ATTACHMENT (3)

IMPROVED TECHNICAL SPECIFICATIONS, REVISION 12

REVISION BY ITS SECTION

Baltimore Gas and Electric Company
Calvert Cliffs Nuclear Power Plant
January 00, 1998

Page Replacement Instructions
VOLUME 8
Section 3.4

Note: Underlined titles indicate tabs in volumes. Regarding CTS markups: Pages are referenced by citing the unit number as well as the specification number located in the upper right-hand corner of the CTS page.

Key:
DOC = Discussion Of Changes
DOD = Discussion Of Technical Specification Deviation or Discussion Of Bases Deviation

REMOVE	INSERT
Overview of Changes	
No pages changed.	
ITS	
3.4.12-1	3.4.12-1
ITS Bases	
B 3.4.5-2 through B 3.4.5-6	*B 3.4.5-2 through B 3.4.5-5*
CTS Markup & Discussion of Changes	
No Pages Changed.	
NSHC Findings	
No Pages Changed.	
ISTS Markup & Justification	
No Pages Changed.	
ISTS Bases Markup & Justification	
B 3.4-22	B 3.4-22

Note: Italicized entries indicate uneven exchanges. Please follow page replacement instructions carefully.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.12 Low Temperature Overpressure Protection (LTOP) System

LCO 3.4.12 An LTOP System shall be OPERABLE with:

a. 1. A maximum of one high pressure safety injection (HPSI) pump only capable of manually injecting into the RCS, and | 11

2. When HPSI suction is aligned to the refueling water tank, the HPSI pump shall be in manual control and either:

a) HPSI flow limited to ≤ 210 gpm, or

b) An RCS vent of ≥ 2.6 square inches established;

AND

5

b. HPSI loop motor-operated valves (MOVs) only capable of manually aligning HPSI pump flow to the RCS;

---------- NOTE ----------
HPSI loop MOVs may be capable of automatically aligning HPSI pump flow to the RCS for the purposes of testing.

AND

c. 1. Two OPERABLE power-operated relief valves (PORVs), and associated block valves open, with PORV lift settings on or below the curve in Figure 3.4.12-1 when the Shutdown Cooling (SDC) System is not in operation and PORV lift settings ≤ 429 psia (Unit 1), ≤ 443 psia (Unit 2), when the SDC is in operation, or | 12

2. One OPERABLE PORV, and associated block valve open, with PORV lift setting on or below the curve in

BASES

RCS Loops - MODE 3 satisfy 10 CFR 50.36(c)(2)(ii), Criterion 3.

LCO

The purpose of this LCO is to require two RCS loops to be available for heat removal, thus providing redundancy. The LCO requires the two loops to be OPERABLE with the intent of requiring both SGs to be capable (> -50 inches water level) of transferring heat from the reactor coolant at a controlled rate. Forced reactor coolant flow is the required way to transport heat, although natural circulation flow provides adequate removal. A minimum of one running RCP meets the LCO requirement for one loop in operation.

Note 1 permits a limited period of operation without RCPs. All RCPs may be not in operation for ≤ 1 hour per 8 hour period and ≤ 2 hours per 8 hour period for low flow testing. This means that natural circulation has been established. When in natural circulation, a reduction in boron concentration is prohibited because an even concentration distribution throughout the RCS cannot be ensured. Core outlet temperature is to be maintained at least 10°F below the saturation temperature so that no vapor bubble may form and possibly cause a natural circulation flow obstruction. | 5

In MODE 3, it is sometimes necessary to stop all RCPs (e.g., to perform surveillance or startup testing). The time period is acceptable because natural circulation is adequate for heat removal and the reactor coolant temperature can be maintained subcooled. | 11 | 12

Note 2 requires that all of the following three conditions be satisfied before an RCP can be started when any RCS cold leg temperature is ≤ 365°F (Unit 1), ≤ 301°F (Unit 2):

a. the pressurizer water level is ≤ 170 inches,

BASES

b. the pressurizer pressure is ≤ 300 psia (Unit 1), ≤ 320 psia (Unit 2), and

c. the secondary water temperature of each steam generator is ≤ 30°F above the RCS T_{avg}.

Ensuring the above conditions are satisfied will preclude a PORV from opening as a result of the pressure surge in the RCS when an RCP is started.

An OPERABLE loop consists of at least one OPERABLE RCP and an SG that is OPERABLE in accordance with the Steam Generator Tube Surveillance Program. An RCP is OPERABLE if it is capable of being powered and is able to provide forced flow if required.

APPLICABILITY

In MODE 3, the heat load is lower than at power; therefore, one RCS loop in operation is adequate for transport and heat removal. A second RCS loop is required to be OPERABLE but not in operation for redundant heat removal capability.

Operation in other MODES is covered by:

LCO 3.4.4, "RCS Loops - MODES 1 and 2;"
LCO 3.4.6, "RCS Loops - MODE 4;"
LCO 3.4.7, "RCS Loops - MODE 5, Loops Filled;"
LCO 3.4.8, "RCS Loops - MODE 5, Loops Not Filled;"
LCO 3.9.4, "Shutdown Cooling (SDC) and Coolant Circulation - High Water Level" (MODE 6); and
LCO 3.9.5, "Shutdown Cooling (SDC) and Coolant Circulation - Low Water Level" (MODE 6).

ACTIONS

A.1

If one required RCS loop is inoperable, redundancy for forced flow heat removal is lost. The Required Action is

BASES

restoration of the required RCS loop to OPERABLE status within a Completion Time of 72 hours. This time allowance is a justified period to be without the redundant, nonoperating loop because a single loop in operation has a heat transfer capability greater than that needed to remove the decay heat produced in the reactor core.

B.1

If restoration is not possible within 72 hours, the unit must be placed in MODE 4 within 12 hours. In MODE 4, the plant may be placed on the SDC System. The Completion Time of 12 hours is compatible with required operation to achieve cooldown and depressurization from the existing plant conditions in an orderly manner and without challenging plant systems.

C.1 and C.2

If no RCS loop is in operation, except as provided in Note 1 in the LCO section, all operations involving a reduction of RCS boron concentration must be immediately suspended. This is necessary because boron dilution requires forced circulation for proper homogenization. Action to restore one RCS loop to OPERABLE status and operation shall be initiated immediately and continued until one RCS loop is restored to OPERABLE status and operation. The immediate Completion Times reflect the importance of maintaining operation for decay heat removal.

SURVEILLANCE REQUIREMENTS

SR 3.4.5.1

This SR requires verification every 12 hours that the required number of RCS loops are in operation. Verification includes flow rate, temperature, and pump status monitoring, which help ensure that forced flow is providing heat

BASES

removal. The 12 hour interval has been shown by operating practice to be sufficient to regularly assess degradation and verify operation within safety analyses assumptions. In addition, control room indication and alarms will normally indicate loop status.

SR 3.4.5.2

This SR requires verification every 12 hours that the secondary side water level in each SG is > -50 inches. An adequate SG water level is required in order to have a heat sink for removal of the core decay heat from the reactor coolant. The 12 hour interval has been shown by operating practice to be sufficient to regularly assess degradation and verify operation within the safety analyses assumptions.

SR 3.4.5.3

Verification that the required number of RCPs are OPERABLE ensures that the single failure criterion is met and that an additional RCS loop can be placed in operation, if needed, to maintain decay heat removal and reactor coolant circulation. Verification is performed by verifying proper breaker alignment and power availability to the required RCPs. The Frequency of 7 days is considered reasonable in view of other administrative controls available and has been shown to be acceptable by operating experience.

REFERENCES None

BASES (continued)

LCO

The purpose of this LCO is to require [two] RCS loops to be available for heat removal, thus providing redundancy. The LCO requires the [two] loops to be OPERABLE with the intent of requiring both SGs to be capable (> 25% water level) of transferring heat from the reactor coolant at a controlled rate. Forced reactor coolant flow is the required way to transport heat, although natural circulation flow provides adequate removal. A minimum of one running RCP meets the LCO requirement for one loop in operation.

The Note permits a limited period of operation without RCPs. All RCPs may be de-energized for ≤ 1 hour per 8 hour period. This means that natural circulation has been established. When in natural circulation, a reduction in boron concentration is prohibited because an even concentration distribution throughout the RCS cannot be ensured. Core outlet temperature is to be maintained at least 10°F below the saturation temperature so that no vapor bubble may form and possibly cause a natural circulation flow obstruction.

In MODES 3, 4, and 5, it is sometimes necessary to stop all RCPs (or shutdown cooling (SDC) pump forced circulation (e.g., to change operation from one SDC train to the other, to perform surveillance or startup testing, to perform the transition to and from SDC System cooling, or to avoid operation below the RCP minimum net positive suction head limit). The time period is acceptable because natural circulation is adequate for heat removal, or the reactor coolant temperature can be maintained subcooled and boron stratification affecting reactivity control is not expected.

An OPERABLE RCS loop consists of at least one RCP operating forced flow for heat transport and an SG that is OPERABLE in accordance with the Steam Generator Tube Surveillance Program. An RCP is OPERABLE if it is capable of being powered and is able to provide forced flow if required.

APPLICABILITY

In MODE 3, the heat load is lower than at power; therefore, one RCS loop in operation is adequate for transport and heat removal. A second RCS loop is required to be OPERABLE but not in operation for redundant heat removal capability.

Operation in other MODES is covered by:

(continued)

Page Replacement Instructions
VOLUME 10
Section 3.6

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REMOVE	INSERT
Overview of Changes	
No Pages Changed.	
ITS	
3.6.3-1	3.6.3-1
ITS Bases	
B 3.6.8-4 and B 3.6.8-5	B 3.6.8-4 and B 3.6.8-5
CTS Markup & Discussion of Changes	
Specification 3.6.3, Unit 1 Page 6 of 6 *DOC 3.6.3-1 through 3.6.3-8*	Specification 3.6.3, Unit 1 Page 6 of 6 *DOC 3.6.3-1 through 3.6.3-6*
NSHC Findings	
No Pages Changed.	
ISTS Markup & Justification	
No Pages Changed.	
ISTS Bases Markup & Justification	
B 3.6-23 B 3.6-84 and B 3.6-85 DOD 3.6-1 through DOD 3.6-3	B 3.6-23 B 3.6-84 and B 3.6-85 DOD 3.6-1 through DOD 3.6-3

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3.6 CONTAINMENT SYSTEMS

3.6.3 Containment Isolation Valves

LCO 3.6.3 Each containment isolation valve shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

---------- NOTES ----------

1. Penetration flow paths may be unisolated intermittently under administrative controls.

2. Separate Condition entry is allowed for each penetration flow path.

3. Enter applicable Conditions and Required Actions for system(s) made inoperable by containment isolation valves. | 7

4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when leakage results in exceeding the overall containment leakage rate acceptance criteria.

