



Monticello Nuclear Generating Plant  
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Monticello, MN 55362-9637

Operated by Nuclear Management  
Company LLC

December 13, 2000

US Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

10 CFR Part 50  
Section 50.90

MONTICELLO NUCLEAR GENERATING PLANT  
Docket No. 50-263 License No. DPR-22

License Amendment Request  
Main Condenser Offgas Technical Specification Change

Reference 1: NMC letter to NRC, "License Amendment Request, Radiological Effluent Technical Specifications Conformance To Standard Technical Specifications and Generic Letter 89-01," dated December 5, 2000.

Attached is a request for change to the Technical Specifications (TS), Appendix A of the Operating Licenses, for the Monticello Nuclear Generating Plant. This request is submitted in accordance with the provisions of 10 CFR Part 50, Section 50.90. The requested amendment will revise Specification 3.8/4.8, "Main Condenser Offgas," to clarify the air ejector offgas activity sample point and operability requirements.

The changes proposed herein reflect changes previously proposed in Reference 1 and assume approval of the changes as submitted. If such is not the case, Nuclear Management Company will submit revised pages to reflect any changes.

Exhibit A contains a description of the proposed changes, the reasons for requesting the changes, and the supporting safety evaluation and determination of no significant hazards consideration. Exhibit B contains current Monticello Technical Specification pages marked up to show the proposed changes. Exhibit C contains the revised Monticello Technical Specification pages.

We request an implementation period of 45 days upon issuance of this proposed amendment in order to make and implement the associated administrative changes.

If you have any questions related to this License Amendment Request please contact Doug Neve, Sr. Licensing Engineer, at 763-295-1353.

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## Exhibit A

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### License Amendment Request Main Condenser Offgas Technical Specification Change

#### Evaluation of Proposed Change to the Monticello Technical Specifications

Pursuant to 10 CFR Part 50, Section 50.90, Nuclear Management Company hereby proposes the following change to Appendix A to Facility Operating License DPR-22, "Technical Specifications" for Monticello Nuclear Generating Plant.

#### Background

Nuclear Regulatory Commission (NRC) Generic Letter (GL) 89-01 (Reference 1) provides guidance to implement programmatic controls for radiological effluent technical specifications (RETS) in the administrative controls section of the TS and relocate the procedural details of RETS to the offsite dose calculation manual (ODCM) or the Process Control Program (PCP). The NUREG 1433 Standard Technical Specifications (STS) (Reference 2) provide updated RETS requirements. A submittal from NMC to NRC dated December 5, 2000 proposed changes to the Monticello Technical Specifications to conform with References 1 and 2. As a consequence of relocating major portions of Specification 3.8/4.8 to licensee controlled documents, the submittal proposed minor changes to the Main Condenser Offgas Activity specification. Namely, Specification 3.8 was re-titled; Specification 3.8.B.5 was re-numbered to 3.8.A; the Applicability and Objective were revised to apply only to Main Condenser Offgas Activity and Tables 3.8.2 and 4.8.2 were re-numbered to 3.8.1 and 4.8.1. The changes proposed herein consider the previously proposed changes and assume approval of the changes as submitted. If such is not the case, revised pages will be submitted.

During unit operation, steam from the low pressure turbine is exhausted directly into the condenser. Air and noncondensable gases are collected in the condenser, then exhausted through the steam jet air ejectors (SJAEs) to the Main Condenser Offgas System. The offgas from the main condenser normally includes radioactive gases.

The Main Condenser Offgas System has been incorporated into the unit design to reduce the radioactive gases in the main condenser offgas to negligible levels prior to release. This system uses a catalytic recombiner to recombine radiolytically dissociated hydrogen and oxygen. The gaseous mixture is cooled, and the water and condensibles are removed by the offgas condenser and moisture separator. The Main Condenser Offgas System is described in the Monticello Updated Safety Analysis Report (USAR), Section 9.

Currently, main condenser offgas activity is measured at the outlet of steam jet air ejector (SJAE) after condensers. A modification is planned to convert the offgas system to a full steam dilution system to eliminate the potential for explosive mixtures in the line to the offgas recombiners. Following the modification, the process stream temperature and humidity will not allow sampling at the outlet of the SJAEs. As a

result, the main condenser offgas radiation monitors will be relocated to downstream of the recombiners prior to entering the holdup line.

Monticello Technical Specification 3.8/4.8 includes operability and surveillance requirements for monitoring main condenser offgas activity to limit the doses received at the site boundary in the unlikely event that effluent is discharged with less than full treatment. The changes proposed below revise Specification 3.8/4.8 to more closely align with Reference 2 STS requirements for the offgas activity monitoring requirements and allow changing the sample point without a need for a future technical specification change.

