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NRC-94-0087

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

References: 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43

2) Examination Report
NRC letter,
dated September 19, 1994

Subject: Response to Examination Report

Please find enclosed Detroit Edison's response to the NRC Examination Report dated September 19, 1994. The response concerns the NRC's observation of apparent simulator software problems. No commitments are made in this letter.

If you should have any questions concerning this response, please contact Dennis P. Ockerman, Director of Nuclear Training at (313) 586-4011.

Sincerely,

DRGipson

Enclosure

cc: T. G. Colburn
J. B. Martin
D. R. McNeil
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This letter is in response to the September 19, 1994 NRC Examination Report from the initial license examination administered at Fermi 2 during the week of August 29, 1994. Although no written response is required, certain observations contained in the report warrant further clarification. The report identifies four apparent discrepancies and concludes that these constitute "multiple simulator software problems" which are indicative of "weak engineering support" for the simulator. To the contrary, Detroit Edison believes that the Fermi 2 simulator has strong engineering support for both the design and the maintenance of the associated software, and that the trend toward software problem resolution demonstrates our commitment to a high quality simulator training program.

Enclosure 2 of the Examination Report describes four apparent simulator software problems. The first of these observations is that the Control Center Heating, Ventilation and Air Conditioning (CCHVAC) compressor control switches are not being switch checked during simulator reset. The description of this problem is accurate; however, the last statement, "this is a previously documented simulator problem", is incorrect. The Discrepancy Report (DR) written against this problem during the examination was the first documentation of this problem.

The second observation is that after lining up the number 6 south feedwater heater for drain down, the level did not change after several minutes of drain down. Although no mention was made in the Examination Report, documentation of the problem had existed since February 25, 1994. The discrepancy was corrected by a previously scheduled simulator software version release during the week of the examination.

The third observation is that when the "A" Residual Heat Removal (RHR) pump is started, the associated motor overload annunciator alarms; however, the corresponding alarm for the "C" RHR pump does not alarm when the "C" pump is started. In the plant, it is not uncommon for the motor overload annunciator (MOTOR TRIPPED) for any load, including an RHR pump, to momentarily alarm when the load is started. This momentary energization of the annunciator is due to the associated control switch for the load being in the "RUN" position for a very short period of time before the load's feeder breaker is in the closed position. The energization of these annunciators occurs randomly due to the varying characteristics of the individual relays in the associated motor circuitry "relay race". To mimic this plant condition, the simulator software for the RHR, Core Spray (CS), and High Pressure Coolant Injection (HPCI) auxiliary oil pump was enhanced in April, 1994 to provide the "MOTOR TRIPPED" annunciator when any one of the pumps was started. The problem with the "C" RHR pump annunciator not alarming was determined to be hardware related, and was subsequently corrected. The training impact of this concern was insignificant, however, because the energization of the "MOTOR TRIPPED" annunciator in the plant for starting loads such as the "A" or "C" RHR pumps is a random event.

The fourth and final observation documents that the downstream temperature on an open Safety Relief Valve (SRV) reads in excess of 400°F even after the valve has been open for several minutes, and states that this simulator response "should be checked against actual plant data" for simulator fidelity validation. The Nuclear Training organization has gathered actual plant data from three events where SRVs were open several minutes following the initiating event (Start-up Test for Loss-of-Offsite Power, and Plant Scram Reports 90-001 and 93-003). In each of these three actual plant events, SRV tailpipe temperatures of approximately 380°F after several minutes were noted. The simulator response of 400°F for SRV tailpipe temperature is consistent in direction and general magnitude with that of the Fermi 2 plant, and therefore, does not present an improper or negative simulator training situation.

The Fermi 2 simulator's performance, availability, and physical and dynamic fidelity continues to be improved by dedicated engineering personnel support. The number of software problems has been declining for well over a year. There were 435 open DRs in April, 1993. This number had been reduced to 126 by the end of September, 1994. The types of significant software problems noted by the NRC during previous examinations have been corrected and have not recurred. A complete upgrade of the simulator's input/output hardware was completed earlier in 1994, and has resulted in noteworthy improvements in both simulator response and reliability. Feedback from the simulator instructors, trainees, and management show strong support for these improvements. The simulator recently exhibited a very credible behavior throughout a complete validation and verification of the plant's Emergency Operating Procedures.

In closing, it is our intent to continue to document discrepancies with the simulator as they are identified, prioritize these problems with relation to their impact on simulator training, and to correct these discrepancies in an orderly and timely fashion.