Attachment I to JPN-96-024

REVISED TECHNICAL SPECIFICATION PAGES

RESPONSE TIME TESTING REQUIREMENTS

(JPTS-96-006)

New York Power Authority

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Docket No. 50-333
DPR-59

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LIST OF PAGE CHANGES

RESPONSE TIME TESTING REQUIREMENTS (JPTS-96-006)

Revise Appendix A as follows:

Remove Pages	Insert Pages
30g	30g
38	38
49	49
61	61

3.1 LIMITING CONDITIONS FOR OPERATION

3.1 REACTOR PROTECTION SYSTEM

Applicability:

Applies to the instrumentation and associated devices which initiate the reactor scram.

Objective:

To assure the operability of the Reactor Protection System.

Specification:

A. The setpoints and minimum number of instrument channels per trip system that must be operable for each position of the reactor mode switch, shall be as shown in Table 3.1-1.

4.1 SURVEILLANCE REQUIREMENTS

4.1 REACTOR PROTECTION SYSTEM

Applicability:

Applies to the surveillance of the instrumentation and associated devices which initiate reactor scram.

Objective:

To specify the type of frequency of surveillance to be applied to the protection instrumentation.

Specification:

A. Instrumentation systems shall be functionally tested and calibrated as indicated in Tables 4.1-1 and 4.1-2 respectively.

The response time of the reactor protection system trip functions listed below shall be demonstrated to be within its limit at least once per 18 months. Neutron detectors are exempt from response time testing. Each test shall include at least one channel in each trip system. All channels in both trip systems shall be tested within two test intervals.

1. Reactor High Pressure (02-3PT-55A, B, C, D) *
2. Drywell High Pressure (05PT-12A, B, C, D)
3. Reactor Water Level-Low (L3) (02-3LT-101A, B, C, D) *
4. Main Steam Line Isolation Valve Closure
   (29PNS-80A2, B2, C2, D2)
   (29PNS-86A2, B2, C2, D2)
5. Turbine Stop Valve Closure (94PNS-101, 102, 103, 104)
6. Turbine Control Valve Fast Closure (94PS-200A, B, C, D)
7. APRM Fixed High Neutron Flux
8. APRM Flow Referenced Neutron Flux

* Sensor is eliminated from response time testing for the RPS actuation logic circuits. Response time testing and conformance to the test acceptance criteria for the remaining channel components includes trip unit and relay logic.

4.1 BASES (cont'd)

The individual sensor response time may be measured by simulating a step change of the particular parameter. This method provides a conservative value for the sensor response time, and confirms that the instrument has retained its specified electromechanical characteristics. When sensor response time is measured independently, it is necessary to also measure the remaining portion of the response time in the logic train up to the time at which the scram pilot valve solenoids de-energize. The channel response time must include all component delays in the response chain to the ATTS output relay plus the design allowance for RPS logic system response time. A response time for the RPS logic relays in excess of the design allowance is acceptable provided the overall response time does not exceed the response time limits specified in the UFSAR. The basis for excluding the neutron detectors from response time testing is provided by NRC Regulatory Guide 1.118, Revision 2, section C.5.

The sensors for the Reactor High Pressure and Reactor Water Level - Low (L3) trip functions are exempted from response time testing based on analyses provided in NEDO-32291-A, "System Analyses for the Elimination of Selected Response Time Testing".

The 18 month response time testing interval is based on NRC NUREG-0123, Revision 3, "Standard Technical Specifications," surveillance requirement 4.3.1.3.

Two instrument channels in Table 4.1-1 have not been included in Table 4 1-2. These are: mode switch in shutdown and manual scram. All of the devices or sensors associated with these scram functions are simple on-off switches and, hence, calibration during operation is not applicable.

B. The MFLPD is checked once per day to determine if the APRM scram requires adjustment. Only a small number of control rods are moved daily and thus the MFLPD is not expected to change significantly and thus a daily check of the MFLPD is adequate.

