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U.S. Nuclear Regulatory Commission
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James A. FitzPatrick Nuclear Power Plant
Renewed Facility Operating License No. DPR-59
NRC Docket No. 50-333

Subject: Propose Change to Eliminate Selected Response Time Testing for Reactor Protection System and Primary Containment Isolation Instrumentation

References:

1. James A. FitzPatrick Nuclear Power Plant Docket No. 50-333 "Proposed Change to the Technical Specifications Regarding Response Time testing requirements (JPTS-96-005), letter dated May 30, 1996

2. Issuance of Amendment for James A. FitzPatrick Nuclear Power Plant (TAC No. M95524), dated October 28, 1996

3. BWR Owner's Group Licensing Topical Report (NEDO-32291-A) "System Analyses for the Elimination of Selected Response Time Testing requirements," dated October 1995

4. Letter from U.S. NRC to BWR Owner's Group Documenting NRC Review of NEDO-32291-A, Dated December 28, 1994

5. BWR Owner's Group Licensing Topical Report (NEDO-32291-A Supplement 1) "System Analyses for the Elimination of Selected Response Time Testing requirements," dated October 1999

6. Letter from U. S. NRC to W. Glenn Warren (BWR Owners' Group), "Review of Boiling Water Reactor Owners Group (BWROG) Licensing Topical Report NED0-32291, Supplement 1, System Analyses for Elimination of Selected Response Time Testing Requirements," dated June 11, 1999

Pursuant to 10 CFR 50.90, "Application for amendment of license or construction permit, or early site permit," Exelon Generation Company, LLC (Exelon), proposes changes to the Technical Specifications (TS), Appendix A of Renewed Facility Operating License No. DPR-59 for James A. FitzPatrick Nuclear Power Plant (JAF). The proposed changes would modify the TS to eliminate selected response time testing (RTT) requirements associated

with Reactor Protection System instrumentation and Primary Containment Isolation Instrumentation for Main Steam Line Isolation functions. The proposed changes are consistent with the BWR Owners' Group Licensing Topical Report (Reference 5) as approved by the NRC (Reference 6).

Reference 3 established a generic basis for elimination of many RTTs for instrument loops that had good performance histories and longer response time requirements. The justification was based on the adequacy of surveillance tests other than RTTs to assure that response time requirements were met for sensors in those loops. Supplement 1 to Reference 3 (Reference 5) was prepared to document an analysis to extend the conclusions of the original study to cover the logic components in selected instrumentation loops that have intermediate length response time requirements. The intent was to demonstrate that elimination of the RTT requirements for the logic portions of those loops is of no safety significance. Reference 5 concluded, for instrument loops meeting the application criteria of the Licensing Topical Report, that performance of ongoing TS required surveillance tests other than RTTs (i.e., calibration tests, functional tests, and logic system functional tests) provides adequate assurance that those instrument loops will meet their respective response time requirements.

The enclosure provides a description and safety assessment of the proposed changes for JAF. Attachment 1 provides the marked up TS pages for the proposed changes. Attachment 2 provides the associated marked up TS Bases pages and is provided for information only.

The proposed changes have been reviewed and approved by the site's Plant Operations Review Committee in accordance with the requirements of the Exelon Quality Assurance Program.

Exelon requests approval of the proposed amendments by July 17, 2022. Exelon is requesting a shorter review period based on the desire to implement the proposed changes prior to the next refueling outage. Once approved, the amendments shall be implemented within 45 days.

In accordance with 10 CFR 50.91, "Notice for public comment; State consultation," paragraph (b), Exelon is notifying the State of New York of this application for license amendments by transmitting a copy of this letter and its attachments to the designated State Official.

Should you have any questions concerning this letter, please contact Christian Williams at 610-765-5729.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 18th day of October 2021.

Respectfully,

David T. Gudger

David T. Gudger
Senior Manager - Licensing
Exelon Generation Company, LLC

Enclosure: Description and Assessment

Attachments: 1. Proposed Technical Specification Changes (Mark-Up)
2. Proposed Technical Specification Bases Changes (Mark-Up) – For Information Only

cc: Regional Administrator – NRC Region I w/ Attachments
NRC Senior Resident Inspector – JAF "
NRC Project Manager, NRR "
A. L. Peterson, NYSERDA "
B. Frymire, NYSPSC "

ENCLOSURE

James A. FitzPatrick Nuclear Power Plant
Renewed Facility Operating License No. DPR-59
NRC Docket No. 50-333

Evaluation of Proposed Changes

Subject: Request for Technical Specification Changes to Eliminate Selected Response Time Testing Requirements

1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, Exelon Generation Company, LLC (Exelon), requests the following amendment to Appendix A, Technical Specifications (TS), of Renewed Facility Operating License No. DPR-59 for James A. FitzPatrick Nuclear Power Plant (JAF).

The proposed changes would modify the TS to eliminate the response time testing (RTT) requirements for TS Section 3.3.1.1, “Reactor Protection System (RPS) Instrumentation,” Reactor Pressure – High function, Reactor Vessel Water Level – Low (Level 3) function and TS Section 3.3.6.1, "Primary Containment Isolation Instrumentation" Reactor Vessel Water Level – Low Low Low (Level 1) function, Main Steam Line Pressure – Low function and Main Steam Line Flow – High function. The proposed changes are consistent with the BWR Owner’s Group Licensing Topical report (Reference 5) as approved by the Nuclear Regulatory Commission (NRC) (Reference 6).

Elimination of the response time testing requirements will result in significant improvement in plant safety by: (1) minimizing the time when safety systems are out of service or otherwise incapable of responding to a degraded plant condition; (2) reducing the potential for inadvertent essential safety function (ESF) actuations; (3) reducing the complexity of refuel outages and thus reducing shutdown risk; (4) reducing personnel radiation exposure; and, (5) allowing critical personnel to be used for more significant tasks.

2.0 DETAILED DESCRIPTION

2.1 TS Section 3.3.1.1, Table 3.3.1.1-1 Function 3, “Reactor Pressure – High” specifies SR 3.3.1.1.15 as applicable to this function. Function 3 is being revised to delete the applicability of SR 3.3.1.1.15.

2.2 TS Section 3.3.1.1, Table 3.3.1.1-1 Function 4, “Reactor Vessel Water Level – Low (Level 3)” specifies SR 3.3.1.1.15 as applicable to this function. Function 4 is being revised to delete the applicability of SR 3.3.1.1.15.

2.3 TS Section 3.3.6.1, Table 3.3.6.1-1 Function 1.a, "Reactor Vessel Water Level - Low Low Low, (Level 1)" specifies SR 3.3.6.1.8 as applicable to this function. Function 1.a is being revised to delete the applicability of SR 3.3.6.1.8.

2.4 TS Section 3.3.6.1, Table 3.3.6.1-1 Function 1.b, "Main Steam Line Pressure - Low," specifies SR 3.3.6.1.8 as applicable to this function. Function 1.b is being revised to delete the applicability of SR 3.3.6.1.8.

