ATTACHMENT 1

VOLUME 11

DAVIS-BESSE IMPROVED TECHNICAL SPECIFICATIONS CONVERSION

ITS SECTION 3.6 CONTAINMENT SYSTEMS

Revision 0

LIST OF ATTACHMENTS

ATTACHMENT 1

ITS 3.6.1, CONTAINMENT

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS

A01

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY ← OPERABILITY

LIMITING CONDITION FOR OPERATION

3.6.1 3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained. (OPERABILITY)

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A — Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN

ACTION B — within the following 30 hours.

A02

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated: (OPERABILITY)

a. At least once per 31 days by verifying that: — L01

1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except those valves that may be opened under administrative controls per Specification 3.6.3.1, and — See ITS 3.6.3

2. The equipment hatch is closed. — L01

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3 — A03

SR 3.6.1.1 c. By performing required visual examinations of the containment vessel and shield building in accordance with the Containment Leakage Rate Testing Program.

*Except valves, blind flanges, and deactivated automatic valves which are located inside the Shield Building (including the annulus and containment) and are locked, sealed, or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that verification of these penetrations being closed need not be performed more often than once per 92 days. — See ITS 3.6.3

ITS

(A01)

ITS 3.6.1

DEFINITIONS

1.7 Deleted.

CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when:

See ITS Chapter 1.0

a. All penetrations required to be closed during accident conditions are either:

1. Capable of being closed by the Safety Features Actuation System, or

2. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except those approved to be open under administrative controls,

b. The equipment hatch is closed,

(LA01)

c. Each air lock is in compliance with the requirements of Specification 3.6.1.3,

See ITS 3.6.2

d. The containment leakage rates are within the limits specified in the Containment Leakage Rate Testing Program, and

e. The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

(LA01)

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessry, of the channel output such that it responds with necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

See ITS Chapter 1.0

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

ITS (A01) ITS 3.6.1

CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

SR 3.6.1.1 3.6.1.2 Containment leakage rates shall be in accordance with the Containment Leakage Rate Testing Program. (A02)

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A — With containment leakage rate(s) not within limit(s), restore containment leakage rate(s) within limit(s) within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD
ACTION B — SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

SR 3.6.1.1 4.6.1.2.1 The containment leakage rates shall be determined in accordance with the Containment Leakage Rate Testing Program.

4.6.1.2.2 A special test shall be performed to verify that the containment purge and exhaust isolation valves leakage rate is within the limits specified in the Containment Leakage Rate Testing Program, by pressurizing the piping section including one valve inside and one valve outside the containment to a pressure greater than or equal to 20 psig:

a. Each time the containment purge and exhaust isolation valves are opened, within 72 hours after valve closure, or prior to entering MODE 4 from MODE 5, whichever is later.

b. Each time the plant has been in any combination of MODES 3, 4, 5 or 6 for more than 72 hours, if not performed in the previous 6 months.

{See ITS 3.6.3}

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DISCUSSION OF CHANGES
ITS 3.6.1, CONTAINMENT

ADMINISTRATIVE CHANGES

A01 In the conversion of the Davis-Besse Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1430, Rev. 3.1, "Standard Technical Specifications-Babcock and Wilcox Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A02 CTS 3.6.1.1 states "Primary CONTAINMENT INTEGRITY shall be maintained." CTS 3.6.1.2 requires containment leakage rates be in accordance with the Containment Leakage Rate Testing Program. ITS 3.6.1 states "Containment shall be OPERABLE." This changes the CTS by deleting all references to the CONTAINMENT INTEGRITY definition, as well as combining the containment requirements of CTS 3.6.1.1 and CTS 3.6.1.2 into one LCO statement.

The purpose of CTS 3.6.1.1 and CTS 3.6.1.2 is to provide requirements pertaining to containment OPERABILITY. This portion of the change (combining the LCOs) is acceptable because moving these requirements to one LCO, ITS 3.6.1, centralizes the requirements. The purpose of CTS 1.8 is to clearly describe all aspects of CONTAINMENT INTEGRITY. The CTS 3/4.6.1 references to CONTAINMENT INTEGRITY have been deleted since the CTS definition of CONTAINMENT INTEGRITY in CTS 1.8 is incorporated into ITS 3.6.1, 3.6.2 and 3.6.3 and is no longer maintained as a separate definition in the ITS. ITS 3.6.1 requires that the containment shall be OPERABLE. The definition of OPERABLE and the subsequent ITS 3.6.1 LCO, ACTIONS, and Surveillance Requirements are sufficient to encompass the applicable requirements of the CTS definition. This change removes any confusion that may exist between the definition and the specific requirements of the LCO and is a presentation preference consistent with NUREG-1430, Rev. 3.1. Since all aspects of the CONTAINMENT INTEGRITY definition requirements, along with the remainder of the LCOs in the Containment Systems Primary Containment section (i.e., air locks and containment isolation valves), are maintained in subsequent Specifications of ITS, this change is considered acceptable. This change is designated as administrative because it does not result in technical changes to the CTS.

A03 CTS 4.6.1.1.b requires that Primary CONTAINMENT INTEGRITY shall be demonstrated by verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3. The ITS does not include the reference to CTS 3.6.1.3 (which has changed to ITS 3.6.2). This changes the CTS by not including a reference to another LCO that is required in the same MODES.

The purpose of the CTS 4.6.1.1.b is to provide assurance that each containment air lock is performing its function in support of CONTAINMENT INTEGRITY. This cross reference to another Specification is not necessary and this change is acceptable because ITS 3.6.2 provides assurance that containment air locks are

DISCUSSION OF CHANGES
ITS 3.6.1, CONTAINMENT

OPERABLE without the reference in ITS 3.6.1. This change is designated as administrative because it does not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 2 – Removing Descriptions of System Operation)* CTS 1.8 states, in part, "CONTAINMENT INTEGRITY shall exist when: 1.8.a All penetrations required to be closed during accident conditions are either: 1. Capable of being closed by the Safety Features Actuation System, or 2. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for those approved to be open under administrative controls; 1.8.b The equipment hatch is closed; 1.8.d The containment leakage rates are within the limits specified in the Containment Leakage Rate Testing Program; and 1.8.e The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE." ITS 3.6.1 states "Containment shall be OPERABLE." This changes the CTS by moving the reference to penetration and equipment hatch requirements to the Bases.

The removal of these details, which are related to system operation, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement for the containment to be OPERABLE and the relocated material describes aspects of OPERABILITY. The ITS also still retains the requirement to perform required visual inspections and leakage rate testing in accordance with the Containment Leakage Rate Testing Program, which would provide verification that the equipment hatch is closed, the containment leakage rates are within limits, and the sealing mechanisms are OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system operation is being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L01 *(Category 5 - Deletion of Surveillance Requirement)* CTS 4.6.1.1.a.2 requires the primary containment equipment hatches to be verified closed every 31 days.

DISCUSSION OF CHANGES
ITS 3.6.1, CONTAINMENT

The ITS does not include this requirement. This changes the CTS by deleting the specific Surveillance Requirement to verify primary containment equipment hatches are closed.

The purpose of CTS 4.6.1.1.a.2 is to help ensure primary CONTAINMENT INTEGRITY is maintained. However, the ITS still maintains the requirement for the Containment to be OPERABLE, and maintaining the hatches closed is part of this requirement (as described in the Bases). The ITS also continues to require the leakage rate testing in accordance with the Containment Leakage Rate Testing Program. This leakage testing would confirm that the equipment hatch is closed, since if it was not closed, then the measured leakage rate would be affected. In addition, opening of the equipment hatch is not a routine evolution, and it is strictly controlled by plant procedures. The appropriate procedure requires proper verification that the opened equipment hatch is reclosed when work is complete. Therefore, this specific Surveillance Requirement is not necessary to be included in the ITS. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

CTS

3.6 CONTAINMENT SYSTEMS

3.6.1 Containment

3.6.1.1, 3.6.1.2 — LCO 3.6.1 Containment shall be OPERABLE.

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

ACTIONS

CTS	CONDITION	REQUIRED ACTION	COMPLETION TIME
3.6.1.1 Action 3.6.1.2 Action	A. Containment inoperable.	A.1 Restore containment to OPERABLE status.	1 hour
3.6.1.1 Action 3.6.1.2 Action	B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

CTS	SURVEILLANCE		FREQUENCY
4.6.1.1.1.c. 4.6.1.2.1	SR 3.6.1.1	Perform required visual examinations and leakage rate testing except for containment air lock testing, in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program
	SR 3.6.1.2	[Verify containment structural integrity in accordance with the Containment Tendon Surveillance Program.	In accordance with the Containment Tendon Surveillance Program]

(1)

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JUSTIFICATION FOR DEVIATIONS
ITS 3.6.1, CONTAINMENT

1. This bracketed requirement regarding Containment Tendon Surveillance Program is deleted because it is not applicable to Davis-Besse. The Davis-Besse containment does not utilize pre-stressed concrete containment tendons.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.1 Containment

BASES

BACKGROUND

The containment consists of the concrete reactor building (RB), its steel liner, and the penetrations through this structure. The structure is designed to contain radioactive material that may be released from the reactor core following a design basis loss of coolant accident (LOCA). Additionally, this structure provides shielding from the fission products that may be present in the containment atmosphere following accident conditions.

The containment is a reinforced concrete structure with a cylindrical wall, a flat foundation mat, and a shallow dome roof. For containments with ungrouted tendons, the cylinder wall is prestressed with a post tensioning system in the vertical and horizontal directions, and the dome roof is prestressed using a three way post tensioning system. The inside surface of the containment is lined with a carbon steel liner to ensure a high degree of leak tightness during operating and accident conditions. INSERT 1 (1)

The concrete RB is required for structural integrity of the containment under Design Basis Accident (DBA) conditions. The steel liner and its penetrations establish the leakage limiting boundary of the containment. Maintaining the containment OPERABLE limits the leakage of fission product radioactivity from the containment to the environment. SR 3.6.1.1 leakage rate requirements comply with 10 CFR 50, Appendix J, Option [A][B] (Ref. 1), as modified by approved exemptions. (2)

The isolation devices for the penetrations in the containment boundary are a part of the containment leak tight barrier. To maintain this leak tight barrier:

a. All penetrations required to be closed during accident conditions are either:

   1. Capable of being closed by an OPERABLE automatic containment isolation system, or ; (3)

   2. Closed by manual valves, blind flanges, or de-activated automatic valves secured in their closed positions, except as provided in LCO 3.6.3, "Containment Isolation Valves." ; (3)

b. Each air lock is OPERABLE, except as provided in LCO 3.6.2, "Containment Air Locks." ; (3)

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(1) **INSERT 1**

The containment vessel, including all its penetrations, is a low leakage steel structure designed to withstand a postulated loss-of-coolant accident and to confine a postulated release of radioactive material. The containment vessel is a cylindrical steel pressure vessel with hemispherical dome and ellipsoidal bottom. It is completely enclosed by a reinforced concrete shield building having a cylindrical shape with a shallow dome roof. An annular space is provided between the wall of the containment vessel and the shield building, and clearance is also provided between the containment vessel and the dome of the shield building.

The shield building is a concrete structure surrounding the containment vessel. It is designed to provide biological shielding during normal operation and from hypothetical accident conditions. The building provides a means for collection and filtration of fission product leakage from the containment vessel following a hypothetical accident through the Station Emergency Ventilation System, an engineered safety feature designed for that purpose.

All changes are (1) unless otherwise noted

BASES

BACKGROUND (continued)

The / is

c. All equipment hatches are closed, and ; (1) (3)

d. The pressurized sealing mechanism associated with each penetration, except as provided in LCO 3.6.[ ], is OPERABLE. (e.g., welds, bellows, or O-rings) (2)

APPLICABLE SAFETY ANALYSES

The safety design basis for the containment is that the containment must withstand the pressures and temperatures of the limiting DBA without exceeding the design leakage rate. (6)

The DBAs that result in a challenge to containment OPERABILITY from high pressures and temperatures are a LOCA, a steam line break, and a rod ejection accident (REA) (Ref. 2). In addition, release of significant fission product radioactivity within containment can occur from a LOCA or REA. In the DBA analyses, it is assumed that the containment is OPERABLE such that, for the DBAs involving release of fission product radioactivity, release to the environment is controlled by the rate of containment leakage. The containment was designed with an allowable leakage rate of [0.25]% of containment air weight per day (Ref. 3). This leakage rate, used in the evaluation of offsite doses resulting from accidents, is defined in 10 CFR 50, Appendix J, Option [A][B] (Ref. 1), as L_a: the maximum allowable leakage rate at the calculated maximum peak containment pressure (P_a) resulting from the limiting design basis LOCA. The allowable leakage rate represented by L_a forms the basis for the acceptance criteria imposed on all containment leakage rate testing. L_a is assumed to be [0.25]% per day in the safety analysis at P_a = [53.9] psig (Ref. 3).

(Markups: main; control rod assembly (CRA); CRA ejection accident; 0.50; 0.50; 38; (2) (2) (2))

Satisfactory leakage rate test results are a requirement for the establishment of containment OPERABILITY.

The containment satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Containment OPERABILITY is maintained by limiting leakage to ≤ 1.0 L_a, except prior to the first startup after performing a required Containment Leakage Rate Testing Program leakage test. At this time the applicable leakage limits must be met.

Compliance with this LCO will ensure a containment configuration, including the equipment hatches, that is structurally sound and that will limit leakage to those leakage rates assumed in the safety analysis.

BASES

LCO (continued)

and secondary containment bypass leakage paths

and exhaust

containment

Individual leakage rates specified for the containment air lock (LCO 3.6.2) [and purge valves with resilient seals (LCO 3.6.3)] are not specifically part of the acceptance criteria of 10 CFR 50, Appendix J. Therefore, leakage rates exceeding these individual limits only result in the containment being inoperable when the leakage results in exceeding the overall acceptance criteria of 1.0 L_a. (2)

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material into containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, containment is not required to be OPERABLE in MODE 5 to prevent leakage of radioactive material from containment. The requirements for containment during MODE 6 are addressed in LCO 3.9.3, "Containment Penetrations."

ACTIONS

A.1

OPERABLE

In the event containment is inoperable, containment must be restored to OPERABLE status within 1 hour. The 1 hour Completion Time provides a period of time to correct the problem commensurate with the importance of maintaining containment during MODES 1, 2, 3, and 4. This time period also ensures the probability of an accident (requiring containment OPERABILITY) occurring during periods when containment is inoperable is minimal. (6)

B.1 and B.2

If containment cannot be restored to OPERABLE status within the required Completion Time, the plant must be 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.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.1.1

Maintaining the containment OPERABLE requires compliance with the visual examinations and leakage rate test requirements of the Containment Leakage Rate Testing Program. The containment concrete [shield building exterior] visual examinations may be performed during either power operation, e.g., performed concurrently with other containment inspection-related activities such as tendon testing, or during a maintenance or refueling outage. The visual examinations of the [shield building interior and the] steel liner plate inside containment [containment vessel] are performed during maintenance or refueling outages since this is the only time the liner plate [steel containment vessel] is fully accessible. (1) (5) (1) (1)

Failure to meet air lock and [and exhaust] purge valve with resilient seal [s, and secondary containment bypass leakage paths] leakage limits specified in LCO 3.6.2 and LCO 3.6.3 does not invalidate the acceptability of these overall leakage determinations unless their contribution to overall Type A, B, and C leakage causes that to exceed limits. As left leakage prior to the first startup after performing a required Containment Leakage Rate Testing Program leakage test is required to be < 0.6 L_a for combined Type B and C leakage, and [< 0.75 L_a for Option A][≤ 0.75 L_a for Option B] for overall Type A leakage. At all other times between required leakage rate tests, the acceptance criteria is based on an overall Type A leakage limit of ≤ [<] 1.0 L_a. At ≤ [<] 1.0 L_a the offsite dose consequences are bounded by the assumptions of the safety analysis. SR Frequencies are as required by the Containment Leakage Rate Testing Program. These periodic testing requirements verify that the containment leakage rate does not exceed the leakage rate assumed in the safety analysis. [, containment] (1) (2) (5) (6)

SR Frequencies are as required by the Containment Leakage Rate Testing Program. These periodic testing requirements verify that the containment leakage rate does not exceed the leakage rate assumed in the safety analysis.

-----------------------------------REVIEWER'S NOTE-----------------------------------
Regulatory Guide 1.163 and NEI 94-01 include acceptance criteria for as-left and as-found Type A leakage rates and combined Type B and C leakage rates, which may be reflected in the Bases. (4)

[SR 3.6.1.2

For ungrouted, post tensioned tendons, this SR ensures that the structural integrity of the containment will be maintained in accordance with the provisions of the Containment Tendon Surveillance Program. Testing and Frequency are in accordance with the ASME Code, Section XI, Subsection IWL (Ref. 4), and applicable addenda as required by 10 CFR 50.55a.] (5)

BASES

REFERENCES	1. 10 CFR 50, Appendix J, Option [A][B]	2
U	2. FSAR, Sections [14.1 and 14.2] 15.4	1 2
	3. FSAR, Section [5.6]. 6.2.1.2.2	1 2
	4. ASME Code, Section XI, Subsection IWL.	5

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.1 BASES, CONTAINMENT

1. Changes are made (additions, deletions, and/or changes) to the ISTS Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The brackets have been removed and the proper plant specific information/value has been provided.

3. These punctuation corrections have been made consistent with the Writer's Guide for the Improved Standard Technical Specifications, TSTF-GG-05-01, Section 5.1.3.

4. This Reviewer's Note has been deleted. This information is for the NRC reviewer to be keyed in to what is needed to meet this requirement. This is not meant to be retained in the final version of the plant specific submittal.

5. Changes are made to reflect changes made to the Specification.

6. Editorial change.

Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.1, CONTAINMENT

There are no specific NSHC discussions for this Specification.

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ATTACHMENT 2

ITS 3.6.2, CONTAINMENT AIR LOCKS

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS (A01) ITS 3.6.2

CONTAINMENT SYSTEMS

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.2 3.6.1.3 Each containment air lock shall be OPERABLE with:

a. Both doors closed except when the air lock is being used for entry and exit, then at least one air lock door shall be closed, and

b. An overall air lock leakage rate in accordance with the Containment Leakage Rate Testing Program. (LA01)

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Add proposed ACTIONS Note 2 (A02)

Add proposed ACTIONS Note 3 (A03)

ACTION A *a. With one air lock door inoperable in one or more containment air locks, or with the

ACTION B containment air lock interlock mechanism inoperable in one or more containment air locks:

Add proposed ACTIONS A and B Note 1 (A04)

Add proposed ACTION A Note 2 and ACTION B Note 2 (L01)

1. Verify an OPERABLE door in each affected air lock is closed within one hour, and

ACTIONS A and B 2. Lock an OPERABLE door closed in each affected air lock within 24 hours, and

Add proposed Required Actions A.3 and B.3 Note (L02)

3. Operation may then continue provided that an OPERABLE door in each affected air lock is maintained closed and is verified to be locked closed at least once per 31 days, and provided that the containment air lock passes each scheduled performance of the overall air lock leakage rate test. (A05)

ACTION D 4. Otherwise, be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION C *b. With one or more containment air locks inoperable except as a result of an inoperable air lock door or air lock interlock mechanism:

1. Verify at least one door in each affected air lock is closed within one hour, and

2. Restore air lock(s) to OPERABLE status within 24 hours.

ACTION D 3. Otherwise, be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTIONS Note 1 *Entry and exit through the OPERABLE door is permissible if necessary to perform repairs of the affected air lock components. After each entry and exit, the OPERABLE door must be closed without delay. (LA02)

ITS

A01

ITS 3.6.2

CONTAINMENT SYSTEMS

CONTAINMENT AIR LOCKS

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE: [Add proposed SR 3.6.2.1 Note 2] A06

SR 3.6.2.1 a. By performing required air lock leakage rate testing in accordance with the Containment Leakage Rate Testing Program.*

b. Deleted.

SR 3.6.2.2 c. At least once per REFUELING INTERVAL by verifying that only one door in each air lock can be opened at a time.

SR 3.6.2.1 Note 1 *One inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test.

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A01

ITS 3.6.2

ITS

DEFINITIONS

1.7 Deleted.

CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when: See ITS Chapter 1.0

a. All penetrations required to be closed during accident conditions are either:

1. Capable of being closed by the Safety Features Actuation System, or

2. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except those approved to be open under administrative controls,

b. The equipment hatch is closed,

See ITS 3.6.1

LCO 3.6.2 c. Each air lock is in compliance with the requirements of Specification 3.6.1.3,

d. The containment leakage rates are within the limits specified in the Containment Leakage Rate Testing Program, and

e. The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

See ITS 3.6.1

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

See ITS Chapter 1.0

DISCUSSION OF CHANGES
ITS 3.6.2, CONTAINMENT AIR LOCKS

ADMINISTRATIVE CHANGES

A01 In the conversion of the Davis-Besse Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1430, Rev. 3.1, "Standard Technical Specifications-Babcock and Wilcox Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A02 CTS 3.6.1.3 states "Each containment air lock shall be OPERABLE..." CTS 3.6.1.3 Action a states "With an air lock inoperable" and specifies Actions to be taken. ITS 3.6.2 ACTIONS Note 2 states "Separate Condition entry is allowed for each air lock." ITS 3.6.2 Condition C states "One or more containment air locks inoperable for reasons other than Condition A or B." This changes the CTS by clarifying the current intent of applying the CTS Actions to each air lock separately.

The purpose of CTS 3.6.1.3 is to ensure containment air locks meet their requirements for CONTAINMENT INTEGRITY (changed to containment OPERABILITY in the ITS). One OPERABLE air lock door in each containment air lock provides a pressure boundary, and applying the CTS Actions for an inoperable air lock to each of the air locks separately is appropriate. ITS 3.6.2 ACTIONS Note 2 clearly states this. The Required Actions for each Condition provide appropriate compensatory action for each inoperable air lock. This change is acceptable because it clarifies existing requirements and better describes how the requirements are currently used. This change is designated as administrative because it does not result in technical changes to the CTS.

A03 CTS 3.6.1.3 does not include a reference to entering applicable Conditions and Required Actions of the CONTAINMENT INTEGRITY LCO (CTS 3.6.1.1) (changed to containment OPERABILITY in the ITS). ITS 3.6.2 ACTIONS Note 3 states "Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when air lock leakage results in exceeding the overall containment leakage rate." This changes the CTS by explicitly requiring the Containment Specification Actions be entered when the Containment LCO is not met as a result of air lock leakage exceeding limits.

