

LICENSEE EVENT REPORT

CONTROL BLOCK: (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 | S | C | H | B | R | 2 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 3 | 4 | 1 | 1 | 1 | 4 | 5

CON'T | REPORT SOURCE | L | 0 | 5 | 0 | 0 | 0 | 2 | 6 | 1 | 1 | 2 | 1 | 3 | 8 | 2 | 1 | 2 | 2 | 3 | 8 | 2

02 | On December 13, 1982, at approximately 1700 hours, with the unit at 81% power, it was determined that the low temperature Overpressure Protection System (OPS) pressure transmitters had been calibrated incorrectly. This event could have resulted in the OPS not being able to operate as required by Tech. Spec. 3.1.2.1.d and is, therefore, reported pursuant to 6.9.2.a.2. The Appendix G limits for which the OPS is designed to prevent exceeding were not exceeded; thus, there was no threat to the public health and safety.

09 | I | B | A | C | I | N | S | T | R | U | T | Z | 8 | 2 | 0 | 1 | 8 | 0 | 1 | L | 0 | E | Z | Z | Z | 0 | 0 | 0 | 0 | Y | N | N | R | 3 | 6 | 9

10 | This event was the result of a calculational error on zero adjust correction on the initial instrument calibration data sheets and occurred in 1978. The error had been carried over from year to year since then. The pressure transmitters zero adjust error was corrected on December 13, 1982. Current administrative controls are considered adequate to prevent recurrence.

15 | E | 0 | 8 | 1 | N/A | C | Maintenance Review

16 | Z | Z | N/A | N/A

17 | 0 | 0 | 0 | Z | N/A

18 | 0 | 0 | 0 | N/A

19 | Z | N/A

20 | N | N/A | 8212300296 821223 PDR ADOCK 05000261 S PDR

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SUPPLEMENTAL INFORMATION

FOR

LICENSEE EVENT REPORT 82-018

I. Cause Description and Analysis

On December 13, 1982, at approximately 1700 hours, with the unit at 81% power, it was discovered during an evaluation of the low temperature Overpressure Protection System (OPS) that the system's two pressure transmitters were calibrated using incorrect values. The error was the result of an improper zero adjustment applied to the transmitter to compensate for the static head in the transmitter sensing lines. This error shifted the pressure setpoint approximately 63 psig non-conservatively. It has been determined that, had a design basis transient occurred, the Appendix G (Heatup/Cooldown) curves could have been slightly exceeded. However, a review of reactor operation since the OPS was installed has shown that the Appendix G curves have not been exceeded due to this error. Additionally, an analysis performed by the NSSS vendor indicates that the setpoint error would not have resulted in exceeding the curve during heatup, and would have exceeded the curve only by a slight amount during cooldown.

Specifically, the H. B. Robinson Unit No. 2 setpoint is 400 psig at temperatures below 350°F. This setpoint plus the 63 psig error and a 78 psig overshoot, before valve actuation is complete, yielded a total system pressure of 541 psig. At temperatures below 220°F, the plant is not heated up at a rate greater than 30°F/hour, and the Appendix G analysis shows that for a heatup of 30°F/hour the allowable pressure is 541 psig or greater for temperatures greater than 85°F. For heatup rates up to 60°F/hour, the allowable Appendix G pressure is greater than 541 psig at temperatures above 220°F. For plant cooldown at 200°F and above, the analysis results show that cooldown at 541 psig would not exceed the Appendix G cooldown curve. However, at temperatures below 200°F, the Appendix G limit would be exceeded by a small amount (less than 25 psig). At these low temperatures, a vessel integrity problem would not exist because of the many conservatisms incorporated into the Appendix G limits. For example, using a safety factor of 1.75 (slightly less than the 2.0 normally used in these calculations), the allowable pressure during cooldown is approximately 594 psig at 85°F or 53 psi above the system setpoint. It is, therefore, concluded that the 541 psig pressure would not impair the reactor vessel integrity.

Investigation into the zero adjustment error determined that the error was probably made during the preparation of the initial instrument calibration data sheets at the time of system installation. The zero adjustment value was calculated incorrectly which, when applied to the calibration data points, resulted in an approximate 63 psig non-conservative error across the instrument span.

This event resulted in operation subject to a Limiting Condition for Operation less conservative than the least conservative aspect of the Limiting Condition for Operation as defined by Technical Specification 3.1.2.1.d, and is reported pursuant to 6.9.2.a.2. As stated above, the Appendix G curves have not been exceeded; thus, there was no threat to the public health and safety.

II. Corrective Actions

Upon discovery of the calibration error, the correct zero adjustment value was calculated, and the OPS pressure transmitters were zero adjusted to the correct values on December 13, 1982.

III. Corrective Actions to Prevent Recurrence

Current administrative controls on instrumentation calibration data sheets implemented on January 26, 1981, are adequate to prevent recurrence of this event. These data sheets are now contained in the Plant Operating Manual. Therefore, a procedure change, which requires a safety review, is required in order to revise a setpoint. Also, as a result of the procedure change, each change to a data sheet is technically reviewed for accuracy.

This event was the result of an error made prior to the implementation of the above controls and is considered to be an isolated event. Additionally, a review of the calibration data sheets for other primary system transmitters, which required a similar zero adjustment for instrument line static head, was conducted to ensure technical accuracy. No further administrative corrective actions are considered necessary; however, because of the nature of this error and the time frame in which the system was installed, a review of the modification that installed the low temperature Overpressure Protection System has been initiated, and if any technical problems are identified, they will be corrected.