2.5 TS Section 3.3.6.1, Table 3.3.6.1-1 Function 1.c, "Main Steam Line Flow - High," specifies SR 3.3.6.1.8 as applicable to this function. Function 1.b is being revised to delete the applicability of SR 3.3.6.1.8.

2.6 Surveillance Requirement (SR) 3.3.6.1.8 is deleted in its entirety as the above referenced functions are the only Primary Containment Isolation Instrumentation functions to which SR 3.3.6.1.8 apply.

In addition, the TS Bases will be revised to reflect the above proposed changes.

3.0 TECHNICAL EVALUATION

3.1 Background:

In January 1994, the Boiling Water Reactor Owners' Group {BWROG) issued Licensing Topical Report (LTR) NEDO-32291 (Reference 3). In this LTR. The BWROG proposed eliminating the requirements for performance of Response Time Testing (RTT) of selected instrumentation in the RPS, Emergency Core Cooling System (ECCS), and Isolation Actuation Signal (IAS). The NRC approved the LTR in an SER dated December 28, 1994 (Reference 4). Reference 3 established a generic basis for elimination of selected RTT requirements for instrument loops that had good performance histories and longer response time requirements. The result of this effort was a significant reduction of testing which was shown by the study to be unnecessary.

By letter dated May 30, 1996, JAF (then part of the Power Authority of the State of New York (PASNY)) proposed an amendment to its TS to eliminate selected response time testing (RTT) requirements for certain sensors and specified loop instrumentation (Reference 1). The proposed changes were supported by analyses performed by the Boiling Water Reactor Owners Group (BWROG) Topical Report. This request was approved by the Nuclear Regulatory Commission (NRC) on October 28, 1996 (Reference 2).

The BWROG subsequently issued Supplement 1 to Reference 3 on November 4, 1997 (Reference 5). The LTR supplement documents the results of the second phase of the BWROG Response Time Testing Committee's study to identify ways to further eliminate RTT requirements. With only a few exceptions, the study results documented in Reference 5 cover all RPS and IAS instrumentation loops with response time requirements in the intermediate response time range (i.e., 300 to 5000 msec) that were not considered in the first phase of the study documented in Reference 3. This generic LTR Supplement documented an analysis to extend the conclusions of the original study to cover logic components in selected instrumentation loops to demonstrate that elimination of the RTT requirements for the logic portions of those loops is of no safety significance. In Reference 6, the NRC documented their review of Reference 5 and the determination that the LTR Supplement provided an acceptable basis for eliminating selected RTT from TS for the instruments/components identified in the supplement.

3.2 Justification

Consistent with Reference 3, the supplement to NEDO-32291-A (Reference 1) utilized the requirements of Institute of Electrical and Electronics Engineers (IEEE) Standard 338-1977, "Criteria for Periodic Testing of Nuclear Power Generating Station Safety Systems," as endorsed by NRC Regulatory Guide 1.118, "Periodic Testing of Electric Power and Protection Systems," which states the following:

> "Response time testing of all safety-related equipment, per se, is not required if, in lieu of response time testing, the response time of the safety 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."

The analysis contained in Reference 3 provides the basis for eliminating selected response time testing requirements. The analysis was performed for BWRs, and its applicability to JAF has

been verified with regards to the proposed TS changes. JAF participated in the development of Reference 3 as documented in Appendix A of the NEDO document.

The BWROG analysis includes the identification of potential failure modes of components in the affected instrumentation loops that could potentially impact the instrument loop response time. In addition, plant operating experiences were reviewed to identify response time failures and how they were detected. The failure modes identified were evaluated to determine if the effect on response time would be detected by other testing requirements contained in the TS.

The results of the BWROG analysis demonstrate that any credible failure of the instrument loop components would either be bounded by a bounding response time (BRT) or would be detected by other TS testing requirements, such as a channel calibration, channel check, channel functional test, or logic system functional test. These other testing requirements are sufficient to identify failure modes or degradations in instrument response times and assure operation of the analyzed instrument loops are within acceptance limits. Furthermore, the BWROG has described various defense in depth issues (Reference 1) which clearly demonstrate that from a realistic basis, there is no safety significance even if instrumentation loop response times are significantly longer than the loop BRTs. Therefore, potential errors in the conclusions of the analysis and BRTs resulting from unanticipated failure modes of components do not affect the overall conclusion that elimination of the identified response time testing requirements has no substantial detrimental impact on plant safety.

A review of utility-supplied information for the loops included in the Reference 1 study was performed to identify the individual components comprising each of the instrument loops. Components with sufficiently similar design and construction features were grouped together into a component set for which a common Failure Modes and Effects Analysis (FMEA) was performed.

The BWROG utilized the results of the FMEAs, in conjunction with industry failure experience and component specifications, requirements, and performance test results, to establish a BRT. The BRT is the maximum response time expected for any component in the set that could result from credible “undetected" component failures or degradation. Undetected component failures and degradations as used in Reference 1 are failures and degradations that are not expected to be detected either by immediate trip or by periodic surveillance actions other than response time testing. Response time increases up to the BRT may go undetected, but it is expected that any failure or degradation that results in a response time larger than the BRT will be detected by one or more surveillance actions other than response time testing. The BRT is established based on the assumption that specific RTT is not performed for the loop or component.

The BRT for each evaluated channel is determined by the summation of the individual component responses in the trip system actuation logic. In accordance with Reference 1 Section 8.5.1, the limiting BRT for the sensors is derived from the current RTT acceptance criteria. This value plus the sum of the channel relay BRTs is then compared to the current RTT limit required by the applicable RTT surveillance procedure.

JAF analyzed the functions stated below to confirm the applicability of NEDO-32291-A Supplement 1. The functions/loops analyzed are as a follow:

- Reactor Pressure – High
- Reactor Vessel Water Level Low – Level 3

- Reactor Vessel Water Level Low Low Low – Level 1
- Main Steam Line Pressure – Low
- Main Steam Line Flow – High

The following equipment requirements are applicable to all five (5) sections below.

Equipment Requirements

NEDO-32291-A Supplement 1 lists the following requirements for the usage of the Bounding Response Time data for removal of the RTT from the Technical Specifications and Technical Specification Bases:

Rosemount 510DU and 710DU Trip Units must meet the following requirements:

- The trip units are procured by the utility as nuclear safety related or dedicated for nuclear safety related application under a utility dedication program.

Agastat EGPB relays must meet the following requirements:

- Prior to installation or after any maintenance or repair of the relays, the normally open contacts of the relay are confirmed to open in 70 milliseconds or less after power is removed from the coil.
- The relays are within their qualified life.
- The relays are procured by the utility as nuclear Safety Related or dedicated for nuclear Safety Related application under a utility dedication program.

