A08/24/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)
DISTRIBUTION FOR INCOMING MATERIAL 50-287

REC: OREILLY J P NRC
ORG: PARKER W O DUKE PWR
DOCDATE: 08/18/78
DATE RCVD: 08/23/78

DOCTYPE: LETTER NOTARIZED: NO
SUBJECT:
COPIES RECEIVED LTR 1 ENCL 1
FORWARDING LICENSEE EVENT REPT (RO 50-287/78-012) ON 08/04/78 CONCERNING ARC WELD FILLER WIRES UTILIZED IN THE CONSTRUCTION OF THE PRESSURE VESSEL WAS UNKNOWINGLY MIXED BY THE SUPPLIER WITH A SHIPMENT OF MN-NO-NI FILLER WIRE.

PLANT NAME: OCONEE - UNIT 3
REVIEWER INITIAL: XJM
DISTRIBUTOR INITIAL: u

********** DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS **********

NOTES:
1. M. CUNNINGHAM - ALL AMENDMENTS TO FSAR AND CHANGES TO TECH SPECS

INCIDENT REPORTS
(DISTRIBUTION CODE A002)

FOR ACTION: BR CHIEF ORB#4 BC**W/4 ENCL

INTERNAL:
REG FILE**W/ENCL
I & E**W/2 ENCL
I & C SYSTEMS BR**W/ENCL
NOVAK/CHECK**W/ENCL
AD FOR ENG**W/ENCL
HANAUER**W/ENCL
AD FOR SYS & PROJ**W/ENCL
ENGINEERING BR**W/ENCL
KREGER/J. COLLINS**W/ENCL
K SEYFRIT/IE**W/ENCL
NRC PDR**W/ENCL
MIPC**W/3 ENCL
EMERGENCY PLAN BR**W/ENCL
EEB**W/ENCL
PLANT SYSTEMS BR**W/ENCL
AD FOR PLANT SYSTEMS**W/ENCL
REACTOR SAFETY BR**W/ENCL
VOLLMER/BUNCH**W/ENCL
POWER SYS BR**W/ENCL

EXTERNAL:
LPDR'S
WALHALLA, SC**W/ENCL
TIC, LIZ CARTER**W/ENCL
NSIC**W/ENCL
ACRS CAT B**W/16 ENCL

A014

DISTRIBUTION: LTR 45 ENCL 45
SIZE: 1P+2P+1P
CONTROL NBR: 782350260

********** THE END **********

R

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE: AREA 704
373-4083

August 18, 1978

Mr. James P. O'Reilly, Director
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Reference: Oconee Unit 3
Docket No. 50-287

Dear Mr. O'Reilly:

Pursuant to Sections 6.2 and 6.6.2 of the Oconee Nuclear Station Technical Specifications, please find attached Reportable Occurrence Report RO-287/78-12.

Very truly yours,

William O. Parker Jr. by WAH

William O. Parker, Jr.

RLG:scs
Attachment

cc: Director, Office of Management
Information and Program Control

A002
S/11

Duke Power Company

Oconee Unit 3

Report No: 50-287/78-12

Report Date: August 18, 1978

Occurrence Date: August 4, 1978

Facility: Oconee Unit 3, Seneca, South Carolina

Identification of Occurrence: Atypical submerged arc weld filler wires utilized in construction of reactor vessel.

Condition Prior to Occurrence: 100% Full Power

Description of Occurrence:

On August 4, 1978, B&W, the Oconee Unit 3 NSSS vendor, informed Duke Power Company that as a result of chemical analyses performed on archive weldments, they had discovered that weld filler wire atypical of the submerged arc weld filler wires utilized in the construction of nuclear pressure vessels was unknowingly mixed by the supplier with a shipment of Mn-Mo-Ni filler wire. The atypical weld wire has high silicon and low nickel contents which are outside of the typical range for the Mn-Mo-Ni filler wire specified by B&W. The nickel content was 0.1% (typically 0.6%) and the silicon content was 1.0% (typically 0.5%). As this atypical material may be present in the Oconee 3 vessel, correspondingly appropriate changes to the heatup and cooldown limits for Unit 3 were prepared by B&W and are implemented at Oconee. These limits are more restrictive than those currently in the Oconee Technical Specifications.

Cause of Occurrence:

B&W's supplier of submerged arc weld filler wire provided weld wire with an atypical material composition which may have been utilized in the construction of the pressure vessel.