#### Proposed Changes and Reasons for Changes

The proposed changes to Monticello Operating License Appendix A, Technical Specifications are described below, and the specific wording changes are shown in Exhibits B and C. The changes proposed herein reflect changes to Monticello TS as proposed in NMC letter to NRC, dated December 5, 2000.

#### Specification 3.8/4.8 "Main Condenser Offgas" Revise Specification 3.8/4.8.A to:

1. Specify the operating conditions during which monitoring condenser offgas activity is required;
2. Revise the description of the sample point;
3. Revise the actions to be taken if the release rate limits are exceeded to be consistent with Reference 2 STS requirements;
4. Remove the condenser offgas radiation instrumentation operability and surveillance requirements, including the automatic flow termination requirement; and,
5. Revise the requirements for performing an isotopic analysis to be consistent with Reference 2 STS.

Corresponding changes to the Specification 3.8 Bases are also made to reflect the changes described above.

#### Justification:

1. Monitoring radioactivity release rate from the main condenser provides assurance that total body exposure to an individual at the site boundary does not exceed regulatory limits in the unlikely event that this effluent is inadvertently discharged with minimal treatment. The gross gamma radioactivity release rate limit ( $2.6 \times 10^5$   $\mu\text{Ci}/\text{sec}$  following a 30 minute decay) maintains total body dose to the public well below 10 CFR 100 guidelines in the event that effluent is discharged to the environment without treatment.

The radiation monitoring instrumentation is currently required to be operable whenever the SJAEs are in operation via Table 3.8.1. The proposed change requires the release rate limit to be met under the same conditions.

2. Currently, the condenser offgas activity is measured at the outlet of the SJAEs as shown in Figure 1 attached. Monticello intends to install a full steam dilution system in the offgas treatment system to eliminate the possibility of an explosive

gas mixture in the line to the offgas recombiners. Following the modification, the process stream temperature and humidity will not allow sampling at the outlet of the SJAEs. As a result, the monitor point will be moved to downstream of the recombiners. A schematic of the modified system is shown in Figure 2 attached.

The intent of Technical Specification 3.8.A.1 is to monitor effluent from the main condenser SJAEs. However, the current wording states that effluent will be monitored *at* the SJAEs. The current system configuration was provided to NRC in a sketch (similar to Figure 1 attached to this exhibit) which was subsequently attached to the NRC letter (Reference 3) approving Amendment 15 to the Monticello operating license. Amendment 15 implemented the current SJAЕ monitoring requirements. Therefore, it is appropriate to revise the Specification 3.8.A.1 nomenclature with respect to the sampling point. The proposed wording for the revised specification is based on similar wording in the Reference 2 STS.

The future sample location will be consistent with the configuration of several other plants, such as the STS model plant. Additionally, a General Electric Service Information Letter (SIL) (Reference 4) recommends relocating the pretreatment radiation monitors from the outlet of the SJAEs to downstream of the recombiners. The SIL notes that this will change the pretreatment calibration.

The setpoints and calculations will be revised as necessary to account for sample concentration and location changes. Detector sensitivity, accuracy, range, and other appropriate attributes, as well as delay time, will be considered to ensure that the revised setpoints and calculations maintain releases of main condenser offgas radionuclides within the release rate of Specification 3.8.A.1.

The future sample point does not allow any unmonitored release paths, since there are no bypass flow paths. Any effluent is either sent to the holdup portion of the system past the monitor point or is returned to the main condenser. Changing the description of the sample point will allow installation of the modification without a future technical specification change.

3. The actions to be taken if the gross gamma radioactivity limit is not met are revised to be consistent with Reference 2 STS.

Proposed Specification 3.8.A.2 provides actions to be taken if the limit of Specification 3.8.A.1 is exceeded. If the offgas radioactivity rate limit is exceeded, 72 hours is allowed to restore the gross gamma activity rate to within the limit. The 72 hour completion time is reasonable, based on the time required to complete the required action, the large margins associated with permissible dose and exposure limits, and the low probability of a release to the environment without treatment. The 72 hour completion time is consistent with the existing specification.

If the gross gamma activity rate is not restored to within the limits in the associated completion time of 72 hours, Specification 3.8.A.3 provides direction that a) all main steam lines, or b) the SJAEs, must be isolated. This isolates the Main Condenser Offgas System from the source of the radioactive steam. The main steam lines are considered isolated if at least one main steam isolation

valve in each main steam line is closed, and at least one main steam line drain valve in each drain line is closed. The 12 hour completion time is reasonable, based on operating experience, to perform the actions from full power conditions in an orderly manner and without challenging unit systems.

As an alternative to the actions of 3.8.A.2.a and b, Specification 3.8.A.3.c requires placing the unit in a plant condition in which the LCO does not apply. To achieve this status, the unit must be placed in at least hot shutdown within 12 hours and in cold shutdown within the next 24 hours. The allowed completion times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. The requirement to be in hot shutdown in 12 hours is consistent with the existing main condenser offgas specification and the additional 24 hours to achieve cold shutdown is consistent with other similar Monticello technical specifications. All of the requirements of Specification 3.8.A.3 are consistent with the Reference 2 STS.