GE HFA Relays must meet the following requirements

- The HFA manufacturer's instructions are followed for setup and adjustment of the relay prior to the initial operation and after any repair or maintenance
- Prior to installation or after any maintenance or repair of the relays, the normally open contacts of the relays are confirmed to open in 20 milliseconds or less after power is removed from the coil.
- The relays are procured by the utility as nuclear Safety Related or dedicated for nuclear Safety Related application under a utility dedication program.

For SCRAM Contactors:

- The plant performs the APRM upscale SCRAM trip RTT with a loop acceptance criterion of 90 milliseconds maximum AND the APRM RTT includes the APRM electronics and at least one interposing relay, not shared by the other loops, between the APRM output and the RPS SCRAM contactor.

  OR

- If the APRM RTT is completed in phases, the maximum undetected response time of the SCRAM contactors is 45 milliseconds, provided the acceptance criteria is 50 milliseconds maximum for that phase that includes the SCRAM contactor and at least one interposing relay not shared by the other loops.

3.2.1 REACTOR PRESSURE – HIGH

The Reactor Pressure High sensors provide input to the RPS Scram Contactors when the pressure in the
reactor rises above the determined setpoint. Equipment in the Reactor Pressure loops are listed in Table 3.2.1-1 below.

Table 3.2.1-1: Reactor Pressure Loop Equipment and Models

Sensor	MTU	TU Output Relay	Logic Relay	Output Relay
02-3PT-55A	02-3MTU-255A (Rosemount 710DU)	05A-K101A (Agastat EGPB)	05A-K5A (HFA)	05A-K14A/E (RPS SCRAM Contactor)
02-3PT-55B	02-3MTU-255B (Rosemount 710DU)	05A-K101B (Agastat EGPB)	05A-K5B (HFA)	05A-K14B/F (RPS SCRAM Contactor)
02-3PT-55C	02-3MTU-255C (Rosemount 710DU)	05A-K101C (Agastat EGPB)	05A-K5C (HFA)	05A-K14C/G (RPS SCRAM Contactor)
02-3PT-55D	02-3MTU-255D (Rosemount 710DU)	05A-K101D (Agastat EGPB)	05A-K5D (HFA)	05A-K14D/H (RPS SCRAM Contactor)

The components in these loops have been analyzed in NEDO-32291-A Supplement 1. See Section 6.1 of NEDO-32291-A Supplement 1 for details.

These components arranged as shown on the loop drawings and schematics listed in Section 4 match the “Loop Type H” as described in Section 6.2 of NEDO-32291-A.

Since the equipment installed in the plant matches the NEDO analyzed configuration, the plant procedures may be compared to the NEDO procedures to determine if they can be applied directly, or if modifications are required to implement the results of the report.

Bounding Response Time

The Bounding Response Time (BRT) for a component is the maximum response time that could result from credible, undetected, component failures or degradation. Per NEDO-32291-A Supplement 1, these failures or degradation are not expected to be detectable by any actions other than period Response Time Testing. Failures that result in a response time higher than the BRT are considered detectable by periodic surveillance other than the RTT. The BRT for each component type has been determined in NEDO-32291-A Supplement 1 via FMEA, component specifications, and industry experience. In order to use the determined BRTs, certain procedural requirements must be met. See Section 3.2 for Equipment Requirements.

Table 3.2.1-2: Selected Equipment BRT from NEDO-32291-A, Supplement 1

Component Set	Abbreviation	Bounding Response Time
Agastat Relays	Agastat	140 milliseconds
GE HFA Relays	HFA	40 milliseconds
Trip Units	TU	24 milliseconds
RPS SCRAM Contactor	Contactor	45 milliseconds

The BRTs for each component in the loop may be combined together to calculate a BRT for the entire loop logic. Loop type and Loop Logic BRT are taken from NEDO-32291-A Supplement 1, Table 6-2.

Table 3.2.1-3: Selected Loop BRT from NEDO-32291-A, Supplement 1

Loop Type	Trip Unit	TU Output Relay	Logic Relay	Output Relay	Loop Logic BRT
H	TU (24 ms)	Agastat (140 ms)	HFA (40 ms)	Contactor (45 ms)	249 ms

The difference between the loop maximum allowable response time and the Loop Logic BRT above is considered the maximum allowable Loop Sensor BRT. If the Loop Sensor has a lower BRT than this difference, then the entire loop response time requirements will be met without performance of periodic RTT. For the RPS Reactor Vessel Pressure - High Loops, the required response time of the trip equipment is 550 milliseconds per the JAF Final Safety Analysis Report (FSAR) Table 7.2-5. Note 3 on this table states the following regarding the response time: “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.”

Based on the information above, the sensor BRT is calculated as (550 – 249) = 301 milliseconds.

The sensor for the Reactor Pressure loops is a Rosemount 1153 transmitter that has a BRT of 200 milliseconds per ISP-104A/B. This sensor BRT was determined previously when JAF submitted a Technical Specification (TS) amendment to remove RTT for the sensors of the loops considered in this report under NEDO-32291-A. See JAF TS amendment 235 for additional details. As the sensor BRT is lower that the allowable sensor BRT, NEDO-32291-A Supplement 1 allows us to conclude that surveillance tests other than RTT are sufficient to ensure that the FSAR listed loop response time requirements are met.

3.2.2 REACTOR WATER LEVEL LOW – LEVEL 3:

The Reactor Water Level Low – Level 3 sensors provide input to the RPS Scram Contactors when the water level in the reactor drops below the Level 3 setpoint. Equipment in the Reactor Water Level 3 loops are listed in Table 3.2.2-1 below.

Table 3.2.2-1: Reactor Water Level 3 Equipment and Models

Sensor	MTU	TU Output Relay	Logic Relay	Output Relay
02-3LT-101A	02-3MTU-201A (Rosemount 710DU)	05A-K102A (Agastat EGPB)	05A-K6A (HFA)	05A-K14A/E (RPS SCRAM Contactor)
02-3LT-101B	02-3MTU-201B (Rosemount 710DU)	05A-K102B (Agastat EGPB)	05A-K6B (HFA)	05A-K14C/G (RPS SCRAM Contactor)
02-3LT-101C	02-3MTU-201C (Rosemount 710DU)	05A-K102C (Agastat EGPB)	05A-K6C (HFA)	05A-K14B/F (RPS SCRAM Contactor)
02-3LT-101D	02-3MTU-201D (Rosemount 710DU)	05A-K102D (Agastat EGPB)	05A-K6D (HFA)	05A-K14D/H (RPS SCRAM Contactor)

The components in these loops have been analyzed in NEDO-32291-A Supplement 1. See Section 6.1 of NEDO-32291-A Supplement 1 for details.

These components arranged as shown on the loop drawings and schematics listed in Section 4 match the “Loop Type H” as described in Section 6.2 of NEDO-32291-A.

Since the equipment installed in the plant matches the NEDO analyzed configuration, the plant procedures may be compared to the NEDO procedures to determine if they can be applied directly, or if modifications are required to implement the results of the report.

