

LICENSEE: GPU NUCLEAR CORP.
 SITE: THREE MILE ISLAND 1 EN NUMBER: 26833
 DOCKET: 05000289 EVENT DATE: 02-23-94
 RX TYPE: PWR EVENT TIME: 12:20
 VENDORS: B&W-L-LP NOTIFY DATE: 02-23-94
 EMERGENCY CLASS: N/A REGION: 1 STATE: PA TIME: 12:51
 OPS OFFICER: WILLIAM HUFFMAN
 10 CFR SECTION: AOUT 50.72(b)(1)(ii)(B) OUTSIDE DESIGN BASIS
 UNIT SCRAM RX INIT INITIAL MODE CURR CURRENT MODE
 CODE CRIT PWR PWR
 1 N Y 100 POWER OPERATION 100 POWER OPERATION

THERMOWELL STRESSES CALCULATED TO EXCEED ASME PIPING CODE ALLOWABLES.

THE LICENSEE WAS RECENTLY CONDUCTING A REDESIGN OF THE FIXTURES THAT HOLD THE REACTOR COOLANT SYSTEM LOOP THERMOWELLS (8 TOTAL; 2 PER HOT LEG AND 1 PER COLD LEG). DURING THE ANALYSIS CALCULATIONS, IT WAS DISCOVERED THAT THE ACTUAL THERMOWELLS (NOT THE HOLDING FIXTURE) DO NOT MEET THE ALLOWABLE STRESS LIMITS PER THE NUCLEAR PIPING CODES OF ASME SECTION III. THE THERMOWELLS HOUSE RTD'S WHICH PROVIDE TEMPERATURE INPUT FOR THE REACTOR PROTECTION SYSTEM, INDICATIONS AND CONTROL, AND PENETRATE THE RCS PIPING.

THE THERMOWELLS, WHICH WERE SUPPLIED BY ROSEMONT, WERE ORIGINALLY DESIGNED TO USAS/ANSI STANDARDS B31.1 AND B31.7. BASED ON AN OPERATING PRESSURE OF 2155 PSI AND TEMPERATURE OF 600 F, THE MAXIMUM SHEAR STRESS IN THE THERMOWELLS WAS CALCULATED AT 17,700 PSI. THE ASME SECTION III CODE ALLOWABLE FOR THE THERMOWELL MATERIAL IS 10,500 PSI.

ROSEMONT HAS BEEN CONTACTED BUT WAS UNABLE TO RESURRECT THE ORIGINAL DESIGN CALCULATIONS. THE LICENSEE IS CURRENTLY WORKING WITH ROSEMONT TO REDESIGN THE THERMOWELL TO MEET THE ASME SECTION III CODES. ADDITIONAL CALCULATIONS ARE BEING PERFORMED TO OBTAIN A CONDITIONAL RELEASE FOR THE CURRENT THERMOWELLS BASED ON THEIR MEETING ASTM ALLOWABLE STRESSES. THE ACTUAL STRESSES STILL HAVE A SIZABLE MARGIN TO YIELD. THE LICENSEE'S POSITION IS THAT THERE IS NO BASIS TO PRECLUDE CONTINUED OPERATIONS WITH THE CURRENTLY INSTALLED THERMOWELLS.

THE LICENSEE STATES THAT THE CONDITION MAY BE GENERIC AND B&W HAS BEEN INFORMED OF THE SITUATION. THE NRC RESIDENT INSPECTOR HAS BEEN NOTIFIED.

* * * UPDATE 13:03 3/11/94 FROM NELSON TAKEN BY SEBROSKY * * *
 BASED ON A FURTHER REVIEW THE LICENSEE HAS DETERMINED THAT THE

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CONDITION WAS NOT OUTSIDE THE DESIGN BASIS. THE LICENSEE DISCOVERED THAT BABCOCK AND WILCOX HAD DOCUMENTATION IN THEIR INTERNAL FILES THAT INDICATED THAT AN EXCEPTION WAS TAKEN FOR THE INSTRUMENTATION (i.e THE THERMOWELLS) AS NOT BEING APPLICABLE TO USAS/ANSI STANDARDS B31.1 AND B31.7.

THE LICENSEE HAS INFORMED THE RESIDENT INSPECTOR. HOO NOTIFIED R1DO (KINNEMAN) .