Analysis of Occurrence:

There are no directly applicable irradiation data for the atypical weldment although other applicable data exists, and welds of this wire possesses a higher than normal unirradiated reference temperature. Welds prepared from the atypical weld wire exhibit a very adequate Charpy Upper Shelf Energy. This wire mixture (Mn-Mo-Ni filler wire plus the atypical filler wire) may have been used in the construction of the reactor vessel. The weld locations where the wire mixture may have been used are: inlet and outlet nozzles to nozzle belt; upper shell to lower shell; dutchman to lower head. A technical evaluation has been performed by B&W on the reactor vessel assuming the atypical material is in the locations mentioned. This fracture mechanics evaluation has

Analysis of Occurrence (Continued):

demonstrated that the structural integrity of the reactor vessel has not been compromised by the possible presence of the atypical material. However, with the atypical weld material assumed to be present, the operation of the unit is governed by more restrictive pressure-temperature operating limits. These limits are currently in use for Unit 3.

Corrective Action:

Unit 3 operation will continue with the pressure-temperature limits provided by B&W, which are more restrictive than those in the Technical Specifications.

NRC FORM 366 (7-77)

U. S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT

EXHIBIT A

CONTROL BLOCK: | | | | | | | (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 | S C N E E 3 (2) | 0 0 - 0 0 0 0 0 - 0 0 (3) | 4 1 1 1 1 (4) | (5)
LICENSEE CODE — LICENSE NUMBER — LICENSE TYPE — CAT

CON'T 01 | REPORT SOURCE: X (6) | DOCKET NUMBER: 0 5 0 0 0 2 8 7 (7) | EVENT DATE: 0 8 0 4 7 8 (8) | REPORT DATE: 0 8 1 8 7 8 (9)

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

02 The NSSS vendor, as a result of analysis performed on archive weldments,
03 discovered that weld filler wire atypical of the submerged arc weld filler
04 wires utilized in the construction of the pressure vessel was unknowingly
05 mixed by the supplier with a shipment of Mn-Mo-Ni filler wire. The operation
06 of the unit is governed by more restrictive pressure-temperature operating
07 limits.
08

SYSTEM CODE	Z Z (11)
CAUSE CODE	B (12)
CAUSE SUBCODE	B (13)
COMPONENT CODE	V E S S E L (14)
COMP. SUBCODE	A (15)
VALVE SUBCODE	Z (16)

(17) LER/RO REPORT NUMBER

EVENT YEAR	7 8
	—
SEQUENTIAL REPORT NO.	0 1 2
	/
OCCURRENCE CODE	0 1
REPORT TYPE	T
	—
REVISION NO.	0

ACTION TAKEN	X (18)
FUTURE ACTION	X (19)
EFFECT ON PLANT	Z (20)
SHUTDOWN METHOD	Z (21)
HOURS (22)	0 0 0 0
ATTACHMENT SUBMITTED	Y (23)
NPRD-4 FORM SUB.	N (24)
PRIME COMP. SUPPLIER	N (25)
COMPONENT MANUFACTURER	B 0 1 5 (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

10 The arc weld filler wire supplier provided the NSSS vendor with wire contain-
11 ing an atypical material composition. Unit operation continues with more
12 restrictive pressure-temperature limits than in TS in effect.
13
14

15 | FACILITY STATUS: E (28) | % POWER: 1 0 0 (29) | OTHER STATUS (30): NA | METHOD OF DISCOVERY: D (31) | DISCOVERY DESCRIPTION (32): Notification from NSSS

16 | ACTIVITY RELEASED: Z (33) | CONTENT OF RELEASE: Z (34) | AMOUNT OF ACTIVITY (35): NA | LOCATION OF RELEASE (36): NA

17 | PERSONNEL EXPOSURES NUMBER: 0 0 0 (37) | TYPE: Z (38) | DESCRIPTION (39): NA

18 | PERSONNEL INJURIES NUMBER: 0 0 0 (40) | DESCRIPTION (41): NA

19 | LOSS OF OR DAMAGE TO FACILITY (43) TYPE: Z (42) | DESCRIPTION: NA

20 | PUBLICITY ISSUED: Z (44) | DESCRIPTION (45): NA | NRC USE ONLY

NAME OF PREPARER R. L. Gill PHONE: 704 373-5826