



Monticello Nuclear Generating Plant  
2807 W County Road 75  
Monticello, MN 55362

January 25, 2010

L-MT-10-002  
10 CFR 50.90

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

Monticello Nuclear Generating Plant  
Docket 50-263  
Renewed License No. DPR-22

Subject: Monticello Extended Power Uprate: Updates to Enclosures 1, 3, 5 and 7 of L-MT-08-052, and Enclosure 3 of L-MT-09-047, (TAC MD9990)

- References:
- 1) Letter from Northern States Power Company, a Minnesota corporation, a Minnesota corporation (NSPM), d/b/a Xcel Energy to Document Control Desk, "License Amendment Request: Extended Power Uprate (TAC MD9990)," L-MT-08-052, dated November 5, 2008, Accession No. ML083230111.
  - 2) Letter from Northern States Power Company, a Minnesota corporation, a Minnesota corporation (NSPM), d/b/a Xcel Energy to Document Control Desk, "Supplement to Extended Power Uprate License Amendment Request: Revision to Proposed Technical Specification Changes in Response to Staff Comments (TAC No. MD9990)," L-MT-09-047, dated August 31, 2009, Accession No. ML092440171.
  - 3) Letter from Northern States Power Company, a Minnesota corporation, a Minnesota corporation (NSPM), d/b/a Xcel Energy to Document Control Desk, "Monticello Extended Power Uprate: Response to NRC Mechanical and Civil Engineering Review Branch (EMCB) Requests for Additional Information (RAIs) dated March 28, 2009 (TAC MD9990)," L-MT-09-044, dated August 21, 2009, Accession No. ML092390332.

Pursuant to 10 CFR 50.90, the Northern States Power Company, a Minnesota corporation (NSPM), requested in Reference 1 an amendment to the Monticello Nuclear Generating Plant (MNGP) Renewed Operating License (OL) and

ADD  
NRR

Technical Specifications to increase the maximum authorized power level from 1775 megawatts thermal (MWt) to 2004 MWt.

As a result of RAI responses, updated analyses and on going reviews, NSPM determined that for completeness and consistency updates to Enclosures 1, 3, 5 and 7 of Reference 1, and Enclosure 3 of Reference 2 are desirable to clarify information provided in the respective EPU LAR enclosures.

In response to a RAI, (Section 3.2 in Enclosure 1 of Reference 2) NSPM conservatively requested that the TS SR 3.3.1.1.6 "2000 effective full power hours" interval be changed to "1000 megawatt days per ton." This change supersedes the original markup in Enclosure 1 of Reference 1. Thus, to reflect that change, Enclosure 1 of Reference 1 is being updated as shown in the markup of the affected page in Enclosure 1.

Two TS Bases changes are being made. The first change deals with consistently addressing turbine bypass capacity. TS Bases B 3.3.1.1 refers to bypass capacity in terms of "% of the THERMAL POWER," while B 3.7.7 (Main Turbine Bypass System) to bypass capacity in terms of "% ... rated steam flow." For consistency, it was decided that those statements (which refer to the same capability) should read the same. The only measurable and calculated value is steam flow, which is the applicable parameter used in the safety analyses, and thus, "% of rated steam flow" is the more appropriate term to be used in the TS Bases. Therefore, the TS Bases turbine bypass value statements are changed from "THERMAL POWER" to "of rated steam flow," and the latest calculated value (11.5%) supersedes the 11.6% in the original TS Bases markups. In the second change, the peak drywell air temperature limit in B 3.6.1.8 is changed from a generic Mark I containment value (340°F) to the existing Monticello specific value (338°F), as discussed in the PUSAR changes below. The affected TS Bases pages are provided in Enclosure 2 for information.

A new HELB crack location was identified in a recent (i.e., 2009) MNGP calculation. This calculation result supersedes a statement in PUSAR Section 2.2.1, which states "...no new break or crack locations are postulated as a result of EPU". This issue was resolved and tracked using the MNGP Corrective Action Process. Bounding critical cracks in high energy systems are evaluated under the HELB program. The newly identified crack is bounded by an existing mass and energy calculation and an associated HELB calculation. Therefore, no new limiting HELB will exist. To maintain consistency between the PUSAR and the latest calculation, NEDC-33322P and NEDO-33322, Section 2.2.1, "Pipe Rupture Locations and Associated Dynamic Effects" are being clarified, as shown in the marked-ups in Enclosure 3. The above sentence is now to state that "...no new limiting break or crack locations are postulated as a result of EPU."