This change is acceptable because it reinforces the requirement in ITS 3.6.1 to meet overall containment leakage limits. This change is designated as administrative because it does not result in technical changes to the CTS.

A04 CTS 3.6.1.3 Action a addresses one inoperable containment air lock door or an inoperable interlock mechanism. CTS 3.6.1.3 Action b addresses an inoperable containment air lock for reasons other than an inoperable air lock door or interlock mechanism, which includes both air lock doors in one air lock being inoperable. Note 1 to both ITS 3.6.2 ACTIONS A and B states that none of the Required Actions of ACTIONS A and B are to be taken if both doors in the same air lock are inoperable and Condition is entered. This changes CTS by adding a

DISCUSSION OF CHANGES
ITS 3.6.2, CONTAINMENT AIR LOCKS

Note to clarify that when both doors in an air lock are inoperable, the Actions for one inoperable door are not to be taken.

This change is acceptable because the intent of the CTS 3.6.1.3 Actions is to enter Action a for one inoperable door or an inoperable interlock mechanism in an air lock, and enter Action b for two inoperable doors in an air lock. This change is designated as administrative because it does not result in technical changes to the CTS.

A05 CTS 3.6.1.3 Action a.3 includes a requirement that states operation with an inoperable air lock door or interlock mechanism can continue "provided that the containment air lock passes each scheduled performance of the overall air lock leakage rate test." ITS 3.6.2 does not include this specific statement. This changes the CTS by deleting a provision when a door or interlock mechanism is inoperable.

This change is acceptable because the requirement is not needed to be stated. CTS 4.0.1 and ITS SR 3.0.1 require Surveillances to be met. If the air lock leakage test fails during the next scheduled performance, then the air lock would be inoperable due to a reason other than an individual door. This would require entry into ITS 3.6.2 ACTION C and the appropriate actions would be taken. This change is designated as administrative because it does not result in a technical change to the CTS.

A06 CTS 4.6.1.3.a requires air lock leakage rate testing in accordance with the Containment Leakage Rate Testing Program. ITS SR 3.6.2.1 requires a similar test, but is modified by Note 2, which states that results shall be evaluated against acceptance criteria applicable to SR 3.6.1.1. This changes the CTS by adding a Note as a reminder that the air lock leakage must be accounted for in determining the combined Type B and C containment leakage rate.

The purpose of CTS 4.6.1.3.a is to ensure that the structural integrity of the containment air locks will be maintained comparable to the original design standards for the life of the facility. This change is acceptable because it provides clarification that the containment air lock leakage is properly accounted for in determining the combined Type B and C containment leakage rate, consistent with current requirements and practices. This change is designated as administrative because it does not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

DISCUSSION OF CHANGES
ITS 3.6.2, CONTAINMENT AIR LOCKS

REMOVED DETAIL CHANGES

LA01 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS LCO 3.6.1.3.a and 3.6.1.3.b state what constitutes an OPERABLE containment air lock. ITS LCO 3.6.2 does not include this level of detail. This changes the CTS by moving details concerning what constitutes an OPERABLE containment air lock to the Bases.

The removal of these details, which are related to system design, from the CTS is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to have two OPERABLE containment air locks. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the CTS.

LA02 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 3.6.1.3 Actions a and b footnote * allows entry and exit through the OPERABLE door if necessary to perform repairs of the affected air lock components. Furthermore, the footnote requires that after each entry and exit, the OPERABLE door must be closed without delay. ITS 3.6.2 ACTIONS Note 1 provides a similar allowance, except the requirement to close the OPERABLE door without delay (after entry or exit), is not included. This changes the CTS by moving this detail to the Bases.

The removal of these details for meeting a Technical Specification requirement is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement that entry and exit through the OPERABLE door is permissible. This allowance implies that if entry and exit is not being made, the door must remain locked closed. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L01 *(Category 4 – Relaxation of Required Action)* CTS 3.6.1.3 Action a, which applies when one air lock door or the interlock mechanism is inoperable in one air lock, does not provide an allowance for entry or exit through an air lock except for repair of the affected air lock components (footnote *). Note 2 to ITS 3.6.2 ACTION A, which applies when one air lock door is inoperable in an air lock,

DISCUSSION OF CHANGES
ITS 3.6.2, CONTAINMENT AIR LOCKS

states that entry and exit is permissible for 7 days under administrative controls if both air locks are inoperable. Note 2 to ITS 3.6.2 ACTION B, which applies when the interlock mechanism is inoperable in an air lock, states that entry and exit of containment is permissible under the control of a dedicated individual. This changes CTS by allowing entry and exit of containment under specified criteria for any reason when an air lock door or an interlock mechanism is inoperable.

The purpose of Note 2 to ITS 3.6.2 ACTIONS A and B is provide reasonable access to containment when air lock doors are inoperable or an interlock mechanism is inoperable. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. Actions for safe operation of the air lock must still be taken, and controls are placed on the use of the air lock commensurate with the importance of the air lock being able to perform its safety function. For ITS 3.6.2 ACTION A Note 2, the allowance is only applicable for 7 days if both air locks are inoperable. For ITS 3.6.2 ACTION B Note 2, the allowance is only applicable if a dedicated individual is present to perform the function of the interlock mechanism. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L02 *(Category 4 – Relaxation of Required Action)* CTS 3.6.1.3 Action a does not address how to verify locked closed air lock doors in high radiation areas. ITS 3.6.2 Required Actions A.3 and B.3 contain a Note that provides an allowance for air lock doors in high radiation areas to be verified locked closed by administrative means when a containment air lock door or containment air lock interlock mechanism is inoperable. This changes CTS by allowing an air lock door in a high radiation area to be verified closed by administrative means.

The purpose of the Notes to ITS 3.6.2 Required Actions A.3 and B.3 is to provide reasonable assurance in a safe manner that air lock doors in high radiation areas are locked closed. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. The air lock doors are still required to be verified locked closed. Considering the doors are initially locked as required by ITS 3.6.2 Required Actions A.2 and B.2, and that they are located in high radiation areas, whose entry into is closely controlled and restricted, verifying the doors closed administratively is reasonable. This avoids the risks and potential exposure associated with additional entries into high radiation areas. Furthermore, the

DISCUSSION OF CHANGES
ITS 3.6.2, CONTAINMENT AIR LOCKS

probability of misalignment of the locked door, once it has been initially verified to be locked closed, is small. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

CTS

3.6 CONTAINMENT SYSTEMS

3.6.2 Containment Air Locks

3.6.1.3 LCO 3.6.2 [Two] containment air lock[s] shall be OPERABLE. (1)

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

ACTIONS

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

Actions a and b. footnote * 1. Entry and exit is permissible to perform repairs on the affected air lock components.

DOC A02 2. Separate Condition entry is allowed for each air lock.

DOC A03 3. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when air lock leakage results in exceeding the overall containment leakage rate acceptance criteria.

CTS	CONDITION	REQUIRED ACTION	COMPLETION TIME
Actions a.1, a.2, and a.3	A. One or more containment air locks with one containment air lock door inoperable.	------------NOTES------------ 1. Required Actions A.1, A.2, and A.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. 2. Entry and exit is permissible for 7 days under administrative controls [if both air locks are inoperable]. (1) -----------------------------------	
		A.1 Verify the OPERABLE door is closed in the affected air lock. AND	1 hour

CTS

ACTIONS (continued)

CTS	CONDITION	REQUIRED ACTION	COMPLETION TIME
		A.2 Lock the OPERABLE door closed in the affected air lock. AND A.3 --------------NOTE-------------- Air lock doors in high radiation areas may be verified locked closed by administrative means. ------------------------------------ Verify the OPERABLE door is locked closed in the affected air lock.	24 hours Once per 31 days
Actions a.1, a.2, and a.3	B. One or more containment air locks with containment air lock interlock mechanism inoperable.	------------------NOTES------------------ 1. Required Actions B.1, B.2, and B.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. 2. Entry and exit of containment is permissible under the control of a dedicated individual. --- B.1 Verify an OPERABLE door is closed in the affected air lock. AND	 1 hour

CTS

ACTIONS (continued)

CTS	CONDITION	REQUIRED ACTION		COMPLETION TIME
		B.2	Lock an OPERABLE door closed in the affected air lock.	24 hours
		AND		
		B.3	--------------NOTE------------- Air lock doors in high radiation areas may be verified locked closed by administrative means. ------------------------------------ Verify an OPERABLE door is locked closed in the affected air lock.	Once per 31 days
Actions b.1 and b.2	C. One or more containment air locks inoperable for reasons other than Condition A or B.	C.1	Initiate action to evaluate overall containment leakage rate per LCO 3.6.1.	Immediately
		AND		
		C.2	Verify a door is closed in the affected air lock.	1 hour
		AND		
		C.3	Restore air lock to OPERABLE status.	24 hours
Actions a.4 and b.3	D. Required Action and associated Completion Time not met.	D.1	Be in MODE 3.	6 hours
		AND		
		D.2	Be in MODE 5.	36 hours

CTS

SURVEILLANCE REQUIREMENTS

CTS		SURVEILLANCE	FREQUENCY
4.6.1.3.a	SR 3.6.2.1	-----NOTES----- 1. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. 2. Results shall be evaluated against acceptance criteria applicable to SR 3.6.1.1. ----- Perform required air lock leakage rate testing in accordance with the Containment Leakage Rate Testing Program.	In accordance with the Containment Leakage Rate Testing Program
4.6.1.3.c	SR 3.6.2.2	Verify only one door in the air lock can be opened at a time.	24 months

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.2, CONTAINMENT AIR LOCKS

1. The brackets have been removed and the proper plant specific information/value has been provided.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

All changes are (1) unless otherwise noted

B 3.6 CONTAINMENT SYSTEMS

B 3.6.2 Containment Air Locks

BASES

BACKGROUND

Containment air locks form part of the containment pressure boundary and provide a means for personnel access during all MODES of operation.

approximately

Each air lock is nominally a right circular cylinder, 10 ft in diameter, with a door at each end. The doors are interlocked to prevent simultaneous opening. During periods when containment is not required to be OPERABLE, the door interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is necessary. Each air lock door has been designed and is tested to certify its ability to withstand a pressure in excess of the maximum expected pressure following a Design Basis Accident (DBA) in containment. As such, closure of a single door supports containment OPERABILITY. Each of the doors contains double gasketed seals and local leakage rate testing capability to ensure pressure integrity. To effect a leak tight seal, the air lock design uses pressure seated doors (i.e., an increase in containment internal pressure results in increased sealing force on each door).

for the personnel air lock and approximately 6 ft in diameter for the emergency air lock

Each personnel air lock door is provided with limit switches that provide local ~~control room~~ indication of door position. ~~Additionally, control room indication is provided to alert the operator whenever an air lock door interlock mechanism is defeated.~~

The containment air locks form part of the containment pressure boundary. As such, air lock integrity and leak tightness is essential for maintaining the containment leakage rate within limit in the event of a DBA. Not maintaining air lock integrity or leak tightness may result in a leakage rate in excess of that assumed in the unit safety analysis.

APPLICABLE SAFETY ANALYSES

The DBAs that result in a release of radioactive material within containment are a loss of coolant accident (LOCA), a main steam line break, and a control rod assembly ~~[rod]~~ ejection accident (Ref. 2). In the analysis of each of these accidents, it is assumed that containment is OPERABLE such that release of fission products to the environment is controlled by the rate of containment leakage. The containment was designed with an allowable leakage rate of 0.50 ~~[0.25]~~% of containment air weight per day (Ref. 3). This leakage rate is defined in 10 CFR 50, Appendix J, Option B ~~[A]~~ (Ref. 1), as L_a: the maximum allowable containment leakage rate at the calculated maximum peak containment pressure (P_a) following a design basis (2)

BASES

APPLICABLE SAFETY ANALYSES (continued)

LOCA. This allowable leakage rate forms the basis for the acceptance criteria imposed on the SRs associated with the air lock. L_a is [0.25] % per day and P_a is [53.9] psig, resulting from the limiting design basis LOCA. [0.50] [38] (2)

The containment air locks satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Each containment air lock forms part of the containment pressure boundary. As a part of the containment pressure boundary, the air lock safety function is related to control of the containment leakage rate resulting from a DBA. Thus, each air lock's structural integrity and leak tightness are essential to the successful mitigation of such an event.

Each air lock (personnel and emergency) is required to be OPERABLE. For the air lock to be considered OPERABLE, the air lock interlock mechanism must be OPERABLE, the air lock must be in compliance with the Type B air lock leakage test, and both air lock doors must be OPERABLE. The interlock allows only one air lock door of an air lock to be opened at one time. This provision ensures that a gross breach of containment does not exist when containment is required to be OPERABLE. Closure of a single door in each air lock is sufficient to provide a leak tight barrier following postulated events. Nevertheless, both doors are kept closed when the air lock is not being used for normal entry into or exit from containment. (1)

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, the containment air locks are not required in MODE 5 to prevent leakage of radioactive material from containment. The requirements for the containment air locks during MODE 6 are addressed in LCO 3.9.3, "Containment Penetrations."

ACTIONS

The ACTIONS are modified by a Note that allows entry and exit to perform repairs on the affected air lock component. If the outer door is inoperable, then it may be easily accessed for most repairs. [If the inner door is inoperable, then] It is preferred that the air lock be accessed from inside primary containment by entering through the other OPERABLE air lock. However, if this not practicable, or if repairs on either door must be performed from the barrel side of the door then it is permissible to enter the air lock through the OPERABLE door, which means there is a short time during which the containment boundary is not intact (during access through the (4)

ACTIONS (continued)

OPERABLE door). The ability to open the OPERABLE door, even if it means the containment boundary is temporarily not intact, is acceptable due to the low probability of an event that could pressurize the containment during the short time in which the OPERABLE door is expected to be open. After each entry and exit the OPERABLE door must be immediately closed. If ALARA conditions permit, entry and exit should be via an OPERABLE air lock.

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

In the event the air lock leakage results in exceeding the overall containment leakage rate, Note 3 directs entry into the applicable Conditions and Required Actions of LCO 3.6.1, "Containment."

A.1, A.2, and A.3

With one air lock door inoperable in one or more containment air locks, the OPERABLE door must be verified closed (Required Action A.1) in each affected containment air lock.

This ensures that a leak tight containment barrier is maintained by the use of an OPERABLE air lock door. This action must be completed within 1 hour. This specified time period is consistent with the ACTIONS of LCO 3.6.1, which requires containment be restored to OPERABLE status within 1 hour.

In addition, the affected air lock penetration must be isolated by locking closed the remaining OPERABLE air lock door within the 24 hour Completion Time. The 24 hour Completion Time is considered reasonable for locking the OPERABLE air lock door, considering the OPERABLE door of the affected air lock is being maintained closed.

BASES

ACTIONS (continued)

Required Action A.3 verifies that an air lock with an inoperable door has been isolated by the use of a locked and closed OPERABLE air lock door. This ensures that an acceptable containment leakage boundary is maintained. The Completion Time of once per 31 days is based on engineering judgment and is considered adequate in view of the low likelihood of a locked door being mispositioned and other administrative controls. Required Action A.3 is modified by a Note that applies to air lock doors located in high radiation areas and allows these doors to be verified locked closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of the door, once it has been verified to be in the proper position, is small.

The Required Actions have been modified by two Notes. Note 1 clarifies that only the Required Actions and associated Completion Times of Condition C are required if both doors in the same air lock are inoperable. With both doors in the same air lock inoperable, an OPERABLE door is not available to be closed. Required Actions C.1 and C.2 are the appropriate remedial actions. The exception of Note 1 does not affect tracking the Completion Time from the initial entry into Condition A; only the requirement to comply with the Required Actions. Note 2 allows use of the air lock for entry and exit for 7 days under administrative controls if both air locks have an inoperable door. This 7 day restriction begins when the second air lock is discovered inoperable. Containment entry may be required to perform Technical Specifications (TS) Surveillances and Required Actions, as well as other activities on equipment inside containment that are required by TS or activities on equipment that support TS-required equipment. This Note is not intended to preclude performing other activities (i.e., non-TS-required activities) if the containment was entered, using the inoperable air lock, to perform an allowed activity listed above. This allowance is acceptable due to the low probability of an event that could pressurize the containment during the short time that the OPERABLE door is expected to be open.

B.1, B.2, and B.3

With an air lock interlock mechanism inoperable in one or more air locks, the Required Actions and associated Completion Times are consistent with those specified in Condition A.

BASES

ACTIONS (continued)

The Required Actions have been modified by two Notes. Note 1 clarifies that only the Required Actions and associated Completion Times of Condition C are required if both doors in the same air lock are inoperable. With both doors in the same air lock inoperable, an OPERABLE door is not available to be closed. Required Actions C.1 and C.2 are the appropriate remedial actions. Note 2 allows entry into and exit from the containment under the control of a dedicated individual stationed at the air lock to ensure that only one door is opened at a time (i.e., the individual performs the function of the interlock).

Required Action B.3 is modified by a Note that applies to air lock doors located in high radiation areas and allows these doors to be verified locked closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Therefore, the probability of misalignment of the door, once it has been verified to be in the proper position, is small.

C.1, C.2, and C.3

With one or more air locks inoperable for reasons other than those described in Condition A or B, Required Action C.1 requires action to be immediately initiated to evaluate previous combined leakage rates using current air lock test results. An evaluation is acceptable since it is overly conservative to immediately declare the containment inoperable if both doors in an air lock have failed a seal test or if the overall air lock leakage is not within limits. In many instances (e.g., only one seal per door has failed), containment remains OPERABLE, yet only 1 hour (per LCO 3.6.1) would be provided to restore the air lock door to OPERABLE status prior to requiring a plant shutdown. In addition, even with both doors failing the seal test, the overall containment leakage rate can still be within limits.

Required Action C.2 requires that one door in the affected containment air lock must be verified to be closed. This action must be completed within the 1 hour Completion Time. This specified time period is consistent with the ACTIONS of LCO 3.6.1, which requires that containment be restored to OPERABLE status within 1 hour.

Additionally, the affected air lock(s) must be restored to OPERABLE status within the 24 hour Completion Time. The specified time period is considered reasonable for restoring an inoperable air lock to OPERABLE status assuming that at least one door is maintained closed in each affected air lock.

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ACTIONS (continued)

D.1 and D.2

If the inoperable containment air lock cannot be restored to OPERABLE status within the required Completion Time, the plant must be 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 3.6.2.1

Maintaining containment air locks OPERABLE requires compliance with the leakage rate test requirements of the Containment Leakage Rate Testing Program. This SR reflects the leakage rate testing requirements with regard to air lock leakage (Type B leakage tests). The acceptance criteria were established during initial air lock and containment OPERABILITY testing. The periodic testing requirements verify that the air lock leakage does not exceed the allowed fraction of the overall containment leakage rate. The Frequency is required by the Containment Leakage Rate Testing Program.

The SR has been modified by two Notes. Note 1 states that an inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. This is considered reasonable, since either air lock door is capable of providing a fission product barrier in the event of a DBA. Note 2 has been added to this SR requiring the results to be evaluated against the acceptance criteria which is applicable to SR 3.6.1.1. This ensures that air lock leakage is properly accounted for in determining the combined Type B and C containment leakage rate.

SR 3.6.2.2

The air lock interlock is designed to prevent simultaneous opening of both doors in a single air lock. Since both the inner and outer doors of an air lock are designed to withstand the maximum expected post accident containment pressure, closure of either door will support containment OPERABILITY. Thus, the door interlock feature supports containment OPERABILITY while the air lock is being used for personnel transit in and out of the containment. Periodic testing of this interlock demonstrates

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BASES

SURVEILLANCE REQUIREMENTS (continued)

that the interlock will function as designed and that simultaneous opening of the inner and outer doors will not inadvertently occur. Due to the purely mechanical nature of this interlock, and given that the interlock mechanism is not normally challenged when the containment air lock door is used for entry and exit (procedures require strict adherence to single door opening), this test is only required to be performed every 24 months. 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 loss of containment OPERABILITY if the Surveillance were performed with the reactor at power. Operating experience has shown these components usually pass the Surveillance when performed at the 24 month Frequency. The 24 month Frequency is based on engineering judgment and is considered adequate given that the interlock is not challenged during the use of the airlock. air lock 3

REFERENCES

1. 10 CFR 50, Appendix J, Option [A][B]. 2
2. FSAR, Sections [14.1 and 14.2]. 15.4 U 1 2
3. FSAR, Section [5.6]. 6.2.1.2.2 1 2

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.2 BASES, CONTAINMENT AIR LOCKS

1. Changes are made (additions, deletions, and/or changes) to the ISTS Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The brackets have been removed and the proper plant specific information/value has been provided.

3. Typographical error corrected.

4. Editorial change for clarity.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.2, CONTAINMENT AIR LOCKS

There are no specific NSHC discussions for this Specification.

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ATTACHMENT 3

ITS 3.6.3, CONTAINMENT ISOLATION VALVES

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS

A01

ITS 3.6.3

CONTAINMENT SYSTEMS

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

LCO 3.6.3
SR 3.6.3.4

3.6.3.1 All containment isolation valves shall be OPERABLE with isolation times less than or equal to required isolation times.*

A02 — Add proposed ACTIONS Note 2

A03 — Add proposed ACTIONS Note 3

A04 — Add proposed ACTIONS Note 4

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A, ACTION B, and ACTION C

With one or more of the isolation valve(s) inoperable, either:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or (A05)

**b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

1 hour for ACTION B (M01)

72 hours for ACTION C (L01)

**c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or

or check valve with flow secured (L02)

ACTION F

d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1.1 The isolation valves shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work that could affect the valve's performance is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test and verification of isolation time. (L03)

L04

* Surveillance testing of valves MS100, MS101, ICS11A and ICS11B is not required prior to entering MODE 4 but shall be performed prior to entering MODE 3.

A06

ACTIONS Note 1

** The provisions of Specification 3.0.4 are not applicable. Selected valves may be opened on an intermittent basis under administrative controls.

