



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

May 22, 2003
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10CFR50.90
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U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
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Rockville, MD 20852

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Proposed Revised Change to Containment Purge Radiation Monitoring and Withdrawal of
Proposed Change to Reactor Coolant System Leakage Detection Technical Specifications

References:

- 1) Letter dated February 14, 2002, from J. J. Sheppard, STPNOC, to NRC Document Control Desk, "Proposed Change to Containment Purge Radiation Monitoring and Reactor Coolant System Leakage Detection Technical Specifications" (NOC-AE-02001247)
- 2) Letter dated January 7, 2003, from T. J. Jordan, STPNOC, to NRC Document Control Desk, "Additional Information Regarding Proposed Changes to Containment Ventilation Isolation Technical Specifications" (NOC-AE-02001435)

STP Nuclear Operating Company (STPNOC) submits the attached revised proposed amendment to South Texas Project Operating Licenses, NPF-76 and NPF-80. This license amendment request proposes revising Technical Specification 3.3.2 governing radiation monitoring instrumentation to relax restrictions on containment purge valve operation.

The changes proposed in Reference 1 to allow purge operation with two inoperable containment purge radiation monitor channels provided there is alternate monitoring capability and the changes proposed for Technical Specification 3/4.4.6.1 are withdrawn.

STPNOC requests approval of the proposed amendment by September 30, 2003. STPNOC requests 60 days for implementation of the amendment after it is approved.

The STPNOC Plant Operations Review Committee and Nuclear Safety Review Board have reviewed and concurred with the proposed change to the Technical Specifications.

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A061

In accordance with 10 CFR 50.91(b), STPNOC is notifying the State of Texas of this request for license amendment by providing a copy of this letter and its attachments.

If there are any questions regarding the proposed amendment, please contact Mr. A. W. Harrison (361) 972-7298 or me at (361) 972-7902.

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

Executed on May 22, 2003.
date



T. J. Jordan
Vice President
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awh/

Attachments:

1. Description of Changes and Safety Evaluation
2. Annotated Technical Specification Pages
3. Bases Inserts

cc:

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ATTACHMENT 1

DESCRIPTION OF CHANGES

AND

SAFETY EVALUATION

1.0 Introduction

The proposed amendment will revise Technical Specification 3.3.2 to relax restrictive requirements associated with radiation monitoring for containment ventilation isolation (CVI). The proposed changes will enhance plant reliability by reducing its exposure to unnecessary shutdowns and increase operational flexibility. Inoperable radiation monitoring has little or no direct effect on plant safety and generally there are effective compensatory actions that can be taken for inoperable instrumentation.

The changes described below revise the changes proposed in the original submittal. As described in the cover letter, changes originally proposed for the reactor coolant system leakage detection system in Technical Specification 3.4.6.1 have been withdrawn.

The changes proposed for the radiation monitor actuation of CVI have been revised to apply only to the case where one of two channels of radiation monitoring actuation of CVI is inoperable. Time limits and required actions have been added to the case where one channel of radiation monitoring is inoperable and the containment purge isolation valves are under administrative control. Requirements for MODE 6 have been revised to reference TS 3/4.9.9 for Containment Ventilation Isolation during Refueling Operations.

2.0 Description

Each of the proposed changes to the Technical Specifications is described in Table 1 below.

