

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Report: 50-298/82-26

Docket: 50-298

License: DPR-46

Licensee: Nebraska Public Power District  
P. O. Box 499  
Columbus, Nebraska 68601

Facility Name: Cooper Nuclear Station

Inspection At: Brownville, Nebraska, and Columbus, Nebraska

Inspection Conducted: September 13-17, 1982

Inspector: J. R. Boardman 10/15/82  
J. R. Boardman, Reactor Inspector  
Reactor Project Section B Date

Approved: W. A. Crossman 10/15/82  
W. A. Crossman, Chief  
Reactor Project Section B Date

T. F. Westerman 10/18/82  
T. F. Westerman, Chief  
Reactor Project Section A Date

Inspection Summary

Inspection Conducted September 13-17, 1982 (Report: 50-298/82-26)

Areas Inspected: Routine, unannounced inspection of procurement, procedures, quality assurance, and audits. The inspection involved 34 inspector-hours by one NRC inspector.

Results: Within the four areas inspected, one violation was identified (failure to have documented procedures, paragraph 2).

DETAILS1. Persons Contacted

+R. S. Kamber, Assistant General Manager, Power Supply  
 +J. M. Pilant, Division Manager, Licensing and Quality Assurance  
 \*L. C. Lessor, Station Superintendent  
 +F. E. Williams, Manager, Quality Assurance  
 W. Rushton, Supervisor, NED  
 +J. S. Larson, Quality Assurance Engineer  
 G. Smith, Quality Assurance Specialist

\*Indicates presence at exit interview held September 14, 1982.

+Indicates presence at exit interview held September 17, 1982.

The NRC inspector also contacted other plant, general office, and sub-contractor personnel, including engineering, clerical, and administrative.

2. Material Procurement

The NRC inspector reviewed the licensee's program of supplier selection and approval for compliance with Appendix B to Part 50 of Title 10, Code of Federal Regulations, and "Cooper Nuclear Station Quality Assurance Program for Operation," Revision 8, dated August 20, 1979.

a. Use of Replacement Commercial Grade Relays in Safety-Related Applications

On September 15, 1982, the NRC inspector reviewed the licensee program for supplier approval. One supplier reviewed was Amerace Corporation. In the licensee's file on Amerace was the following documentation:

- (1) Amerace Corporation's Control Products Division in Grafton, Wisconsin, manufactures Agastat relays for safety-related applications at Cooper Nuclear Station.
- (2) The licensee apparently purchased those relays from a distributor, Interstate Electric Supply, Council Bluffs, Iowa, from 1974 through 1981.
- (3) Licensee purchase orders to Interstate Electric Supply, reviewed by the NRC inspector, identified these relays as "Essential Commercial Grade" and stated under QA requirements, "No documentation required, industrial standards apply." 10 CFR 50, Appendix B, was invoked, but 10 CFR 21 was not.
- (4) On January 4, 1982, a licensee QA representative contacted Niagra Mohawk Power Corporation to discuss a Niagra Mohawk audit of the Amerace Control Products Division. In the record of the

subject telephone conversation, Niagra Mohawk told the licensee that "Amerace manufactures two distinctly different relays; a) nuclear grade, and b) commercial grade," and "that traceability and other quality standards did not exist for commercial grade relays." The licensee was further advised that Amerace only supplies commercial grade relays to their distributors, and that nuclear grade must be ordered direct. The record also stated that NPPD has been ordering "essential" Agastat relays from a distributor, Interstate Electric, for several years.

- (5) Also, on January 4, 1982, the licensee QA representative contacted an employee of an Amerace factory representative, Jerry L. Shumway and Assoc., of Des Moines, Iowa. In the record of this telephone conversation the employee stated "that nuclear grade relays cannot be obtained through Interstate Electric or any other distributor . . . ."
- (6) On January 5, 1982, the licensee QA representative wrote a memorandum to Cooper Nuclear Station (CNS) personnel identifying the above facts, stating that "commercial grade units, however, could not be upgraded . . . ." and further stating that future essential and essential commercial grade purchase orders for Agastat relays should be sent to the local factory representatives. It was noted that the Manager, Cooper Nuclear Station, was not on distribution for this memorandum.