4. The operability and surveillance requirements for main condenser offgas radiation (pretreatment) monitoring instruments, including the automatic offgas isolation feature, are proposed to be relocated to the Offsite Dose Calculation Manual, consistent with other similar instruments and STS.

The offgas treatment system is not a safety system and is not connected to the primary coolant piping. The activity limit of Specification 3.8.A1 ensures that a small fraction of 10 CFR 100 guidelines are not exceeded in the unlikely event that effluent is inadvertently discharged directly to the environment without treatment. These instruments, including the automatic isolation feature are not required to ensure that a small fraction of the 10 CFR 100 guidelines are not exceeded, to ensure that initial conditions for postulated accidents are met, or to mitigate any accidents.

While the pretreatment monitors do not serve an accident mitigation function, they are special in that they serve as advance warning of any abnormal offgas release. This allows action to be taken well before a release occurs. Changes to operability requirements will be evaluated in accordance with the requirements for revising the ODCM. Therefore, it is appropriate to relocate the pretreatment monitoring instrumentation to a licensee controlled program.

5. The surveillances associated with isotopic analysis of gross gamma radioactivity of noble gases are revised to be consistent with Reference 2 STS.

This surveillance, on a monthly basis, requires an isotopic analysis of an offgas sample to ensure that the required limits are satisfied. The noble gases to be sampled are Xe-133, Xe-135, Xe-138, Kr-85, Kr-87, and Kr-88. The monthly frequency is adequate in view of other instrumentation that continuously monitor the offgas, and is acceptable, based on operating experience.

If the measured rate of radioactivity increases by  $\geq 50\%$  after correcting for expected increases due to changes in thermal power, an isotopic analysis is also performed after the increase is noted, to ensure that the increase is not indicative of a sustained increase in the radioactivity rate. The wording of the existing

specification is revised slightly to conform with the Reference 2 STS; however, the intent has not been changed. The proposed change also reduces the time in which the analysis must be performed from 24 hours to 4 hours, consistent with the STS.

This surveillance is modified by an added note indicating that the surveillance is not required to be performed until 31 days after the SJAEs are in operation. Only in this condition can radioactive fission gases be in the Main Condenser Offgas System at significant rates. This note is similar to the corresponding specification in the Reference 2 STS.

The TS Bases for Specification 3.8/4.8 have been revised, consistent with the changes described above. The Monticello USAR will be revised appropriately following approval of the changes proposed above.

### Safety Evaluation

The changes proposed above clarify and more completely specify actions and requirements with respect to main condenser offgas activity. The changes are consistent with similar requirements in the Reference 2 STS. The level of radiological control and accident mitigation will not be reduced by the proposed changes to the TS since compliance with applicable regulatory requirements governing radioactive effluents and doses will continue to be maintained.

### Determination of No Significant Hazards Considerations

Changes are proposed to the Monticello Technical Specifications for Main Condenser Offgas Activity. The proposed changes revise the Specification to align with similar requirements in the NUREG 1433 Standard Technical Specifications for General Electric Boiling Water Reactors. The proposed changes to the Operating License have been evaluated to determine whether they constitute a significant hazards consideration as required by 10 CFR Part 50, Section 50.91 using the standards provided in Section 50.92. This analysis is provided below:

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed changes clarify and more completely specify actions and requirements with respect to main condenser offgas activity. Compliance with applicable regulatory requirements will continue to be maintained. The proposed changes do not alter the conditions or assumptions in any of the previous accident analyses. Since the previous accident analyses remain bounding, the radiological consequences previously evaluated are not adversely affected by the proposed changes.

Therefore, the probability or consequences of an accident previously evaluated are not affected by any of the proposed amendments.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed changes do not involve any change to the method of operation of any plant equipment. Accordingly, no new failure modes have been defined for any plant system or component important to safety nor has any new limiting single failure been identified as a result of the proposed changes. Also, there will be no change in types or increase in the amounts of any effluents released offsite.

Therefore, the possibility of a new or different kind of accident from any accident previously evaluated would not be created.

3. The proposed amendment will not involve a significant reduction in the margin of safety.

The proposed changes do not involve a significant reduction in a margin of safety. The proposed changes clarify and more completely specify actions and requirements with respect to main condenser offgas activity. No changes in radioactivity release limits or dose limits are proposed. The changes in actions to be taken if a limit is not met provide an adequate means of ensuring that the health and safety of the public are protected and that potential dose to the public is below regulatory limits. The proposed changes do not involve any actual change in the methodology used in the control of radioactive effluents. The proposed changes also comply with the guidance contained in the STS.