Table 1

Page	Affected Section	Description of Change	Reason for Change
3/4 3-26	Table 3.3-3, ACTION STATEMENTS, ACTION 18 for Functional Unit 3.b.4	<p>ACTION 18 specifies the action to be taken when less than the minimum channels are operable for the functional units associated with Containment Ventilation Isolation. With less than the minimum channels operable, the action currently allows operation to continue provided containment purge supply and exhaust valves are maintained closed. The proposed change breaks ACTION 18 into ACTION 18.a., 18.b. and 18.c. ACTION 18.a. would apply to automatic actuation logic and actuation relays and the requirements are unchanged from the current ACTION 18. ACTION 18.b.1 would apply to the RCB purge radioactivity-high with one less than the minimum channels operable and establishes a 30-day allowed outage time, after which the valves must be maintained closed. The ACTION is modified by a note that permits the supplementary purge supply and exhaust valves to be opened up to 2 hours at a time in MODE 1 – 4 and either supplementary purge or normal purge valves to be open up to 6 hours at a time in MODE 5^{##} provided administrative controls are in place. The note to Action 18.b.1 would only apply during the 30-day allowed outage time. Action 18.b.2 applies when both radiation monitors are inoperable and retains the current TS action to close the purge isolation valves. Action 18.c. applies to MODE 6^{##} and invokes the requirements of TS 3/4.9.9 for Containment Ventilation Isolation during Refueling Operations. It is modified by a note similar to the note for MODE 5^{##}.</p> <p>## - During CORE ALTERATIONS or movement of irradiated fuel within containment.</p>	<p>ACTION 18 was split into three actions to be able to separately account for the functional units associated with Containment Ventilation Isolation. This split allows the radiation monitoring function to be handled separately and be made less restrictive. Allowing the purge supply and exhaust valves to be open under administrative control with one inoperable channel of purge radioactivity-high provides for purge operations permitted by the TS while in this condition. One channel is still available for automatic actuation, routine RCB pressure control evolutions are typically very brief and the likelihood of a coincident accident is very small. In the event the operable channel fails, operators can quickly manually initiate CVI from the handswitch in the Control Room. In MODE 1 – 4, the SI actuation function is still available for automatic isolation and is the only actuation credited in the LOCA analyses.</p>
3/4 9-10	TS 3/4.9.9 Containment Ventilation Isolation System	A note complementary to the ACTION 18.c. note is added to permit either supplementary or normal purge isolation valves to be open for up to 6 hours at a time provided administrative controls are in place.	The note is provided for consistency with the Note in proposed ACTION 18.c.

3.0 Background

STPNOC believes that the overall reliability of the plant can be enhanced by the elimination of unnecessarily restrictive TS requirements for radiation monitors. An overview of the basis for each of the proposed changes is described in Table 1, above.

4.0 Technical Analysis

A technical review of each of the proposed changes described in Table 1 is provided below. The review identifies the affected instrumentation, describes its function, including relevant references to the STP UFSAR, and provides a technical justification for the proposed change.

STPNOC is not proposing the changes described in this application as risk-informed changes to be reviewed in conformance with the criteria of Regulatory Guides 1.174 and 1.177. Where risk information for initiating events is presented, it is clear that their likelihood is very small. In addition, the radiation monitors affected by the proposed changes are not modeled in the STP PRA so there is no detailed risk quantification. STPNOC applied deterministic and risk insights to rank the affected radiation monitors as non-risk-significant.

Containment Ventilation Isolation (Table 3.3-3, ACTION 18 for Functional Unit 3.b.4)

The proposed change to the TS affects only the radiation monitoring instrumentation associated with the containment ventilation isolation function. The affected detectors and transmitters are RE/RT-8012 and RE/RT-8013, which monitor containment normal and supplementary purge exhaust.

The STP UFSAR 7.3.1.1.2 description of the function of the instrumentation is provided below:

For the Containment ventilation isolation function, input is provided to the Westinghouse ESFAS from radiation detection equipment monitoring the Normal Containment Purge System exhaust line or the Supplementary Containment Purge System exhaust line. During a plant shutdown for refueling, the Normal Containment Purge System is in operation, as discussed in Section 9.4.5. Also discussed in the section is the Supplementary Containment Purge System, which may be used during normal plant operation. Redundant Class 1E radiation monitors (i.e., the Reactor Containment Building [RCB] Purge Isolation) monitor the radiation in these purge lines, as discussed in Sections 11.5. Upon either monitor sensing radiation above a preset limit, a signal is sent to the logic trains of the Westinghouse ESFAS, and the Containment ventilation isolation signal is actuated.

The 48" Normal Purge valves are required to be sealed closed in MODE 1, 2, 3, and 4. In a LOCA, both Normal and Supplementary purge lines are isolated by a Safety Injection (SI) signal, which is unaffected by this proposed change. Actuation of the purge isolation by these radiation monitors is not credited in the LOCA accident analyses, and is only a backup function for this event.

Either Supplementary Purge or Normal Purge may be operated in MODE 5 and 6. The subject radiation monitors are credited for purge line isolation for a fuel handling accident.

