

p21 91039
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NUCLEAR REGULATORY COMMISSION
SHARED INFORMATION NETWORK
OPERATIONS OFFICERS SUPPORT SYSTEM
EVENT NOTIFICATION - POWER FACILITIES

EVENT NUMBER: 20845

FACILITY: MILLSTONE
UNIT NO: 1
REGION: 1
BUCKET NO: 050-00245 - -
LICENSE TYPE: Power reactor
STATE: CT
EMERGENCY: N/A Not applicable
LICENSE NO: DPR 021
LICENSEE: NORTHEAST NUCLEAR ENERGY CO.
REPORT REQUIRED BY: PD2 20.403 (b)(4)

EVENT DATE: 04/18/
EVENT TIME: 11:07
NOTIFY DATE: 04/18/
NOTIFY TIME: 11:43
CALLER: BASLER
OPS OFFICER: TIM MC
NOTIFIED: RDO L

UNIT	SCRAM CD	RX CRITL	INIT PWR	INIT RX MODE	CURR PWR	CURR RX
1	N	N	000	Mode 6 - Refuel	000	Mode 6 -

DESCRIPTION TEXT

CONTROL ROD BLADE DISCOVERED TO BE CRACKED DURING INSPECTION
UNIT 1 IS IN A REFUELING OUTAGE WITH THE CORE DEFUELED.
AN INSPECTION OF CONTROL ROD BLADES MANUFACTURED BY ASEATOM COMPANY WAS
BEING PERFORMED PER VENDOR RECOMMENDATION BASED ON PAST EXPERIENCE (THE
LICENSEE NOTED THAT HE RECALLED A SIMILAR MINOR CRACKING ON THIS TYPE OF
BLADE MAY HAVE BEEN DISCOVERED @ QUAD CITIES IN 1988-89).
THE INSPECTION WAS PERFORMED BY A REMOTE UNDERWATER VIDEO CAMERA ON ONLY
THE TOP THREE FEET OF THE HIGHER EXPOSURE BLADES MANUFACTURED BY ASEATOM
DUE TO THE PAST EXPERIENCE OF THE BLADES CRACKING AT A LOWER EXPOSURE THAN
THE ADVERTISED END OF BLADE LIFETIME. A 1.5 INCH LONG CRACK WAS DISCOVERED
ON ONE OF THE EDGES OF THE CRUCIFORM APPROXIMATELY 10 INCHES FROM THE TOP
OF CONTROL ROD #34-35. THERE ARE THIRTEEN ASEATOM RODS IN THE CORE, OF
WHICH THE INSPECTION WAS BEING PERFORMED ON NINE OF THESE RODS WITH THE
HIGHEST EXPOSURE (THE REMAINDER OF THE 145 TOTAL RODS ARE GE MANUFACTURED).
AN INSPECTION WAS PERFORMED LAST YEAR ON ONE OF THE ASEATOM RODS THAT WAS
BEYOND THE THRESHOLD EXPOSURE AT WHICH CRACKING HAS BEEN DISCOVERED IN THE
PAST, AND NO PROBLEMS WERE DISCOVERED.
THE LICENSEE WILL BE REPLACING THIS ROD WITH AN ON-SITE SPARE NEXT WEEK.
THE INSPECTION IS APPROXIMATELY 90% COMPLETE AT THIS TIME, AND SHOULD BE
COMPLETED THIS AFTERNOON WITH NO OTHER PROBLEMS HAVING BEEN IDENTIFIED.
THE LICENSEE INFORMED THE NRC RESIDENT INSPECTOR.

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THE LICENSEE INFORMED THE NRC RESIDENT INSPECTOR.
**** UPDATE 0832 ON 05/14/91 FROM ERIC BENNETT TAKEN BY THOMAS ANDREWS ****
ON 04/18/91, THE LICENSEE REPORTED A CRACK IDENTIFIED ON A CONTROL ROD
BLADE DURING IN SERVICE INSPECTION BEING PERFORMED IN RESPONSE TO THEIR
IMPLEMENTATION OF THE REGULATORY POSITION REGARDING ASEA-ATOM BWR CONTROL
BLADES. THE LICENSEE HAS DETERMINED THAT THE CRACK WAS ACCEPTABLE AND
WOULD NOT DEGRADE THE ABILITY TO SHUT DOWN THE REACTOR OR MAINTAIN IT IN
THE SHUT DOWN CONDITION. THE PURPOSE OF THE INSPECTION WAS TO DETECT
CRACKS SUCH AS THE ONE FOUND. AN ANALYSIS FROM ABB HAS DETERMINED THAT THE

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LICENSEE WOULD NEED EXTENSIVE CRACKS OF THIS TYPE TO AFFECT THE MECHANICAL INTEGRITY OF THE CONTROL ROD BLADES. THE POSSIBILITY OF THE LOSS OF BORON AS A RESULT OF THIS CRACK WAS ALSO CONSIDERED. THE LOSS OF BORON CARBIDE IS A SLOW PROCESS IF IT OCCURS, AND WOULD ONLY AFFECT A LOCALIZED REGION OF THE CORE. SINCE THE CRACK WAS APPROXIMATELY 1.5 INCHES ACROSS THE FACE, THE TOTAL LOSS OF BORON WOULD HAVE A NEGLIGIBLE AFFECT ON SHUT DOWN MARGIN. BASED ON THE ABOVE, THE LICENSEE HAS DETERMINED THAT THIS CONDITION IS NOT REPORTABLE PER 10CFR50.72(B)II.3. THE NRC RESIDENT INSPECTOR HAS BEEN NOTIFIED. THE R1DO, CURTIS COWGILL HAS BEEN NOTIFIED OF THIS RETRACTION.