

**Licensee/Facility:**

FLORIDA POWER CORP.  
 Crystal River  
 Crystal River, Florida  
 Dockets: 050-00302  
 [3] B&W-L-LP

**Notification:**

MR Number: 2-2005-0002  
 Date: 01/27/2005  
 Call / Fax from Licensee

**Subject:** Single Failure Vulnerability of Emergency Power Supply

**Discussion:**

During a triennial fire protection inspection, NRC inspectors identified a cable installation in the 4160V Class 1E electrical distribution system that, if damaged during a fire or subjected to a single active failure could prevent both Emergency Diesel Generators and both offsite power sources from supplying power to their Engineered Safeguards (ES) busses. The vulnerability existed in two protection circuits that provide phase overcurrent and residual ground overcurrent protection for both ES busses. During a fire induced fault or a single active failure in the protection circuit, the residual ground overcurrent relays in the current transformer circuits for both ES busses could be activated and initiate the logic to trip and lock out all breakers feeding both ES busses.

The emergency power electrical arrangement consists of two offsite power supplies, both of which are able to supply each ES bus. However, the normal alignment is for each offsite power supply to provide power to only one ES bus. In addition to the offsite power supplies, each ES bus can also be supplied power from an Emergency Diesel Generator. Each overcurrent protection circuit contains current transformers and a watt-hour meter which monitor the current being supplied from each offsite power source to each ES bus. Because each overcurrent protection circuit electrically monitors and affects both ES busses, a phase unbalance fault in one circuit could result in both ES busses being separated and locked out from both offsite power sources and the Emergency Diesel Generators.

To correct the problem, the licensee modified wiring in the overcurrent protection circuits to align each monitoring circuit to only one ES bus. In this configuration, a fault on an ES bus will only affect that one ES bus. This modification was completed on January 28, 2004.

Region II fire protection and electrical inspectors reviewed the licensee's corrective action to separate the two monitoring circuits and found that it was sufficient to resolve the immediate concern. Region II will conduct additional inspection to assess the licensee's root cause and extent of condition evaluation.

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