

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 79042403 DOC. DATE: 79/04/20 NARRIALIZED: NO DOCKET #
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 AUTH. NAME: AUTHOR AFFILIATION
 LEWIS, S. R. DUKE POWER CO.
 RECIP. NAME: RECIPIENT AFFILIATION
 REGION 2, ATLANTA, OFFICE OF THE DIRECTOR

SUBJECT: LER 79-006/03L-0 ON 790306: UNIDENTIFIED RCS LEAKAGE
 DETERMINED TO BE 6 GALLONS MIN. CAUSED BY PACKING LEAK ON
 FLOW TRANSMITTER ROOT VALVE. UNIT PLACED IN COLD SHUTDOWN &
 VALVE REPLACED.

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DUKE POWER COMPANY
OCONEE UNIT 3

Report Number: RO-287/79-6

Report Date: April 20, 1979

Occurrence Date: March 6, 1979

Facility: Oconee Unit 3, Seneca, South Carolina

Identification of Occurrence: Unidentified RCS Leakage in Excess of 1 GPM

Conditions Prior to Occurrence: 100% Full Power

Description of Occurrence:

At 1015 on March 6, 1979 while Unit 3 was operating at full power, increases were noted in both the Reactor Building (RB) normal sump level and the activity measured by the RB radiation monitors, indicating an increase in reactor coolant system (RCS) leakage. Pursuant to Oconee Nuclear Station Technical Specification 3.1.6.6, an evaluation of the safety implications of the leakage was initiated. At 1145 on March 6 the Reactor Building was inspected by means of video monitors, and no leakage was observed. At 1400 the RB normal sump level indicated a RCS leakage rate of approximately 8 GPM, approximately 2 GPM of which had been previously identified. Shutdown of the unit was initiated. At 1600 a video monitor survey revealed steam coming from the "B" RCS hot leg area. At 2205 the unit was in the hot shutdown state, and at 2230 the Reactor Building was entered, but the exact location of the leak could not be determined, so cooldown of the reactor was initiated. At 0045 on March 7, 1979, it was discovered that the pressurizer level indicator in the Control Room was stuck. Upon freeing the indicator, zero pressurizer level was indicated. It was discovered that valve 3HP-120, the reactor coolant volume control valve, had failed in the closed position, removing makeup flow to the pressurizer. Valve 3HP-26, the reactor coolant loop "A" high pressure injection valve, was opened, and valve 3HP-7, the letdown flow control valve, was closed, in order to increase pressurizer level. By 0055, pressurizer level had increased to 80", and cooldown of the unit resumed. While the pressurizer level was at zero, reactor coolant temperature and pressure decreased to 430°F and 1245 psig, respectively. This condition is well within the cooldown limits set forth by Technical Specification 3.1.2.1. While the unit was shut down, the level indicator and the makeup control valve were repaired. In addition, prior to starting up the unit, the center control rod drive was vented, but no gas was found, indicating that the loss of pressurizer level had resulted in no adverse effects. At 1800 on March 8, 1979, the flow transmitter 3 FT 15 H root valve on the "B" hot leg was found to be the source of the leakage. The valve was repacked, and at 1900 startup of the unit was initiated.

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Apparent Cause of Occurrence:

The RCS leakage was due to a packing leak on the root valve for flow transmitter 3 FT 15 H.

Analysis of Occurrence:

Since the source of the RCS leakage could not be readily identified during power operation, actions were taken pursuant to Technical Specification 3.1.6.2, which requires that the unit be shut down within 24 hours of detection. Immediate action is required in order to assure that the leak is not the result of a slight materials failure which might develop into a more serious situation. However, the source of the leak was identified to be the packing on an instrument root valve, and since the 8 GPM leak rate was significantly less than the capacity for makeup flow and the leaking coolant was contained within the Reactor Building, the leakage was of no significance with respect to safe operation of the unit. Operation of the unit is permitted with a leak rate of up to 10 GPM, provided that the source of the leakage has been identified. Thus, this incident did not affect safe operation of the unit, and the health and safety of the public were not endangered.

Corrective Action:

The immediate corrective action was to shut down the unit in order to assure that RCS leakage could be contained within the Reactor Building. Subsequent to cooldown of the unit, the leakage was identified to be coming from the packing on the flow transmitter 3 FT 15 H root valve. The valve was repacked, and RCS leakage was determined to be less than 1.0 GPM. All instrument root valves of this type on the primary coolant system will be replaced with packless valves.

EXHIBIT A

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CONT

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

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CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

PHONE. (704) 373-8285