NRC FORM 366 (4/95) | U.S. NUCLEAR REGULATORY COMMISSION | APPROVED BY OMB NO. 3150-0104 EXPIRES 4/30/98

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104, OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER	PAGE
CONSUMERS ENERGY COMPANY PALISADES NUCLEAR PLANT	05000255	1 of 3

TITLE "LEAKS IN ASME CLASS 1 PRIMARY COOLANT SYSTEM SAMPLE LINE WELDS"

EVENT DATE			LER NUMBER			REPORT DATE			OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
05	31	98	98	009	00	06	30	98	FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE	N
POWER LEVEL	0%

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check one or more)

	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(iii)
	20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)
	20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71
	20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)	x	OTHER
	20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Voluntary Report
	20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)		

LICENSEE CONTACT FOR THIS LER

NAME	TELEPHONE NUMBER (Include Area Code)
Philip D. Flenner, Sr. Licensing Engineer	(616) 764-2544

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
A	AB	ISV	N425	N					

SUPPLEMENTAL REPORT EXPECTED				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES If yes, COMPLETE EXPECTED COMPLETION DATE	X	NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On May 31, 1998, during the leak test following the replacement of the Primary Coolant System (PCS) (AB) Sample Isolation Valves (ISV), a small pinhole leak was found on one of the welds. During the leak test following the repair of this weld, a second pinhole leak was found on another weld made during valve replacement. These welds were located in piping connected to the PCS but are normally isolated with closed control valves. The welds are also part of the containment boundary. The inservice leak test was performed with the PCS in hot shutdown.

The small leaks in the new welds were the result of residual moisture in the line during welding. This resulted in pinholes in the single pass socket welds that were not detected using the PT examination method. Through-wall leakage is not allowed in ASME Class 1 system piping and would normally be reportable as rendering the system in a condition outside the design basis of the plant. However, in this particular instance, the leakage was identified during initial inservice leak testing which was performed in accordance with ASME Code requirements as a part of post maintenance testing. Leakage identified in this manner is not considered a Code violation. Therefore, since no Code violation occurred and the magnitude of the leakage was not sufficient to impact either PCS leak rate or containment building leakage Technical Specifications requirements, this occurrence is being reported as a voluntary Licensee Event Report.

There were no significant safety implications as a result of this occurrence due to the size of the line, the type of discontinuity, and the amount of the leakage.

EVENT DESCRIPTION

On May 31, 1998, during the leak test following the replacement of the Primary Coolant System (PCS) Sample Isolation Valves, a small pinhole leak (characterized as one drop every two minutes) was found on one of the welds. During the leak test following the repair of this weld, a second pinhole leak (characterized as <one drop every five minutes) was found on another weld made during the replacement process. As a result, the code requirement that the system pass the leak test with no leakage noted was not met until further repairs were made. These welds were located in piping connected to the PCS but are normally isolated with closed control valves. The welds are also part of the containment boundary. The inservice leak test was performed in accordance with the Code with the PCS in hot shutdown.

Since the PCS was in the hot shutdown mode of operation, Technical Specifications (TS) action statement 4.5.2C(1) was conservatively entered during the repairs to the welds. This action statement requires repair within 48 hours or placing the plant in hot shutdown within the following six hours and in cold shutdown within the following 30 hours. Subsequent evaluation has shown that entry into TS 4.5.2C(1) was not required. PCS structural integrity was not compromised and the leak rate was well within TS limits. Containment integrity, as defined by the TS, was also maintained. The leaking welds were isolated from the PCS during the repair by closing manual isolation valves and separating mechanical joints within containment.

Through-wall leakage is not allowed in ASME Class 1 system piping and would normally be reportable as rendering the system in a condition outside the design basis of the plant. However, in this particular instance, the leakage was identified during initial inservice leak testing which was performed in accordance with ASME Code requirements as a part of post maintenance testing. Leakage identified in this manner is not considered a Code violation. Therefore, since no Code violation occurred and the magnitude of the leakage was not sufficient to impact either PCS leak rate or containment building leakage Technical Specifications requirements, this occurrence is being reported as a voluntary Licensee Event Report.

ANALYSIS OF EVENT

Two small leaks were found in PCS and containment boundary welds during an inservice leak test following valve replacement. The valves, CV-1910 and CV-1911, are socket welded Primary Coolant System Sample Isolation Valves which were replaced during the 1998 refueling outage. Valve CV-1910 is an ASME Class 1 valve that provided both a PCS and a containment isolation function. The replacement activity required welding and was completed using a gas tungsten arc welding (GTAW) process. The welds were examined using the liquid dye penetrant (PT) method and no rejectable indications were found. Pressure testing was then performed to check for

leakage in the valves and new welds. The leak test was accomplished with the Primary Coolant System at normal operating pressure and temperature. A small pinhole leak was found on one of the field welds. The leak rate was quantified as one drop every two minutes.

After the repair of the leaking weld, another leak test was performed, at which time a second weld was discovered to be leaking, also as a result of a small pinhole leak. The leak rate was quantified as less than one drop every five minutes. This weld was repaired and subsequently passed the PT examination and the leak test.

The small leaks in the new welds were the result of residual moisture in the line during welding. This resulted in pinholes in the single pass socket welds that were not detected using the PT examination method. The welder recognized that the line was moist and attempted to dry the line by heating with a torch. This was not ultimately successful. The weld repair was subsequently completed after additional actions were taken to dry the line.

SAFETY SIGNIFICANCE

There were no significant safety implications as a result of this occurrence due to the size of the line, the type of discontinuity, and the amount of the leakage. While the potential for an uncontrolled release of radioactive material exists whenever a containment penetration has leakage, any release through such small defects would be well within 10 CFR Part 100 criteria. The pinhole leaks in the welds would not have affected the weld integrity from a strength standpoint.

CAUSE OF EVENT

The root cause of this event was the welder's mistaken belief that residual moisture had been removed from the weld area.

CORRECTIVE ACTIONS

The leaking welds were repaired under acceptable conditions and passed both the PT examinations and the inservice leak test.

The lessons learned from this event will be reviewed with selected Mechanical Maintenance, Planning and Engineering personnel.