5. Shutdown cooling isolation valves may be opened when RCS temperature is < 300°F to establish shutdown cooling flow. | 12

BASES

brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.8.1

Initiating each IRS train from the Control Room and operating it for ≥ 15 minutes ensures that all trains are OPERABLE and that all associated controls are functioning properly. It also ensures that motor failure can be detected for corrective action. The 31 day Frequency was developed considering the known reliability of fan motors and controls, the two train redundancy available, and the iodine removal capability of the Containment Spray System independent of the IRS. | 11

SR 3.6.8.2

This SR verifies that the required IRS filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The IRS filter tests are in accordance with portions of Regulatory Guide 1.52 (Ref. 4). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP. | 12

BASES

SR 3.6.8.3

The automatic startup test verifies that both trains of equipment start upon receipt of an actual or simulated test signal (ESFAS). The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. Furthermore, the Frequency was developed considering that the system equipment OPERABILITY is demonstrated on a 31 day Frequency by SR 3.6.8.1.

REFERENCES

1. UFSAR, Appendix 1C

2. UFSAR, Section 6.7

3. UFSAR, Section 14.21

4. Regulatory Guide 1.52, Revision 2 | 12

Specification 3.6.3

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

Containment Purge System

LIMITING CONDITION FOR OPERATION

3.6.1.7 The containment purge supply and exhaust isolation valves shall be closed by isolating air to the air operators and maintaining the solenoid air supply valve de-energized.

License Amendment 221

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one containment purge supply and/or one exhaust isolation valve open, close the open valve(s) within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With one containment purge supply and/or one exhaust isolation valve inoperable due to high leakage, repair the valve(s) within 24 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.7 The 48-inch containment purge supply and exhaust isolation valves shall be determined closed at least once per 31 days, by verifying that power to the solenoid valve is removed.

ADMINISTRATIVE CHANGES

A.1 The proposed change will reformat, renumber, and reword the existing Technical Specifications, with no change of intent, to be consistent with NUREG-1432. As a result, the Technical Specifications should be more easily readable and, therefore, understandable by plant operators, as well as other users.

During the Calvert Cliffs ITS development, certain wording preferences or conventions were adopted which resulted in no technical changes to the Technical Specifications. Additional information may also have been added to more fully describe each LCO and to be consistent with NUREG-1432. However, the additional information does not change the intent of the current Technical Specifications. The reformatting, renumbering, and rewording process involves no technical changes to existing Specifications.

A.2 Current Technical Specification 4.6.4.1.2 requires the verification that the containment isolation valves (CIVs) actuate to the isolation position on a Containment Isolation Signal (CIS) Channel A or B test signal, and on a Safety Injection Actuation Signal Channel A or B test signal. Improved Technical Specifications allow the SR to be performed with a simulated signal or credit to be taken with an actual signal. This change allows credit to be taken for an actual signal if the CIVs can be verified as having been isolated. The actual signal is as valid as a simulated signal because it places a demand on the valves to isolate. This is consistent with current plant practice if all the functions can be verified. Adding this additional information to the SR is an administrative change. This change is consistent with NUREG-1432.

A.3 Current Technical Specification 3.6.4.1 Action a contains a requirement to restore the inoperable valve(s) to Operable status within four hours, or to isolate the affected penetration or to shut down. Improved Technical Specification 3.6.3 will not contain the requirement to restore the valve to Operable status. The option to restore the CIV(s) to Operable status, however, still exists. Once the valve(s) is returned to Operable status, the Actions do not have to be completed, and the LCO can be exited. Therefore, requiring the valve(s) to be restored is not required in the ITS. Deleting an unnecessary requirement is an administrative change. This change is consistent with NUREG-1432.

A.4 Current Technical Specification 3.6.4.3.e states that the provisions of Specification 3.0.4 are not applicable, provided that the affected penetration is isolated. Improved Technical Specification 3.6.3 will not contain this requirement. Improved Technical Specification LCO 3.0.4 states that entry into a Mode or other specified condition in the Applicability shall not be made, except when the associated Actions to be entered permit continued operation in the Mode or other specified condition in the Applicability for an unlimited period of time. Since the ITS 3.6.3 Actions allow continued operation, Mode changes are allowed. Deleting a requirement that exists through the LCO 3.0 requirements constitutes an administrative change. This change is consistent with NUREG-1432.

A.5 Improved Technical Specification 3.6.3 will contain an Actions Note (Note 2) which allows separate condition entry for each penetration flow path. Current Technical Specification 3.6.4.1 Actions do not contain this requirement. This Note provides explicit instructions for proper application of the actions for Technical Specification compliance. In conjunction with the proposed Specification 1.3 - 'Completion Times," this note provides

direction consistent with the intent of the existing Actions for the containment isolation valves. This change is consistent with NUREG-1432.

A.6 Improved Technical Specification 3.6.3 will contain an Actions Note (Note 3) which requires entry into applicable Conditions and Required Actions for system(s) made inoperable by CIVs. Current Technical Specification 3.4.3.1 does not contain this requirement. This change adds a requirement to declare system(s) inoperable that are made inoperable by inoperable CIVs. This Action was added because, per ITS LCO 3.0.6, only the Actions of the CIVs would have to be entered. However, since inoperable CIVs require isolation of penetrations to the affected system(s) with continued operation, cascading to the affected system is prudent. This requirement is necessary because unlimited continued operation with a system inoperable could severely affect the mitigation of accidents and violate the safety analyses. The CTS does not contain a Specification similar to LCO 3.0.6 and, therefore, already requires cascading. The addition of a requirement which is already required in the CTS is an administrative change. This change is consistent with NUREG-1432.

A.7 Not used.

A.8 Current Technical Specification 4.6.4.1.3 requires the isolation time of each power-operated or automatic CIV to be determined to be within its limit when tested pursuant to Technical Specification 4.0.5. Improved Technical Specification will require the SR to be performed in accordance with the Inservice Testing Program. This change is administrative because ITS moved CTS 4.0.5 and incorporated it into the Inservice Testing Program, which is required per ITS Section 5.0. The requirement to perform the SR has not changed. This change is consistent with NUREG-1432.

A.9 Current Technical Specification 3.6.4.1 does not specifically have different Actions for different types of penetrations. Improved Technical Specification 3.6.3 contains Actions for different type penetrations with different numbers of valves inoperable. Improved Technical Specification 3.6.3 Actions A and B will contain a Conditions Note which specifies that these Conditions only apply to penetration flow paths with two CIVs and not a closed system. Improved Technical Specification 3.6.3 Action C will contain a Conditions Note which specifies that this Condition only applies to penetration flow paths with one or more CIVs and a closed system. Adding Notes which specify which Actions are applicable is an administrative change because the requirement is not affected technically.

A.10 Not Used.

A.11 Unit 1 CTS SR 4.6.4.1.2.b requires verifying that on each Containment Radiation- High Test Channel A or Channel B test signal, both required containment purge valves actuate to their isolation position. Improved Technical Specification 3.6.3 SRs will not contain this Surveillance. Current Technical Specification SR 4.9.9 and ITS SR 3.9.3.2 also require verifying the containment purge valves actuate on a Containment Radiation - High Test signal. Therefore, deleting an SR which is duplicated in another Specification constitutes an administrative change. This change is consistent with NUREG-1432.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 Current Technical Specification 3.6.4.1 Actions require the penetrations to be isolated within four hours if two CIVs are inoperable. Improved Technical Specification 3.6.3 Action B will require the penetration to be isolated within one hour. This change decreases the Completion Time to isolate a penetration, when two CIVs in the penetration are inoperable, from four hours to one hour. With both CIVs in one penetration inoperable, the means to isolate containment is hindered. The one-hour Completion Time is consistent with the urgency to isolate containment, and is also consistent with the Actions of LCO 3.6.1. In addition, the affected penetration flow path must be isolated with an isolation barrier that cannot be adversely affected by a single active failure (closed and deactivated automatic valve, a closed manual valve, or a blind flange). Decreasing the Completion Time to complete an Action constitutes a More Restrictive change. This change will not adversely affect safety because when two CIVs are inoperable, the ability to isolate the penetration is hindered, and rapid isolation is warranted. This change is consistent with NUREG-1432.

M.2 Improved Technical Specification 3.6.3 Required Actions A.2 and C.2 contain requirements to verify that the affected penetration flow path is isolated once per 31 days for isolation devices outside containment, and Action A.2 contains an additional Completion Time to verify the affected penetration flow path is isolated prior to entering Mode 4 from Mode 5, if not performed within the previous 92 days for isolation devices inside containment. The added Required Actions are modified by a Note which allows the isolation devices in high radiation areas to be verified by use of administrative means. Current Technical Specification 3.6.4.1 does not contain these requirements. This change will add requirements to Technical Specifications to periodically verify that the affected penetration flow path is isolated. This verification is necessary to ensure that containment penetrations required to be isolated following an accident, and no longer capable of being automatically isolated, will be in the isolation position should an event occur. The addition of requirements to the Technical Specifications constitutes a more restrictive change. This change will not adversely affect safety because it ensures that the isolated penetrations remain isolated. This change is consistent with NUREG-1432.

M.3 Current Technical Specification 3.6.1.1 Footnote * allows the hydrogen purge containment vent isolation valves to be opened for containment pressure control, airborne radioactivity control and Surveillance testing purposes only. Improved Technical Specification 3.6.3 creates an SR (SR 3.6.3.1) from this allowance. The ITS SR will require the verification that the containment vent is only opened for the above listed purposes (and air quality considerations as described in a less restrictive Discussion of Changes) once per 31 days. This SR ensures that the containment vent valves are closed as required or, if open, open for an allowable reason. The 31-day Frequency is consistent with other CIV requirements. Adding an SR to verify this allowance constitutes a more restrictive change. The addition of this SR is not adverse to plant safety because it ensures that this CIV is only opened for approved purposes. This change is consistent with NUREG-1432.

TECHNICAL CHANGES - RELOCATIONS

None

TECHNICAL CHANGES - MOVEMENT OF INFORMATION TO LICENSEE CONTROLLED

DOCUMENTS

LA.1 Current Technical Specification SRs 4.6.4.1.2.a and c specifically list the types of test signals (CIS Channel A or B, and Safety Injection Actuation Signal Channel A or B) required for testing that the CIVs actuate to their isolation position. Improved Technical Specification SR 3.6.3.5 will require that the CIVs be verified to isolate on an actual or simulated test signal. The test signal will no longer be specified in the SR. The test signal will be moved to Section B 3.6.3 of the ITS Bases. This is acceptable because these details do not impact the requirement to verify that the CIVs will isolate when required. These details can be adequately controlled in the Bases which require change control in accordance with the Bases Control Program in ITS Section 5.0. This approach provides an effective level of regulatory control and provides for a more appropriate change control process. Safety is unaffected by the change because there is no change in the requirement for the CIVs to isolate. Furthermore, NRC and Calvert Cliffs resources associated with processing license amendments to these requirements will be reduced. This is a less restrictive movement of information change with no impact on safety. This change is consistent with NUREG-1432.

LA.2 Not used.

LA.3 Not Used.

LA.4 Not Used.

TECHNICAL CHANGES - LESS RESTRICTIVE

L.1 Current Technical Specification 3.6.4.1 Actions b and c require that a penetration with one or more inoperable CIVs be isolated with one deactivated automatic valve secured in the isolation position, or by use of at least one closed manual valve or blind flange. Improved Technical Specifications 3.6.3 Action A (when only one CIV is inoperable) will additionally allow the penetration to be isolated by a check valve with flow through the valve secured. This change adds an additional method for isolating a penetration when one CIV is inoperable. One CIV for the affected penetration is still Operable. This valve, combined with the check valve with flow through the valve secured, is as effective in isolating the penetration as a secured automatic valve, a closed manual valve, or a blind flange. Therefore, the check valve with flow through the valve secured will perform the intended safety function of isolating the penetration. Adding methods to the Technical Specifications on how to isolate a penetrations constitutes a less restrictive change. This change is consistent with NUREG-1432.