Therefore, a significant reduction in the margin of safety is not involved.

Based on the evaluation described above, and pursuant to 10 CFR Part 50, Section 50.91, Nuclear Management Company has determined that operation of the Monticello Nuclear Generating Plant in accordance with the proposed license amendment request does not involve any significant hazards considerations as defined by Nuclear Regulatory Commission regulations in 10 CFR Part 50, Section 50.92.

Environmental Assessment

Nuclear Management Company has evaluated the proposed changes and determined that:

1. The changes do not involve a significant hazards consideration, or
2. The changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or
3. The changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion set forth in 10 CFR Part 51 Section 51.22(c)(9). Therefore, pursuant to 10 CFR Part 51 Section 51.22(b), an environmental assessment of the proposed changes is not required.

## REFERENCES

1. NRC Generic Letter 89-01, "Implementation of Programmatic Controls for Radiological Effluent TS in the Administrative Controls Section of the Technical Specifications and the Relocation of Procedural Details of RETS to the Offsite Dose Calculation Manual or to the Process Control Program," dated January 31, 1989.
2. NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4," Revision 1.
3. NRC letter to NSP forwarding Amendment 15 to the Monticello Operating License, dated December 15, 1982.
4. General Electric SIL 150, "Elimination of Ignition Potential in Offgas Pretreatment Radiation Monitoring System," Revision 2, Supplement 5.

