

Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609-2000

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Vice President, Browns Ferry Nuclear Plant

July 25, 2001

TVA-BFN-TS-415

10 CFR 50.90
10 CFR 50.91

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Gentlemen:

In the Matter of) Docket Nos. 50-260
Tennessee Valley Authority) 50-296

**BROWNS FERRY NUCLEAR PLANT (BFN) - UNITS 2 AND 3 -
TECHNICAL SPECIFICATIONS (TS) CHANGE 415 - DELETION OF
120-DAY REQUIRED ACTION FOR RESTORATION OF OSCILLATION POWER
RANGE MONITOR (OPRM) FUNCTION - EMERGENCY TS CHANGE REQUEST
FOR UNIT 2**

In accordance with the provisions of 10 CFR 50.90, TVA is submitting a request for a TS change (TS-415) to licenses DPR-52 and DPR-68 to delete TS Required Action 3.3.1.1.I.2, which in the event of the inoperability of the OPRM trip system, limits plant operation to 120 days. For this situation, the proposed TS change would allow plant operation to continue if TS Required Action 3.3.1.1.I.1 is taken to implement an alternate means to detect and suppress thermal hydraulic instability oscillations.

Enclosure 1 contains a description and justification for the proposed TS change, the significant hazards consideration determination, and the environmental consideration. Enclosures 2 and 3 provide marked-up and retyped copies of

ADD

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the appropriate pages from the current TS and Bases showing the proposed TS revisions.

TVA has determined that there are no significant hazards considerations associated with the proposed change and that the TS changes qualify for a categorical exclusion from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9). The BFN Plant Operations Review Committee and the Nuclear Safety Review Board have reviewed these proposed changes, and determined that operation of BFN Units 2 and 3 in accordance with the proposed changes will not endanger the health and safety of the public. Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and enclosures to the Alabama State Department of Public Health.

In accordance with 10 CFR 50.91, TVA is requesting approval of this TS change for Unit 2 on an emergency basis and that it be made effective immediately in order to allow the restart of Unit 2. Unit 2 had an unplanned shutdown on July 25, 2001, and currently is prohibited from entering Mode 1 due to Limiting Condition for Operation 3.0.4 restrictions on mode changes with the OPRM inoperable. Approval of this TS change would allow Unit 2 restart. The basis for the emergency request is provided in part V of Enclosure 1. TVA is requesting approval of the Unit 3 TS change as soon as practicable and that it be made effective within 30 days of issuance.

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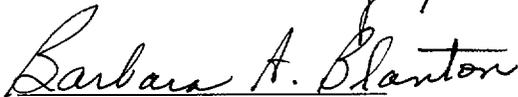
There are no regulatory commitments associated with this
submittal. If you have questions on this submittal, please
contact Tim Abney at (256)729-2636.

Sincerely,



A. S. Bhatnagar

Subscribed and sworn to before me
on this 25th day of July 2001.


Barbara A. Blanton

Notary Public
My Commission Expires 09/22/2002

Enclosures
cc: See page 4

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Enclosures

cc (Enclosures):

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NRC Resident Inspector
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10833 Shaw Road
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Enclosure 1

TS - 415

Deletion of 120-Day Required Action For Restoration of Oscillation Power Range Monitor (OPRM) Function

Description and Justification

I. Description of Change

By this letter, the Tennessee Valley Authority (TVA) is submitting a request for amendments to licenses DPR-52 and DPR-68 for Browns Ferry Nuclear Plant (BFN) Units 2 and 3. The proposed amendments delete Technical Specifications (TS) Required Action 3.3.1.1.I.2, which limits plant operation to 120 days in the event of the inoperability of the OPRM trip system. For this situation, the proposed change would allow plant operation to continue if existing TS Required Action 3.3.1.1.I.1 is taken to implement an alternate means to detect and suppress thermal hydraulic instability oscillations.

The associated TS Bases supporting the TS changes are also being revised. Enclosures 2 and 3 provide marked-up and retyped copies of the appropriate pages from the current TS and Bases showing the detailed TS revisions.

