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L-MT-16-057  
10 CFR 50.54(q)(5)  
10 CFR 72.44(f)

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

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

Change to the Monticello Nuclear Generating Plant (MNGP) Emergency Plan

Pursuant to 10 CFR 50.54(q)(5) and 10 CFR 72.44(f), Northern States Power Company, a Minnesota corporation, doing business as Xcel Energy, submits a summary of changes to a MNGP Emergency Plan Implementing Procedure (EPIP) as Enclosure 1. The new revision to the EPIP is provided in Enclosure 2. The EPIP changes have been reviewed and do not result in a reduction in the effectiveness of the Emergency Plan.

Summary of Commitments

There are no new commitments and no revisions to existing commitments in this letter.

A handwritten signature in black ink, appearing to read 'Peter A. Gardner', is written over a horizontal line.

Peter A. Gardner  
Site Vice President, Monticello Nuclear Generating Plant  
Northern States Power Company – Minnesota

Enclosures (2)

cc: Emergency Response Coordinator, Region III, USNRC (with Enclosures)  
Resident Inspector, MNGP, USNRC (with Enclosure 1)  
Administrator, Region III, USNRC (w/o Enclosures)  
Chief, Plant Support Branch, Division of Reactor Safety, Region III, USNRC  
(with Enclosure 1)  
Director, Division of Spent Fuel Management, Office of Nuclear Material Safety and  
Safeguards (with Enclosure 1)

## ENCLOSURE 1

### Monticello Nuclear Generating Plant Summary of Changes – 10 CFR 50.54(q)(5)

#### **Description (Executive Summary)**

A.2-405 (Release Rate Determinations) is being revised as described below:

##### **Change (1)**

Step 6.1.3 (which became 6.1.2 per the below Change 2), 6.2.2, 6.5.1 and 6.5.2 were revised to eliminate an outdated method of obtaining release rate by taking readings out in the field, or from a functional radiation monitor, and using calculations to obtain a uCi/sec value. The steps were updated to obtain a release rate by taking readings out in the field, or from a functional radiation monitor, and inputting them into the current Dose Assessment software, Unified RASCAL Interface (URI).

This is an aligning change that's necessary based on the implementation of URI that occurred in 2014. URI is Monticello Nuclear Generating Plant's (MNGP) current dose projection software in use to meet the requirement to have methods, systems and equipment for assessment of radioactive releases. The implementation of URI was evaluated as a change to the Emergency Plan per 10CFR 50.54(q) in 2014. However, the previous evaluation did not include this particular change to the A.2-405 Emergency Plan Implementing Procedure; Therefore, it will be evaluated further as a change to the emergency plan under this evaluation.

##### **Change (2)**

Reordered steps 6.1.2 and 6.1.3 to allow for more effective flow of actions while determining Reactor Building Vent (RBV) Release Rate. Step 6.1.3 is a conditional step that is more efficient to perform before considering step 6.1.2, which is also a conditional step. This change is editorial in nature and there is no change of intent. Therefore, it does not require further review.

##### **Change (3)**

Deleted Figures 7.1 (RBV Exhaust Conversion Factor Table) and 7.2 (Stack Exhaust Conversion Factor Table) and the explanation of how the conversion factor in steps 6.5.1 and 6.5.2 were derived, within section 4.0. These conversion tables and explanation are no longer needed, based on the above removal of the outdated calculations in steps 6.1.3 (which became 6.1.2 per Change 1), 6.2.2, 6.5.1 and 6.5.2. This change is editorial in nature and there is no change of intent. Therefore, it does not require further review.

##### **Change (1)**

##### **Description:**

A change that occurred in 2014 updated the site's dose assessment software to URI. The implementation of URI was evaluated under 10CFR 50.54(q) evaluation number MT-2014-212 and was determined to be an improved method of obtaining assessment data IAW the existing dose assessment requirements and capabilities contained in the MNGP Emergency Plan.

As part of this change, however, A.2-405 should have been updated to reflect the different input values that URI requires. A dose assessment software that was used prior to URI (Midas) required a release rate value in uCi/sec in order to provide a dose assessment. Therefore, A.2-405 was written to provide the user with manual calculations (if rad monitors are non-functional) that would yield a uCi/sec release rate value from manually obtained dose rate readings for input into Midas. The current URI software only requires a contact

dose rate value of mrem/hr or rem/hr (if rad monitors are non-functional) as input to calculate the dose assessment. It's no longer necessary to convert the reading into a uCi/sec value using flow rate, etc. In addition, URI includes the release rate as part of the dose assessment, for use if needed.