A07

(A01)

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.1.2 Each isolation valve shall be demonstrated OPERABLE at least once each REFUELING INTERVAL, by: (LA01)

SR 3.6.3.6 a. Verifying that on a [containment isolation → actuation] [actual or] test signal, each automatic isolation valve [not locked, sealed, or otherwise secured in position] actuates to its isolation position. (L05) (L06)

b. DELETED

SR 3.6.3.4 4.6.3.1.3 The isolation time of each power operated ~~or~~ automatic valve shall be determined to be within its limit when tested pursuant to [~~Specification 4.0.5~~ → Inservice Testing Program]. (L04) (A08)

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ITS

A01

ITS 3.6.3

3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

See ITS 3.6.1

ACTION:

Add proposed ACTIONS Notes 2, 3 and 4, and — L07

ACTION F — Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

See ITS 3.6.1

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

L08

a. At least once per 31 days by verifying that: Add proposed Required Actions A.2 and C.2 Notes 1 and 2 and SRs 3.6.3.3 and 3.6.3.4 Note

Required Actions A.2 and C.2, SR 3.6.3.2, SR 3.6.3.3

1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except those valves that may be opened under administrative controls per Specification 3.6.3.1, and

not locked, sealed, or otherwise secured in position — L09

or check valve with flow secured — L02

ACTIONS NOTE 1, SR 3.6.3.2, SR 3.6.3.3

2. The equipment hatch is closed.

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3

c. By performing required visual examinations of the containment vessel and shield building in accordance with the Containment Leakage Rate Testing Program.

See ITS 3.6.1

SR 3.6.3.3

*Except valves, blind flanges, and deactivated automatic valves which are located inside the Shield Building (including the annulus and containment) and are locked, sealed, or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that verification of these penetrations being closed need not be performed more often than once per 92 days.

not — L09

A01

ITS ITS 3.6.3

CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be in accordance with the Containment Leakage Rate Testing Program.

APPLICABILITY: MODES 1, 2, 3 and 4.

See ITS 3.6.1

ACTION:

Add proposed ACTION D (L10)

Add proposed ACTION E (L12)

ACTION F With containment leakage rate(s) not within limit(s), restore containment leakage rate(s) within limit(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.

SURVEILLANCE REQUIREMENTS

4.6.1.2.1 The containment leakage rates shall be determined in accordance with the Containment Leakage Rate Testing Program.

See ITS 3.6.1

SR 3.6.3.5 4.6.1.2.2 A special test shall be performed to verify that the containment purge and exhaust isolation valves leakage rate is within the limits specified in the Containment Leakage Rate Testing Program, by pressurizing the piping section including one valve inside and one valve outside the containment to a pressure greater than or equal to 20 psig: (LA02) (LA03)

a. Each time the containment purge and exhaust isolation valves are opened, within 72 hours after valve closure, or prior to entering MODE 4 from MODE 5, whichever is later.

b. Each time the plant has been in any combination of MODES 3, 4, 5 or 6 for more than 72 hours, if not performed in the previous 6 months.

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ITS (A01) ITS 3.6.3

CONTAINMENT SYSTEMS

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.3, SR 3.6.3.1 — 3.6.1.7 The containment purge supply and exhaust isolation valves shall be closed with control power removed. (A09)

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION: ← Add proposed ACTIONS Note 2 (A02)

ACTION A — With one isolation valve open in a containment purge supply and/or exhaust penetration, or with its control power not removed, verify that the remaining containment purge supply and exhaust isolation valves are closed with control power removed by performing Surveillance Requirement 4.6.1.7 within 4 hours.

ACTION F — Close the open containment purge supply and/or exhaust isolation valve and verify control power is removed within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. (L11)

← Add proposed ACTION B

SURVEILLANCE REQUIREMENTS

SR 3.6.3.1 — 4.6.1.7 At least once per 31 days verify that each containment purge supply and exhaust isolation valve is closed with control power removed.

A01

ITS 3.6.3

ITS

6.0 ADMINISTRATIVE CONTROLS

6.16 CONTAINMENT LEAKAGE RATE TESTING PROGRAM

a. A program shall establish the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B, as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995, as modified by the following exceptions:

1) A reduced duration Type A test may be performed using the criteria and Total Time method specified in Bechtel Topical Report BN-TOP-1, Revision 1.

2) The fuel transfer tube blind flanges (containment penetrations 23 and 24) will not be eligible for extended test frequencies. Their Type B test frequency will remain at 30 months. However, As-found testing will not be required. — See ITS 5.5

b. The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a, is 38 psig.

c. The maximum allowable containment leakage rate, L_a, at P_a, shall be 0.50% of containment air weight per day.

d. Leakage rate acceptance criteria are:

1) Containment leakage rate acceptance criterion is < 1.0 L_a. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are ≤ 0.75 L_a for Type A tests, < 0.60 L_a for all penetrations and valves subject to Type B and Type C tests, and ≤ 0.03 L_a for all penetrations that are secondary containment bypass leakage paths;

SR 3.6.3.7

2) A single penetration leakage rate of ≤ 0.15 L_a for each containment purge penetration; — LA02

3) Air lock acceptance criteria are: — See ITS 5.5

a) Overall air lock leakage rate is ≤ 0.015 L_a when tested at ≥ P_a,

b) For each door, seal leakage rate is ≤ 0.01 L_a when the volume between the door seals is pressurized to ≥ 10 psig.

e. The provisions of Specification 4.0.2 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

f. The provisions of Specification 4.0.3 are applicable to the Containment Leakage Rate Testing Program.

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DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

ADMINISTRATIVE CHANGES

A01 In the conversion of the Davis-Besse Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1430, Rev. 3.1, "Standard Technical Specifications-Babcock and Wilcox Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A02 CTS 3.6.3.1 and CTS 3.6.1.7 Actions provide requirements to be taken for each containment isolation valve that is inoperable. The ITS includes an explicit Note (ACTIONS Note 2) that provides instructions for the proper application of the ACTIONS for ITS compliance (i.e., Separate Condition entry is allowed for each penetration flow path). This changes the CTS by providing explicit direction as to how to utilize the ACTIONS when a containment isolation valve is inoperable.

This change is acceptable because the addition of the Note reflects the CTS allowance to take the appropriate Actions on a per valve basis (the change to a penetration basis is discussed in DOC M01). This change is designated as administrative since it does not result in a technical change to the CTS.

A03 CTS 3.6.3.1 does not specifically require Conditions to be entered for systems supported by inoperable containment isolation valves. OPERABILITY of supported systems is addressed through the definition of OPERABILITY for each system, and appropriate LCO Actions are taken. ITS 3.6.3 ACTIONS Note 3 states "Enter applicable Conditions and Required Actions for system(s) made inoperable by containment isolation valves." ITS LCO 3.0.6 provides an exception to ITS LCO 3.0.2, stating "When a supported system LCO is not met solely due to a support system LCO not being met, the Conditions and Required Actions associated with this supported system are not required to be entered." This changes the CTS by adding a specific statement to require supported system Conditions and Required Actions be entered, whereas in the CTS this would be done without the Note.

This change is acceptable because the addition of the ITS Note reflects the CTS requirement to take applicable Actions for inoperable systems. The ITS Note is required because of the addition of ITS LCO 3.0.6, and because the requirement to declare supported systems inoperable is being retained. This change is designated as administrative because it does not result in any technical changes to the CTS.

A04 CTS 3.6.3.1 does not include a reference to entering applicable Actions of the CONTAINMENT INTEGRITY LCO (CTS 3.6.1.1) (changed to containment OPERABILITY in the ITS). ITS 3.6.3 ACTIONS Note 4 states "Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when isolation valve leakage results in exceeding the overall containment leakage rate acceptance criteria." This changes the CTS by explicitly stating an existing requirement that the Containment Specification Actions be taken when the

DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

Containment LCO is not met as a result of containment isolation valve leakage exceeding limits.

This change is acceptable because it reinforces the existing CTS requirement to meet overall containment leakage limits. This change is designated as administrative because it does not result in any technical changes to the CTS.

A05 When one or more of the containment isolation valves are inoperable, CTS 3.6.3.1 Action a requires restoring the inoperable valve(s) to OPERABLE status within 4 hours or taking one of the other specified compensatory actions. ITS 3.6.3 does not state the requirement to restore an inoperable isolation valve to OPERABLE status, but includes other compensatory Required Actions to take within 4 hours or 72 hours, as applicable. This changes the CTS by not explicitly stating the requirement to restore an inoperable valve to OPERABLE status. The change in the time allowed to meet the compensatory Required Action (4 hours and 72 hours) is discussed in DOCs M01 and L01.

This change is acceptable because the technical requirements have not changed. Restoration of compliance with the LCO is always an available Required Action and it is the convention in the ITS to not state such "restore" options explicitly unless it is the only action or is required for clarity. This change is designated as administrative because it does not result in any technical changes to the CTS.

A06 CTS 3.6.3.1 Actions b and c provide the actions for inoperable containment isolation valves and include Note **, which states that the provisions of Specification 3.0.4 are not applicable. ITS 3.6.3 does not include this Note. This changes the CTS by deleting the specific exception to Specification 3.0.4.

This change is acceptable because it results in no technical change to the Technical Specifications. CTS 3.0.4 has been revised as discussed in the Discussion of Changes for ITS Section 3.0. ITS LCO 3.0.4, in part, states that when an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made 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. ITS 3.6.3 ACTIONS A, B, and C require the plant to isolate the affected penetration flow path and allow operation to continue for an unlimited period of time. Therefore, because the ITS still allows the plant to change a MODE or other specified condition in the Applicability, this change is considered to be consistent with the current allowances. This change is designated as administrative because it does not result in a technical change to the CTS.

A07 CTS 3.6.3.1 Actions b and c Note ** states that selected valves may be opened on an intermittent basis under administrative control. However, the CTS Note does not specifically define what are "selected" valves. ITS 3.6.3 ACTIONS Note 1 states that penetration flow paths "except for 48 inch purge and exhaust valve penetration flow paths" may be unisolated intermittently under administrative controls. This changes the CTS by specifically delineating which containment isolation valves cannot utilize the CTS Note allowance.

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The purpose of the CTS 3.6.3.1 Actions b and c Note ** is to provide reasonable operational flexibility regarding containment penetrations. This change is acceptable because the excluded purge and exhaust valves are precluded from being opened by CTS 3.6.1.7. CTS 3.6.1.7 requires that the purge and exhaust valves be closed in MODES 1, 2, 3, and 4, the same MODES CTS 3.6.1.3 is applicable. Thus, this addition is a clarification as to which valves can utilize the CTS 3.6.1.3 Actions b and c Note ** allowance, and is consistent with the current requirements. This change is designated as administrative because it does not result in a technical change to the CTS.

A08 CTS 4.6.3.1.3 requires the isolation time of each power operated or automatic containment isolation valve be determined to be within its limit when tested pursuant to Specification 4.0.5. ITS SR 3.6.3.5 requires verifying the isolation time of each automatic power operated containment isolation valve is within limits in accordance with the Inservice Testing Program. This changes the CTS by stating that the Frequency is in accordance with the Inservice Testing Program, in lieu of Specification 4.0.5. The change to the valves being tested is discussed in DOC L04.

The purpose of CTS 4.6.3.1.3 is to verify the isolation time of each power operated or automatic containment isolation valve is tested in accordance with Specification 4.0.5, which provides the requirements for the Inservice Testing Program. This change is acceptable because the Frequencies regarding the containment isolation valves remain the same. The inservice testing requirements of CTS 4.0.5 have been moved to the Inservice Testing Program contained in Section 5.5 of the ITS. This change is designated as administrative because it does not result in a technical change to the CTS.

A09 CTS 3.6.1.7 provides additional requirements for the containment purge and exhaust valves, above those required in the Containment Isolation Valve Specification, CTS 3.6.3.1. The ITS combines these two CTS Specifications into one Specification, ITS 3.6.3. This changes the CTS by deleting the specific LCO statement for containment purge and exhaust valves and combines it into the Containment Isolation Valve Specification.

The CTS 3.6.1.7 statement is an additional OPERABILITY requirement for the containment purge and exhaust valves. This change is acceptable because the two CTS Specifications have been combined into a single specification in ITS 3.6.3, and this additional containment purge and exhaust valve requirement is ensured by ITS SR 3.6.3.1, which verifies the containment purge and exhaust valves are closed with control power removed. This change is designated as administrative because it does not result in any technical changes to the CTS.

MORE RESTRICTIVE CHANGES

M01 CTS 3.6.3.1 Action b and c allow 4 hours to isolate the affected penetration when one or more containment isolation valves are inoperable. ITS 3.6.3 Required Action B.1 will only allow 1 hour to isolate the affected penetration flow path when both valves in the same penetration flow path are inoperable. This changes the CTS by decreasing the time allowed to isolate the affected

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ITS 3.6.3, CONTAINMENT ISOLATION VALVES

penetration when both containment isolation valves in the same penetration are inoperable.

The purpose of the CTS 3.6.3.1 Action is to provide compensatory actions for inoperable containment isolation valves. However, when both valves in the same penetration are inoperable, the time allowed to isolate the affected penetration should be the same as that allowed to restore an inoperable containment, since the containment isolation valves support the leak tightness of the containment. Therefore, this change is acceptable since the new time allowed is consistent with the time allowed when the containment is inoperable. This change is considered more restrictive because a shorter amount of time is provided to isolate the affected penetration in the ITS than is allowed in the CTS.

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 4.6.3.1.2.a requires verification of the automatic isolation of the containment isolation valves on a "containment isolation" test signal. ITS SR 3.6.3.6 does not state the specific type of signal, but only specifies an actual or simulated "actuation" signal. This changes the CTS by moving the type of actuation signal (e.g., containment isolation) to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications, is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to verify that the required valve automatically actuate. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA02 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 4.6.1.2.2 requires the containment purge and exhaust valve leakage rate to be within the limits specified in the Containment Leakage Rate Testing Program. CTS 6.16 provides the requirements for the Containment Leakage Rate Testing Program, and CTS 6.16.d.2 states that the leakage limits for a single containment purge penetration is $\leq 0.15\ L_a$. ITS SR 3.6.3.5 requires performance of the containment purge and exhaust valve leakage test, but does not include the value for the leakage limit; it only requires the leakage to be within limits. This changes the CTS by moving the leakage limit to the Bases.

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ITS 3.6.3, CONTAINMENT ISOLATION VALVES

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to verify that the containment purge and exhaust valves leakage is within the limits. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to the Bases to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA03 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.6.1.2.2 requires performance of containment purge and exhaust valve leakage rate testing, and describes that the testing is performed "by pressurizing the piping section including one valve inside and one valve outside the containment to a pressure greater than or equal to 20 psig." ITS SR 3.6.3.5 requires containment purge and exhaust valve leakage rate testing, but does not include the details on how to perform the testing. This changes the CTS by moving the details of how to perform the test to the Bases.

The removal of these details for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement that containment purge and exhaust valve leakage rate testing be performed. Also, this change is acceptable because these types of procedural details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to the Bases to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L01 *(Category 3 – Relaxation of Completion Time)* CTS 3.6.3.1 Actions b and c allows 4 hours to isolate the affected penetration when one or more of the containment isolation valve(s) are inoperable. ITS 3.6.3 ACTION C, which only applies to penetration flow paths with only one containment isolation valve, will allow 72 hours to isolate the affected penetration when the single containment isolation valve in the penetration is inoperable. This changes the CTS by extending the Completion Time from 4 hours to 72 hours when the inoperable containment isolation valve is in a single valve penetration.

The purpose of CTS 3.6.3.1 Actions b and c is to provide a degree of assurance that the penetration flow path with an inoperable containment isolation valve maintains the containment penetration isolation boundary. This change is acceptable because the Completion Time is consistent with safe operation under

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ITS 3.6.3, CONTAINMENT ISOLATION VALVES

the specified Condition, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the allowed Completion Time. In the case of a single valve penetration with an inoperable valve, 72 hours is a reasonable time period considering the relative stability of a system (hence, reliability) to act as a penetration isolation boundary, since it does not communicate with the containment atmosphere or reactor coolant pressure boundary (for certain valves in Type III penetrations); the small pipe diameter of the penetration (hence, reliability) (for certain valves in Type II, III and IV penetrations); that the valves isolate Engineered Safety Features Systems that normally operate following an accident (for most valves in Type IV penetrations); and the relative importance of supporting containment OPERABILITY in MODES 1, 2, 3, and 4. This change is designated as less restrictive because additional time is allowed to restore the components to within the LCO limits than was allowed in the CTS.

L02 *(Category 4 – Relaxation of Required Action)* CTS 3.6.3.1 Actions b and c state that with one or more of the containment isolation valve(s) inoperable, isolate each affected penetration by use of at least one deactivated automatic valve secured in the isolation position (Action b), closed manual valve (Action c), or blind flange (Action c). CTS 4.6.1.1.a.1 requires a periodic verification that the affected penetration remains isolated by the same methods. When one or more penetration flow paths with one containment isolation valve inoperable, ITS 3.6.3 Required Action A.1 requires that the affected penetration flow path be isolated by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. In addition, ITS 3.6.3 Required Action A.2 requires a periodic verification that the affected penetration remains isolated by one of the methods required by ITS 3.6.3 Required Action A.1. This changes the CTS by allowing penetration flow paths with two containment isolation valves that have one containment isolation valve inoperable to use a check valve with flow through the valve secured as the means of isolating the penetration flow path.

The purpose of CTS 3.6.3.1 Actions b and c and CTS 4.6.1.1.a.1 is to provide assurance that the affected penetration flow path is isolated. This change is acceptable because the ITS Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The ITS Required Actions are consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. This change allows the flow path to be isolated by one check valve with flow through the valve secured. The requirement to isolate the flow path is retained, and using a check valve with flow through the valve secured is an appropriate method of isolation. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L03 *(Category 5 – Deletion of Surveillance Requirement)* CTS 4.6.3.1.1 describes tests that must be performed prior to returning a valve to service after maintenance, repair or replacement work is performed on the valve or its

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ITS 3.6.3, CONTAINMENT ISOLATION VALVES

associated actuator, control or power circuit. The ITS does not include these testing requirements. This changes the CTS by deleting this post-maintenance Surveillance.

The purpose of CTS 4.6.3.1.1 is to verify OPERABILITY of containment isolation valves following their maintenance, repair or replacement. This change is acceptable because the deleted Surveillance Requirement is not necessary to verify that the equipment used to meet the LCO can perform its required functions. Thus, appropriate equipment continues to be tested in a manner and at a Frequency necessary to give confidence that the equipment can perform its assumed safety function. Any time the OPERABILITY of a system or component has been affected by repair, maintenance, modification, or replacement of a component, post-maintenance testing is required to demonstrate the OPERABILITY of the system or component. This is described in the Bases for ITS SR 3.0.1 and required under SR 3.0.1. The OPERABILITY requirements for the containment isolation valves are described in the Bases for ITS 3.6.3. In addition, the requirements of 10 CFR 50, Appendix B, Section XI (Test Control), provide adequate controls for test programs to ensure that testing incorporates applicable acceptance criteria. Compliance with 10 CFR 50, Appendix B, is required under the unit operating license. As a result, post-maintenance testing will continue to be performed and an explicit requirement in the Technical Specifications is not necessary. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

L04 *(Category 6 – Relaxation Of Surveillance Requirement Acceptance Criteria)* CTS 4.6.3.1.3 states that the isolation time of each "power operated or automatic" containment isolation valve shall be determined to be within its limit. In addition, CTS LCO 3.6.3.1 Note * states that Surveillance testing of main steam isolation valves (MSIVs) MS100 and MS101 and atmospheric vent valves (AVVs) ICS11A and ICS11B is not required prior to entering MODE 4 but shall be performed prior to entering MODE 3. ITS SR 3.6.3.4 requires verification that the isolation time of each automatic power operated containment isolation valve is within limits. Furthermore, no Note allowance similar to the CTS Note allowance is provided for the MSIVs or the AVVs. This changes the CTS by deleting the requirement to test the power operated containment isolation valves that are not automatic.

The purpose of CTS 4.6.3.1.3 is to provide assurance that automatic containment isolation valves actuate within the times assumed in the DBA analyses. This change is acceptable because the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. Remote manual (i.e., non-automatic) power operated valves do not have an isolation time assumed in the DBA analyses since they require operator action. Deleting reference to power operated, non-automatic isolation valve stroke time testing reduces the potential for misinterpreting the requirements of the Surveillance Requirement while maintaining the assumptions of the accident analysis. Furthermore, since the MSIVs and AVVs are both designated as remote manual (i.e., non-automatic) containment isolation valves, the CTS Note allowance has also been deleted. This change is designated as less restrictive because less

DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

L05 *(Category 6 – Relaxation Of Surveillance Requirement Acceptance Criteria)* CTS 4.6.3.1.2.a requires verification of the automatic isolation of the containment isolation valves on a containment isolation "test" signal. ITS SR 3.6.3.6 specifies that the signal may be from either an "actual" or simulated (i.e., test) signal. This changes the CTS by explicitly allowing the use of either an actual or simulated signal for the test.

The purpose of CTS 4.6.3.1.2.a is to ensure that the containment isolation valves operate correctly upon receipt of an isolation signal. This change is acceptable because the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. Equipment cannot discriminate between an "actual," "simulated," or "test" signal and, therefore, the results of the testing are unaffected by the type of signal used to initiate the test. This change allows taking credit for unplanned actuation if sufficient information is collected to satisfy the Surveillance test requirements. The change also allows a simulated signal to be used, if necessary. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

L06 *(Category 5 – Deletion of Surveillance Requirement)* CTS 4.6.3.1.2.a requires verification that each containment isolation valve actuates to its isolation position. ITS SR 3.6.3.6 requires verification that each automatic containment isolation valve "that is not locked, sealed, or otherwise secured in position" actuates to the isolation position. This changes the CTS by excluding those automatic valves that are locked, sealed or otherwise secured in position from the verification.

The purpose of CTS 4.6.3.1.2.a is to provide assurance that the automatic valves required to actuate in case of a design basis accident (DBA) isolate containment properly. This change is acceptable because the deleted Surveillance Requirement is not necessary to verify that the equipment used to meet the LCO can perform its required functions. Thus, appropriate equipment continues to be tested in a manner and at a Frequency necessary to provide confidence that the equipment can perform its assumed safety function. Those automatic containment isolation valves that are locked, sealed, or otherwise secured in position are not required to actuate on a containment isolation signal in order to perform their safety function because they are already in the required position. Testing such valves would not provide any additional assurance of OPERABILITY. Valves that are required to actuate will continue to be tested. This change is designated as less restrictive because Surveillances which are required in the CTS will not be required in the ITS.