STPNOC's proposed ACTION 18.b. affects the current TS action that requires the purge to be isolated when one of the two required channels is inoperable. ACTION 18.b.1 is the proposed action with one inoperable channel and would establish a 30-day restoration time in MODE 1 – 4, and MODE 5^{##}. A note to ACTION 18.b.1 is proposed to allow the supplementary purge valves to be opened in MODE 1-4 under administrative control during the 30-day allowed outage time to permit operation of the supplementary purge system for up to 2 hours at a time for the evolutions permitted by the Technical Specifications (containment pressure control, ALARA and respirable air quality needed for personnel entry into containment and for surveillance tests that required the valves to be open). The most common application is for containment pressure control, where purges are generally of short duration (less than an hour). This provision would remove a potentially burdensome requirement to maintain the purge valves closed for a situation where a purge was needed at the same time one channel of the radiation monitors was inoperable. Not being able to purge to control containment pressure could result in application of ACTION for Technical Specification 3.6.1.4, which has a 1 hour shutdown requirement.

The likelihood of an event that would cause a significant radioactive release in the containment requiring containment isolation occurring during a purge activity is very small (~1E-07/yr.). In MODE 1 – 4, the safety analysis credits only the SI signal for actuation of CVI. As a backup, the operable radiation monitoring channel would still be available to actuate containment isolation. Administrative control during purge evolutions with an inoperable radiation monitoring channel would include the operator ability to manually initiate CVI from the control room handswitch and typically include an assessment of plant conditions for potential actuation precursors, monitoring containment radiation and limiting purge duration. The current TS action only requires that the isolation valves be maintained closed and does not prescribe a restoration time. STPNOC selected 30 days based on the time being a reasonable time to restore a non-risk-significant function that is readily accessible at power.

ACTION 18.b.1 would also apply in MODE 5^{##} to address the possibility of a fuel handling accident while moving fuel in the In Containment Storage Area. While STP has the design capability to store and move fuel in the ICSA in this MODE, it is not currently

used. The note described above would allow the valves to be open for up to 6 hours at a time in MODE 5^{##}.

ACTION 18.b.2 is proposed for MODEs 1 – 4 and MODE 5^{##} when both channels of RCB Radioactivity – High are inoperable. This action requires the purge isolation valves to be maintained closed and is consistent with the requirements of the current TS. There is no provision in this action for opening the valves to perform RCB purges.

ACTION 18.c. would apply in MODE 6^{##}. STPNOC proposes to revise the specification to reference TS 3/4.9.9, which specifies the requirements for Containment Ventilation Isolation during refueling operations. The most significant effect of this change will be that TS 3/4.9.9 requires closure of the penetration, which may be accomplished with the use of only one valve in each penetration. The current RCB Radiation – High specification would require both valves in each penetration to be closed. The design function is maintained with the penetration closed with a single valve. This change will ensure consistency within the Technical Specifications. A note is proposed to be added to both proposed ACTION 18.c and TS 3/4.9.9 to permit purges for up to 6 hours at a time for the case of a single inoperable channel of RCB Radioactivity – High.

In MODE 5^{##} and 6^{##}, there is no credible LOCA event and the design basis postulated event is a fuel handling accident in containment. Both are modified by a note that would allow the either the Supplementary or Normal Purge supply and exhaust valves to be open up to 6 hours at a time for required purge operations. The longer duration is justified because the design basis fuel handling accident in these MODEs would be expected to be a slower developing event and purge operations in support of shutdown or refueling activities are typically much longer than those done at power. As noted above, the operable channel of radiation monitoring would still be available to isolate containment purge and the same administrative controls would be effective in responding to a high radiation signal.

Loss of power supply to the output ESF relays of either channel of these monitors will be considered inoperable actuation logic and the isolation valves will be maintained closed in accordance with proposed ACTION 18.a. This is because this failure mode will result in the inability of the other actuation signals to close the purge valves if the initial signal is reset. The procedurally required administrative control would also compensate for the inoperable channel by requiring appropriate limitations on the purge duration and operator monitoring of radiation levels during the evolution. The administrative controls will be described in the Bases for the TS. STPNOC will provide revised Bases pages incorporating the information in Attachment 3 subsequent to NRC approval of the proposed change.

STPNOC proposes to add a note to TS 3/4.9.9 that complements the note in ACTION 18.c. This is an administrative change to assure consistency in the requirements.

