CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9602270347 DOC.DATE: 96/02/20 NOTARIZED: NO DOCKET #
FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
AUTH.NAME AUTHOR AFFILIATION
PARRISH,J.V. Washington Public Power Supply System
RECIP.NAME RECIPIENT AFFILIATION
Document Control Branch (Document Control Desk)

SUBJECT: Submits supplement to response to GL 94-03, "Intergranular Stress Corrosion Cracking of Core Shrouds."

DISTRIBUTION CODE: A018D COPIES RECEIVED:LTR 1 ENCL 0 SIZE: 3
TITLE: GL 94-03 Intergranular Stress Corrosion Cracking of Core Shrouds in B

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	CLIFFORD,J	1	1	PM/CARPENTER,G.	1	1
INTERNAL:	FILE CENTER 01	1	1	NRR/DE/EMCB	1	1
	NRR/DE/EMEB	1	1	NRR/DRPM/PECB	1	1
	NRR/DSSA/SRXB	1	1	RES/DET/EMMEB	1	1
EXTERNAL:	NRC PDR	1	1			

C A T E G O R Y 1 D O C U M E N T

NOTE TO ALL "RIDS" RECIPIENTS:
PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM OWFN 5D-5(EXT. 415-2083) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 9 ENCL 9

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352

February 20, 1996
GO2-96-030

Docket No. 50 -397

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington D.C. 20555

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21**
SUPPLEMENT TO RESPONSE TO GENERIC LETTER 94-03
INTERGRANULAR STRESS CORROSION CRACKING OF CORE SHROUDS, RE: CRACK PROPAGATION

References:
1) Letter dated August 24, 1994, JV Parrish (SS) to US Nuclear Regulatory Commission, "Response To Generic Letter 94-03, 'Intergranular Stress Corrosion Cracking of Core Shrouds", (TAC M90115)
2) Telecon, DA Swank (SS) to KM Thomas (NRC), February 9, 1996
3) General Electric Report dated July 1994, GENE-523-A107P-0794, "BWR Shroud Cracking Generic Safety Assessment"
4) Letter dated January 15, 1996, JV Parrish (SS) to US Nuclear Regulatory Commission, "Amendment to Generic Letter 94-03 Response"
5) General Electric Report dated March 1995, GENE-523-113-0894, Revision 1 "BWR Core Shroud Inspection and Flaw Evaluation Guidelines",

Following up on the Reference 2 telecon, the Supply System is supplementing information originally provided in Reference 1 regarding margin of safety of the core shroud with respect to stress corrosion cracking (SCC).

In Attachment 1 (page 7) of Reference 1, the Supply System utilized data available in Reference 3 to bound the depth of hypothetical core shroud cracks at 0.4 inches as of outage R-11 (Spring 1996). That amount of cracking would be approximately 20% of the full 360° flaw depth that the Reference 3 report would consider as being the limit at which the core shroud's structural margin would remain available. This bounding evaluation was conservative in that it postulated crack initiation immediately after the partial inspection performed during the R-9 outage (Spring 1994).

A018
1/0

WASHINGTON PUBLIC POWER SUPPLY SYSTEM WNP-2 PLANT PROCEDURES MANUAL		VERIFY PRIOR TO USE DATE
PROCEDURE NUMBER 13.11.10	APPROVED BY	DATE 03/27/95
VOLUME NAME EMERGENCY PLAN IMPLEMENTING PROCEDURES		
SECTION EMERGENCY OPERATIONS FACILITY		
TITLE SECURITY MANAGER DUTIES		

TABLE OF CONTENTS

1.0 PURPOSE

This procedure describes the emergency responsibilities of the Security Manager in coordinating the actions of the Supply System Security Force and, when necessary, local law enforcement agencies during emergency events.

2.0 REFERENCES

2.1 FSAR Chapter 13.3, Emergency Plan, Sections 2 and 6

2.2 PPM 13.5.1, Localized and Protected Area Evacuations

2.3 PPM 13.5.3, Evacuation of Exclusion Area and/or Nearby Facilities

2.4 PPM 13.13.4, After Action Reporting

3.0 PROCEDURE

3.1 Security Manager Responsibilities

3.1.1 Proceed to the Emergency Operations Facility (EOF) when notified of an Alert, Site Area Emergency or General Emergency, or if so directed.

3.1.2 Sign in on the Sign-In Board, obtain procedure book from wall rack and supply drawer from EOF supply cabinet.

3.1.3 Notify the Site Support Manager or EOF Manager of your availability.

3.1.4 Record significant actions, events and their resolutions on the Emergency Response Log for attachment to your After Action Report. See PPM 13.13.4 for after action reporting.

3.1.5 Direct Supply System Security assigned to roadblocks to control access as follows:

Admit personnel with identification establishing employment with the Supply System, DOE (or one of their subcontractors), state (Washington or Oregon), county, FBI, NRC, FEMA, Coast Guard or local law enforcement agencies without further clearance.

3.1.6 Obtain clearance for emergency vehicles and personnel to enter the Protected Area from the TSC Manager.

3.1.7 Make decisions on authorizing unbadged personnel access through Supply System roadblocks or access to the EOF.

3.1.8 Evaluate Security manning needs and authorize the call out of additional personnel, as required.

3.1.9 Confer with the EOF Manager to determine if the emergency requires a Safety representative. If so, coordinate call-out with the Site Support Manager.

3.1.10 When an offsite accident results in injury or death to a Supply System employee, obtain the name(s) and coordinate next-of-kin notification with the Human Resources Manager of Compensation and Benefits.