Though licensee records showed that commercial grade Agastat relays had been purchased as replacements and spares for "essential" (safety-related) relays from 1974 through 1981, a period of approximately 8 years, no documentation was available to the NRC inspector that licensee personnel had taken corrective action (1) to determine where replacement commercial grade Agastat relays were installed in "essential" applications, and (2) to assure that where replacement commercial grade Agastat relays were installed in essential applications, such installations did not degrade the ability of the safety system to perform their safety functions, especially with respect to seismic qualifications.

Subsequent discussion between the NRC inspector and the Amerace Control Product Division's Quality Assurance Manager determined that commercial grade Agastat relays have never been seismically qualified by Amerace. Even if GE did seismically qualify the relays in the early 1970's, they did not freeze the Agastat design. As a result, subsequent procurement would result in obtaining relays built to later designs and drawings, though designated with the same model number (and hence, electrically equivalent). Design differences could affect seismic qualification. Nuclear grade Agastat relays are qualified to Amerace specification ES-1000, which includes a seismic qualification.

The NRC inspector also discussed with Amerace their 10 CFR 21 letter of February 2, 1982, on "defective" diaphragms which could result in the nuclear grade relays timing out prematurely after aging of the diaphragm (the aging is temperature dependent). The letter reported that affected nuclear grade relays were manufactured between the 24th week of 1981 and the 3rd week of 1982. Amerace stated that commercial grade relays manufactured during the same time period would have the same diaphragm, and that such problems could occur with commercial grade relays without notification, but that defective relays would be replaced under warranty as applicable. Hence, the use of a "commercial grade" relay could result in an unsafe condition for safety applications because the licensee ordered commercial grade and did not invoke 10 CFR 21.

The NRC inspector could find no licensee documentation of corrective action to assure that similar problems do not exist with other essential parts, materials, or components, especially where licensee purchase orders contain such phrases as "commercial quality," and "industrial standards apply," where no supplier documentation is required, or where 10 CFR 21 is not invoked.

The NRC inspector could find no licensee procedures detailing licensee corrective actions for the circumstances identified above. Since five licensee quality assurance management, station engineering management, station maintenance management, and quality assurance personnel are documented as being aware of the above circumstances, apparently existing procedures do not adequately address this matter.

10 CFR Part 50, Appendix B, Criterion V requires activities affecting quality to be prescribed by documented instructions or procedures. The licensee's "Quality Assurance Program for Operation," Revision 8, dated August 20, 1979, requires that quality assurance activities and other activities which have nuclear safety significance be prescribed by documented instructions and procedures.

Failure to have such prescribed procedures is an apparent violation of 10 CFR Part 50, Appendix B, Criterion V. (8226-01)

b. Apparent Failures to Qualify Suppliers

On September 17, 1982, the NRC inspector identified to licensee personnel the following apparent problems in approval of suppliers on the "CNS Qualified Vendors List," dated September 1, 1982:

- (1) For certain suppliers such as Fisher Controls, ITE Imperial, and Rosemount, Inc., the entire company was approved, though all facilities were not surveyed or approved and, apparently, CNS was provided material from unapproved facilities.

- (2) Certain suppliers were approved based on ASME certification after the expiration of the identified certification; e.g., Guyon Alloys, Inc., was approved on March 1981, using a certification that had expired January 1981.

This will remain an unresolved item (8226-02) until the licensee has reviewed all suppliers and supplier facilities providing essential components, parts, or materials to CNS to assure that they are qualified.

### 3. Procedures

The inspector reviewed the following licensee approved procedures for compliance with regulatory requirements, and with "Cooper Nuclear Station Quality Assurance Program for Operation," Revision 8, dated August 20, 1979, and for apparent technical adequacy.

