

Docket No. 50-298

NOV 15 1977

*X not for [unclear]
for [unclear]
L 11/15/77*

Nebraska Public Power District
ATTN: Mr. J. M. Pilant, Director
Licensing & Quality Assurance
P. O. Box 499
Columbus, Nebraska 68601

Gentlemen:

The Commission has issued the enclosed Amendment No. 40 to Facility Operating License No. DPR-46 for the Cooper Nuclear Station (CNS). This amendment is in response to your request dated August 19, 1977.

This amendment involves changes to the Appendix B Technical Specifications to permit the use of a Germanium-Lithium, Ge(Li), radioanalysis system for analyzing batch liquid radioactive waste samples for barium-lanthanum 140 and iodine 131 and for analyzing gaseous radioactive effluent weekly particulate filters for principle gamma emitting nuclides. The present technical specification requirements for these analyses are based on the use of a sodium-iodide, Na(I), radioanalysis system. The requested amendment would also permit the use of the Na(I) system in the event that the Ge(Li) system became inoperative. We have evaluated the proposed changes and concluded that they are acceptable because the Ge(Li) system has a significantly greater ability than the Na(I) system to discriminate between energy levels of emitted radiation and, therefore, can better identify the nuclides present in the sample. The use of the Na(I) system as a backup in case the Ge(Li) system is inoperative is also acceptable because no reduction in radioanalysis capability below the presently approved level will result from this added operational flexibility.

The amendment also involves changes in the Appendix B surveillance requirements for Augmented Off-Gas (AOG) system hydrogen monitoring. The changes would reduce the number of required hydrogen monitors from two to one and would permit removal of the AOG system from service for up to 14 days when no hydrogen monitors were operable provided that the limits of technical specification 2.4.3.a.4.a are satisfied. Specification 2.4.3.a.4.a provides the gaseous radioactive effluent release rate limit for CNS.

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To reduce radioactive emissions to a level as low as is reasonably achievable, the AOG system was installed at CNS to reduce the quantity of short lived activation gases and fission product noble gases released from the facility via the air ejector off-gas flow path. Reduced gaseous activity release rate limits for the AOG system (specification 2.4.3.a.4.a) were established in the CNS Technical Specification on April 30, 1975. Hydrogen monitoring specifications were also provided to reduce the probability of occurrence of a hydrogen explosion in the AOG system resulting from the hydrogen present in the off-gas flow. An explosion could lead to a rupture in the AOG system and the release of gaseous radioactive effluents in excess of the technical specification limits.

We have evaluated the proposed changes. Since the CNS AOG system is designed to withstand the effects of a hydrogen explosion, we do not require redundant hydrogen monitors; and the proposal to have one monitor operable provides an acceptable level of hydrogen detection capability. The proposal to permit removing the AOG system from operation for up to 14 days if no hydrogen monitoring capability exists is subject to the limitation that the gaseous effluent release rates cannot exceed the reduced limits set forth in the environmental technical specification (specification 2.4.3.a.4.a). Therefore, the effluent release rates which formed the basis for evaluation of the environmental impact will not be increased, and the assessment of potential impact remains unchanged.

We have evaluated the potential for environmental impact of plant operation in accordance with the enclosed amendment. The justifications presented by the applicant have been carefully examined and an analysis has been made of the proposed changes. Based on this evaluation, we have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded, pursuant to 10 CFR §1.5(d)(4), that an environmental statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Since the amendment involves the operability of the Augmented Off-Gas System and, therefore, the radioactive effluents from CNS, we have evaluated the amendment from the standpoint of radiological

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impact on the site environs. We have concluded that the amendment does not involve a significant increase in the probability or consequences of an accident, does not involve a significant decrease in a safety margin, and therefore does not involve a significant hazards consideration. We have also concluded that there is reasonable assurance that the health and safety of the public will not be endangered by this action.

A copy of the related Notice of Issuance is also enclosed.

Sincerely,
Original signed by

Don K. Davis

Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors

Enclosures:

1. Amendment No. 40 to License No. DPR-46
2. Notice

cc w/enclosures:
See next page

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*FOR PREVIOUS CONCURRENCES
SEE ATTACHED YELLOW

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OFFICE ➤	DOR:ORB-2	DOR:ORB-2	DOR:EEB	OELD	DOR:ORB-2
SURNAME ➤	RMDiggs	MFletcher:nm	BGrimes*	VHarding*	DKDavis
DATE ➤	10/4/77	11/16/77	10/6/77	10/11/77	11/14/77

Docket No. 50-298

Nebraska Public Power District
ATTN: Mr. J. M. Pilant, Director
Licensing & Quality Assurance
P. O. Box 499
Columbus, Nebraska 68601

Gentlemen:

The Commission has issued the enclosed Amendment No. to Facility Operating License No. DPR-46 for the Cooper Nuclear Station (CNS). This amendment is in response to your request dated August 19, 1977.