L.2 Current Technical Specification 3.6.4.1 Actions b and c require the penetration flow path to be isolated within four hours when the CIV is inoperable. These Actions can be applied to penetration flow paths in a closed system. Penetration flow paths in closed systems are only required to have one CIV. Improved Technical Specification 3.6.3 Action C will require the penetration to be isolated within 72 hours when the CIV is inoperable in a penetration with a closed system. The penetration is required to be isolated with a closed and deactivated automatic valve, a closed manual valve, or a blind flange. This change will increase the Completion Time for this Action from 4 hours to 72 hours. This time is reasonable, considering the reliability of the closed system to act as a penetration isolation boundary.

The closed system will perform the safety function of isolating the penetration until the valve is isolated. Increasing the Completion Time to complete the Actions constitutes a less restrictive change. This change is consistent with NUREG-1432, TSTF-30.

L.3 Not used.

L.4 Current Technical Specification 4.6.1.1.a and Footnote ** to CTS 4.6.1.1.a require all penetrations required to be closed during accident conditions, which are not capable of being closed by OPERABLE containment automatic isolation valves, be verified closed by valves, blind flanges, or deactivated automatic valves. Improved Technical Specification SRs 3.6.3.2 and 3.6.3.3 also require verification that the containment isolation manual valves and blind flanges that are required to be closed during accident conditions are closed; however, the ITS SRs do not require containment isolation manual valves and blind flanges that are locked, sealed, or otherwise secured to be verified closed. Current Technical Specification 4.6.1.1.a and Footnote ** to CTS 4.6.1.1.a have been changed to include the exception regarding manual valves and blind flanges that are locked, sealed, or otherwise secured. This proposed change is acceptable, because containment isolation manual valves and blind flanges that are locked, sealed, or otherwise secured in position are verified to be isolated prior to locking, sealing, or securing. After locking, sealing, or securing, it would take an intentional act to remove the lock, seal, or securing device prior to opening the valve or blind flange. Administrative controls are provided to assure that manual valves and blind flanges which are locked, sealed, or secured closed are not inadvertently opened. Additionally, this proposed change is consistent with the requirements of a number of CTS SRs (e.g., 4.5.2.b.1, 4.7.1.2.a.4, 4.7.3.1.a, 4.7.4.1.a, and 4.7.5.1.a) which do not require the position of valves that are locked, sealed, or otherwise secured in position to be verified.

L.5 Current Technical Specification 3.6.1.1 footnote * requires the containment vent to be opened only for containment pressure control, airborne radioactivity control, and Surveillance testing purposes. Improved Technical Specification SR 3.6.3.1 requires the verification once per 31 days that the containment vent is closed, except for containment pressure control, airborne radioactivity control, air quality control, and Surveillance testing purposes. This change essentially adds an allowance for the containment vent to be opened for air quality control purposes. This is reasonable because containment air quality in containment is critical for personnel entry. Also, the containment vent is capable of closing in the environment following a loss-of-coolant accident. Adding an additional allowance for the containment vent to be opened constitutes a less restrictive change. This change is consistent with NUREG-1432.

L.6 Not used.

L.7 Current Technical Specification SR 4.6.1.1.a requires all penetrations (inside and outside of containment) not capable of being closed by Operable CIVs, and are required to be closed during accident conditions, to be verified closed. Improved Technical Specification SR 3.6.3.2 (outside containment) and SR 3.6.3.3 (inside containment) will require the penetration to be verified closed; however, the ITS will contain a Note which allows valves and blind flanges in high radiation areas to be verified by administrative means. This Note is acceptable since access to these areas is typically restricted for as low as reasonably achievable radiation exposure reasons. Also, since these areas are restricted, the chances of

these isolation devices being misaligned once they have been verified to be in the proper position is small. This change is consistent with NUREG-1432.

L.8 Not Used.

L.9 Not Used.

L.10 Current Technical Specification SR 4.6.4.1.1 requires each containment isolation valve to be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair, or replacement work is performed on the valve or its associated actuator, control, or power circuit. Improved Technical Specification 3.6.3 will not contain this SR. Current Technical Specification 4.6.4.1.1 is being deleted. Any time the OPERABILITY of a system or component has been affected by repair, maintenance, or replacement of a component, post maintenance testing is required to demonstrate OPERABILITY of the system or component. After restoration of a component that caused a required SR to be failed, ITS SR 3.0.1 requires the appropriate SR (i.e., ITS SR 3.6.3.4) to be performed to demonstrate OPERABILITY of the affected components. Therefore, explicit post maintenance Surveillance Requirements (i.e., CTS SR 4.6.4.1.1) are not required and are not included in the Calvert Cliffs ITS.

L.11 Current Technical Specification LCO 3.6.4.1 is modified by Footnote * which states: "Valves that are normally closed may be opened on an intermittent basis under administrative control." Improved Technical Specification 3.6.1.3 ACTIONS, Note 1 permits the penetration flow paths to be unisolated intermittently under administrative controls. While the CTS Footnote is similar to Actions Note 1, there is a subtle difference. Footnote * of CTS LCO 3.6.4.1 only applies to valves that are normally closed (i.e., manual valves), while ACTIONS Note 1 for ITS LCO 3.6.3 applies to any penetration flow path that has been closed to comply with an action. The CTS have been modified to include ACTIONS Note 1 of ITS LCO 3.6.3. Opening of containment penetrations on an intermittent basis is required for performing surveillances, repairs, routine evolutions, etc. Intermittently opening CIVs which are isolated in accordance with an action requirement is acceptable due to the low probability of an event that could pressurize the containment during the short time in which the penetration flow path is open and the administrative controls established to ensure the affected penetration can be isolated when a need for containment isolation is indicated.

BASES (continued)

ACTIONS

The ACTIONS are modified by a Note allowing penetration flow paths, except for [42] inch purge valve penetration flow paths, to be unisolated intermittently under administrative controls. These administrative controls consist of stationing a dedicated operator at the valve controls, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for containment isolation is indicated. [Due to the size of the containment purge line penetration and the fact that those penetrations exhaust directly from the containment atmosphere to the environment, these valves may not be opened under administrative controls.] (5) (12) (7) (5)

The fifth Note allows the Shutdown Cooling (SDC) isolation valves to be opened when RCS temperature is < 300°F to establish SDC flow. This Note is required for Operation in Mode 4 to allow SDC to be established.

A second Note has been added to provide clarification that, for this LCO, separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable containment isolation valve. Complying with the Required Actions may allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent Condition entry and application of associated Required Actions.

The ACTIONS are further modified by a third Note, which ensures that appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

A fourth Note has been added that requires entry into the applicable Conditions and Required Actions of LCO 3.6.1 when leakage results in exceeding the overall containment leakage limit. (6) (12) (7)

A.1 and A.2

In the event one containment isolation valve in one or more penetration flow paths is inoperable [except for purge valve leakage and shield building bypass leakage not within limit], the affected penetration flow path must be isolated. (3) The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic containment isolation valve, a closed manual valve, a blind (7)

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.20.1

Initiating from the control room and operating it

Operating each ICS train for ≥ 15 minutes ensures that all trains are OPERABLE and that all associated controls are functioning properly. It also ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action. For systems with heaters, operation with the heaters on (automatic heater cycling to maintain temperature) for ≥ 10 continuous hours eliminates moisture on the adsorbers and HEPA filters. Experience from filter testing at operating units indicates that the 10 hour period is adequate for moisture elimination on the adsorbers and HEPA filters. The 31 day Frequency was developed considering the known reliability of fan motors and controls, the two train redundancy available, and the iodine removal capability of the Containment Spray System independent of the ICS.

SR 3.6.20.2

This SR verifies that the required ICS filter testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The ICS filter tests are in accordance with portions of Regulatory Guide 1.52 (Ref. 3). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP.

SR 3.6.16.3

The automatic startup test verifies that both trains of equipment start upon receipt of an actual or simulated test signal (ESFAS). The [18] month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the [18] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. Furthermore, the Frequency was developed considering that

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.10.3 (continued)

the system equipment OPERABILITY is demonstrated on a 31 day Frequency by SR 3.6.10.1.

SR 3.6.10.4

The ICS filter bypass dampers are tested to verify OPERABILITY. The dampers are in the bypass position during normal operation and must reposition for accident operation to draw air through the filters. The [18] month Frequency is considered to be acceptable based on the damper reliability and design, the mild environmental conditions in the vicinity of the dampers, and the fact that operating experience has shown that the dampers usually pass the Surveillance when performed at the [18] month Frequency.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 41, GDC 42, and GDC 43.
2. UFSAR, Section 6.7
3. Regulatory Guide 1.52, Revision 2.
4. UFSAR, Section 14.2

UFSAR Appendix 1C.

PLANT-SPECIFIC CHANGES

1. This change deletes the term Atmospheric and the terms Atmospheric and Dual in parenthesis in the Bases. These terms were placed in the NUREG-1432 Bases titles to inform the users that the Specification is for atmospheric and/or dual containment plants. These informational terms are not required for the Calvert Cliffs Improved Technical Specifications (ITS). Calvert Cliffs has an Atmospheric containment and will adopt the applicable Specifications. This change also applies to the deletion of NUREG-1432 Specifications that do not apply to Calvert Cliffs and any designations in the titles that relate.

2. This change incorporates Calvert Cliffs-specific information into brackets. Bracketed information located throughout NUREG-1432 will be replaced with the specific Calvert Cliffs information. This change also includes the deletion of the bracketed information.

3. This addition, deletion, or modification to references, or the changing of reference numbers was performed to ensure that the references are applicable to Calvert Cliffs, and to ensure consistency between references in the text and the reference section.

4. Calvert Cliffs has an Updated Final Safety Analysis Report, therefore, "FSAR" will be changed to "UFSAR" throughout the ITS Bases.

5. The containment purge supply and exhaust isolation penetrations are being blind flanged outside containment as described in Calvert Cliffs Technical Specification change request from Mr. C. H. Cruse (Baltimore Gas and Electric Company) to NRC Document Control Desk, dated August 1, 1996, License Amendment Request, Use of Blind Flange in Place of Containment Purge Valves During Operations. Revisions were made (changes, additions, or deletions) throughout the 3.6 Bases to reflect this.

6. This change to the ITS Bases incorporates changes made to the ITS. This change ensures consistency between the ITS and ITS Bases.

7. This addition to the Bases represents specific Calvert Cliffs information moved from the Current Technical Specifications. These additions will provide information in the ITS which are deemed necessary to help clarify the Bases This change is consistent with the Calvert Cliffs design.

8. This change to the non-bracketed value, system name, or terminology was made to be consistent with the Calvert Cliffs-specific number, system name, or terminology. This change also includes changes made which correct specific references to the Accident analyses, and other changes which clarify the Bases.

9. This change deletes the bracketed information labeled Reviewers Notes. This is acceptable because the Reviewers Notes are information for the NRC reviewers and not intended to be maintained in the individual plants' Technical Specifications.

