4-29-71

Docket No. 50-263

APR 28 1971

Northern States Power Company
ATTN: Mr. Arthur V. Dienhart
Manager of Engineering
414 Nicollet Mall
Minneapolis, Minnesota 55401

Change No. 1
License No. DPR-22

Gentlemen:

Your letter dated March 15, 1971, requested authority to assign protection factors to the use of respiratory equipment and to make them part of the Technical Specifications of Provisional Operating License No. DPR-22 for the Monticello Nuclear Generating Plant E-5979.

During our review of the proposed change, we informed your staff that certain modifications were necessary to meet our regulatory requirements.

On the basis of our review of your proposed change, as modified, we have concluded that the change does not present significant hazards considerations not described or implicit in the Monticello Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered by operation of the Monticello Nuclear Generating Plant E-5979 in the proposed manner.

Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, the Technical Specifications of Provisional Operating License No. DPR-22 are hereby changed as set forth in Attachment A to this letter.

Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

Enclosure:
Attachment A - Change to
Technical Specifications

Distribution:
See attached

(Rewritten and retyped per LRogers, REP, 4/14/71.)

OFFICE ▶	DRL/BWR-1	DRL/AD:BWR	REP:Director	OGC	DRL:D/Dir.	DRL:Director
x7791 SURNAME ▶	VBenaroya:mm DFKnuth	RSBoyd	LRogers		FSchroeder	PAMorris
DATE ▶	4/14/71	4/ /71	4/15/71	4/23/71	4/ /71	4/28/71

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DV

bcc: H. J. McAlduff, ORO
J. R. Buchanan, ORNL
T. W. Laughlin, DTIE
W. D. Gilbert, GE

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Compliance (2)
VBenaroya, DRL

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Docket No. 50-263

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ATTN: Mr. Arthur V. Dienhart
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During our review of the proposed change, we informed your staff that certain modifications were necessary to meet our regulatory requirements and to make your facility Technical Specifications consistent with specifications approved for other facilities. Your staff indicated that these modifications were acceptable.

On the basis of our review of your proposed change, as modified, we have concluded that the change does not present significant hazards considerations not described or implicit in the Monticello Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered by operation of the Monticello Nuclear Generating Plant E-5979 in the proposed manner.

Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, the Technical Specifications of Provisional Operating License No. DPR-22 are hereby changed as set forth in Attachment A to this letter.

Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

Enclosure:
Attachment A - Change to
Technical Specifications

OFFICE ▶						
SURNAME ▶						
DATE ▶						

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Distribution:
Docket
AEC PDR
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EGCase, DRS
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W. D. Gilbert, GE

OFFICE ▶	DRL:BWR-1	DRL:BWR-1	DRL:AD:BWR	REP:DIR?O	DRL	DRL
SURNAME ▶	VBenaroya:kls x7791	DFKnuth	RSBoyd	LRogers	FSchroeder	PAMorris
DATE ▶	3/29/71	3/30 /71	3/30 /71	/ /71	/ /71	/ /71

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

April 28, 1971

Docket No. 50-263

Northern States Power Company
ATTN: Mr. Arthur V. Dienhart
Manager of Engineering
414 Nicollet Mall
Minneapolis, Minnesota 55401

Change No. 1
License No. DPR-22

Gentlemen:

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During our review of the proposed change, we informed your staff that certain modifications were necessary to meet our regulatory requirements.

On the basis of our review of your proposed change, as modified, we have concluded that the change does not present significant hazards considerations not described or implicit in the Monticello Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered by operation of the Monticello Nuclear Generating Plant E-5979 in the proposed manner.

Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, the Technical Specifications of Provisional Operating License No. DPR-22 are hereby changed as set forth in Attachment A to this letter.

Sincerely,

Peter A. Morris

Peter A. Morris, Director
Division of Reactor Licensing

Enclosure:
Attachment A - Change to
Technical Specifications

ATTACHMENT A

Change No. 1 to Technical Specifications
Provisional Operating License No. DPR-22
Northern States Power Company
Docket No. 50-263

Change Specifications 6.2B in its entirety to read:

"6.2 B Radiation control procedures shall be maintained and made available to all station personnel. These procedures shall show permissible radiation exposure, and shall be consistent with the requirements of 10 CFR 20. This radiation protection program shall be organized, with the following exceptions, to meet the requirements of 10 CFR 20."

a. Paragraph 20.203 "Caution signs, labels, signals and controls." In lieu of the "control device" or alarm signal required by paragraph 20.203(c) (2), each high radiation area in which the intensity of radiation is 1000 mRem/hr or less shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit and any individual or group of individuals permitted to enter such areas shall be provided with a radiation monitoring device which continuously indicates the radiation dose rate in the area.

