

## **LER 272/82-056 and -053**

Event Description: Trip with One AFW MOP and One EDG Inoperable

Date of Event: July 31, 1982

Plant: Salem 1

### **Summary**

On August 2, 1983, with Salem 1 operating at 84% power, an operator discovered that the auxiliary feedwater (AFW) pump 11 recirculation valve 11AF40 failed to open as required during the performance of surveillance procedure 4.0.5-P. The 11 AFW pump was then declared inoperable. Investigation led to the discovery that the low side of the flow transmitter had been left isolated, resulting in the closure of the recirculation valve. An operator had moved the low side valve of the flow transmitter earlier to facilitate maintenance. This valve had not been tagged out and was therefore not repositioned after maintenance was complete. Several days earlier on July 31, a leak in the 1C EDG jacket cooling hose was discovered during routine surveillance. The 1C emergency diesel generator (EDG) was then declared inoperable. The leak in the hose was due to deterioration from age. A few days earlier, on July 28, Salem 1 tripped (NUREG-0020).

Since Salem 1 tripped only a few days prior to the discovery of the fault in the AFW pump recirculation valve and the leak in the water jacket cooling system for the EDG, it was assumed that both faults existed during the trip, and the event was modeled as a transient initiating event with one train of AFW failed and one EDG failed, with the non-recovery values for emergency power and auxiliary feedwater left as their default values.

The conditional core damage probability calculated for this event is  $9.8 \times 10^{-6}$ . The dominant core damage sequence involves a successful trip, failure of AFW, failure of main feedwater, and failure of feed and bleed.