II. Background and Reason for the Proposed Change

The OPRM module of the General Electric (GE) Power Range Neutron Monitoring (PRNM) System was installed to satisfy the TVA long-term solution regarding reactor stability referred to as Option III in NEDO-31960, Supplement 1, "BWR Owners' Group Long-term Stability Solution Licensing Methodology," November 1995. TS changes for the installation of the PRNM system and subsequent arming of the OPRM system were approved by NRC in Safety Evaluation Reports (SERs) dated September 11, 1997, (TS-353) and March 5, 1999, (TS-354) for Unit 2 and in SERs dated September 3, 1998, (TS-353) and September 27, 1999, (TS-398) for Unit 3. The OPRM TS submittals, TS-354 and TS-398, provided TS, which were consistent with the model OPRM TS provided in NEDC-32410P-A, Supplement 1, "Nuclear Measurement Analysis and Control Power Range

Neutron Monitor (NUMAC PRNM) Retrofit Plus Option III Stability Trip Function," August 1996, for the implementation of Option III with GE hardware.

In the current BFN TS, Required Action 3.3.1.1.I provides actions to be taken in the event of the inoperability of the OPRM Upscale Function (Function 2.f in TS Table 3.3.1.1-1, Reactor Protection System Instrumentation). For reference, TS 3.3.1.1.I and 3.3.1.1.J are reproduced below.

CONDITION	REQUIRED ACTION	COMPLETION TIME
I. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	I.1 Initiate alternate method to detect and suppress thermal hydraulic instability oscillations.	12 hours
	<u>AND</u>	
	I.2 Restore required channels to OPERABLE.	120 days
J. Required Action and associated Completion Time of Condition I not met.	J.1 Be in Mode 2.	4 hours

As shown, the current TS provide that, in the event of the inoperability of the OPRM upscale trip function, alternate methods to detect and suppress thermal hydraulic instability oscillations be initiated within 12 hours. Required Action 3.3.1.1.I.2 further requires the return of the OPRM upscale function to service within 120 days. If the 120-day Completion Time is not met, then Required Action 3.3.1.1.J.1 would require the reactor be placed in Mode 2 within 4 hours.

GE recently notified TVA of a potential 10 CFR Part 21 condition associated with use of non-conservative parameters for the high peak bundle power-to-flow ratio in the generic regional mode DIVOM curve and for high core average power-to-flow ratio in the generic core wide DIVOM curve contained in NEDO-32465-A, "Reactor Stability Detect and Suppress Solutions Licensing Basis Methodology for Reload Applications," August 1996. Formal notification to NRC on the same subject was provided by a letter from GE

on June 29, 2001. The net effect of the Part 21 condition is the possible generation and implementation of non-conservative OPRM upscale trip setpoints. It was subsequently determined that the condition was applicable to BFN, and the OPRM system was accordingly declared inoperable on July 2, 2001, pending recalculation and implementation of corrected OPRM setpoints. As a result of declaring the OPRM inoperable, BFN Units 2 and 3 entered TS 3.3.1.1.I, which invokes the alternate instability monitoring action statement and the 120-day requirement to return the OPRM system to operable status.

While we expect that generation and implementation of revised OPRM upscale setpoints will be accomplished within the 120-day time period, if Unit 2 or 3 should shutdown in the meanwhile, Limiting Condition for Operation (LCO) 3.0.4 would not allow entry into Mode 1 due to LCO 3.0.4 prohibitions on Mode changes with inoperable equipment (namely, the OPRM upscale instrumentation function). This TS situation would effectively prevent return of the units to power operation.

TVA is aware that Perry Nuclear Plant and Columbia Generating Station have previously received approval of OPRM arming TS without the 120-day Required Action statement. The SERs for the approval of their license amendments in this regard are dated February 26, 2001, and April 5, 2001, respectively. Hence, in consideration of the precedent regulatory approvals, TVA finds it prudent to request a TS change analogous to those approved for Perry and Columbia stations. This proposed TS change would also provide similar TS relief should a common mode condition affecting the operability of the OPRM arise in the future.

