PRIORITY ATTENTION REQUIRED MORNING REPORT - REGION II **Morning Report Date: MAY 13, 2005**

Licensee/Facility:

CAROLINA POWER & LIGHT CO.
Brunswick
Southport, North Carolina
Dockets: 050-00325 050-00324
[1] GE-4, [2] GE-4

Notification:

MR Number: 2-2005-0007
Date: 05/12/2005

Subject: Loss of Power to Brunswick Emergency Bus and Notice of Enforcement Discretion

Discussion:

On May 12, Region II granted a Notice of Enforcement Discretion (NOED) to the Brunswick Nuclear Plant to extend the outage time for all the unit 1 reactor coolant (RCS) leakage detection systems. As background, with both units at full power, at approximately 0400, power was lost to a Brunswick 4160v emergency bus (E1) when the E1 feeder breaker tripped. The associated E1 emergency diesel generator (EDG1) did not restore power to the E1 bus because it was out-of-service (OOS) (since May 10) due to a planned outage. This caused both units to enter an 8-hour to restore power and 12-hour to hot shutdown Technical Specifications (TS) limiting condition for operations (LCO). With E1 OOS, a number of components became inoperable including all RCS leakage detection instrumentation, which required entry into TS 3.0.3. The basis for the NOED was to avoid a Unit 1 high power scram due to the complications caused by the degraded electrical condition and a problem with one recirculation pump's ability to reduce reactor power (a locked scoop tube). In addition, further time would allow additional preparation for a controlled unit shutdown.

The cause of the E1 feeder breaker opening was determined to be from a voltage transient from a fault on an electric fire pump line powered from emergency bus E2. The fault was of sufficient magnitude to reduce voltage at the output of the Unit 1 unit auxiliary transformer (UAT) to both E1 and E2, which the UAT powers. The induced voltage transient on E1 was large enough to energize an E1 undervoltage peaking relay, which opened the E1 breaker. When the EDG is operable and in "automatic" control, this relay is not enabled, and cannot be energized. However, with the EDG OOS (as it was during the event), its control is in "manual" and the relay is enabled. The resident inspectors are following up the cause of the loss of E1.

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