On March 6, 1985, it was determined that a slightly positive internal pressure value had been recorded on the Reactor Building (R.B.) Internal Pressure Indication BS-PT-1412 between 0910 and 1525 hours on the previous day, March 5, 1985. On March 26, 1985, BS-PT-1412 again registered a slightly positive value between the hours of 0918 and 1029. During both periods, an R.B. entry was in progress, the R.B. Purge Exhaust System was operating at minimum flowrate (i.e., approximately 10,000 cfm), and both Equipment Hatch Personnel Airlock Doors were open.

The cause of this event has been determined to be erroneous internal pressure indications during "double door" R.B. entries with the R.B. Purge Exhaust System operating at the minimum flowrate.

The indication of R.B. internal pressure of greater than zero (0) psig for a period in excess of one hour resulted in violation of the Technical Specification Limiting Condition for Operation (L.C.O.) 3.6.1.4 Action Statement. Failure to comply with the Action Statement results in this event being reportable to the NRC pursuant to 10 CFR 50.73(a)(2)(i)(B).
LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

I. PLANT OPERATING CONDITIONS BEFORE THE EVENT

The TMI-2 facility was in a long-term cold shutdown state. The reactor decay heat was being removed via loss to ambient. Throughout this event there was no effect on the Reactor Coolant System or the core.

II. STATUS OF STRUCTURES, COMPONENTS, OR SYSTEMS THAT WERE INOPERABLE AT THE START OF THE EVENT AND THAT CONTRIBUTED TO THE EVENT

N/A

III. EVENT DESCRIPTION

This License Event Report (LER) documents the occurrence of two (2) similar events.

1. On March 6, 1985, at 0100 hours, the duty Control Room Operator (CRO) reviewed the strip chart recorder data of R.B. Internal Pressure Indicator BS-PT-1412 for the previous day. The CRO concluded that a value slightly greater than zero (0) psig had been indicated between the hours of 0910 and 1625 on March 5, 1985. This interpretation of the recorded data was contrary to that of CRO's of the previous two (2) shift's. Due to the inherent accuracy of the indicator, the data is frequently subject to interpretation. In this case, the recording line of the strip chart recorder was essentially indistinguishable from the zero (0) psig data line of the strip chart. Thus, the conclusion of the CRO was judgemental, at best. Further review determined an R.B. entry was in progress during the period in question and both R.B. Equipment Hatch Personnel Doors were open in accordance with approved procedures. The R.B. Purge Exhaust System (IEEE Code-VA) was operating at the minimum flowrate (i.e., approximately 10,000 cfm). Since an indication of slightly greater than zero (0) psig was suggested for a period greater than one (1) hour, this event was deemed reportable per 10 CFR 50.73(a)(2)(i)(B).

2. On March 26, 1985, at 0918 hours, the R.B. Internal Pressure Indicator BS-PT-1412 again indicated a value slightly greater than zero (0) psig. At this time, an R.B. entry was in progress, both R.B. Equipment Hatch Personnel Airlock Doors were open in accordance with approved procedures and the R.B. Purge Exhaust System was operating at minimum flowrate. Upon indication of positive pressure, actions
III. EVENT DESCRIPTION (Cont'd)

were immediately taken to comply with the Action Statement of L.C.O. 3.6.1.4 (i.e., return R.B. pressure to 0 psig or less within one hour). The indicated R.B. internal pressure was returned to within specification at 1029 hours on March 26, 1985. Since the indicated R.B. internal pressure was not returned to L.C.O. specifications within one (1) hour, this event was deemed reportable per 10 CFR 50.73(a)(2)(i)(B).

IV. ROOT CAUSE OF THE EVENT

The reportability of the two (2) events was based on a failure to comply with the one (1) hour Action Statement of L.C.O. 3.6.1.4.

The root cause of the two (2) events has been determined to be the inability of the installed R.B. Internal Pressure Indication 8S-PT-1412 to accurately indicate internal R.B. pressure during a "double door" R.B. entry with the R.B. Purge Exhaust System operating at minimum flowrate. The R.B. Internal Pressure Indication senses the R.B. Internal Pressure with respect to the TMI-2 Auxiliary Building (Aux. Bldg.) which also is maintained at a negative pressure (i.e., approximately negative one-eighth inch water gauge) with respect to the external atmospheric pressure. When the R.B. Purge Exhaust System is operating at the minimum flowrate and a "double door" entry is in progress, the R.B. internal pressure remains negative with respect to external atmosphere but the pressure differential with respect to the Aux. Bldg. may vary. Therefore, based on current calibration and established performance tolerances for 8S-PT-1412, the resultant effect can be a positive pressure indication.

V. CORRECTIVE ACTIONS PLANNED

Immediate

The Manager of Plant Operations has instructed the Control Room Operators and Senior Reactor Operators to be especially sensitive to the R.B. Internal Pressure Indication during Reactor Building entries.
CORRECTIVE ACTIONS PLANNED (Cont’d)

Long Term

A Recovery Operations Plan Change Request (ROPCR) will be submitted to the NRC to revise section 4.6.1.4. This ROPCR will allow for alternate methods to be used during those times in which the Reactor Building is open to the outside atmosphere if those methods are contained in a procedure approved pursuant to TMI-2 Tech. Spec. 6.8.2.

COMPONENT FAILURE DATA

N/A

AUTOMATIC OR MANUALLY INITIATED SAFETY SYSTEM RESPONSES

N/A

ASSESSMENT OF THE SAFETY CONSEQUENCES AND IMPLICATIONS OF THE EVENT

The requirement to maintain a zero (0) or negative pressure in the TMI-2 R.B. is to ensure that there are no unfiltered, unmonitored releases from the building. The NRC's Amendment of Order dated September 23, 1981 contains a Safety Evaluation which states in part, "To ensure that there will be no significant releases of radioactive materials from the reactor building through the airlock when both of its doors are open simultaneously, we will require as a condition of our approval of procedures pursuant to Specification 6.8.2 that the time both doors are open simultaneously be minimized and that the frequency for simultaneous opening of both doors be relatively infrequent. Additionally, we will require via these procedures, that whenever both airlock doors are open simultaneously, the reactor building purge system be in operation and exhausting through the HEPA filters. This provision will ensure that the reactor building atmosphere is maintained at a negative pressure relative to the outside atmosphere and therefore the air will flow into the reactor building whenever the airlock doors are open."
Consistent with the above, operation of the R.B. Purge Exhaust System during the entries maintained the R.B. internal pressure negative, notwithstanding indications to the contrary. During both events documented in this LER, procedures approved pursuant to Specification 6.8.2 were in place and controlling the entry. Airflow direction was monitored and confirmed to be into the R.B. Thus, it is reasonably concluded that there were no releases to the outside environment and there was no adverse impact on the health and safety of the public.
Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)  
Operating License No. DPR-73  
Docket No. 50-320  
Licensee Event Report 85-04

Attached is Licensee Event Report 85-04 concerning two (2) similar events during which the Reactor Building Internal Pressure Indication registered a value in excess of the limits specified in Technical Specification Limiting Condition for Operation 3.6.1.4. These events occurred on March 5, 1985 and March 26, 1985.

The events are considered reportable pursuant to Title 10 of the Code of Federal Regulations, Section 50.73(a)(2)(i)(B).

Sincerely,

F. H. Standerfer  
Vice President/Director, TMI-2

FRS/JCA/eml

Attachments

cc: Regional Administrator - Office of I & E, Dr. T. E. Murley  
Program Director - TMI Program Office, Dr. B. J. Snyder  
Deputy Program Director - TMI Program Office, Dr. W. D. Travers