The sensitivity of LPRM detectors decreases with exposure to neutron flux at a slow and approximately constant rate. This is compensated for in the APRM system by calibrating twice a week using heat balance data and by calibrating individual LPRM's every 1000 effective full power hours, using TIP traverse data.

3.2 LIMITING CONDITIONS FOR OPERATION

3.2 INSTRUMENTATION

Applicability:

Applies to the plant instrumentation which either (1) initiates and controls a protective function, or (2) provides information to aid the operator in monitoring and assessing plant status during normal and accident conditions.

Objective:

To assure the operability of the aforementioned instrumentation.

Specifications:

A. Primary Containment Isolation Functions

When primary containment integrity is required, the limiting conditions of operation for the instrumentation that initiates primary containment isolation are given in Table 3.2-1.

4.2 SURVEILLANCE REQUIREMENTS

4.2 INSTRUMENTATION

Applicability:

Applies to the surveillance requirement of the instrumentation which either (1) initiates and controls protective function, or (2) provides information to aid the operator in monitoring and assessing plant status during normal and accident conditions.

Objective:

To specify the type and frequency of surveillance to be applied to the aforementioned instrumentation.

Specifications:

A. Primary Containment Isolation Functions

Instrumentation shall be functionally tested and calibrated as indicated in Table 4.2-1. System logic shall be functionally tested as indicated in Table 4.2-1.

The response time of the main steam isolation valve actuation instrumentation isolation trip functions listed below shall be demonstrated to be within their limits at least once per 18 months. Each test shall include at least one channel in each trip system. All channels in both trip systems shall be tested within two test intervals.

1. MSIV Closure - Reactor Low Water Level (L1) *
   (02-3LT-57A,B and 02-3LT-58A,B)
2. MSIV Closure - Low Steam Line Pressure *
   (02PT-134A,B,C,D)
3. MSIV Closure - High Steam Line Flow *
   (02DPT-116A-D, 117A-D, 118A-D, 119A-D)

* Sensor is eliminated from response time testing for the MSIV actuation logic circuits. Response time testing and conformance to the test acceptance criteria for the remaining channel components includes trip unit and relay logic.

4.2 BASES

The instrumentation listed in Tables 4.2-1 through 4.2-8 will be functionally tested and calibrated at regularly scheduled intervals. The same design reliability goal as the Reactor Protection System is generally applied. Sensors, trip devices and power supplies are tested, calibrated and checked at the same frequency as comparable devices in the Reactor Protection System.

The surveillance test interval for the instrumentation channel functional tests are once/three months for most instrumentation. This surveillance interval is based on the following NRC approved licensing topical reports:

1. GE Topical Report NEDC-30851P-A, "Technical Specification Improvement Analysis for BWR Reactor Protection System," March 1988.

2. GE Topical Report NEDC-30851P-A, Supplement 1 "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation," October 1988.

3. GE Topical Report NEDC-30851P-A, Supplement 2 "Technical Specification Improvement Analysis for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," July 1986.

4. GE Topical Report NEDC-31677P-A, "Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation, " July 1990.

5. 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.

6. 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," December 1992.

7. 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.

The measurement of the response time interval for the Main Steam Isolation Valve (MSIV) isolation actuation instrumentation begins when the monitored parameter exceeds the isolation actuation setpoint at the channel sensor and ends when the MSIV pilot solenoid relay contacts open. With the exception of the MSIVs, response time testing is not required for any other primary containment isolation actuation instrumentation. The safety analyses results are not sensitive to individual sensor response times of the logic systems to which the sensors are connected for isolation actuation instrumentation. The sensors for the MSIV actuation isolation trip functions are exempted from response time testing based on analyses provided in NEDO-32291-A, "System Analyses for the Elimination of Selected Response Time Testing".