III. Justification for Change

The OPRM trip system is designed to detect and suppress possible reactor thermal hydraulic instabilities and implements the long-term solution known as the Boiling Water Reactor Owners Group (BWROG) "Stability Option III" alternative. Prior to the installation and arming of the OPRM, monitoring for potential thermal hydraulic instability oscillations and suppression thereof was performed exclusively by operating procedures. These operator stability monitoring functions are commonly referred to in the industry as interim corrective actions (ICAs) and are the same actions referenced in existing TS Required Action 3.3.1.1.I.1 for the situation in which the OPRM trip capability is lost. In summary, the

stability ICAs, which are implemented in plant procedures, prescribe that that reactor stability be monitored through instrumentation whenever the plant is operating in the power/flow map regions associated with potential stability concerns and to take specific actions in the event an instability condition is observed.

The alternate methods to detect and suppress oscillations which are implemented via TS Required Action 3.3.1.1.I.1 were evaluated in NEDC-32410P-A, "Nuclear Measurement Analysis and Control Power Range Neutron Monitor (NUMAC PRNM) Retrofit Plus Option III Stability Trip Function," October 1995, based on use up to 120 days. The 120-day period was intended to be an outside limit to allow for the case where design changes or extensive analysis might be required to understand or correct some unanticipated characteristic of the instability detection algorithms or equipment. The evaluation was based on engineering judgment, and concluded that the likelihood of an instability event that could not be adequately handled by the alternate methods during this 120-day period was negligibly small.

In practice, it is very unlikely that the 120-day Completion Time specified in TS Required Action 3.3.1.1.I.2 would not be sufficient for correcting any software errors in the OPRM system or other analytic problems such as the recent GE Part 21. However, considering that various BWR plants have satisfactorily operated using stability ICAs for over 10 years, operation beyond the current 120-day limit specified in required Action 3.3.1.1.I.2 is justifiable and does not create a safety concern. Stability ICA's have been used at BFN as the standard means of stability monitoring beginning in 1989 up to the recent installation and arming of the OPRM system on Unit 2 in 1999 and Unit 3 in 2000, and have been procedurally retained as the alternate means of monitoring stability per Required Action 3.3.1.1.I.1. Hence, use of stability ICAs is a well-established methodology and has a lengthy experience base at BFN.

Therefore, use of ICAs as invoked by Required Action 3.3.1.1.I.1 provides a satisfactory means of monitoring reactor stability and an adequate level of plant safety. Problems with the OPRM system will still be required to be remedied in a timely manner in accordance with 10 CFR 50, Appendix B Criterion XVI, "Corrective Actions". Additionally, management attention would continue to be focused on restoring OPRM operability since it is a plant objective to remedy nonconforming conditions in a prompt

manner and to avoid operating in active LCO conditions such as would be the case with inoperable OPRM equipment. Thus, it is not expected that prolonged plant operation under TS 3.3.1.1.I.1 ICAs would be a common occurrence.

This proposed change would also be beneficial in allowing use of the TS 3.3.1.1.I.1 alternate actions to continue reactor operation, thus avoiding inherent risks associated with a reactor shutdown and start-up should the 120-day time restriction be exceeded under the current TS. Also, as noted in Part II, the current TS would not allow restart of the reactor if the unit should trip or be shutdown with the OPRM function inoperable.

Summary

We conclude that the elimination of the 120-day operating restriction with an inoperable OPRM system currently specified in TS Required Action 3.3.1.1.I.2 is justified, and that public health and safety would continue to be protected by specifying that the plant can continue operating using the well-established ICAs currently specified by TS Required Action 3.3.1.1.I.1.

In addition, the proposed BFN TS changes are analogous to the Perry Nuclear Plant and Columbia Generating Station OPRM TS changes, which were approved by NRC without a 120-day limitation. Although Perry and Columbia use a different vendor's OPRM hardware for implementing the stability Option III solution, their basis for using ICAs as a suitable alternative means of monitoring stability when the OPRM trip function is inoperable is entirely consistent with BFN's justification.

