

PWR LEVEL INSTRUMENTATION CHRONOLOGY

- 2/89 Westinghouse letter to Millstone discussed pressurizer level errors
- 3/91 Allegations raised regarding Millstone and Haddam Neck pressurizer level
- 4/91 Millstone 3 LER discusses pressurizer level errors
- 7/92 IN 92-54 issued - Discussed BWR and PWRs. For PWRs, informed licensees that the problem may affect indication of PZR level. "The inaccuracies caused by rapid depressurization events in PWRs have limited safety significance because instrumentation other than PZR level is used by operators to determine appropriate manual actions." NOTE: only accident scenarios were considered here, it was not considered at the time that errors could occur during a normal plant depressurization.
- 10/92 Letters sent from NRC to WOG, CEOG, and B&WOG which requested an evaluation of the following:
- (1) Automatic safety system response during all licensing basis transients and accidents;
 - (2) Operator short- and long-term actions during and after all licensing basis accidents and transients;
 - (3) Operator actions prescribed in EOPs or other affected procedures not covered in (2).
- 2/93 Responses received from Owner's groups
- 3/94 Staff SERs issued for PWRs. "The staff determined that the impact on plant safety due to water level instrument inaccuracies in the pressurizer and steam generator is minimal due to the diverse indicators used for operator short- and long-term actions. In addition, automatic actuation of safety systems is not based on pressurizer level, steam generator level, or reactor vessel level. Therefore, the staff has determined that water level instrument inaccuracies due to non-condensable gases are not a significant safety concern for Westinghouse NSSS." SERs for CEOG and B&WOG drew similar conclusions.
- 3/97 Sequoyah event - inadvertent draindown due to erroneous PZR level indication. Operators rely on 1 channel of non-safety related PZR and no other indication for RCS draindown for refueling outage. Similar events at Sequoyah in 1993.

NOTE: BWR generic communications and resultant hardware modifications not included