#### Nuclear Engineering/General Engineering Procedures

<u>Procedure Number</u>	<u>Title</u>	<u>Revision</u>	<u>Approval Date</u>
NEP-1	"Preparation, Control, and Issuance of NED Procedures and Instructions"	04	04/21/82
NEP-4	"Nonconformance Reports and Corrective Action"	02	07/30/82
GEP-7	"Procedure for Preparation of NPPD Specifications"	01	10/29/75
NEP-8	"Preparation of Drawings for Cooper Nuclear Station"	01	08/13/82
NEP-10	"Design Control"	07	03/31/82
NEP-12	"Preparing and Processing Drawing Change Notices and Transfer Requests"	06	08/13/82
GEP-13	"Procedure for Preparation of NPPD Engineering Studies"	Orig	06/23/75
NEP-15	"Purchase Requisitions"	04	08/16/82

GEP-7 and GEP-13 had not been revised in 7 years and referenced deleted and unissued procedures. This situation had been identified by the licensee on August 20, 1982, but no corrective action had been taken.

No deviations or violations were identified.

#### 4. Quality Assurance Program Annual Review

The NRC inspector reviewed the licensee's quality assurance program. The NRC inspector noted that there had been no major changes either implemented or requested in the quality assurance program since the last inspection of this area. The NRC inspector reviewed the following licensee procedures:

##### Quality Assurance Instructions (QAI's)

<u>Procedure Number</u>	<u>Title</u>	<u>Revision</u>	<u>Date</u>
QAI-1	"Guidelines for Preparation and Issuance of Quality Assurance Documents"	07	08/14/81
QAI-2	"Controlled Distribution of Quality Assurance Documents"	11	12/08/81
QAI-4	"General Guidelines-Quality Assurance Surveillance"	10	12/16/81
QAI-5	"General Guidelines-Quality Assurance Audits"	14	12/16/81
QAI-6	"Personnel Qualifications and Training for QA Assignments"	09	12/16/81
QAI-7	"Quality Records Retention, Storage, and Disposition"	13	08/15/82
QAI-9	"Guidelines for Establishing Quality Classifications of Components and Materials"	08	05/04/82
QAI-11	"Delegation of Specific Responsibilities"	08	12/17/81
QAI-12	"Guidelines for Audit Frequency and Scheduling"	11	12/21/81

##### Quality Assurance Programs (QAP's)

QAP-200	"Station Operation"	05	07/26/82
QAP-400	"Instrument and Equipment Calibration and control"	07	05/21/82
QAP-600	"Surveillance Testing"	05	12/10/81
QAP-2200	"SRAB Activities"	Orig	09/09/81

No deviations or violations were identified.

5. Licensee Audit Program

The NRC inspector reviewed the following licensee audits for compliance with regulatory requirements, licensee commitments, and approved procedures:

<u>Audit Number</u>	<u>Report Date</u>	<u>QAP</u>	<u>Subject</u>
G82-03	08/31/82	2000	"NRC Reporting and Responding Activities"
G82-02	08/27/82	1700	"Design Control"
82-03	03/01/82	800	"Fire Protection"
81-27	02/02/82	1000	"Core Management"

Also, the NRC inspector reviewed the Safety Review and Audit Board (SRAB) audit of training.

No violations or deviations were noted, but the NRC inspector noted that no qualifications were required for SRAB auditors.

6. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations, or deviations. An unresolved item disclosed during this inspection is discussed in paragraph 2.

7. Exit Interviews

Exit interviews were conducted on September 14 and 17, 1982, with those NPPD personnel denoted in paragraph 1 of this report to summarize the scope of the inspection and the findings.





**INSPECTOR'S REPORT**  
**(Continuation)**  
Office of Inspection and Enforcement

DOCKET NO. (8 digits) OR LICENSE NO. (BY PRODUCT) (13 digits)		REPORT NO.		MODULE NUMBER	VIOLATION SEVERITY OR DEVIATION					SITE RELATED		
05000298		3226	A	5131570101	1	2	3	4	5	6	A	C
			B								B	D
			C									
			D									

- VIOLATION OR DEVIATION (Enter up to 2400 characters for each item. If the text exceeds this number, it will be necessary to paraphrase. Limit lines to 50 characters each.)
1. VIOLATION OF 10 CFR PART 50, APPENDIX B, CRITERION V FAILURE TO
  2. HAVE PRESCRIBED PROCEDURES FOR DETERMINING ACCEPTABILITY OF
  3. REPLACEMENT ESSENTIAL ELECTRICAL COMPONENTS (AGASTAT RELAYS)
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