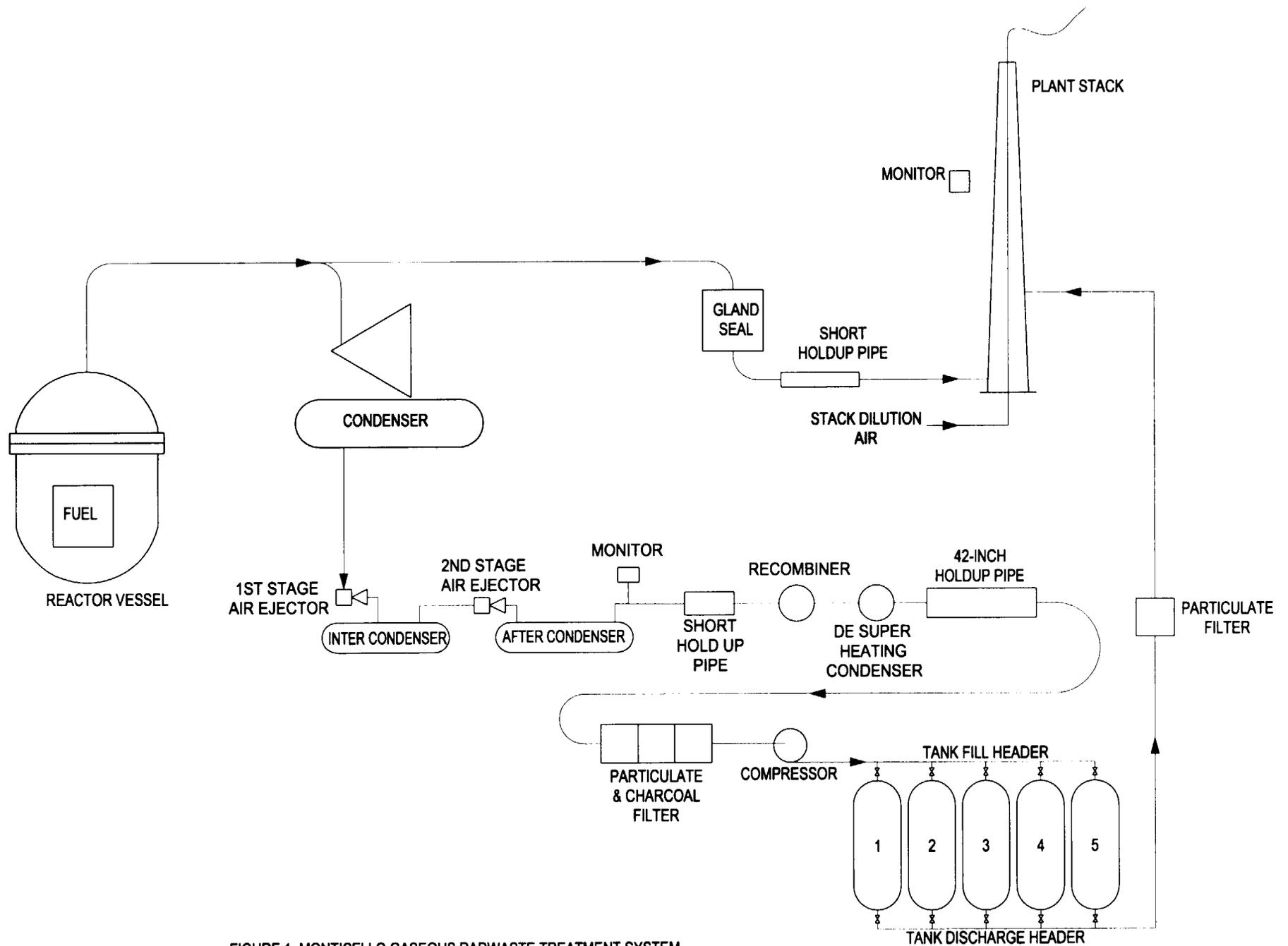


FIGURE 1. MONTICELLO GASEOUS RADWASTE TREATMENT SYSTEM,  
CURRENT CONFIGURATION

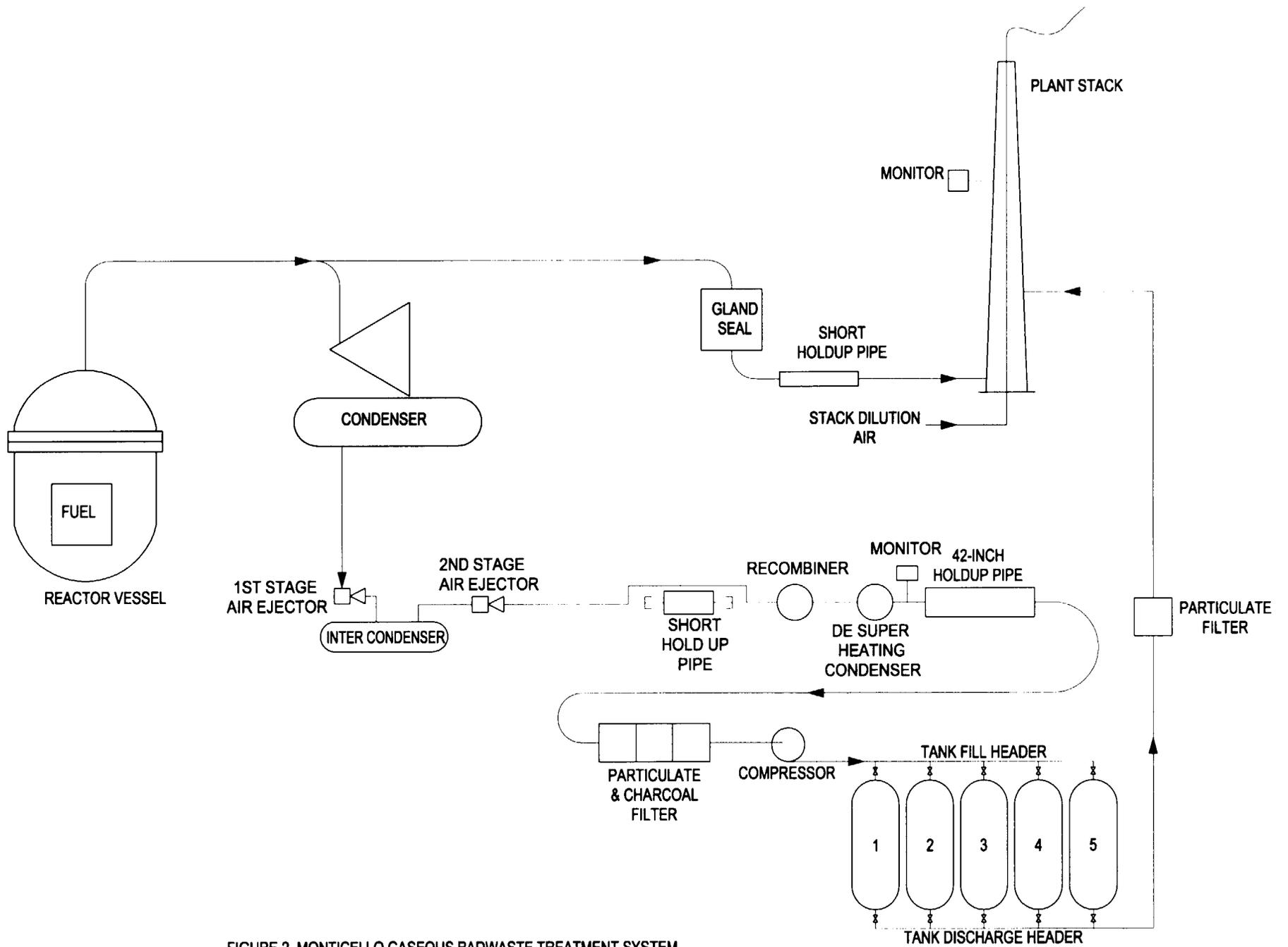


FIGURE 2. MONTICELLO GASEOUS RADWASTE TREATMENT SYSTEM, AFTER PLANNED MODIFICATION

## Exhibit B

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### License Amendment Request Main Condenser Offgas Technical Specification Change

#### Current Monticello Technical Specification Pages Marked Up With Proposed Change

This exhibit consists of current Technical Specification pages marked up with the proposed change. The marked up pages reflect changes previously proposed in NMC letter to NRC, "License Amendment Request, Radiological Effluent Technical Specifications Conformance To Standard Technical Specifications and Generic Letter 89-01," dated December 5, 2000. The pages included in this exhibit are listed below:

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### 3.0 LIMITING CONDITIONS FOR OPERATION

#### 3.8 MAIN CONDENSER OFFGAS

Applicability:

Applies to the radioactive release rate from the ~~steam jet air ejectors~~main condenser offgas.