Bounding Response Time

The Bounding Response Time (BRT) for a component is the maximum response time that could result from credible, undetected, component failures or degradation. Per NEDO-32291-A Supplement 1, these failures or degradation are not expected to be detectable by any actions other than period Response Time Testing. Failures that result in a response time higher than the BRT are considered detectable by periodic surveillance other than the RTT. The BRT for each component type has been determined in NEDO-32291-A Supplement 1 via FMEA, component specifications, and industry experience. In order to use the determined BRTs, certain procedural requirements must be met. See Section 3.2 for Equipment Requirements.

Table 3.2.2-2: Selected Equipment BRT from NEDO-32291-A, Supplement 1

Component Set	Abbreviation	Bounding Response Time
Agastat Relays	Agastat	140 milliseconds
GE HFA Relays	HFA	40 milliseconds
Trip Units	TU	24 milliseconds
RPS SCRAM Contactor	Contactor	45 milliseconds

The BRTs for each component in the loop may be combined together to calculate a BRT for the entire loop logic. Loop type and Loop Logic BRT are taken from NEDO-32291-A Supplement 1, Table 6-2.

Table 3.2.2-3: Selected Loop BRT from NEDO-32291-A, Supplement 1

Loop Type	Trip Unit	TU Output Relay	Logic Relay	Output Relay	Loop Logic BRT
H	TU (24 ms)	Agastat (140 ms)	HFA (40 ms)	Contactor (45 ms)	249 ms

The difference between the loop maximum allowable response time and the Loop Logic BRT above is considered the maximum allowable Loop Sensor BRT. If the Loop Sensor has a lower BRT than this difference, then the entire loop response time requirements will be met without performance of periodic RTT. For the RPS Reactor Water Level – Level 3 Loops, the required response time of the trip equipment is 1050 milliseconds per the JAF FSAR Table 7.2-5. Note 3 on this table states the following regarding the response time: "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."

Based on the information above, the sensor BRT is calculated as (1050 – 249) = 801 milliseconds.

The sensor for the Reactor Water Level loops is a Rosemount 1153 transmitter that has a BRT of 500 milliseconds per ISP-102A/B. This sensor BRT was determined previously when JAF submitted a Technical Specification amendment to remove RTT for the sensors of the loops considered in this report under NEDO-32291-A. See JAF TS amendment 235 for additional details. As the sensor BRT is lower that the allowable sensor BRT, NEDO-32291-A Supplement 1 allows us to conclude that surveillance tests other than RTT are sufficient to ensure that the FSAR listed loop response time requirements are met.

3.2.3 MAIN STEAM FLOW – HIGH

Loop Equipment

The Main Steam Line Flow sensors provide input to the MSIV closure logic when the steam flow rate rises above the flow setpoint. Equipment in the MSIV Steam Flow loops are listed in Table 3.2.3-1 below.

Table 3.2.3-1: Main Steam Flow Loop Equipment and Models

Sensor	MTU	TU Output Relay	Logic Relay	Output Relay
02DPT-116A	02MTU-216A (Rosemount 710DU)	05A-K113A (Agastat EGPB)	16A-K3A (HFA)	16A-K7A (HFA)
02DPT-117A	02MTU-217A (Rosemount 710DU)	05A-K114A (Agastat EGPB)	16A-K3A (HFA)	16A-K7A (HFA)
02DPT-118A	02MTU-218A (Rosemount 710DU)	05A-K115A (Agastat EGPB)	16A-K3A (HFA)	16A-K7A (HFA)
02DPT-119A	02MTU-219A (Rosemount 710DU)	05A-K116A (Agastat EGPB)	16A-K3A (HFA)	16A-K7A (HFA)
02DPT-116B	02MTU-216B (Rosemount 710DU)	05A-K113B (Agastat EGPB)	16A-K3B (HFA)	16A-K7B (HFA)
02DPT-117B	02MTU-217B (Rosemount 710DU)	05A-K114B (Agastat EGPB)	16A-K3B (HFA)	16A-K7B (HFA)
02DPT-118B	02MTU-218B (Rosemount 710DU)	05A-K115B (Agastat EGPB)	16A-K3B (HFA)	16A-K7B (HFA)
02DPT-119B	02MTU-219B (Rosemount 710DU)	05A-K116B (Agastat EGPB)	16A-K3B (HFA)	16A-K7B (HFA)
02DPT-116C	02MTU-216C (Rosemount 710DU)	05A-K113C (Agastat EGPB)	16A-K3C (HFA)	16A-K7C (HFA)
02DPT-117C	02MTU-217C (Rosemount 710DU)	05A-K114C (Agastat EGPB)	16A-K3C (HFA)	16A-K7C (HFA)
02DPT-118C	02MTU-218C (Rosemount 710DU)	05A-K115C (Agastat EGPB)	16A-K3C (HFA)	16A-K7C (HFA)
02DPT-119C	02MTU-219C (Rosemount 710DU)	05A-K116C (Agastat EGPB)	16A-K3C (HFA)	16A-K7C (HFA)
02DPT-116D	02MTU-216D (Rosemount 710DU)	05A-K113D (Agastat EGPB)	16A-K3D (HFA)	16A-K7D (HFA)
02DPT-117D	02MTU-217D (Rosemount 710DU)	05A-K114D (Agastat EGPB)	16A-K3D (HFA)	16A-K7D (HFA)
02DPT-118D	02MTU-218D (Rosemount 710DU)	05A-K115D (Agastat EGPB)	16A-K3D (HFA)	16A-K7D (HFA)
02DPT-119D	02MTU-219D (Rosemount 710DU)	05A-K116D (Agastat EGPB)	16A-K3D (HFA)	16A-K7D (HFA)

The components in these loops have been analyzed in NEDO-32291-A Supplement 1. See Section 6.1 of NEDO-32291-A Supplement 1 for details on the analyzed equipment types.

These components arranged as shown on the loop drawings listed in Section 4 match the "Loop Type E" as described in Section 6.2 of NEDO-32291-A Supplement 1.

Since the equipment installed in the plant matches the NEDO analyzed configuration, the plant procedures may be compared to the NEDO procedures to determine if they can be applied directly, or if modifications are required to implement the results of the report.

Bounding response Time

The Bounding Response Time (BRT) for a component is the maximum response time that could result from credible, undetected, component failures or degradation. Per NEDO-32291-A Supplement 1, these failures or degradation are not expected to be detectable by any

actions other than periodic RTT. Failures that result in a response time higher than the BRT are considered detectable by periodic surveillance other than the RTT. The BRT for each component type has been determined in NEDO-32291-A Supplement 1 via Failure Modes and Effects Analysis (FMEA), component specifications, and industry experience. In order to use the determined BRTs, certain procedural requirements must be met. See Section 3.2 for Equipment Requirements.