10. All references to Calvert Cliffs being in compliance with the General Design Criteria (GDC) are being deleted. Although Calvert Cliffs meets the intent of the GDC, it was licensed as a pre-GDC plant. Therefore, all references to GDC are being replaced with a reference from the Updated Final Safety Analysis Report Updated Final Safety Analysis Report Appendix 1C, which is the draft GDC. This change is consistent with the Calvert Cliffs current licensing basis.

11. This change to the Bases reflects the Calvert Cliffs-specific safety analysis, plant system or operation, or design basis.

12. NUREG-1432 contains Specifications in 3.6 that are not applicable to the Calvert Cliffs ITS. These Specifications are B 3.6.1, "Containment (Dual)," B 3.6.4B, "Containment Pressure (Dual)," B 3.6.6B, "Containment Spray and Cooling Systems (Atmospheric and Dual)," B 3.6.7, "Spray Additive System (Atmospheric and Dual)," B 3.6.9, "Hydrogen Mixing System (HMS) (Atmospheric and Dual)," B 3.6.11, "Shield Building (Dual)," and B 3.6.13, "Shield Building Exhaust Air Cleanup System (SBEACS) (Dual)." These Specifications were not include the Calvert Cliffs ITS. This change is consistent with Calvert Cliffs' current licensing basis.

13. NUREG-1432 B 3.6.4 Applicable Safety Analyses Section contains information concerning the containment design. Calvert Cliffs' ITS will not contain this information because it is not applicable. The Calvert Cliffs containment was designed for the event described in B 3.6.4 Background. This change is consistent with the Calvert Cliffs current licensing basis.

14. Specification 3.6.3, Containment Isolation Valves, Condition C applies to Containment Isolation Valves on a closed system. At the request of the licensed operators, we have included a list of containment penetrations which are in a closed system in the Bases. This list is taken from the Calvert Cliffs Updated Final Safety Analysis Report, Figure 5-10 and Table 5.3 and will assist the operators in accurately following the Technical Specifications. In addition, a reference to the Standard Review Plan description of closed systems was eliminated. Calvert Cliffs is not licensed to the Standard Review Plan for containment isolation valves and the referenced description does not match the Calvert Cliffs licensing basis.

15. Not used.

16. TSTF-17, Revision 1, added the following statement to the Bases of NUREG-1432 SR 3.6.2.2. "The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage, and the potential for containment OPERABILITY if the Surveillance were performed with the reactor at power." The last half of the statement is incorrect. During power operations, containment OPERABILITY is required. Performing the test during an outage, avoids the potential for a loss of containment OPERABILITY. Thus, the Bases should state: "...and the potential for loss of containment OPERABILITY if the Surveillance were performed with the reactor at power." Additionally, TSTF-17, Revision 1, revised the NUREG-1432 Bases for SR 3.6.2.2 to state: " . . .given that the interlock mechanism is not normally challenged when containment is entered . . ." This statement is also inaccurate. It should state: "given that the interlock mechanism is not normally challenged when the air lock is entered . . ." The Bases for ITS SR 3.6.2.2 have been revised to incorporate the changes discussed above, as well as several editorial enhancements.

17. Typographical/grammatical error corrected.

18. This change incorporates correct terminology from 10 CFR Part 50, Appendix J. Option B, for defining the term P_a as the calculated peak containment internal pressure related to the design basis loss-of-coolant accident.

19. NUREG-1432 B SR 3.6.8.1 states that operating each Iodine Removal System train for ≥ 15 minutes " . . . also ensures that blockage, fan or motor failure, or excessive vibration can be detected for corrective action." Improved Technical Specifications will not include the alarms for blockage or excessive vibration because this equipment is inside Containment, and the only way to make the determination is by going inside Containment. Containment entries while operating at power will not be made for this surveillance.

Page Replacement Instructions
VOLUME 11
Section 3.7

Note: Underlined titles indicate tabs in volumes. Regarding CTS markups: Pages are referenced by citing the unit number as well as the specification number located in the upper right-hand corner of the CTS page.

Key:
DOC = Discussion Of Changes
DOD = Discussion Of Technical Specification Deviation or Discussion Of Bases Deviation

REMOVE	INSERT
Overview of Changes	
No Pages Changed.	
ITS	
3.7.8-4	3.7.8-4
ITS Bases	
B 3 7.8-8	B 3.7.8-8
B 3.7.10-4	B 3.7.10-4
B 3.7.11-4 and B 3.7.11-5	B 3.7.11-4 and B 3.7.11-5
B 3.7.12-4	B 3.7.12-4
B 3.7.15-1	B 3.7.15-1
CTS Markup & Discussion of Changes	
Specification 3.7.8, Unit 1 Page 5 of 6	Specification 3.7.8, Unit 1 Page 5 of 6
Specification 3.7.8, Unit 2 Page 5 of 6	Specification 3.7.8, Unit 2 Page 5 of 6
DOC 3.7.11-1 through DOC 3.7.11-3	DOC 3.7.11-1 through DOC 3.7.11-3
NSHC Findings	
No Pages Changed.	
ISTS Markup & Justification	
3.7-5	3.7-5
3.7-26	3.7-26
DOD 3.7-6	DOD 3.7-6

Note: Italicized entries indicate uneven exchanges. Please follow page replacement instructions carefully.

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Key:
DOC = Discussion Of Changes
DOD = Discussion Of Technical Specification Deviation or Discussion Of Bases Deviation

REMOVE	INSERT
ISTS Bases Markup & Justification	
B 3.7-13	B 3.7-13
B 3.7-59 and B 3.7-60	B 3.7-59 and B 3.7-60
B 3.7-68 and B 3.7-69	B 3.7-68 and B 3.7-69
B 3.7-74	B 3.7-74
B 3.7-76	B 3.7-76
B 3.7-80	B 3.7-80
B 3.7-82	B 3.7-82
DOD 3.7-1 through DOD 3.7-4	DOD 3.7-1 through DOD 3.7-4

Note: Italicized entries indicate uneven exchanges. Please follow page replacement instructions carefully.

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.8.3	Verify each CREVS train actuates on an actual or simulated actuation signal.	24 months

12

BASES

SR 3.7.8.2

This SR verifies that the required CREVS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The CREVS filter tests are in accordance with portions of Regulatory Guide 1.52 (Ref. 3). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP. | 12

SR 3.7.8.3

This SR verifies each CREVS train starts and operates on an actual or simulated actuation signal (CRRS). This test is conducted on a 24 month Frequency. This Frequency is adequate to ensure the CREVS is capable of starting and operating on an actual or simulated CRRS. | 11 | 12

REFERENCES

1. UFSAR, Section 9.8.2.3
2. UFSAR, Chapter 14 | 11
3. Regulatory Guide 1.52, Revision 2 | 12

BASES

SR 3.7.10.2

This SR verifies that the required ECCS PREFS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The ECCS PREFS filter tests are in accordance with portions of Regulatory Guide 1.52 (Ref. 3). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP. 12

REFERENCES

1. UFSAR, Section 9.8.2.3

2. UFSAR, Section 14.9 6

3. Regulatory Guide 1.52, Revision 2 12

BASES

were to occur to cause cessation of operation of the SFPEVS, it would be quickly identified. | 6

SR 3.7.11.2

This SR verifies the performance of SFPEVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP). The SFPEVS filter tests are in accordance with portions of Regulatory Guide 1.52 (Ref. 6). The VFTP includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP. | 12

SR 3.7.11.3

This SR verifies the integrity of the spent fuel storage pool area. The ability of the spent fuel storage pool area to maintain negative pressure with respect to potentially uncontaminated adjacent areas is periodically tested to verify proper function of the SFPEVS. During operation, the spent fuel storage pool area is designed to maintain a slight negative pressure in the spent fuel storage pool area, with respect to adjacent areas, to prevent unfiltered LEAKAGE.

This test is conducted on a 24 month Frequency. This Frequency is adequate to ensure the SFPEVS is capable of maintaining a negative pressure.

REFERENCES

1. UFSAR, Section 9.8.2.3

2. UFSAR, Section 14.18

BASES

3. Regulatory Guide 1.25

4. 10 CFR 100.11

5. Regulatory Guide 1.52, Revision 2 | 12

BASES

for ≥ 15 minutes. The 31 day Frequency is based on the known reliability of the equipment and the two train redundancy available. | 6

SR 3.7.12.2

This SR verifies the performance of PREVS filter testing in accordance with the Ventilation Filter Testing Program (VFTP). The PREVS filter tests are in accordance with portions of Reference 4. The VFTP includes testing the performance of the HEPA filter, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the VFTP. | 12

SR 3.7.12.3

This SR verifies that each PREVS train starts and operates on an actual or simulated actuation signal (Containment Isolation Signal). This test is conducted on a 24 month Frequency. This Frequency is adequate to ensure the PREVS is capable of starting and operating on an actual or simulated Containment Isolation Signal. | 6 | 11

REFERENCES

1. UFSAR, Section 6.6.2

2. UFSAR, Chapter 14

3. UFSAR, Section 14.24 | 11

4. Regulatory Guide 1.52, Revision 2 | 12

B 3.7 PLANT SYSTEMS

B 3.7.15 Main Feedwater Isolation Valves (MFIVs)

BASES

BACKGROUND

The MFIVs isolate main feedwater (MFW) flow to the secondary side of the steam generators following a high energy line break (HELB). The consequences of HELBs occurring in the main steam lines or in the MFW lines downstream of the MFIVs will be mitigated by their closure. Closure of the MFIVs effectively terminates the addition of feedwater to an affected steam generator, limiting the mass and energy release for steam line breaks (SLBs)/or FWLBs inside containment upstream of the reverse flow check valve, and reducing the cooldown effects for SLBs. 6 12

The MFIVs isolate the non safety related portions from the safety related portion of the system. In the event of a secondary side pipe rupture inside containment upstream of the reverse flow check valve, the valves limit the quantity of high energy fluid that enters containment through the break. 12

One MFIV is located on each MFW line, outside, but close to, containment. The MFIVs are located so that AFW may be supplied to a steam generator following MFIV closure. The piping volume from the valve to the steam generator must be accounted for in calculating mass and energy releases.

The MFIVs close on receipt of a steam generator isolation signal (SGIS) generated by low steam generator pressure. The SGIS also actuates the main steam isolation valves (MSIVs) to close. THE MFIVs may also be actuated manually. In addition to the MFIVs reverse flow check valve inside containment is available to isolate the feedwater line penetrating containment, and to ensure that the consequences of events do not exceed the capacity of the containment heat removal systems.

Specification 3.7.8

3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

See Discussion of changes for Specification 5.0, "Administrative Controls"

3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of ≥ 90% for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).

4. Verifying a system flow rate of 2000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1975.

d. After every 720 hours of charcoal adsorber operation by:

Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of ≥ 90% for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the filter train shall be demonstrated **OPERABLE** by also verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, while operating the ventilation system at a flow of 2000 cfm ± 10%.

e. At least once per ~~18~~ 24 months by: (L.1)

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 4 inches Water Gauge while operating the ventilation system at a flow rate of 2000 cfm ± 10%.