IV. Environmental Consideration

The requested amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. TVA has determined that the requested amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment of the proposed amendment is required.

V. Emergency Circumstances - Unit 2

On July 25, 2001, Unit 2 had an unplanned shutdown and is currently prohibited from entering Mode 1 due to LCO 3.0.4 restrictions on changing modes with the OPRM inoperable due to the GE Part 21 notification. This restriction prevents the return of Unit 2 to rated power operation.

Emergency circumstances exist as provided for in 10 CFR 50.91(a)(5). TVA could not have anticipated the recent Part 21 notification which rendered the OPRM inoperable in combination with the unexpected trip of Unit 2. Therefore, TVA could not have foreseen this problem, and has not failed to make timely application for this amendment. As noted, this amendment is required for the resumption of rated power operation of BFN Unit 2.

VI. No Significant Hazards Consideration Determination

TVA is submitting a request for an amendment to the Units 2 and 3 Technical Specifications (TS). The proposed amendment deletes the existing TS Required Action, which in the event of the inoperability of the Oscillation Power Range Monitoring (OPRM) trip system, limits plant operation to 120 days.

TVA has concluded that operation of Browns Ferry Nuclear Plant (BFN) Units 2 and 3 in accordance with the proposed change to the TS does not involve a significant hazards consideration. TVA's conclusion is based on its evaluation, in accordance with 10 CFR 50.91(a)(1), of the three standards set forth in 10 CFR 50.92(c).

A. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The OPRM function is not considered as an initiator of any previously analyzed accident. Therefore, this proposed change does not significantly increase the probability of such accidents. This proposed change would allow the use of existing well-established alternate methods to detect and suppress thermal hydraulic instability oscillations. Considering that multiple Boiling Water Reactors plants, including BFN, have satisfactorily operated using alternate stability monitoring methods for extended periods of operation prior to the installation of OPRM systems, it is

concluded these measures are adequate. Therefore, the consequences of a previously analyzed accident would not be significantly increased.

B. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed change does not involve a physical alteration of the plant, add any new equipment, or require any existing equipment to be operated in a manner different from the present design. Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

C. The proposed amendment does not involve a significant reduction in a margin of safety.

This proposed change would allow the use of existing alternate methods to detect and suppress thermal hydraulic instability oscillations to continue to operate the reactor in the event of the inoperability of the OPRM system. Considering that multiple Boiling Water Reactors plants, including BFN, have satisfactorily operated using alternate stability monitoring methods for extended periods of operation, it is concluded these measures are adequate, and that the proposed change does not significantly reduce the margin of safety.

Enclosure 2

TS - 415

Deletion of 120-Day Required Action For Restoration of Oscillation Power Range Monitor (OPRM) Function

Marked-up TS Pages

I. Affected Page List

Unit 2	Unit 3
3.3-3	3.3-3
B 3.3-35	B 3.3-35
B 3.3-35a	B 3.3-35a

II. See attached

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	G.1 Be in MODE 3.	12 hours
H. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	H.1 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately
I. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	I.1 Initiate alternate method to detect and suppress thermal hydraulic instability oscillations. AND I.2 Restore required channels to OPERABLE.	12 hours 120 days
J. Required Action and associated Completion Time of Condition I not met.	J.1 Be in Mode 2.	4 hours

BASES

ACTIONS
(continued)

H.1

If the channel(s) is not restored to OPERABLE status or placed in trip (or the associated trip system placed in trip) within the allowed Completion Time, the plant must be placed in a MODE or other specified condition in which the LCO does not apply. This is done by immediately initiating action to fully insert all insertable control rods in core cells containing one or more fuel assemblies. Control rods in core cells containing no fuel assemblies do not affect the reactivity of the core and are, therefore, not required to be inserted. Action must continue until all insertable control rods in core cells containing one or more fuel assemblies are fully inserted.

