NRC SER (Reference 15), Enclosure 1, pages 3 and 4, and Enclosure 2.

The Note 1 of Table 3.2-2 is revised to conform with the features of the action statements of Table 3.3.3-1 of the STS, with the exception of Items 26 through 30 (Reference 17).

- Change 29 TS page 72, Table 3.2-3, Control Rod Block Instrumentation Requirements: Revise the Column heading "Minimum No. of Operable Instrument Channels Per Trip System" to read "Minimum No. of Operable Instrument Channels Per Trip Function." The change reflects the as-built configuration and conforms to the STS (Reference 17), Table 3.3.6-1, page 3-51 and 3-52.
- Change 30 TS pages 72 and 73, Table 3.2-3, Control Rod Block Instrumentation: Clarify Notes 1 and 2 and delete Note 10 to conform with STS, pages 3/4 1-18, 3/4 3-51, and 3/4 3-52, and NRC SER (Reference 14).
- Change 31 TS page 73, Table 3.2-3: Add a 6-hour test AOT as Note 3 for control rod block instrumentation and a 12-hour repair AOT as Action C for the Scram Discharge Volume High Water Level instrumentation in accordance with GE LTR GENE-770-06-1-A (Reference 6), Appendix A, Pages A-40, A-41, and A-42, and NRC SER (Reference 14). The wording of the AOT conforms to the STS, NUREG-1433.
- Change 32 TS page 77, Table 3.2-7, ATWS Recirculating Pump Trip Actuation Instrumentation: Change the AOT for multiple channel failures from 1 hour to 24 hours in accordance to GE LTR GENE-770-06-1-A, Appendix A, page A-15 and NRC SER (Reference 14), Enclosure 1, Table 2.

- Change 33 TS page 77, Table 3.2-7: Add a 6-hour AOT in accordance with GE LTR GENE-770-06-1-A, Appendix A, page A-17 and NRC SER (Reference 14), Enclosure 1, Table 2. The wording of the AOT conforms to the STS, NUREG-1433, Specification 3.3.4.2.
- Change 34 TS page 77e, Table 3.2-9, Primary Containment Isolation System Actuation Instrumentation Response Times: Delete Table 3.2-9 to relocate the response time limits for main steam isolation valve closure actuation to the UFSAR in accordance with NRC GL 93-08.
- Change 35

 TS pages 78 and 79, Table 4.2-1, Minimum Test and Calibration Frequency for PCIS and Table 4.2-2, Minimum Test and Calibration Frequency for Core and Containment Cooling Systems: Relocate eight instruments from Table 4.2-2 to Table 4.2-1 because these instruments perform isolation functions and not ECCS functions. This will establish consistency with the STS and resolve the NRC concern previously mentioned in Change 22.
- Change 36

 TS pages 78 and 79, Table 4.2-1: Revise the frequency of the functional tests from monthly to quarterly in accordance with (1) GE LTR NEDC-30851P-A, Supplement 2, Enclosure 2, (2) GE LTR NEDC-31677P-A, Appendix D, pages D-4 through D-8, (3) NRC SER (Reference 10), Enclosure 1, page 3 and Enclosure 2, and (4) NRC SER (Reference 13), Enclosure 1, page 2, and Enclosure 2.
- TS page 79, Table 4.2-2: Revise the frequency of the instrument functional tests from monthly to quarterly for Reactor Water Level, Drywell Pressure, Reactor Pressure, ADS-LPCI or CS Pump Discharge, Trip Bus Power Monitors, Core Spray Sparger d/p, and HPCI & RCIC Suction Source Levels. The changes for all instruments, except the RCIC system instruments conform to GE LTR NEDC-30936P-A, Part 2 (Reference 4), pages A-15 and A-16 and the NRC SER (Reference 10), Enclosure 1, page 3. The change for RCIC system instruments conforms to GE LTR GENE-770-06-2-A (Reference 8), Appendix C, page C-4-6 and NRC SER (Reference 15), Enclosure 1, page 3 and Enclosure 2.
- Change 38 TS page 81, Table 4.2-3, Minimum Test and Calibration Frequency for Control Rod Blocks Actuation: Revise the functional testing to quarterly for APRM, Rod Block Monitor, and Scram Discharge Volume-High Water Level instruments in accordance with GE LTR NEDC-30851P-A, Supplement 1, (Reference 20), page A-4, and NRC SER (Reference 9), Enclosure 3.
- Change 39 TS page 85, Table 4.2-7, Minimum Test and Calibration Frequency for ATWS Recirculation Trip Actuation Instrumentation: Revise the frequency of Channel Functional Test from monthly to quarterly in accordance with GE LTR GENE-770-06-1-A, Appendix A, page A-19, and NRC SER (Reference 14), Enclosure 1, Table 2 and enclosure 2, page 3-40.

The NRC staff has reviewed the licenses evaluations and justifications which indicate that the above proposed TS changes are either 1) in conformance with previously approved GE Licensing Topical Reports prepared under the direction of the BWR Owners Group, 2) consistent with the GE BWR Standard Technical Specifications, NUREG-0123 or NUREG-1433, or 3) in conformance with NRC GL 93-08. Furthermore, the licensee performed plant-specific evaluations for each instrument category to ensure that the instrumentation design configurations and surveillance requirements are consistent with the generic models used in the GE Licensing Topical Reports. Additionally, the licensee evaluated the setpoint drift expected under the extended STIs to confirm that the current setpoint calculations were valid. Finally, the licensee indicated that the STI and AOT revisions will enhance plant safety by reducing the potential for test related plant scrams, excessive test cycles on equipment, and operator errors as previously concluded in the GE LTRs.