L07 *(Category 4 – Relaxation of Required Action)* CTS 4.6.1.1.a requires verification that all non-automatic containment isolation valves that are required to be closed are closed every 31 days. If a non-automatic valve that is supposed to be closed is found open, the CTS 3.6.1.1 Action applies. CTS 3.6.1.1 Action states, in part, "Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour." ITS 3.6.3 ACTIONS A, B, and C do not

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ITS 3.6.3, CONTAINMENT ISOLATION VALVES

differentiate between automatic and non-automatic valves and allow 1 hour, 4 hours, or 72 hours to isolate the affected flow path. In addition, ITS 3.6.3 ACTIONS Notes 2, 3 and 4 allow separate condition entry for each penetration flow path, require entry into the applicable Conditions and Required Actions for system(s) made inoperable by containment isolation valves, and require entry into the applicable Conditions and Required Actions for LCO 3.6.1, "Containment," when isolation valve leakage results in exceeding the overall containment leakage rate acceptance criteria. This changes the CTS by providing 1 hour, 4 hours, or 72 hours to isolate a penetration flow path affected by an inoperable non-automatic containment isolation valve. This also changes the CTS by allowing separate condition entry for each penetration flow path with an inoperable non-automatic containment isolation valve, requiring entry into the applicable Conditions and Required Actions for system(s) made inoperable by inoperable non-automatic containment isolation valves, and requiring entry into the applicable Conditions and Required Actions for LCO 3.6.1, "Containment," when isolation valve leakage due to an inoperable non-automatic containment isolation valve results in exceeding the overall containment leakage rate acceptance criteria.

The purpose of the CTS 3.6.1.1 Action is to ensure that overall containment leakage rate does not exceed the accident analysis assumptions. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. This change makes the actions for an inoperable non-automatic containment isolation valve consistent with the actions for all other types of containment isolation valves and ensures that leakage through a penetration flow path affected by an inoperable non-automatic containment isolation valve is properly controlled. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L08 *(Category 6 – Relaxation Of Surveillance Requirement Acceptance Criteria)* CTS 4.6.1.1.a.1 requires verification that specified containment penetrations are closed. ITS 3.6.3 Required Actions A.2 and C.2, ITS SR 3.6.3.2, and ITS SR 3.6.3.3 include similar requirements, but contain a Note that allows valves and blind flanges (i.e., isolation devices) in high radiation areas to be verified administratively. In addition, ITS 3.6.3 Required Actions A.2 and C.2 include a second Note that allows verification of isolation devices that are locked, sealed, or otherwise secured to also be performed using administrative means. This changes the CTS by allowing certain valves and blind flanges to not require physical verification.

The purpose of CTS 4.6.1.1.a.1 is to provide assurance that containment penetrations are closed when necessary. This change is acceptable because the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required

DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

functions. The position of containment isolation valves and blind flanges in high radiation areas that are required to be closed can be verified administratively in a manner not requiring physical verification. Access to high radiation areas is limited, making access to the valves and blind flanges more difficult, and mispositioning less likely. For those isolation devices that are locked, sealed, or otherwise secured, plant procedures control their operation. Therefore, the potential for inadvertent misalignment of these devices after locking, sealing, or securing is low. In addition, all the isolation devices are verified to be in the correct position (as required by ITS 3.6.3 Required Actions A.1, B.1, and C.1) prior to locking, sealing, or otherwise securing. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

L09 *(Category 6 – Relaxation Of Surveillance Requirement Acceptance Criteria)* CTS 4.6.1.1.a.1 requires a verification that all penetrations not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves, secured in their positions. ITS SR 3.6.3.2 and ITS SR 3.6.3.3 require a verification that each containment isolation manual valve and blind flange that is located outside containment (ITS SR 3.6.3.2) or inside containment (ITS SR 3.6.3.3) and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed. This changes the CTS by not requiring valves locked, sealed or otherwise secured be verified closed as part of the Technical Specification Surveillance Requirements.

The purpose of CTS 4.6.1.1.a.1 is to provide assurance that valves required to be closed are closed. This change is acceptable because the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. Valves are verified in position prior to being locked, sealed, or otherwise secured, and are not expected to change position because other controls are placed on them by the means of securing their position. Valves that are locked, sealed, or otherwise secured in the closed position do not require verification as part of ITS SR 3.6.3.2 or ITS SR 3.6.3.3 because these valves were verified to be in the correct position upon locking, sealing, or securing. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

L10 *(Category 4 – Relaxation of Required Action)* CTS 4.6.1.2.2 requires verification that the containment purge and exhaust valves leakage rate is within limits. If a containment purge and exhaust valve leakage rate is not within limits, the CTS 3.6.1.2 Action applies. CTS 3.6.1.2 Action states, in part, "With containment leakage rate(s) not within limit(s), restore containment leakage rate(s) within limit(s) within one hour." ITS 3.6.3 ACTION D requires the affected penetration flow path to be isolated by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange within 24 hours (ITS 3.6.3 Required Action D.1), verification that the penetration flow path remains isolated similar to that required for an inoperable containment isolation valve (ITS 3.6.3 Required Action D.2), and performance of ITS SR 3.6.3.5 every 92 days if a resilient seal purge or exhaust valve is used to isolate the penetration flow path (ITS 3.6.3 Required Action D.3). This changes the CTS by providing 24 hours to isolate the

DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

affected penetration flow path and allowing continued operation with a containment purge or exhaust valve not meeting the leakage rate limits.

The purpose of the CTS 3.6.1.2 Action is to ensure that overall containment leakage rate does not exceed the accident analysis assumptions. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. This change allows continued operation with a containment purge or exhaust valve not meeting the leakage rate limits, provided the affected penetration flow path is isolated. Furthermore, the isolated penetration flow path must be periodically verified isolated, and if isolated using a purge or exhaust valve with a resilient seal, the valve must be periodically tested to ensure its leak tightness. However, this change does not allow operation to continue if the containment purge and exhaust valve leakage results in exceeding the overall Type A or the Type C leakage limits. If this occurs, ITS 3.6.3 ACTIONS Note 4 will require the applicable Conditions and Required Actions of LCO 3.6.1, "Containment," to be entered. Thus, while in the new ACTION, the overall Type A and the Type C leakage limits are still being met. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L11 *(Category 4 – Relaxation of Required Action)* CTS 3.6.1.7 provides additional requirements (above those required by CTS 3.6.3.1, the Containment Isolation Valve Specification) for the containment purge and exhaust valves. If one valve is open or power is not removed in a containment purge and/or exhaust penetration, the CTS 3.6.1.7 Action requires verifying the remaining valve in the associated penetration meets the requirements of CTS 4.6.1.7 (valve closed and power removed) within 4 hours and requires closing the open valve and removing control power within 24 hours. Furthermore, no actions are provided if both valves are open in a containment purge and/or exhaust penetration; thus CTS LCO 3.0.3 (which requires a unit shutdown) must be entered. ITS 3.6.3 ACTIONS A and B do not differentiate between containment purge and exhaust isolation valves and other types of containment isolation valves and allow 1 hour or 4 hours to isolate the affected flow path. ITS 3.6.3 ACTION A provides 4 hours to isolate the affected penetration when one valve is inoperable and ITS 3.6.3 ACTION B provides 1 hour to isolate the penetration when both valves are inoperable. Furthermore, ITS 3.6.3 ACTIONS A and B allow continued operation with an inoperable containment isolation valve, i.e., restoration of the inoperable valve is not required provided the associated penetration is isolated (and periodically verified isolated per ITS 3.6.3 Required Action A.2). This changes the CTS by allowing continued operation with an inoperable (due to being open or power not removed) purge or exhaust containment isolation valve provided the affected penetration is isolated and periodically verified isolated. This also changes the CTS by providing 1 hour to isolate a penetration flow path

DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

when two containment purge and/or exhaust isolation valves in the same penetration are inoperable (due to being open or power not removed).

The purpose of the CTS 3.6.1.7 Action is to ensure that the containment isolation function is maintained when a containment purge supply and/or exhaust isolation valve is inoperable. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. This change makes the actions for an inoperable (due to being open or power not removed) containment purge or exhaust isolation valve consistent with the actions for all other types of containment isolation valves. Once the associated penetration is isolated as required by ITS 3.6.3 Required Actions A.1 and B.1, closure of the inoperable containment purge or exhaust isolation valve is not necessary since the isolation function has been achieved. Furthermore, the additional time allowed to isolate the affected penetration when both containment purge and/or exhaust isolation valves are open is consistent with the time currently allowed in CTS 3.6.1.1 to restore the containment to OPERABLE status (which is the function supported by maintaining closed the containment purge and exhaust valves). This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

L12 *(Category 4 – Relaxation of Required Action)* CTS 4.6.1.2.1 requires verification that the containment leakage rates are within limits. CTS 6.16.d.1) includes a secondary containment bypass leakage limit. If the secondary containment bypass leakage limit is not met, the CTS 3.6.1.2 Action applies. CTS 3.6.1.2 Action states, in part, "With containment leakage rate(s) not within limit(s), restore containment leakage rate(s) within limit(s) within one hour." ITS 3.6.3 ACTION E requires restoration of secondary containment bypass leakage within 4 hours. This changes the CTS by providing 4 hours to restore the secondary containment bypass leakage to within the limit.

The purpose of the CTS 3.6.1.2 Action is to ensure that overall containment leakage rate does not exceed the accident analysis assumptions. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. As stated in the Bases for ITS 3.6.3 ACTION E, restoration of secondary containment bypass leakage to within the limit can be accomplished by isolating the penetration(s) that caused the limit to be exceeded by use of one closed and deactivated automatic valve, closed manual valve, or blind flange. When a penetration is isolated the leakage

DISCUSSION OF CHANGES
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

rate for the isolated penetration is assumed to be the actual pathway leakage through the isolation device. If two isolation devices are used to isolate the penetration, the leakage rate is assumed to be the lesser actual pathway leakage of the two devices. Thus, this change allows continued operation with a secondary containment bypass leakage pathway causing the combined secondary containment bypass leakage to be exceeding the leakage rate limits, provided the affected penetration flow path is isolated. The 4 hour Completion Time for secondary bypass leakage not within limit is reasonable considering the time required to restore the leakage by isolating the penetration(s) and the relative importance of secondary containment bypass leakage to the overall containment function. However, this change does not allow operation to continue if the secondary containment bypass leakage results in exceeding the overall Type A or the Type C leakage limits. If this occurs, ITS 3.6.3 ACTIONS Note 4 will require the applicable Conditions and Required Actions of LCO 3.6.1, "Containment," to be entered. Thus, while in the new ACTION, the overall Type A and the Type C leakage limits are still being met. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

CTS

All changes are (1) unless otherwise noted

Containment Isolation Valves
3.6.3

3.6 CONTAINMENT SYSTEMS

3.6.3 Containment Isolation Valves

3.6.3.1, 3.7.1.7 — LCO 3.6.3 Each containment isolation valve shall be OPERABLE.

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

ACTIONS

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

3.6.3.1 Actions b and c Note **, 4.6.1.1.a.1 — 1. Penetration flow paths [except for 48 inch (containment) purge (and exhaust) valve penetration flow paths] may be unisolated intermittently under administrative controls. (3)

DOC A02 — 2. Separate Condition entry is allowed for each penetration flow path.

DOC A03 — 3. Enter applicable Conditions and Required Actions for system(s) made inoperable by containment isolation valves.

DOC A04 — 4. Enter applicable Conditions and Required Actions of LCO 3.6.1, "Containment," when isolation valve leakage results in exceeding the overall containment leakage rate acceptance criteria.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ------------NOTE------------ Only applicable to penetration flow paths with two [or more] containment isolation valves. ------------------------------ (3.6.3.1 Actions b and c, 3.6.1.1 Action, 3.6.1.7 Action) One or more penetration flow paths with one containment isolation valve inoperable [for reasons other than ~~purge valve leakage not within limit~~] (Condition D or E).	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured. AND	4 hours (6)

CTS

ACTIONS (continued)

CTS	CONDITION	REQUIRED ACTION	COMPLETION TIME
		A.2 ------------NOTES------------ 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. -----------------------------------	
4.6.1.1.a.1 including Note *		Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment

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All changes are (1) unless otherwise noted

ACTIONS (continued)

CTS	CONDITION	REQUIRED ACTION	COMPLETION TIME	
3.6.3.1 Actions b and c, 3.6.1.1 Action, DOC L11; Condition D or E	B. ------------NOTE------------ Only applicable to penetration flow paths with two [or more] containment isolation valves. ------------------------------- One or more penetration flow paths with two [or more] containment isolation valves inoperable [for reasons other than purge valve leakage not within limit].	B.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.	1 hour	6
3.6.3.1 Actions b and c, 3.6.1.1 Actions	C. ------------NOTE------------ Only applicable to penetration flow paths with only one containment isolation valve and a closed system. ------------------------------- One or more penetration flow paths with one containment isolation valve inoperable.	C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. AND	72 hours	5

CTS

ACTIONS (continued)

CTS	CONDITION	REQUIRED ACTION		COMPLETION TIME	
		C.2	------------NOTES------------ 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. ------------------------------------		
4.6.1.1.a.1, including Note *			Verify the affected penetration flow path is isolated.	Once per 31 days	
3.6.1.2 Action	D. [One or more penetration flow paths with one or more containment purge [or exhaust] valves not within purge [and exhaust] valve leakage limits.	D.1 AND	Isolate the affected penetration flow path by use of at least one [closed and de-activated automatic valve, closed manual valve, or blind flange].	24 hours	1 1 3 3

CTS

ACTIONS (continued)

	CONDITION	REQUIRED ACTION		COMPLETION TIME	
		D.2	------------NOTES------------ 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. --------------------------------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment AND Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days for isolation devices inside containment	
	containment / and exhaust	AND D.3	Perform SR 3.6.3.[6] [5] for the resilient seal purge valves closed to comply with Required Action D.1.	Once per [[/]] [92] days []	(2) (1) (3)
3.6.3.1 Action d, 3.6.1.1 Action, 3.6.1.2 Action, 3.6.1.7 Action	INSERT 1 [E] [F]. Required Action and associated Completion Time not met.	[E] [F].1	Be in MODE 3.	6 hours	(6)
		AND [E] [F].2	Be in MODE 5.	36 hours	

CTS

(6) **INSERT 1**

DOC L12	E. Secondary containment bypass leakage not within limit.	E.1	Restore secondary containment bypass leakage to within limit.	4 hours

CTS

Containment Isolation Valves
3.6.3

SURVEILLANCE REQUIREMENTS

CTS		SURVEILLANCE	FREQUENCY	
4.6.1.7	SR 3.6.3.1	[Verify each [48] inch purge valve is sealed closed except for one purge valve in a penetration flow path while in Condition D of the LCO. (containment) (and exhaust) (with control power removed)	31 days]	1 3
	SR 3.6.3.2	Verify each [8] inch purge valve is closed except when the [8] inch purge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open.	31 days	2
4.6.1.1.a.1	SR 3.6.3.3 (2)	-----NOTE----- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ----- Verify each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	31 days	2
4.6.1.1.a.1	SR 3.6.3.4 (3)	-----NOTE----- Valves and blind flanges in high radiation areas may be verified by use of administrative means. ----- Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.	Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days	2
LCO 3.6.3.1, 4.6.3.1.3	SR 3.6.3.5 (4)	Verify the isolation time of each automatic power operated containment isolation valve is within limits.	[In accordance with the Inservice Testing Program or 92 days]	2 1

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CTS

SURVEILLANCE REQUIREMENTS (continued)

CTS		SURVEILLANCE	FREQUENCY	
4.6.1.2.2	SR 3.6.3.6 [5]	Perform leakage rate testing for containment purge [and exhaust] valves with resilient seals.	184 days AND Within 92 days after opening the valve [INSERT 2]	(2) (3) (4)
4.6.3.1.2.a	SR 3.6.3.7 [6]	Verify each automatic containment isolation valve that is not locked, sealed, or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.	[18] [24] months	(2) (1)
	SR 3.6.3.8	[Verify each [ ] inch containment purge valve is blocked to restrict the valve from opening > [50]%.	[18] months]	(2)

INSERT 3

CTS

(4) **INSERT 2**

4.6.1.2.2 Within 72 hours after each valve closure, if valve opened in MODE 1, 2, 3, or 4

AND

Prior to entering MODE 4 from MODE 5 if valve opened in other than MODE 1, 2, 3, or 4

AND

Prior to entering MODE 2 from MODE 3 each time the plant has been in any combination of MODE 3, 4, 5, or 6 for > 72 hours, if not performed in the previous 184 days.

(6) **INSERT 3**

6.16.d.1)	SR 3.6.3.7	Verify the combined leakage for all secondary containment bypass leakage paths is ≤ 0.03 L_a.	In accordance with the Containment Leakage Rate Testing Program

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

1. The brackets have been removed and the proper plant specific information/value has been provided.

2. ISTS SR 3.6.3.2 and ISTS SR 3.6.3.8 have not been adopted. The Davis-Besse design includes only the 48 inch containment purge and exhaust valves. These valves are required to be closed with control power removed and are tested in ITS SR 3.6.3.1. In addition, due to these deletions, subsequent SRs have been renumbered.

3. Changes made to reflect plant specific nomenclature.

4. The Davis-Besse Frequencies for performing the containment purge and exhaust valves resilient seal testing has been provided. These Frequencies were approved by the NRC as documented in the NRC Safety Evaluation for Amendment 90, dated November 27, 1985.

5. The term "closed system" has been deleted, since this is not a term used to describe the Davis-Besse containment isolation penetrations. Many Davis-Besse containment penetrations contain only one isolation valve, as approved by the NRC. These penetrations are either: a) of a small diameter; b) do not communicate with either the containment atmosphere or the reactor coolant boundary; or c) are part of an Engineered Safety Features System that normally operates (thus the penetration is not isolated) during a design basis accident. This is also consistent with the Davis-Besse current licensing basis, which provides actions for all inoperable containment isolation valves, including those valves that are in single valve penetrations.

6. NUREG-1430 does not include any secondary containment bypass leakage requirements. Davis-Besse includes a specific limit on secondary containment bypass leakage. ITS 3.6.3 ACTION E and SR 3.6.3.7 have been added to address secondary containment bypass leakage. SR 3.6.3.7 requires verification that the combined secondary containment bypass leakage is $\leq 0.03\ L_a$ at a Frequency that is according to the Containment Leakage Rate Testing Program, consistent with current requirements. ITS 3.6.3 ACTION E has been added to provide 4 hours to restore secondary containment bypass leakage to within the limit. The new ACTION is consistent with the ACTION provided in the other PWR NUREGs (NUREG-1431 and NUREG-1432). Due to this new ACTION, ISTS 3.6.3 Condition A and B have been modified to exclude secondary containment bypass leakage from those Conditions, similar to the exclusion provided for purge valve leakage. Also, similar to the PWR NUREGs, in lieu of describing the type of leakage, only the Conditions (Conditions D and E) are listed. ISTS 3.6.3 ACTION E has also been renumbered to ITS 3.6.3 ACTION F due to this new ACTION.

Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

All changes are (1) unless otherwise noted

B 3.6 CONTAINMENT SYSTEMS

B 3.6.3 Containment Isolation Valves

BASES

BACKGROUND

The containment isolation valves form part of the containment pressure boundary and provide a means for fluid penetrations not serving accident consequence limiting systems to be provided with two isolation barriers that are closed on an automatic isolation signal. These isolation devices consist of either passive devices or active (automatic) devices. Manual valves, de-activated automatic valves secured in their closed position (including check valves with flow through the valve secured), blind flanges, and closed systems are considered passive devices. Check valves, or other automatic valves designed to close following an accident without operator action, are considered active devices. Two barriers in series are provided for each penetration so that no single credible failure or malfunction of an active component can result in a loss of isolation or leakage that exceeds limits assumed in the safety analyses. One of these barriers may be a closed system. These barriers (typically containment isolation valves) make up the Containment Isolation System.

INSERT 1 → ~~Containment isolation occurs upon receipt of a high containment pressure or diverse containment isolation signal. The containment isolation signal closes automatic containment isolation valves in fluid penetrations not required for operation of engineered safeguard systems to prevent leakage of radioactive material. Upon actuation of high pressure injection, automatic containment valves also isolate systems not required for containment or Reactor Coolant System (RCS) heat removal.~~ Other penetrations are isolated by the use of valves in the closed position or blind flanges. As a result, the containment isolation valves (and blind flanges) help ensure that the containment atmosphere will be isolated in the event of a release of radioactive material to containment atmosphere from the RCS following a Design Basis Accident (DBA).

OPERABILITY of the containment isolation valves (and blind flanges) supports containment OPERABILITY during accident conditions.

The OPERABILITY requirements for containment isolation valves help ensure that containment is isolated within the time limits assumed in the safety analysis. Therefore, the OPERABILITY requirements provide assurance that the containment function assumed in the safety analysis will be maintained.

(1) **INSERT 1**

Containment vessel isolation occurs upon receipt of an actuation signal from the Safety Features Actuation System (SFAS). Closure of the specific containment isolation valves is dependent upon the SFAS Incident Level. SFAS Incident Level 1 (either a high containment pressure or a low Reactor Coolant System (RCS) pressure) isolates the Containment Purge and Exhaust System and Sample System valves in order to prevent radiation from leaving the vessel through non-essential lines. SFAS Incident Level 2 (low RCS pressure or a high containment pressure) initiates high pressure injection and closes the Containment Isolation System 1 valves. SFAS Incident Level 3 (low-low RCS pressure or high containment pressure) closes Containment Isolation System 2 valves. SFAS Incident Level 4 (high-high containment pressure), indicating a major loss of coolant accident, closes Containment Isolation System 3 valves.