I.1

If OPRM Upscale trip capability is not maintained, Condition I exists. Reference 12 justified use of alternate methods to detect and suppress oscillations, ~~for a limited period of time.~~ The alternate methods are procedurally established consistent with the guidelines identified in Reference 17 requiring manual operator action to scram the plant if certain predefined events occur. The 12 hour allowed action time is based on engineering judgment to allow orderly transition to the alternate methods while limiting the period of time during which no automatic or alternate detect and suppress trip capability is formally in place. Based on the small probability of an instability event occurring at all, the 12 hours is judged to be reasonable.

(continued)

BASES

ACTIONS
(continued)

I.2

The alternate method to detect and suppress oscillations implemented in accordance with I.1 was evaluated (Reference 12) based on use up to 120 days only. The evaluation, based on engineering judgment, concluded that the likelihood of an instability event that could not be adequately handled by the alternate methods during this 120 day period was negligibly small. The 120 day period is intended to be an outside limit to allow for the case where design changes or extensive analysis might be required to understand or correct some unanticipated characteristic of the instability detection algorithms or equipment. This action is not intended and was not evaluated as a routine alternative to returning failed or inoperable equipment to OPERABLE status. Correction of routine equipment failure or inoperability is expected to normally be accomplished within the completion times allowed for Actions for Conditions A and B.

**SURVEILLANCE
REQUIREMENTS**

As noted at the beginning of the SRs, the SRs for each RPS instrumentation Function are located in the SRs column of Table 3.3.1.1-1.

The Surveillances are modified by a Note to indicate that when a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours, provided the associated Function maintains RPS trip capability. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. This Note is based on the reliability analysis (Ref. 3) assumption of the average time required to perform channel Surveillance. That analysis demonstrated that the 6 hour testing allowance does not significantly reduce the probability that the RPS will trip when necessary.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	G.1 Be in MODE 3.	12 hours
H. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	H.1 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately
I. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	I.1 Initiate alternate method to detect and suppress thermal hydraulic instability oscillations. <u>AND</u> I.2 Restore required channels to OPERABLE.	12 hours 120 days
J. Required Action and associated Completion Time of Condition I not met.	J.1 Be in MODE 2	4 hours

BASES

ACTIONS

H.1

(continued)

If the channel(s) is not restored to OPERABLE status or placed in trip (or the associated trip system placed in trip) within the allowed Completion Time, the plant must be placed in a MODE or other specified condition in which the LCO does not apply. This is done by immediately initiating action to fully insert all insertable control rods in core cells containing one or more fuel assemblies. Control rods in core cells containing no fuel assemblies do not affect the reactivity of the core and are, therefore, not required to be inserted. Action must continue until all insertable control rods in core cells containing one or more fuel assemblies are fully inserted.

I.1

If OPRM Upscale trip capability is not maintained, Condition I exists. Reference 12 justified use of alternate methods to detect and suppress oscillations ~~for a limited period of time~~. The alternate methods are procedurally established consistent with the guidelines identified in Reference 17 requiring manual operator action to scram the plant if certain predefined events occur. The 12 hour allowed action time is based on engineering judgment to allow orderly transition to the alternate methods while limiting the period of time during which no automatic or alternate detect and suppress trip capability is formally in place. Based on the small probability of an instability event occurring at all, the 12 hours is judged to be reasonable.

(continued)

BASES

ACTIONS
(continued)

1.2

The alternate method to detect and suppress oscillations implemented in accordance with I.1 was evaluated (Reference 12) based on use up to 120 days only. The evaluation, based on engineering judgment, concluded that the likelihood of an instability event that could not be adequately handled by the alternate methods during this 120 day period was negligibly small. The 120 day period is intended to be an outside limit to allow for the case where design changes or extensive analysis might be required to understand or correct some unanticipated characteristic of the instability detection algorithms or equipment. This action is not intended and was not evaluated as a routine alternative to returning failed or inoperable equipment to OPERABLE status. Correction of routine equipment failure or inoperability is expected to normally be accomplished within the completion times allowed for Actions for Conditions A and B.

**SURVEILLANCE
REQUIREMENTS**

As noted at the beginning of the SRs, the SRs for each RPS instrumentation Function are located in the SRs column of Table 3.3.1.1-1.

