

March 29, 2007

DISTRIBUTION CONTROL LIST

Document Name: **IP3 ITS / BASES**

| CC# | NAME | DEPARTMENT | LOCATION |
|-----|------------------------|----------------------------|----------|
| 1 | OPS PROC GP SUPERVISOR | OPS PROCEDURE GROUP | IP2 |
| 5 | CONTROL ROOM | OPERATIONS | IP3 |
| 11 | RES DEPARTMENT MGR | RES | 45-4-A |
| 19 | CONROY, PAT | LICENSING / ROOM 205 | GSB-2D |
| 20 | CHEMISTRY SUPERVISOR | CHEMISTRY DEPARTMENT | 45-4-A |
| 21 | TSC (IP3) | 53' ELEVATION | IP2 |
| 22 | SHIFT MANAGER | OPERATIONS | IP3 |
| 23 | LIS | LICENSING & INFO SERVICE | OFFSITE |
| 25 | SIMULATOR | TRAINING | 48-2-A |
| 28 | RESIDENT INSPETOR | US NRC 88' ELEVATION | IP2 |
| 32 | EOF | E-PLAN | EOF |
| 47 | CHAPMAN, N | BECHTDL | OFFSITE |
| 50 | SCOZZARO, ANTHONY | WESTINGHOUSE ELECTRIC | OFFSITE |
| 61 | SIMULATOR | TRAINING | 48-2-A |
| 69 | CONROY, PAT | LICENSING / ROOM 205 | GSB/2D |
| 99 | KRAUS, KEVINV | ST. EMERGENCY MGMT. OFFICE | OFFSITE |
| 106 | SIM INSTRUCT AREA | TRAINING | #48 |
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| 273 | FAISON, CHARLENE | NUCLEAR LICENSING | WPO-12 |
| 319 | GRANT, LEAH | LRQ TRAINING | #48 |
| 354 | GRANT, LEAH | LRQ TRAINING | #48 |
| 357 | GRANT, LEAH | ILO TRAINING | 48-2-A |
| 424 | GRANT, LEAH | TRAINING | #48 |
| 474 | OUELLETTE P | ENG, PLAN & MGMT INC | OFFSITE |
| 489 | CLOUGHNESSY, PAT | PLANT SUPPORT TEAM | GSB/3B |
| 492 | WORK CONTROL | OPERATION 72' ELEVATION | IP2 |
| 493 | OPERATIONS FIN TEAM | 33 TURBIN DECK | 45-1-A |
| 494 | AOEF / A. GROSSJEAN | E-PLAN | WPO/12-D |
| 496 | GRANT, LEAH | LRQ TRAINING | #48 |
| 497 | GRANT, LEAH | LRQ TRAINING | #48 |
| 500 | GRANT, LEAH | LRQ TRAINING | #48 |
| 501 | GRANT, LEAH | LRQ TRAINING | #48 |
| 512 | GRANT, LEAH | LRQ TRAINING | #48 |
| 513 | GRANT, LEAH | LRQ TRAINING | #48 |
| 518 | DOC CONTROL DESK | NRC | OFFSITE |

A001

INDIAN POINT 3 TECHNICAL SPECIFICATION BASES

INSTRUCTIONS FOR UPDATE: 23-05/16/07

Pages are to be inserted into your controlled copy of the IP3 Technical Specifications Bases following the instructions listed below. The **TAB** notation indicates which section the pages are located.

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| TAB 3.7 – Plant Systems | |
| B 3.7.2 (Rev. 1) (10 pages) | B 3.7.2 (Rev. 2) (10 pages) |

**TECHNICAL SPECIFICATION BASES
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| TOC | 3 | 4 | 04/11/2007 |
| B 2.0 SAFETY LIMITS | | | |
| B 2.1.1 | 1 | 4 | 06/03/2005 |
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| B 3.0 LCO AND SR APPLICABILITY | | | |
| B 3.0 | 3 | 18 | 11/07/2006 |
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| B 3.2.4 | 0 | 7 | 03/19/2001 |
| B 3.3 INSTRUMENTATION | | | |
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| B 3.3.5 | 1 | 6 | 10/27/2004 |
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| B 3.4 REACTOR COOLANT SYSTEM | | | |
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| B 3.4.7 | 1 | 7 | 04/11/2007 |
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| B 3.5 ECCS | | | |
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| B 3.7.11 | 5 | 7 | 08/10/2005 |
| B 3.7.12 | 1 | 4 | 04/11/2005 |
| B 3.7.13 | 3 | 7 | 06/03/2005 |
| B 3.7.14 | 1 | 3 | 04/11/2005 |
| B 3.7.15 | 0 | 5 | 03/19/2001 |
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| B 3.8.3 | 0 | 13 | 03/19/2001 |
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| B 3.9 REFUELING OPERATIONS | | | |
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| B 3.9.2 | 0 | 4 | 03/19/2001 |
| B 3.9.3 | 2 | 7 | 06/03/2005 |
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| B 3.9.5 | 0 | 4 | 03/19/2001 |
| B 3.9.6 | 2 | 3 | 04/11/2005 |