All changes are (1) unless otherwise noted

BASES

BACKGROUND (continued)

INSERT 2

The Reactor Building Purge System is part of the Reactor Building Ventilation System. The Purge System was designed for intermittent operation, providing a means of removing airborne radioactivity caused by minor leakage from the RCS prior to personnel entry into containment.

includes

and Exhaust

The Containment Purge System consists of one [48] inch line for exhaust and one [48] inch line for supply, with supply and exhaust fans capable of purging the containment atmosphere at a rate of approximately [50,000] ft^3/min. This flow rate is sufficient to reduce the airborne radioactivity level within containment to levels defined in 10 CFR 20 (Ref. 1) for a 40 hour workweek within 2 hours of purge initiation during reactor operation. The containment purge supply and exhaust lines each contain two isolation valves that receive an isolation signal on a unit vent high radiation condition. (3) (3)

to permit access within a reasonable time

, one located inside containment and one located outside containment

and exhaust

containment

Failure of the purge valves to close following a design basis event would cause a significant increase in the radioactive release because of the large containment leakage path introduced by these [48] inch purge lines. Failure of the purge valves to close would result in leakage considerably in excess of the containment design leakage rate of [0.25]% of containment air weight per day (L_a) (Ref. 2). Because of their large size, the [48] inch purge valves in some units are not qualified for automatic closure from their open position under DBA conditions. Therefore, the [48] inch purge valves are maintained sealed closed (SR 3.6.3.1) in MODES 1, 2, 3, and 4 to ensure the containment boundary is maintained. (3) (3) (3) (3) (2)

0.50

containment

and exhaust

with control power removed

The [8 inch] containment minipurge valves operate to:

a. Reduce the concentration of noble gases within containment prior to and during personnel access and

b. Equalize internal and external pressures.

Since the minipurge valves are designed to meet the requirements for automatic containment isolation valves, these valves may be opened as needed in MODES 1, 2, 3, and 4.

APPLICABLE SAFETY ANALYSES

The containment isolation valve LCO was derived from the assumptions related to minimizing the loss of reactor coolant inventory and establishing containment boundary during major accidents. As part of the containment boundary, containment isolation valve OPERABILITY supports leak tightness of the containment. Therefore, the safety analysis of any event requiring isolation of containment is applicable to this LCO.

(1) **INSERT 2**

The Containment Purge and Exhaust System is designed to provide clean fresh air to the containment vessel or to the shield building and penetration rooms. Containment vessel may be purged in MODES 5 and 6. The shield building and mechanical penetration rooms may be purged at any time.

All changes are (1) unless otherwise noted

BASES

APPLICABLE SAFETY ANALYSES (continued)

The DBAs that result in a release of radioactive material within containment are a loss of coolant accident (LOCA), a main steam line break, and a [rod] [control rod assembly] ejection accident (Ref. 3). In the analysis for each of these accidents, it is assumed that containment isolation valves are either closed or function to close within the required isolation time following event initiation. This ensures that potential paths to the environment through containment isolation valves (including containment purge [and exhaust] valves) are minimized. The safety analysis assumes that the [48] inch purge valves are closed at event initiation. (3)

The DBA analysis assumes that, within 60 seconds after the accident, isolation of the containment is complete and leakage terminated except for the design leakage rate, L_a. The containment isolation total response time of 60 seconds includes signal delay, [emergency] diesel generator startup (for loss of offsite power), and containment isolation valve stroke times.

The single-failure criterion required to be imposed in the conduct of unit safety analyses was considered in the original design of the containment purge [and exhaust] valves. Two valves in a series on each purge [and exhaust] line provide assurance that both the supply and exhaust lines could be isolated even if a single failure occurred. [containment] [The inboard and outboard isolation valves on each line are provided with diverse power sources, motor operated and pneumatically operated spring closed, respectively. This arrangement was designed to preclude common mode failures from disabling both valves on a purge line.] [The containment purge and exhaust valves are air operated spring closed. The valves fail closed on a loss of power or instrument air.]

The [containment] purge [and exhaust] valves may be unable to close in the environment following a LOCA. Therefore, each of the purge [and exhaust] valves is required to remain [sealed] [with control power removed] closed during MODES 1, 2, 3, and 4. (2) In this case, the single-failure criterion remains applicable to the containment purge [and exhaust] valves because of failure in the control circuit associated with each valve. Again, the purge [and Exhaust] system [Containment] valve design prevents a single failure from compromising the containment boundary as long as the system is operated in accordance with the subject LCO.

The containment isolation valves satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

All changes are (1) unless otherwise noted

BASES

LCO

Containment isolation valves form a part of the containment boundary. The containment isolation valve safety function is related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during a DBA.

The automatic power operated isolation valves are required to have isolation times within limits and to actuate on an automatic isolation signal. The [48] inch containment purge and exhaust valves must be maintained sealed closed [or have blocks installed to prevent full opening] with control power removed. [Blocked purge valves also actuate on an automatic signal.] The valves covered by this LCO are listed along with their associated stroke times in the UFSAR (Ref. 4). INSERT 3 (3) (2) (3)

The normally closed isolation valves are considered OPERABLE when manual valves are closed, check valves have flow through the valve secured, blind flanges are in place, and closed systems are intact. These passive isolation valves/devices are those listed in Reference [5] 4 and secondary containment bypass leakage paths.

Containment purge and exhaust valves with resilient seals must meet additional leakage rate requirements. The other containment isolation valve leakage rates are addressed by LCO 3.6.1, "Containment," as Type C testing. (2)

This LCO provides assurance that the containment isolation valves and purge valves will perform their designated safety functions to minimize the loss of reactor coolant inventory and establish the containment boundary during accidents.

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, the containment isolation valves are not required to be OPERABLE in MODE 5. The requirements for containment isolation valves during MODE 6 are addressed in LCO 3.9.3, "Containment Penetrations."

ACTIONS

The ACTIONS are modified by a Note allowing penetration flow paths, except for [48] inch containment purge and exhaust 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 and exhaust line penetration and the fact that those penetrations exhaust directly from the containment atmosphere to the environment, the penetration flow paths containing these valves may not be opened under administrative controls. [A single purge valve in a penetration flow path may be opened to effect repairs to an inoperable valve, as allowed by SR 3.6.3.1.] (3) (2) (2)

(2) **INSERT 3**

However, the main steam isolation valves and main feedwater stop valves are not covered by this LCO. Requirements for these valves are provided in LCO 3.7.2, "Main Steam Isolation Valves (MSIVs)," and LCO 3.7.3, "Main Feedwater Stop Valves (MFSVs), Main Feedwater Control Valves (MFCVs), and associated Startup Feedwater Control Valves (SFCVs)."

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BASES

ACTIONS (continued)

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 appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

In the event isolation valve leakage results in exceeding the overall containment leakage rate, Note 4 directs entry into the applicable Conditions and Required Actions of LCO 3.6.1.

A.1 and A.2

containment

and exhaust

In the event one containment isolation valve in one or more penetration flow paths is inoperable, [except for purge valve leakage not within limit], the affected penetration flow path must be isolated. 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 flange, and a check valve with flow through the valve secured. For a penetration isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available one to containment. Required Action A.1 must be completed within the 4 hour Completion Time. The specified time period is reasonable, considering the time required to isolate the penetration and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4.

3 2

or secondary containment bypass leakage paths

2

For affected penetration flow paths that cannot be restored to OPERABLE status within the 4 hour Completion Time and that have been isolated in accordance with Required Action A.1, the affected penetration flow paths must be verified to be isolated on a periodic basis. This periodic verification is necessary to ensure that containment penetrations required to be isolated following an accident and no longer capable of

BASES

ACTIONS (continued)

being automatically isolated will be in the isolation position should an event occur. This Required Action does not require any testing or device manipulation. Rather, it involves verification that those isolation devices outside containment and capable of being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside containment" is appropriate considering the fact that the devices are operated under administrative controls and the probability of their misalignment is low. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

Condition A has been modified by a Note indicating this Condition is only applicable to those penetration flow paths with two [or more] containment isolation valves. For penetration flow paths with only one containment isolation valve and a closed system, Condition C provides appropriate actions. (3) (2)

Required Action A.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows the devices to be verified by use of administrative means. Allowing verification by administrative means is considered acceptable since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment of these devices, once they have been verified to be in the proper position, is small.

B.1

and exhaust (2)

With two [or more] containment isolation valves in one or more penetration flow paths inoperable, [except for purge valve leakage not within limit], the affected penetration flow path must be isolated within 1 hour. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active (3)

containment (2)

or secondary containment bypass leakage paths (2)

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BASES

ACTIONS (continued)

failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1. In the event the affected penetration is isolated in accordance with Required Action B.1, the affected penetration must be verified to be isolated on a periodic basis per Required Action A.2, which remains in effect. This periodic verification is necessary to assure leak tightness of containment and that penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying each affected penetration flow path is isolated is appropriate considering the fact that the valves are operated under administrative controls and the probability of their misalignment is low.

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two [or more] containment isolation valves. Condition A of this LCO addresses the condition of one containment isolation valve inoperable in this type of penetration flow path. (3)

C.1 and C.2

With one or more penetration flow paths with one containment isolation valve inoperable, the inoperable valve must be restored to OPERABLE status or the affected penetration flow path must be isolated. 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 valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration. Required Action C.1 must be completed within the 72 hour Completion Time. The specified time period is reasonable, considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4. In the event the affected penetration is isolated in accordance with Required Action C.1, the affected penetration flow path must be verified to be isolated on a periodic basis. This periodic verification is necessary to assure leak tightness of containment and that containment penetrations requiring isolation following an accident are isolated. The Completion Time of once per 31 days for verifying that each affected penetration flow path is isolated is appropriate considering the fact that the valves are operated under administrative controls and the probability of their misalignment is low. INSERT 4 (1) (1)

(1) **INSERT 4**

, since it does not communicate with the containment atmosphere or reactor coolant pressure boundary (for certain valves in Type III penetrations); the small pipe diameter of the penetration (hence, reliability) (for certain valves in Type II, III and IV penetrations); that the valves isolate Engineered Safety Features Systems that normally operate following an accident (for most valves in Type IV penetrations);

BASES

ACTIONS (continued)

Condition C is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with only one containment isolation valve and a closed system. The closed system must meet the requirements of Reference 6. This Note is necessary since this Condition is written to specifically address those penetration flow paths in a closed system. 2

Required Action C.2 is modified by two Notes. Note 1 applies to valves and blind flanges located in high radiation areas and allows these devices to be verified by use of administrative means. Allowing verification by administrative means is considered acceptable since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment of these devices, once verified to be in the proper position, is small.

[D.1, D.2, and D.3 2

or exhaust — and exhaust 1

In the event one or more containment purge valves in one or more penetration flow paths are not within the purge valve leakage limits, purge and exhaust valve leakage must be restored to within limits or the affected penetration flow path must be isolated. The method of isolation must be by 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 valve, closed manual valve, and blind flange]. A purge valve with resilient seals utilized to satisfy Required Action D.1 must have been demonstrated to meet the leakage requirements of SR 3.6.3.[6] 5. The specified Completion Time is reasonable, considering that one containment purge and exhaust valve remains closed so that a gross breach of containment does not exist. 3 2 1

In accordance with Required Action D.2, this penetration flow path must be verified to be isolated on a periodic basis. The periodic verification is necessary to ensure that containment penetrations required to be isolated following an accident, which are no longer capable of being automatically isolated, will be in the isolation position should an event occur. This

BASES

ACTIONS (continued)

Required Action does not require any testing or valve manipulation. Rather, it involves verification that those isolation devices outside containment and potentially capable of being mispositioned are in the correct position. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

and exhaust

For the containment purge valve with resilient seal that is isolated in accordance with Required Action D.1, SR 3.6.3.6 must be performed at least once every [/] days. This provides assurance that degradation of the resilient seal is detected and confirms that the leakage rate of the containment purge valve does not increase during the time the penetration is isolated. The normal Frequency for SR 3.6.3.6, 184 days, is based on an NRC initiative, Generic Issue B-20 (Ref. 8). Since more reliance is placed on a single valve while in this Condition, it is prudent to perform the SR more often. Therefore, a Frequency of once per [/] days was chosen and has been shown acceptable based on operating experience.

5 92 92 1 2

Required Action D.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned.] 2

INSERT 4A

F

E.1 and E.2 2 2

If the Required Actions and associated Completion Times are not met, the plant must be 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.

(2) **INSERT 4A**

E.1

With the combined secondary containment bypass leakage (SR 3.6.3.7) not within limit, the assumptions of the safety analyses are not met. Therefore, the leakage must be restored to within limit. Restoration can be accomplished by isolating the penetration(s) that caused the limit to be exceeded by use of one closed and deactivated automatic valve, closed manual valve, or blind flange. When a penetration is isolated the leakage rate for the isolated penetration is assumed to be the actual pathway leakage through the isolation device. If two isolation devices are used to isolate the penetration, the leakage rate is assumed to be the lesser actual pathway leakage of the two devices. The 4 hour Completion Time for secondary bypass leakage not within limit is reasonable considering the time required to restore the leakage by isolating the penetration(s) and the relative importance of secondary containment bypass leakage to the overall containment function.

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All changes are (1) unless otherwise noted

BASES

SURVEILLANCE REQUIREMENTS

[SR 3.6.3.1 (3)

Each [48] inch containment purge [and exhaust] valve is required to be verified [sealed] closed [with control power removed] at 31 day intervals. This Surveillance is designed to ensure that a gross breach of containment is not caused by an inadvertent or spurious opening of a containment purge [or exhaust] valve. Detailed analysis of the purge valves failed to conclusively demonstrate their ability to close during a LOCA in time to limit offsite doses. Therefore, these valves are required to be in the [sealed] closed position [with control power removed] during MODES 1, 2, 3, and 4. A containment purge valve that is sealed closed must have motive power to the valve operator removed. This can be accomplished by de-energizing the source of electric power or by removing the air supply to the valve operator. In this application, the term "sealed" has no connotation of leak tightness. The Frequency is a result of an NRC initiative, Generic Issue B-24 (Ref. 7), related to containment purge valve use during unit operations. In the event purge valve leakage requires entry into Condition D, the Surveillance permits opening one purge valve in a penetration flow path to perform repairs.] (3) (2) (2) (2)

SR 3.6.3.2

This SR ensures that the minipurge valves are closed as required or, if open, open for an allowable reason. If a purge valve is open in violation of this SR, the valve is considered inoperable. If the inoperable valve is not otherwise known to have excessive leakage when closed, it is not considered to have leakage outside of limits. The SR is not required to be met when the minipurge valves are open for pressure control, ALARA or air quality considerations for personnel entry, or for Surveillances that require the valves to be open. The minipurge valves are capable of closing in the environment following a LOCA. Therefore, these valves are allowed to be open for limited periods of time. The 31 day Frequency is consistent with other containment isolation valve requirements discussed in SR 3.6.3.3. (2)

SR 3.6.3.3 [2] (2)

This SR requires verification that each containment isolation manual valve and blind flange located outside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside the containment boundary is within

BASES

SURVEILLANCE REQUIREMENTS (continued)

design limits. This SR does not require any testing or valve manipulation. Rather, it involves verification that those containment isolation valves outside containment and capable of being mispositioned are in the correct position. Since verification of valve position for containment isolation valves outside containment is relatively easy, the 31 day Frequency is based on engineering judgment and was chosen to provide added assurance of the correct positions. The SR specifies that containment isolation valves open under administrative controls are not required to meet the SR during the time the valves are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

The Note applies to valves and blind flanges located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted during MODES 1, 2, 3, and 4 for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in the proper position, is low.

3

SR 3.6.3.[redacted] 2

This SR requires verification that each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed. The SR helps to ensure that post accident leakage of radioactive fluids or gases outside the containment boundary is within design limits. For containment isolation valves inside containment, the Frequency of "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is appropriate, since these containment isolation valves are operated under administrative controls and the probability of their misalignment is low. The SR specifies that containment isolation valves open under administrative controls are not required to meet the SR during the time they are open. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

BASES

SURVEILLANCE REQUIREMENTS (continued)

The Note allows valves and blind flanges located in high radiation areas to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the access to these areas is typically restricted during MODES 1, 2, 3, and 4 for ALARA reasons. Therefore, the probability of misalignment of these containment isolation valves, once they have been verified to be in their proper position, is small.

4

SR 3.6.3.[5] (2)

Verifying that the isolation time of each automatic power operated containment isolation valve is within limits is required to demonstrate OPERABILITY. The isolation time test ensures the valve will isolate in a time period less than or equal to that assumed in the safety analyses. [The isolation time and Frequency of this SR are in accordance with the Inservice Testing Program ~~or 92 days~~.] (2) (3)

5

SR 3.6.3.[6] (2)

and exhaust (1)

For containment purge valves with resilient seals, additional leakage rate testing beyond the test requirements of 10 CFR 50, Appendix J, Option [~~A~~][B] is required to ensure OPERABILITY. Operating experience has demonstrated that this type of seal has the potential to degrade in a shorter time period than do other seal types. Based on this observation and the importance of maintaining this penetration leak tight (due to the direct path between containment and the environment), a Frequency of (3) (1)

INSERT 5

INSERT 6

~~once per 184 days was established as part of the NRC resolution of Generic Issue B-20, "Containment Leakage Due to Seal Deterioration" (Ref. 8).~~ (2)

~~Additionally, this SR must be performed within 92 days after opening the valve. The 92 day Frequency was chosen recognizing that cycling the valve could introduce additional seal degradation (greater than that occurring to a valve that has not been opened). Thus, decreasing the interval (from 184 days) is a prudent measure after a valve has been opened.~~

(1) **INSERT 5**

The test is performed by pressurizing the piping section, including one valve inside and one valve outside containment, to a pressure $\geq$ 20 psig. The leakage limit for each containment purge or exhaust penetration is $\leq$ 0.15 L_a.

(2) **INSERT 6**

prior to entering MODE 2 from MODE 3 each time the plant has been in any combination of MODE 3, 4, 5, or 6 for > 72 hours, if not performed in the previous 92 days has been established.

Additionally, if a valve is opened in MODE 1, 2, 3, or 4, this SR must be performed within 72 hours after closing the valve. Alternately, if a valve is opened in other than MODE 1, 2, 3, or 4, this SR must be performed prior to entering MODE 4 from MODE 5. These two additional Frequencies were chosen recognizing that cycling a valve could introduce additional seal degradation. Thus, these additional Frequencies are a prudent measure after a valve has been opened.

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BASES

SURVEILLANCE REQUIREMENTS (continued)

6

SR 3.6.3.7 (2)

Automatic containment isolation valves close on a containment isolation signal to prevent leakage of radioactive material from containment following a DBA. This SR ensures that each automatic containment isolation valve will actuate to its isolation position on a containment isolation signal. This SR is not required for valves that are locked, sealed, or otherwise secured in position under administrative controls. The [18] 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 this Surveillance when performed at the [18] 24 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. (3) (3)

SR 3.6.3.8 (4)

-------------------------------REVIEWER'S NOTE-------------------------------
This SR is only required for those units with resilient seal purge valves allowed to be open during [MODE 1, 2, 3, or 4] and having blocking devices on the valves that are not permanently installed.

Verifying that each [48] inch containment purge valve is blocked to restrict opening to ≤ [50%] is required to ensure that the valves can close under DBA conditions within the times assumed in the analyses of References 3 and 4. If a LOCA occurs, the purge valves must close to maintain containment leakage within the values assumed in the accident analysis. At other times when purge valves are required to be capable of closing (e.g., during movement of [recently] irradiated fuel assemblies), pressurization concerns are not present, thus the purge valves can be fully open. The [18] month Frequency is appropriate because the blocking devices are typically removed only during a refueling outage. (2)

INSERT 7 (2)

(2) **INSERT 7**

SR 3.6.3.7

This SR ensures that the combined leakage rate of all secondary containment bypass leakage paths is less than or equal to the specified leakage rate. This provides assurance that the assumptions in the safety analysis are met. The leakage rate of each bypass leakage path is assumed to be the maximum pathway leakage (leakage through the worse of the two isolation valves) unless the penetration is isolated by use of one closed and de-activated automatic valve, closed manual valve, or blind flange. In this case, the leakage rate of the isolated bypass leakage path is assumed to be the actual pathway leakage through the isolation device. If both isolation valves in the penetration are closed, the actual leakage rate is the lesser leakage rate of the two valves. The Frequency is required by the Containment Leakage Rate Testing Program. This SR simply imposes additional acceptance criteria. Bypass leakage is considered part of L_a.

4

BASES

REFERENCES

1. 10 CFR 20.
2. FSAR, Section [5.6]. 3.8.2.1.2
3. FSAR, Sections [14.1 and 14.2]. 15.4
4. FSAR, Section [5.3]. Table 6.2-23
5. FSAR, Section [5.3].
6. Standard Review Plan 6.2.4.
7. Generic Issue B-24.
8. Generic Issue B-20.

U U 1 3 1

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JUSTIFICATION FOR DEVIATIONS
ITS 3.6.3 BASES, CONTAINMENT ISOLATION VALVES

1. Changes are made (additions, deletions, and/or changes) to the ISTS Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. Changes are made to reflect changes made to the Specification.

3. The brackets have been removed and the proper plant specific information/value has been provided.

4. This Reviewer's Note has been deleted. This information is for the NRC reviewer to be keyed in to what is needed to meet this requirement. This is not meant to be retained in the final version of the plant specific submittal.

Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.3, CONTAINMENT ISOLATION VALVES

There are no specific NSHC discussions for this Specification.

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ATTACHMENT 4

ITS 3.6.4, CONTAINMENT PRESSURE

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

A01

ITS

CONTAINMENT SYSTEMS

INTERNAL PRESSURE

LIMITING CONDITION FOR OPERATION

3.6.4 3.6.1.4 Primary containment internal pressure shall be maintained between +25" and -14" W.G. from the shield building. LA01

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A — With the containment internal pressure outside of the limits above, restore the internal pressure to within the limits within 1 hour or be

ACTION B — in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

SR 3.6.4.1 4.6.1.4 The primary containment internal pressure shall be determined to within the limits at least once per 12 hours.

DISCUSSION OF CHANGES
ITS 3.6.4, CONTAINMENT PRESSURE

ADMINISTRATIVE CHANGES

A01 In the conversion of the Davis-Besse Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1430, Rev. 3.1, "Standard Technical Specifications-Babcock and Wilcox Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS LCO 3.6.1.4 states that containment pressure be maintained between +25" and -14" water gauge, relative to the shield building. ITS 3.6.4 includes a similar requirement, but does not specify that it is relative to the shield building. This changes the CTS by moving the detail that the containment pressure limits are relative to the shield building to the Bases.

The removal of this detail, which is related to system design, from the CTS is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. ITS 3.6.4 still retains a requirement to maintain containment pressure within limits. Also, this change is acceptable because these type of details will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the CTS.