SR 3.7.8.3

2. Verifying that on a Control Room high radiation ~~test~~ signal, the system automatically switches into a recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks and that both of the isolation valves in each inlet duct and common exhaust duct, and the isolation valve in the toilet area exhaust duct, close. (LA.2, LA.3)

actuates

actual or simulated actuation (A.6)

pag 5 & 6

See Discussion of Changes for specification 5.0, "Administrative Controls"

3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying a system flow rate of 2000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1975.

d. After every 720 hours of charcoal adsorber operation by:

Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained from an adsorber tray or from an adsorber test tray in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, demonstrates a removal efficiency of ≥ 90% for radioactive methyl iodine when the sample is tested in accordance with ANSI N510-1975 (30°C, 95% R.H.).

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the filter train shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with Regulatory Positions C.5.a and C.5.d of Regulatory Guide 1.52, Revision 2, March 1978, while operating the ventilation system at a flow of 2000 cfm ± 10%.

e. At least once per 18 months by: 24 — L.1

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 4 inches Water Gauge while operating the ventilation system at a flow rate of 2000 cfm ± 10%. — LA.2

SR 3.7.8.3

2. Verifying that on a control room high radiation test signal, the system automatically switches into a recirculation mode of operation with flow through the HEPA filters and charcoal adsorber banks and that both of the isolation valves in each inlet duct and common exhaust duct, and the isolation valve in the toilet area exhaust duct, close. — LA.3

actuates

Actual or simulated Actuation — A.6

1 A
1 A
1 6 12

ADMINISTRATIVE CHANGES

A.1 The proposed change will reformat, renumber, and reword the existing Technical Specifications, with no change of intent, to be consistent with NUREG-1432. As a result, the Technical Specifications should be more easily readable and, therefore, understandable by plant operators, as well as other users.

During the Calvert Cliffs ITS development, certain wording preferences or conventions were adopted which resulted in no technical changes to the Technical Specifications. Additional information may also have been added to more fully describe each LCO, Applicability, Action, or SR and to be consistent with NUREG-1432. However, the additional information does not change the intent of the current Technical Specifications. The reformatting, renumbering, and rewording process involves no technical changes to existing Specifications.

A.2 Current Technical Specification 3.9.12, Spent Fuel Pool Exhaust Ventilation System (SFPEVS), Action c exempts the provisions of Specifications 3.0.3 and 3.0.4. Specification 3.0.3 requires the plant to shut down when a condition exists that is not covered by the LCO, or one in which an Action is not provided. Specification 3.0.4 exempts Mode changes if the LCO is not met unless continued operation is allowed by the Actions. Improved Technical Specification 3.7.11 will not contain this exemption. The provision to exempt Specification 3.0.3 is not required because there is no condition of inoperability that is not encompassed by the Action, therefore LCO 3.0.3 would never be entered. The provisions to exempt Specification 3.0.4 are not required because upon completion of the Required Action, the plant will be outside the Mode of Applicability for the LCO. The deletion of requirements that do not apply is considered an administrative change. This change is consistent with NUREG-1432.

A.3 Improved Technical Specification SR 3.7.11.2 requires the performance of the required SFPEVS filter testing in accordance with the VFTP. The requirements for VFTP are outlined in ITS Section 5.0. Current Technical Specification 3.7.6.1 contains the actual testing requirements. This change moves these testing requirements from Section 3.7 to Section 5.0. The movement of requirements with the Technical Specifications constitutes an administrative change. This change is consistent with NUREG-1432.

TECHNICAL CHANGES - MORE RESTRICTIVE

M.1 Current Technical Specification LCO 3.9.12 requires the spent fuel pool ventilation system to be operable with one HEPA filter bank, two charcoal adsorber banks, and two exhaust fans. When one adsorber bank and/or one exhaust fan is inoperable, CTS 3.9.12 Action a requires the Operable exhaust fan to be placed in operation discharging through an Operable train of HEPA filters and charcoal adsorbers. If this action is taken, fuel movement can continue for an indefinite period of time. No requirements exist to restore the inoperable exhaust fan or charcoal adsorber bank. Improved Technical Specification LCO 3.7.11 will require the spent fuel pool exhaust ventilation system to be operable and in operation. Operation will be required during the Mode of Applicability, even if both exhaust fans and charcoal adsorber banks are Operable. The Bases will also define "in operation" to be one exhaust fan in operation discharging through an Operable train of HEPA filters and one Operable charcoal adsorber bank. This proposed change is essentially more restrictive, since

it will require the SFPEVS to be in operation during the Mode of Applicability even if both exhaust fans and charcoal adsorber banks are in fact Operable. It is appropriate, because the spent fuel pool ventilation system is a system which is manually initiated. Thus, in the event of a fuel handling accident occurring during the movement of irradiated fuel assemblies in the auxiliary building, the system would only be initiated some time after the event. The delay in initiating the system could permit a radioactive release to the outside environment. Thus, anytime irradiated fuel assemblies are being moved within the auxiliary building, the spent fuel pool ventilation system should be operable and in operation. This change is consistent with current practice, which requires the SFPEVS to be in operation when moving irradiated fuel assemblies in the auxiliary building. This requirement will provided additional assurance of public health and safety.

To support this change, it was necessary to revise CTS SR 4.9.12.a. Currently, this SR requires the spent fuel pool ventilation system to be verified operable at least once per 31 days by initiating flow through the HEPA filter bank and both charcoal adsorber banks and verifying that each charcoal adsorber bank and each exhaust fan operates for at least 15 minutes. The revised LCO requires the spent fuel pool ventilation system to be in operation at all times during the condition of Applicability. Thus, operability of the system will continuously be confirmed. Instead of the performance check, an SR which verifies the spent fuel pool ventilation system is in operation is required. Improved Technical Specification SR 3.7.11.1 will require the spent fuel pool ventilation system to be verified to be in operation at least once per 12 hours. This SR provides additional assurance of public health and safety by ensuring that system operation is verified on a periodic basis. The Frequency of 12 hours is appropriate, because plant personnel will be focused on the fuel handling activities occurring in the auxiliary building. Thus, if anything were to occur which would result in the cessation of the operation of the spent fuel pool ventilation system, it would be quickly identified.

TECHNICAL CHANGES - RELOCATIONS

None

TECHNICAL CHANGES - MOVEMENT OF INFORMATION TO LICENSEE CONTROLLED DOCUMENTS

LA.1 Not Used.

LA.2 Action a and b of CTS 3.9.12 require the suspension of all operations involving crane operation with loads over the storage pool. Since crane operation over the storage pool is not necessarily affected by the loss of the SFPEVS or its components, the requirements associated with the suspension of crane operation with loads over the storage pool are to be relocated to the UFSAR. The bounding design basis fuel handling accident assumes an irradiated fuel assembly is dropped and damaged. The movement of loads (loads other than fuel assemblies) is administratively controlled based on heavy loads analyses. The heavy loads analysis methodology and crane operation which dictate the controls are described in the UFSAR. Therefore, the Actions associated with crane operations involving loads are not required to be in the ITS to ensure adequate control of loads and are to be relocated to the UFSAR. Changes to the UFSAR will be adequately controlled by the provisions of 10 CFR 50.59.

LA.3 Not used.

TECHNICAL CHANGES - LESS RESTRICTIVE

L.1 Not used.

L.2 Current Technical Specification 3.9.12 Applicability for the SFPEVS, is whenever irradiated fuel is in the storage pool. Improved Technical Specification 3.7.11 Applicability is during movement of irradiated fuel assemblies in the Auxiliary Building. This change reduces the Modes of Applicability from whenever irradiated fuel is in the storage pool to whenever irradiated fuel is being moved in the spent fuel pool. This change is acceptable because the fuel handling accident assumes an irradiated fuel assembly is being moved in the spent fuel pool. The reduction of the Mode of Applicability is considered a less restrictive change. This change is consistent with NUREG-1432.

L.3 Current Technical Specification Surveillance 4.9.12.d.2 requires that SFPEVS maintain a measurable negative pressure relative to the outside atmosphere once per 18 months. Improved Technical Specification SR 3.7.11.3 requires that SFPEVS maintain a measurable negative pressure relative to the outside atmosphere once per 24 months. This change decreases the Surveillance Frequency from 18 months to 24 months. The 24-month Surveillance Frequency is sufficient to ensure that the SFPEVS can maintain a measurable negative pressure in the spent fuel pool area of the Auxiliary Building. After reviewing the previous ten years of Surveillance history, the SFPEVS has never failed to maintain a measurable negative pressure in the spent fuel pool area of the Auxiliary Building. The SFPEVS contains redundant electrical and mechanical components and is operated once per 31 days to verify operability. Therefore, per Generic Letter 91-04, the effect of this change on plant safety is small. Also, instrument drift will have no affect on the test. There is no instrumentation associated with this Technical Specification requirement. Decreasing Surveillance Frequencies constitutes a less restrictive change. This change is consistent with NUREG-1432 and the guidance in Generic Letter 91-04.

<CTS>

3.7 PLANT SYSTEMS

3.7.2 Main Steam Isolation Valves (MSIVs)

<3.7.1.5> LCO 3.7.2 [Two] MSIVs shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3 except when all MSIVs are closed ~~and~~ [de-activated]. (24) (12)

ACTIONS

	CONDITION	REQUIRED ACTION	COMPLETION TIME
<3.7.1.5 ACTION MODE 1>	A. One MSIV inoperable in MODE 1.	A.1 Restore MSIV to OPERABLE status.	[8] hours
	B. Required Action and Associated Completion Time of Condition A not met.	B.1 Be in MODE 2.	6 hours (2) (11)
<3.7.1.5 ACTION MODE 2+3>	C. ---------NOTE--------- Separate Condition entry is allowed for each MSIV. ---------- One or more MSIVs inoperable in MODE 2 or 3.	C.1 Close MSIV. AND C.2 Verify MSIV is closed.	[8] hours Once per 7 days
	D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 4.	6 hours [12] hours

CREVS
~~CREACS~~
3.7.~~11~~ 8 (2)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE			FREQUENCY	
NEW DCA.4	SR 3.7.~~11~~.2 (8)	Perform required ~~CREACS~~ filter testing in accordance with the ~~Ventilation Filter Testing Program (VFTP)~~.	In accordance with the ~~VFTP~~ Ventilation Filter Testing Program	(2) (2) | 11
4.7.6.1.e.2	SR 3.7.~~11~~.3 (8)	Verify each ~~CREACS~~ CREVS required train actuates on an actual or simulated actuation signal.	~~[18]~~ 24 months	(2) (1) | 6 | 12
	SR 3.7.11.4	Verify one CREACS train can maintain a positive pressure of ≥ [0.125] inches water gauge, relative to the adjacent [area] during the emergency radiation state of the emergency mode of operation at a emergency ventilation flow rate of ≤ [3000] cfm.	[18] months on a STAGGERED TEST BASIS	(3)

\| 12

Actions A.1 and A.2 are structured to reflect the current licensing basis requirement. This is necessary based on existing plant configuration.

24. NUREG-1432 Specification 3.7.2 Applicability contains a phrase that says, " . . . except when all MSIVs are closed and [de-activated]." Current Technical Specification 3.7.1.5 Applicability does not contain this phrase. The non-bracketed portion of the phrase has been incorporated into ITS 3.7.2 Applicability, but the, "and [de-activated]" portion has not been incorporated because it is not an action that is consistent with the design of the MSIVs at Calvert Cliffs. Bracketed terms are intended to incorporate plant-specific information, including deleting items not consistent with Calvert Cliffs design. Thus, the term is not included in ITS.