TECHNICAL SPECIFICATION BASES
REVISION HISTORY

REVISION HISTORY FOR BASES

| AFFECTED SECTIONS | REV | EFFECTIVE DATE | DESCRIPTION |
|---------------------------------------|-----|----------------|--|
| ALL | 0 | 03/19/01 | Initial issue of Bases derived from NUREG-1431, in conjunction with Technical Specification Amendment 205 for conversion of 'Current Technical Specifications' to 'Improved Technical Specifications'. |
| BASES UPDATE PACKAGE 01-031901 | | | |
| B 3.4.13 B 3.4.15 | 1 | 03/19/01 | Changes regarding containment sump flow monitor per NSE 01-3-018 LWD Rev 0. Change issued concurrent with Rev 0. |
| BASES UPDATE PACKAGE 02-051801 | | | |
| Table of Contents | 1 | 05/18/01 | Title of Section B 3.7.3 revised per Tech Spec Amend 207 |
| B 3.7.3 | 1 | 05/18/01 | Implementation of Tech Spec Amend 207 |
| BASES UPDATE PACKAGE 03-111901 | | | |
| B 3.3.2 | 1 | 11/19/01 | Correction to statement regarding applicability of Function 5, to be consistent with the Technical Specification. |
| B 3.3.3 | 1 | 11/19/01 | Changes to reflect reclassification of certain SG narrow range level instruments as QA Category M per NSE 97-3-439, Rev 1. |
| B 3.4.13 B 3.4.15 | 2 | 11/19/01 | Changes to reflect installation of a new control room alarm for 'VC Sump Pump Running'. Changes per NSE 01-3-018, Rev 1 and DCP 01-3-023 LWD. |
| B 3.7.11 | 1 | 11/19/01 | Clarification of allowable flowrate for CRVS in 'incident mode with outside air makeup.' |
| BASES UPDATE PACKAGE 04-012202 | | | |
| B 3.3.2 | 2 | 01/22/02 | Clarify starting logic of 32 ABFP per EVL-01-3-078 MULTI, Rev 0. |
| B 3.8.1 | 1 | 01/22/02 | Provide additional guidance for SR 3.8.1.1 and Condition Statements A.1 and B.1 per EVL-01-3-078 MULTI, Rev 0. |
| B 3.8.4 | 1 | 01/22/02 | Revision of battery design description per plant modification and to reflect Tech Spec Amendment 209. |
| B 3.8.9 | 1 | 01/22/02 | Provide additional information regarding MCC in Table B 3.8.9-1 per EVL-01-3-078 MULTI, Rev 0. |
| BASES UPDATE PACKAGE 05-093002 | | | |
| B 3.0 | 1 | 09/30/02 | Changes to reflect Tech Spec Amendment 212 regarding delay period for a missed surveillance. Changes adopt TSTF 358, Rev 6. |
| B 3.3.1 | 1 | 09/30/02 | Changes regarding description of turbine runback feature per EVAL-99-3-063 NIS. |
| B 3.3.3 | 2 | 09/30/02 | Changes to reflect Tech Spec Amendment 211 regarding CETs and other PAM instruments. |
| B 3.7.9 | 1 | 09/30/02 | Changes regarding SWN -35-1 and -2 valves per EVAL-00-3-095 SWS, Rev 0. |