**Doc ID or (Procedure Number) / Revision Number:** A.2-405 / 15

**Document Title:** Release Rate Determinations

**Licensing/Basis Affected:**

- 10 CFR 50.47
- 10 CFR Appendix E to Part 50
- Implementation of URI complies with the commitments made to the NRC in letters L-MT-13-052 and L-XE-13-014 for having multi-source dose assessment capability.

### **Evaluation Determination**

#### **Regulatory Compliance Basis:**

This change aligns with the previous implementation URI back in 2014, evaluated under 10CFR 50.54(q) evaluation MT-2014-212. The new program made the release rate calculations contained in A.2-405 obsolete, based on the input values needed to enter into URI in order to run a dose assessment. This change supports the requirements of 10CFR 50.47(b)(9) which continue to be met.

#### **Emergency Plan Effectiveness Basis:**

The revised version of A.2-405 will correct inaccurate calculations that currently exist in the procedure, which has rendered it unable to be performed as written. The change will incorporate URI as a method of determining release rate, as needed, and provide a more efficient means to obtain a dose assessment from a contact reading, if radiation monitors are non-functional. No reduction in effectiveness of the site's Emergency Plan results from this change.

**ENCLOSURE 2**

**Monticello Nuclear Generating Plant  
A.2-405, Release Rate Determinations, Revision 15**

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Approval: PCR 01523921

#### **REFERENCE USE**

- Procedure should be at the work location.
- Procedure segments may be performed from memory.
- Use the procedure to verify segments have been completed.
- Mark off steps within the segment before continuing.

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## 1.0 PURPOSE

The purpose of this procedure is to provide guidance and criteria for making release rate determinations for accidental releases from Monticello Nuclear Generating Plant.

## 2.0 APPLICABILITY

2.1 An unplanned release of radioactivity has occurred.

2.2 The REC/CSL has requested a determination of the release rate.

## 3.0 ORGANIZATION AND RESPONSIBILITIES

3.1 The Radiological Emergency Coordinator (REC) is responsible for:

3.1.1 Overall direction of the Radiation Protection and Chemistry Group activities.

3.1.2 Release rate determination IAW this procedure in the absence of the Chemistry Section Leader.

3.2 The Chemistry Section Leader (CSL) is responsible for:

3.2.1 Implementation of this procedure, including release rate determination(s) as required by the REC.

3.2.2 Coordination of chemistry group activities.

3.3 The Radiation Protection Technicians (Rad Prot Tech) are responsible for:

3.3.1 Radiation surveys or sampling IAW applicable procedures to assist in release rate determinations.

## 4.0 DISCUSSION

This procedure is used in the event that the monitors are not available or operable, providing direction for obtaining representative samples.

## 5.0 PRECAUTIONS

5.1 Exposures of sampling and analysis personnel **SHALL** be in accordance with A.2-401 (EMERGENCY EXPOSURE CONTROL).

5.2 Exposures to all personnel due to sampling and analysis operations should be maintained as low as reasonably achievable. Techniques such as temporary shielding, remote handling and sample dilution prior to analysis should be considered to reduce exposure to personnel.

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- 5.3 When actual or potential radiation levels so warrant, high range portable survey instruments and self-reading dosimeters should be provided to sampling personnel. Alarming dosimeters should also be considered.
- 5.4 Appropriate extremity dosimeters should be provided and worn when handling samples which themselves represent high level radiation sources.
- 5.5 Two-person teams should be used when possible.

## **6.0 INSTRUCTIONS**

### **6.1 Determining RBV Release Rate**

- 6.1.1 IF the RBV effluent monitors are operable,  
THEN read RBV effluent monitor release rate in the Control Room (Panel C-257 and C-258),  
OR read data from SPDS System,  
OR read data from Data Acquisition System.
- 6.1.2 IF the RBV effluent monitors are inoperable,  
THEN:
  - A. Direct a Rad Prot Spec to take a direct dose rate reading from the outside of the plenum ducts on the north side of the Reactor Building. This is accomplished by:
    - 1. Obtain an extended probe dose rate meter from Access Control.
    - 2. Proceed to the roof of the Turbine Building via the Admin Building north staircase to the Admin Building roof, up the ladder on the east side of the Turbine Building.
    - 3. Take a contact radiation reading on the enclosed ductwork on the north side of the Reactor Building.
    - 4. Take three dose rate readings, on the east, middle, and west sides of the enclosure.
    - 5. Use the highest dose rate reading.
  - B. Using the dose reading obtained above direct a Dose Projection Specialist to implement FP-EDCM-DP-01 (OFFSITE DOSE ASSESSMENT USING THE UNIFIED RASCAL INTERFACE) from the Emergency Dose Calculation Manual.



