

DCS

FEB 20 1985

Duke Power Company
ATTN: Mr. H. B. Tucker, Vice President
Nuclear Production Department
422 South Church Street
Charlotte, NC 28242

Gentlemen:

SUBJECT: SEVERITY LEVEL III VIOLATION AND PROPOSED CIVIL PENALTY: EA 84-130
OPERATION OF UNITS 1 AND 2 WITH THE UPPER HEAD INJECTION ACCUMULATOR
SYSTEMS INOPERABLE
(NRC INSPECTION REPORT NOS. 50-369/84-34 AND 50-370/84-31)

A special safety inspection was conducted by this office during the period of November 2-3, 1984, of activities authorized by NRC Operating License Nos. NPF-9 and NPF-17 for the McGuire Nuclear Station. The inspection was conducted as a result of an event reported to the NRC by the McGuire Nuclear Station. This event involved the failure of the Upper Head Injection (UHI) accumulator system isolation valves to close at the required UHI accumulator water level. As a result of this inspection, failures to comply with NRC regulatory requirements were identified. Accordingly, an Enforcement Conference to discuss this matter was held in the NRC Region II Office on November 14, 1984.

Violation 1 described in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty resulted from placing both the Unit 1 (since March of 1983) and the Unit 2 (since April of 1983) UHI accumulator systems in a degraded condition. You determined that the accumulator differential pressure instrument setpoints had been erroneously set due to an engineering error in the calibration procedure which established those setpoints for both units. As a result, by incorporating an incorrect and nonconservative water level setpoint for isolation valve closure, the required value for isolation valve closure was exceeded by 24 inches of tank height. In the event of UHI accumulator system activation, this setpoint error would have resulted in reduced water injection by approximately 22 percent of tank volume. In the event of a serious accident, the NRC is concerned that this reduction in water supplied to the core could have caused fuel damage beyond that contemplated in the accident analysis.

Violations 2 and 3 described in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty relate to further inoperability of the Unit 1 UHI accumulator system. With the UHI accumulator system already in a degraded condition since March of 1983, in April of 1984, a plant modification was performed to replace the four level transmitters on the UHI accumulator system. The instructions and acceptance criteria pursuant to which the modification was performed were not adequate to ensure that the level transmitters were correctly installed. In addition, the equipment was not adequately tested following the modification. An adequate test would have detected that the transmitters were piped backwards.

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With these level transmitters incorrectly installed, and upon UHI initiation, the isolation valves would not have closed as designed upon decreasing water level in the accumulator tank. The NRC is concerned that this violation of regulatory requirements could have resulted in the injection of nitrogen gas into the reactor, thus potentially precluding the Emergency Core Cooling System from fulfilling its intended safety function of limiting fuel cladding temperature to within specified limits on Unit 1. The consequences of nitrogen injection have not been analyzed.

Additionally, the NRC is concerned about Duke Power Company's philosophy with respect to surveillance testing. Duke Power Company stated during the Enforcement Conference on November 14, 1984, that it considered performance of a dry calibration of the differential pressure instruments coupled with a stroke timing test of the accumulator isolation valves to be an adequate surveillance test for meeting the Technical Specification 18-month test requirement to verify the closing of the isolation valves at the required accumulator water level. The performance of the surveillance test in this manner following the modification of the Unit 1 UHI accumulator system in April 1984, failed to detect the inoperability of the accumulator differential pressure transmitters and, consequently, did not detect that the accumulator isolation valves would fail to close when accumulator water level decreased to the required level. The NRC believes surveillance testing should include post modification functional testing for accumulator differential pressure transmitters which is capable of detecting any predictable error in the installation.

To emphasize the seriousness of these violations, I have been authorized, after consultation with the Director, Office of Inspection and Enforcement, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty in the amount of Fifty Thousand Dollars (\$50,000) for the violations described in the enclosed Notice. These violations have been categorized in the aggregate as a Severity Level III problem in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, as revised, 49 FR 8583 (March 8, 1984). The base civil penalty for this type of violation is \$50,000. Consideration was given to the escalation and mitigation factors in the policy for increasing or decreasing this amount. These factors were not found to be applicable.

You are required to respond to the enclosed Notice, and you should follow the instructions specified therein when preparing your response. Your response should specifically address the corrective actions planned with regard to ensuring that future plant modification procedures provide adequate direction with respect to how the modification is to be properly accomplished and ensuring that functional testing associated with post modification work will be adequate to demonstrate affected systems and components will function satisfactorily in service. Additionally, your response should address corrective actions planned to ensure required periodic surveillance testing provides an adequate degree of assurance of systems and components reliability. In your response, appropriate reference to previous submittals is acceptable. Your response and the results of future inspections will be considered in determining whether further enforcement action is appropriate.

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Your attention is invited to unresolved items identified in the inspection report. These matters will be pursued during future inspections.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosures will be placed in the NRC's Public Document Room.

The responses directed by this letter and accompanying Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

Sincerely,

**ORIGINAL SIGNED BY
JOHN A. OLSHINSKI**

J. Nelson Grace
Regional Administrator

Enclosures:

1. Notice of Violation and Proposed Imposition of Civil Penalty
2. Inspection Report Nos. 50-369/84-34 and 50-370/84-31

cc w/encls:

- M. D. McIntosh, Station Manager
- C. F. York, Division Manager