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| AFFECTED SECTIONS | REV | EFFECTIVE DATE | DESCRIPTION |
|--------------------------------|-----|----------------|--|
| BASES UPDATE PACKAGE 06-120402 | | | |
| B 3.3.2 | 3 | 12/04/02 | Changes to reflect Tech Spec Amendment 213 regarding 1.4% power uprate. |
| B 3.6.6 | 1 | | |
| B 3.7.1 | 1 | | |
| B 3.7.6 | 1 | | |
| BASES UPDATE PACKAGE 07-031703 | | | |
| B 3.3.8 | 1 | 03/17/2003 | Changes to reflect Tech Spec Amendment 215 regarding implementation of Alternate Source Term analysis methodology to the Fuel Handling Accident. |
| B 3.7.13 | 1 | | |
| B 3.9.3 | 1 | | |
| BASES UPDATE PACKAGE 08-032803 | | | |
| B 3.4.9 | 1 | 03/28/2003 | Changes to reflect Tech Spec Amendment 216 regarding relaxation of pressurizer level limits in MODE 3. |
| BASES UPDATE PACKAGE 09-062003 | | | |
| B 3.4.9 | 2 | 06/20/2003 | Changes to reflect commitment for a dedicated operator per Tech Spec Amendment 216. |
| B 3.6.5 | 1 | 06/20/2003 | Implements Corrective Action 11 from CR-IP3-2002-02095; 4 FCUs should be in operation to assure representative measurement of containment air temperature. |
| B 3.7.11 | 2 | 06/20/2003 | Correction to Background description regarding system response to Firestat detector actuation per ACT 02-62887. |
| B 3.7.13 | 2 | 06/20/2003 | Revision to Background description of FSB air tempering units to reflect design change per DCP 95-3-142. |
| B 3.8.7 | 1 | 06/20/2003 | Changes to reflect replacement of Inverter 34 per DCP-01-022. |
| B 3.8.8 | 1 | 06/20/2003 | |
| B 3.8.9 | 2 | 06/20/2003 | |
| BASES UPDATE PACKAGE 10-102704 | | | |
| B 3.1.3 | 1 | 10/27/2004 | Clarification of the surveillance requirements for TS 3.1.3 per 50.59 screen. |
| B 3.3.5 | 1 | 10/27/2004 | Clarify the requirements for performing a Trip Actuating Device Operational Test (TADOT) on the 480V degraded grid and undervoltage relays per 50.59 screen. |
| B 3.4.3 | 1 | 10/27/2004 | Extension of the RCS pressure/temperature limits and corresponding OPS limits from 16.17 to 20 EFY (TS Amendment 220). |
| B 3.4.12 | 1 | | |
| B 3.5.1 | 1 | 10/27/2004 | Changes to reflect Tech Spec Amendment 222 regarding extension of completion time for Accumulators. |
| BASES UPDATE PACKAGE 11-121004 | | | |
| B 3.7.7 | 1 | 12/17/2004 | Addition of valves CT-1300 and CT-1302 to Surveillance SR 3.7.7.2 to verify that all city water header supply isolation valves are open. Reflects Tech Spec Amendment 218. |
| BASES UPDATE PACKAGE 12-012405 | | | |
| B 3.7.11 | 3 | 01/24/2005 | Temporary allowance for use of KI/SCBA for unfiltered inleakage above limit. |

TECHNICAL SPECIFICATION BASES
REVISION HISTORY

| AFFECTED SECTIONS | REV | EFFECTIVE DATE | DESCRIPTION |
|--------------------------------|-----|----------------|--|
| BASES UPDATE PACKAGE 13-022505 | | | |
| B 3.7.5 | 1 | 02/25/2005 | Clarification on Surveillance Requirement 3.7.5.3 as it relates to plant condition/frequency of performance of Auxiliary Feedwater Pump full flow testing. |
| BASES UPDATE PACKAGE 14-030705 | | | |
| B 3.9.6 | 1 | 03/07/2005 | Changes to reflect that the decay time prior to fuel movement is a minimum of 84 hours per Tech Spec Amendment 215. |
| BASES UPDATE PACKAGE 15-041105 | | | |
| B 3.3.2 | 4 | 04/11/2005 | Changes to reflect AST as per Tech Spec Amendment 224. NOTE: In addition to the AST changes to B. 3.7.11, the temporary allowance for use of KI/SCBA for unfiltered inleakage above limit is being removed. Tracer Gas testing is complete. |
| B 3.3.6 | 1 | | |
| B. 3.3.7 | 1 | | |
| B 3.7.11 | 4 | | |
| B 3.7.12 | 1 | | |
| B 3.7.14 | 1 | | |
| B 3.9.6 | 2 | | |
| BASES UPDATE PACKAGE 16-060305 | | | |
| B 2.1.1 | 1 | 06/03/2005 | Changes to reflect SPU as per Tech Spec Amendment 225. |
| B 2.1.2 | 1 | | |
| B 3.1.1 | 1 | | |
| B 3.2.2 | 1 | | |
| B 3.3.1 | 2 | | |
| B 3.3.8 | 2 | | |
| B 3.4.1 | 1 | | |
| B 3.4.3 | 2 | | |
| B 3.4.6 | 1 | | |
| B 3.4.9 | 3 | | |
| B 3.4.13 | 3 | | |
| B 3.4.16 | 1 | | |
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| B 3.6.2 | 1 | | |
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| B 3.6.7 | 1 | | |
| B 3.6.9 | 1 | | |
| B 3.6.10 | 1 | | |
| B 3.7.1 | 2 | | |
| B 3.7.2 | 1 | | |
| B 3.7.5 | 2 | | |
| B 3.7.6 | 2 | | |
| B 3.7.8 | 1 | | |
| B 3.7.9 | 2 | | |
| B 3.7.10 | 1 | | |
| B 3.7.13 | 3 | | |
| B 3.7.17 | 1 | | |
| B 3.9.3 | 2 | | |