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6.1.3 IF the RBV activity exceeds 10  $\mu\text{Ci/cc}$  at any time during a release, THEN consider a manual purge of the RBV WRGM units when the activity decreases below 9  $\mu\text{Ci/cc}$ :

- A. Set SUPV mode with key 64.
- B. Set MI-009 to 0001 (MON-0-0-9-ITEM-0-0-0-1-ENTER).
- C. Press the PURGE button and wait for purge to complete (~2 minutes).
- D. Reset MI-009 to 0000 (MON-0-0-9-ITEM-0-0-0-0-ENTER).
- E. Press EFF button.
- F. Set OPER mode and remove key 64.

## 6.2 Determining Stack Release Rate

6.2.1 IF the Stack effluent monitors are operable, THEN read Stack effluent monitor release rate in the Control Room (Panel C-257 and C-258), OR read data from SPDS system, OR read data from Data Acquisition System.

6.2.2 IF the Stack effluent monitors are inoperable, THEN

- A. Direct a Rad Prot Spec to take a direct Dose Rate Reading from the Stack Pipe. This is accomplished by:
  - 1. Obtain an extended probe dose rate meter from Access Control.
  - 2. Proceed to the Stack.
  - 3. Take a contact dose rate reading on the Stack pipe. Access to the pipe is from the platform on the second level of the Stack, through the Isokenetic Probe penetration on the south side of the block work that surrounds the Stack pipe.
- B. Using the dose reading obtained above direct a Dose Projection Specialist to implement FP-EDCM-DP-01 (OFFSITE DOSE ASSESSMENT USING THE UNIFIED RASCAL INTERFACE) from the Emergency Dose Calculation Manual.

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### **6.3 Determining Discharge Canal Release Rate**

- 6.3.1 Sample and analyze Discharge Canal IAW A.2-410 (OUT-OF-PLANT SURVEYS).
- 6.3.2 Calculate release rate IAW EDCM-03 (Liquid Release to River Dose Calculation).

### **6.4 Determining Release Rate from Unmonitored Release**

**NOTE:** The location of the actual field dose rate is vital to the accuracy of the release rates determined by this procedure. A location near the site boundary should be considered when obtaining this reading. The greater the distance from the plant, the less the error will be in the release rate determination. The closer to the plant, the greater the likelihood that a significant error will be introduced.

- 6.4.1 Direct a Rad Prot Tech to obtain an outdoor gamma dose rate of the plume resulting from the unmonitored release. (This dose rate may be obtained from either the on-site out-of-plant survey teams or the off-site field teams).
- 6.4.2 Direct a Dose Projection Specialist to implement FP-EDCM-DP-01 (OFFSITE DOSE ASSESSMENT USING THE UNIFIED RASCAL INTERFACE) from the Emergency Dose Calculation Manual.

### **6.5 Determining Release Rate from Hard Pipe Vent**

- 6.5.1 For potential Hard Pipe Vent releases, perform the following:
  - A. Obtain current Containment Monitor reading (Rem/hr).
  - B. Using the dose reading obtained above direct a Dose Projection Specialist to implement FP-EDCM-DP-01 (OFFSITE DOSE ASSESSMENT USING THE UNIFIED RASCAL INTERFACE) from the Emergency Dose Calculation Manual.
- 6.5.2 For a release which is occurring, perform the following:
  - A. Obtain ARM-135 reading in mrem/hr or using a hand held dose rate meter obtain a contact dose rate (mrem/hr) on the Hard Pipe Vent near the ARM-135 monitor.
  - B. Using the dose reading obtained above direct a Dose Projection Specialist to implement FP-EDCM-DP-01 (OFFSITE DOSE ASSESSMENT USING THE UNIFIED RASCAL INTERFACE) from the Emergency Dose Calculation Manual.

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## 7.0 FIGURES

### FIGURE

#### 7.1 Summary of Significant Changes

<u>Section</u>	<u>Change and Reason for the Change</u>
4.0	Deleted explanation of the conversion factors that were used to determine Hard Pipe Vent Release Rate based on new instruction to use URI/MUMs in place of manual calculation.
6.1.2	Revised instructions on determining RBV Release Rate when effluent monitors are inoperable to direct the use of URI/MUMs in place on manual calculation.
6.2.2	Revised instructions on determining Stack Release Rate when effluent monitors are inoperable to direct the use of URI/MUMs in place on manual calculation.
6.5.1, 6.5.2	Revised instructions on determining Hard Pipe Vent Release Rate to direct the use of URI/MUMs in place on manual calculation.
Figures 7.1, 7.2 (old)	Deleted conversion factor tables that are no longer needed for manual calculations.