STPNOC notes that the justification above demonstrates that the probability of a core damage event during RCB pressure control purges is very small and that there are compensatory actions that maintain adequate defense in depth.

5.0 Regulatory Safety Analysis

5.1 No Significant Hazards Determination

STPNOC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10CFR50.92, "Issuance of amendment," as discussed below.

- 1) Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The radiation monitors affected by the proposed amendment are not potential accident initiators. Adequate measures are available to compensate for instrumentation that is out of service. The proposed amendment does not affect how the affected instrumentation normally functions or its role in the response of an operator to an accident or transient. The core damage frequency in the STP PRA is not impacted by the proposed changes. Therefore, STPNOC concludes that there is no 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 instrumentation affected by the proposed amendment is not credited for the prevention of any accident not evaluated in the safety analysis. The proposed amendment involves no changes in the way the plant is operated or controlled. It involves no change in the design configuration of the plant. No new operating environments are created. Therefore, STPNOC concludes 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 change has no significant effect on functions that are supported by the affected instrumentation. There will be no significant effect on the availability and reliability of the affected instrumentation. Adequate measures are available to compensate for instrumentation that is out of service. Therefore, STPNOC concludes the proposed change does not involve a significant reduction in the margin of safety.

Conclusion

Based upon the analysis provided herein, the proposed amendments will not increase the probability or consequences of an accident previously evaluated, create the possibility of a new or different kind of accident from any accident previously evaluated, or involve a reduction in a margin of safety. Therefore, the proposed amendments meet the requirements of 10 CFR 50.92 and do not involve a significant hazards consideration.

5.2 Applicable Regulatory Requirements/Criteria

Containment Ventilation Isolation Actuation:

The 48-inch normal containment purge lines are sealed closed during operating conditions other than cold shutdown and refueling. The supplementary containment purge system may be used during normal plant operation (operating modes 1 through 4). Normal and supplementary purge system isolation valves are designed to close on receipt of a containment ventilation isolation signal. This signal is initiated by the following: safety injection signal, containment phase A isolation manual actuation, containment spray manual actuation, and high containment purge radiation.

The radiation monitor function to isolate containment ventilation meets the requirements of NUREG-0737 Item II.E.4.2, SRP Section 6.2.4, and BTP CSB 6-4.

The radiation monitor actuation of the containment ventilation system is an ESFAS function and is subject to the requirements of GDC 2, 4, 20 through 24, and 10 CFR 50.55a(h).

The proposed changes to the Technical Specifications would not change the function of the affected radiation monitors and there is no significant impact on compliance with the regulatory requirements.

6.0 Environmental Considerations

10 CFR 51.22(b) specifies the criteria for categorical exclusions from the requirements for a specific environmental assessment per 10 CFR 51.21. This amendment request meets the criteria specified in 10 CFR 51.22(c)(9). The specific criteria contained in this section are discussed below.

(i) the amendment involves no significant hazards consideration

As demonstrated in the No Significant Hazards Consideration Determination, the requested license amendment does not involve any significant hazards consideration.

(ii) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite

The requested license amendment involves no change to the facility and does not involve any change in the manner of operation of any plant systems involving the generation, collection or processing of radioactive materials or other types of effluents. Therefore, no increase in the amounts of effluents or new types of effluents would be created.

(iii) there is no significant increase in individual or cumulative occupational radiation exposure

The requested license amendment involves no change to the facility and will not increase the radiation dose resulting from the operation of any plant system. Furthermore, implementation of this proposed change will not involve work activities that could contribute to occupational radiation exposure. Therefore, there will be no increase in individual or cumulative occupational radiation exposure associated with this proposed change.

Based on the above it is concluded that there will be no impact on the environment resulting from this change. The change meets the criteria specified in 10 CFR 51.22 for a categorical exclusion from the requirements of 10 CFR 51.21 relative to specific environmental assessment by the Commission.

