

REPORTABLE OCCURRENCE

1. Report No. 79-11
2. a. Report Date: July 5, 1979
b. Occurrence Date: June 21, 1979
3. Facility: Trojan Nuclear Plant, PO Box 439, Rainier, Oregon 97048
4. Identification of Occurrence:

The indicated steam generator water level may be higher than actual level following a high energy line break inside containment. This could delay the primary protection signal for a feedwater line break accident.

5. Conditions Prior to Occurrence:

The plant was in Mode 5, cold shutdown, when this item was reported to Portland General Electric. The plant has operated at various power levels with this condition.

6. Description of Occurrence:

The Westinghouse Safety Review Committee reported that high energy line breaks inside containment may result in heatup of the steam generator level measurement reference leg. This will cause the indicated steam generator water level to exceed the actual steam generator water level resulting in the steam generator low-low level reactor trip protection signal being delayed. Westinghouse analysis has shown the indicated water level can be as much as 10% higher than the actual water level. In the specific case of a feedwater line rupture inside containment, the steam generator low-low level trip is the primary protection signal for this accident.

7. Designation of Apparent Cause of Occurrence

The apparent cause of this occurrence is a deficiency in the original design of the steam generator water level indicating system.

8. Analysis of Occurrence:

This event had no effect on either plant or public safety since backup reactor trip protection is available from steam generator low level coincident with feed flow/steam flow mismatch, over-temperature ΔT , high pressurizer pressure, high containment pressure, and safety injection.

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9. Corrective Action:

The immediate corrective action taken was to change the steam generator low-low level trip point from 5% to 15% in accordance with Westinghouse recommendations. Additionally, Operations personnel will be provided with appropriate instructions to compensate for containment temperature induced errors in the steam generator level indication. Permanent corrective action will be evaluated.

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