**TECHNICAL SPECIFICATION BASES
REVISION HISTORY**

| AFFECTED SECTIONS | REV | EFFECTIVE DATE | DESCRIPTION |
|--------------------------------|-----|----------------|--|
| | | | |
| BASES UPDATE PACKAGE 17-081005 | | | |
| TOC | 2 | 08/10/2005 | B 3.3.3, B 3.6.8 – Removal of Hydrogen Recombiners from the bases as per Technical Specification Amendment 228. B 3.3.3 is also affected by Amendment 226. |
| B 3.0 | 2 | | |
| B 3.3.3 | 3 | | B 3.7.11 - Add reference that if the primary coolant source of containment is in question, refer to ITS 5.5.2. |
| B 3.3.4 | 1 | | All other bases changes for this revision are associated with Technical Specification Amendment 226 regarding increase flexibility in Mode Restraints. |
| B 3.4.11 | 1 | | |
| B 3.4.12 | 2 | | |
| B 3.4.15 | 3 | | |
| B 3.4.16 | 2 | | |
| B 3.5.3 | 1 | | |
| B 3.6.8 | 1 | | |
| B 3.7.4 | 1 | | |
| B 3.7.5 | 3 | | |
| B 3.7.11 | 5 | | |
| B 3.8.1 | 2 | | |
| BASES UPDATE PACKAGE 18-091605 | | | |
| B 3.5.2 | 2 | 09/16/2005 | Reflect implementation of ER-04-2-029 as part of Stretch Power Uprate (SPU) – HHSI Modification. |
| B 3.6.10 | 2 | | Update LCO and Condition B to clarify required actions consistent with FSAR. |
| BASES UPDATE PACKAGE 19-110405 | | | |
| B 3.8.1 | 3 | 11/04/2005 | Include operability criteria for 138 kV and 13.8 kV offsite circuits. |
| BASES UPDATE PACKAGE 20-070606 | | | |
| B 3.9.1 | 1 | 07/06/2006 | Clarification on effective method for ensuring shutdown margin. |

**TECHNICAL SPECIFICATION BASES
REVISION HISTORY**

| BASES UPDATE PACKAGE 21-11072006 | | | |
|---|---|------------|---|
| B 3.0 | 3 | 11/07/2006 | Reflect allowing a delay time for entering a supported system TS when the inoperability is due solely to an inoperable snubber, if risk is assessed and managed. Limiting Condition of Operation 3.0.8 is added to provide this allowance and define the requirements and limitations of its use. (Amendment 229) |
| BASES UPDATE PACKAGE 22-04112007 | | | |
| TOC | 3 | 04/11/2007 | Implement TS Amendment 233 related to steam generator tube integrity. |
| B 3.4.4 | 1 | | |
| B 3.4.5 | 1 | | |
| B 3.4.6 | 2 | | |
| B 3.4.7 | 1 | | |
| B 3.4.13 | 4 | | |
| B 3.4.17 | 0 | | |
| BASES UPDATE PACKAGE 23-05162007 | | | |
| B 3.7.2 | 2 | 05/16/2007 | Removal of extraneous information regarding testing frequency. |

B 3.7 PLANT SYSTEMS

B 3.7.2 Main Steam Isolation Valves (MSIVs) and Main Steam Check Valves (MSCVs)

BASES

BACKGROUND

The Main Steam System conducts steam from each of the four steam generators within the containment building to the turbine stop and control valves. The four steam lines are interconnected near the turbine. Each steam line is equipped with an isolation valve identified as the Main Steam Isolation Valve (MSIV) and a non-return valve identified as the Main Steam Check Valve (MSCV).