SAFETY EVALUATION

RESPONSE TIME TESTING REQUIREMENTS

(JPTS-96-006)

New York Power Authority

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Docket No. 50-333
DPR-59

I. INTRODUCTION

This application for amendment to the James A. FitzPatrick Technical Specifications (TS) proposes the elimination of sensor response time testing for the Reactor Vessel High Pressure and Reactor Water Level - Low (L3) trip functions in the Reactor Protection System (RPS); and the MSIV Closure - Reactor Low Water Level; MSIV Closure - Low Steam Line Pressure and MSIV Closure - High Steam Line Flow trip functions in the Primary Containment Isolation System.

1. **Page 30g, Specification 4.1.A**

   Add the following note to trip functions "1. Reactor High Pressure" and "3. Reactor Water Level - Low (L3)":

   "* Sensor is eliminated from response time testing for the RPS actuation logic circuits. Response time testing and conformance to the test acceptance criteria for the remaining channel components includes trip unit and relay logic.

2. **Page 49, Specification 4.2.A**

   Add the following note to the three Primary Containment Isolation trip functions listed in this section:

   "* Sensor is eliminated from response time testing for the MSIV actuation logic circuits. Response time testing and conformance to the test acceptance criteria for the remaining channel components includes trip unit and relay logic."

3. **Page 38, Bases 4.1**

   Add the following after the first paragraph:

   "The sensors for the Reactor High Pressure and Reactor Water Level - Low (L3) trip functions are exempted from response time testing based on analyses provided in NEDO-32291-A, "System Analyses for the Elimination of Selected Response Time Testing".

4. **Page 61, Bases 4.2**

   Add the following after the last paragraph:

   "The sensors for the MSIV actuation isolation trip functions are exempted from response time testing based on analyses provided in NEDO-32291-A, "System Analyses for the Elimination of Selected Response Time Testing".

II. PURPOSE OF THE PROPOSED CHANGES

Analyses have been performed by the BWR Owners' Group (BWROG) demonstrating that other periodic tests required by TS, such as channel calibrations, channel checks, channel functional tests, and logic system functional tests, in conjunction with actions taken in response to NRC Bulletin 90-01, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount," and Supplement 1 to Bulletin 90-01, provide adequate assurance that instrument response times are within acceptable limits. The evaluation is documented in Reference 1. This change eliminates response time tests that are of little safety significance and could result in unnecessary personnel radiation exposure, reduced availability of systems during plant shutdowns, increased potential for inadvertent actuation of safety systems, and a significant burden to utility resources.

III. SAFETY IMPLICATIONS OF THE PROPOSED CHANGES

The basis for this request is consistent with Regulatory Guide 1.118 (Revision 2) (Reference 6) which endorses IEEE 338-1977 (Reference 7) which states:

> "Response time testing of all safety related equipment, per se, is not required if, in lieu of response time testing, the response time of safety system equipment is verified by functional testing, calibration checks or other tests, or both. This is acceptable if it can be demonstrated that changes in response time beyond acceptable limits are accompanied by changes in performance characteristics which are detectable during routine periodic tests."

NEDO-32291-A identified potential failure modes of components in the affected instrumentation loops which could potentially impact the instrument loop response time. In addition, industry operating experience was reviewed to identify failures that affect response times and how they were detected. The failure modes identified were then evaluated to determine if the effect on response time would be detected by other TS testing requirements (channel calibrations, channel checks, channel functional tests, and logic system functional tests). Actions taken in response to NRC Bulletin 90-01 Supplement 1 are sufficient to identify failure modes or degradation in instrument response times and ensure operation of the analyzed instrumentation loops within acceptable limits. NEDO-32291-A concluded that failure modes detected by response time testing, are detectable by other TS required tests.

The evaluation documented in NEDO-32291-A demonstrates that the following response time testing required in the FitzPatrick TS can be eliminated:

1) Sensors for selected RPS actuation instrumentation, and
2) Sensors for selected MSIV closure actuation instrumentation.