   The above procedure shall also apply to each high radiation area in which the intensity of radiation is greater than 1000 mRem/hr, except that locked doors shall be provided to prevent unauthorized entry into these areas and the keys to these locked doors shall be maintained under the administrative control of the Shift Foreman on duty.

b. Pursuant to 10 CFR 20.103(c)(1) and (3), allowance may be made for the use of respiratory protective equipment in conjunction with activities authorized by the operating license for this plant in determining whether individuals in restricted area are exposed to concentrations in excess of the limits specified in Appendix B, Table I, Column 1, of 10 CFR 20, subject to the following conditions and limitations:

c. Notwithstanding any exposure limit provided herein, the licensee shall, as a precautionary procedure, use process or other engineering controls, to the extent practicable, to limit concentrations of radioactive materials in air to levels below those which delimit an airborne radioactivity area as defined in § 20.203(d)(1).

d. When it is impracticable to apply process or other engineering controls to limit concentrations of radioactive materials to levels below those which delimit an airborne radioactivity area as defined in § 20.203(d)(1), and respiratory protective equipment is used to limit the inhalation of airborne radioactive material, the licensee may make allowance for such use in estimating exposures of individuals to such materials provided:

1. Intake of radioactive material by any individual within any period of seven consecutive days will not exceed that which would result from inhalation[1/][2/][3/] of such material 40 hours per week, at uniform concentrations specified in Appendix B, Table I, Column 1 of 10 CFR Part 20.

2. Respiratory protective equipment is selected and used so that the peak concentrations of airborne radioactive material inhaled by an individual wearing the equipment do not exceed the pertinent values specified in Appendix B, Table I, Column 1 of this part. For the purposes of this subparagraph the concentration of radioactive material that is inhaled when respirators are worn

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1/ Since the concentration specified for tritium oxide vapor assumes equal intakes by skin absorption and inhalation, the total intake permitted is twice that which would result from inhalation alone at the concentration specified for H3 S in Appendix B, Table I, Column 1 for 40 hours.

2/ For radioactive materials designated "Sub" in the "Isotope" column of the table, the concentration value specified is based upon exposure to the material as an external radiation source. Individual exposures to these materials shall be accounted for as part of the limitation on individual dose in § 20.101. These materials shall be subject to applicable precautionary procedures of paragraph c. above.

3/ For modes of intake other than inhalation, such intakes must be controlled, evaluated, and accounted for by techniques and procedures as may be appropriate to the circumstances of the occurrence with proper consideration of critical organs and limiting doses.

may be initially estimated by dividing the ambient airborne concentration by the protection factor specified in Table I attached hereto for the respiratory protective equipment worn. If the intake of radioactivity is later determined by other measurements to have been greater than that initially estimated, the greater quantity shall be used in evaluating exposures; if it is less than that initially estimated, the lesser quantity may be used in evaluating exposures.

3. The licensee advises each respirator user that he may leave the area at any time for relief from respirator use in case of equipment malfunction, physical or psychological discomfort, or any other condition that might cause reduction in the protection afforded the wearer.

4. The licensee maintains a respiratory protective program adequate to assure that the requirements of paragraphs 1. and 2., above, are met.

   Such a program shall include:

   (a) Air sampling and other surveys sufficient to identify the hazard, to evaluate individual exposures, and to permit proper selection of respiratory protective equipment.

   (b) Written procedures to assure proper selection, supervision, and training of personnel using such protective equipment.

   (c) Written procedures to assure the adequate fitting of respirators; and the testing of respiratory protective equipment for operability immediately prior to use.

   (d) Written procedures for maintenance to assure full effectiveness of respiratory protective equipment, including issuance, cleaning and decontamination, inspection, repair, and storage.

   (e) Written operational and administrative procedures for proper use of respiratory protective equipment including provisions for planned limitations on working times as necessitated by operational conditions.

(f) Bioassays and/or whole body counts of individuals, and other surveys, as appropriate, to evaluate individual exposures and to assess protection actually provided.

(g) Records sufficient to permit periodic evaluation of the adequacy of the respiratory protective program.

5. The licensee uses equipment approved by the U. S. Bureau of Mines under its appropriate Approval Schedules as set forth in Table I below. Equipment not approved under U. S. Bureau of Mines Approval Schedules may be used only if the licensee has evaluated the equipment and can demonstrate by testing, or on the basis of reliable test information, that the material and performance characteristics of the equipment are at least equal to those afforded by U. S. Bureau of Mines approved equipment of the same type, as specified in Table I below.

6. Unless otherwise authorized by the Commission, the licensee does not assign protection factors in excess of those specified in Table I below in selecting and using respiratory protective equipment.

7. These specifications with respect to the provisions of § 20.103 shall be superseded by adoption of proposed changes to 10 CFR 20, Section 20.103, which would make this specification unnecessary.