The drywell temperature used in design (e.g., environmental qualification) evaluations is 338°F, which is consistent with the calculated peak drywell temperature from the EPU containment performance analysis. This value is the

design "limit" for MNGP. However, the PUSAR was generated assuming that a generic Mark I containment value of 340°F (shown in PUSAR Table 2.6-1) would be used as the design limit. Thus, for consistency, PUSAR Table 2.6-1 is being updated to show the plant-specific 338°F value. This change is consistent with Task Report T1004 Rev. 1, Section 3.3.1 (Key Inputs) Item 2, provided in Enclosure 17 of L-MT-08-052 (Reference 1). In addition, the peak bulk suppression pool temperature limit of 208°F in PUSAR Table 2.6-1 is superseded by the value (212°F) provided in the responses to RAIs EMCB 13 and EMCB 15 from Reference 3. Therefore, markups of NEDC-33322P and NEDO-33322, Table 2.6-1 (originally submitted in Enclosures 5 and 7 of Reference 1) are also provided in Enclosure 3.

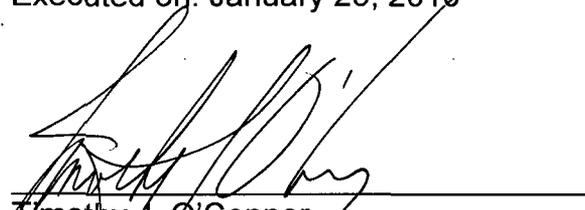
A review of Enclosure 3 of Reference 2 found an editorial omission. The word "inoperable" had mistakenly been crossed out in the markup of TS 3.5.1, (current) Condition M. This did not change the intent of the TS, but did make it read poorly, and thus, an update to the affected TS page is provided in Enclosure 4.

#### Summary of Commitments

This letter makes no new commitments and no revisions to existing commitments.

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

Executed on: January 25, 2010



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Timothy J. O'Connor  
Site Vice-President  
Monticello Nuclear Generating Plant  
Northern States Power Company-Minnesota

Enclosures (4)

cc: Administrator, Region III, USNRC  
Project Manager, Monticello Nuclear Generating Plant, USNRC  
Resident Inspector, Monticello Nuclear Generating Plant, USNRC  
Minnesota Department of Commerce

**ENCLOSURE 1**

**MARKUP UPDATING ENCLOSURE 1 OF L-MT-08-052**

**Page 6**

ENCLOSURE 1

EVALUATION OF PROPOSED CHANGES

<p align="center"><b>Table 1</b>  <b>Monticello Proposed</b>  <b>Operating License and Technical</b>  <b>Specification Changes</b></p>		
<b>TS Section</b>	<b>Description of Change</b>	<b>Basis for Change</b>
3.3.1.1, RPS Instrumentation, Required Action E.1	Revises the value for the Required Action from 45 percent RTP to 40 percent RTP.	Revises the value for the Limit to maintain the value approximately unchanged in thermal power. At current licensed thermal power (CLTP), 45 percent RTP = 798.8 MWt. At EPU 801.6 MWt = 40 percent RTP. Use of 40 percent RTP is slightly less conservative but supported by analysis. See Enclosure 5, Section 2.4.1.3. At CLTP the SR verifies that the functions are not bypassed when power is > 798.8 MWt. At EPU the SR verifies that the functions are not bypassed when power is > 801.6 MWt.
3.3.1.1, RPS Instrumentation SR 3.3.1.1.6	<p>Revise the Frequency from 2000 effective full power hours to <del>1770 effective full power hours</del></p> <p align="center">↑  <i>1000 MWD/t average core exposure</i></p>	<p>Revises the value for the Frequency to maintain the value approximately unchanged in fluence between performances. (2000 effective full power hours (EFPH) X 1,775 MWt / 2,004 MWt = 1771.5 EFPH)</p> <p align="center">↑</p>