Table 3.2.3-2: Selected Equipment BRT from NEDO-32291-A, Supplement 1

Component Set	Abbreviation	Bounding Response Time
Agastat Relays	Agastat	140 milliseconds
GE HFA Relays	HFA	40 milliseconds
Trip Units	TU	24 milliseconds

The BRTs for each component in the loop may be combined together to calculate a BRT for the entire loop logic. Loop type and Loop Logic BRT are taken from NEDO-32291-A Supplement 1, Table 6-2.

Table 3.2.3-3: Selected Loop BRT from NEDO-32291-A, Supplement 1

Loop Type	Trip Unit	TU Output Relay	Logic Relay	Output Relay	Loop Logic BRT
E	TU (24 ms)	Agastat (140 ms)	HFA (40 ms)	HFA (40 ms)	244 ms

The difference between the loop maximum allowable response time and the Loop Logic BRT above is considered the maximum allowable Loop Sensor BRT. If the Loop Sensor has a smaller BRT than this difference, then the entire loop response time requirements will be met without periodic RTT.

For the MSIV Main Steam Flow - High Loops, the required response time of the trip equipment is 2500 milliseconds per the JAF Final Safety Analysis Report (FSAR) Table 7.3-12. The Note on this table states the following regarding the response time:

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

Based on the information above, the sensor BRT is calculated as (2500 – 244) = 2256 milliseconds.

The sensor for the Steam Flow loops is a Rosemount 1153 transmitter that has a BRT of 700 milliseconds per ISP-106A/B. This sensor BRT was determined previously when JAF submitted a TS amendment to remove RTT for the sensors of the loops considered in this report under NEDO-32291-A. See JAF TS amendment 235 for additional details.

As the sensor BRT is lower that the allowable sensor BRT, NEDO-32291-A Supplement 1 allows us to conclude that surveillance tests other than RTT are sufficient to ensure that the FSAR listed loop response time requirements are met.

3.2.4 MAIN STEAM PRESSURE - LOW

Loop Equipment

The Main Steam Pressure Low sensors provide input to the MSIV closure logic when the pressure in the main steam lines drops below the setpoint. Equipment in the Main Steam Pressure - Low loops are listed in Table 3.2.4-1 below.

Table 3.2.4-1 Main Steam Pressure – Low Equipment and Models

Sensor	MTU	TU Output Relay	Logic Relay	Output Relay
02PT-134A	02MTU-234A (Rosemount 710DU)	05A-K121A (Agastat EGPB)	16A-K4A (HFA)	16A-K7A (HFA)
02PT-134B	02MTU-234B (Rosemount 710DU)	05A-K121B (Agastat EGPB)	16A-K4B (HFA)	16A-K7B (HFA)
02PT-134C	02MTU-234C (Rosemount 710DU)	05A-K121C (Agastat EGPB)	16A-K4C (HFA)	16A-K7C (HFA)
02PT-134D	02MTU-234D (Rosemount 710DU)	05A-K121D (Agastat EGPB)	16A-K4D (HFA)	16A-K7D (HFA)

The components in these loops have been analyzed in NEDO-32291-A Supplement 1. See Section 6.1 of NEDO-32291-A Supplement 1 for details.

These components arranged as shown on the loop drawings and schematics listed in Section 5 match the “Loop Type E” as described in Section 6.2 of NEDO-32291-A Supplement 1.

Since the equipment installed in the plant matches the NEDO analyzed configuration, the plant procedures may be compared to the NEDO procedures to determine if they can be applied directly, or if modifications are required to implement the results of the report.

Bounding response Time

The BRT for a component is the maximum response time that could result from credible, undetected, component failures or degradation. Per NEDO-32291-A Supplement, these failures or degradation are not expected to be detectable by any actions other than period Response Time Testing. Failures that result in a response time higher than the BRT are considered detectable by periodic surveillance other than the RTT. The BRT for each component type has been determined in NEDO-32291-A Supplement 1 via FMEA, component specifications, and industry experience. In order to use the determined BRTs, certain procedural requirements must be met. See Section 3.2 for Equipment Requirements.

Table 3.2.4-2: Selected Equipment BRT from NEDO-32291-A, Supplement 1

Component Set	Abbreviation	Bounding Response Time
Agastat Relays	Agastat	140 milliseconds
GE HFA Relays	HFA	40 milliseconds
Trip Units	TU	24 milliseconds

The BRTs for each component in the loop may be combined together to calculate a BRT for the entire loop logic. Loop type and Loop Logic BRT are taken from NEDO-32291-A Supplement 1, Table 6-2.

Table 3.2.4-3: Selected Loop BRT from NEDO-32291-A, Supplement 1

Loop Type	Trip Unit	TU Output Relay	Logic Relay	Output Relay	Loop Logic BRT
E	TU (24 ms)	Agastat (140 ms)	HFA (40 ms)	HFA (40 ms)	244 ms

The difference between the loop maximum allowable response time and the Loop Logic BRT above is considered the maximum allowable Loop Sensor BRT. If the Loop Sensor has a lower BRT than this difference, then the entire loop response time requirements will be met without periodic RTT.

For the MSIV Main Steam Pressure - Low loops, the required response time of the trip equipment is 1000 milliseconds per the JAF FSAR Table 7.3-12. The note on this table states the following regarding the response time:

“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.”

Based on the information above, the sensor BRT is calculated as (1000 – 244) = 756 milliseconds.

The sensor for the Main Steam Pressure - Low loops is a Rosemount 1153 transmitter that has a BRT of 200 milliseconds per ISP-105A/B. This sensor BRT was determined previously when JAF submitted a Technical Specification amendment to remove RTT for the sensors of the loops considered in this report under NEDO-32291-A. See JAF TS amendment 235 for additional details.

As the sensor BRT is lower that the allowable sensor BRT, NEDO-32291-A Supplement 1 allows us to conclude that surveillance tests other than RTT are sufficient to ensure that the FSAR listed loop response time requirements are met.

3.2.5 REACTOR WATER LEVEL LOW LOW LOW – LEVEL 1

Loop Equipment

The Reactor Water Level Low – Level 1 sensors provide input to the MSIV closure logic when the water level in the reactor drops below the Level 1 setpoint. Equipment in the Reactor Water Level 1 loops are listed in Table 3.2.5-1 below.

Table 3.2.5-1: Reactor Water Level 1 Equipment and Models

Sensor	MTU	TU Output Relay	Logic Relay	Output Relay
02-3LT-57A	02-3MTU-257A (Rosemount 710DU)	05A-K122A (Agastat EGPB)	16A-K1A (HFA)	16A-K7A (HFA)
02-3LT-57B	02-3MTU-257B (Rosemount 710DU)	05A-K122B (Agastat EGPB)	16A-K1B (HFA)	16A-K7B (HFA)
02-3LT-58A	02-3MTU-258A (Rosemount 710DU)	05A-K122C (Agastat EGPB)	16A-K1C (HFA)	16A-K7C (HFA)
02-3LT-58B	02-3MTU-258B (Rosemount 710DU)	05A-K122D (Agastat EGPB)	16A-K1D (HFA)	16A-K7D (HFA)

The components in these loops have been analyzed in NEDO-32291-A Supplement 1. See Section 6.1 of NEDO-32291-A Supplement 1 for details.

