

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-263

NORTHERN STATES POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO PROVISIONAL
OPERATING LICENSE

Notice is hereby given that the U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 11 to Provisional Operating License No. DPR-22 issued to the Northern States Power Company (the licensee) for operation of the Monticello Nuclear Generating Plant (the facility) located in Wright County, Minnesota. The amendment is effective as of its date of issuance, except as noted in the next paragraph of this notice.

The amendment revises the license and appended Technical Specifications to: (1) incorporate operating limits and surveillance for the Monticello reactor vessel based on Appendix G of 10CFR Part 50, (2) substitute a more generalized approach to the licensing of the byproduct, source and special nuclear materials and incorporate leak testing and related surveillance and reporting requirements for the sealed radioactive sources, (3) revise specifications associated with the Augmented Off-Gas System to incorporate planned modifications to equipment and procedures to be implemented within thirty days after the Fall 1975 startup, and (4) revise the radioactive iodine (¹³¹I) release limits based on Regulatory Guide 1.42 ("Interim Licensing Policy on As Low As Practicable for Gaseous Radioiodine Releases from Light-Water Cooled Nuclear Power Reactors") and the dispersion factors calculated by the NRC staff. Item (4) would be effective when the modifications to the Augmented Off-Gas System are complete and the system determined to be fully operational.

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The applications for the amendment comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I which are set forth in the license amendment. Prior public notice of this amendment is not required since the amendment does not involve a significant hazards consideration.

For further details with respect to this action, see (1) the applications for amendment dated August 16, 1974 and July 1, 1975, (2) Amendment No. 11 to License No. DPR-22, with Change No. 19, and (3) the Commission's concurrently issued Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at The Environmental Conservation Library, 300 Nicollet Mall, Minneapolis, Minnesota 55414. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Reactor Licensing.

Dated at Bethesda, Maryland, this 17th day of September 1975

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed by
Dennis L. Ziemann

Dennis L. Ziemann, Chief
Operating Reactors Branch #2
Division of Reactor Licensing

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The proposed Technical Specification changes have been reviewed by the NRC staff with particular attention to the Radioactive Materials Safety program. We evaluated the personnel qualifications, facilities, equipment, and procedures for handling byproduct, source, and special nuclear material, as described in the August 16, 1974 application and we conclude that they are consistent with the provisions of Regulatory Guide 1.70-3. Based on our review, we also conclude that the comprehensive testing and surveillance program, as established by the proposed Technical Specification changes, provides additional assurance that leakage from radioactive material sources will not exceed allowable limits.

We further conclude that the proposed license amendment incorporating provisions relating to leak testing of sealed sources, and their inventory, storage and disposal is acceptable in that it:

- a. Complies with the guidance and intent of our letter of June 17, 1974.
- b. Provides reasonable assurance that byproduct, source, and special nuclear material will be stored, used, and accounted for in a manner which meets the applicable radiation protection provisions of 10 CFR Parts 20, 30, 40, and 70.

The licensee's radiation protection program, as supplemented by the proposed Technical Specifications additions, has been evaluated. We have concluded that the incorporation of flexible yet controlled licensing provisions for the receipt, possession, and use of byproduct, source, and special nuclear material into the Provisional Operating License for Monticello Nuclear Generating Plant is acceptable. ~~These~~ This ~~is~~ ~~an~~ ~~amendment~~ ~~to~~ ~~the~~ ~~license~~ ~~was~~ ~~not~~

3. Air Ejector Off-Gas System

The Technical Specifications currently require that the air ejector monitor trip setting be less than the equivalent of the maximum permissible stack release rate based on a 30-minute decay period. The 30-minute decay criterion is valid only when the recombiner system is in the bypass mode and is overly restrictive when the recombiner system is in operation. When only the recombiner system is in operation, the decay period ranges from 2 to 10 hours; when the compressed storage tanks are available, the decay period is approximately 50 to 250 hours. Therefore, we conclude that the 30-minute decay criterion is applicable only when the recombiner system is isolated and should be increased to 120 minutes when the recombiner system is in use and that the proposed changes to specifications 3.2.D.1 and 3.2.D.4 to reflect the above rationale are acceptable.

authorize an increase in the amount of special nuclear material as powder fuel.