Source: From the RAI Section 3.2 response in letter L-MT-09-047.

based on the 1000 MWD/t frequency in the BWR 4 Standard Technical Specifications in NUREG-1433

**ENCLOSURE 2**

**TS BASES MARKUP UPDATING ENCLOSURE 3 OF L-MT-08-052**

**TS Bases pages**

**B 3.3.1.1-18,**

**B 3.3.1.1-19,**

**B 3.3.1.1-32,**

**B 3.6.1.8-1,**

**B 3.7.7-1**

**(FOR INFORMATION ONLY)**

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

The Allowable Value refers to the volume of water in the discharge volume receiver tank and does not include the volume in the lines to the levels switches.

Four channels of each type of Scram Discharge Volume Water Level – High Function, with two channels of each type in each trip system, are required to be OPERABLE to ensure that no single instrument failure will preclude a scram from these Functions on a valid signal. These Functions are required in MODES 1 and 2, and in MODE 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies, since these are the MODES and other specified conditions when control rods are withdrawn. At all other times, this Function may be bypassed.

8. Turbine Stop Valve – Closure

Closure of the TSVs results in the loss of a heat sink that produces reactor pressure, neutron flux, and heat flux transients that must be limited. Therefore, a reactor scram is initiated at the start of TSV closure in anticipation of the transients that would result from the closure of these valves. The Turbine Stop Valve – Closure Function is the primary scram signal for the turbine trip event analyzed in Reference 14. For this event, the reactor scram reduces the amount of energy required to be absorbed and ensures that the MCPR SL is not exceeded.

Turbine Stop Valve – Closure signals are initiated from position switches located on each of the four TSVs. One position switch and two independent contacts are associated with each stop valve. One of the two contacts provides input to RPS trip system A; the other, to RPS trip system B. Thus, each RPS trip system receives an input from four Turbine Stop Valve – Closure channels, each consisting of one position switch. The logic for the Turbine Stop Valve – Closure Function is such that three or more TSVs must be closed to produce a scram. This Function must be enabled at THERMAL POWER > 45% RTP. This is normally accomplished automatically by pressure switches sensing turbine first stage pressure. The pressure switches are normally adjusted lower (30% RTP) to account for the turbine bypass valves being opened, such that 11% of the THERMAL POWER is being passed directly to the condenser.

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26.6

11.5% of rated steam flow

The Turbine Stop Valve – Closure Allowable Value is selected to be high enough to detect imminent TSV closure, thereby reducing the severity of the subsequent pressure transient.

Eight channels of Turbine Stop Valve – Closure Function, with four channels in each trip system, are required to be OPERABLE to ensure

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

that no single instrument failure will preclude a scram from this Function even if one TSV should fail to close. This Function is required, consistent with analysis assumptions, whenever THERMAL POWER is  $> 45\%$  RTP. This Function is not required when THERMAL POWER is  $\leq 43\%$  RTP since the Reactor Vessel Steam Dome Pressure – High and the Average Power Range Monitor Neutron Flux – High Functions are adequate to maintain the necessary safety margins.

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9. Turbine Control Valve Fast Closure, Acceleration Relay Oil Pressure – Low

Fast closure of the TCVs results in the loss of a heat sink that produces reactor pressure, neutron flux, and heat flux transients that must be limited. Therefore, a reactor scram is initiated on TCV fast closure in anticipation of the transients that would result from the closure of these valves. The Turbine Control Valve Fast Closure, Acceleration Relay Oil Pressure – Low Function is the primary scram signal for the generator load rejection event analyzed in Reference 15. For this event, the reactor scram reduces the amount of energy required to be absorbed and ensures that the MCPR SL is not exceeded.

Turbine Control Valve Fast Closure, Acceleration Relay Oil Pressure – Low signals are initiated by loss of oil pressure at the acceleration relay. Two pressure switches are mounted on one pressure tap while two other pressure switches are mounted at a distance on another pressure tap. The pressure switches associated with one pressure tap are assigned to different RPS trip systems. This Function must be enabled at THERMAL POWER  $> 45\%$  RTP. This is normally accomplished automatically by pressure switches sensing turbine first stage pressure. The pressure switches are normally adjusted lower ( $38\%$  RTP) to account for the turbine bypass valves being opened, such that  $14\%$  of the THERMAL POWER is being passed directly to the condenser.