7.0 References

1. South Texas Project Updated Final Safety Analysis Report

ATTACHMENT 2

**PROPOSED TECHNICAL SPECIFICATION
CHANGES**

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
3. Containment Isolation (Continued)					
b. Containment Ventilation Isolation					
1) Automatic Actuation Logic	2	1	2	1, 2, 3, 4	18
2) Actuation Relays***	3	2	3	1, 2, 3, 4	18
3) Safety Injection ***	See Item 1. above for all Safety Injection initiating functions and requirements.				
4) RCB Purge Radioactivity- High	2	1	2	1, 2, 3, 4, 5##, 6##	18
5) Containment Spray- Manual Initiation	See Item 2. above for Containment Spray manual initiating functions and requirements.				
6) Phase "A" Isolation- Manual Isolation	See Item 3.a. above for Phase "A" Isolation manual initiating functions and requirements.				
c. Phase "B" Isolation					
1) Automatic Actuation Logic	2	1	2	1, 2, 3, 4	14
2) Actuation Relays	3	2	3	1, 2, 3, 4	14
3) Containment Pressure -- High-3	4	2	3	1, 2, 3	17
4) Containment Spray-- Manual Initiation	See Item 2. above for Containment Spray manual initiating functions and requirements.				
d. RCP Seal Injection Isolation					
1) Automatic Actuation Logic and Actuation Relays	1	1	1	1, 2, 3, 4	16

TABLE 3.3-3 (Continued)
TABLE NOTATIONS

***Function is actuated by either actuation train A or actuation train B.
Actuation train C is not used for this function.

****Automatic switchover to containment sump is accomplished for each train using the corresponding RWST level transmitter.

Trip function may be blocked in this MODE below the P-11 (Pressurizer Pressure Interlock) Setpoint.

During CORE ALTERATIONS or movement of irradiated fuel within containment.

Trip function automatically blocked above P-11 and may be blocked below P-11 when Low Compensated Steamline Pressure Protection is not blocked.

ACTION STATEMENTS

ACTION 14 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 24 hours, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1, provided the other channel is OPERABLE.

ACTION 15 - (Not Used)

ACTION 16 - With the Charging Header Pressure channel inoperable:

- a) Place the Charging Header Pressure channel in the tripped condition within one hour and
- b) Restore the Charging Header Pressure channel to operable status within 7 days or be in at least Hot Standby within the next 6 hours and in Cold Shutdown within the following 30 hours.

ACTION 17 - With the number of OPERABLE channels one less than the Total Number of Channels, place the inoperable channel in the bypassed condition within 72 hours, or be in at least HOT STANDBY within the next 6 hours and in at least HOT SHUTDOWN within the following 6 hours. One additional channel may be bypassed for up to 12 hours for surveillance testing per Specification 4.3.2.1.

ACTION 18 - ~~With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge supply and exhaust valves are maintained closed.~~

INSERT 1

INSERT 1:

- a) With less than the Minimum Channels OPERABLE requirement for Automatic Actuation Logic or Actuation Relays, operation may continue provided the containment purge supply and exhaust valves are maintained closed.
- b) MODE 1, 2, 3, 4, or 5^{##}:
 - 1. With one less than the Minimum Channels OPERABLE requirement for RCB Purge Radioactivity-High, within 30 days restore the inoperable channel or maintain the containment purge supply and exhaust valves closed.

NOTE:

MODE 1, 2, 3, or 4: Supplementary containment purge supply and isolation valves may be open during the allowed outage time for up to 2 hours at a time for required purge operation provided the valves are under administrative control.

MODE 5^{##}: Supplementary or Normal containment purge supply and isolation valves may be open during the allowed outage time for up to 6 hours at a time for required purge operation provided the valves are under administrative control.

- 2. With two less than the Minimum Channels OPERABLE requirement for RCB Purge Radioactivity-High, operation may continue provided the containment purge supply and exhaust valves are maintained closed.
- c) MODE 6^{##}: With less than the Minimum Channels OPERABLE requirement for RCB Purge Radioactivity - High, apply the requirements of Technical Specification 3.9.9 for an inoperable Containment Ventilation Isolation System.

NOTE:

With one less than the Minimum Channels Operable requirement for RCB Purge Radioactivity-High, Supplementary or Normal containment purge supply and isolation valves may be open for up to 6 hours at a time for required purge operation provided the valves are under administrative control.

REFUELING OPERATIONS

3/4.9.9 CONTAINMENT VENTILATION ISOLATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.9 The Containment Ventilation Isolation System shall be OPERABLE.

APPLICABILITY: During CORE ALTERATIONS or movement of irradiated fuel within the containment.