The MSIVs isolate steam flow from the secondary side of the steam generators following a high energy line break (HELB). MSIV closure terminates flow from the unaffected (intact) steam generators.

The MSIVs are swing disc type check valves that are aligned to prevent flow out of the steam generator. During normal operation, the free swinging discs in the MSIVs are held out of the main steam flow path by an air piston and the MSIVs close to prevent the release of steam from the SG when air is removed from the piston. The isolation valves are designed to and required to close in less than five seconds. The MSIV operators are supplied by instrument air and each MSIV is equipped with an air receiver to prevent spurious MSIV closure due to pressure transients in the instrument air system.

Each MSIV is equipped with a bypass valve used to warm up the steam line during unit startup which equalizes pressure across the valve allowing it to be opened. The bypass valves are manually operated and are closed during normal plant operation.

An MSIV closure signal is generated by the following signals:

- High steam flow in any two out of the four steam lines coincident with low steam line pressure; or,

- High steam flow in any two out of the four steam lines coincident with low Tavg; or,

(continued)

BASES

BACKGROUND
(continued)

Two sets of the two-of-three high-high containment pressure signals; or,

Manual actuation using a separate switch in the control room for each MSIV.

Note that a turbine trip is initiated whenever an MSIV is not fully open.

The MSCVs are swing disc type check valves that are aligned to prevent reverse flow of steam into an SG if an individual SG pressure falls below steamline pressure.

One MSIV and one MSCV are located in each main steam line outside but close to containment. The MSIVs are downstream from the main steam safety valves (MSSVs) and auxiliary feedwater (AFW) pump turbine steam supply to prevent MSSV and AFW isolation from the steam generators by MSIV closure. Closing the MSIVs isolates each steam generator from the others, and isolates the turbine, Steam Bypass System (High Pressure Steam Dump), and other auxiliary steam supplies from the steam generators.

A description of the MSIVs and MSCVs is found in the FSAR, Section 10.2 (Ref. 1).

APPLICABLE SAFETY ANALYSES

The design basis of the MSIVs is established by the containment analysis for the large steam line break (SLB) inside containment (Ref. 2) and the accident analysis of the SLB events presented in the FSAR, Sections 6.2 and 14.2 (References 2 and 3, respectively). The combination of MSIVs and MSCVs precludes the blowdown of more than one steam generator, assuming a single active component failure (e.g., the failure of one MSIV to close on demand). For a break upstream of an MSIV, either the MSIVs in the other three steam lines or the MSCV in the steam line with the faulted SG must close to prevent the blowdown of more than one SG. For a break downstream of an MSIV, the MSCVs are not required to function.

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

The limiting case for the containment analysis is the SLB inside containment, without a loss of offsite power and failure to close of the MSCV on the affected steam generator or the failure to close of the MSIV associated with any other SG. With either of these failures, only one SG blows down.

The limiting SLBs occur at low power or hot shutdown because the magnitude and duration of the RCS cooldown will be greater if the SLB is initiated from these conditions. This occurs because, at low power conditions, there is less stored energy in the fuel and the initial steam generator water inventory is greatest at no load. Additionally, the magnitude and duration of the RCS cooldown will be greater if RCPs continue to operate during the SLB. Therefore, an SLB without loss of offsite power is more limiting.

If it is assumed that the most reactive rod cluster control assembly is stuck in the fully withdrawn position, there is an increased possibility that the core will become critical and return to power. In the most limiting condition, the core is ultimately shut down by the boric acid injection delivered by the Emergency Core Cooling System.

The accident analysis compares several different SLB events against different acceptance criteria. The large SLB outside containment upstream of the MSIV is limiting for offsite dose, although a break in this short section of main steam header has a very low probability. The large SLB inside containment at hot zero power with offsite power available is the limiting case for a post trip return to power. The analysis includes scenarios with offsite power available, and with a loss of offsite power following turbine trip. With offsite power available, the reactor coolant pumps continue to circulate coolant through the steam generators, maximizing the Reactor Coolant System cooldown. With a loss of offsite power, the response of mitigating systems is delayed.