The Surveillances are modified by a Note to indicate that when a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours, provided the associated Function maintains RPS trip capability. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. This Note is based on the reliability analysis (Ref. 3) assumption of the average time required to perform channel Surveillance. That analysis demonstrated that the 6 hour testing allowance does not significantly reduce the probability that the RPS will trip when necessary.

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Enclosure 3

TS - 415

Deletion of 120-Day Required Action For Restoration of Oscillation Power Range Monitor (OPRM) Function

Retyped TS Pages

I. Affected Page List

Unit 2	Unit 3
3.3-3	3.3-3
B 3.3-35	B 3.3-35
B 3.3-35a	B 3.3-35a

II. See attached

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	G.1 Be in MODE 3.	12 hours
H. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	H.1 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately
I. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	I.1 Initiate alternate method to detect and suppress thermal hydraulic instability oscillations.	12 hours
J. Required Action and associated Completion Time of Condition I not met.	J.1 Be in Mode 2.	4 hours

BASES

ACTIONS
(continued)

H.1

If the channel(s) is not restored to OPERABLE status or placed in trip (or the associated trip system placed in trip) within the allowed Completion Time, the plant must be placed in a MODE or other specified condition in which the LCO does not apply. This is done by immediately initiating action to fully insert all insertable control rods in core cells containing one or more fuel assemblies. Control rods in core cells containing no fuel assemblies do not affect the reactivity of the core and are, therefore, not required to be inserted. Action must continue until all insertable control rods in core cells containing one or more fuel assemblies are fully inserted.

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If OPRM Upscale trip capability is not maintained, Condition I exists. Reference 12 justified use of alternate methods to detect and suppress oscillations. The alternate methods are procedurally established consistent with the guidelines identified in Reference 17 requiring manual operator action to scram the plant if certain predefined events occur. The 12 hour allowed action time is based on engineering judgment to allow orderly transition to the alternate methods while limiting the period of time during which no automatic or alternate detect and suppress trip capability is formally in place. Based on the small probability of an instability event occurring at all, the 12 hours is judged to be reasonable.

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BASES

**SURVEILLANCE
REQUIREMENTS**

As noted at the beginning of the SRs, the SRs for each RPS instrumentation Function are located in the SRs column of Table 3.3.1.1-1.

The Surveillances are modified by a Note to indicate that when a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours, provided the associated Function maintains RPS trip capability. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. This Note is based on the reliability analysis (Ref. 3) assumption of the average time required to perform channel Surveillance. That analysis demonstrated that the 6 hour testing allowance does not significantly reduce the probability that the RPS will trip when necessary.

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	G.1 Be in MODE 3.	12 hours
H. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	H.1 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately
I. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	I.1 Initiate alternate method to detect and suppress thermal hydraulic instability oscillations.	12 hours
J. Required Action and associated Completion Time of Condition I not met.	J.1 Be in MODE 2	4 hours

BASES

ACTIONS

H.1

(continued)

If the channel(s) is not restored to OPERABLE status or placed in trip (or the associated trip system placed in trip) within the allowed Completion Time, the plant must be placed in a MODE or other specified condition in which the LCO does not apply. This is done by immediately initiating action to fully insert all insertable control rods in core cells containing one or more fuel assemblies. Control rods in core cells containing no fuel assemblies do not affect the reactivity of the core and are, therefore, not required to be inserted. Action must continue until all insertable control rods in core cells containing one or more fuel assemblies are fully inserted.

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(continued)

BASES

**SURVEILLANCE
REQUIREMENTS**

As noted at the beginning of the SRs, the SRs for each RPS instrumentation Function are located in the SRs column of Table 3.3.1.1-1.

The Surveillances are modified by a Note to indicate that when a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours, provided the associated Function maintains RPS trip capability. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. This Note is based on the reliability analysis (Ref. 3) assumption of the average time required to perform channel Surveillance. That analysis demonstrated that the 6 hour testing allowance does not significantly reduce the probability that the RPS will trip when necessary.

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