

ATTACHMENT (PAGE 1 OF 1)
SURRY POWER STATION, UNIT 2
DOCKET NO: 50-281
REPORT NO: 80-005/01T-0
EVENT DATE: 3-6-80

TITLE OF EVENT: RECIRCULATION SPRAY HEAT EXCHANGER

1. DESCRIPTION OF EVENT:

During preparation for Type "A" testing, leakage was identified through Recirculation Spray Heat Exchanger diaphragm plate seal weld cracks. The components affected were 2-RS-E-1B, C, and D. The event is reportable per Tech. Specs. 6.6.2.a.9.

2. PROBABLE CONSEQUENCES AND STATUS OF REDUNDANT SYSTEMS:

The affected reactor unit was at cold shutdown and the leakage was discovered during testing, therefore, there were no consequences as a result of the event, and the health and safety of the public were not affected.

3. CAUSE:

The leaking seal weld cracks are attributed to lack of fusion and slag inclusion in the weld areas from previous maintenance work.

4. IMMEDIATE CORRECTIVE ACTION:

The immediate corrective action was to have the Architect-Engineer perform a detailed stress analysis on the heat exchangers to determine if a design error had been committed. Simultaneously, discussions were held with maintenance personnel and all maintenance histories were searched to determine the exact repairs that had been made to the affected components.

5. SUBSEQUENT CORRECTIVE ACTIONS:

All defects found to date have been in the diaphragm plate seal weld area. All welds will be liquid penetrant inspected and all defects will be repaired. Stress analysis proved the design of the heat exchangers to be conservative; however, a modification is being made to incorporate a gasket between the diaphragm plate and heat exchanger cover to reduce stress on the diaphragm plate seal weld from external pressure forces.

6. FUTURE CORRECTIVE ACTION:

No further corrective action is anticipated.

7. GENERIC IMPLICATIONS:

Two of four RSHX's in Unit 1 have been subjected to maintenance by the manufacturer's (YUBA) personnel. The welds on all four heat exchangers will be examined by Non-destructive methods during the next scheduled unit shutdown of sufficient duration. A gasket will be installed in Unit 1's RSHX's between diaphragm plate and heat exchanger cover at that time.