These components arranged as shown on the loop drawings and schematics listed in Section 5 match the “Loop Type E” as described in Section 6.2 of NEDO-32291-A Supplement 1.

Since the equipment installed in the plant matches the NEDO analyzed configuration, the plant procedures may be compared to the NEDO procedures to determine if they can be applied directly, or if modifications are required to implement the results of the report

Bounding Response time

The.BRT for a component is the maximum response time that could result from credible, undetected, component failures or degradation. Per NEDO-32291-A Supplement 1, these failures or degradation are not expected to be detectable by any actions other than period Response Time Testing. Failures that result in a response time higher than the BRT are considered detectable by periodic surveillance other than the RTT. The BRT for each component type has been determined in NEDO-32291-A Supplement 1 via FMEA, component specifications, and industry experience. In order to use the determined BRTs, certain procedural requirements must be met. See Section 3.2 for Equipment Requirements.

Table 3.2.5-2: Selected Equipment BRT from NEDO-32291-A, Supplement 1

Component Set	Abbreviation	Bounding Response Time
Agastat Relays	Agastat	140 milliseconds
GE HFA Relays	HFA	40 milliseconds
Trip Units	TU	24 milliseconds

The BRTs for each component in the loop may be combined together to calculate a BRT for the entire loop logic. Loop type and Loop Logic BRT are taken from NEDO-32291-A Supplement 1, Table 6-2

Table 3.2.5-3: Selected Loop BRT from NEDO-32291-A, Supplement 1

Loop Type	Trip Unit	TU Output Relay	Logic Relay	Output Relay	Loop Logic BRT
E	TU (24 ms)	Agastat (140 ms)	HFA (40 ms)	HFA (40 ms)	244 ms

The difference between the loop maximum allowable response time and the Loop Logic BRT above is considered the maximum allowable Loop Sensor BRT. If the Loop Sensor has a smaller BRT than this difference, then the entire loop response time requirements will be met without periodic RTT.

For the MSIV Reactor Water Level Low Low Low – Level 1 Loops, the required response time of the trip equipment is 1000 milliseconds per the JAF FSAR Table 7.3-12. The note on this table states the following regarding the response time:

“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.”

This sensor BRT was determined previously when JAF submitted a TS amendment to remove RTT for the sensors of the loops considered in this report under NEDO-32291-A. See JAF TS amendment 235 for additional details.

Based on the information above, the sensor BRT is calculated as (1000 – 244) = 756 milliseconds.

The sensor for the Reactor Water Level loops is a Rosemount 1153 transmitter that has a BRT of 200 milliseconds per ISP-103A/B. This sensor BRT was determined previously when JAF submitted a Technical Specification amendment to remove RTT for the sensors of the loops considered in this report under NEDO- 32291-A. See JAF TS amendment 235 for additional details.

As the sensor BRT is lower that the allowable sensor BRT, NEDO-32291-A Supplement 1 allows us to conclude that surveillance tests other than RTT are sufficient to ensure that the FSAR listed loop response time requirements are met.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

The proposed change has been evaluated to determine whether applicable regulations and requirements continue to be met. Exelon has determined that the proposed change does not require any exemptions or relief from regulatory·requirements, other than the Technical Specifications, and does not affect conformance with any General Design Criteria (GDC) differently than described in the JAF Updated Final Safety Analysis Report (UFSAR). Applicable regulatory requirements will continue to be met, adequate defense-in-depth will be maintained, and sufficient safety margins will be maintained. Exelon adherence to the conditions listed in the NRC Safety Evaluations for the NEDO-32291-A Supplement 1 provides additional assurance that the instrumentation systems will continue to meet the response time requirements of the accident analyses as defined in the UFSAR.

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 NRC'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.

4.2 Precedence

Similar License Amendment request:

The proposed changes are similar to license amendments issued for a number of other nuclear units. Specifically, the proposed amendment is similar to amendments issued for Fermi 2 via letter dated October 2, 2002; Edwin I. Hatch Nuclear Plant Unit 2 via letter dated May 17, 2002; Susquehanna Steam Electric Station Units 1 and 2, vial letter dated March 12, 2001, and LaSalle County Station, Units 1 and 2 via letter dated November 19, 2004.

4.3 No Significant Hazards Consideration

Exelon determined that the proposed change to eliminate Surveillance Requirement (SR) for Response Time Testing, SR 3.3.1.1.15, for function 3, Reactor Pressure – High, and function 4, Reactor Vessel Water Level – Low (level 3) as well as SR 3.3.6.1.8 from TS Section 3.3.6.1,Table 3.3.6.1-1 Functions 1a “Reactor Vessel Water Level – Low Low Low (level 1),” 1.b, "Main Steam Line Pressure - Low," and 1c “Main Steam Line Flow - High” does not involve a significant hazards consideration 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 amendment to the Technical Specifications (TS) eliminate Surveillance Requirement (SR) for Response Time Testing, SR 3.3.1.1.15, for function 3, Reactor Pressure – High, and function 4, Reactor Vessel Water Level – Low (level 3) as well as SR 3.3.6.1.8 from TS Section 3.3.6.1,Table 3.3.6.1-1 Functions 1a “Reactor Vessel Water Level – Low Low Low (level 1),” 1.b, "Main Steam Line Pressure - Low," and 1c “Main Steam Line Flow - High” is in accordance with NRC approved BWR Owner’s Group Licensing Topical report (NEDO-33291-A Supplement 1) “System Analyses for the Elimination of Selected Response Time Testing requirements,” dated October 1999.

The proposed change does not result in the alteration of the design, material, or construction standards that were applicable prior to the proposed change. The response time assumptions used in the accident analyses remain unchanged. Only the methodology used for response time verification is changed. As documented in the NEDO-33291-A and Supplement 1, a degraded response time will be detected by other TS required tests. The bounding response time of the relays discussed in the supplement 1 can be used in place of actual measured response times to ensure that the instrumentation systems will meet the response time requirements of the accident analysis. The proposed change will not result in the modification of any system interface that would increase the likelihood of an accident since these events are independent of the proposed change. In addition, the proposed amendment will not change, degrade, or prevent actions, or alter any assumptions previously made in evaluating the radiological consequences of an accident.

