

FAILURES IN 4-INCH BYPASS PIPING AT DRESDEN-2

The Commonwealth Edison Company notified the Region III Office of the Directorate of Regulatory Operations by telephone on September 13-15, 1974 of the finding of through-wall cracks in each of two 4-inch diameter bypass loops around the discharge valves of the recirculation pumps at the Dresden 2 facility. Early warning of reactor coolant leakage was provided by the plant's drywell sump collection system.

In each instance the cracks were in the heat affected zone of stainless steel welds joining the 4-inch piping to weld-o-lets on the 28 inch diameter main coolant recirculation piping. The cracks were circumferential, from 3/4-inch to 3-inches in length on the OD and extending to substantially greater lengths on the ID of the pipes.

In one instance (the "B" loop bypass line), the area containing the crack(s) can be isolated for repair utilizing valves presently installed. In the other instance (the "A" loop bypass line), the area containing the crack(s) cannot be isolated from the reactor pressure vessel with existing valves in the piping system. Procedures for the repair of this portion of the piping system are presently being considered by the licensee.

Metallurgical examinations are being conducted by the licensee's consultants to aid in determining the cause and mechanism of failure. Several days may be required for such determination.

Inspections conducted by the Commonwealth Edison Company at their Quad Cities Unit 2 on September 15, 1974 have revealed a crack in similar piping at that facility.

Action Requested of Licensees

1. For those boiling water (BWR) facilities presently shutdown, examine (by ultrasonic or other suitable volumetric nondestructive examination technique) all accessible welds in the bypass piping lines around the recirculation valves for evidence of crack indications similar to those discussed above. Your written reply to this Bulletin should discuss those welds determined to be inaccessible for examination.
2. For those BWR facilities presently operating, conduct the examinations discussed in 1. above at the earliest of the following conditions:

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- a. Next scheduled shutdown.
 - b. Such time that (within the sensitivity specified in paragraph C.5 of Regulatory Guide 1.45) any reactor coolant leakage detection system indicates, within a period of four hours or less, either an increase in unidentified leakage to twice the determined normal rate of unidentified leakage or an increase in the rate of unidentified leakage by two (2) gpm or more. (In no case, however, shall the rate of leakage exceed that specified by the technical specifications without those actions required of the technical specifications being taken.)
 - c. Sixty (60) days from the date of this Bulletin.
3. Notify this office by telephone within 48 hours and in writing within 10 days of the measures you have implemented, or plan to implement, with regard to those actions requested in 1. and/or 2., above.
 4. Notify this office by telephone within 24 hours (with written confirmation within 10 days) of the results of examinations conducted in response to this Bulletin. A copy of the written notification of examination results (including all attachments) should be sent to the Assistant Director for Construction and Operations, Directorate of Regulatory Operations, AEC Headquarters in Washington, D. C.

Actions Requested of Licensees May be Modified

The actions requested of licensees, above, may be modified by this office as meaningful results are available from the metallurgical examinations and failure analyses presently in progress.



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