



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV

611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

April 17, 1996

EA 96-062
EA 96-094

Nebraska Public Power District
ATTN: Guy R. Horn, Vice President - Nuclear
1414 15th Street
Columbus, Nebraska 68601

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -
\$50,000 (NRC Inspection Report Nos. 50-298/96-04 and 50-298/96-08)

Dear Mr. Horn:

This refers to the predecisional enforcement conference held in the NRC's Arlington, Texas office on April 1, 1996, with you and other representatives from the Nebraska Public Power District (NPPD). The conference was conducted to discuss apparent violations of requirements identified during NRC inspections conducted on February 5 through 22, and on February 26 through March 1, 1996, at the Cooper Nuclear Station (Cooper). The NRC inspection reports, which were the subject of the conference, described three apparent violations related to: (1) the improper modification of the main steam tunnel blowout panel sections; (2) the improper modification of the solenoid valves which control the muffler bypass valves associated with each emergency diesel generator; and (3) the inadequate isolation of the control power circuitry for Diesel Generator 2 from the potential effects of a postulated control room fire.

Based on the information developed during the inspection and the information that you provided during the conference, the NRC has determined that violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) and the circumstances surrounding them are described in detail in the subject inspection reports.

The first violation identified in the attached Notice, and the only violation that was assessed a civil penalty, involves a modification to the main steam tunnel blowout panels. These panels operate to relieve pressure in the steam tunnel in the event of a main steam line break and ensure that external forces on primary containment would not cause primary containment to fail. The panels were modified in June 1985 when fiberglass was applied to prevent secondary containment leakage. However, no evaluation had been performed, as required by 10 CFR 50.59, to determine whether this modification constituted an unreviewed safety question.

Subsequent to this issue being identified in November 1995, Cooper's analysis indicated that the fiberglass changed the characteristics of the panels such that a pressure greater than 15 psi would have occurred in the steam tunnel during a postulated main steam line break, which would have exceeded design

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and licensed safety analysis limits. However, as a result of its recent extensive analysis, Cooper management now believes that the external forces on primary containment would not have caused containment failure. Although Cooper's analysis indicated that the potential consequences of the conditions were minimal, the significance of this violation is based on the fact that NPPD operated Cooper in an unanalyzed condition from approximately July 1985 until November 1995. Therefore, this violation has been categorized in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, at Severity Level III.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III violation. Because your facility has been the subject of escalated enforcement actions within the last 2 years¹, the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. In evaluating the *Identification* factor, NRC considered your position at the conference that Cooper had no opportunities to identify the violation. However, in view of the fact that NPPD had modified the panels in the first place and, therefore, should have known of the change, and that an NRC inspector's questioning led to the subsequent identification of the problem, NRC has determined that no credit is warranted for *Identification*. NRC's evaluation of the information provided at the conference concluded that credit was warranted for the *Corrective Action* factor. Cooper's corrective actions included removing the fiberglass and restoring the design function of the panels, improving the description of the panels in the updated safety analysis report (USAR), inspecting other blowout panels, beginning a review of a random sample of past maintenance work for unreviewed safety questions and unauthorized modifications, and beginning the development of a high energy line break design criteria document.

Therefore, to emphasize the importance of ensuring that the plant is operated within the confines of the USAR, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty in the base amount of \$50,000.

The second violation identified in the attached Notice, but not assessed a civil penalty, involves Cooper's failure to electrically isolate Diesel Generator 2 control circuitry from the effects of a fire-induced cable fault created by a (postulated) fire in the control room or cable spreading room, in violation of 10 CFR 50, Appendix R, Section III.G. This diesel generator is

¹ An enforcement action involving three Severity Level III problems was issued on December 12, 1994 (EA Nos. 94-164, 94-165, and 94-166), with each problem being assessed a \$100,000 civil penalty, for a total civil penalty assessment of \$300,000. The first problem consisted of violations related to the primary containment system and failures to maintain operability, adequately test, and maintain design control of the system. The second problem involved violations associated with the 480 volt and 4160 volt critical buses and failures to adequately test and maintain system operability. The third problem consisted of violations pertaining to the control room emergency filter system and failures to maintain operability and adequately test the system.

identified in Cooper's Safe and Alternate Shutdown Analysis Report as the alternate safe-shutdown equipment. As a result of this violation, an electrical fault caused by a postulated control room fire could have prevented the diesel generator from performing its intended function of achieving and maintaining hot shutdown.

During the predecisional enforcement conference, you informed us that the circumstances surrounding the apparent violation of 10 CFR 50, Appendix R, were different from the circumstances reported in Licensee Event Report (LER) 95-20 and from those documented in NRC Inspection Report 50-298/96-08. In July 1994, an engineering review identified this condition (reference LER 94-16), and in August 1994, Cooper modified the wiring to correct the violation. In preparation for the enforcement conference, your staff identified that these corrective actions were effective in correcting the original design deficiency. However, the Appendix R violation recurred in January 1995 as a result of a wiring modification performed in accordance with Design Change 94-302, Revision 0. As a result of this design change, the diesel generator control relays (listed in LER 95-20) were once again vulnerable to a fire in the control room. Accordingly, the potential violation identified in LER 95-20 and NRC Inspection Report 96-08 existed, although caused by a different design modification than specified in the inspection report.