B 3.7 PLANT SYSTEMS

B 3.7.3 Main Feedwater Isolation Valves (MFIVs) [and [MFIV] Bypass Valves]

BASES

BACKGROUND

The MFIVs isolate main feedwater (MFW) flow to the secondary side of the steam generators following a high energy line break (HELB). Closure of the MFIVs and the bypass valves terminates flow to both steam generators, terminating the event for feedwater line breaks (FWLBs) occurring upstream of the MFIVs. The consequences of events occurring in the main steam lines or in the MFW lines downstream of the MFIVs will be mitigated by their closure. Closure of the MFIVs and bypass valves effectively terminates the addition of feedwater to an affected steam generator, limiting the mass and energy release for steam line breaks (SLBs) or FWLBs inside containment, and reducing the cooldown effects for SLBs.

The MFIVs and bypass valves isolate the nonsafety related portions from the safety related portion of the system. In the event of a secondary side pipe rupture inside containment, the valves limit the quantity of high energy fluid that enters containment through the break, and provide a pressure boundary for the controlled addition of auxiliary feedwater (AFW) to the intact loop.

One MFIV is located on each AFW line, outside, but close to, containment. The MFIVs are located upstream of the AFW injection point so that AFW may be supplied to a steam generator following MFIV closure. The piping volume from the valve to the steam generator must be accounted for in calculating mass and energy releases, and refilled prior to AFW reaching the steam generator following either an SLB or FWLB.

The MFIVs and its bypass valves close on receipt of a main steam isolation signal (MSIS) generated by either low steam generator pressure or high containment pressure. The MSIS also actuates the main steam isolation valves (MSIVs) to close. The MFIVs and bypass valves may also be actuated manually. In addition to the MFIVs and the bypass valves, a check valve inside containment is available to isolate the feedwater line penetrating containment, and to ensure that the consequences of events do not exceed the capacity of the containment heat removal systems.

(continued)

SURVEILLANCE REQUIREMENTS

SR 3.7.11.1 (continued)

testing each train once every month provides an adequate check on this system.

Monthly heater operations dry out any moisture accumulated in the charcoal from humidity in the ambient air. (Systems with heaters must be operated for ≥ 10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system.) The 31 day Frequency is based on the known reliability of the equipment, and the two train redundancy available.

SR 3.7.11.2

This SR verifies that the required CREACS testing is performed in accordance with the [Ventilation Filter Testing Program (VFTP)]. The CREACS filter tests are in accordance with Regulatory Guide 1.52 (Ref. 3). The [VFTP] includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the [VFTP].

This test is conducted on a 24 month Frequency. This Frequency is adequate to ensure the CREVS is capable of starting and operating on an actual or simulated CRRS.

SR 3.7.11.3

This SR verifies each CREACS train starts and operates on an actual or simulated actuation signal. The Frequency of [18] months is consistent with that specified in Reference 3.

SR 3.7.11.4

This SR verifies the integrity of the control room enclosure and the assumed inleakage rates of potentially contaminated air. The control room positive pressure, with respect to potentially contaminated adjacent areas, is periodically tested to verify proper function of the CREACS. During the emergency radiation state of the emergency mode of

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.11.4 (continued)

operation, the CREACS is designed to pressurize the control room ≥ [0.125] inches water gauge positive pressure with respect to adjacent areas in order to prevent unfiltered inleakage. The CREACS is designed to maintain this positive pressure with one train at an emergency ventilation flow rate of [3000] cfm. The Frequency of [18] months on a STAGGERED TEST BASIS is consistent with the guidance provided in NUREG-0800, Section 6.4 (Ref. 4).

REFERENCES

1. USAR, Section [9.4].
2. USAR, Chapter [15].
3. Regulatory Guide 1.52 (Rev. 2).
4. NUREG-0800, Section 6.4, Rev. 2, July 1981.

BASES

ACTIONS (continued)

B.1 and B.2

If the ECCS PREACS train cannot be restored to OPERABLE status within the associated Completion Time, the unit must be in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.[illegible].1

Standby systems should be checked periodically to ensure that they function properly. Since the environment and normal operating conditions on this system are not severe, testing each train once a month provides an adequate check on this system. Monthly heater operations dry out any moisture that may have accumulated in the charcoal from humidity in the ambient air. [Systems with heaters must be operated for ≥ 10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system.] The 31 day Frequency is based on the known reliability of equipment and the two train redundancy available.

The ECCS PREACS is tested by STARTING it from the control ROOM AND ENSURING each exhaust FAN discharges through the HEPA filter AND charcoal Adsorber for ≥ 15 MINutes.

SR 3.7.[illegible].2

This SR verifies that the required ECCS PREACS testing is performed in accordance with the Ventilation Filter Testing Program (VFTP). The ECCS PREACS filter tests are in accordance with Regulatory Guide 1.52 (Ref. [illegible]). The [VFTP] includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the [VFTP].

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.13.3

This SR verifies that each ECCS PREACS train starts and operates on an actual or simulated actuation signal. The [18] month Frequency is consistent with that specified in Regulatory Guide 1.52 (Ref. 4).

SR 3.7.13.4

This SR verifies the integrity of the ECCS pump room enclosure. The ability of the ECCS pump room to maintain a negative pressure, with respect to potentially uncontaminated adjacent areas, is periodically tested to verify proper function of the ECCS PREACS. During the post accident mode of operation, the ECCS PREACS is designed to maintain a slight negative pressure in the ECCS pump room with respect to adjacent areas to prevent unfiltered LEAKAGE. The ECCS PREACS is designed to maintain this negative pressure at a flow rate of ≤ [20,000] cfm from the ECCS pump room. The Frequency of [18] months is consistent with the guidance provided in the NUREG-0800, Section 6.5.1 (Ref. 6).

This test is conducted with the tests for filter penetration; thus, an [18] month Frequency, on a STAGGERED TEST BASIS is consistent with other filtration SRs.

SR 3.7.13.5

Operating the ECCS PREACS filter bypass damper is necessary to ensure that the system functions properly. The OPERABILITY of the bypass damper is verified if it can be closed. An [18] month Frequency is consistent with that specified in Reference 4.

REFERENCES

1. FSAR, Section [6.5.1].
2. FSAR, Section [9.4.5].
3. FSAR, Section [15.6.5].
4. Regulatory Guide 1.52 (Rev. 2).

(continued)

BASES

INSERT 3.7.11 Bases A.1 and A.2

ACTIONS

C.1 and C.2 (continued)

If the system is not placed in operation, this action requires suspension of fuel movement, which precludes a fuel handling accident. This does not preclude the movement of fuel to a safe position.

there is no OPERABLE SFPEVS train, or there is no OPERABLE SFPEVS train in operation,

B.1

When two trains of the FBACS are inoperable during movement of irradiated fuel assemblies in the fuel building, action must be taken to place the unit in a condition in which the LCO does not apply. This LCO involves immediately suspending movement of irradiated fuel assemblies in the fuel building. This does not preclude the movement of fuel to a safe position.

auxiliary

auxiliary

ACTION

SURVEILLANCE REQUIREMENTS

SR 3.7.11.1

Standby systems should be checked periodically to ensure that they function properly. As the environment and normal operating conditions on this system are not severe, testing each train once every month provides an adequate check on this system. Monthly heater operation dries out any moisture accumulated in the charcoal from humidity in the ambient air. [Systems with heaters must be operated for ≥ 10 continuous hours with the heaters energized. Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system.] The 31 day Frequency is based on the known reliability of the equipment and the two train redundancy available.

INSERT B 3.7.11-B

SR 3.7.11.2

This SR verifies the performance of FBACS filter testing in accordance with the [Ventilation Filter Testing Program (VFTP)]. The FBACS filter tests are in accordance with the Regulatory Guide 1.52 (Ref. 6). The [VFTP] includes testing HEPA filter performance, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific

SFPEVS

portions of

(continued)

BASES (continued)

REFERENCES

1. FSAR, Section [6.5.1].
2. FSAR, Section [9.4.5].
3. FSAR, Section [15.7.4].
4. Regulatory Guide 1.25.
5. 10 CFR 100.
6. Regulatory Guide 1.52 Rev. 2.
7. NUREG-0800, Section 6.5.1, July 1981.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.15.1 (continued)

Monthly heater operation dries out any moisture that may have accumulated in the charcoal as a result of humidity in the ambient air. [Systems with heaters must be operated for ≥ 10 continuous hours with the heaters energized.] Systems without heaters need only be operated for ≥ 15 minutes to demonstrate the function of the system. The 31 day Frequency is based on the known reliability of the equipment and the two train redundancy available.

This test is performed by INITIATING the system from the control room, ENSURING flow through the HEPA filter and charcoal adsorber TRAIN, AND VERIFYING the system operates for ≥ 15 MINUTES.

SR 3.7.15.2

This SR verifies the performance of PREACS filter testing in accordance with the [Ventilation Filter Testing Program (VFTP)]. The PREACS filter tests are in accordance with Reference 4. The [VFTP] includes testing the performance of the HEPA filter, charcoal adsorber efficiency, minimum system flow rate, and the physical properties of the activated charcoal (general use and following specific operations). Specific test frequencies and additional information are discussed in detail in the [VFTP].

SR 3.7.15.3

This SR verifies that each PREACS train starts and operates on an actual or simulated actuation signal. The [18] month Frequency is consistent with that specified in Reference 4.

(CONTAINMENT ISOLATION SIGNAL)

This test is conducted on a 24 month Frequency. This Frequency is adequate to ensure the PREVS is capable of starting and operating on an actual or simulated Containment Isolation Signal.

SR 3.7.15.4

This SR verifies the integrity of the penetration room enclosure. The ability of the penetration room to maintain negative pressure, with respect to potentially uncontaminated adjacent areas, is periodically tested to verify proper function of the PREACS. During the post accident mode of operation, PREACS is designed to maintain a slightly negative pressure at a flow rate of ≤ [3000] cfm in the penetration room with respect to adjacent areas to prevent unfiltered LEAKAGE. The Frequency of [18] months is consistent with the guidance provided in NUREG-0800, Section 6.5.1 (Ref. 6).

(continued)

BASES

REFERENCES (continued)

3. UFSAR, Section 15.6.5.

4. Regulatory Guide 1.52 Rev. 2

5. 10 CFR 100.11.

6. NUREG-0800, Section 6.5.2.

UFSAR, Chapter 14

PLANT-SPECIFIC CHANGES

1. These changes incorporate Calvert Cliffs-specific information into brackets. Bracketed information located throughout NUREG-1432 will be replaced with the specific Calvert Cliffs requirements. This change also includes deleting bracketed items when it is not consistent with the Calvert Cliffs design.

2. The change to the non-bracketed system name, number of systems/components, terminology, or value was changed to be consistent with Calvert Cliffs specific system name, number of systems/components, terminology, or values. This change also includes any numbering changes due to the addition or deletion of Specifications, Actions, or Surveillance Requirements (SRs).

3. This change either adds information to or deletes information from the Bases to make it more understandable, or to conform to Calvert Cliffs' design or safety analyses.

4. This addition, deletion, or modification to references, or the changing of reference numbers, was performed to ensure that the references are applicable to Calvert Cliffs, and to ensure consistency between references in the text and the reference section.

