



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137
January 15, 1992

DCS

Docket No. 50-255
License No. DPR-20
EA 91-125

Consumers Power Company
ATTN: Mr. David P. Hoffman
Vice President - Nuclear
Operations
1945 West Parnall Road
Jackson, MI 49201

Dear Mr. Hoffman:

SUBJECT: PALISADES NUCLEAR GENERATING PLANT
NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY - \$100,000
(NRC INSPECTION REPORT NO. 50-255/90025(DRS) AND NO. 50-255/91202(NRR))

This refers to the two inspections conducted on September 19, 1990, through April 18, 1991, and June 10-21, 1991, at the Palisades Nuclear Generating Plant. The inspections focused on design engineering, field implementation, and testing activities associated with the Palisades steam generator replacement project (SGRP) as well as other plant modifications. During the inspections, the NRC identified multiple examples of design control deficiencies in calculations and specifications associated with piping and pipe supports. The deficiencies were documented in the subject inspection reports which were sent to you by letters dated May 24 and August 2, 1991. An enforcement conference was held on October 15, 1991, to discuss the violations, their causes, and your corrective actions. The report summarizing the conference was sent to you by letter dated November 4, 1991.

Problems identified by the NRC included errors in calculations, use of incorrect analytical methods, and misapplication of design basis requirements and specifications. In view of the numerous deficiencies identified, the adequacy of design was judged to have been indeterminate in several important instances, most notably the main steam system piping.

The design control deficiencies are similar to those which were the subject of a previous escalated enforcement action (EA 89-251). While you took steps in your steam generator replacement project to avoid repetition of those design control problems, those steps were insufficient. The NRC is particularly concerned that several in-depth technical audits of your principal design contractor identified deficiencies similar to those found in subsequent NRC inspections. However, you failed to adequately address and correct those deficiencies on a broad scale apparently because of schedule and production

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pressure. Had the NRC not become involved, it is not likely that your staff would have identified and corrected all of the deficiencies that were eventually identified.

Management made decisions on a number of occasions during the project to proceed with plant modifications despite having information indicating that extensive design control problems existed. You have stated that taking such an approach was justified by the perceived lack of any significant finding (i.e., one requiring hardware modification) and your plans to perform additional technical audits before startup from the outage. We view this approach to be seriously flawed in several significant ways. First, no consideration appeared to be given to the cumulative significance of the deficiencies being identified. With a more complete assessment of the situation, you could and should have determined that the problems being identified were not isolated.

Secondly, dealing with design control problems in parallel with or after installation activities creates a situation where schedule and production constraints may adversely affect the ability to objectively identify and correct design deficiencies. In this case, we believe that such pressures hampered your ability to recognize and take appropriate corrective action to address the programmatic breakdown that occurred. Our underlying concern about such a situation is that, should far-reaching quality control problems occur, there can be little confidence that significant design problems would not, in fact, exist unless extensive post-installation evaluations are performed. Such evaluations would have to go well beyond auditing processes. Attempting to assure quality through inspections and audits performed after the fact when it is recognized that the production process is flawed, is inconsistent with fundamental Quality Assurance principles embodied in Appendix B to 10 CFR Part 50, and is unacceptable.

Twenty-four (24) violations were identified during the inspections as described in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice). The violations involved failure to assure that regulatory requirements and design bases are correctly translated into design documents, failure to follow procedures, failure to promptly identify and correct nonconformances, and failure to obtain prior Commission approval for a change to the Final Safety Analysis Report which reduced the margin of safety. While we did not identify any single deficiency that required immediate plant modification, the number and extent of deficiencies indicate that a breakdown in design controls associated with piping and pipe supports occurred for the steam generator replacement project, with the potential for more significant errors. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy) 10 CFR Part 2, Appendix C (1991), the violations are categorized in the aggregate as a Severity Level III problem.

We recognize that specific corrective actions have been taken for each of the violations as documented in Appendices I, II, and III to your enforcement

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conference presentation. Additionally, as documented in your July 9, 1991, letter to the NRC, you committed to improve your performance in the areas of modification engineering and engineering practices through several broad corrective actions. These actions included Final Safety Analysis Report revisions to clarify piping and pipe support design criteria and reduce ambiguity; specification upgrades; implementation of an umbrella document to tie specification and procedural requirements together; an assessment of pipe and pipe support engineering by a contractor; third party reviews of your Nuclear Engineering and Construction Organization analyses; and a main steam line reanalysis. Several of these actions have been completed as discussed in the August 7, 1991, meeting at NRC headquarters. Other actions, including the reanalysis of the main steam piping system by a third party independent of your first contractor, are still ongoing.

We recognize that prior to restart, the technical issues were reviewed between your staff and the Office of Nuclear Reactor Regulation and safety concerns were not identified that would prohibit startup. Nevertheless, to emphasize the need to establish and implement improved controls in the general area of design, and specifically in the piping and pipe support area, as well as the control of your contractors, I have been authorized, after consultation with the Director, Office of Enforcement, and the Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty in the cumulative amount of \$100,000 for the Severity Level III problem.

The base value of a Severity Level III problem is \$50,000. The escalation and mitigation factors in the Enforcement Policy were considered. Full 50 percent escalation of the base civil penalty was warranted for identification and reporting in that the NRC identified all of the violations. Full 50 percent mitigation of the base civil penalty was warranted for your extensive corrective actions discussed above. Full 100 percent escalation of the base civil penalty was warranted for your poor past performance. The design control issues are similar to the issues identified in the February 1990 (EA 89-251) Notice as noted above. The other escalation/mitigation factors were considered and no further adjustment was considered appropriate. Therefore, based on the above, the base civil penalty was increased by 100 percent.

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 letters and its enclosure will be placed in the NRC Public Document Room.

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The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96-511.

Sincerely,



A. Bert Davis
Regional Administrator

Enclosure: Notice of Violation and
Proposed Imposition of Civil Penalty

cc w/enclosure:

Gerald B. Slade, General Manager, Palisades
P. M. Donnelly, Safety and Licensing Director
DCD/DCB (RIDS)
OC/LFDCB
Resident Inspector, RIII
James R. Padgett, Michigan Public Service Commission
Michigan Department of Public Health
Palisades LPM, NRR
SRI, Big Rock Point

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J. Goldberg, OGC

T. Murley, NRR

J. Partlow, NRR

Enforcement Coordinators,

RI, RII, RIV, RV

F. Ingram, GPA/PA

D. Williams, OIG

B. Hayes, OI

E. Jordan, AEOD

W. Troskoski, OE

OE:Chron

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RAO:RIII

SLO:RIII

PAO:RIII

IMS:RIII