ARKANSAS POWER & LIGHT COMPANY

June 14, 1989

ØCANØ689Ø3

J. L. Milhoan, Director
Division of Reactor Projects
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

SUBJECT: Arkansas Nuclear One - Units 1 and 2
Docket Nos. 50-313/50-368
License Nos. DPR-51 and NPF-6
Response to Inspection Report
50-313/89-10 and 50-368/89-10

Dear Mr. Milhoan:

Pursuant to the provisions of 10CFR2.201, a response to the violations identified in the subject inspection report is submitted.

Very truly yours,

E. C. Ewing
General Manager
Plant Support

CEC:PLM:djm
attachment

cc w/att: U. S. Nuclear Regulatory Commission
Document Control Desk
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IE01

IC-89-236

Notice of Violation

A. Unit 1, TS 6.8.1 requires that written procedures be established, implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, November 1972. Appendix A, Item 8.b(1)(j) requires procedures for the surveillance tests, inspections, and calibrations of the emergency core cooling system. Plant Test Procedure (PTP) 1304.013, Revision 8, "HPI/LPI and Reactor Building Spray Flow Inst. Surv. Red Channel," has been established in accordance with this TS requirement.

Section 8.7 of PTP 1304.013 provides instructions for the calibration of Transmitter PDT-1401 which provides a flow signal for Train A of the low pressure injection and decay heat removal systems. These instructions require isolation and venting of the transmitter prior to actual calibration.

Contrary to the above, on March 14, 1989, Transmitter PDT-1402 was inadvertently isolated when the work instructions directed that Transmitter PDT-1401 be calibrated. This action caused the loss of decay heat removal flow indication and the subsequent securing of the decay heat removal pump by the operators due to loss of indicated flow.

This is a Severity Level IV violation. (Supplement I)(313/8910-02)

Response to Violation 313/8910-02

(1) The reason for the violation if admitted:

AP&L does admit the violation occurred as stated. The incorrect actions resulted from a personnel error by the Instrumentation and Controls technician who failed to accurately verify the instrument tag number prior to isolating the component. A contributing cause was an error in the maintenance surveillance procedure which specified the location of PDT-1401 as the "B" decay heat vault rather than the correct location of the "A" decay heat vault.

(2) The corrective steps which have been taken and the results achieved:

When the incorrect transmitter was isolated and flow indication was lost, decay heat flow was secured. Operations contacted the technician who immediately unisolated PDT-1402, restoring flow indication for the "B" train of decay heat. Associated maintenance activities were discontinued until the problem was investigated and resolved. Decay heat flow was restored within 13 minutes from the time it was secured by Operations.

(3) The corrective steps which will be taken to avoid further violations:

To prevent further violations, the surveillance procedure has been changed to indicate the correct location of PDT-1401 as the "A" decay heat vault. Additionally, Maintenance Supervisors were advised of the circumstances of the event and were requested to review the event with their groups, stressing attention to detail. These reviews have been conducted. We believe these actions will preclude similar violations in the future.

(4) The date when full compliance will be achieved:

Full compliance was achieved immediately following the event March 14, 1989.

Notice of Violation

B. 10CFR50.62 states in Section (d) that an implementation schedule is required from licensee to indicate "final implementation" by the second refueling outage after July 26, 1984, or, if justified, a later date should be mutually agreed upon by the Commission and the licensee. The second refueling outage implementation deadline was extended to the third refueling outage for ANO-2 in a March 2, 1987, letter from the Office of Nuclear Reactor Regulation (NRR) ANO, Unit 2, Project Manager to Mr. T. G. Campbell.

Contrary to the above, the third refueling outage for ANO-2 following the July 26, 1984, date, 2R6, was completed in May of 1988, and no ATWS related equipment was installed by that date. Further, no request for scheduler extension had been requested by AP&L or approved by the NRC.

This is a Severity Level IV violation. (Supplement I)(368/8910-03)

Response to Violation 368/8910-03

Since before the publication of the Final Rule on Anticipated Transients Without Scram (ATWS) in July of 1984, the Arkansas Power & Light Company (AP&L) has actively participated in the Combustion Engineering Owner's Group (CEOG) effort to satisfactorily resolve the ATWS concerns as they relate to Arkansas Nuclear One, Unit 2 (ANO-2). These efforts were directed at participating in the development of an effective and reasonable regulation during the initial rule making and subsequently, following issuance of the final rule, at appropriately satisfying the technical requirements to implement the ATWS rule (10CFR50.62) on ANO-2.

Appropriate ATWS modifications for ANO-2 and its sister CE plants (San Onofre Nuclear Generating Station 2 and 3 (SONGS 2 and 3), and Waterford Unit 3) have presented a unique set of problems due to the integrated Plant Protection System (PPS) design on these units which make it difficult and expensive to achieve diversity between Emergency Feedwater (EFW) control and Reactor Trip System (RTS) control to the extent considered by the Staff to be a necessary requirement of the ATWS rule. The CEOG has submitted two generic topical reports, CEN-315 and CEN-349, which have addressed the safety benefits to be gained from complete diverse actuation of EFW versus the cost to engineer, and install a system to accomplish this requirement. The results have been an almost negligible improvement in safety with an accompanying cost that is quite significant.