Objective:

To limit the doses received at the site boundary from main condenser offgas in the event that effluent is discharged with less than full treatment.

Specification:

A. Main Condenser Offgas Activity

1. ~~The gross gamma radioactivity release rate measured at the steam jet air ejector shall be limited to  $\leq 2.6 \times 10^5$  uci/sec following a 30-minute decay.~~ Whenever the Steam Jet Air Ejectors (SJAEs) are in operation, the gross gamma activity rate of the noble gases measured at the main condenser offgas system pretreatment monitor station shall be  $\leq 2.6 \times 10^5$   $\mu$ Ci/second after a decay of 30 minutes.

3.8/4.8

### 4.0 SURVEILLANCE REQUIREMENTS

#### 4.8 MAIN CONDENSER OFFGAS

Applicability:

Applies to the sampling and monitoring of radioactive effluents discharged from the ~~steam jet air ejectors and verification of equipment operability~~main condenser offgas.

Objective:

To limit the doses received at the site boundary from main condenser offgas in the event that effluent is discharged with less than full treatment.

Specification:

A. Main Condenser Offgas Activity

**NOTE: Not required to be performed until 31 days after the SJAEs are in operation.**

1. ~~The gross gamma radioactivity of noble gases from the main condenser air ejector shall be determined to be within the limit specified in 3.8.A.1 at the following times by performing an isotopic analysis of a representative sample of gases.~~ Verify the gross gamma activity rate of the noble gases is  $\leq 2.6 \times 10^5$   $\mu$ Ci/second after a decay of 30 minutes.

### 3.0 LIMITING CONDITIONS FOR OPERATION

2. ~~When the limit in 1 above is exceeded, restore the gross gamma radioactivity release rate to within the limit within 72 hours or be in at least hot shutdown within the next 12 hours. When the gross gamma activity rate of the noble gases is not within the limit of 3.8.A.1 above, restore gross gamma activity rate of the noble gases to within the limit within 72 hours.~~
3. ~~The activity of radioactive material in gaseous form removed from the main condenser shall be continuously monitored by the steam jet air ejector monitors in accordance with Table 3.8.1. When 3.8.A.2 cannot be met, either:~~
  - a. ~~Isolate all main steam lines within 12 hours; or~~
  - b. ~~Isolate the SJAEs within 12 hours; or~~
  - c. ~~Be in hot shutdown within 12 hours and cold shutdown within the following 24 hours.~~
4. ~~The steam jet air ejector monitors shall be set to automatically terminate offgas flow within 30 minutes at the limit established in Specification 3.8.A.1.~~

### 4.0 SURVEILLANCE REQUIREMENTS

- a. Once every month.
  - b. ~~Within 24 hours following an increase in the continuous monitor reading of 50% after factoring out increases due to power level. 4 hours after a  $\geq 50\%$  increase in the nominal steady state fission gas release after factoring out increases due to changes in thermal power level.~~
- ~~2. Surveillance of main condenser offgas instruments shall be performed as required by Table 4.8.1.~~

TABLE 3.8.1 - MAIN CONDENSER OFFGAS INSTRUMENTATION

Instrument	Minimum Channels Operable	Applicability	Action if Minimum Channels not Operable
Main Condenser Air Ejector Noble Gas Activity Monitor	2	During air ejector operation	From and after the date that one of the two steam jet air ejector off-gas radiation monitors is made or found to be inoperable, continued reactor power operation is permissible provided the inoperable radiation monitor instrument channel is tripped. Upon loss of both steam jet air ejector off-gas radiation monitors, be in Hot Standby within six hours.

TABLE 4.8.1 MAIN CONDENSER OFFGAS INSTRUMENTATION SURVEILLANCE REQUIREMENTS

Instrument	Sensor Check Frequency	Source Check Frequency	Functional Test Frequency	Calibration Frequency
Main Condenser Air Ejector Noble Gas Activity Monitors	Daily during air ejector operation	—	Quarterly	Once Each Operating Cycle

Bases 3.8/4.8:

A. Main Condenser Offgas Activity

~~Specification 3.8.A.1 establishes a maximum activity at the steam jet air ejector. Restricting the gross radioactivity rate of noble gases from the main condenser provides reasonable assurance that the total body exposure to an individual at the restricted area boundary will not exceed the limits of 10 CFR Part 20 in the event this effluent is inadvertently discharged directly to the environment with minimal treatment. This specification implements the requirements of General Design Criteria 60 and 64 of Appendix A to 10 CFR Part 50.~~

BACKGROUND

During unit operation, steam from the low pressure turbine is exhausted directly into the condenser. Air and noncondensable gases are collected in the condenser, then exhausted through the steam jet air ejectors (SJAEs) to the Main Condenser Offgas System. The offgas from the main condenser normally includes radioactive gases.