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26.6

11.5% of rated steam flow

The Turbine Control Valve Fast Closure, Acceleration Relay Oil Pressure – Low Allowable Value is selected high enough to detect imminent TCV fast closure.

Four channels of Turbine Control Valve Fast Closure, Acceleration Relay Oil Pressure – Low Function with two channels in each trip system arranged in a one-out-of-two logic are required to be OPERABLE to ensure that no single instrument failure will preclude a scram from this Function on a valid signal. This Function is required, consistent with the analysis assumptions, whenever THERMAL POWER is  $> 45\%$  RTP. This Function is not required when THERMAL POWER is  $\leq 43\%$  RTP, since the Reactor Vessel Steam Dome Pressure – High and the Average Power Range Monitor Neutron Flux – High Functions are adequate to maintain the necessary safety margins.

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BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.1.1.13

This SR ensures that scrams initiated from the Turbine Stop Valve - Closure and Turbine Control Valve Fast Closure, Acceleration Relay Oil Pressure - Low Functions will not be inadvertently bypassed when THERMAL POWER is > ~~45%~~ RTP. This involves calibration of the bypass channels. Adequate margins for the instrument setpoint methodologies are incorporated into the actual setpoint. Because main turbine bypass flow can affect this setpoint nonconservatively (THERMAL POWER is derived from turbine first stage pressure), the main turbine bypass valves must remain closed during in-service calibration at THERMAL POWER > ~~45%~~ RTP, if performing the calibration using actual turbine first stage pressure, to ensure that the calibration is valid. The pressure switches are normally adjusted lower (~~30%~~ RTP) to account for the turbine bypass valves being opened, such that ~~14%~~ of the THERMAL POWER is being passed directly to the condenser.

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26.6

11.5% of rated steam flow

If any bypass channels setpoint is nonconservative (i.e., the Functions are bypassed at > ~~45%~~ RTP, either due to open main turbine bypass valve(s) or other reasons), then the affected Turbine Stop Valve - Closure and Turbine Control Valve Fast Closure, Acceleration Relay Oil Pressure - Low Functions are considered inoperable. Alternatively, the bypass channel can be placed in the conservative condition (nonbypass). If placed in the nonbypass condition, this SR is met and the channel is considered OPERABLE.

The Frequency of 24 months is based on engineering judgment and reliability of the components.

SR 3.3.1.1.14

This SR ensures that the individual channel response times are less than or equal to the maximum values assumed in the accident analysis. RPS RESPONSE TIME may be verified by actual response time measurements in any series of sequential, overlapping, or total channel measurements.

The RPS RESPONSE TIME acceptance criterion is 50 milliseconds.

RPS RESPONSE TIME for the APRM 2-Out-Of-4 Voter Function (Function 2.e), includes the output relays of the voter and the associated RPS relays and contactors. (The digital portion of the APRM and 2-out-of-4 voter channels are excluded from RPS RESPONSE TIME testing because self-testing and calibration checks the time base of the digital electronics. Confirmation of the time base is adequate to assure

## B 3.6 CONTAINMENT SYSTEMS

### B 3.6.1.8 Residual Heat Removal (RHR) Drywell Spray

#### BASES

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##### BACKGROUND

Following a Design Basis Accident (DBA), the RHR Drywell Spray System condenses any steam that may exist in the drywell thereby lowering drywell pressure and temperature. The RHR Drywell Spray mode of operation is not credited in the DBA loss of coolant accident (LOCA), however it is credited for the evaluation of steam line breaks inside the drywell. For these events, the RHR Drywell Spray System will ensure that the drywell air temperature is within the peak drywell air temperature limit of ~~333~~ 338°F specified for the drywell temperature envelope for equipment qualification and will also ensure that the drywell wall temperature is within the design limit of 281°F. This function is provided by two redundant RHR drywell spray subsystems. The purpose of this LCO is to ensure that both subsystems are OPERABLE in applicable MODES.