After investigating the circumstances of this violation, Cooper determined that the root cause was attributed to an inadequacy in the design change process. Specifically, Cooper found that the design change process allowed the use of drawings which did not have all pending changes identified.

As a result of the identified Appendix R violation, a condition existed from approximately January 3, 1995 until November 25, 1995, in which a fire-induced electrical fault on the wiring for the indicating lights for Diesel Generator 2 (on Board "C") could have caused Diesel Generator 2 to stop, if running, and would have prevented the diesel generator from starting when required. Therefore, this violation has been categorized in accordance with the Enforcement Policy at Severity Level III.

As discussed above, a base civil penalty in the amount of \$50,000 is considered for a Severity Level III violation. Because your facility has been the subject of escalated enforcement actions within the last 2 years², the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. In evaluating the *Identification* factor, NRC noted that, in both instances (1994 and 1995), Cooper engineers identified the condition before an event occurred and before being identified by the NRC. Therefore, NRC has determined that credit for the *Identification* factor was warranted. NRC's evaluation of the information provided at the conference concluded that credit was warranted for the *Corrective Action* factor.

² *ibid.*

Cooper's corrective actions included isolating the control circuitry, investigating and correcting the existing drawing control program process, evaluating which disciplines were affected by the root cause, evaluating a sample of panel drawings to identify adverse modification interrelationships, training on the changed process, and having Cooper's Quality Assurance organization perform an independent evaluation of drawing control program.

In the civil penalty assessment process, NRC also considered the fact that, except for a 4-month period in 1994, this Appendix R violation has existed at Cooper since 1987. We balanced our concern over this issue with the intent of the enforcement policy to encourage licensees to identify problems before an event occurs and to take corrective actions. Therefore, in accordance with the intent of the enforcement policy, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty for this violation. Significant violations of this nature in the future could, however, result in a civil penalty.

The third and final apparent violation identified in the subject inspection reports involved the improper modification of the solenoid valves which control the muffler bypass valves associated with each emergency diesel generator. This modification was intended to preclude foreign material exclusion entry into the solenoid exhaust. However, it also raised the solenoid exhaust backpressure, which intermittently prevented actuation of the solenoid pilot valve on Diesel Generator 2. Therefore, the Diesel Generator 2 muffler bypass system was inoperable, under certain conditions, for approximately 20 days. (Note: Although the same vulnerability existed on Diesel Generator 1, repeated testing of its muffler bypass system demonstrated that its operability was not affected.)

Based on the information provided during the conference, NRC concluded that although this modification affected operability of Diesel Generator 2 under certain conditions when the muffler bypass line was required, Diesel Generator 1 would have been operable for all design basis events. Therefore, this violation has been categorized in accordance with the Enforcement Policy, NUREG-1600, at Severity Level IV, and is cited in the attached Notice.

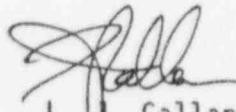
In reviewing these three issues, Cooper management expressed their concern, and NRC agreed, that these issues involved significant and broad engineering issues. Cooper management briefly highlighted initiatives to sensitize its workers and engineers to the above specific issues, and to ensure that no other modifications are made to the plant without the required analyses. For example, Cooper management noted that engineers are reviewing all work requests to ensure that they include no inadvertent modifications. Also, a work planning group is overseeing work requests to also ensure that the appropriate authorizations are obtained prior to work. In the meantime, Cooper management is evaluating other steps to improve its processes. Improvements to Cooper's design control processes will be the topic of future management meetings between NRC and Cooper management.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your

response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

Sincerely,



L. J. Callan
Regional Administrator

Docket: 50-298
License: DPR-46

Enclosure:
Notice of Violation and
Proposed Imposition of Civil Penalty

cc w/enclosure:
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Nebraska Public Power District
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907 Walnut Street
P.O. Box 657
Des Moines, Iowa 50303

Nebraska Public Power District

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Lincoln Electric System
ATTN: Mr. Ron Stoddard
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Lincoln, Nebraska 68508

Nebraska Department of Environmental
Quality
ATTN: Randolph Wood, Director
P.O. Box 98922
Lincoln, Nebraska 68509-8922

Nemaha County Board of Commissioners
ATTN: Chairman
Nemaha County Courthouse
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Nebraska Department of Health
ATTN: Cheryl Rogers, LLRW Program Manager
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Lincoln, Nebraska 68509-5007

Nebraska Department of Health
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Department of Natural Resources
ATTN: R. A. Kucera, Department Director
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Kansas Radiation Control Program Director

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