The Main Condenser Offgas System has been incorporated into the unit design to reduce the gaseous radwaste emission. This system uses a catalytic recombiner to recombine radiolytically dissociated hydrogen and oxygen. The gaseous mixture is cooled, and the water and condensibles are removed by the offgas condenser. The radioactivity of the main condenser offgas is measured at the outlet of steam jet air ejector (SJAE) after condensers.

The main condenser offgas limits satisfy Criterion 2 of the NRC Policy Statement.

LCO 3.8.A.1

Restricting the gross radioactivity release rate from the main condenser provides reasonable assurance that the total body exposure to an individual at the exclusion area boundary will not exceed a small fraction of the limits of 10 CFR 100 in the event that effluent is inadvertently discharged directly to the environment without treatment. The gross gamma activity is controlled to ensure that, during the event, the calculated offsite doses will be well within the limits of 10 CFR 100.

## LCO ACTIONS

### 3.8.A.2

If the offgas radioactivity rate limits is exceeded, 72 hours is allowed to restore the gross gamma activity rate to within the limit. The 72 hour completion time is reasonable, based on engineering judgment, the time required to complete the required action, the large margins associated with permissible dose and exposure limits, and the low probability of a release to the environment without treatment.

### 3.8.A.3.a. and 3.8.A.3.b.

If the gross gamma activity rate is not restored to within the limits in the associated completion time, all main steam lines or the SJAE must be isolated. This isolates the Main Condenser Offgas System from the source of the radioactive steam. The main steam lines are considered isolated if at least one main steam isolation valve in each main steam line is closed, and at least one main steam line drain valve in each drain line is closed. The 12 hour completion time is reasonable, based on operating experience, to perform the actions from full power conditions in an order manner and without challenging unit systems.

### 3.8.A.3.c.

An alternative to 3.8.A.3.a. and 3.8.A.3.b. is to place the unit in a mode in which the LCO does not apply. To achieve this status, the unit must be placed in at least hot shutdown within 12 hours and in cold shutdown within the following 24 hours. The allowed completion times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

## SURVEILLANCE REQUIREMENTS

### 4.8.A.1

The SR, on a monthly basis, requires an isotopic analysis of an offgas sample to ensure that the required limits are satisfied. The noble gases to be sampled are Xe-133, Xe-135, Xe-138, Kr-85, Kr-87, and Kr-88. If the measured rate of radioactivity increase significantly (by  $\geq 50\%$  after correcting for expected increases due to changes in thermal power), an isotopic analysis is also performed within 4 hours after the increase is noted, to ensure that the increase is not indicative of a sustained increase in the radioactivity rate. The monthly basis is adequate in view of other instrumentation that continuously monitor the offgas, and is acceptable, based on operating experience.

This surveillance is modified by a note indicating that the surveillance is not required to be performed until 31 days after the SJAEs are in operation. Only in this condition can radioactive fission gases be in the Main Condenser Offgas System at significant rates.

## Exhibit C

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### License Amendment Request Main Condenser Offgas Technical Specification Change

#### Revised Monticello Technical Specification Pages

This exhibit consists of revised Technical Specification pages that incorporate the proposed change. The revised pages reflect changes previously proposed in NMC letter to NRC, "License Amendment Request, Radiological Effluent Technical Specifications Conformance To Standard Technical Specifications and Generic Letter 89-01," dated December 5, 2000. The pages included in this exhibit are as listed below:

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### 3.0 LIMITING CONDITIONS FOR OPERATION

#### 3.8 MAIN CONDENSER OFFGAS

Applicability:

Applies to the radioactive release rate from the main condenser offgas.

Objective:

To limit the doses received at the site boundary from main condenser offgas in the event that effluent is discharged with less than full treatment.

Specification:

A. Main Condenser Offgas Activity

1. Whenever the Steam Jet Air Ejectors (SJAEs) are in operation, the gross gamma activity rate of the noble gases measured at the main condenser offgas system pretreatment monitor station shall be  $\leq 2.6 \times 10^5 \mu\text{Ci/second}$  after a decay of 30 minutes.
2. When the gross gamma activity rate of the noble gases is not within the limit of 3.8.A.1 above, restore gross gamma activity rate of the noble gases to within the limit within 72 hours.