338

Each of the two RHR drywell spray subsystems contains two pumps and one heat exchanger, which are manually initiated and independently controlled. The two subsystems perform the drywell spray function by circulating water from the suppression pool through the RHR heat exchangers and returning most of it to the associated drywell spray header. RHR service water, circulating through the tube side of the heat exchangers, exchanges heat with the suppression pool water and discharges this heat to the ultimate heat sink. Either RHR drywell spray subsystem is sufficient to condense the steam that may exist in the drywell during the postulated DBA.

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##### APPLICABLE SAFETY ANALYSES

Reference 1 contains the results of analyses used to predict drywell temperature following various sizes of steam line breaks. The intent of the analyses is to demonstrate that the temperature reduction capacity of the RHR Drywell Spray System is adequate to maintain the primary containment conditions within design limits. The time history for primary containment temperature is calculated to demonstrate that the maximum temperature remains below the design limit.

The RHR Drywell Pool System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

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##### LCO

In the event of a DBA, a minimum of one RHR drywell spray subsystem is required to mitigate the consequences of steam line breaks in the drywell and maintain the primary containment peak temperature below the design limits (Ref. 1). To ensure that these requirements are met, two RHR drywell spray subsystems must be OPERABLE with power from two

B 3.7 PLANT SYSTEMS

B 3.7.7 Main Turbine Bypass System

BASES

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BACKGROUND

The Main Turbine Bypass System is designed to control steam pressure when reactor steam generation exceeds turbine requirements during unit startup, sudden load reduction, and cooldown. It allows excess steam flow from the reactor to the condenser without going through the turbine. The bypass capacity of the system is 14% of the Nuclear Steam Supply System rated steam flow. Sudden load reductions within the capacity of the steam bypass can be accommodated without reactor scram. The Main Turbine Bypass System consists of two valves connected to the main steam lines between the main steam isolation valves and the turbine stop valve bypass valve chest. Each of the two valves is operated by hydraulic cylinders. The bypass valves are controlled by the pressure regulation function of the Turbine Electrical Pressure Regulator or the Mechanical Pressure Regulator, as discussed in the USAR, Section 7.7.2.2 (Ref. 1). The bypass valves are normally closed, and the pressure regulator controls the turbine control valves that direct all steam flow to the turbine. If the speed governor or the load limiter restricts steam flow to the turbine, the pressure regulator controls the system pressure by opening the bypass valves. When the bypass valves open, the steam flows from the bypass chest, through connecting piping, to the pressure reducer assemblies, where the steam pressure is reduced before the steam enters the condenser.

11.5

APPLICABLE  
SAFETY  
ANALYSES

The Main Turbine Bypass System is assumed to function during the feedwater controller failure (maximum demand) and pneumatic system degradation, turbine trip with bypass - reduced scram speeds transients, as discussed in the USAR, Sections 14.4.4 and 14A.4 (Refs. 2 and 3), respectively. Opening the bypass valves during the pressurization event mitigates the increase in reactor vessel pressure, which affects the MCPR during the event.

The Main Turbine Bypass System satisfies Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

The Main Turbine Bypass System is required to be OPERABLE to limit peak pressure in the main steam lines and maintain reactor pressure within acceptable limits during events that cause rapid pressurization, so that the Safety Limit MCPR is not exceeded. An OPERABLE Main Turbine Bypass System requires the bypass valves to open in response to increasing main steam line pressure. This response is within the assumptions of the applicable analyses (Refs. 2 and 3).

**ENCLOSURE 3**

**MARKUP UPDATING ENCLOSURES 5 and 7 OF L-MT-08-052,  
NEDC-33322P, Rev. 3 and NEDO-33322, Rev. 3, SAFETY  
ANALYSIS REPORT FOR MONTICELLO CONSTANT PRESSURE  
POWER UPRATE**

**(This enclosure does not provide any proprietary information as  
noted on each applicable page.)**

**NEDC-33322P, Rev. 3  
SECTION 2.2.1, page 2-21  
TABLE 2.6-1, page 2-189**

**NEDO-33322, Rev. 3  
SECTION 2.2.1, page 2-21  
TABLE 2.6-1, page 2-189**

### **Technical Evaluation**

No changes to the implementation of the existing criteria for defining pipe break and crack locations and configurations are being made for EPU and no new break or crack locations are postulated as a result of EPU.

limiting

No changes to the implementation of the existing criteria dealing with special features, such as augmented in-service inspection programs or the use of special protective devices such as pipe-whip restraints are being made for EPU.

