

April 11, 2001

MEMORANDUM TO: Patrick W. Baranowsky, Chief  
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Office of Nuclear Regulatory Research

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SUBJECT: INPUT TO THE END-OF-CYCLE PLANT ASSESSMENT REVIEWS

Below is our input to the upcoming end-of-cycle plant assessment reviews using the insights obtained from our IPEEE review activities. We believe that the following information provides unique insights with respect to the variability in the quality of the IPEEE submittals that the regional offices may want to incorporate into their individual plant discussions. We specifically choose Quad Cities and La Salle to illustrate two opposite ends of the spectrum of the licensee's IPEEE efforts.

The original Quad Cities IPEEE submittal reported a large CDF (about  $5E-3$ /RY for each unit) associated with potential fire events. The revised IPEEE results showed a reduced CDF ( $6.6E-5$ /RY for Unit 1 and  $7.1E-5$ /RY for Unit 2). Because of the large discrepancy between the original IPEEE and the updated fire analysis, the staff performed a site audit of the plant's revised fire IPEEE analysis and uncovered a few issues which were later addressed by the licensee. The differences between the CDFs in the original and revised analyses were mostly due to more detailed and realistic information on cable routing, a revised fire initiation frequency evaluation, the safe shutdown model employed, and the fire propagation model used. The revised analysis showed that more equipment would be available for safe shutdown, and recovery actions could be performed using plant emergency operating procedures with most operator actions taken in the main control room. In the revised fire analysis, the licensee identified additional insights on importance of fire damper reliability, co-location of cable trays of redundant trains within a small area of a compartment, and potentially risk-significant large oil fire scenario in the turbine building. Our review indicated that the licensee has produced a more credible fire analysis and also made various improvements related to upgrading the fire suppression system and minimizing transient combustibles in risk-important fire zones.

To satisfy the IPEEE objectives, LaSalle provided a brief IPEEE submittal and referred to the information in NUREG/CR-4832, "Analysis of the LaSalle Unit 2 Nuclear Power Plant: Risk Methods Integration and Evaluation Program (RMIEP)", and NUREG/CR-5305, "Integrated Risk Assessment for the LaSalle Unit 2 Nuclear Power Plant: Phenomenology and Risk Uncertainty Evaluation Program (PRUEP)", which were performed by Sandia National Laboratories and sponsored by the USNRC. The licensee did not identify any plant improvements. Even though the information in these two reports is sufficient to identify potential plant vulnerabilities to severe

accidents from external events, it is incomplete in other areas (i.e., the resolution of related generic safety issues). Because of the licensee's minimal efforts on the IPEEE activities, the staff concluded that this lack of adequate information represented a weakness in the submittal related to the resolution of a number of IPEEE-related generic safety issues. The need for any additional assessment related to the resolution of these issues for LaSalle will be addressed by NRC staff (RES and NRR) separately from the IPEEE program.

If you have any questions, please contact Alan Rubin at 415-6667.

cc: M. Harper

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