

CONTROL BLOCK:

						1
--	--	--	--	--	--	---

 (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

CON'T

0	1
---	---

7 8

REPORT SOURCE

L	6	0	5	0	0	0	2	9	5	7	0	8	1	8	7	8	8	0	9	1	5	7	8	9
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

DOCKET NUMBER

EVENT DATE

REPORT DATE

On Aug. 24, 1978, the station was advised of the possible use of atypical weld metal in the manufacture of Unit 1 and 2 reactor vessels. This would result in the change of the initial RT(NDT) from 27F to 125F and NDTT from 15F to 70F in Table 3.3.2-1 of the Tech Specs. The pressure and temperature limits of Tech Spec. 3.3.2 may therefore have been non-conservatively calculated. Observation and evaluation show no effect on the RC pressure boundaries after 2.8 and 2.4 EFPY of operation respectively.

SYSTEM CODE 09		CAUSE CODE CA 11		CAUSE SUBCODE B 12		COMPONENT CODE VESSEL 13		COMP. SUBCODE A 15		VALVE SUBCODE Z 16	
LER/RO REPORT NUMBER 17		EVENT YEAR 78		SEQUENCE REPORT 01		OCCURRENCE CODE 01		REPORT TYPE L		REVISION NO. 0	
ACTION TAKEN G 18		FUTURE ACTION X 19		EFFECT ON PLANT Z 20		SHUTDOWN METHOD Z 21		HOURS 0000 22		ATTACHMENT SUBMITTED Y 23	
NPRD-4 FORM SUB. N 24		PRIME COMP. SUPPLIER N 25		COMPONENT MANUFACTURER W 1 2 0 26							

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)	
1 0	The possible use of atypical weld wire in 4-loop PWR Reactor Vessels,
1 1	Nat'l. Board Nos. N-184 and N-185 as part of West. Elec. NSSS.
1 2	Interim RCS heatup and cooldown curves have been calculated and
1 3	implemented to provide adequate conservatism until resolution of
1 4	this issue.

FACILITY STATUS						% POWER						OTHER STATUS						METHOD OF DISCOVERY						DISCOVERY DESCRIPTION					
1	5		(28)	1	0	0	(29)	NA		(30)		(31)																	
ACTIVITY CONTENT						RELEASED OF RELEASE						AMOUNT OF ACTIVITY						LOCATION OF RELEASE											
1	G		(33)	Z	(34)	NA								NA															
PERSONNEL EXPOSURES						NUMBER						TYPE						DESCRIPTION											
1	7		(37)	0	0	0	(38)	Z	(39)	NA																			
PERSONNEL INJURIES						NUMBER						DESCRIPTION																	
1	H		(40)	0	0	0	(41)	NA																					
LOSS OF OR DAMAGE TO FACILITY						TYPE						DESCRIPTION																	
1	I		(42)	Z	(43)	NA																							
PUBLICITY						ISSUED						DESCRIPTION						NRC USE ONLY											
2	O		(44)	N	(45)	NA																							
7810170189																													

R. E. Shannor

NRC USE ONLY

312-746-2084 ext248

ATTACHMENT TO LER
NO. 78-078/01 L - 0
COMMONWEALTH EDISON CO.
ZION GENERATING STATION
50-295

Description of Event

On August 14, 1978, Commonwealth Edison was advised by the NRC that Babcock and Wilcox had determined from chemical analysis of archive reactor vessel weldment that the nickel and silicon content of the weld material was outside the specified range. It has been determined that the weld filler wire used for that particular weld was atypical. As of this date it is not known whether or not this atypical weld wire was used in the manufacture of Zion reactor vessels.

It is possible that this atypical weld metal may have been used in the circumferential girth weld of the Zion Unit 1 vessel and the lower shell longitudinal weld of the Zion Unit 2 vessel. Review of the records available to date has not enabled the station to discount the possibility that these vessels contain weld metal having an initial RT_{NDT} of $125^{\circ}F$ and an initial T_{NDT} of $70^{\circ}F$. This compares with an initial RT_{NDT} of $27^{\circ}F$ and an initial T_{NDT} of $15^{\circ}F$ as found in Table 3.3.2-1 of the Technical Specifications. The pressure and temperature limitations described in Technical Specification 3.3.2 may therefore have been non-conservatively calculated. No affect to the integrity of the reactor coolant pressure boundary has been observed in relation to Unit 1 and 2 having operated 2.8 and 2.4 Effective Full Power Years respectively, based on the less conservative limitations.

Consequences of Occurrence

No effect to the integrity of the reactor coolant systems has been observed. In addition, evaluations conducted by Westinghouse Electric, based on ASME Section III, Appendix III, has shown that no adverse effects on the integrity or safety of the plant has occurred due to operation using the possibly less conservative limitations. Additionally, ultrasonic inspections following the initial hydrostatic test indicated the absence of any flaws. The health and safety of the plant and public was unaffected by this occurrence.

Cause of Occurrence

The cause of the occurrence is the possible use of atypical weld filler wire in the manufacture of Zion Unit 1 and 2 4-loop PWR Reactor Vessels National Board Numbers N-184 and N-185, designed by

Westinghouse Electric Co. and manufactured by Babcock and Wilcox. It is unknown at this time how the atypical weld metal could have been introduced or if it was, in fact, used in these vessels.

Corrective Action

The Unit 1 and 2 reactor vessel pressure and temperature limitations have been re-evaluated assuming the atypical metal was included during fabrication. These limitations were calculated in accordance with 10 CFR 50, Appendix G and are valid for heatup and cooldown during the first eight Effective Full Power Years of operation. Interim operating curves representative of these limitations were implemented as of August 18, 1978, and will remain in use until this issue is resolved. Use of these curves will ensure continued vessel integrity in the event the atypical weld wire was used.

If future investigations demonstrate the absence of the atypical weld metal, then the interim curves will have provided excess conservatism. If the metal is in fact present, then the interim curves will continue in use and be periodically updated as necessary to provide adequate conservatism.