Additional Information

In accordance with the conditions identified in the NRC staff's safety evaluation of NEDO-32291-A, the following information is provided:

The New York Power Authority (NYPA) has confirmed the applicability of NEDO-32291-A to the James A. FitzPatrick Nuclear Plant. During 1996, the FitzPatrick Plant became a participating plant in addition to those listed in Appendix A of NEDO-32291-A. In addition, NYPA has confirmed that the sensors within the scope of this request have been evaluated in NEDO-32291-A. These sensors are identified in an Addendum to Appendix G (new Table G-14) of NEDO-32291-A and Table 1 of the NRC staff's safety evaluation of NEDO-32291-A. The components within the scope of this request are Rosemount transmitter model 1153.

NYPA confirms that the FitzPatrick Plant is in compliance with the following recommendations from EPRI NP-7243 (Reference 5):

a) Prior to installation of new transmitters/switches or following maintenance of transmitters/switches in selected instrument loops addressed in NEDO-32291-A, a hydraulic response time test (RTT) shall be conducted to determine the initial sensor specific response time value. Procedures will be changed to incorporate this method following amendment issuance.

b) The FitzPatrick Plant does not utilize capillary tube transmitters or switches for instrument loops required for RTT as specified in the Technical Specifications.

The following additional information is provided in response to the NRC request to ensure compliance to NEDO-32291-A (Reference 1).

a) Calibration procedures will be revised to include steps for fast ramp or step change to the input of the system components during calibrations. The response check will be performed prior to the instrument being calibrated.

b) Training has been performed in response to NRC Bulletin No. 90-01 action item 4.a to ensure operators and technicians have been made aware of consequences of instrument response time degradation.

c) I&C technicians are stationed during calibration and functional surveillance tests to allow for simultaneous monitoring of both input and output of the channel under test.

d) The FitzPatrick Plant has responded to NRC Bulletin 90-01, Supplement 1 concerning "Loss of Fill-Oil in Transmitters Manufactured by Rosemount". This response documents the actions to comply with the Bulletin.

e) The FitzPatrick Plant has reviewed the manufacturers requirements for Rosemount 1153 series B transmitters, and has determined the transmitters do not require periodic component response checks as specified by the vendor manual.

By letter dated December 28, 1994, the NRC staff provided their acceptance of NEDO-32291-A, subject to certain conditions, for reference in license amendment applications. Since issuance of this document, the FitzPatrick Plant has become a participant in addition to those listed in Appendix A of NEDO-32291-A.

IV. EVALUATION OF SIGNIFICANT HAZARDS CONSIDERATION

Operation of the FitzPatrick plant in accordance with the proposed Amendment would not involve a significant hazards consideration as defined in 10 CFR 50.92, since it would not:

1. involve a significant increase in the probability or consequences of an accident previously evaluated because:

   The purpose of the proposed TS change is to eliminate response time testing requirements for selected sensors in the RPS and Primary Containment Isolation System. The BWROG has completed an evaluation which demonstrates that response time testing is redundant to the other TS required testing. These other tests in conjunction with actions taken in response to NRC Bulletin 90-01, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount," and Supplement 1 to Bulletin 90-01, are sufficient to identify failure modes or degradation in instrument response time and ensure operation of the associated systems within acceptable limits. Furthermore, failure modes detected by response time testing are detectable by other TS required testing. This evaluation was documented in Reference 1. NYPA has confirmed the applicability of this evaluation to the FitzPatrick Plant. In addition, NYPA will complete the actions identified in the NRC staff's safety evaluation of NEDO-32291-A.

   Because of the continued application of other existing TS required tests such as channel calibrations, channel checks, channel functional tests, and logic system functional tests, the response time of these systems will be maintained within the acceptance limits assumed in plant safety analyses and required for successful mitigation of an initiating event. The proposed changes do not affect the capability of the associated systems to perform their intended function within their required response time, nor do the proposed changes themselves affect the operation of any equipment. Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. create the possibility of a new or different kind of accident from those previously evaluated because:

   The proposed changes do not affect the ability of the systems to perform their intended function within the acceptance limits assumed in plant safety analyses and required for successful mitigation of an initiating event. No new failure modes are introduced by the changes. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. involve a significant reduction in the margin of safety.

