

From: Peter Habighorst *PH*  
 To: Pete Eselgroth *PE*  
 Date: Mon, Apr 10, 2000 12:49 PM  
 Subject: SG status at IP2

Pete, the following is a summary of steam generator status at IP2 as of 4/10/00.

STATUS

1. 22 and 23 steam generator pressure test has been completed successfully
2. 21 steam generator secondary pressure test is scheduled for tomorrow (4/11/00)
3. 24 steam generator secondary pressure test will be rescheduled. Con Edison believes that the 24 MSIV bypass valve leaked by resulting in inability to pressurize the generator.
4. All eddy current testing that was scheduled has been completed for all four steam generators
5. All inconel 600 Westinghouse mechanical tube plugs have been replaced (specifically, 21 and 24 cold legs)
6. All steam generator tubes requiring re-roll have been completed.
7. Technical specification requirements on passing of 0.610 probe indicates five tubes this outage could not pass this probe diameter. (2 - 21 steam generator; 1-22 steam generator; 2-23 steam generator; 0-24 steam generator). Comparison to 1997 outage indicated approximately 19 tubes could not pass 0.610 probe.
8. Con Edison had started to plug row 2 tubes in 24 steam generator.
9. On the 22 steam generator, Con Edison had 16 to 17 tubes with axial indications at the top of the tube sheet using CECCo probe. They then used the plus point probe on the same tubes and had 3 confirmed indications. Ultrasonic was used on all 16 to 17 tubes and confirmed that plus point was correct in identification.
10. 21 steam generator tubes were subjected to In-situ testing based upon EPRI guidance. (11-24 steam generator with 5 tubes at the U-bend area; 5-23 steam generator with one at the U-bend; 4-22 steam generator with none at the U-bend; and 1 tube on the 21 steam generator at the U-bend)

WHATs REMAINING

1. Pressure test 21 and 24 steam generator secondary side
2. Plugging of steam generator tubes (total population is 458 tubes with a small percentage currently plugged in row 2 of the 24 steam generator)
3. Disposition of the two main concerns documented below.

MAIN CONCERNS

**1. HIGH NOISE AT THE TOP OF THE TUBE SHEET TO THE FIRST SUPPORT PLATE. CON EDISON IS CURRENTLY LOOKING AT AN ULTRASONIC PROGRAM WITH A SELECTED SAMPLE. SEE ITEM 9 ABOVE WITH SOME PRELIMINARY RESULTS.**

**2. NEW ISSUE OVER THE WEEKEND (4/8/00). THIS NEW ISSUE WAS THE REASON FOR THE DELAY IN THE SCHEDULED CONFERENCE CALL TODAY. DURING IN-SITU TESTING OF STEAM GENERATOR TUBE (R34 C51) IN THE 22 STEAM GENERATOR, CON EDISON IDENTIFIED THAT THE TUBE LEAKED AT 4,980 PSIG. THE REASON FOR THE IN-SITU TESTING WAS A DOUBLE AXIAL INDICATION APPROXIMATELY ONE INCH ABOVE THE TUBE SHEET. THE AXIAL INDICATION DID NOT EXCEED THE THRESHOLD IN EPRI FOR THE PRESSURE TEST, YET CON EDISON ELECTED TO PERFORM THE TEST ANYWAYS. AFTER THE FAILURE OF THE TUBE, CON EDISON RE-EDDY CURRENT TESTED THE TUBE. THEY FOUND THAT THE DOUBLE AXIAL INDICATION HAD GONE THROUGH WALL AND ANOTHER CRACK WAS IDENTIFIED ABOVE THE ROLL TRANSITION AREA WITHIN THE TUBE SHEET.... THIS SECOND CRACK WAS NOT PICKED UP DURING THE INITIAL TESTING OF THE TUBE. CON EDISON BELIEVES THAT THIS CRACK WAS THE RESULT OF INTERGRANULAR**

*DD/9*

ATTACK. AFTER THIS DISCOVERY, CON EDISON SAMPLED AN ADDITIONAL 300 TUBES IN THE 22 STEAM GENERATOR. EVIDENTLY, BASED UPON ADJUSTMENTS TO THE GAIN IN PREVIOUS SIGNALS, ANALYSIS PERSONNEL CAN IDENTIFY PRECURSOR INTERGRANULAR LOCATIONS. A RE-REVIEW OF THE TESTING DATA INDICATED APPROXIMATELY 230 TO 240 TUBES OF THE 300 SAMPLE INDICATES SOME INTERGRANULAR CONDITION. CON EDISON IS CURRENTLY SEEKING INDUSTRY EXPERIENCE CONCERNING THIS NEW DEVELOPMENT. EVIDENTLY KEWANEE EXPERIENCED THIS PHENOMENON IN THE PAST. CON EDISON IS CURRENTLY LOOKING AT IDENTIFICATION OF RE-INSPECTION SCOPE AND REPAIR OPTIONS.

CC: Leanne Harrison, Scott Barber, William Raymond

*28 points a point  
indication out of  
228 tubes in 22 tubes  
because they had  
CCO precursor  
signal.*