Pipe-whip analyses results are provided in Section 2.2.2

The adequacies of supports relative to pipe whip and jet impingement loads are provided in Section 2.2.2.

### **High Energy Line Breaks (HELB)**

EPU has no effect on the steam pressure or enthalpy at the postulated break locations. Therefore, EPU has no effect on the mass and energy releases from an HELB in a steam line. Therefore, no plant specific evaluation is required for steam line breaks. The results of the Monticello evaluation of liquid line breaks are provided in Table 2.2-1.

### **Changes in Methods of Analysis**

The results provided for HELB events affected by EPU, specifically, the liquid line breaks in the Feedwater, Condensate, and RWCU systems show much larger changes than would be expected due to the small changes in pump discharge pressures and small enthalpy changes as a result of EPU. The results are driven by conservative changes in analysis methods resulting from corrective actions underway to perform HELB analysis upgrades at Monticello.

### **Comparison of results from CLTP to EPU conditions**

Because of these changes in methodology, a comparison of the results between EPU and CLTP conditions shows a significantly larger change than would normally be expected based on the small changes in process fluid temperatures and enthalpy resulting from EPU based on previous industry experience.

Monticello has chosen not to perform a full re-analysis of these specific liquid line HELBs at CLTP conditions because it was determined that our effort should be focused on completing the corrective actions using bounding conditions. Thus, a detailed breakdown of the magnitude of the change is caused by EPU versus the change resulting from the changes in methods and correction of errors is not provided. A review of the results from several recent EPU submittals concluded that, in most cases, environmental conditions are bounded by previous analyses, confirming that EPU produces relatively minor effects.

Note: This page contains  
 no proprietary  
 information.

Table 2.6-1 Containment Performance Results

Parameter	CLTP from USAR	CLTP with EPU Method <sup>1</sup>	EPU	Limit
Peak Drywell Pressure (psig)	39.5	43.4	44.1 <sup>2</sup>	56 <sup>3</sup>
Peak Drywell Temperature (°F)	335	336	338 <sup>2</sup>	340 <sup>4</sup> ← 338
Peak Drywell Wall Temperature (°F)	273 <sup>5</sup>	277 <sup>5</sup>	278 <sup>5</sup>	281
Peak Bulk Suppression Pool Temperature (°F)	194.2	193 <sup>6</sup>	203 / 207 <sup>7</sup>	208 <sup>8</sup> ← 212
Peak Wetwell Pressure (psig)	31.2	31.3	32.7	56 <sup>3</sup>

Notes:

1. The EPU Method, which was used for the EPU analysis, uses the EPU RTP analysis method with CLTP inputs. The EPU Method includes a more bounding initial containment pressure of 3.0 psig as compared with the CLTP of the USAR, which assumed an initial containment pressure of 2.0 psig. The EPU method also assumes the initial reactor power is at 102% of the RTP.
2. Includes an increase in the assumed initial containment pressure from 2.0 psig of the method of the USAR analysis to 3.0 psig for the EPU Method.
3. The design pressure for the drywell and wetwell is 56 psig. Maximum internal pressure is 62 psig, as shown in USAR Table 5.2-1.
4. Limit for the drywell environmental temperature is increased for EPU from 335°F shown in USAR Table 5.2-8 to 340°F. ← 338
5. Calculated assuming a 0.50 sqft steam break into the drywell with UCHIDA condensing heat transfer to the drywell wall to the saturation temperature at the drywell pressure, and initiation of drywell sprays at 10 minutes.
6. Reduction in peak bulk pool temperature from 194.2°F shown in USAR Table 5.2-4- to 193°F shown above for CLTP with EPU Method is primarily due to use of a K-value that increases with increasing hot inlet water temperature.
7. The first value is the peak suppression pool temperature for the DBA LOCA with direct suppression pool cooling, 90°F service water temperature, and an RHR heat exchanger K-value that increases with increasing hot inlet water temperature. The second number is the peak suppression pool temperature for the same DBA LOCA and 90°F service water temperature, but with containment cooling using containment sprays and a constant K-value of 147 BTU/sec°F, used for NPSH evaluation.
8. The limit for peak bulk pool temperature, determined as the design temperature for the torus-attached piping, is increased for EPU from 196.7°F (Reference 19) to 208°F. ← 212

### **Technical Evaluation**

No changes to the implementation of the existing criteria for defining pipe break and crack locations and configurations are being made for EPU and no new break or crack locations are postulated as a result of EPU.