In summary, 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 amendment to the Technical Specifications (TS) to eliminate Surveillance Requirement (SR) for Response Time Testing, SR 3.3.1.1.15, for function 3, Reactor Pressure – High, and function 4, Reactor Vessel Water Level – Low (level 3) as well as SR 3.3.6.1.8 from TS Section 3.3.6.1,Table 3.3.6.1-1 Functions 1a “Reactor Vessel Water Level – Low Low Low (level 1),” 1.b, "Main Steam Line Pressure - Low," and 1c “Main Steam Line Flow - High” is in accordance with NRC approved BWR Owner’s Group Licensing Topical report (NEDO-33291-A Supplement 1) “System Analyses for the Elimination of Selected Response Time Testing requirements,” dated October 1999.

The proposed change does not involve physical alteration of the station. No new equipment is being introduced, and installed equipment is not being operated in a new or different manner. There are no setpoints at which protective or mitigative actions are initiated that are affected by this proposed action.

The proposed change does not alter assumptions made in the safety analysis. A review of the failure modes of the affected sensors and relays indicates that a sluggish response of the instruments can be detected by other TS surveillances.

The sensors and relays in the affected channels will be able to meet the bounding response times as defined and presented in NEDO-33291-A and Supplement 1. It has been found acceptable to use component bounding response times in place of actual measured response times to ensure that instrumentation systems will meet response time requirements of the

accident analyses. In addition, Exelon adherence to the conditions listed in the NRC Safety Evaluations for NEDO-33291-A and Supplement 1 provides additional assurance that the instrumentation systems will meet the response time requirements of the accident analyses.

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.

The proposed amendment to the Technical Specifications (TS) to eliminate Surveillance Requirement (SR) for Response Time Testing, SR 3.3.1.1.15, for function 3, Reactor Pressure – High, and function 4, Reactor Vessel Water Level – Low (level 3) as well 3.3.6.1.8 from TS Section 3.3.6.1,Table 3.3.6.1-1 Functions 1a “Reactor Vessel Water Level – Low Low Low (level 1),” 1.b, "Main Steam Line Pressure - Low," and 1c “Main Steam Line High Flow” is in accordance with NRC approved BWR Owner’s Group Licensing Topical report (NEDO-33291-A Supplement 1) “System Analyses for the Elimination of Selected Response Time Testing requirements,” dated October 1999.

The current response time limits are based on the maximum values assumed in the plant safety analyses, which conservatively establishes the margin of safety. The elimination of the selected response time testing does not affect the probability of the associated systems to perform their intended function within the allowed response time used as the basis for plant safety analyses. This is based on the ability to detect a degraded response time of an instrument or relay by the other required TS tests, component reliability, and redundancy and diversity of the affected functions, as justified in the reviewed and approved NEDO-33291-A Supplement 1.

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.

4.4 Conclusions

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.

5.0 ENVIRONMENTAL CONSIDERATION

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 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.

REFERENCES

1. James A. FitzPatrick Nuclear Power Plant Docket No. 50-333 “Proposed Change to the Technical Specifications Regarding Response Time testing requirements (JPTS-96-005), letter dated May 30, 1996.

2. Issuance of Amendment for James A. FitzPatrick Nuclear Power Plant (TAC No. M95524), dated October 28, 1996

3. BWR Owner’s Group Licensing Topical Report (NEDO-32291-A) “System Analyses for the Elimination of Selected Response Time Testing requirements,” dated October 1995

4. Letter from U.S. NRC to BWR Owner’s Group Documenting NRC Review of NEDO-32291-A, Dated December 28, 1994

5. BWR Owner’s Group Licensing Topical Report (NEDO-32291-A Supplement 1) “System Analyses for the Elimination of Selected Response Time Testing requirements,” dated October 1999

6. Letter from U. S. NRC to W. Glenn Warren (BWR Owners' Group), "Review of Boiling Water Reactor Owners Group (BWROG) Licensing Topical Report NED0-32291, Supplement 1, System Analyses for Elimination of Selected Response Time Testing Requirements," dated June 11, 1999

7. NUREG-1433, Standard Technical Specifications, General Electric BWR/4 Plants, Volume 1, Revision 4, dated April 2012

ATTACHMENT 1

Markup of Technical Specifications Pages

License Amendment Request to Eliminate Response Time Testing of the Main Steam Isolation Valves.

James A. FitzPatrick Nuclear Power Plant Renewed Facility Operating License No. DPR-59 NRC Docket No. 50-333

Unit 1 TS Pages

3.3.1.1-7
3.3.6.1-5
3.3.6.1-6

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Average Power Range Monitors (continued)					
c. Neutron Flux – High (Fixed)	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.9 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ 120% RTP
d. Inop	1,2	2	G	SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.13	NA
3. Reactor Pressure – High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.8 SR 3.3.1.1.10 SR 3.3.1.1.12 SR 3.3.1.1.13 ~~SR 3.3.1.1.15~~	≤ 1080 psig
4. Reactor Vessel Water Level – Low (Level 3)	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.8 SR 3.3.1.1.10 SR 3.3.1.1.12 SR 3.3.1.1.13 ~~SR 3.3.1.1.15~~	≥ 177 inches
5. Main Steam Isolation Valve – Closure	1	8	F	SR 3.3.1.1.4 SR 3.3.1.1.8 SR 3.3.1.1.12 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ 15% closed
6. Drywell Pressure – High	1,2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.8 SR 3.3.1.1.10 SR 3.3.1.1.12 SR 3.3.1.1.13 SR 3.3.1.1.15	≤ 2.7 psig

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.6.1.4	Calibrate the trip units.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.1.5	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.1.6	Calibrate the radiation detectors.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.1.7	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program
~~SR 3.3.6.1.8~~	~~NOTE~~ ~~"n" equals 2 channels for the purpose of determining the STAGGERED TEST BASIS Frequency.~~ ~~Verify the ISOLATION INSTRUMENTATION RESPONSE TIME is within limits.~~	~~In accordance with the Surveillance Frequency Control Program~~

Table 3.3.6.1-1 (page 1 of 6)
Primary Containment Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation					
a. Reactor Vessel Water Level – Low Low Low (Level 1)	1,2,3	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7 SR ~~3.3.6.1.8~~	≥ 18 inches
b. Main Steam Line Pressure – Low	1	2	E	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7 SR ~~3.3.6.1.8~~	≥ 825 psig
c. Main Steam Line Flow – High	1,2,3	2 per MSL	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7 SR ~~3.3.6.1.8~~	≤ 125.9 psid
d. Condenser Vacuum – Low	1, 2(a), 3(a)	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≥ 8 inches Hg vacuum
e. Main Steam Tunnel Area Temperature – High	1,2,3	8	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 195°F
f. Main Steam Line Radiation – High	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 3 times Normal Full Power Background

(continued)

(a) With any turbine stop valve not closed.

(b) Not used.

ATTACHMENT 2

Markup of Technical Specifications Bases Pages

FOR INFORMATION ONLY

License Amendment Request to Eliminate Response Time Testing of the Main Steam Isolation Valves.