   The current TS required response time test limits are based on the maximum allowable values assumed in the plant safety analyses. These analyses conservatively establish the margin of safety. As described above, the proposed changes do not affect the capability of the associated systems to perform their intended function within the allowed response time used as the basis for the plant safety analysis. Plant and system response to an initiating event will remain in compliance within the assumptions of the safety analyses, and therefore the margin of safety is not affected.

   Further, although not explicitly evaluated, the proposed changes will provide an improvement to plant safety and operation by reducing the time safety systems are unavailable, reducing safety systems actuations, reducing plant shutdown risk, limiting radiation exposure to plant personnel, and eliminating the diversion of key personnel to conduct unnecessary testing. Therefore, the overall effect of the changes should increase the margin the safety.

V. IMPLEMENTATION OF THE PROPOSED CHANGES

Implementation of the proposed changes will not adversely affect the ALARA or Fire Protection Programs at the FitzPatrick plant, nor will the changes impact the environment.

VI. CONCLUSION

Based on the discussions above, the elimination of the identified response time testing requirements for sensors in the RPS and Primary Containment Isolation System may be safely implemented.

The changes involve no significant hazards consideration, as defined in 10 CFR 50.92. The Plant Operating Review Committee (PORC) and the Safety Review Committee (SRC) have reviewed these proposed changes to the Technical Specifications and have concluded they do not involve an unreviewed safety question, or a significant hazards consideration, and will not endanger the health and safety of the public.

VII. REFERENCES

1. BWR Owners' Group Licensing Topical Report NEDO-32291-A, "System Analyses for the Elimination of Selected Response Time Testing Requirements", October 1995

2. NRC Letter to BWR Owner's Group Documenting NRC Review of NEDO-32291-A, dated December 28, 1994

3. NYPA Letter, W. Fernandez to the NRC, dated July 19, 1990, (JAFP-90-0549) "Response to NRC Bulletin 90-01"

4. NYPA Letter, R.E. Beedle to the NRC, dated March 5, 1993, (JPN-93-010) "Response to NRC Bulletin 90-01, Supplement 1"

5. EPRI NP-7243, "Investigation of Response Time Testing Requirements", Final Report May 1991

6. R.G. 1.118, Rev. 2, "Periodic Testing of Electric Power and Protection Systems", dated June 1978

7. IEEE 338-1977, "Standard Criteria for the Periodic Testing of Nuclear Power Generating Station Safety Systems", dated September 1977

Attachment III to JPN-96-024

MARKED-UP TECHNICAL SPECIFICATION PAGES

RESPONSE TIME TESTING REQUIREMENTS

(JPTS-96-006)

New York Power Authority

JAMES A. FITZPATRICK NUCLEAR POWER PLANT
Docket No. 50-333
DPR-59

NYPA JAF ORG 315 349 6363 05-29-96 10:10 [60] #8/8

3.1 LIMITING CONDITIONS FOR OPERATION

3.1 REACTOR PROTECTION SYSTEM

Applicability:

Applies to the instrumentation and associated devices which initiate the reactor scram.

Objective:

To assure the operability of the Reactor Protection System.

Specification:

A. The setpoints and minimum number of instrument channels per trip system that must be operable for each position of the reactor mode switch, shall be as shown in Table 3.1-1.

4.1 SURVEILLANCE REQUIREMENTS

4.1 REACTOR PROTECTION SYSTEM

Applicability:

Applies to the surveillance of the instrumentation and associated devices which initiate reactor scram.

Objective:

To specify the type of frequency of surveillance to be applied to the protection instrumentation.