5. NUREG-1432 Section 3.7.19 Bases (Secondary Specific Activity) in the Background section contains a paragraph which contains a thyroid dose for a person at the exclusion area boundary, should the main steam safety valves open for two hours following a trip from full power, if the secondary activity level were at the Technical Specification limit. The Calvert Cliffs Improved Technical Specifications (ITS) Bases for 3.7.14 (Secondary Specific Activity) will not contain this requirement because this number is not analyzed for Calvert Cliffs. This change is consistent with the current Calvert Cliffs accident analysis.

6. Calvert Cliffs has an Updated Final Safety Analysis Report; therefore, "FSAR" will be changed to "UFSAR" throughout the ITS Bases.

7. This change to the Bases was made to conform with changes made to the Specification.

8. NUREG-1432 Section 3.7.7 Bases (Component Cooling System) in the Applicable Safety Analyses section contains a statement that the analysis assumes that a maximum saltwater temperature of 76°F occurs simultaneously with the maximum heat loads on the system. The Calvert Cliffs ITS will contain the statement that the analysis assumes that a maximum Chesapeake Bay water temperature occurs simultaneously with the maximum heat loads on the system. This change was made consistent with the Calvert Cliffs analysis, which assumes various temperatures depending on the time of year. These numbers can also be found in the Updated Final Safety Analysis Report.

9. NUREG-1432 B 3.7.2 SR 3.7.2.1 contains verbiage that the main steam isolation valves (MSIVs) should not be tested at power. This verbiage has been deleted in Calvert Cliffs ITS B 3.7.2 SR 3.7.2.1 because Calvert Cliffs performs a quarterly partial stroke test on the MSIVs at power. This is consistent with the Calvert Cliffs current operating practice to perform a partial stroke test on the MSIVs at power.

10. These additions or changes to NUREG-1432 are based on details moved out of the Current Technical Specifications . These details were moved into the Bases to capture the Calvert Cliffs current licensing basis.

11. At Calvert Cliffs, the MSIVs are not containment isolation valves. Thus, they are not local leakage rate tested in accordance with 10 CFR 50, Appendix J. The containment is a barrier which limits the leakage of radioactive materials to the environment so that acceptable radiation limits are not exceeded in the event of an accident. For the secondary side of the steam generators, the barriers which provide protection against leakage of containment atmosphere to the environment following a loss of coolant accident will be the inside of the steam generator tubes and the outside of all lines connected to the steam generator shell side. These barriers serve the same function as the containment liner, and, as such, they are part of the containment following the accident. The lines which emanate from the steam generator shell side will not be damaged during a LOCA, as the design is at least equivalent to or better than, the containment liner with regard to quality assurance, pressure, temperature, testing, and missile protection. Also, in the event an accident were to occur when the plant was operating with steam generator tube leaks, an effective barrier would still be maintained. Following a LOCA, the RCS is depressurized and the higher shell side pressure prevents leakage of fission products through the steam generator tubes. Additionally, as the accident progresses, additional assurance that the barrier will be maintained is provided by a head of water above the tube bundle. The total plant release associated with a LOCA, including steam side leakage, is within the criteria of 10 CFR Part 100.

12. NUREG-1432 Bases Section SRs 3.7.3 and 3.7.8.3 state that the 24-month Surveillance interval is based on the need to perform the Surveillance under conditions that apply during a unit outage, and the potential for transients if the Surveillance is performed at power. Calvert Cliffs ITS Bases Section SRs 3.7.3.5 and 3.7.6.3 will not contain the statement because Calvert Cliffs currently satisfies these SRs during the performance of the quarterly Instrumentation Channel Functional Tests.

13. Not used.

14. Calvert Cliffs ITS 3.7.3 Bases, Action F.1, revised NUEG-1432 3.7.5 Bases, Action D.1, to make the Action match the Action Note, and to not preclude a plant shutdown if deemed appropriate. The NUREG specifies actions to be taken when there are no Operable auxiliary feedwater trains. The Note to Action D suspends all Technical Specification-required shutdowns. The Bases for the Note states that not only are Technical Specification-required shutdowns suspended, but no power changes or shutdown should be made. This is inconsistent with the Note, and may preclude the plant being put in a safe condition if equipment is functional but not Operable. The added words clarify that a plant shutdown or power change may be made if it is the most prudent action. This change is necessary to ensure that it is clear to an operator that plant power changes or a shutdown may be made if it is the most safe course of action.

15. Calvert Cliffs ITS 3.7.3 Bases, Action F.1, revised NUREG-1432 3.7.5 Bases, Action D.1, to make it clear that if other Actions or plant conditions require entry into LCO 3.0.3, that an LCO 3.0.3 entry is made, but the required Actions do not have to be taken. The NUREG specifies actions to be taken when there are no Operable auxiliary feedwater trains. The Note to Action D suspends all Technical Specification-required shutdowns, including LCO 3.0.3. The Note states that LCO 3.0.3 is suspended, but the Bases state that LCO 3.0.3 is not applicable.

This is incorrect. The differences are significant in terms of logging, reportability, and actions to be taken should Condition D be exited. This change corrects the error.

16. NUREG-1432 3.7.1 Bases, SR 3.7.1.1 Section, states that Table 3.7.1-2 (Main Steam Safety Valve Lift Settings) allows a ± 3% setpoint tolerance for Operability; however, the valves are reset to ± 1% during the Surveillance to allow for drift. Calvert Cliffs ITS 3.7.1. Bases, SR 3.7.1.1 Section, states that Table 3.7.1-2 defines the lift setting range for each MSSV for OPERABILITY; however, the valves are reset to ± 1% during the Surveillance to allow for drift. This change was made to be consistent with changes made to Table 3.7.1-2 which will not contain the ± 3% setpoint tolerance because Calvert Cliffs' current licensing basis allows setpoint tolerances from 3% to 6%. A phrase is added to the Bases stating that the ASME Code specifies the as found lift acceptance range. This change is consistent with the Calvert Cliffs current licensing basis.

17. Not used.

18. Bases statements which refer to the Code of Federal Regulations or the Standard Review Plan as the source of offsite dose or other accident analysis acceptance criteria are changed to reference the Calvert Cliffs Updated Final Safety Analysis Report. Plant-specific acceptance criteria for Calvert Cliffs are approved by the NRC and stated in the UFSAR. The Code of Federal Regulations contains the maximum allowable limits, not the plant-specific limits which are typically more conservative. Calvert Cliffs is not committed to the Standard Review Plan and, therefore, the current licensing basis may not be the Standard Review Plan values.

19. Typographical/grammatical error corrected.

20. A clarification is added to the Bases of LCO 3.7.3 that clarifies the application of a CTS allowance. The CTS allows AFW trains required for operability to be taken out of service under administrative control for the performance of periodic testing. This allowance is retained in ITS 3.7.3 as an LCO note. While periodic tests clearly include surveillance tests, the Bases also clarifies that this allowance may be used for post-maintenance tests and other required testing that is similar to periodic surveillance tests. This clarification is consistent with current plant application of this allowance, the original license amendment which implemented the allowance, and plant design which makes the allowance necessary.

21. The requirement in the NUREG Bases for SR 3.7.5.5 to demonstrate a flow and pressure to verify the CST to AFW flow path is deleted. Current Technical Specification 4.7.1.2.b does not require a specific flow and pressure to be demonstrated as part of this surveillance (retained as ITS SR 3.7.3.7). A separate surveillance ITS SR 3.7.3.6 demonstrates the flow performance of the AFW pumps, consistent with CTS 4.7.1.2.c.2. The SR is only required to demonstrate that the flow path is operable and any amount of flow would demonstrate this requirement. The addition of specific flow requirements to this SR would be an unnecessary more restrictive change to plant operations.

22. NUREG Bases for SR 3.7.11.3 explain that the surveillance verifies each CREACS train starts and operates on an actual or simulated actuation signal, and that the Frequency of [18] months is consistent with Reference 3 (Regulatory Guide 1.52 (Rev. 2)). Regulatory Guide 1.52 (Rev. 2) does not specify a frequency for testing involving operation of systems. The Frequency for tests

in Regulatory Guide 1.52 (Rev. 2) is for HEPA filter and carbon adsorber testing. A plant specific description is substituted for the Regulatory Guide 1.52 (Rev. 2) justification.

Page Replacement Instructions
VOLUME 12
Section 3.8

Note: Underlined titles indicate tabs in volumes. Regarding CTS markups: Pages are referenced by citing the unit number as well as the specification number located in the upper right-hand corner of the CTS page.

Key:
DOC = Discussion Of Changes
DOD = Discussion Of Technical Specification Deviation or Discussion Of Bases Deviation

REMOVE	INSERT
Overview of Changes	
No Pages Changed.	
ITS	
No Pages Changed.	
ITS Bases	
No Pages Changed.	
CTS Markup & Discussion of Changes	
DOC 3.8.6-2	
NSHC Findings	
No Pages Changed.	
ISTS Markup & Justification	
No Pages Changed.	
ISTS Bases Markup & Justification	
No Pages Changed.	

Note: Italicized entries indicate uneven exchanges. Please follow page replacement instructions carefully.

temperature within the required limit is provided in ITS 3.8.6, and ITS SR 3.8.6.3 is added to verify the average temperature of representative cells is within required limits on a 92 day Frequency. This change represents an additional restriction on plant operation necessary to help ensure the batteries are maintained OPERABLE.

M.2 Current Technical Specification 4.8.2.3.2.a.3 and 4.8.2.3.2.b.1 require battery cell voltage to be ≥ 2.10 volts. Improved Technical Specification Table 3.8.6-1 Category A and B limits require battery cell voltage to be ≥ 2.13 volts. This change ensures that overall battery voltage is satisfactory and is consistent with the recommendations of IEEE-450 which states that prolonged operation with cells < 2.13 volts can reduce the life expectancy of the cells. This change represents an additional restriction on plant operation necessary to help ensure battery OPERABILITY is maintained.

TECHNICAL CHANGES - RELOCATIONS

None

TECHNICAL CHANGES - MOVEMENT OF INFORMATION TO LICENSEE-CONTROLLED DOCUMENTS

LA.1 Not used.

TECHNICAL CHANGES - LESS RESTRICTIVE

L.1 Current Technical Specifications 3.8.2.3 and 3.8.2.4 do not contain specific Actions when battery cell parameters are not within limits, except for CTS 3.8.2.3 Action d, which allows 24 hours to restore low cell voltage. Current Technical Specifications require the associated battery to be declared inoperable immediately, or a plant shutdown initiated within 24 hours, as applicable, when a battery cell parameter is not within limits, or when voltage decreases more than 0.10 Volts from the previous performance test. Improved Technical Specifications will provide Actions which allow additional time to restore the battery cell parameters referenced in ITS LCO 3.8.6, Action A. Specifically, ITS 3.8.6 Required Action A.1 requires the verification that pilot cell electrolyte level and float voltage meet Table 3.8.6-1 Category C limits within 1 hour, ITS Required Action A.2 requires verification that battery cell parameters meet Table 3.8.6-1 Category C limits within 24 hours and once per 7 days thereafter, and ITS Required Action A.3 requires the battery to be restored to within Table 3.8.6-1 Category A and B limits within 31 days. Improved Technical Specification Action B, when the Required Actions and associated Completion Times cannot be met or when there is one or more batteries with battery cell parameters not within Category C limits, requires the associated battery to be declared inoperable immediately and its associated Actions entered. The addition of Action A is acceptable because, although the battery may be degraded when required parameters are not within Category A or B limits, there is still sufficient capacity to perform the intended function since the Category C limits are met. The category C limits are selected to provide assurance the battery is still capable of performing its intended function. The verification of pilot cell electrolyte level and ICV within one hour provides a quick check of the status of the remainder of the battery cells. One hour provides the time to inspect the electrolyte level and to confirm the ICV of the pilot cells. The verification of battery cell parameters within 24 hours, and once per 7 days thereafter, will ensure that during the time needed to restore the battery parameters the

Page Replacement Instructions
VOLUME 15
Section 5.0

Note: Underlined titles indicate tabs in volumes. Regarding CTS markups: Pages are referenced by citing the unit number as well as the specification number located in the upper right-hand corner of the CTS page.