Following the submittal of CEN-315 and 349, the NRC, in correspondence dated January 11, 1988, from Mr. George Knighton to Messrs. Kenneth P. Baskin and James C. Holcomb, provided the Staff evaluation of these documents and concluded that sufficient EFW and RTS diversity did not exist for ANO-2, SONGS 2&3 and Waterford 3. That correspondence further directed these plants

to either provide the required independence and diversity for these systems or request an exemption. In regard to the last option, the correspondence contained Staff guidance for such an exemption request.

Following the subject written guidance as well as verbal direction received during meetings with the Staff, AP&L as well as the other affected CEOG members submitted requests for exemption from the portion of the ATWS rule which required diverse and independent means to actuate EFW. That request was subsequently denied, in the case of ANO-2 by correspondence dated February 16, 1989 (2CNAØ289Ø3).

Additional meetings with the Staff have led to efforts by the CEOG to reevaluate other design options, besides the one discussed in the exemption request, to determine if a less costly solution could be found to achieve an acceptable level of diversity between EFW and RTS. The CEOG has proposed an alternate design (although this design contains some areas of concern) to the staff and it is being evaluated at this time. It has been the position of AP&L, in accordance with the CEOG, that the only design option that fully complies with 10CFR50.62 in all aspects is a fully redundant, Class 1E EFW system such as was discussed in our request for partial exemption (November 3, 1988, 2CAN118801). As has been stated earlier, that design is quite costly (3-5 million dollars) and the supporting analysis indicates that the incremental safety improvement in installing such a system is quite small ($\sim 9 \times 10^{-7}$ severe ATWS events per reactor year). The resulting value/impact ratio (VIR) is comparable to that discussed in the Statements of Consideration to the Final Rule which related to the addition of extra safety valves on CE units, but was rejected by the Commission because of the unfavorable VIR.

Further progress on a resolution of this issue is pending the results of the Staff review of the CEOG's alternate design proposal which is presently underway.

(1) <u>The reason for the violation if admitted:</u>

AP&L admits that a violation of NRC regulations occurred.

The original ANO-2 ATWS implementation schedule called for the required modification to be installed by the second refueling outage following the date of the Final Rule. In the case of ANO-2 this would have been our fifth refueling outage (2R5). AP&L recognized very early that such a schedule could not be met and therefore notified the Commission in our correspondence of October 15, 1985 (2CAN1Ø85Ø8), that our schedule would be extended to 2R6.

As the review of the second CE topical (CEN-349), continued, it became clear that our 2R6 implementation schedule could not be completed. Internal correspondence prior to the end of 2R6 indicates that the need to extend the implementation of ANO-2 ATWS modifications was recognized as necessary. At this point, AP&L failed to formally

request, on the ANO-2 docket, an extension for ATWS modifications beyond 2R6. AP&L believes that the discussions on-going with the Staff during this period addressed the status of ATWS implementation on ANO-2, nonetheless, that changing status was not documented by correspondence. Further confusion with regard to the ATWS modifications implementation date was introduced by our November 3, 1988, exemption request which incorrectly identified 2R7 as the third refueling outage following the date of the Final Rule. This fact was discussed previously in AP&L's March 29, 1989, response to the exemption denial (2CANØ3891Ø).

(2) The corrective steps which have been taken and the results achieved:
(3) The corrective steps which will be taken to avoid further violations:

The corrective steps which have been taken are twofold. First, the Commission has been informed in the correspondence referenced above (2CANØ3891Ø) of the status regarding implementation on ANO-2 of 10CFR50.62 required modifications. Secondly, we have reviewed our commitment tracking system to verify that these ATWS milestones, such as AP&L's commitment in our previously referenced correspondence to install our Diverse Scram System (DDS) and Diverse Turbine Trip (DTT) function during 2R7, are correctly identified and tracked. Likewise, once the EFW actuation diversity issue is resolved, any required plant modifications that result from that action will be tracked until implemented and closed out.

To prevent future violations with regard to implementation schedule, an additional tracking system entry has been made with a date of approximately six months prior to the start of refueling outage 2R8 to flag EFW actuation modifications. That tracking entry requires the review of the status of these modifications relative to their implementation during 2R8 and subsequent notification of the Commission if that schedule cannot be met for any reason.

(4) The date when full compliance will be achieved:

As stated previously, AP&L will install the Diverse Scram System (DDS) and Diverse Turbine Trip (DTT) functions during our seventh refueling outage (2R7) currently scheduled to begin in September, 1989. The schedule for implementation of the remaining ATWS requirement, diverse and independent means to actuate EFW, cannot be determined at this time. The actual schedule (2R8 or later) is a function of the complexity of the final acceptable design solution which will not likely be known for several months.