TABLE I TO SPECIFICATION 6.2 B

PROTECTION FACTORS FOR RESPIRATORS

DESCRIPTION	MODES 1/	PROTECTION FACTORS 2/ PARTICULATES AND VAPORS AND GASES EXCEPT TRITIUM OXIDE 3/	GUIDES TO SELECTION OF EQUIPMENT BUREAU OF MINES APPROVAL SCHEDULES* FOR EQUIPMENT CAPABLE OF PROVIDING AT LEAST EQUIVALENT PROTECTION FACTORS *or schedule superseding for equipment of type listed
I. AIR-PURIFYING RESPIRATORS			
Facepiece, half-mask 4/ 7/	NP	5	21B 30 CFR § 14.4(b)(4)
Facepiece, full 7/	NP	100	21B 30 CFR § 14.4(b)(5); 14F 30 CFR 13
II. ATMOSPHERE-SUPPLYING RESPIRATOR			
1. Airline respirator			
Facepiece, half-mask	CF	100	19B 30 CFR § 12.2(c)(2) Type C(i)
Facepiece, full	CF	1,000	19B 30 CFR § 12.2(c)(2) Type C(i)
Facepiece, full 7/	D	500	19B 30 CFR § 12.2(c)(2) Type C(ii)
Facepiece, full	PD	1,000	19B 30 CFR § 12.2(c)(2) Type C(iii)
Hood	CF	5/	6/
Suit	CF	5/	6/
2. Self-contained breathing apparatus(SCBA)			
Facepiece, full 7/	D	500	13E 30 CFR § 11.4(b)(2)(i)
Facepiece, full	PD	1,000	13E 30 CFR § 11.4(b)(2)(ii)
Facepiece, full	R	1,000	13E 30 CFR § 11.4(b)(1)
III. COMBINATION RESPIRATOR Any combination of air-purifying and atmosphere-supplying respirator		Protection factor for type and mode of operation as listed above	19B CFR § 12.2(e) or applicable schedules as listed above

1/, 2/, 3/, 4/, 5/, 6/, 7/, [These notes are on the following pages]

1/ See the following symbols:

CF: continuous flow
D : demand
NP: negative pressure (i.e., negative phase during inhalation)
PD: pressure demand (i.e., always positive pressure)
PP: positive pressure
R : recirculating (closed circuit)

2/ (a) For purposes of this specification the protection factor is a measure of the degree of protection afforded by a respirator, defined as the ratio of the concentration of airborne radioactive material outside the respiratory protective equipment to that inside the equipment (usually inside the facepiece) under conditions of use. It is applied to the ambient airborne concentration to estimate the concentration inhaled by the wearer according to the following formula:

$$\text{Concentration Inhaled} = \frac{\text{Ambient Airborne Concentration}}{\text{Protection Factor}}$$

(b) The protection factors apply:

(i) only for trained individuals wearing properly fitted respirators used and maintained under supervision in a well-planned respiratory protective program.

(ii) for air-purifying respirators only when high efficiency [above 99.9% removal efficiency by U. S. Bureau of Mines type dioctyl phthalate (DOP) test] particulate filters and/or sorbents appropriate to the hazard are used in atmospheres not deficient in oxygen.

(iii) for atmosphere-supplying respirators only when supplied with adequate respirable air.

3/ Excluding radioactive contaminants that present an absorption or submersion hazard. For tritium oxide approximately half of the intake occurs by absorption through the skin so that an overall protection factor of not more than approximately 2 is appropriate when atmosphere-supplying respirators are used to protect against tritium oxide. Air-purifying respirators are not recommended for use against tritium oxide. See also footnote 5/, below, concerning supplied-air suits and hoods.

4/ Under chin type only. Not recommended for use where it might be possible for the ambient airborne concentration to reach instantaneous values greater than 50 times the pertinent values in Appendix B, Table I, Column 1 of 10 CFR, Part 20.

5/ Appropriate protection factors must be determined taking account of the design of the suit or hood and its permeability to the contaminant under conditions of use. No protection factor greater than 1,000 shall be used except as authorized by the Commission.

6/ No approval schedules currently available for this equipment. Equipment must be evaluated by testing or on basis of available test information.

7/ Only for clean-shaven faces.

NOTE 1: Protection factors for respirators, as may be approved by the U. S. Bureau of Mines according to approval schedules for respirators to protect against airborne radionuclides, may be used to the extent that they do not exceed the protection factors listed in this Table. The protection factors in this Table may not be appropriate to circumstances where chemical or other respiratory hazards exist in addition to radioactive hazards. The selection and use of respirators for such circumstances should take into account approvals of the U. S. Bureau of Mines in accordance with its applicable schedules.

NOTE 2: Radioactive contaminants for which the concentration values in Appendix B, Table I of this part are based on internal dose due to inhalation may, in addition, present external exposure hazards at higher concentrations. Under such circumstances, limitations on occupancy may have to be governed by external dose limits.