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

Significant single failures considered include: 1) failure of an MSIV or MSCV to close; 2) failure of a feedwater control or isolation valve to close; 3) failure of a diesel generator; and, 4) failure of auxiliary feedwater pump runout protection.

The MSIVs serve only a safety function and remain open during power operation. These valves operate under the following situations:

- a. A HELB inside containment. In order to maximize the mass and energy release into containment, the analysis assumes that the MSCV in the affected steam generator remains open. For this accident scenario, steam is discharged into containment from all steam generators until the remaining MSIVs close. After MSIV closure, steam is discharged into containment only from the affected steam generator and from the residual steam in the main steam header downstream of the closed MSIVs in the unaffected loops. Closure of the MSIVs isolates the break from the unaffected steam generators.
- b. A break outside of containment and upstream from the MSIVs. This case is not a containment pressurization concern. The uncontrolled blowdown of more than one steam generator must be prevented to limit the potential for uncontrolled RCS cooldown and positive reactivity addition. Closure of the MSIVs isolates the break and limits the blowdown to a single steam generator.
- c. A break downstream of the MSIVs. This case will be isolated by the closure of the MSIVs.
- d. Following a steam generator tube rupture. In this case, closure of the MSIVs isolates the ruptured steam generator from the intact steam generators to minimize radiological releases.

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

- e. The MSIVs are also utilized during other events such as a feedwater line break. This event is less limiting so far as MSIV OPERABILITY is concerned.

The MSIVs satisfy Criterion 3 of 10 CFR 50.36.

LCO

This LCO requires that four MSIVs and four MSCVs in the steam lines be OPERABLE. The MSIVs are considered OPERABLE when the isolation times are within limits, and they close on an isolation actuation signal. The MSCVs are considered OPERABLE when inspections and testing required by the Inservice Test Program are completed at the specified FREQUENCY in accordance with SR 3.7.2.2.

This LCO provides assurance that the MSIVs and MSCVs will perform their design safety function to mitigate the consequences of accidents that could result in offsite exposures comparable to the 10 CFR 50.67 (Ref. 4) limits or the NRC staff approved licensing basis.

APPLICABILITY

The MSIVs and MSCVs must be OPERABLE in MODE 1, and in MODES 2 and 3 except when MSIVs are closed. These are the conditions when there is significant mass and energy in the RCS and steam generators. When the MSIVs are closed, they are already performing the safety function.

In MODE 4, the steam generator energy is low and the potential for and consequences of an SLB are significantly reduced. In MODE 5 or 6, the steam generators do not contain much energy because their temperature is below the boiling point of water; therefore, the MSIVs are not required for isolation of potential high energy secondary system pipe breaks in these MODES.

(continued)

BASES

ACTIONS

A.1

With one or more MSCVs inoperable, action must be taken to restore OPERABLE status within 48 hours. In this condition, the MSIVs in the other three steam lines must close to prevent the blowdown of more than one SG following an SLB upstream of an MSIV. Having more than one MSCV inoperable will not increase the consequences of an SLB upstream of an MSIV because only the MSCV associated with the faulted SG needs to function to mitigate the failure of an MSIV associated with any of the other SGs. Additionally, an inoperable MSCV does not affect the consequences of an SLB downstream of the MSIV.

The 48 hour Completion Time is acceptable because of the following: all MSIVs are Operable, there is a low probability of the failure of an MSIV during the 48 hour period that one or more MSCVs are inoperable; and, there is a low probability of an accident that would require a closure of the MSCVs or MSIVs during this period.

B.1, B.2 and B.3

If the MSCVs cannot be restored to OPERABLE status within 48 hours, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in MODE 2 within 6 hours and all MSIVs must be closed within 14 hours. The Completion Times are reasonable, based on operating experience, to reach MODE 2 and to close the MSIVs or complete a plant cooldown to MODE 4 in an orderly manner and without challenging unit systems.

If an inoperable MSCVs cannot be restored to OPERABLE status within the specified Completion Time, then all MSIVs must be verified to be closed on a periodic basis while the plant is in MODE 2 or 3. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of MSIV status indications available in the control room, and other administrative controls, to ensure that these valves are in the closed position.