3.1.11 Coordinate response actions with local law enforcement agencies as necessary. Provide information that may affect offsite traffic control point operations to the Local Law Enforcement Agency representative in the Benton/Franklin County EOC.

3.1.12 If evacuation or relocation of onsite or offsite Security personnel is necessary due to an actual or potential radioactive release, coordinate with the REM regarding where to relocate and hazardous conditions to avoid.

3.1.13 Direct the Security Force Supervisor to relocate PAP or AAP badge and TLD racks when requested by the REM. Confer with the REM on hazardous areas to avoid.

3.1.14 Brief the EOF Manager on all Security operations and be prepared to offer update briefings to EOF staff in accordance with the guidelines of Attachment 4.1.

3.1.15 If a report is received of missing person(s) outside the Protected Area but within the Exclusion Area, coordinate search and rescue operations using the following as general guidelines:

a. Attempt to locate the missing individual by using portable communications or public address systems available in the EOF Communications Center (EOFCC).

b. Determine the missing individual(s) last known location and/or job assignment through the individual's supervisor/manager.

c. Using whatever resources are available (call-out as necessary), assign appropriate personnel to a search and rescue team.

d. If a radiological hazard is suspected, consult with the REM to determine radiological equipment needed, acceptable dose limits, and safe routes to and from search area(s).

3.1.16 Brief the search and rescue team members on:

a. Who is designated team leader

b. Identity of missing individual(s)

c. Last known location(s)

d. Area(s) to be searched

e. Expected conditions and hazards to be anticipated in the search area(s), and equipment needed

f. Safe routes in, out, and within search area(s)

g. Acceptable limits of exposure to hazards in search area(s)

3.1.17 Direct the team leader to establish and maintain radio communication with the EOFCC throughout search and rescue, and that you be informed of progress and any problems encountered.

3.1.18 Keep the EOF Manager informed of search and rescue progress and problems encountered.

3.1.19 When the search operation is terminated, ensure team members return equipment and receive radiological monitoring and decontamination, as necessary.

3.1.20 Direct team members prepare an After Action Report per PPM 13.13.4.

3.1.21 Upon shift change, fully brief your relief on responsibilities, duties and current status of security actions being taken.

3.1.22 Upon shift change or termination of the emergency:

a. Prepare an individual After Action Report. Refer to PPM 13.13.4.

b. Collect the individual After Action Reports prepared by staff personnel.

c. Deliver all After Action Reports and Logs to the an Emergency Preparedness representative.

4.0 ATTACHMENTS

4.1 Security Manager Briefing Guidelines

SECURITY MANAGER BRIEFING GUIDELINES

NOTE: Items listed here are suggested topics for routine update briefing. Items actually selected should be based on existing or projected situation conditions.

Security Manager update items:

a. Security activities in support of emergency operations.

b. Review Security requirements for EOF access, access roadblocks, plant badge issuance, etc.

c. Status of offsite agency response and civil authority roadblocks or river evacuation activities, if applicable.

d. Summarize any significant discussions/direction from local law enforcement authorities.

e. Problem areas needing resolution.

f. NRC counterpart status report (if present).

Notes:_____

As a result of the Reference 2 telecon, the previous evaluation has been extended to the R-13 outage (Spring 1998) to supplement the Reference 4 notice of re-scheduling of the core shroud inspection. The UT inspection performed during the R-9 outage of 35% of the H4 and 10% of the H5 weld ligaments showed no indication of weld cracking. Therefore, this supplemental evaluation assumes, as before, that cracking began after the R-9 outage, which would be approximately 40 hot operation (reactor critical) months previous to the R-13 outage scheduled to occur in the Spring of 1998. WNP-2's reactor water conductivity averaged 0.24 µS/cm during the first five years of operation, and has been lower in recent years. A parametric curve was projected on Figure 3-3 of Reference 3 for a conductivity of approximately 0.25 µS/cm. The Figure 3-3 data would indicate a hypothetical crack depth of approximately one inch if the 40 month hot operation (reactor critical) period between the R-9 and R-13 outages were considered.

An alternate approach for projecting a crack depth involves consideration of hypothetical crack growth rates over the same 40 month period used above. Page 3-2 of Reference 5 identifies a crack growth rate of $5x10^{-5}$ inches/hour as being a conservative and upper bounding crack growth rate for the shroud material. If a crack initiated in 1994 after the R-9 outage, the depth would be approximately 1.44 inches at the Spring 1998 R-13 outage based on continual growth over the 40 month hot operation period at the $5x10^{-5}$ inches/hour rate.

Reference 3 states that core shroud structural margins are maintained for 360° cracking with average crack depths up to 90% of shroud thickness. The WNP-2 core shroud has a nominal 2.0 inch thickness, and using the Reference 3 data as a limit, the limiting tolerable crack depth would be 1.80 inches. Since the evaluation indicates that the maximum hypothetical worst case crack depth projected at R-13 would be approximately 1.44 inches, significant structural margin would remain in the Spring of 1998 at the R-13 outage.

Consequently, this supplemental evaluation using Reference 3 data and crack growth rates based on Reference 5 data shows that no adverse effect on safety would result if the inspections are deferred to R-13, consistent with the Reference 4 rescheduling of additional core shroud inspections.

Should you have any questions or desire additional information regarding this matter, please call me or Mr. Dave Swank at (509)-377-4563.

Sincerely,

J.V. Parrish
Managing Director
(Mail Drop 1023)

cc: LJ Callan - NRC RIV
KE Perkins, Jr. - NRC RIV, Walnut Creek Field Office
NS Reynolds - Winston & Strawn
JW Clifford - NRC
DL Williams - BPA/399
NRC Resident Inspector - 927N