The above relocated requirements, related to the reactor protection system, are not required to be in the TSs under 10 CFR 50.36 or Section 182a of the Act, and are not required to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. Further, they do not fall within any of the four criteria set forth in the Commission's Final Policy Statement, discussed above. In addition, the NRC staff finds that sufficient regulatory controls exist under 10 CFR 50.59 to assure continued protection of the public health and safety. Accordingly, the NRC staff has concluded that these requirements may be relocate from the TSs to the licensee's UFSAR.

Based on our evaluation, the NRC staff concludes that the proposed changes to the instrumentation TSs are in conformance with the appropriate NRC approved topical reports, GE BWR STS and GL 93-08, and are, therefore, acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (59 FR 55887). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (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.

Principal Contributor: S. Mazumdar

Date: September 11, 1995

REFERENCES:

- GE Topical Report NEDC-30851P-A, "Technical Specification Improvement Analyses for BWR Reactor Protection System," March 1988.
- GE Topical Report NEDC-30851P-A, Supplement 1, "Technical Specification Improvement Analyses for BWR Control Rod Block Instrumentation," October 1988.
- GE Topical Report NEDC-30851P-A, Supplement 2, "Technical Specification Improvement Analyses for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," March 1989.
- GE Topical Report NEDC-30936P-A, Parts 1 and 2, "BWR Owners Group Technical Specification Improvement Methodology (with Demonstration for BWR ECCS Actuation Instrumentation)," December 1988.
- GE Topical Report NEDC-31677-A, "Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation)," July 1990.
- GE Topical Report GENE-770-06-1-A, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times For Selected Instrumentation Technical Specifications."
- GE Topical Report GENE-770-06-2-A, "Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times For Selected Instrumentation Technical Specifications," December 1992.
- B. NRC Safety Evaluation Report, letter from Ashok C. Thadani, NRC, to T. A. Pickens, BWR Owners Group, "General Electric Co. Topical Reports NEDC-30844, BWR Owners Group Response to NRC Generic Letter 83-28, and NEDC-30851P, Technical Specification Improvement Analysis for BWR RPS," July 15, 1987.
- NRC Safety Evaluation Report, letter from Charles E. Rossi, NRC, to D. N. Grace, BWR Owners Group, "General Electric Company Topical Report NEDC-30851P, Supplement 1, Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation," September 22, 1988.
- NRC Safety Evaluation Report, letter from Charles E. Rossi, NRC, to D. N. Grace, BWR Owners Group, "General Electric Company Topical Report NEDC-30851P, Supplement 1, Technical Specification Improvement Analysis for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," January 6, 1989.
- 11. NRC Safety Evaluation Report, letter from A. Thadani, NRC, to D. N. Grace, BWR Owners Group, "General Electric Company Topical Report NEC-30936P, BWR Owners Group Technical Specification Improvement Methodology (With Demonstration for BWR ECCS Actuation Instrumentation), Part 1." December 9, 1988.

- 12. NRC Safety Evaluation Report, letter from Charles E. Rossi, NRC, to D. N. Grace, BWR Owners Group, "General Electric Company Topical Report NRDC-30936P, BWR Owners Group Technical Specification Improvement Methodology (With Demonstration for BWR ECCS Actuation Instrumentation), Part 2," December 9, 1988.
- 13. NRC Safety Evaluation Report, letter from Charles E. Rossi, NRC, to S. D. Floyd, BWR Owners Group, "General Electric Company Topical Report NEDC-31677P, Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation," June 18, 1990.
- 14. NRC Safety Evaluation Report, letter from Charles E. Rossi, NRC, to R. D. Binz, BWR Owners Group, "General Electric Company Topical Report GENE-770-06-1. Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," July 21, 1992.
- 15. NRC Safety Evaluation Report, letter from Charles E. Rossi, NRC, to G. J. Beck, BWR Owners Group, "General Electric Company Topical Report GENE-770-06-2, Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications (BWR RCIC Instrumentation)," July 30, 1992.
- 16. NRC letter, C. Rossi, NRC, to G. Beck, BWROG, dated July 26, 1992.
- 17. NUREG-0123, "Standard Technical Specifications in General Electric Boiling Water Reactors (BWR/5)," Revision 2, dated fall 1980.
- NUREG-1433, "Standard Technical Specifications for General Electric Boiling Water Reactors (BWR/4)," Revision O, dated September 1992.
- NRC Inspection 50-333/88-01 January 12 to March 7, 1988 Routine Inspection of Plant Activities, dated March 29, 1988.
- NRC letter, R. M. Pulsipher, NRC, to L. Liu, Iowa Electric Light and Power Co., regarding issuance of Amendment 193 for Duane Arnold Energy Center, dated April 14, 1993.
- 21. NRC Generic Letter 93-08, "Relocation of Technical Specification Tables of Instrument Response Time Limits," December 29, 1993.
- 22. NRC Letter, C. E. Rossi, NRC, to R. F. Janecek, BWR Owners Group, "Staff Guidance For Licensee Determination That The Drift Characteristics For Instrumentation Used In RPS Channels Are Bounded By NEDC-3085P Assumptions When The Functional Test Interval Is Extended From Monthly To Quarterly," dated April 27, 1988.