

PRIORITY ATTENTION REQUIRED MORNING REPORT - REGION I OCTOBER 8, 1993

Licensee/Facility:

Notification:

Duquesne Light Co.
Beaver Valley 1 2
Shippingport, Pennsylvania

MR Number: 1-93-0102
Date: 10/08/93
RI PC

Dockets: 50-334,50-412
PWR/W-3-LP,PWR/W-3-LP

Subject: FOXBORO SPEC 200 AMSAC DESIGN DEFICIENCY

Reportable Event Number: N/A

Discussion:

In response to Information Notice 92-06, Supplement 1 (Indian Point 3 AMSAC Reliability), Duquesne Light has determined that the turbine ramp timer requirement for a time delay seal-in on low feedwater flow was not incorporated into the system design. AMSAC is designed to initiate auxiliary feedwater upon loss of feedwater (<25% flow) provided secondary power is >40%. Variable timer B-3 is designed to delay the initiation of AMSAC as a function of turbine power (impulse pressure). The time delay is 25 seconds at 100% power and 150 seconds at 40% power. The purpose of this time delay is to allow the reactor protection system to generate a protective signal before AMSAC initiates.

Because a loss of load is one of the events for which AMSAC mitigation is required, the timer must recognize that a loss of turbine load has occurred and yet maintain the timer at the pre-event value. However,

Beaver Valley has identified that the AMSAC initiation timer does not lock in the power level from which it has been activated. Under conditions of changing turbine power (turbine trip) the lack of the seal in requirement would cause the time delay to be outside the time delay envelope. This envelope is based on limiting peak reactor coolant system pressure within the ASME stress limit. This design deficiency is due to the fact that Westinghouse Owners Group topical report WCAP-10858-P-A, Revision 1, "AMSAC Generic Design Package" did not include this seal-in function. This seal-in function of the AMSAC delay timer is only discussed in the cover letter which transmitted this WCAP report to the NRC. This design omission may be a generic issue to Foxboro units as Ginna Power Station has also identified this identical deficiency. This omission was not found during the system acceptance tests at the vendor facility, the initial installation tests, or the periodic surveillance tests. This is due to the fact that the tests involved static conditions of turbine load, not dynamic conditions of turbine load.

Regional Action:

The resident inspectors are onsite monitoring licensee activities.

Contact: William Lazarus

(215)337-5231