

June 17, 1992

Docket No. 50-412
License No. NPF-73
EA 92-085

Duquesne Light Company
ATTN: Mr. J. D. Sieber
Vice President, Nuclear Group
Post Office Box 4
Shippingport, Pennsylvania 15077

Dear Mr. Sieber:

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL
PENALTY - \$75,000 (Combined NRC Inspection Report No.
50-334/92-09; 50-412/92-07)

This letter refers to the NRC inspection conducted between March 15, 1992 and April 18, 1992, at the Beaver Valley Power Station in Shippingport, Pennsylvania. The inspection report was sent to you on May 11, 1992. The inspection included a review of two occurrences at the facility involving Unit 2 operating (1) for an indeterminate time with three relays in each of two emergency diesel generator (EDG) sequencers inoperable; and (2) outside of the technical specification (TS) limiting condition for operation (LCO) for refueling operations, in that two containment penetrations were not closed by a valve or blind flange during core alterations. As a result of this inspection, violations of NRC requirements were identified. On May 19, 1992, an enforcement conference was held with you and members of your staff to discuss these occurrences, the apparent violations, their causes and your corrective actions.

The more significant violation, which is described in Section I of the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice), involved the failure to establish adequate design control measures for verifying or checking the adequacy of a design change to the emergency diesel generator (EDG) sequencers. Design Change Package (DCP) 1545 was initiated to replace electro-mechanical relays in both Unit 2 EDG sequencers with solid state relays in September, 1990. The commercial grade solid state relays were qualified for their safety-related application through testing performed by Wyle Laboratories per your specifications. The tested configuration applied 24 vdc across the internal clock circuitry. However, to improve the clock accuracy, a vendor-recommended change was subsequently made prior to completion of the DCP which resulted in the continuous application of 124 vdc across the clock circuitry. This resulted in excessive operating voltage (112 to 129 vdc) being developed within the relay, which caused the subsequent failure of those relays.

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

OFFICIAL RECORD COPY

9206240111 920617
PDR ADOCK 05000334
Q PDR

Although the change in the installation configuration was in accordance with the vendor's verbal recommendation, the vendor was not a 10 CFR Part 50, Appendix B vendor, meaning that the relays were purchased as commercial grade items. While the items were subsequently dedicated for you by Wyle Laboratories Quality Assurance (QA) Category I items, the NRC is concerned that no analysis was performed, by your staff, to justify the change in the wiring configuration during installation. The failure to establish adequate measures to verify or check the adequacy of a design change is considered a violation of the requirements of 10 CFR Part 50, Appendix B, Criterion III.

The NRC is also concerned with the apparent lack of formal communications between your staff and the vendor organization (Automatic Timing and Controls Company) regarding the installation of the EDG sequencer relays. Notwithstanding the importance and safety significance of the EDG load sequencers, you relied upon a verbal recommendation from the vendor to support this design change. The NRC recognizes that because the vendor considers the relay design proprietary, you might not have kept the proprietary information. Nonetheless, as operator of the facility, you retain the responsibility for ensuring that changes in the design of safety related components do not adversely affect the operation of those components.

The failure of the three relays in each of the two emergency trains during a loss of coolant accident, coincident with a loss of offsite power (assuming a single failure), could have potentially resulted in the complete failure of both EDG load sequencers. This condition would have prevented the emergency diesel generators from automatically re-energizing the affected buses and safeguard loads, significantly reducing your ability to automatically mitigate the consequences of a loss-of-coolant accident. Therefore, this violation has been classified at Severity Level III in accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (Enforcement Policy). The violation is described in Section I of the enclosed Notice.

The NRC recognizes that actions were taken to correct these violations and prevent recurrence. These actions included, but were not limited to: (1) issuing a Design Change Package (DCP) to modify the relay installation by replacing the failed relays and eliminating the possibility of further relay overheating failures; (2) requesting complete circuit diagrams from vendors that supply components including diagrams that show electrical/electronic internal configuration circuitry; (3) revising procedures to insure that similar modifications are adequately evaluated; and (4) plans for reviewing design change packages performed over the past five years to verify that similar modifications have been properly evaluated. Furthermore, when the underlying violation was identified, you initiated an extensive root cause analysis and a broad review for other impacts stemming from the causes.