James A. FitzPatrick Nuclear Power Plant
Renewed Facility Operating License No.
DPR-59 NRC Docket No. 50-333

Unit 1 TS Bases Pages

B 3.3.1.1-31
B 3.3.1.1-32
B 3.3.6.1-30
B 3.3.6.1-31

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.1.1.13

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required trip logic for a specific channel. The functional testing of control rods (LCO 3.1.3), and SDV vent and drain valves (LCO 3.1.8), overlaps this Surveillance to provide complete testing of the assumed safety function.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.3.1.1.14

This SR ensures that scrams initiated from the Turbine Stop Valve—Closure and Turbine Control Valve Fast Closure, EHC Oil Pressure—Low Functions will not be inadvertently bypassed when THERMAL POWER is ≥ 29% RTP. This involves calibration of the bypass channels. Adequate margins for the instrument setpoint methodologies are incorporated into the actual setpoint. Because main turbine bypass flow can affect this setpoint nonconservatively (THERMAL POWER is derived from turbine first stage pressure), the main turbine bypass valves must remain closed during an inservice calibration at THERMAL POWER ≥ 29% RTP to ensure that the calibration is valid.

If any bypass channel's setpoint is nonconservative (i.e., the Functions are bypassed at ≥ 29% RTP, either due to open main turbine bypass valve(s) or other reasons), then the affected Turbine Stop Valve—Closure and Turbine Control Valve Fast Closure, EHC Oil Pressure—Low Functions are considered inoperable. Alternatively, the bypass channel can be placed in the conservative condition (nonbypass). If placed in the nonbypass condition, this SR is met and the channel is considered OPERABLE.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.3.1.1.15

This SR ensures that the individual channel response times are less than or equal to the maximum values assumed in the accident analysis. The RPS RESPONSE TIME acceptance criteria are included in Reference 22.

RPS RESPONSE TIME may be verified by actual response time measurements in any series of sequential, overlapping, or total channel measurements. ~~However, the sensors for Functions 3 and 4~~

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.1.1.15 (continued)

~~are excluded from specific RPS RESPONSE TIME measurement since the conditions of Reference 19 are satisfied. For Functions 3 and 4, sensor response time may be allocated based on either assumed design sensor response time or the manufacturer's stated design response time.~~ For all ~~other~~ Functions, sensor response time must be measured.

Note 1 excludes neutron detectors from RPS RESPONSE TIME testing because the principles of detector operation virtually ensure an instantaneous response time.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

REFERENCES

1. UFSAR, Section 7.2.
2. UFSAR, Section 14.5.4.2.
3. NEDO-23842, Continuous Control Rod Withdrawal Transient In The Startup Range, April 18, 1978.
4. 10 CFR 50.36(c)(2)(ii).
5. NEDO-31960-A, BWR Owners' Group Long Term Stability Solutions Licensing Methodology, June 1991.
6. NEDO-31960-A, Supplement 1, BWR Owners' Group Long Term Stability Solutions Licensing Methodology, Supplement 1, March 1992.
7. UFSAR, Section 14.5.1.2.
8. UFSAR, Section 14.6.1.2.
9. UFSAR, Section 14.5.2.1.
10. UFSAR, Section 14.5.2.2.
11. UFSAR, Section 6.3.
12. Drawing 11825-5.01-15D, Rev. D, Reactor Assembly Nuclear Boiler, (GE Drawing 919D690BD).
13. UFSAR, Section 14.5.5.1.
14. UFSAR, Section 14.5.2.3.
15. NEDO-32291-A, Supplement 1, System Analysis for the Elimination of Selected Response Time Testing Requirements," November 1997.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.6.1.4

Calibration of trip units provides a check of the actual trip setpoints. The channel must be declared inoperable if the trip setting is discovered to be less conservative than the Allowable Value specified in Table 3.3.6.1-1. If the trip setting is discovered to be less conservative than accounted for in the appropriate setpoint methodology, but is not beyond the Allowable Value, the channel performance is still within the requirements of the plant safety analysis. Under these conditions, the setpoint must be readjusted to be equal to or more conservative than that accounted for in the appropriate setpoint methodology.

The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

SR 3.3.6.1.7

The LOGIC SYSTEM FUNCTIONAL TEST demonstrates the OPERABILITY of the required isolation logic for a specific channel. The system functional testing performed on PCIVs in LCO 3.6.1.3 overlaps this Surveillance to provide complete testing of the assumed safety function. The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.

~~SR 3.3.6.1.8~~

~~This SR ensures that the individual channel response times are less than or equal to the maximum values assumed in the accident analysis. Testing is performed only on channels where the assumed response time does not correspond to the emergency diesel generator (EDG) start time. For channels assumed to respond within the EDG start time, sufficient margin exists in the 10 second start time when compared to the typical channel response time (milliseconds) so as to assure adequate response without a specific measurement test.~~

~~ISOLATION INSTRUMENTATION RESPONSE TIME acceptance criteria are included in Reference 9. ISOLATION SYSTEM RESPONSE TIME may be verified by actual response time measurements in any series of sequential, overlapping, or total channel measurements. However, the sensors for Functions 1.a, 1.b, and 1.c are excluded from specific ISOLATION SYSTEM RESPONSE TIME measurement since the conditions of Reference 10 are satisfied. For Functions 1.a, 1.b, and 1.c, sensor response time may be allocated based on either assumed design sensor response time or the manufacturer's stated design~~

~~(continued)~~

BASES

SURVEILLANCE REQUIREMENTS

~~SR 3.3.6.1.8 (continued)~~

~~response time.~~

~~The Surveillance Frequency is controlled under the Surveillance Frequency Control Program.~~

REFERENCES

1. UFSAR, Table 7.3-1.
2. UFSAR, Section 14.5.
3. UFSAR, Section 14.6.
4. 10 CFR 50.36(c)(2)(ii).
5. NEDO-31466, Technical Specification Screening Criteria Application and Risk Assessment, November 1987.
6. UFSAR, Section 3.9.3.
7. NEDC-31677P-A, Technical Specification Improvement Analysis for BWR Isolation Actuation Instrumentation, July 1990.
8. NEDC-30851P-A, Supplement 2, Technical Specifications Improvement Analysis for BWR Isolation Instrumentation Common to RPS and ECCS Instrumentation, March 1989.
9. UFSAR, Table 7.3-12.
10. NEDO-32291-A, System Analyses For the Elimination of Selected Response Time Testing Requirements, October 1995.
11. NRC letter dated October 28, 1996, Issuance of Amendment 235 to Facility Operating License DPR-59 for James A. FitzPatrick Nuclear Power Plant.
12. NRC Bulletin 90-01, Supplement 1, Loss of Fill-Oil in Transmitters Manufactured by Rosemount, December 1992.
13. Drawing 11825-5.01-15D, Rev. D, Reactor Assembly Nuclear Boiler, (GE Drawing 919D690BD).

14. NEDO-32291-A, Supplement 1, "System Analysis for the Elimination of Selected Response Time Testing Requirements", November 1997