### 4.0 SURVEILLANCE REQUIREMENTS

#### 4.8 MAIN CONDENSER OFFGAS

Applicability:

Applies to the sampling and monitoring of radioactive effluents discharged from the main condenser offgas.

Objective:

To limit the doses received at the site boundary from main condenser offgas in the event that effluent is discharged with less than full treatment.

Specification:

A. Main Condenser Offgas Activity

**NOTE: Not required to be performed until 31 days after the SJAEs are in operation.**

1. Verify the gross gamma activity rate of the noble gases is  $\leq 2.6 \times 10^5 \mu\text{Ci/second}$  after a decay of 30 minutes:
  - a. Once every month.
  - b. 4 hours after a  $\geq 50\%$  increase in the nominal steady state fission gas release after factoring out increases due to changes in thermal power level.

**3.0 LIMITING CONDITIONS FOR OPERATION**

**4.0 SURVEILLANCE REQUIREMENTS**

- 3. When 3.8.A.2 cannot be met, either:
  - a. Isolate all main steam lines within 12 hours; or
  - b. Isolate the SJAEs within 12 hours; or
  - c. Be in hot shutdown within 12 hours and cold shutdown within the following 24 hours.

Bases 3.8/4.8:

A. Main Condenser Offgas Activity

BACKGROUND

During unit operation, steam from the low pressure turbine is exhausted directly into the condenser. Air and noncondensable gases are collected in the condenser, then exhausted through the steam jet air ejectors (SJAEs) to the Main Condenser Offgas System. The offgas from the main condenser normally includes radioactive gases.

The Main Condenser Offgas System has been incorporated into the unit design to reduce the gaseous radwaste emission. This system uses a catalytic recombiner to recombine radiolytically dissociated hydrogen and oxygen. The gaseous mixture is cooled, and the water and condensibles are removed by the offgas condenser. The radioactivity of the main condenser offgas is measured at the outlet of steam jet air ejector (SJAE) after condensers.

The main condenser offgas limits satisfy Criterion 2 of the NRC Policy Statement.

LCO 3.8.A.1

Restricting the gross radioactivity release rate from the main condenser provides reasonable assurance that the total body exposure to an individual at the exclusion area boundary will not exceed a small fraction of the limits of 10 CFR 100 in the event that effluent is inadvertently discharged directly to the environment without treatment. The gross gamma activity is controlled to ensure that, during the event, the calculated offsite doses will be well within the limits of 10 CFR 100.

APPLICABILITY

The LCO is applicable when steam is being exhausted to the main condenser and the resulting noncondensibles are being processed via the Main Condenser Offgas System. This occurs when the reactor is in the run mode, and during startup and hot shutdown with any main steam line not isolated and the SJAE in operation. In cold shutdown and refueling, steam is not being exhausted to the main condenser and the requirements are not applicable.

## LCO ACTIONS

### 3.8.A.2

If the offgas radioactivity rate limits is exceeded, 72 hours is allowed to restore the gross gamma activity rate to within the limit. The 72 hour completion time is reasonable, based on engineering judgment, the time required to complete the required action, the large margins associated with permissible dose and exposure limits, and the low probability of a release to the environment without treatment.

### 3.8.A.3.a. and 3.8.A.3.b.

If the gross gamma activity rate is not restored to within the limits in the associated completion time, all main steam lines or the SJAE must be isolated. This isolates the Main Condenser Offgas System from the source of the radioactive steam. The main steam lines are considered isolated if at least one main steam isolation valve in each main steam line is closed, and at least one main steam line drain valve in each drain line is closed. The 12 hour completion time is reasonable, based on operating experience, to perform the actions from full power conditions in an order manner and without challenging unit systems.

### 3.8.A.3.c.

An alternative to 3.8.A.3.a. and 3.8.A.3.b. is to place the unit in a mode in which the LCO does not apply. To achieve this status, the unit must be placed in at least hot shutdown within 12 hours and in cold shutdown within the following 24 hours. The allowed completion times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

## SURVEILLANCE REQUIREMENTS

### 4.8.A.1

The SR, on a monthly basis, requires an isotopic analysis of an offgas sample to ensure that the required limits are satisfied. The noble gases to be sampled are Xe-133, Xe-135, Xe-138, Kr-85, Kr-87, and Kr-88. If the measured rate of radioactivity increase significantly (by  $\geq 50\%$  after correcting for expected increases due to changes in thermal power), an isotopic analysis is also performed within 4 hours after the increase is noted, to ensure that the increase is not indicative of a sustained increase in the radioactivity rate. The monthly basis is adequate in view of other instrumentation that continuously monitor the offgas, and is acceptable, based on operating experience.

This surveillance is modified by a note indicating that the surveillance is not required to be performed until 31 days after the SJAEs are in operation. Only in this condition can radioactive fission gases be in the Main Condenser Offgas System at significant rates.