

CONDITIONS THAT MUST BE SATISFIED
TO OPERATE STEAM GENERATORS

581/5
T/C

- ROOT CAUSE MUST BE EVALUATED AND CORRECTIVE ACTIONS TAKEN
- INSPECTION AND REPAIR (PLUGGING) MUST BE PERFORMED
- OPERATIONAL ASSESSMENT MUST BE PERFORMED
- NRC APPROVAL VIA A SAFETY EVALUATION REPORT

ROOT CAUSE AND CORRECTIVE ACTION

- LICENSEE SUBMITTED A ROOT CAUSE EVALUATION TO NRC ON APRIL 14, 2000
 - “PRINCIPAL CAUSE OF THE LEAKAGE WAS THE INABILITY TO DETECT THE INDICATION IN 1997 INSPECTION DUE TO NOISE IN THE SIGNAL”
- NRC AGREES THAT DEFICIENCIES IN INSPECTION LED TO THE TUBE FAILURE
- NRC ISSUED A REQUEST FOR ADDITIONAL INFORMATION ON ? TO GAIN A MORE IN-DEPTH UNDERSTANDING OF WHY THESE DEFICIENCIES EXISTED
- LICENSEE CORRECTIVE ACTIONS INCLUDED USE OF ENHANCED INSPECTION METHODS

INSPECTION AND REPAIR (PLUGGING)

- THE LICENSEE CONDUCTED TUBE INSPECTIONS FOLLOWING THE TUBE FAILURE
 - ENHANCED METHODS e.g., high frequency probe for tight U-bends, Ultrasonic inspection -
to confirm eddy current testing
 - IN-SITU PRESSURE TESTS to verify eddy-current inspection results and assess factors of safety
 - ALL TUBES WITH INDICATION OF CRACKING WERE DETECTED REMOVED FROM SERVICE
 - ALL ROW 2 TUBES REMOVED FROM SERVICE

INSPECTION AND REPAIR (PLUGGING)

- NRC OVERSIGHT OF LICENSEE INSPECTION ACTIVITIES
 - REGIONAL AND HEADQUARTERS STAFF ON SITE DURING INSPECTIONS
 - INTERNATIONALLY RENOWNED EDDY CURRENT EXPERT AND EXPERTS FROM ARGONNE NATIONAL LABORATORY ASSISTED NRC STAFF
 - USE OF HIGHER FREQUENCY EDDY CURRENT PROBE RECOMMENDED BY STAFF

OPERATIONAL ASSESSMENT

- SUBMITTED TO NRC BY LICENSEE ON
JUNE 2, 2000

- PROVIDES LICENSEE'S BASES FOR :
 - RETURNING STEAM GENERATORS TO OPERATION
 - ACCEPTABLE PERIOD OF OPERATION

- REQUIRES NRC REVIEW AND APPROVAL

NRC SAFETY EVALUATION REPORT

- KEY ISSUES THAT MUST BE ADDRESSED
 - _ ADEQUACY OF ENHANCED INSPECTION METHODS
 - _ ASSUMED RATES OF DEGRADATION DURING OPERATION
 - _ PROPOSED PERIOD OF OPERATION
 - _ CONFIDENCE THAT TUBES WILL MEET REQUIREMENTS
e.g., factor of safety of 3, THROUGHOUT THE PERIOD OF OPERATION

- SCHEDULE FOR NRC REVIEW AND SAFETY EVALUATION REPORT
 - _ DEPENDS ON ISSUES THAT ARISE DURING REVIEW AND LICENSEE'S ABILITY TO RESPOND TO THEM

 - _ NRC WILL TAKE THE TIME NECESSARY TO COMPLETE A THOROUGH REVIEW

IP-2 LESSONS LEARNED TASK GROUP

- CHARTER: *To conduct, based on the February 15, 2000, steam generator tube failure at Indian Point Unit 2 (IP-2), an evaluation of the technical and regulatory processes related to assuring steam generator tube integrity in order to identify lessons learned and recommend any areas for improvement.*
- TASK GROUP MEMBERSHIP IS INTEROFFICE AND MULTI-DISCIPLINED
- TASK GROUP WILL ADDRESS GENERIC IMPLICATIONS OF IP-2 TUBE FAILURE
- FINAL REPORT WITH TASK GROUP REPORT WILL BE ISSUED TWO MONTHS FOLLOWING ISSUANCE OF THE STAFF'S SAFETY EVALUATION REPORT ON CON ED'S OPERATIONAL ASSESSMENT
- STAFF'S SAFETY EVALUATION REPORT ON CON ED'S OPERATIONAL ASSESSMENT WILL BE PROVIDED TO THE TASK GROUP BEFORE IT IS ISSUED

- TASK GROUP CHARTER AND OTHER INFORMATION NRC's ACTIVITIES RELATED TO THE IP-2 STEAM GENERATORS IS AVAILABLE ON THE NRC WEB SITE AT

www.nrc.gov/NRC/REACTOR/IP/index.html