



Public Service Electric and Gas Company P.O. Box E Hancocks Bridge, New Jersey 08038

Salem Generating Station

July 14, 1983

Dr. Thomas E. Murley
Regional Administrator
USNRC
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Dr. Murley:

LICENSE NO. DPR-70
DOCKET NO. 50-272
REPORTABLE OCCURRENCE 83-029/03L

Pursuant to the requirements of Salem Generating Station Unit No. 1, Technical Specifications, Section 6.9.1.9.b, we are submitting Licensee Event Report for Reportable Occurrence 83-029/03L. This report is required within thirty (30) days of the occurrence.

Sincerely yours,

A handwritten signature in cursive script that reads "J. M. Zupko, Jr.".

J. M. Zupko, Jr.
General Manager -
Salem Operations

RF:ks

CC: Distribution

Report Number: 83-029/03L
Report Date: 07-06-83
Occurrence Date: 06-17-83
Facility: Salem Generating Station Unit 1
Public Service Electric & Gas Company
Hancock's Bridge, New Jersey 08038

IDENTIFICATION OF OCCURRENCE:

Reactivity Control Systems - Nos. 1D4, 2D2 and 2SA1 Rod Position Indicators - Inoperable.

This report was initiated by Incident Report 83-111.

CONDITIONS PRIOR TO OCCURRENCE:

Mode 1 - Rx Power 100 % - Unit Load 1118 MWe

DESCRIPTION OF OCCURRENCE:

At 0800 hours, June 17, 1983, during routine surveillance of the control console, the Control Room Operator noticed that Nos. 1D4 and 2D2 Control Rod Position Indicators (RPI) were indicating 14 steps above the group demand position for their respective groups. No. 2SA1 RPI was observed to be approximately 35 steps below its group demand position. These differences were greater than the maximum of 12 steps allowed by the Technical Specifications. No abnormalities in power level or Reactor Coolant System temperature indications were evident, indicating no change in rod position.

The RPI channels were declared inoperable and Technical Specification Action Statement 3.1.3.2a was entered. The remaining RPI channels in each group remained operable. Nos. 1D4 and 2D2 RPIs were restored to operability within 8 hours; no change of position in the respective control rods was involved. The position of Channel 2SA1 was verified at 1322 hours, utilizing moveable incore detectors.

APPARENT CAUSE OF OCCURRENCE:

Calibration of the Channel 1D4 indicator was checked, and the indicator was found to be reading excessively greater than the input values. The indicator was recalibrated, and the reading returned to within 7 steps of group demand indication. Both the indicator and the signal conditioning module of Channel 2D2 were found to be reading high. The components were recalibrated and the channel indication returned to within specification. Previous, similar problems with RPI channels have been noted (see LERs 81-063/03L, 81-081/03L); the occurrences apparently involve isolated instances of drift in the calibration of the components and the position sensor outputs. Both the previous problems and the present ones followed recalibration of the channels during refueling shutdowns. Corrections for thermal effects of plant heatup on the position sensor outputs are

APPARENT CAUSE OF OCCURRENCE: (cont'd)

incorporated into calibration data but may not exactly predict actual changes in output.

Investigation of the problem with No. 2SA1 RPI revealed that the contacts on the channel indicator were oxidized. The contacts were cleaned and the calibration of the indicator was satisfactorily checked. No other problems were apparent, and no previous failures of this type had been observed. This event was therefore also assumed to be isolated in nature. The occasional occurrence of problems of this type could be expected, in view of the large number of connections with the potential for such problems.

ANALYSIS OF OCCURRENCE:

Operability of the control rod position indicators is required to determine control rod positions and thereby insure compliance with the control rod alignment and insertion limits. The action statements which permit limited variations from the basic requirements are accompanied by additional restrictions which insure that the original criteria are met.

Action Statement 3.1.3.2a requires:

With a maximum of one rod position indicator channel per group inoperable either determine the position of the non-indicating rod(s) indirectly by the movable incore detectors at least once per 8 hours and immediately after any motion of the non-indicating rod which exceeds 24 steps in one direction since the last determination of the rod's position, or reduce thermal power to less than 50% of rated thermal power within 8 hours.

As noted, the actual control rod positions were subsequently demonstrated to be within specification within 8 hours. The incident therefore involved no undue risk to the health or safety of the public. The event involved variation from the basic control rod system requirements, and constituted operation in a degraded mode permitted by a limiting condition for operation. The occurrence is therefore reportable in accordance with Technical Specification 6.9.1.9b.

CORRECTIVE ACTION:

As stated, action was taken within 8 hours to determine the position of the control rods, in compliance with the action statement. The RPI channels were repaired and satisfactorily tested. At 1535 hours, June 17, 1983, with all channels restored to an operable status, Action Statement 3.1.3.2a was terminated. In view of the nature of the occurrence, no further action was deemed necessary.

FAILURE DATA:

Bailey Instrument Co., Inc.
Bailey Edgewise Indicator
Model RY2

Magnetics, Inc.
Signal Conditioning Module
Type E2786

Prepared By R. Frahm

SORC Meeting No. 83-089

General Manager -
Salem Operations