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Monticello has chosen not to perform a full re-analysis of these specific liquid line HELBs at CLTP conditions because it was determined that our effort should be focused on completing the corrective actions using bounding conditions. Thus, a detailed breakdown of the magnitude of the change is caused by EPU versus the change resulting from the changes in methods and correction of errors is not provided. A review of the results from several recent EPU submittals concluded that, in most cases, environmental conditions are bounded by previous analyses, confirming that EPU produces relatively minor effects.

**Table 2.6-1 Containment Performance Results**

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Peak Wetwell Pressure (psig)	31.2	31.3	32.7	56 <sup>3</sup>

Notes:

1. The EPU Method, which was used for the EPU analysis, uses the EPU RTP analysis method with CLTP inputs. The EPU Method includes a more bounding initial containment pressure of 3.0 psig as compared with the CLTP of the USAR, which assumed an initial containment pressure of 2.0 psig. The EPU method also assumes the initial reactor power is at 102% of the RTP.
2. Includes an increase in the assumed initial containment pressure from 2.0 psig of the method of the USAR analysis to 3.0 psig for the EPU Method.
3. The design pressure for the drywell and wetwell is 56 psig. Maximum internal pressure is 62 psig, as shown in USAR Table 5.2-1.
4. Limit for the drywell environmental temperature is increased for EPU from 335°F shown in USAR Table 5.2-8 to 340°F. (338)
5. Calculated assuming a 0.50 sqft steam break into the drywell with UCHIDA condensing heat transfer to the drywell wall to the saturation temperature at the drywell pressure, and initiation of drywell sprays at 10 minutes.
6. Reduction in peak bulk pool temperature from 194.2°F shown in USAR Table 5.2-4- to 193°F shown above for CLTP with EPU Method is primarily due to use of a K-value that increases with increasing hot inlet water temperature.
7. The first value is the peak suppression pool temperature for the DBA LOCA with direct suppression pool cooling, 90°F service water temperature, and an RHR heat exchanger K-value that increases with increasing hot inlet water temperature. The second number is the peak suppression pool temperature for the same DBA LOCA and 90°F service water temperature, but with containment cooling using containment sprays and a constant K-value of 147 BTU/sec°F, used for NPSH evaluation.
8. The limit for peak bulk pool temperature, determined as the design temperature for the torus-attached piping, is increased for EPU from 196.7°F (Reference 19) to 208°F. (212)

**ENCLOSURE 4**

**TS MARKUP UPDATING TO ENCLOSURE 3 OF L-MT-09-047**

**TS page 3.5.1-4**

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p><del>#</del> Required Action and associated Completion Time of Condition J, K, L, <del>or M</del> not met. <i>(M)</i> <i>OR</i></p> <p><u>OR</u></p> <p>Two or more ADS valves inoperable.</p> <p><u>OR</u></p> <p>HPCI System <del>or one or more ADS valves</del> inoperable and Condition D, E, F, or H entered.</p>	<p><del>#.1</del> Be in MODE 3. <i>(M)</i></p> <p><u>AND</u></p> <p><del>#.2</del> Reduce reactor steam dome pressure to <math>\leq 150</math> psig.</p> <p><u>OR</u></p> <p><i>One ADS valve inoperable and Condition A, B, C, D or H entered.</i></p>	<p>12 hours</p> <p>36 hours</p>
<p><del>#</del> Two or more low pressure ECCS injection/spray subsystems inoperable for reasons other than Condition C, D, E, F, or H. <i>(N)</i></p> <p><u>OR</u></p> <p>HPCI System and one or more ADS valves inoperable.</p>	<p><del>#.1</del> Enter LCO 3.0.3. <i>(N)</i></p>	<p>Immediately</p>

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