Date: October 25, 1972
Directorate of Regulatory
Operations Bulletin 72-2

SIMULTANEOUS ACTUATION OF A SAFETY INJECTION SIGNAL ON BOTH UNITS OF A DUAL UNIT FACILITY

We recently received information from the Florida Power and Light Company concerning a problem found during preoperational testing of the Turkey Point 4 pressurized water reactor which may relate to the design and operation of the 120 volt a.c. distribution system and ultimately the engineered safeguards systems at your facilities. Pertinent details relating to this problem are contained in Section a. Action requested by this Bulletin is contained in Section b.

a. Description of Circumstances

During integrated testing of the safety injection and emergency power systems on Unit 4, safety injection was initiated on Unit 3. Two of the three safety injection channels for each unit are normally powered from the battery banks through inverters. The third channel is powered from a 480 volt motor control center through a constant voltage transformer. During conduct of the test, one of the inverters for Unit 3 was in the "maintenance mode" and its loads were being supplied by another 480 volt motor control center through a constant voltage transformer.

The test was conducted by initiating a safety injection signal on Unit 4 and interrupting off-site power to both units. Upon interruption of off-site power, a safety injection signal was received in Unit 3 because 2 of the 3 channels (2/3 logic) were being powered from 480 volt motor control centers.1/

The shared emergency diesel generators are not designed to supply safety injection loads for both units simultaneously, but to supply safety injection loads for the accident unit, and hot shutdown loads for the other unit.

The licensee and Bechtel are evaluating a modification to include installation of sufficient inverters and battery banks to insure vital 120 volt a.c. power is only supplied from the battery.

1/ Power to the 480 volt motor control centers is momentarily lost during the transfer from the normal power supply to the emergency (diesel) power supply.

b. Action Requested of the Licensee

It is requested that you conduct the following design review for each of your facilities and provide this office with the results of your review.

1. Review the design of the electrical distribution system for your dual unit PWR facilities to determine if operation of the system with the following conditions existing at the same time could result in a safety injection signal being simultaneously received on both units:

   (a) Safety injection signal on Unit A and,
   (b) momentary loss of 4160 volt a.c. power to both units and,
   (c) one or more 120 volt vital a.c. inverters for Unit B are out of service.

If the results of your review indicate that a simultaneous safety injection signal on both units could exist under the conditions described above, please include in your response a description of the capability of your emergency power system to simultaneously sequence the accident condition loads. In addition, please describe the corrective action taken or planned, if any, and the date of scheduled completion of any planned corrective action. This information should be provided to this office, in writing, within 30 days of your receipt of this letter.