Notwithstanding those corrective actions, to emphasize the importance of (1) proper control of equipment at the facility to assure that systems designed to mitigate serious safety events are able to perform their intended safety function; and (2) proper design control of vendor supplied components associated with safety related equipment to assure that these components do not degrade such equipment, 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 (Notice) in the amount of \$75,000 for the violation set forth in Section I of the enclosed Notice.

The base civil penalty amount for a Severity Level III violation is \$50,000. The escalation and mitigation factors set forth in the enforcement policy were considered, and on balance, the civil penalty was escalated by 50 percent to \$75,000. Although the condition involving the failure of the EDG sequencer relays was identified and reported to the NRC by your staff, the specific violation, involving the failure to establish adequate design control measures for verifying or checking the adequacy of a design change, was identified by the NRC, and therefore, no adjustment of the base civil penalty on this factor is warranted. Your corrective actions for the event, including your conservative declaration of the EDG 2-2 sequencers inoperable immediately after identifying the problem in EDG 2-1, were considered prompt and comprehensive, therefore, 50 percent mitigation of the base civil penalty on this factor is warranted. Although you received a Category 2 rating in the engineering/technical support areas during the last SALP period, you have been cited for a Severity Level III violation and civil penalty (Ref: EA-91-098, dated October 8, 1991), and several Severity Level IV violations, in the past two years, dealing with engineering related problems, and therefore, no escalation or mitigation was deemed warranted based on this factor. A 100 percent increase was deemed appropriate based on the duration of the violation's impact, in light of a common mode failure that could have existed as early as November 1990. The other factors were considered and further adjustments were not made.

In addition to the violation described above, another violation, which is described in Section II of the enclosed Notice, was discussed during the enforcement conference. This violation involved the use of temporary fire stops to seal containment penetrations during core alterations. These fire stops were installed in spare Unit 2 containment penetrations that were used to support refueling outage work. This violation is classified at Severity Level IV because of its minor safety significance. With respect to the identification of this violation, the NRC commends the actions of the backshift planning coordinator who discovered air leaking from the containment penetrations and notified the control room. Nonetheless, the NRC is concerned that poor management oversight resulted in an unsuitable technique being used to seal the penetrations. Further, that technique could result in the potential for an unfiltered release from a spent fuel handling accident.

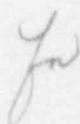
You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. After reviewing your response to this 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 and the enclosed Notice will be placed in the NRC Public Document Room.

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

Sincerely,

ORIGINAL SIGNED BY
WILLIAM F. KANE



Thomas T. Martin
Regional Administrator

Enclosure:

Notice of Violation and Proposed Imposition of Civil Penalty

cc w/encl:

G. S. Thomas, General Manager, Corporate Nuclear Services
N. R. Tonet, Manager, Nuclear Safety
T. P. Noonan, General Manager, Nuclear Operations
K. D. Grada, Manager, Quality Service Unit
H. R. Caldwell, General Superintendent, Nuclear Operations
K. Abraham, PAO (2)
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
Commonwealth of Pennsylvania

Duquesne Light Company

DISTRIBUTION:

- PDR
- SECY
- CA
- JSniezek, DEDR
- JLieberman, OE
- TMartin, RI
- JGoldberg, OGC
- TMurley, NRR
- JPartlow, NRR
- Enforcement Coordinators
- RI, RII, RIII, RIV, RV
- Fingram, GPA/PA
- BHayes, OI
- VMiller, SP
- DWilliams, OIG
- EJordan, AEOD
- WTroskoski, OE
- Day File
- EA File
- DCS

RI:OE
Easlick
Σ
05/192

RI:OE
Holody
DMS
05/16/92

for information only
RI:DRP
Ruland
WHR
05/14/92

Gene Slope
RI:DRP
Rogge
05/19/92

RI:DRP
Blough
05/19/92

Reviewed but not available

RI:ERS
Hehl
05/16/92

RI:RC
Smith
o.k. for office
05/19/92

RI:DRP
Kane
05/18/92

RI:RAH
Martin
05/18/92

OE
Lieberman
05/19/92

OE provided on 6/12/92 to Paula