

Nebraska Public Power District

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August 16, 1979

Director, Nuclear Reactor Regulation
Attention: Mr. Brian K. Grimes
Assistant Director for Engineering & Projects
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Proposed Changes to Environmental Technical Specifications
Cooper Nuclear Station
NRC Docket No. 50-298, DPR-46

Reference: 1) Letter to Director, Nuclear Reactor Regulation
from J. M. Pilant (NPPD) dated May 23, 1979

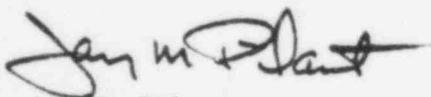
Dear Mr. Grimes:

Reference 1 submitted for NRC approval proposed Radiological Effluent (Appendix I) Technical Specifications, an Offsite Dose Assessment Manual (ODAM), and a Radiological Environmental Monitoring Manual (REMM) for Cooper Nuclear Station. These were submitted in response to an NRC request dated November 15, 1978. The submittal requested that the Appendix B Environmental Technical Specifications be deleted in their entirety upon approval of the above stated three documents.

The purpose of this letter is to forward the enclosed background and supplemental information relating to the present Appendix B Environmental Technical Specifications which were not incorporated into the proposed Appendix A Radiological Effluent Technical Specifications.

Should you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,



Jay M. Pilant
Director of Licensing
and Quality Assurance

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Attachment

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Nebraska Public Power District
Supportive Information for Proposed Changes to
Technical Specifications
for
Cooper Nuclear Station
NRC Docket No. 50-298, DPR-46

The following items, presently contained in the Appendix B Environmental Technical Specifications for Cooper Nuclear Station, have been deleted from the proposed Radiological Effluent Technical Specifications submitted to NRC May 25, 1979 and thus, when approved, will not be continued in the revised Technical Specifications for Cooper Nuclear Station.

1. 2.1 and 3.1 Thermal (pages 2-8)
2. 2.3 and 3.3 Chemical (pages 9-18)
3. 4.1.1.2 Plant Cooling Water Systems Fish Entrapment (pages 41 and 42)
4. 4.1.1.4 11-Agency Study (pages 44 and 45)
5. 4.2 Chemical (page 45)

A submittal July 10, 1979 contained information supporting the deletion of Section 4.1.1.1 Aquatic Surveillance, Study, and Evaluation Program (pages 30-41).

Background Information

On July 11, 1971, the State of Nebraska Department of Environmental Control (NDEC) issued to Nebraska Public Power District (District) a Certification of Compliance for Cooper Nuclear Station (CNS) pursuant to Section 21(b)(1) of the Water Quality Improvement Act of 1970 and as required for the 1899 Refuse Act Permit Program. This certification was based on a thorough review by NDEC of the chemical characteristics and expected volumes of CNS discharges, and their evaluation of the potential effects of these discharges on the water quality of the Missouri River.

On February 10, 1972, in accordance with Section 13 of the Refuse Act of 1899, the District filed an application for a Corps of Engineers Discharge Permit. This application contained extensive detail concerning: plant systems and processes; chemical usage; chemical nature, flow rates and total quantities of each discharge; and characteristics and flow rates of the receiving water. In the Spring of 1973, the Corps of Engineers Permit Program came under the jurisdiction of the National Pollutant Discharge Elimination System (NPDES) program of the Environmental Protection Agency (EPA). Following that date, the District supplied to EPA additional detailed information concerning CNS systems, processes and discharges, in support of the permit application.

As of July 12, 1974, the NDEC administers the NPDES program in Nebraska in accordance with Federal and State laws, regulations, and rules. Under this authority and in compliance with all applicable criteria, NPDES Permit No. NE-0001244 for CNS was issued to the District on December 12, 1975. Subsequently, based on studies performed by the District and approved by NDEC, a 316(a) waiver was granted which permits continued operation of once-through cooling, and a 316(b) permit was issued permitting operation of the CNS intake structure.

Operation of CNS under the NPDES permit and associated approvals is subject to continued compliance with limitations, monitoring, and reporting requirements specified in the permit. Issuance of the permits and approvals occurred only after detailed reviews and evaluations by the regulatory agencies (NDEC and EPA) of extensive studies performed by the District. Modifications or additions to limitations and monitoring requirements may be made by the NDEC as Federal or State regulations may require.

Environmental studies were initiated by the District to assess the impact on the aquatic biota of the Missouri River from the heated discharges of CNS. A preliminary survey was conducted in 1969 to aid in the design of a preoperational study program. A quarterly sampling program conducted in 1970 and 1971 formed the basis for more comprehensive preoperational studies in 1972 and 1973.

During preoperational studies from 1969 to 1973 extensive baseline data were gathered on water quality and the phytoplankton, zooplankton, periphyton, macroinvertebrate, and fish populations in the Missouri River near the Station. These data were used in the development of monitoring criteria for the biological and chemical portions of the Environmental Technical Specifications and as a basis for comparison with data collected after the Station became operational.

Operational studies have been conducted beginning in 1974 and continuing through the present date in accordance with the criteria established in the Environmental Technical Specifications (ETS). The data collected demonstrates that there is no significant environmental impact on the waters of the Missouri River as a result of the operation of CNS.