This amendment involves changes to the Appendix B Technical Specifications to permit the use of a Germanium-Lithium, Ge(Li), radioanalysis system for analyzing batch liquid radioactive waste samples for barium-lanthanum 140 and iodine 131 and for analyzing gaseous radioactive effluent weekly particulate filters for principle gamma emitting nuclides. The present technical specification requirements for these analyses are based on the use of a sodium-iodide, Na(I), radioanalysis system. The requested amendment would also permit the use of the Na(I) system in the event that the Ge(Li) system became inoperative. We have evaluated the proposed changes and concluded that they are acceptable because the Ge(Li) system has a significantly greater ability than the Na(I) system to discriminate between energy levels of emitted radiation and, therefore, can better identify the nuclides present in the sample. The use of the Na(I) system as a backup in case the Ge(Li) system is inoperative is also acceptable because no reduction in radioanalysis capability below the presently approved level will result from this added operational flexibility.

The amendment also involves changes in the surveillance requirements for Augmented Off-Gas (AOG) system hydrogen monitoring. The changes would reduce the number of required hydrogen monitors from two to one and would permit removal of the AOG system from service for up to 14 days when no hydrogen monitors were operable provided that the limits of technical specification 2.4.3.a.4.a are satisfied. Specification 2.4.3.a.4.a provides the gaseous radioactive effluent release rate limit for CNS.

Appendix B

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To reduce radioactive emission to a level as low as is reasonably achievable,

The AOG system was installed at CNS to reduce the quantity of short lived activation gases and fission product noble gases released from the facility via the air ejector off-gas flow path. Reduced gaseous activity release rate limits for the AOG system (specification 2.4.3.a.4.a) were established in the CNS Technical Specification on April 30, 1975. Hydrogen monitoring specifications were also provided to reduce the probability of occurrence of a hydrogen explosion in the AOG system resulting from the hydrogen present in the off-gas flow. An explosion could lead to a rupture in the AOG system and the release of gaseous radioactive effluents in excess of the technical specification limits.

We have evaluated the proposed changes. Since the CNS AOG system is designed to withstand the effects of a hydrogen explosion, we do not require redundant hydrogen monitors; and the proposal to have one monitor operable provides an acceptable level of hydrogen detection capability. The proposal to permit removing the AOG system from operation for up to 14 days if no hydrogen monitoring capability exists is also acceptable because the gaseous effluent release rate limits which apply while the AOG system is operating would still be applicable in this situation. Therefore, this change would not result in any increase in the gaseous effluent release rate limits for CNS.

Insert A

We have evaluated the potential for environmental impact of plant operation in accordance with the enclosed amendment. The justifications presented by the applicant have been carefully examined and an analysis has been made of the proposed changes. Based on this evaluation, we have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded, pursuant to 10 CFR §51.5(d)(4), that an environmental statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Significant

(Insert A:)

... is subject to the limitation that the gaseous effluent release rates cannot exceed the reduced limits set forth in the environmental technical specification (specification 2.4.3.a.4.a). Therefore, the effluent release rates which formed the basis for evaluation of the environmental impact will not be increased, and the assessment of potential impact remains unchanged. Since the AOG system was added only to reduce emissions to a level as low as reasonably achievable, it is not needed to meet safety standards.

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Insert B
this is apparently a typo?
replace with something that more accurately describes the changes in particular something that orders the potential loss of the AOG system

Since the amendment involves changes to the radiological effluent monitoring program, we have evaluated the amendment from the standpoint of radiological impact on the site environs. We have concluded that the amendment does not involve a significant increase in the probability or consequences of an accident, does not involve a significant decrease in a safety margin, and therefore does not involve a significant hazards consideration. We have also concluded that there is reasonable assurance that the health and safety of the public will not be endangered by this action.

A copy of the related Notice of Issuance is also enclosed.

Sincerely,

Insert (8)

... the operability of the Augmented Off-Gas System and, therefore, the radioactive effluents from CNS,

- 2 -

Notice of Issuance

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated August 19, 1977, (2) Amendment No. to License No. DPR-46, and (3) the Commission's concurrently issued letter to the licensee. All of these items are available for public inspection which contains the Staff's environmental and safety evaluations at the Commission's Public Document Room, 1717 H Street, N. W.

Washington, D. C. and at the Auburn Public Library, 118 - 15th Street, Auburn, Nebraska.

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 Operating Reactors.

Dated at Bethesda, Maryland, this

FOR THE NUCLEAR REGULATORY COMMISSION

Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors

November 15, 1977

cc w/enclosures:

Mr. G. D. Watson, General Counsel
Nebraska Public Power District
P. O. Box 499
Columbus, Nebraska 68601

Mr. Arthur C. Gehr, Attorney
Snell & Wilmer
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Phoenix, Arizona 85004

Cooper Nuclear Station
ATTN: Mr. L. Lessor
Station Superintendent
P. O. Box 98
Brownville, Nebraska 68321

Auburn Public Library
118 - 15th Street
Auburn, Nebraska 68305

Director
Department of Environmental Control
Executive Building, 2nd Floor
Lincoln, Nebraska 68509

(w/copy of NPPD filing
dtd. 8/19/77)

Mr. William Siebert, Commissioner
Nemaha County Board of Commissioners
Nemaha County Courthouse
Auburn, Nebraska 68305

Chief, Energy Systems Analyses
Branch (AW-459)
Office of Radiation Programs
U. S. Environmental Protection Agency
Room 645, East Tower
401 M Street, S. W.
Washington, D. C. 20460

U. S. Environmental Protection Agency
Region VII
ATTN: EIS COORDINATOR
1735 Baltimore Avenue
Kansas City, Missouri 64108



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 40
License No. DPR-46

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Nebraska Public Power District (the licensee) dated August 19, 1977, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I:
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by a change to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C(2) of the Facility Operating License No. DPR-46 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 40, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 15, 1977

ATTACHMENT TO LICENSE AMENDMENT NO. 40

FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

Replace the following pages of the Technical Specifications contained in Appendix B of Facility License No. DPR-46 with the attached revised pages bearing the same numbers. Changed areas on the revised pages are reflected by a marginal line.

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29c

2.0 ENVIRONMENTAL PROTECTION CONDITION

Specification (Cont'd)

3. During release of radioactive wastes, the following conditions shall be met:

a. The effluent control monitor shall be set to alarm and automatically close the waste discharge valve prior to exceeding the limits specified in 2.4.1.b.1 above.

b. Liquid waste activity and flow rate shall be continuously monitored and recorded during release. If this requirement cannot be met, the continued release of effluent shall be permitted only during the succeeding 48 hours provided that during this 48-hour period, two independent samples of each tank shall be analyzed and two station personnel shall independently check the valving prior to discharge.

4. The equipment installed in the liquid radioactive waste system shall be maintained and shall be operated to process all liquid radwastes prior to their discharge when it appears that the projected accumulative discharge will exceed 1.25 curies during any calendar quarter.

3.0 MONITORING REQUIREMENT

Specification (Cont'd)

compliance with 2.4.1.b. using the circulating water flow rate at the time of discharge.

3. Analyze each liquid radwaste batch released or a weekly proportional composite sample including an aliquot of each batch released for Ba-La-140 and I-131.

4. A monthly proportional composite liquid waste sample, including an aliquot of each batch released during the month, shall be analyzed for the principal gamma emitting fission and activation products as well as for tritium, and gross alpha, beta and gamma radioactivity.

5. At least one representative liquid waste batch per month shall be analyzed for dissolved fission and activated gases.

6. A quarterly composite proportional sample, including an aliquot of each batch released during the quarter, shall be analyzed for Sr-89 and Sr-90.

7. The liquid effluent radiation monitor shall be calibrated at least quarterly by means of a known radioactive source. Each monitor, as

2.0 ENVIRONMENTAL PROTECTION CONDITION

Specification (Cont'd)

4. The following restrictions on gaseous activity release apply subsequent to April 30, 1975:
- a. The release rate of gaseous activity shall not exceed 16 percent of the above 2.4.3.a.1 or 8 percent of the above 2.4.3.a.2 averaged over any calendar quarter.
 - b. If the limits of 2.4.3.a.1, 2.4.3.a.2, or 2.4.3.a.4.a are exceeded, appropriate corrective action, such as an orderly reduction of power, shall be initiated to bring the releases within the limit.
 - c. When the release rate exceeds four per cent of the above 2.4.3.a.1 or two percent of the above 2.4.3.a.2, when averaged over a calendar quarter, notify the Director, Directorate of Licensing, in writing, within 30 days, identifying the causes of activity, and describing the proposed program of action to reduce such release rates to design levels.
 - d. When the release rate exceeds four percent of the above 2.4.3.a.1 for a period of greater than 48 hours, notify the Director, Directorate of Licensing, in writing within

3.0 MONITORING REQUIREMENTSSpecification (Cont'd)

5. One of the weekly charcoal filters shall be analyzed for I-133 and I-135 at least quarterly.
6. Each weekly particulate filter or a composite of a month's particulate filters shall be analyzed for principal gamma emitting nuclides. One of the weekly particulate filters shall be analyzed for gross alpha radioactivity at least quarterly. A composite of a month's filters shall be analyzed for Sr-89 and Sr-90 at least quarterly.
7. When the average daily gross radioactivity release rate at the ERP equals or exceeds that given in 2.4.3.a.3.a or 2.4.3.a.4.a as appropriate, or when the steady state gross radioactive release rate increases by 50% over the previous corresponding power level steady state release rate, the iodine and particulate cartridge shall be analyzed to determine the release rate increase for iodines and particulates.
8. All waste gas monitors shall be calibrated at least quarterly by means of a known radioactive source. Each monitor shall have an instrument channel test at least monthly and a sensor check at least daily.
9. At least annually, automatic initiation and closure of the offgas system shall be verified.

2.0 ENVIRONMENTAL PROTECTION CONDITION

Specification (Cont'd)

8. The containment shall be purged through the standby gas treatment system.

9. Hydrogen monitoring shall be required at all times when the Augmented Off-Gas (AOG) System is in operation.

a. At least one of the two hydrogen monitors downstream of the recombiners shall be operable at all times during AOG operation.

b. If neither of the above specified hydrogen monitors are operable, the AOG system may be removed from service, for a period not to exceed 14 days, providing the radioactive effluent release limits of specification 2.4.3.a.4.a are not exceeded.

3.0 MONITORING REQUIREMENTS

2.0 ENVIRONMENTAL PROTECTION CONDITIONBases (Cont'd)

Specifications 2.4.3.a.6 and 7 are in accordance with Design Criterion 64.

Specification 2.4.3.a.9.a requires that these gaseous monitoring devices be available whenever radioactive gases are generated in the plant.

Specification 2.4.3.a.8 requires that the primary containment atmosphere receive treatment for the removal of gaseous iodine and particulates prior to its release, if it exceeds the reactor building vent monitor set point.

Specification 2.4.3.a.9.a requires that hydrogen concentration in the system shall be monitored when the AOG system is in operation.

This requirement is necessary to preclude the capability of the existence of any explosive gas mixture within the AOG system, although the system has been designed to withstand the effects of an internal explosion.

Specification 2.4.3.a.9.b allows the AOG system to be removed from service, for a specified time, in the absence of any hydrogen detection capability. Such removal presents no adverse consequences to the public health and safety since, in any event, the radioactive effluent limitations of Specification 2.4.3.a.4.a must be met.

2.5 Other Parameters

Not Applicable.

3.0 MONITORING REQUIREMENTSBases (Cont'd)

3.5 Other Parameters

Not Applicable.

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-298NEBRASKA PUBLIC POWER DISTRICTNOTICE OF ISSUANCE OF AMENDMENT TO FACILITYOPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No.40 to Facility Operating License No. DPR-46, issued to Nebraska Public Power District (the licensee), which revised Technical Specifications for operation of the Cooper Nuclear Station located in Nemaha County, Nebraska. The amendment is effective as of its date of issuance.

The amendment involves changes to the Environmental Technical Specifications to permit the use of a new radioanalysis system, to reduce the number of required operable Augmented Off-Gas (AOG) system hydrogen monitors, and to permit removing the AOG system from operation for up to 14 days if no hydrogen monitors are operable.

The application for the amendment complies 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 Chapter, 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.

- 2 -

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated August 19, 1977, (2) Amendment No. 40 to License No. DPR-46, and (3) the Commission's concurrently issued letter to the licensee which contains the staff's environmental and safety evaluations. 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 Auburn Public Library, 118 - 15th Street, Auburn, Nebraska.

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 Operating Reactors.

Dated at Bethesda, Maryland, this 15 day of No-ember, 1977.

FOR THE NUCLEAR REGULATORY COMMISSION


Don K. Davis, Acting Chief
Operating Reactors Branch #2
Division of Operating Reactors