Specification:

A. Instrumentation systems shall be functionally tested and calibrated as indicated in Tables 4.1-1 and 4.1-2 respectively.

The response time of the reactor protection system trip functions listed below shall be demonstrated to be within its limit at least once per 18 months. Neutron detectors are exempt from response time testing. Each test shall include at least one channel in each trip system. All channels in both trip systems shall be tested within two test intervals.

1. Reactor High Pressure (02-3PT-55A, B, C, D) *
2. Drywell High Pressure (05PT-12A, B, C, D)
3. Reactor Water Level-Low (L3) (02-3LT-101A, B, C, D) *
4. Main Steam Line Isolation Valve Closure
   (29PNS-80A2, B2, C2, D2)
   (29PNS-86A2, B2, C2, D2)
5. Turbine Stop Valve Closure (94PNS-101, 102, 103, 104)
6. Turbine Control Valve Fast Closure (94PS-200A, B, C, D)
7. APRM Fixed High Neutron Flux
8. APRM Flow Referenced Neutron Flux

INSERT "A"

4.1 BASES (cont'd)

The individual sensor response time may be measured by simulating a step change of the particular parameter. This method provides a conservative value for the sensor response time, and confirms that the instrument has retained its specified electromechanical characteristics. When sensor response time is measured independently, it is necessary to also measure the remaining portion of the response time in the logic train up to the time at which the scram pilot valve solenoids de-energize. The channel response time must include all component delays in the response chain to the ATTS output relay plus the design allowance for RPS logic system response time. A response time for the RPS logic relays in excess of the design allowance is acceptable provided the overall response time does not exceed the response time limits specified in the UFSAR. The basis for excluding the neutron detectors from response time testing is provided by NRC Regulatory Guide 1.118, Revision 2, section C.5.

INSERT "C"

The 18 month response time testing interval is based on NRC NUREG-0123, Revision 3, "Standard Technical Specifications," surveillance requirement 4.3.1.3.

Two instrument channels in Table 4.1-1 have not been included in Table 4.1-2. These are: mode switch in shutdown and manual scram. All of the devices or sensors associated with these scram functions are simple on-off switches and, hence, calibration during operation is not applicable.

B. The MFLPD is checked once per day to determine if the APRM scram requires adjustment. Only a small number of control rods are moved daily and thus the MFLPD is not expected to change significantly and thus a daily check of the MFLPD is adequate.

The sensitivity of LPRM detectors decreases with exposure to neutron flux at a slow and approximately constant rate. This is compensated for in the APRM system by calibrating twice a week using heat balance data and by calibrating individual LPRM's every 1000 effective full power hours, using TIP traverse data.

Amendment No. ~~44, 89, 134, 183, 227~~ 1

NYPA JAF ORG 315 349 6363 05-28-98 13:09 [48] #24/26

3.2 LIMITING CONDITIONS FOR OPERATION

3.2 INSTRUMENTATION

Applicability:

Applies to the plant instrumentation which either (1) initiates and controls a protective function, or (2) provides information to aid the operator in monitoring and assessing plant status during normal and accident conditions.

Objective:

To assure the operability of the aforementioned instrumentation.

Specifications:

A. Primary Containment Isolation Functions

When primary containment integrity is required, the limiting conditions of operation for the instrumentation that initiates primary containment isolation are given in Table 3.2-1.

4.2 SURVEILLANCE REQUIREMENTS

4.2 INSTRUMENTATION

Applicability:

Applies to the surveillance requirement of the instrumentation which either (1) initiates and controls protective function, or (2) provides information to aid the operator in monitoring and assessing plant status during normal and accident conditions.

Objective:

To specify the type and frequency of surveillance to be applied to the aforementioned instrumentation.

Specifications:

A. Primary Containment Isolation Functions

Instrumentation shall be functionally tested and calibrated as indicated in Table 4.2-1. System logic shall be functionally tested as indicated in Table 4.2-1.