Item No. 5 of the July 1 application proposes (1) revisions to Specifications 3.8.E.2, 3.8.E.3, 4.8.E.2 and 4.8.E.3, (2) incorporation of a new Figure 4.8.1, "Off-Gas Storage Tank Gross Activity Limits," and (3) revisions to 3/4.8.E Bases to reflect the changes in item (1). The changes in item (1) are discussed individually below.

a. Specification 3.8.E.2

At present this specification requires that hydrogen monitors located upstream of the recombiner be operable during power operation. The licensee's proposed change would revise this requirement to monitor the hydrogen concentration downstream of the recombiner. There are three hydrogen monitors located downstream of each recombiner which would alert the operator if the hydrogen concentration exceeded 1% and would automatically isolate the recombiner system if any two of the three monitors indicate a hydrogen concentration in excess of 2%, or if any monitor indicated a hydrogen concentration in excess of 4%. The principal purpose of the hydrogen monitors is to protect the compressed gas storage tanks from a hydrogen detonation since these tanks are not designed to withstand the internal pressure that would be developed by a hydrogen detonation. All piping, valves, instrumentation and components other than the compressed storage tank system are designed to withstand a hydrogen detonation. We conclude that the proposed revision regarding monitoring of hydrogen concentration downstream of the recombiner provides appropriate protection against hydrogen detonation of the compressed storage gas system and is acceptable.

b. Specification 3.8.E.3

This existing specification requires initiation of an orderly reactor shutdown if the hydrogen monitors located downstream of the recombiner are inoperable. As discussed in (a) above, these monitors provide for protection of the compressed gas storage system and need not be operable if the compressed gas storage system is inoperable or isolated. Therefore, we have concluded that the existing specification is overly restrictive and termination of flow to the compressed gas storage system in the event all hydrogen monitors are inoperable is an acceptable precaution and the reactor need not be shut down.

c. Specification 4.8.E.2

During startup testing of the augmented off-gas system, it was determined that the compressed gas storage tank radiation monitors did not meet the design objective of measuring the gross activity of the tank contents for the following reasons:

- (1) The radiation monitors are exposed to "shine" from adjacent storage tanks which defeats the intended function of monitoring the gross activity of a specific tank.
- (2) The individual monitors become saturated as a result of buildup of radioactive particulates such as Rb-88 and Cs-138 and do not respond to changes in the noble gas inventory of the tank.

In addition, grab samples of the tank inventory do not provide a representative sample due to stratification within the tank. The licensee's proposed revision includes monitoring the total system air inleakage and measuring the average air ejector noble gas release rate in conjunction with Figure 4.8.1. We have reviewed and evaluated the methodology used to develop Figure 4.8.1 and find it acceptable and conclude that this revision provides reasonable assurance that the technical specification limit of 22,000 Curie dose equivalent I^{133} tank inventory is not exceeded and therefore is acceptable.

d. Specification 4.8.E.3

This existing specification requires sampling and analysis of the compressed gas storage tank contents in the event the tank radiation monitor is inoperable. As discussed in (c) above, since a representative sample cannot be obtained and an alternate method of determining the tank content is available, we have concluded that deletion of this specification will not reduce the safety of operation and therefore is acceptable.

e. Figure 4.8.1 "Off-Gas Storage Tank Gross Activity"

This change consists of incorporating Figure 4.8.1 into the Technical Specifications which we found to be acceptable in (c) above.

f. Specification 3/4.8.E Bases

The Bases have been updated to reflect the above changes (a) through (e) inclusive.

4. Radioactive Iodine Limits

There have been on-going discussions between NRC and NSP with regard to the equation to be used to determine the maximum release rate of radioiodine 131 and the appropriate time when the equation would be incorporated into the Technical Specifications. We have concluded that the proposed equation conforms with Regulation, Guide 1.42 "Interim Licensing Policy on As Low As Practicable for Gaseous Radioiodine Releases from Light-Water-Cooled Nuclear Power Reactors" dated March, 1974, and the dispersion factors calculated by NRC. This change would become effective when modifications to the augmented off-gas system are complete and the system has been determined to be fully operational.

We have re-evaluated the critical pathway with regard to radioiodine release and concur with the licensee that the farm located 3700 meters from the site in the NNE sector constitutes the critical pathway. We conclude that the proposed changes are acceptable.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the changes does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the change does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: