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South Texas Project Electric Generating Station  
Unit 2  
Docket No. STN 50-499  
Special Report Regarding A Nonvalid  
Failure of #23 Standby Diesel Generator on September 13, 1991

DESCRIPTION OF EVENT:

On September 13, 1991, at approximately 0520 hours, Unit 2 was in Mode 1 at 100% power. While performing the Train C Diesel Generator Slave Relay Test, the Output Breaker CS06 for #23 Standby Diesel Generator (SDG) would not close on demand from the control room. A Non-licensed Operator was dispatched to investigate the cause.

The dispatched operator discovered that the diesel output breaker had not been fully racked in. The Non-Licensed operator was directed to fully rack in the breaker. A control room operator was then able to restart the diesel, close the breaker normally, and continue with the surveillance test.

It was later established that this occurred during the restoration of a clearance on the breaker for recent mechanical work on the diesel's fuel injectors. The diesel had been declared inoperable at 0930 hours on September 12, 1991, to allow repair of the 9R fuel injector and its associated fuel line. Following the repair, the diesel was started at 1908 hours as a Post Maintenance Test (PMT). The diesel reached rated speed, frequency, and voltage within the required 10 seconds and showed no signs of injector problems. There was no requirement to electrically load the diesel and the PMT was completed satisfactorily. The diesel was declared operable at 2020 hours.

SDG #23 was, in reality, inoperable from 0930 hours on September 12, 1991 until 1220 hours on September 14, 1991, for a total of 50 hours 50 minutes. During the same time, Unit 2 had descended to Mode 3 in preparation for a scheduled refueling outage. The total diesel inoperability time was within the 72 hours allowed by the LCO action statement of Technical Specification 3.8.1.1 and no ESF train "A" or "B" components were declared inoperable while the "C" Train diesel was unavailable.

CAUSE OF EVENT:

The cause of this event was that work practices were less than adequate. The Non-licensed Operators responsible for restoring the clearance on the #23 Standby DG 4.15KV output breaker did not adequately verify that the expected breaker indications were received. An additional root cause was that testing was less than adequate. The required Post Maintenance Testing (PMT) of the diesel did not verify that the output breaker had been fully racked in by loading the diesel generator on the emergency bus.

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ANALYSIS OF EVENT:

This event occurred as a result of a Non-licensed operator not adequately racking in the Output Breaker on the diesel generator. Per the criteria in Regulatory Guide 1.108, this event has been classified as a non-valid failure.

CORRECTIVE ACTIONS:

1. The Non-licensed Operators who failed to correctly rack in and verify the Diesel Output Breaker have been counseled by appropriate Plant Management on the need for and importance of self-verification.
2. All recently qualified journeymen and apprentice Non-licensed Operators have demonstrated proficiency on breaker operations.
3. STP GS will develop a written policy that requires a closure under load of all safety-related 480V, 4.16KV, and 13.8KV breakers that are racked out for any reason, to ensure electrical continuity. This policy will be developed by November 1, 1991.

ADDITIONAL INFORMATION:

Per STPEGS Technical Specification 3.8.1.1, there have been no valid failures in the last 20 valid tests of the SDG #23 and the number of valid failures in the last 100 valid tests is less than five, therefore, the testing frequency for ESF SDG #23 remains at once per 31 days.