Supplemental Information

2.1 and 3.1 Thermal (pages 2-8)

The objective of the thermal monitoring program is to limit thermal stress to the aquatic ecosystem and control water temperature within prescribed limits in order to minimize adverse thermal effects downstream of Cooper Nuclear Station.

To evaluate environmental effects, preoperational studies were started in 1969 and continued through 1973 with operational environmental studies starting in 1974 and continuing through the present date.

A thorough review of the biological data collected during the studies indicate that thermal stress to the aquatic ecosystem of the Missouri River is not likely if the cooling water (Discharge Canal effluent) temperature does not exceed a daily maximum of 103°F at the point of discharge to the Missouri River.

After the NDEC reviewed the study data, they established a daily maximum discharge limit of 103°F and required the cooling water temperature be monitored by a continuous recorder. These discharge limits and monitoring regulations have been included as part of Cooper Nuclear Station NPDES Permit.

Since the NDEC has imposed discharge limits and monitoring requirements upon CNS, under the NPDES Permit, it is redundant to include these same discharge limits and monitoring requirements in the ETS. Therefore, all of Sections 2.1 and 3.1 (Thermal) in Appendix B of the Cooper Nuclear Station ETS have been removed from the proposed Radiological Effluent Technical Specifications.

2.3 and 3.3 Chemical (pages 9-18)

The objective of the chemical monitoring program is to insure that all chemical releases from the plant are controlled and diluted so as to not adversely affect public health, the natural aquatic environment, or the desirability of the water for domestic water supply usage.

The preoperational studies which began in 1969 and the operational studies started in 1974 included studies relative to the chemical constituents of the Missouri River Water. The data collected during these extensive studies indicated that operation of the Cooper Nuclear Station has not adversely impacted the water quality in the Missouri River.

Studies also indicate that effluent from the on-site sewage treatment facility has had no effect on the chlorine levels in the discharge canal. Chlorination of the cooling water is not required for control of bio-fouling at the Station.

After an extensive review of all plant chemical discharges the NDEC established discharge limitations and monitoring requirements for the effluent characteristics which satisfy the Nebraska Water Quality Standard (NWQS).

A review of the Cooper Nuclear Station NPDES Permit, transmitted by letter dated July 13, 1979 to Mr. Thomas A. Ippolito of the NRC Staff, will show the extensive discharge limitations and monitoring requirements established by the NDEC in order to satisfy the NWQS.

Since the NDEC is confident the discharge limitations and monitoring requirements they set forth in the Cooper Nuclear Station NPDES Permit satisfy the NWQS, it seems redundant to include sections 2.3 and 3.3 (Chemical) in Appendix B of the Cooper Nuclear Station ETS. Therefore, all of Sections 2.3 Chemical and 3.3 Chemical have been eliminated from the proposed Radiological Effluent Technical Specifications.

4.1.1.2 Plant Cooling Water Systems Fish Entrapment (pages 41 and 42)

The objective of this ETS is to assure that the fish impingement does not cause excessive impact to the fish population of the Missouri River.

Starting in 1974 fin fish impingement on the plant intake structure traveling screens has been monitored by sampling of the screen wash discharge.

Studies indicate that no significant changes in the fishery have been detected as a result of fish losses from impingement and entrapment, indicating that the Station is imposing no appreciable harm upon the fishery resources of the Missouri River.

After reviewing the data collected and the monitoring requirements established to provide assurance that fin fish impingement on the traveling screens will be maintained at an acceptably low level, the NDEC adopted the surveillance requirements contained in Appendix B of the ETS, and included them as part of the NPDES Permit requirements.

Since the plant cooling water fish entrapment surveillance requirements established in Section 4.1.1.2 of Appendix B of the ETS are also enforced under the NPDES Permit it is redundant to include them in Appendix B of the ETS. Therefore, Section 4.1.1.2 of Appendix B of the ETS has been deleted from the proposed Radiological Effluent Technical Specifications.

4.1.1.4 11-Agency Study (pages 44 and 45)

An 11-agency group, coordinated by the Nebraska Game and Parks Commission, was formed to evaluate postoperational effects of both the Cooper and Ft. Calhoun Stations.

The three areas of major attention were: 1) temperature and chemistry, 2) fish and 3) macroinvertebrates and periphyton. Plans called for a 2-year postoperational collection and evaluation program, with periodic reviews of the program and publication of progress and final reports.

The 11-agency study has been completed and the final report is being prepared for publication as an American Fisheries Society Monograph. Since the study has been completed and there is no longer a need for Section 4.1.1.4 of Appendix B, it has been deleted from the proposed Radiological Effluent Technical Specifications.

4.2 Chemical (page 45)

See Section 4.1.1.1.

On July 10, 1979 a letter, with attachments, was transmitted to Mr Thomas A. Ippolito of the NRC Staff, from Jay M. Pilant of NPPD. The subject of this letter was "Proposed changes to Environmental Technical Specifications Cooper Nuclear Station NRC Docket No. 50-298, DPR-46". The letter was written to request separate expeditions review and approval of the deletion of Section 4.1.1.1 of the Appendix B Environmental Technical Specifications by September 1, 1979.

Since Section 4.2 Chemical is referenced to Section 4.1.1.1 which is under review for deletion, it is appropriate to delete Section 4.2 from Appendix B of the ETS.