Key:
DOC = Discussion Of Changes
DOD = Discussion Of Technical Specification Deviation or Discussion Of Bases Deviation

REMOVE	INSERT
Overview of Changes	
No Pages Changed.	
ITS	
5.0-11	5.0-11
5.0-24	5.0-24
ITS Bases	
No Pages Changed.	
CTS Markup & Discussion of Changes	
No Pages Changed.	
NSHC Findings	
No Pages Changed.	
ISTS Markup & Justification	
5.0-10	5.0-10
5.0-13	5.0-13
DOD 5.0-6	DOD 5.0-6
ISTS Bases Markup & Justification	
No Pages Changed.	

Note: Italicized entries indicate uneven exchanges. Please follow page replacement instructions carefully.

5.5 Programs and Manuals

j. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents to areas beyond the site boundary, to be limited to: |11

1. During any calendar quarter: Less than or equal to 10 mrads for gamma radiation, and less than or equal to 20 mrads for beta radiation; and

During any calendar year: Less than or equal to 20 mrads for gamma radiation, and less than or equal to 40 mrads for beta radiation;

k. Limitations on the annual and quarterly doses to a member of the public from Iodine-131 and all radionuclides in particulate form with half-lives greater than 8 days, in gaseous effluents released from each unit to areas beyond the site boundary, to be limited: |11 |12

1. During any calendar quarter: Less than or equal to 15 mrems to any organ:

2. During any calendar year: Less than or equal to 30 mrems to any organ; and

3. Less than 0.1% of the limits of 5.5.4.k(1) and (2) as a result of burning-contaminated oil; and

l. Limitations on the annual dose or dose commitment to any member of the public due to releases of radioactivity, and to radiation from uranium fuel cycle sources to be limited to less than or equal to 25 mrems to the total body or any organ, except the thyroid, which shall be limited to less than or equal to 75 mrems.

5.5.5 Component Cyclic or Transient Limit

This program provides controls to track the UFSAR, Section 4.1 cyclic and transient occurrences to ensure that components are maintained within the design limits. |A

5.5 Programs and Manuals

Revision 2, and ANSI N510-1975, at the system flowrate specified as follows ± 10%: | 11

ESF Ventilation System	Flowrate
CREVS	2,000 cfm
ECCS PREFS	3,000 cfm
PREVS	2,000 cfm
SFP Ventilation System	32,000 cfm
IRS	20,000 cfm

c. Demonstrate for each of the ESF systems within 31 days after removal that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, shows the methyl iodide (elemental iodine for the IRS) penetration less than or equal to the value specified below when tested in accordance with ANSI N510-1975 at a temperature of ≤ 30°C (130°C for the IRS) and greater than or equal to the relative humidity specified as follows: | 4 | 2 | 12

ESF Ventilation System	Penetrations	RH
CREVS	10%	95%
ECCS PREFS	10%	95%
PREVS	10%	95%
SFP Ventilation System	10%	95%
IRS	5%	95%

d. For each of the ESF systems, demonstrate the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified below when tested in accordance with Regulatory Guide 1.52,

<CTS> 5.5 Programs and Manuals

5.5.4 Radioactive Effluent Controls Program (continued)

a. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; to be limited to; <6.5.5.3> INSERT 5.5.4.1

b. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and <6.5.5.k> INSERT 5.5.4.k

c. Limitations on the annual dose or dose commitment to any member of the public due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190. <6.5.5.2> to be limited to less than or equal to 25 mrems to the total body or any organ (except the thyroid which shall be limited to less than or equal to 75 mrem).

<NEW> 5.5.5 Component Cyclic or Transient Limit

This program provides controls to track the FSAR Section [ ] cyclic and transient occurrences to ensure that components are maintained within the design limits.

5.5.6 [~~Pre-Stressed~~ Concrete Containment Tendon Surveillance Program]

<3.6.1.6> This program provides controls for monitoring any tendon degradation in pre-stressed concrete containments, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. The program shall include baseline measurements prior to initial operations. The Tendon Surveillance Program, inspection frequencies, and acceptance criteria shall be in accordance with [Regulatory Guide 1.35, Revision ~~2~~, ~~1989~~] 3, 1976.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Tendon Surveillance Program inspection frequencies.

5.5.7 Reactor Coolant Pump Flywheel Inspection Program

<4.4.10.1.1> This program shall provide for the inspection of each reactor coolant pump flywheel per the recommendations of regulatory position c.4.b of Regulatory Guide 1.14, Revision 1, August 1975.

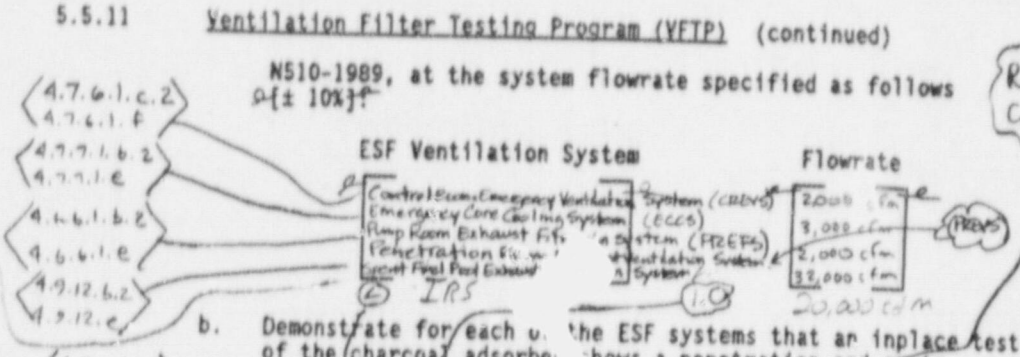
(continued)

<CTS>

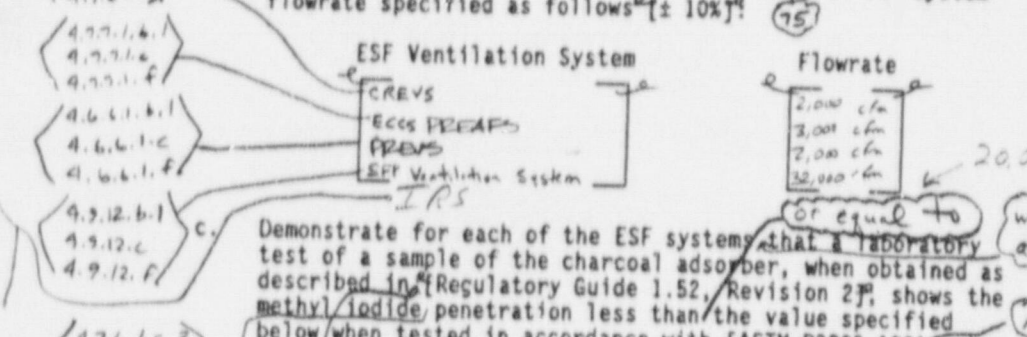
5.5 Programs and Manuals

5.5.11 Ventilation Filter Testing Program (VFTP) (continued)

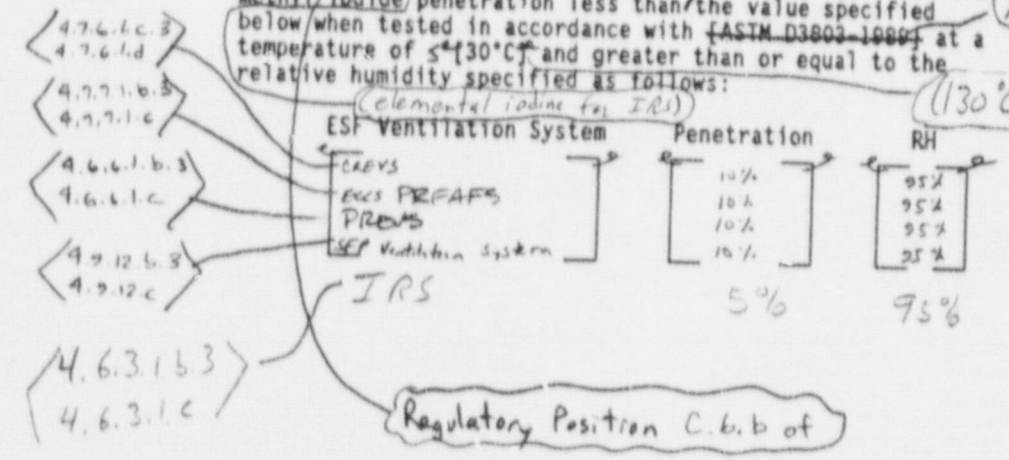
N510-1989, at the system flowrate specified as follows ~~[± 10%]~~:



b. Demonstrate for each of the ESF systems that an inplace test of the charcoal adsorber shows a penetration and system bypass ~~[0.05]~~% when tested in accordance with [Regulatory Guide 1.52, Revision 2, and ASME N510-1989] at the system flowrate specified as follows ~~[± 10%]~~:



c. Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in [Regulatory Guide 1.52, Revision 2], shows the methyl iodide penetration less than the value specified below when tested in accordance with ~~[ASTM D3803-1989]~~ at a temperature of ~~[30°C]~~ and greater than or equal to the relative humidity specified as follows:



Regulatory Position C.6.b of

Regulatory Positions C.5.a and C.5.d of

of equal to

within 31 days after removal

ANSI N510-1975

(130°C for IRS)

(elemental iodine for IRS)

(continued)

The oxygen concentrations in these systems are monitored and maintained within limits to avoid a hydrogen explosion. Therefore, hydrogen concentration will not be monitored as part of the Explosive Gas and Storage Tank Radioactivity Monitoring Program.

38. The change to the non-bracketed system name, number of systems/components, terminology, or value was changed to be consistent with Calvert Cliff's specific system name, number of systems/components, terminology, or values.

39. This change incorporates the current Calvert Cliffs requirement to verify laboratory tests of charcoal adsorber samples be in accordance with specified requirements within 31 days after removal. Improved Technical Specifications do not require the tests be performed within 31 days after removal. This requirement is consistent with the Calvert Cliffs current licensing basis.

40. This change incorporates the current Calvert Cliffs requirement for radionuclides specified in the limitations on the annual and quarterly doses to a member of the public in that gaseous effluents do not include Iodine-133 or tritium. The requirement is consistent with the Calvert Cliffs current licensing basis.