(continued)

BASES

ACTIONS
(continued)

C.1

With one MSIV inoperable in MODE 1, action must be taken to restore OPERABLE status within 48 hours. Some repairs to the MSIV can be made with the unit hot. The 48 hour Completion Time is acceptable because the four OPERABLE MSCVs prevent the blowdown of more than one SG following an SLB upstream of the MSIV even if more than one MSIV fails to close. Additionally, there is a low probability of the failure of an MSCV during the 48 hour period that the MSIV is inoperable; and, there is a low probability of an accident that would require a closure of the MSIVs occurring during this time period.

The 48 hour Completion Time is greater than that normally allowed for containment isolation valves because the MSIVs are valves that isolate a closed system penetrating containment. These valves differ from most other containment isolation valves in that the closed system provides an additional means for containment isolation.

D.1

If the MSIV cannot be restored to OPERABLE status within 48 hours, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in MODE 2 within 6 hours and Condition E would be entered. The Completion Times are reasonable, based on operating experience, to reach MODE 2 and to close the MSIVs in an orderly manner and without challenging unit systems.

E.1 and E.2

Condition E is modified by a Note indicating that separate Condition entry is allowed for each MSIV.

(continued)

BASES

ACTIONS

E.1 and E.2 (continued)

Since the MSIVs are required to be OPERABLE in MODES 2 and 3, the inoperable MSIVs may either be restored to OPERABLE status or closed. When closed, the MSIVs are already in the position required by the assumptions in the safety analysis.

The 8 hour Completion Time is reasonable, based on operating experience, to close the MSIVs after reaching MODE 2 or complete a plant cooldown to MODE 4 in an orderly manner and without challenging unit systems.

For inoperable MSIVs that cannot be restored to OPERABLE status within the specified Completion Time, but are closed, the inoperable MSIVs must be verified on a periodic basis to be closed. This is necessary to ensure that the assumptions in the safety analysis remain valid. The 7 day Completion Time is reasonable, based on engineering judgment, in view of MSIV status indications available in the control room, and other administrative controls, to ensure that these valves are in the closed position.

F.1 and F.2

If one MSIV is inoperable when one or more MSCVs are inoperable, then more than one SG may blowdown following an SLB upstream of an MSIV and the plant is outside of the analysis assumptions. The plant remains within the analysis assumptions for an SLB downstream of an MSIV although the ability to tolerate the failure of a second MSIV is lost. In this condition, all MSCVs must be restored to OPERABLE status or all MSIVs must be restored to OPERABLE status within 8 hours.

The 8 hour Completion Time is acceptable because of the low probability of an accident that would require a closure of the MSCVs or MSIVs during this time period. The 8 hour Completion Time is greater than that normally allowed for containment isolation valves because the MSIVs are valves that isolate a closed system penetrating Containment. These valves differ from most other containment isolation valves in that the closed system provides an additional means for containment isolation.

(continued)

BASES

ACTIONS

G.1 and G.2

If the MSIVs or MSCVs cannot be restored to OPERABLE status or are not closed within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed at least in MODE 3 within 6 hours, and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from MODE 2 conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.7.2.1

This SR verifies that MSIV closure time is ≤ 5.0 seconds on an actual or simulated actuation signal. The MSIV closure time is assumed in the accident and containment analyses. This Surveillance is normally performed upon returning the unit to operation following a refueling outage. The MSIVs are not tested at power because even a part stroke causes a turbine trip and valve closure. As the MSIVs are not tested at power, they are exempt from the ASME Code, Section XI (Ref. 5), requirements during operation in MODE 1 or 2.

The Frequency is in accordance with the Inservice Testing Program.

This test is conducted in MODE 3 with the unit at operating temperature and pressure. This SR is modified by a Note that allows entry into and operation in MODE 3 prior to performing the SR. This allows a delay of testing until MODE 3, to establish conditions consistent with those under which the acceptance criterion was generated.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.2.2

Each MSCV must be inspected to ensure that it closes properly. This ensures that the safety analysis assumptions are met. The Frequency of this SR is based on Inservice Testing Program requirements and corresponds to the expected refueling cycle.

REFERENCES

1. FSAR, Section 10.2.
 2. FSAR, Section 6.
 3. FSAR, Section 14.
 4. 10 CFR 50.67.
 5. ASME, Boiler and Pressure Vessel Code, Section XI.
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