LESS RESTRICTIVE CHANGES

None

Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

CTS

3.6 CONTAINMENT SYSTEMS

3.6.4 Containment Pressure

-14 inches water gauge   +25 inches water gauge

3.6.1.4 LCO 3.6.4 Containment pressure shall be ≥ [-2.0] psig and ≤ [+3.0] psig. (1)

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

ACTIONS

CTS	CONDITION	REQUIRED ACTION	COMPLETION TIME
Action	A. Containment pressure not within limits.	A.1 Restore containment pressure to within limits.	1 hour
Action	B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

CTS	SURVEILLANCE	FREQUENCY
4.6.1.4	SR 3.6.4.1 Verify containment pressure is within limits.	12 hours

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.4, CONTAINMENT PRESSURE

1. The brackets have been removed and the proper plant specific information/value has been provided.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

All changes are (1) unless otherwise noted

B 3.6 CONTAINMENT SYSTEMS

B 3.6.4 Containment Pressure

BASES

BACKGROUND

The containment pressure is limited during normal operation to preserve the initial conditions assumed in the accident analyses for a loss of coolant accident (LOCA) or steam line break (SLB). These limits also prevent the containment pressure from exceeding the containment design negative pressure differential with respect to the outside atmosphere in the event of inadvertent actuation of the Containment Spray System.

main

M

Containment pressure is a process variable that is monitored and controlled. The containment pressure limits are derived from the input conditions used in the containment functional analyses and the containment structure external pressure analysis. Should operation occur outside these limits coincident with a Design Basis Accident (DBA), post accident containment pressures could exceed calculated values.

APPLICABLE SAFETY ANALYSES

Containment internal pressure is an initial condition used in the DBA analyses to establish the maximum peak containment internal pressure. The limiting DBAs considered, relative to containment pressure, are the LOCA and SLB, which are analyzed using computer pressure transients. The worst-case LOCA generates larger mass and energy release than the worst-case SLB. Thus, the LOCA event bounds the SLB event from the containment peak pressure standpoint (Ref. 1).

M

M

The initial pressure condition used in the containment analysis was [17.7] psia ([3.0] psig). This resulted in a maximum peak pressure from a LOCA of [53.9] psig. The LCO limit of [3.0] psig ensures that, in the event of an accident, the design pressure of [55] psig for containment is not exceeded. In addition, the building was designed for an internal pressure equal to [3] psig above external pressure during a tornado. The containment was also designed for an internal pressure equal to [2.5] psig below external pressure, to withstand the resultant pressure drop from an accidental actuation of the Containment Spray System. The LCO limit of [-2.0] psig ensures that operation within the design limit of [-2.5] psig is maintained (Ref. 2).

1 psig

38

+25 inches water gauge (0.9 psig)

40

is

is

0.67

(2)

, with the containment vacuum breakers limiting the pressure transient.

-14 inches water gauge (-0.5 psig)

-0.67

(2)

(2)

For certain aspects of transient accident analyses, maximizing the calculated containment pressure is not conservative. In particular, the cooling effectiveness of the Emergency Core Cooling Systems during the core reflood phase of a LOCA analysis increases with increasing containment backpressure. Therefore, for the reflood phase, the

All changes are (1) unless otherwise noted

BASES

BACKGROUND (continued) — APPLICABLE SAFETY ANALYSES

(3)

containment backpressure is calculated in a manner designed to conservatively minimize, rather than maximize, the containment pressure response in accordance with 10 CFR 50, Appendix K (Ref. 2). [3]

Containment pressure satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii).

LCO

Maintaining containment pressure less than or equal to the LCO upper pressure limit ensures that, in the event of a DBA, the resultant peak containment accident pressure will remain below the containment design pressure. Maintaining containment pressure greater than or equal to the LCO lower pressure limit [, along with the containment vacuum breakers,] ensures that the containment will not exceed the design negative differential pressure following the inadvertent actuation of the Containment Spray System. [Containment pressure is measured relative to the shield building pressure.]

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. Since maintaining containment pressure within design basis limits is essential to ensure initial conditions assumed in the accident analysis are maintained, the LCO is applicable in MODES 1, 2, 3, and 4.

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, maintaining containment pressure within the limits of the LCO is not required in MODES 5 and 6.

ACTIONS

A.1

When containment pressure is not within the limits of the LCO, containment pressure must be restored to within these limits within 1 hour. The Required Action is necessary to return operation to within the bounds of the containment analysis. The 1 hour Completion Time is consistent with the ACTIONS of LCO 3.6.1, "Containment," which requires that containment be restored to OPERABLE status within 1 hour.

B.1 and B.2

If containment pressure cannot be restored within limits within the required Completion Time, the plant must be 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.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.4.1

Verifying that containment pressure is within limits ensures that operation remains within the limits assumed in the containment analysis. The 12 hour Frequency of this SR was developed after taking into consideration operating experience related to trending of containment pressure variations during the applicable MODES. Furthermore, the 12 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal containment pressure condition.

REFERENCES

1. U FSAR, Section [14.2] 3.11.2 (1) (2)

2. UFSAR, Section 3.8.2.1.4. (1)

3 2. 10 CFR 50, Appendix K. (1)

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.4 BASES, CONTAINMENT PRESSURE

1. Changes are made (additions, deletions, and/or changes) to the ISTS Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The brackets have been removed and the proper plant specific information/value has been provided.

3. Typographical error corrected.

Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.4, CONTAINMENT PRESSURE

There are no specific NSHC discussions for this Specification.

ATTACHMENT 5

ITS 3.6.5, CONTAINMENT AIR TEMPERATURE

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS

A01

ITS 3.6.5

CONTAINMENT SYSTEMS

AIR TEMPERATURE

LIMITING CONDITION FOR OPERATION

3.6.5 3.6.1.5 Primary containment average air temperature shall not exceed 120°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A With the containment average air temperature > 120°F, reduce the average air temperature to within the limit within 8 hours, or be in at least

ACTION B HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

LA01

3.6.5.1 4.6.1.5 The primary containment average air temperature shall be the arithmetical average of the inlet temperature(s) to the operating containment air cooler(s) (1-1, 1-2, and 1-3) and shall be determined at least once per 24 hours.

DISCUSSION OF CHANGES
ITS 3.6.5, CONTAINMENT AIR TEMPERATURE

ADMINISTRATIVE CHANGES

A01 In the conversion of the Davis-Besse Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1430, Rev. 3.1, "Standard Technical Specifications-Babcock and Wilcox Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.6.1.5 requires verifying that the primary containment average air temperature "shall be the arithmetical average of the inlet temperature(s) to the operating containment air coolers(s) (1-1, 1-2, and 1-3)." ITS SR 3.6.5.1 requires a similar verification, but does not state the specific method for attaining the average air temperature (i.e., the arithmetical average of specific air cooler inlet temperatures location). This changes the CTS by moving the method of calculating the average air temperature to the Bases.

The removal of these details for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to verify the containment air temperature is within limit. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

None

Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

CTS

3.6 CONTAINMENT SYSTEMS

3.6.5 Containment Air Temperature

3.6.1.5 LCO 3.6.5 Containment average air temperature shall be ≤ [130] 120 °F. (1)

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

ACTIONS

CTS	CONDITION	REQUIRED ACTION	COMPLETION TIME
Action	A. Containment average air temperature not within limit.	A.1 Restore containment average air temperature to within limit.	8 hours
Action	B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
		AND	
		B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

CTS	SURVEILLANCE		FREQUENCY
4.6.1.5	SR 3.6.5.1	Verify containment average air temperature is within limit.	24 hours

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.5, CONTAINMENT AIR TEMPERATURE

1. The brackets have been removed and the proper plant specific information/value has been provided.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

B 3.6 CONTAINMENT SYSTEMS

B 3.6.5 Containment Air Temperature

BASES

BACKGROUND

The containment structure serves to contain radioactive material, which may be released from the reactor core following a Design Basis Accident (DBA). The containment average air temperature is limited during normal operation to preserve the initial conditions assumed in the accident analyses for a loss of coolant accident (LOCA) or steam line break (SLB). M main 1

The containment average air temperature limit is derived from the input conditions used in the containment functional analyses and the containment structure external pressure analysis. This LCO ensures that initial conditions assumed in the analysis of a DBA are not violated during unit operations. The total amount of energy to be removed from the Containment Cooling System during post accident conditions is dependent upon the energy released to the containment due to the event as well as the initial containment temperature and pressure. The higher the initial temperature, the higher the resultant peak containment pressure and temperature. Exceeding containment design pressure may result in leakage greater than that assumed in the accident analysis. Operation with containment temperature in excess of the LCO limit violates an initial condition assumed in the accident analysis. by 3 Air 1

APPLICABLE SAFETY ANALYSES

Containment average air temperature is an initial condition used in the DBA analyses. Average air temperature is also used to establish the containment environmental qualification operating envelope. The limit for containment average air temperature ensures that operation is maintained within the assumptions used in the DBA analysis for containment.

Several accidents (primarily LOCA and SLB) result in a marked increase in containment temperature and pressure due to energy release within the containment. Of these, the LOCA results in the greatest sustained increase in containment temperature. By maintaining containment air temperature at less than the initial temperature assumed in the LOCA analysis, the reactor building design condition will not be exceeded. M 1 MSLB 1 MSLB 1 containment

The LOCA that was identified as presenting the greatest challenge to containment OPERABILITY was a cold leg Reactor Coolant System break, of specified size, at a reactor coolant pump suction. 1

Containment average air temperature satisfies Criterion 2 of 10 CFR 50.36(c)(2)(ii). 2

BASES

LCO	During a DBA, with an initial containment average air temperature less than or equal to the LCO temperature limit, the resultant accident temperature profile assures that the containment structural temperature is maintained below its design temperature and that required safety related equipment will continue to perform its function.
APPLICABILITY	In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, maintaining containment average air temperature within the limit is not required in MODE 5 or 6.

ACTIONS

A.1

When containment average air temperature is not within the limit of the LCO, it must be restored within 8 hours. This Required Action is necessary to return operation to within the bounds of the containment analysis. The 8 hour Completion Time is acceptable considering the sensitivity of the analysis to variations in this parameter and provides sufficient time to correct minor problems.

B.1 and B.2

If the containment average air temperature cannot be restored to within its limit within the required Completion Time, the plant must be 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.

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.5.1

Verifying that containment average air temperature is within the LCO limit ensures that containment operation remains within the limit assumed for the containment analyses. In order to determine the containment average air temperature, an arithmetic average is calculated, using measurements taken at locations within the containment selected to provide a representative sample of the overall containment atmosphere. The 24 hour Frequency of this SR is considered acceptable based on observed slow rates of temperature increase within containment as a result of environmental heat sources (due to the large volume of containment). Furthermore, the 24 hour Frequency is considered adequate in view of other indications available in the control room, including alarms, to alert the operator to an abnormal containment temperature condition.

[Insert: the inlet temperatures to the operating containment air coolers (i.e., 1-1, 1-2, and 1-3).] (1)

REFERENCES

None.

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.5 BASES, CONTAINMENT AIR TEMPERATURE

1. Changes are made (additions, deletions, and/or changes) to the ISTS Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. Changes made to be consistent with the Specification.

3. Grammatical error corrected.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.5, CONTAINMENT AIR TEMPERATURE

There are no specific NSHC discussions for this Specification.

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ATTACHMENT 6

ITS 3.6.6, CONTAINMENT SPRAY AND AIR COOLING SYSTEMS

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS (A01) ITS 3.6.6

CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.6.6 — 3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the BWST on a containment spray actuation signal and manually transferring suction to the containment emergency sump during the recirculation phase of operation. (LA01)

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A — With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6

ACTION B — hours; restore the inoperable spray system to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the next 30 hours.

Add proposed ACTION D (A02)

Add proposed ACTION G (A03)

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

SR 3.6.6.1 — a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.

b. At least once each REFUELING INTERVAL, by:

SR 3.6.6.6 — 1. Verifying that each automatic valve in the flow path [that is not locked, sealed, or otherwise secured in position (L01)] actuates to its correct position on a [actual or (L02)] containment spray [actuation (LA02)] test signal.

SR 3.6.6.7 — 2. Verifying that each spray pump starts automatically on a [actual or (L02)] SFAS [actuation (LA02)] test signal.

ITS

A01

ITS 3.6.6

Revised by NRC Letter Dated
June 6, 1995

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

c. Deleted

SR 3.6.6.8 d. At least once per 10 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed. LA03

Add proposed SR 3.6.6.3 M01

A01

ITS 3.6.6

ITS

CONTAINMENT SYSTEMS

CONTAINMENT COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.6.6 — 3.6.2.2 At least two independent containment cooling units shall be OPERABLE. (LA01)

APPLICABILITY: MODES 1, 2 and 3. (and 4 — M02)

ACTION:

ACTION C — With one of the above required containment cooling units inoperable, restore at least two units to OPERABLE status within 72 hours (7 days — L03) or be in

ACTION F — HOT SHUTDOWN within the next 12 hours. (M02)

Add proposed ACTION D (A02)

Add proposed ACTION E (L03)

Add proposed ACTION G (A03)

SURVEILLANCE REQUIREMENTS

4.6.2.2 At least the above required containment cooling units shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by:

1. Starting (unless already operating) each unit from the control room, and (LA04)

SR 3.6.6.2 — 2. Verifying that each unit operates for at least 15 minutes.

SR 3.6.6.4 — b. At least once per 18 months by verifying that each unit starts automatically on low speed (LA04) upon receipt of a SFAS (actuation — LA02) (actual or — L02) test signal.

Add proposed SR 3.6.6.5 (M01)

DISCUSSION OF CHANGES
ITS 3.6.6, CONTAINMENT SPRAY AND AIR COOLING SYSTEMS

ADMINISTRATIVE CHANGES

A01 In the conversion of the Davis-Besse Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1430, Rev. 3.1, "Standard Technical Specifications-Babcock and Wilcox Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A02 The CTS 3.6.2.1 Action provides the actions when one containment spray train is inoperable and the CTS 3.6.2.2 Action provides the actions when one containment cooling train is inoperable. However, no specific actions are provided when both a containment spray train and a containment cooling train are inoperable. ITS 3.6.6 ACTION D limits the time one containment spray train and one containment air cooling train are concurrently inoperable to 72 hours. This changes the CTS by specifically delineating the actions when a containment spray train and a containment air cooling train are concurrently inoperable.

ITS 3.6.6 combines the Containment Spray and Containment Air Cooling Systems requirements into a single Specification. The CTS 3.6.2.2 Action time to restore an inoperable containment cooling train to OPERABLE status is 72 hours. When a containment spray train and a containment air cooling train are concurrently inoperable, ITS 3.6.6 ACTION D provides 72 hours to restore one of the two inoperable components to OPERABLE status. Thus, the proposed time is identical to the current time under similar conditions; this proposed Action is needed since the ITS has changed the allowed restoration time for an inoperable containment air cooling train to 7 days. This change is designated as administrative since it does not result in any technical changes to the CTS.

A03 CTS 3.6.2.1 does not provide an Action for two containment spray trains inoperable and CTS 3.6.2.2 does not provide an Action for two containment cooling trains inoperable. Thus, CTS LCO 3.0.3 would be required to be entered. In addition, CTS 3.6.2.1 nor CTS 3.6.2.2 provide an Action for any combination of three or more containment spray and containment cooling trains inoperable. Thus, CTS LCO 3.0.3 would also be required to be entered when this occurs. ITS 3.6.6 ACTION G requires immediate entry into ITS LCO 3.0.3 when two containment spray trains are inoperable or any combination of three required containment spray and air cooling trains are inoperable. This changes the CTS by providing a specific ACTION for two inoperable containment spray trains and for any combination of three inoperable required containment spray and containment air cooling trains.

The purpose of ITS 3.6.6 ACTION G is to require immediate entry into ITS LCO 3.0.3 when two containment spray trains are inoperable or any combination of three required containment spray and containment air cooling trains are inoperable. If two containment spray trains or two containment air cooling trains were inoperable, then CTS LCO 3.0.3 would be entered because there is no other Action in CTS 3.6.2.1 or 3.6.2.2 that fits these conditions. This

DISCUSSION OF CHANGES
ITS 3.6.6, CONTAINMENT SPRAY AND AIR COOLING SYSTEMS

change is acceptable because this same action is required in the CTS. This change is designated as administrative because it does not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

M01 ITS SR 3.6.6.5 requires verifying each required containment air cooling train cooling water flow rate is ≥ 1150 gpm every 24 months. ITS SR 3.6.6.3 requires verifying each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head in accordance with the Inservice Testing Program. The CTS does not include these Surveillance Requirements. This changes the CTS by adding two new Surveillance Requirements.

The purpose of ITS SR 3.6.6.5 is to ensure the cooling water flow rate to the air cooling unit assumed in the accident analysis can be achieved. The purpose of ITS SR 3.6.6.3 is to ensure the containment spray pump performance has not degraded during the cycle. These changes are acceptable since these two new Surveillances help ensure the OPERABILITY of the Containment Air Cooling and Containment Spray Systems. These changes are designated as more restrictive because Surveillance Requirements are being added to the ITS that are not required by the CTS.

M02 CTS 3.6.2.2 requires two containment cooling units be OPERABLE in MODES 1, 2 and 3. The CTS 3.6.2.2 Action also requires the unit to be shut down to HOT SHUTDOWN (MODE 4) within 12 hours if an inoperable containment cooling train is not restored to OPERABLE status within the allowed restoration time. ITS 3.6.6 requires two containment air cooling trains be OPERABLE in MODES 1, 2, 3, and 4. ITS 3.6.6 ACTION F requires the unit to be shut down to MODE 3 within 6 hours and MODE 5 within 36 hours if the inoperable containment air cooling trains are not restored within the allowed restoration time. This changes the CTS by requiring the containment cooling trains to be OPERABLE in MODE 4 and providing actions to exit this new Applicability.

The purpose of CTS 3.6.2.2 is to provide requirements for the containment cooling trains in order to maintain containment peak temperature below the design limits. This change is acceptable because a DBA in MODE 4 could cause an increase in containment temperature, requiring operation of the containment air cooling trains. Requiring the containment air cooling trains to be OPERABLE in MODE 4 provides a means to remove the heat, and is consistent with the Applicability requirements for the Containment Spray System in CTS 3.6.2.1. Furthermore, due to this change, the MODE the unit must enter if a containment air cooling train is not restored has been changed to be consistent with the new Applicability. The time to reach this new MODE is consistent with the time to reach this new MODE in other Actions in the CTS and ITS. This change is designated more restrictive because the containment air cooling trains are now required to be OPERABLE in MODE 4.

DISCUSSION OF CHANGES
ITS 3.6.6, CONTAINMENT SPRAY AND AIR COOLING SYSTEMS

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 3.6.2.1 states that two "independent" containment spray systems shall be OPERABLE "with each spray system capable of taking suction from the BWST on a containment spray actuation signal and manually transferring suction to the containment emergency sump during the recirculation phase of operation." CTS 3.6.2.2 states that two "independent" containment cooling units shall be OPERABLE. ITS 3.6.6 requires two containment spray trains and two containment air cooling trains to be OPERABLE, but does not include the details of what constitutes OPERABILITY. This changes the CTS by moving the detail that the trains must be "independent" and the description of the capability of the containment spray trains (i.e., taking suction from the BWST on a containment spray actuation signal and manually transferring suction to the containment emergency sump during the recirculation phase of operation) to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement that two containment spray trains and two containment air cooling trains shall be OPERABLE. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to the Bases to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA02 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS 4.6.2.1.b.1 requires verification of the automatic actuation of containment spray valves on a "containment spray" test signal and CTS 4.6.2.1.b.2 requires the containment spray pumps automatically start on a "SFAS" test signal. CTS 4.6.2.2.b requires each containment cooling unit starts on receipt of a "SFAS" test signal. ITS SR 3.6.6.6, SR 3.6.6.7, and SR 3.6.6.4 do not state the specific type of signal, but only specify an actual or simulated "actuation" signal. This changes the CTS by moving the type of actuation signal (e.g., SFAS) to the Bases.

The removal of these details, which are related to system design, from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement to verify that appropriate equipment actuates upon receipt of an actuation signal. Also, this change is acceptable because the removed information will be

DISCUSSION OF CHANGES
ITS 3.6.6, CONTAINMENT SPRAY AND AIR COOLING SYSTEMS

adequately controlled in the ITS Bases. Furthermore, the containment spray signal identified in CTS 4.6.2.1.6.1 is an SFAS signal, thus this will be the signal identified in the Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to the Bases to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because information relating to system design is being removed from the Technical Specifications.

LA03 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.6.2.1.d states to perform "an air or smoke flow test through each spray header" to verify each spray nozzle is unobstructed. ITS SR 3.6.6.8 states to verify each spray nozzle is unobstructed. This changes the CTS by moving the details of how to perform the test to the Bases.

The removal of these details for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement that spray nozzles are verified unobstructed. Also, this change is acceptable because these types of procedural details will be adequately controlled the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to the Bases to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LA04 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* CTS 4.6.2.2.a.1 requires each containment cooling train be started (unless already operating) from the control room every 31 days. CTS 4.6.2.2.b requires verification that each containment cooling train starts "on low speed" upon receipt of an SFAS test signal. ITS SR 3.6.2.2 requires each containment air cooling train be operated for ≥ 15 minutes, but does not specify it be started from the control room. ITS SR 3.6.2.5 requires each containment air cooling train be started on an actuation signal, but does not specify it be started on low speed. This changes the CTS by moving the detail that the trains are started from the control room and started automatically in low speed to the Bases.

The removal of these details for performing Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains the requirement that each containment cooling train be operated and be automatically started. Also, this change is acceptable because the removed information will be adequately controlled in the ITS Bases. Changes to the Bases are controlled by the Technical Specification Bases Control Program in Chapter 5. This program provides for the evaluation of changes to the Bases to ensure the Bases are properly controlled. This change is designated as a less restrictive removal of

DISCUSSION OF CHANGES
ITS 3.6.6, CONTAINMENT SPRAY AND AIR COOLING SYSTEMS

detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LESS RESTRICTIVE CHANGES

L01 *(Category 5 – Deletion of Surveillance Requirement)* CTS 4.6.2.1.b.1 requires verification that each automatic containment spray valve in the flow path actuates to its correct position. ITS SR 3.6.6.6 requires verification that each automatic containment spray valve in the flow path "that is not locked, sealed, or otherwise secured in position" actuates to the correct position. This changes the CTS by excluding those valves that are locked, sealed, or otherwise secured in position from the verification.