The response time of the main steam isolation valve actuation instrumentation isolation trip functions listed below shall be demonstrated to be within their limits at least once per 18 months. Each test shall include at least one channel in each trip system. All channels in both trip systems shall be tested within two test intervals.

1. MSIV Closure - Reactor Low Water Level (L1) *
   (02-3LT-57A,B and 02-3LT-58A,B)
2. MSIV Closure - Low Steam Line Pressure *
   (02PT-134A,B,C,D)
3. MSIV Closure - High Steam Line Flow *
   (02DPT-116A-D, 117A-D, 118A-D, 119A-D)

INSERT "B"

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4.2 BASES

The instrumentation listed in Tables 4.2-1 through 4.2-8 will be functionally tested and calibrated at regularly scheduled intervals. The same design reliability goal as the Reactor Protection System is generally applied. Sensors, trip devices and power supplies are tested, calibrated and checked at the same frequency as comparable devices in the Reactor Protection System.

The surveillance test interval for the instrumentation channel functional tests are once/three months for most instrumentation. This surveillance interval is based on the following NRC approved licensing topical reports:

1. GE Topical Report NEDC-30851P-A, "Technical Specification Improvement Analysis for BWR Reactor Protection System," March 1988.

2. GE Topical Report NEDC-30851P-A, Supplement 1 "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation," October 1988.

3. GE Topical Report NEDC-30851P-A, Supplement 2 "Technical Specification Improvement Analysis for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation," July 1986.

4. GE Topical Report NEDC-31677P-A, "Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation," July 1990.

5. 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.

6. 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," December 1992.

7. 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.

The measurement of the response time interval for the Main Steam Isolation Valve (MSIV) isolation actuation instrumentation begins when the monitored parameter exceeds the isolation actuation setpoint at the channel sensor and ends when the MSIV pilot solenoid relay contacts open. With the exception of the MSIVs, response time testing is not required for any other primary containment isolation actuation instrumentation. The safety analyses results are not sensitive to individual sensor response times of the logic systems to which the sensors are connected for isolation actuation instrumentation.

INSERT "D"

NYPA JAF ORG 315 349 6363 05-29-96 13:11 [48] #26/26

Insert A:

"* Sensor is eliminated from response time testing for the RPS actuation logic circuits. Response time testing and conformance to the test acceptance criteria for the remaining channel components includes trip unit and relay logic."

Insert B:

"* Sensor is eliminated from response time testing for the MSIV actuation logic circuits. Response time testing and conformance to the test acceptance criteria for the remaining channel components includes trip unit and relay logic."

Insert C:

"The sensors for the Reactor High Pressure and Reactor Water Level - Low (L3) trip functions are exempted from response time testing based on analyses provided in NEDO-32291-A, "System Analyses for the Elimination of Selected Response Time Testing."

Insert D:

"The sensors for the MSIV action isolation t rip functions are exempted from response time testing based on analyses provided in NEDO-32291-A, "System Analyses for the Elimination of Selected Response Time Testing."

Attachment IV to JPN-96-024

LIST OF COMMITMENTS

RESPONSE TIME TESTING REQUIREMENTS

(JPTS-96-006)

Commitment No.	Description	Due Date
JPN-96-024-01	Prior to installation of new transmitters/switches or following maintenance of transmitters/switches in selected instrument loops addressed in NEDO-32291-A, a hydraulic response time test (RTT) shall be conducted to determine the initial sensor specific response time value. Procedures will be changed to incorporate this method following amendment issuance.	Within 30 days of amendment issuance
JPN-96-024-02	Applicable calibration procedures will be revised to include steps for fast ramp or step change to the input of the system components during calibrations. These steps will be placed after test equipment hook-up and before the instrument is calibrated. The revision will ensure that the test is performed in a manner that allows simultaneous monitoring of both input and output of channel under test and that technicians are aware of, and monitor for, response time degradation.	Procedures to be revised prior to next performance, with all procedures completed within 30 days of amendment issuance