



June 28, 2010

L-2010-139
10 CFR 50.4
10 CFR 50.36

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Re: St. Lucie Unit 1
Docket No. 50-335
Date of Event: June 13, 2010
Technical Specification Special Report
Inoperable Containment Sump Wide Range Level Channel B

The attached special report is being submitted pursuant to the requirements of St. Lucie Unit 1 Technical Specification 3.3.3.8 ACTION 4 and Technical Specification 6.9.2. This report provides notification that channel "B" of the containment sump wide range level instrument is inoperable.

As described in the attached special report, repair of the inoperable containment sump wide range level instrument requires parts with long lead times and the repair cannot be performed at power. If parts are available, the instrument will be repaired at the next outage of sufficient duration. The instrument will be repaired no later than the next refueling outage.

Please contact us if there are any questions on this information.

Sincerely,

Eric S. Katzman
Licensing Manager
St. Lucie Plant

ESK/KWF

Attachment

1. TITLE

St. Lucie Unit 1 Inoperable Containment Sump Wide Range Level Channel B –
LIS-07-13B

2. EVENT DESCRIPTION

On June 13, 2010, with St. Lucie Unit 1 in Mode 1, the channel B of containment sump wide range level signal trended slightly higher resulting with this channel being placed out of service. St. Lucie Unit 1 Technical Specification (TS) 3.3.3.8, Table 3.3-11, ACTION 4 was entered, which states:

ACTION 4 - With the number of OPERABLE Channels one less than the Total Number of Channels shown in the Table 3.3-11, either restore the inoperable channel to OPERABLE status within 7 days if repairs are feasible without shutting down or prepare and submit a Special Report to the Commission pursuant to the specification 6.9.2 within 30 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring OPERABLE status.

A containment sump wide range level channel utilizes four level probes. St. Lucie Unit 1 TS 4.3.3.8 requires each channel be demonstrated operable by performing both a channel check and a channel calibration.

3. CAUSE OF THE EVENT

Plant engineers and maintenance personnel investigated the channel B level signal and concluded that all portions of the instrument loop outside of containment are working correctly. The instrument loop malfunction is indicative of multiple sticking reed switches on the sensor in the sump located inside containment.

4. ACTIONS TAKEN

Work order 38026756-01 was written for LIS-07-13B which documented a reading of +1.9 ft. The normal reading is -1.5 ft., 1-OSP-100.17 requires a normal maximum reading of +0.5 ft. If this reading is out of the normal band then Operations is required to declare the channel inoperable.

The input leads to the transmitter were lifted to check the resistance readings from the field. This revealed that the input resistance had dropped on the A-B. This is consistent with the issue that was experienced in 2007, reference work order 37016268-01 and in 2004, reference work order 34015567-01.

Prior to the start of SL 1-23, the faulty reed switch was located in one of the four segments that are connected in series to form LE-07-13B. The faulted reed switch segment was LE-07-13B3. This segment was replaced during SL 1-23. The indication observed at the end of SL 1-23 is indicative of a problem within the reed switch segment instrument stalks in the containment sump. This information was passed on to the Engineering team and they concurred that the failure was in containment. The fact that the resistance decreased is indicative of a possible sticking reed switch on the sensor in the sump. The cumulative information indicates that the faulty switches are limited to one of the four reed switch segments, LE-07-13B2. A replacement segment for LE-07-13B2 has been ordered per Purchase Order 00131519, and is scheduled to be delivered by July 27, 2010.

Elevated radiation levels at the instrument location area when operating preclude any repair at power. The faulty sensor stalk will be repaired/replaced during the next available shutdown.

5. SCHEDULE FOR RESTORING SYSTEM

The Unit 1 containment sump wide range level channel B will be returned to service at the next outage of sufficient duration if parts are available, but will be repaired no later than the end of the next refueling outage (SL 1-24).