The purpose of CTS 4.6.2.1.b.1 is to provide assurance that if an event occurred requiring containment spray valves to be in their correct position, then those requiring automatic actuation would actuate to their correct position. This change is acceptable because the deleted Surveillance is not necessary to verify that the equipment used to meet the LCO can perform its required functions. Thus, appropriate equipment continues to be tested in a manner and at a Frequency necessary to provide confidence that the equipment can perform its assumed safety function. Those automatic valves that are locked, sealed, or otherwise secured in position are not required to actuate on a containment spray actuation signal in order to perform their safety function because they are already in the required position. Testing such valves would not provide any additional assurance of OPERABILITY. Valves that are required to actuate will continue to be tested. This change is designated as less restrictive because less stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

L02 *(Category 6 – Relaxation Of Surveillance Requirement Acceptance Criteria)* CTS 4.6.2.1.b.1 and 4.6.2.1.b.2 require verification of the automatic actuation of containment spray components on a containment spray or SFAS (respectively) "test" signal. CTS 4.6.2.2.b requires each containment cooling unit be verified to start automatically upon receipt of a SFAS "test" signal. ITS SR 3.6.6.6, SR 3.6.6.7, and SR 3.6.6.4 specify that the signal may be from either an "actual" or simulated (i.e., test) signal. This changes the CTS by explicitly allowing the use of either an actual or simulated signal for the test.

The purpose of CTS 4.6.2.1.b.1 and 4.6.2.1.b.2 is to ensure the containment spray components operate correctly upon receipt of an actuation signal. The purpose of CTS 4.6.2.2.b is to ensure the containment cooling units operate correctly upon receipt of an actuation signal. This change is acceptable because the relaxed Surveillance Requirement acceptance criteria are not necessary for verification that the equipment used to meet the LCO can perform its required functions. Equipment cannot discriminate between an "actual," "simulated," or "test" signal and, therefore, the results of the testing are unaffected by the type of signal used to initiate the test. This change allows taking credit for unplanned actuation if sufficient information is collected to satisfy the Surveillance test requirements. This change is designated as less restrictive because less

DISCUSSION OF CHANGES
ITS 3.6.6, CONTAINMENT SPRAY AND AIR COOLING SYSTEMS

stringent Surveillance Requirements are being applied in the ITS than were applied in the CTS.

L03 *(Category 4 – Relaxation of Required Action)* When one containment cooling train is inoperable, the CTS 3.6.2.2 Action provides 72 hours to restore the inoperable containment cooling train to OPERABLE status. CTS 3.6.2.2 does not provide an Action for two containment cooling trains inoperable. Thus, CTS LCO 3.0.3 would be required to be entered, and a unit shutdown commenced. When one containment air cooling train is inoperable, ITS 3.6.6 ACTION C allows 7 days to restore the inoperable containment air cooling train to OPERABLE status. With two containment air cooling trains inoperable, ITS 3.6.6 ACTION E will allow 72 hours to restore one inoperable containment air cooling train prior to requiring a unit shutdown. This changes the CTS by allowing 7 days to restore an inoperable containment air cooling train when one train is inoperable and 72 hours to restore one of two inoperable containment air cooling trains prior to requiring a unit shutdown.

The purpose of CTS 3.6.2.2 is to require sufficient containment cooling to ensure the containment temperature conditions for the safety analyses are met. This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. When one containment air cooling train is inoperable, the remaining OPERABLE containment air cooling train and containment spray trains can still provide 150% of the required peak cooling capacity during the post accident conditions. When both trains of containment air cooling are inoperable, the remaining containment spray trains can still provide 100% of the required peak cooling capacity during the post accident conditions. This change is designated as less restrictive because less stringent Required Actions are being applied in the ITS than were applied in the CTS.

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Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

CTS

 4

3.6 CONTAINMENT SYSTEMS 4

3.6.6 Containment Spray and Air Cooling Systems

3.6.2.1, 3.6.2.2 LCO 3.6.6 Two containment spray trains and two containment air cooling trains shall be OPERABLE. 4

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

ACTIONS

CTS	CONDITION	REQUIRED ACTION	COMPLETION TIME	
3.6.2.1 Action	A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	[7] days	1
3.6.2.1 Action	B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 84 hours	
3.6.2.2 Action	C. One [required] containment air cooling train inoperable.	C.1 Restore [required] containment air cooling train to OPERABLE status.	7 days	1 4
DOC A02	D. One containment spray train and one [required] containment air cooling train inoperable.	D.1 Restore containment spray train to OPERABLE status. OR D.2 Restore [required] containment air cooling train to OPERABLE status.	72 hours 72 hours	1 4 2 1 4

CTS

Air

Containment Spray and Cooling Systems 4
3.6.6

ACTIONS (continued)

	CONDITION	REQUIRED ACTION		COMPLETION TIME	
DOC L03	E. Two [required] containment cooling trains inoperable. (air)	E.1	Restore one [required] (air) containment cooling train to OPERABLE status.	72 hours	1 4
3.6.2.2 Action	F. Required Action and associated Completion Time of Condition C or D not met. (,) (. or E)	F.1 AND F.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours	2
DOC A03	G. Two containment spray trains inoperable. OR Any combination of three or more trains inoperable. (required)	G.1	Enter LCO 3.0.3.	Immediately	6

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE		FREQUENCY	
4.6.2.1.a	SR 3.6.6.1	Verify each containment spray manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days	
4.6.2.2.a.2	SR 3.6.6.2	Operate each [required] containment (air) cooling train [fan unit] for ≥ 15 minutes.	31 days	1 4 2

CTS

SURVEILLANCE REQUIREMENTS (continued)

CTS	SURVEILLANCE		FREQUENCY	
DOC M01	SR 3.6.6.3 [5]	Verify each [required] containment air cooling train cooling water flow rate is ≥ [1780] 1150 gpm.	[31 days] 24 months	(1) (4) (1) (5)
DOC M01	SR 3.6.6.4 [3]	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program	(5)
4.6.2.1.b.1	SR 3.6.6.5 [6]	Verify each automatic containment spray valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	[18] 24 months	(3) (1)
4.6.2.1.b.2	SR 3.6.6.6 [7]	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	[18] 24 months	(3) (1)
4.6.2.2.b	SR 3.6.6.7 [4]	Verify each [required] containment air cooling train starts automatically on an actual or simulated actuation signal.	[18] months	(3) (1) (4)
4.6.2.1.d	SR 3.6.6.8	Verify each spray nozzle is unobstructed.	[At first refueling] AND 10 years	(1)

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.6, CONTAINMENT SPRAY AND AIR COOLING SYSTEMS

1. The brackets have been removed and the proper plant specific information/value has been provided.

2. Typographical error corrected.

3. The Surveillances have been put in the correct order based on their frequency.

4. Change made to the ITS which reflects plant specific nomenclature.

5. ISTS SR 3.6.6.3 requires the cooling water flow rate of the containment cooling trains to be verified every 31 days. Davis-Besse does not currently require this test. This flow rate is currently verified at a refueling outage interval during performance of the Service Water System flow balance. The test verifies that the design basis flow rates are delivered to all safety related loads, which includes the containment air coolers. The test requires the installation of precision M&TE at various locations to support obtaining the required flow rates for the safety related loads simultaneously under design basis flow rate conditions. As such, it is appropriate for the cooling water flow rate to the containment air coolers to be verified at a 24 month Frequency.

6. Change made to be consistent with the use of the word "required" in other Conditions in ISTS 3.6.6.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

All changes are (1) unless otherwise noted

Air

B 3.6 CONTAINMENT SYSTEMS

Air

B 3.6.6 Containment Spray and Cooling Systems

BASES

Air (CAC)

BACKGROUND

The Containment Spray and Containment Cooling systems provide containment atmosphere cooling to limit post accident pressure and temperature in containment to less than the design values. Reduction of containment pressure and the iodine removal capability of the spray reduces the release of fission product radioactivity from containment to the environment, in the event of a Design Basis Accident (DBA), to within limits. The Containment Spray and Containment Cooling Systems are designed to meet the requirements of 10 CFR 50, Appendix A, GDC 38, "Containment Heat Removal," GDC 39, "Inspection of Containment Heat Removal Systems," GDC 40, "Testing of Containment Heat Removal Systems," GDC 41, "Containment Atmosphere Cleanup," GDC 42, "Inspection of Containment Atmosphere Cleanup Systems," and GDC 43, "Testing of Containment Atmosphere Cleanup Systems" (Ref. 1), or other documents that were appropriate at the time of licensing (identified on a unit specific basis).

Air

UFSAR, Appendices 3D.1.34, 3D.1.35, 3D.1.36, 3D.1.37, 3D.1.38, and 3D.1.39

The Containment Cooling System and Containment Spray System are Engineered Safety Feature (ESF) systems. They are designed to ensure that the heat removal capability required during the post accident period can be attained. The Containment Spray System and Containment Cooling System provide redundant containment heat removal operation. The Containment Spray System and Containment Cooling System provide redundant methods to limit and maintain post accident conditions to less than the containment design values.

Air

s

Air

Air

Containment Spray System

, independent

The Containment Spray System consists of two separate trains of equal capacity, each capable of meeting the design basis. Each train includes a containment spray pump, spray headers, nozzles, valves, and piping. Each train is powered from a separate ESF bus. The borated water storage tank (BWST) supplies borated water to the Containment Spray System during the injection phase of operation. In the recirculation mode of operation, Containment Spray System pump suction is manually transferred from the BWST to the containment sump.

essential

emergency

BASES

BACKGROUND (continued)

The Containment Spray System provides a spray of relatively cold borated water mixed with sodium hydroxide from the spray additive tank into the upper regions of containment to reduce the containment pressure and temperature and to reduce the concentration of fission products in the containment atmosphere during a DBA. In the recirculation mode of operation, heat is removed from the containment sump water by the decay heat removal coolers. Each train of the Containment Spray System provides adequate spray coverage to meet the system design requirements for containment heat removal. (1)

The Containment Spray System is actuated automatically by a containment High-High pressure signal coincident with a containment high pressure signal and a low pressure injection signal. An automatic actuation opens the Containment Spray System pump discharge valves and starts the two Containment Spray System pumps. [A manual actuation of the Containment Spray System requires the operator to actuate two separate switches on the main control board to begin the same sequence.] INSERT 1 (1)

Containment Cooling System (Air)

The Containment Cooling System (Air) consists of three containment cooling trains connected to a common duct suction header with four vertical return air ducts (INSERT 2). Each cooling train is equipped with demisters, cooling coils, and an axial flow fan driven by a two speed water cooled electric motor. Each unit connection (two per unit) to the common header is provided with a backpressure damper for isolation purposes. (INSERT 3)

During normal operation, two containment (air) cooling trains are required to operate. The third unit is on standby and isolated from the operating units by means of the backpressure (backdraft) dampers. The swing unit is equipped with a transfer switch. It can be manually placed to either the "A" or "B" (Train 1 or Train 2) power train to operate in case one of the operating units fails. Upon receipt of an emergency signal, the two operating cooling fans running at high speed will automatically stop (trip). The two cooling unit fans connected to the ESF (essential) buses will automatically restart and run at low (slow) speed, provided normal or emergency power is available. (1)

In post accident operation following an actuation signal, the Containment (Air) Cooling System fans are designed to start automatically in slow speed if they are not already running. If they are running at high (normal) speed, the fans automatically stop and restart in slow speed (control power is interrupted causing the fans to trip out of normal high speed. At the same time a slow speed start is initiated. A 5 second time delay is initiated to permit fan coastdown prior to being restarted in slow speed.). The fans are operated at the lower (slow) speed during accident conditions to prevent motor overload from the higher density atmosphere. (1) (1) (1)

(1) **INSERT 1**

In the event of a loss of coolant accident (LOCA), high containment pressure or low Reactor Coolant System pressure will actuate a Safety Features Actuation System (SFAS) level 2 trip to open the spray isolation valves. High-high containment pressure will actuate an SFAS level 4 signal to start the two containment spray pumps. During switchover of spray suction from the BWST to the containment emergency sump, the containment spray isolation valves are automatically throttled to a position that ensures there is adequate net positive suction head (NPSH) available for the containment spray pump.

(1) **INSERT 2**

that draw air from the containment atmosphere and discharge into a common supply plenum

(1) **INSERT 3**

The Containment Air Cooling System ductwork required to remain intact following a loss-of-cooling accident consists of the portions of the discharge air ductwork that extend between the containment air cooler fans and the backdraft dampers, upstream of the supply plenum.

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BASES

APPLICABLE SAFETY ANALYSES

The Containment Spray System and Containment Cooling System limit the temperature and pressure that could be experienced following a DBA. The limiting DBAs considered are the loss of coolant accident (LOCA) and the steam line break. The postulated DBAs are analyzed, with regard to containment ESF systems, assuming the loss of one ESF bus. This is the worst-case single active failure, resulting in one train of the Containment Spray System and one train of the Containment Cooling System being inoperable.

The analysis and evaluation show that, under the worst-case scenario, the highest peak containment pressure is [53.9] psig (experienced during a LOCA). The analysis shows that the peak containment temperature is [276]°F (experienced during a LOCA). Both results are less than the design values. (See the Bases for LCO 3.6.4, "Containment Pressure," and LCO 3.6.5, "Containment Air Temperature," for a detailed discussion.) The analyses and evaluations assume a power level of [2568] MWt, one containment spray train and one containment cooling train operating, and initial (pre-accident) conditions of [130]°F and [17.7] psia. The analyses also assume a response time delayed initiation to provide conservative peak calculated containment pressure and temperature responses.

The effect of an inadvertent containment spray actuation has been analyzed. An inadvertent spray actuation results in a [2.5] psig containment pressure drop and is associated with the sudden cooling effect in the interior of the leak tight containment. Additional discussion is provided in the Bases for LCO 3.6.4.

The modeled Containment Spray System actuation from the containment analyses is based on a response time associated with exceeding the containment pressure High-High setpoint coincident with a high pressure injection signal to achieve full flow through the containment spray nozzles. The Containment Spray System total response time of [56] seconds includes diesel generator (DG) startup (for loss of offsite power), block loading of equipment, containment spray pump startup, and spray line filling (Ref. 2).

Containment cooling train performance for post accident conditions is given in Reference 3. The result of the analysis is that each train can provide 33% of the required peak cooling capacity during the post accident condition. The train post accident cooling capacity under varying containment ambient conditions, required to perform the accident analyses, is also shown in Reference 4.

(1) **INSERT 4**

An analysis of the containment vessel negative pressure transient due to inadvertent operation of one train of the Containment Spray System has been performed for various spray water temperatures. A conservative spray flow rate of 2100 gpm has been assumed to account for pump run-out with the containment vessel at ambient pressure. The transient pressure response of the containment vessel was analyzed for the following two cases: 35°F spray water with eight vacuum breakers operational, and; 60°F spray water with six vacuum breakers operational. The analysis demonstrated that the number of vacuum breakers required to prevent the containment vessel from exceeding its external pressure loading design value (0.67 psig) is sensitive to spray (BWST) water temperature. For BWST water temperatures below 60°F a minimum of eight operational vacuum breakers out of the ten installed would protect the containment vessel from external pressure loadings that exceed the design value. When BWST water temperature exceeds 60°F only six operational vacuum breakers would be needed.

BASES

APPLICABLE SAFETY ANALYSES (continued)

Air

The modeled Containment Cooling System actuation from the containment analysis is based on a response time associated with exceeding the containment pressure high setpoint to achieve full Containment Cooling System air and safety grade cooling water flow. The Containment Cooling System total response time of [25] seconds includes signal delay, DG startup (for loss of offsite power), and service water pump startup times (Ref. 3). (1) (1) (2) (1)

Air, E, 300

Air

The Containment Spray System and the Containment Cooling System satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii). (1)

LCO

During a DBA, a minimum of one containment cooling train and one containment spray train are required to maintain the containment peak pressure and temperature below the design limits. Additionally, one containment spray train is required to remove iodine from the containment atmosphere and maintain concentrations below those assumed in the safety analysis. To ensure that these requirements are met, two containment spray trains and two containment cooling units must be OPERABLE. Therefore, in the event of an accident, the minimum requirements are met, assuming the worst-case single active failure occurs. (1) (1)

air, independent, air

train

Each Containment Spray System typically includes a spray pump, spray headers, nozzles, valves, piping, instruments, and controls to ensure an OPERABLE flow path capable of taking suction from the BWST upon an Engineered Safety Features Actuation System signal and manually transferring suction to the containment sump. (1) (1)

emergency, air cooling train

Each Containment Cooling System typically includes demisters, cooling coils, dampers, an axial flow fan driven by a two speed water cooled electrical motor, instruments, and controls to ensure an OPERABLE flow path. (1)

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment and an increase in containment pressure and temperature, requiring the operation of the containment spray trains and containment cooling trains. (1)

air

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Thus, the Containment Spray System and the Containment Cooling System are not required to be OPERABLE in MODES 5 and 6. (1)

Air

BASES

ACTIONS

A.1

With one containment spray train inoperable, action must be taken to restore it to OPERABLE status within [7] days. In this condition, the remaining OPERABLE containment spray train is adequate to perform the heat removal function. However, the overall reliability is reduced because a single failure to the remaining containment spray train could result in loss of spray function. The [7] day Completion Time is reasonable to perform corrective maintenance on the inoperable containment spray train. The [7] day Completion Time is based on the findings of the deterministic and probabilistic analysis in Reference 5. Reference 5 concluded that extending the Completion Time to [7] days for an inoperable containment spray train improves [proves] plant operational flexibility while simultaneously reducing overall plant risk. This is because the risks incurred by having the containment spray train unavailable for a longer time at power will be substantially offset by the benefits associated with avoiding unnecessary plant transitions and by reducing risk during plant shutdown operations. (2) (2) (2) (2) (1)

B.1 and B.2

If the inoperable containment spray train cannot be restored to OPERABLE status within the required Completion Time, the plant must be 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 84 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. The extended interval to reach MODE 5 allows additional time to attempt restoration of the containment spray train and is reasonable when considering the driving force for a release of radioactive material from the Reactor Coolant System is reduced in MODE 3.

C.1

With one of the required containment air cooling trains inoperable, the inoperable containment air cooling train must be restored to OPERABLE status within 7 days. The remaining OPERABLE containment spray and air cooling trains [components] in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 7 day Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Air Cooling System and the low probability of a DBA occurring during this period. (1) (1) (3) (1)

BASES

ACTIONS (continued)

D.1 and D.2

either one containment spray train or (3)

With one containment spray and one [required] containment air cooling train inoperable, one of the required containment air cooling trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Air Cooling System, the iodine removal function of the Containment Spray System, and the low probability of a DBA occurring during this period. (2) (1) (1)

remaining OPERABLE containment spray and air cooling trains (1) (3)

E.1

With two of the required containment air cooling trains inoperable, one of the required containment air cooling trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition (both containment spray trains are OPERABLE or else Condition G is entered) provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Air Cooling System and the low probability of a DBA occurring during this period. (1) (1) (3) (1)

remaining OPERABLE containment spray trains

F.1 and F.2

If the Required Actions and associated Completion Times of Condition C, D, or E ~~of this LCO~~ are not met, the plant must be 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. (4)

G.1

With two required containment spray trains or any combination of three or more containment spray and containment air cooling trains inoperable, the unit is in a condition outside the accident analysis. Therefore, LCO 3.0.3 must be entered immediately. (5) (1)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.6.6.1

Verifying the correct alignment for manual, power operated, and automatic valves in the containment spray flow path provides assurance that the proper flow paths will exist for Containment Spray System operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these were verified to be in the correct position prior to locking, sealing, or securing. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This SR does not require any testing or valve manipulation. Rather, it involves verification, through a system walkdown, that those valves outside containment and capable of potentially being mispositioned are in the correct position.

SR 3.6.6.2

Initiating from the control room (if not already operating) and

Operating each [required] containment air cooling train fan unit 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. The 31 day Frequency was developed considering the known reliability of the fan units and controls, the two train redundancy available, and the low probability of a significant degradation of the containment cooling trains occurring between surveillances and has been shown to be acceptable through operating experience. (1) (2)

Move to after SR 3.6.6.4 on Page B 3.6.6-8

SR 3.6.6.3 [5] (5)

Verifying that each [required] containment air cooling train provides a [1150] service essential raw water cooling flow rate of ≥ [1780] gpm to each cooling unit provides assurance that the design flow rate assumed in the safety analyses will be achieved (Ref. 7). The Frequency was developed considering the known reliability of the Cooling Water System, the two train redundancy available, and the low probability of a significant degradation of flow occurring between surveillances. (2) (1) (1) (5)

[3] The 24 month Frequency is based on the need to perform this Surveillance during a plant outage.

SR 3.6.6.4 [3] (5)

Verifying that each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head ensures that spray pump performance has not degraded during the cycle. Flow and differential pressure are normal tests of centrifugal pump performance required by the ASME Code (Ref. 6). Since the Containment Spray System pumps cannot be tested with flow through the

 (1)

BASES

SURVEILLANCE REQUIREMENTS (continued)

spray headers, they are tested on recirculation flow. This test confirms one point on the pump design curve and is indicative of overall performance. Such inservice tests confirm component OPERABILITY, trend performance, and detect incipient failures by indicating abnormal performance. The Frequency of this SR is in accordance with the Inservice Testing Program.

Move SR 3.6.6.5 to here from Page B 3.6.6-7

SR 3.6.6.5 [6] and SR 3.6.6.6 [7] (5)

These SRs require verification that each automatic containment spray valve actuates to its correct position and that each containment spray pump starts upon receipt of an actual or simulated [SFAS] actuation signal. This SR is not required for valves that are locked, sealed, or otherwise secured in position under administrative controls. The [18] [24] month Frequency is based on the need to perform these Surveillances under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillances were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillances when performed at the [18] [24] month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. (2) (2)

SR 3.6.6.7 [4] (5)

This SR requires verification that each [required] containment [air] cooling train actuates [on slow speed] upon receipt of an actual or simulated [SFAS] actuation signal. The [18] month Frequency is based on engineering judgment and has been shown to be acceptable through operating experience. See SR 3.6.6.5 and SR 3.6.6.6, above, for further discussion of the basis for the [18] month Frequency. (2) (1) (1) (2) (5)

SR 3.6.6.8

With the containment spray header isolated and drained of any solution, low pressure air or smoke can be blown through test connections. Performance of this Surveillance demonstrates that each spray nozzle is unobstructed and provides assurance that spray coverage of the containment during an accident is not degraded. Due to the passive nature of the design of the nozzles, a test at [the first refueling and at] 10 year intervals is considered adequate to detect obstruction of the spray nozzles. (5)

BASES

REFERENCES

1. 10 CFR 50, Appendix A, GDC 38, GDC 39, GDC 40, GDC 41, GDC 42, and GDC 43. (1)
   UFSAR, Appendices 3D.1.34, 3D.1.35, 3D.1.36, 3D.1.37, 3D.1.38, and 3D.1.39
2. U FSAR, Section [14.1] 6.2.2 (1) (2)
3. U FSAR, Section [6.3] 6.2 (1) (2)
4. U FSAR, Section [14.2] Figure 6.2-26 (1) (2)
5. BAW-2295-A, Revision 1, Justification for Extension of Allowed Outage Time for Low Pressure Injection and Reactor Building Spray Systems.
6. ASME Code for Operation and Maintenance of Nuclear Power Plants.