ACTION:

- a. With the Containment Ventilation Isolation System inoperable, close each of the purge and exhaust penetrations providing direct access from the containment atmosphere to the outside atmosphere.

NOTE:

In accordance with ACTION 18.b and ACTION 18.c., Supplementary or Normal containment purge supply and isolation valves may be open for up to 6 hours at a time for required purge operation provided the valves are under administrative control.

- b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.9 The Containment Ventilation Isolation System shall be demonstrated OPERABLE within 100 hours prior to the start of and at least once per 7 days during CORE ALTERATIONS by verifying that containment ventilation isolation occurs on manual initiation and on a High Radiation test signal from each of the RCB purge radiation monitoring instrumentation channels.

Bases Inserts

The information below will be incorporated in the Technical Specification Bases for the RCB Purge Radioactivity – High.

During a plant shutdown for refueling, the Normal Containment Purge System is in operation. The Supplementary Containment Purge System may be used during normal plant operation. Redundant Class 1E radiation monitors (i.e., the Reactor Containment Building [RCB] Purge Isolation) monitor the radiation in these purge lines. Upon either monitor sensing radiation above a preset limit, a signal is sent to the ESFAS logic trains, and the Containment ventilation isolation signal is actuated. In a LOCA, both Normal and Supplementary purge lines are isolated by a Safety Injection (SI) signal. Actuation of the purge isolation by these radiation monitors is not credited in the LOCA accident analyses, and is only a backup function for this event. The subject radiation monitors are credited for purge line isolation for a fuel handling accident.

ACTION 18.a. applies when the actuation logic for RCB Purge Radioactivity – High is inoperable because it affects both channels. The required action is to maintain the isolation valves closed. Loss of power supply to the output ESF relays of either channel of these monitors will be considered inoperable actuation logic and the isolation valves will be maintained closed in accordance with proposed ACTION 18.a. This is because this failure mode will result in the inability of the other actuation signals to close the purge valves if the initial signal is reset.

In MODE 1, 2, 3, 4, or 5^{##}, when one of the two required channels of RCB Purge Radioactivity – High is inoperable, ACTION 18.b.1 requires restoration within 30 days. The allowed outage time is a reasonable time for easily accessible non-risk-significant instrumentation. The required action is modified by a note that allows the supplementary purge valves to be opened in MODE 1-4 under administrative control during the 30-day allowed outage time to permit operation of the supplementary purge system for up to 2 hours at a time for the evolutions permitted by the Technical Specifications (containment pressure control, ALARA and respirable air quality needed for personnel entry into containment and for surveillance tests that required the valves to be open). The 2-hour allowance is adequate time for the routine pressure control purge operations during power operation. The note also allows the normal or supplementary purge supply and exhaust valves to be open up to 6 hours at a time in MODE 5^{##} for required purge operations. The 6-hour duration is justified because the design basis event in this MODE would be expected to be a slower developing event and purge operations in support of refueling activities are typically much longer than those done at power. Opening the valves for purge operations is not permitted after the 30-day allowed outage time has expired.

In MODE 1 – 4, the safety analysis credits only the SI signal for actuation of CVI. As a backup, the operable radiation monitoring channel would still be available to actuate containment isolation. In MODE 5 and 6, there is no credible LOCA event and the design basis postulated event is a fuel handling accident in containment.

Bases Inserts

Administrative control during purge evolutions with an inoperable radiation monitoring channel would include the operator ability to manually initiate CVI from the control room handswitch and typically include an assessment of plant conditions for potential actuation precursors, monitoring containment radiation and limiting purge duration.

ACTION 18.b.2 applies in MODE 1, 2, 3, 4, and 5^{##} when both channels of RCB Purge Radioactivity – High are inoperable. The action requires the purge isolation valves to be maintained closed and there is no provision for purge operation under administrative control.

ACTION 18.c. applies to the condition where one or both RCB Purge Radioactivity – High channels are inoperable in MODE 6 during movement of irradiated fuel or CORE ALTERATIONS. The ACTION directs the user to apply the requirements of TS 3/4.9.9 for an inoperable Containment Ventilation Isolation System during Refueling. With one inoperable channel of RCB Purge Radioactivity – High inoperable, the action includes a provision that allows purge operations for up to 6 hours at a time. The basis for the 6 hour duration of the purge is the same as described above for MODE 5^{##}.