

Enclosure 1

Safety Evaluation Report La Salle County Station Units 1 and 2 Safety Parameter Display System (SPDS) Electrical Isolation Devices Docket Nos. 50-373 and 50-374

1.0 Background

The Commission's requirements for the SPDS are defined in Supplement 1 to NUREG-0737, "Requirements for Emergency Response Capability," transmitted in NRC Generic Letter (GL) No. 82-33. Regional workshops on GL 82-33 were held during March 1983. In those workshops, the staff discussed the SPDS requirements and the reviews of the SPDS.

In order to satisfy the NRC requirements concerning the SPDS, Commonwealth Edison Company (CECo) submitted a Safety Analysis Report (SAR) by letter dated December 29, 1983. The SAR provided a description of the SPDS at La Salle County Station, Units 1 and 2, but did not address the requirements that the SPDS must be suitably isolated from equipment and sensors that are used in safety systems to prevent electrical fault propagation.

On June 22, 1984, a request for additional information which included specific questions related to the use of isolators was sent to the licensee. An additional request was sent on March 4, 1987. Response information was received from the licensee by letters dated August 30, 1984, February 4, 1985, August 19, 1986, March 20, 1987, and October 31, 1989. The October 31, 1989 letter provides the test report and evaluation for the Validyne CM-249 isolators which resolves the last SPDS isolator related questions.

2.0 Discussion and Evaluation

In response to the NRC request for information concerning the use of Validyne CM-249 isolators for the La Salle SPDS system, the licensee submitted a Detroit Edison Qualification Test Report QTR 87-018 which was previously accepted by the NRC as qualification of Validyne CM249-Q2 isolators at the Fermi 2 SPDS.

Commonwealth Edison confirmed and documented that the isolator model used at La Salle uses identical hardware to the Fermi 2 test. They also confirmed and documented that the testing enveloped the La Salle installed configuration and that the acceptance criteria used for the test was applicable to La Salle.

As part of the qualification the isolation device was subjected to a maximum creditable fault (MCF) applied to the Non-Class 1E output in the transverse mode. The MCF applied was 120 VAC @ 20 amps. During the test the protective fuses of the device opened and cleared the fault. The pass/fail criteria of no disturbance on the Class 1E input of more than 10mv was successfully met. For the Validyne CM-249, the output fuses are part of the potted assembly and can not be replaced in the field. This feature prevents inadvertent installation of a larger fuse which may invalidate the qualification test results.

The isolators are located in a mild environment and, therefore, the requirements of 10CFR50.49 do not apply. The isolators have been protected from the effects of EMI, electrostatic coupling, crosstalk, and other sources of electrical interference that may be generated by the SPDS.

3.0 Conclusion

Based on the review of the licensee submittals on SPDS isolation devices, the staff concludes that the Validyne CM-249 isolation devices used at La Salle are acceptable for interfacing the SPDS with Class 1E safety systems.