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.6 BASES, CONTAINMENT SPRAY AND AIR COOLING SYSTEMS

1. Changes are made (additions, deletions, and/or changes) to the ISTS Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.
2. The brackets have been removed and the proper plant specific information/value has been provided.
3. Changes are made to reflect the Specification.
4. Editorial change made to be consistent with other similar Bases statements.
5. Changes are made to reflect changes made to the Specification.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.6, CONTAINMENT SPRAY AND AIR COOLING SYSTEMS

There are no specific NSHC discussions for this Specification.

ATTACHMENT 7

ITS 3.6.7, TRISODIUM PHOSPHATE DODECAHYDRATE (TSP) STORAGE

Current Technical Specification (CTS) Markup and Discussion of Changes (DOCs)

ITS

A01

ITS 3.6.7

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - $T_{avg} \geq 280°F$

LCO 3.6.7

LIMITING CONDITION FOR OPERATION

3.5.2 Two independent ECCS subsystems shall be OPERABLE with each subsystem comprised of:

a. One OPERABLE high pressure injection (HPI) pump, *

b. One OPERABLE low pressure injection (LPI) pump,

c. One OPERABLE decay heat cooler, and

d. An OPERABLE flow path capable of taking suction from the borated water storage tank (BWST) on a safety injection signal and manually transferring suction to the containment sump during the recirculation phase of operation.

See ITS 3.5.2

APPLICABILITY: MODES 1, 2 and 3 *

See ITS 3.5.2

ACTION:

Add proposed ACTIONS A and B

L01

a. With one HPI train inoperable, restore the inoperable HPI train to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

b. With one LPI train or its associated decay heat cooler inoperable, restore the inoperable equipment to OPERABLE status within 7 days or be in HOT SHUTDOWN within the next 12 hours.

See ITS 3.5.2

c. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.

* *An exception applies to the HPI pumps for the purpose of conducting Restart Test Plan inspection activities. This exception is valid during the ongoing Thirteenth Refueling Outage for entries into MODE 3 from MODE 4. Under this exception, neither HPI train is required to be capable of taking suction from the LPI trains when aligned for containment sump recirculation. The HPI trains will otherwise be OPERABLE. Operation in MODE 1 or MODE 2 while relying upon the provisions of this exception is prohibited.*

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ITS

A01

ITS 3.6.7

Revised by NRC Letter Dated June 6, 1995

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once each REFUELING INTERVAL, or prior to operation after ECCS piping has been drained by verifying that the ECCS piping is full of water by venting the ECCS pump casings and discharge piping high points.

c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment emergency sump and cause restriction of the pump suction during LOCA conditions. This visual inspection shall be performed:

1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and

2. For all areas of containment affected by an entry, at least once daily while work is ongoing and again during the final exit after completion of work (containment closeout) when CONTAINMENT INTEGRITY is established.

See ITS 3.5.2

SR 3.6.7.1 d. At least once each REFUELING INTERVAL by:

1. Verifying that the interlocks:

a) Close DH-11 and DH-12 and deenergize the pressurizer heaters, if either DH-11 or DH-12 is open and a simulated reactor coolant system pressure which is greater than the Allowable Value (<328 psig) is applied. The interlock to close DH-11 and/or DH-12 is not required if the valve is closed and 480 V AC power is disconnected from its motor operators.

See ITS 3.5.2

See ITS 3.4.14

b) Prevent the opening of DH-11 and DH-12 when a simulated or actual reactor coolant system pressure which is greater than the Allowable Value (<328 psig) is applied.

2. a) A visual inspection of the containment emergency sump which verifies that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.

b) Verifying that on a Borated Water Storage Tank (BWST) Low-Low Level interlock trip, with the motor operators for the BWST outlet isolation valves and the containment emergency sump recirculation valves energized, the BWST Outlet Valve HV-DH7A (HV-DH7B) automatically close in ≤75 seconds after the operator manually pushes the control switch to open the Containment Emergency Sump Valve HV-DH9A (HV-DH9B) which should be verified to open in ≤75 seconds.

See ITS 3.5.2

3. Deleted

ITS (A01) ITS 3.6.7

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.6.7.1 — 4. Verifying that a minimum of 290 cubic feet of trisodium phosphate dodecahydrate (TSP) is contained within the TSP storage baskets. [TSP storage baskets contained volume is within limits] (A01)

LCO 3.6.7

5. Deleted

6. Deleted

e. At least once each REFUELING INTERVAL, by

1. Verifying that each automatic valve in the flow path actuates to its correct position on a safety injection test signal.

2. Verifying that each HPI and LPI pump starts automatically upon receipt of a SFAS test signal.

f. Deleted

g. By verifying the correct position of each mechanical position stop for valves DH-14A and DH-14B.

1. Within 4 hours following completion of the opening of the valves to their mechanical position stop or following completion of maintenance on the valve when the LPI system is required to be OPERABLE.

2. At least once each REFUELING INTERVAL.

(See ITS 3.5.2)

ITS

A01

ITS 3.6.7

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - T_{avg} < 280°F

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem comprised of the following shall be OPERABLE:

a. One OPERABLE decay heat (DH) pump,

b. One OPERABLE DH cooler, and

c. An OPERABLE flow path capable of taking suction from the borated water storage tank (BWST) and manually transferring suction to the containment emergency sump during the recirculation phase of operation.

See ITS 3.5.3

APPLICABILITY: MODE 4.

ACTION:

a. With no ECCS subsystem OPERABLE because of the inoperability of the DH pump, the DH cooler or the flow path from the BWST, restore at least one ECCS subsystem to OPERABLE status within one hour or maintain the Reactor Coolant System Tavg less than 280°F by use of alternate heat removal methods.

b. In the event the ECCS is actuated and injects water into the reactor coolant system, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

See ITS 3.5.3

Add proposed ACTIONS A and B — L01

SURVEILLANCE REQUIREMENTS

SR 3.6.7.1, LCO 3.6.7 — 4.5.3 The ECCS subsystems shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.

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DISCUSSION OF CHANGES
ITS 3.6.7, TRISODIUM PHOSPHATE DODECAHYDRATE (TSP) STORAGE

ADMINISTRATIVE CHANGES

A01 In the conversion of the Davis-Besse Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1430, Rev. 3.1, "Standard Technical Specifications-Babcock and Wilcox Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

None

LESS RESTRICTIVE CHANGES

L01 *(Category 3 – Relaxation of Completion Time)* CTS 3.5.2 provides requirements for the ECCS when in MODES 1, 2, and 3. CTS 4.5.2.d.4 requires the TSP storage baskets contain $\geq$ 290 ft^3 of TSP. If this Surveillance is not met, CTS 3.5.2 does not provide any Actions. Thus, CTS LCO 3.0.3 would be required to be entered. CTS LCO 3.0.3 provides 1 hour to initiate action and requires the unit to be placed in HOT STANDBY (MODE 3) within the next 6 hours and HOT SHUTDOWN (MODE 4) within the following 6 hours. CTS 3.5.3 provides requirements for the ECCS when in MODE 4. CTS 4.5.3 requires the ECCS subsystems to be demonstrated OPERABLE per the applicable Surveillance Requirements of CTS 4.5.2. Thus, for the required ECCS subsystems to be OPERABLE in MODE 4, CTS 4.5.2.d.4 must be met. Since there are no Actions provided in CTS 3.5.3 when the TSP baskets are not within the limit of CTS 4.5.2.d.4, CTS LCO 3.0.3 must also be entered. CTS LCO 3.0.3 requires the unit to be placed in COLD SHUTDOWN (MODE 5) within the subsequent 24 hours. ITS 3.6.7 provides the requirements for the TSP baskets. In the ITS, when the TSP storage baskets contain < 290 ft^3 of TSP, ITS 3.6.7 Condition A is entered. ITS 3.6.7 Required Action A.1 provides 72 hours to restore the TSP baskets to $\geq$ 290 ft^3 of TSP. If the required TSP volume is not restored, ITS 3.6.7 ACTION B requires the unit to be shut down to MODE 3 within 6 hours and MODE 5 within 84 hours. This changes the CTS by allowing 72 hours to restore the TSP baskets to within the limits and, if not restored, allows 84 hours for the unit to be placed in MODE 5.

DISCUSSION OF CHANGES
ITS 3.6.7, TRISODIUM PHOSPHATE DODECAHYDRATE (TSP) STORAGE

The purpose of CTS 4.5.2.d.4 is to ensure adequate TSP is in the TSP baskets to assist in reducing the iodine fission product inventory in the containment atmosphere resulting from a design basis loss of coolant accident (LOCA). This change is acceptable because the Required Actions are used to establish remedial measures that must be taken in response to the degraded conditions in order to minimize risk associated with continued operation while providing time to repair inoperable features. The Required Actions are consistent with safe operation under the specified Condition, considering the operability status of the redundant systems of required features, the capacity and capability of remaining features, a reasonable time for repairs or replacement of required features, and the low probability of a DBA occurring during the repair period. During this period of time, at least one train of the Containment Spray System would still be available as specified in LCO 3.6.6 and would remove some iodine from the containment atmosphere in the event of a LOCA. Furthermore, it would be extremely unlikely for no TSP to be in the baskets; thus the pH in the containment emergency sump would still be close to the required limits necessary to retain the removed iodine in solution. This change is designated as less restrictive because less stringent Completion Times are being applied in the ITS than were applied in the CTS.

Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

CTS

All changes are (1) unless otherwise noted

TSP Storage → Spray Additive System
3.6.7

3.6 CONTAINMENT SYSTEMS

3.6.7 Spray Additive System [Trisodium Phosphate Dodecahydrate (TSP) Storage]

4.5.2.d.4, 4.5.3 LCO 3.6.7 The Spray Additive System shall be OPERABLE. [TSP storage baskets shall contain ≥ 290 ft^3 of TSP]

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

ACTIONS

	CONDITION	REQUIRED ACTION	COMPLETION TIME
DOC L01	A. Spray Additive System inoperable. [TSP storage baskets contain < 290 ft^3 of TSP.]	A.1 Restore Spray Additive System to OPERABLE status. [TSP storage baskets to ≥ 290 ft^3 of TSP.]	72 hours
DOC L01	B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 84 hours

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE		FREQUENCY	
	SR 3.6.7.1	Verify each spray additive manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.	31 days	(2)
4.5.2.d.4, 4.5.3	SR 3.6.7.2 [1]	Verify spray additive tank solution volume is ≥ [12,970] gal and ≤ [13,920] gal. [contained] [of TSP in the TSP storage baskets] [within limit]	184 days [24 months]	
	SR 3.6.7.3	Verify spray additive tank [NaOH] solution concentration is ≥ [60,000 ppm] and ≤ [65,000 ppm].	184 days	(2)

CTS

TSP Storage → Spray Additive System (1)
3.6.7

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
SR 3.6.7.4	Verify each spray additive automatic valve in the flow path actuates to the correct position on an actual or simulated actuation signal.	[18] months (2)
SR 3.6.7.5	Verify Spray Additive System flow [rate] from each solution's flow path.	5 years

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.7, TRISODIUM PHOSPHATE DODECAHYDRATE (TSP) STORAGE

1. The manner in which iodine fission product inventory is reduced at Davis-Besse is utilizing trisodium phosphate dodecahydrate in baskets. Therefore, ITS 3.6.7 has been modified based on this design.

2. Deleted Surveillances not relevant to the TSP storage baskets. This is consistent with the Davis-Besse current licensing basis and design.

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Improved Standard Technical Specifications (ISTS) Bases Markup and Justification for Deviations (JFDs)

All changes are (1) unless otherwise noted

TSP Storage → Spray Additive System (2)
B 3.6.7

B 3.6 CONTAINMENT SYSTEMS

B 3.6.7 Spray Additive System ← Trisodium Phosphate Dodecahydrate (TSP) Storage (2)

BASES

BACKGROUND

The Spray Additive System is [TSP storage baskets are] a subsystem of the Containment Spray System that assists in reducing the iodine fission product inventory in the containment atmosphere resulting from a Design Basis Accident (DBA).

The Containment Spray System and Spray Additive System [TSP storage baskets] perform no function during normal operations. In the event of an accident such as a loss of coolant accident (LOCA), however, the Spray Additive System will be automatically actuated upon a high containment pressure signal by the Engineered Safety Features Actuation System. [INSERT 1]

Radioiodine in its various forms is the fission product of primary concern in the evaluation of a DBA. It is absorbed by the spray from the containment atmosphere. To enhance the iodine absorption capacity of the spray, the spray solution is adjusted to an alkaline pH that promotes iodine hydrolysis, in which iodine is converted to nonvolatile forms. Sodium hydroxide (NaOH), because of its stability when exposed to radiation and elevated temperature, is the preferred spray additive.

[INSERT 2] The spray additive tank is designed and located to permit gravity draining into the Containment Spray System. Both Containment Spray System pumps initially take suction from the borated water storage tank (BWST) via two independent flow paths. The spray additive tank has a common header that splits and feeds each of the Containment Spray System suction lines. The system is designed to inject at a rate commensurate with the draining rate of the BWST so that all borated water injected is mixed with NaOH.

The flow rate is proportioned to [TSP storage baskets] provide a spray solution with a pH between [7.2 and 11.0] [7.0 and 8.0 within 4 hours of the start of recirculation] (Ref. 1). This range of alkalinity was established not only to aid in removal of airborne iodine, but also to minimize the corrosion of mechanical system components that would occur if the acidic borated water were not buffered. The pH range also considers the environmental qualification of equipment in containment that may be subjected to the spray. (3)

APPLICABLE SAFETY ANALYSES

The containment Spray Additive System is [TSP storage baskets are] essential to the effective removal of airborne iodine within containment following a DBA.

Following the assumed release of radioactive materials into containment, the containment is assumed to leak at its design value following the accident. The analysis assumes that most of the containment volume is covered by the spray.

(1) **INSERT 1**

the containment emergency sump will flood to a level above the TSP storage baskets. This level of water will dissolve the TSP in the storage baskets and mix with the containment emergency sump water.

(1) **INSERT 2**

The function of the TSP contained in baskets located in the containment normal sump and on the 565 ft elevation of containment adjacent to the normal sump, is to neutralize the acidity of the post-LOCA borated water mixture during containment emergency sump recirculation. The borated water storage tank (BWST) borated water has a nominal pH of approximately 5.0. A pH of 7.0 is assumed for the containment emergency sump for iodine retention and removal post-LOCA by the containment spray system.

All changes are (1) unless otherwise noted

TSP Storage → Spray Additive System (2)

B 3.6.7

BASES

APPLICABLE SAFETY ANALYSES (continued)

The DBA response time assumed for the Spray Additive System is the same as for the Containment Spray System and is discussed in the Bases for LCO 3.6.6, "Containment Spray and Cooling Systems."

The DBA analyses assume that one train of the Containment Spray System/Spray Additive System is inoperable and that the entire spray additive tank volume is added to the remaining Containment Spray System flow path.

In the evaluation of the worst-case LOCA, the safety analysis assumed that an alkaline containment spray effectively reduced the airborne iodine.

Each Containment Spray System suction line is equipped with its own gravity feed from the spray additive tank. Therefore, in the event of a single failure within the Spray Additive System (i.e., suction valve failure), NaOH will still be mixed with the borated water, establishing the alkalinity essential to effective iodine removal.

The [TSP Storage] Spray Additive System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

The [TSP storage baskets are] Spray Additive System is necessary to reduce the release of radioactive material to the environment in the event of a DBA. To be considered OPERABLE, the volume [contained in the TSP storage baskets (≥ 290 ft^3) is] and concentration of the spray additive solution must be sufficient to provide NaOH injection into the spray flow until the Containment Spray System suction path is switched from the BWST to the containment sump and to raise the average spray solution pH to a level conducive to iodine removal. [This volume includes a 40 ft^3 margin. (2)] The average spray solution pH is [≥ 7.0] between [7.2 and 11.0]. This pH range maximizes the effectiveness of the iodine removal mechanism without introducing conditions that may induce caustic stress corrosion cracking of mechanical system components. In addition, it is essential that valves in the Spray Additive System flow paths are properly positioned and that automatic valves are capable of activating to their correct positions.

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment requiring the operation of the [Containment] Spray Additive System. The [TSP storage baskets] Spray Additive System assists in reducing the iodine fission product inventory prior to release to the environment.

In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations in these MODES. Thus, the [TSP storage baskets are] Spray Additive System is not required to be OPERABLE in MODES 5 and 6.

All changes are (1) unless otherwise noted

TSP Storage → Spray Additive System (2)

B 3.6.7

BASES

ACTIONS

A.1

With the containment Spray Additive System inoperable [TSP storage baskets not within the required limit], the system [TSP storage baskets] must be restored to OPERABLE status [within the limit] within 72 hours. The pH adjustment of the Containment Spray System for corrosion protection and iodine removal enhancement is reduced in this Condition. The Containment Spray System would still be available and would remove some iodine from the containment atmosphere in the event of a DBA. The 72 hour Completion Time takes [this] into account the redundant flow path capabilities and [along with] the low probability of the worst-case DBA occurring during this period. (2)

B.1 and B.2

If the Spray Additive System [TSP storage baskets] cannot be restored to OPERABLE status [within the limit] within the required Completion Time, the plant must be 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 84 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. The extended interval to reach MODE 5 allows additional time for restoration of the Spray Additive System [TSP storage baskets] and is reasonable when considering that the driving force for a release of radioactive material from the Reactor Coolant System is reduced in MODE 3. (2)

SURVEILLANCE REQUIREMENTS

SR 3.6.7.1

~~Verifying the correct alignment of spray additive manual, power operated, and automatic valves in the spray additive flow path provides assurance that the system is able to provide additive to the Containment Spray System in the event of a DBA. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves were verified to be in the correct position prior to locking, sealing, or securing. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This SR does not require any testing or valve manipulation. Rather, it involves verification that those valves outside containment capable of potentially being mispositioned are in the correct position.~~ ← INSERT 3 (1)

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(1) **INSERT 3**

To reduce the potential for post-LOCA iodine re-evolution from the water in the containment emergency sump, the containment spray must be an alkaline solution. Since the BWST contents are normally acidic, the TSP storage baskets must provide sufficient volume of TSP to adjust the pH for all water injected. The minimum required volume of TSP is the volume that will achieve a post-LOCA borated water mixture pH of ≥ 7.0, conservatively considering the maximum possible sump water volume and the maximum possible boron concentration. The amount of TSP required is based on the mass of TSP needed to achieve the required pH. However, a required volume is verified by the SR, rather than the mass, since it is not feasible to weigh the entire amount of TSP in containment. The minimum required volume is based on the manufactured density of TSP (53 lb/ft^3). Since TSP can have a tendency to agglomerate from high humidity in the containment, the density may increase and the volume decrease during normal plant operation, however, solubility characteristics are not expected to change. Therefore, considering possible agglomeration and increase in density, verifying the minimum volume of TSP in the storage baskets is conservative with respect to ensuring the capability to achieve the minimum required pH. This SR is performed to verify the availability of sufficient TSP in the TSP storage baskets. A volume of ≥ 290 ft^3 of TSP will produce a pH range between 7.0 and 8.0 within 4 hours and therefore, will create the desired pH level of the containment spray. The 24 month Frequency is based on the low probability of undetected change in the TSP volume occurring during the SR interval (the TSP is contained in storage baskets located in the containment normal sump and on the 565 ft elevation of containment).

TSP Storage → Spray Additive System 2
B 3.6.7

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.7.2

To provide effective iodine removal, the containment spray must be an alkaline solution. Since the BWST contents are normally acidic, the volume of the spray additive tank must provide a sufficient volume of spray additive to adjust pH for all water injected. This SR is performed to verify the availability of sufficient NaOH solution in the Spray Additive System. The 184 day Frequency is based on the low probability of an undetected change in tank volume occurring during the SR interval (the tank is isolated during normal unit operations). Tank level is also indicated and alarmed in the control room, such that there is a high confidence that a substantial change in level would be detected.

SR 3.6.7.3

This SR provides verification of the NaOH concentration in the spray additive tank and is sufficient to ensure that the spray solution being injected into containment is at the correct pH level. The concentration of NaOH in the spray additive tank must be determined by chemical analysis. The 184 day Frequency is sufficient to ensure that the concentration level of NaOH in the spray additive tank remains within the established limits. This is based on the low likelihood of an uncontrolled change in concentration (the tank is normally isolated) and the probability that any substantial variance in tank volume will be detected. 2

SR 3.6.7.4

This SR provides verification that each automatic valve in the Spray Additive System flow path actuates to its correct position. 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.

TSP Storage → Spray Additive System (2)
B 3.6.7

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.7.5

To ensure that the correct pH level is established in the borated water solution provided by the Containment Spray System, the flow [rate] in the Spray Additive System is verified once per 5 years. This SR provides assurance that the correct amount of NaOH will be metered into the flow path upon Containment Spray System initiation. Due to the passive nature of the spray additive flow controls, the 5 year Frequency is sufficient to identify component degradation that may affect flow [rate]. (2)

References U 1. FSAR, Section [6.2]. 9.3.3.2 (4) (1) (3)

JUSTIFICATION FOR DEVIATIONS
ITS 3.6.7 BASES, TRISODIUM PHOSPHATE DODECAHYDRATE (TSP) STORAGE

1. Changes are made (additions, deletions, and/or changes) to the ISTS Bases which reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.
2. Changes are made to reflect changes made to the Specification.
3. The brackets have been removed and the proper plant specific information/value has been provided.
4. Typographical error corrected.

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Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 3.6.7, TRISODIUM PHOSPHATE DODECAHYDRATE (TSP) STORAGE

There are no specific NSHC discussions for this Specification.