REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS) A44

ACCESSION NBR:8309300257 DOC.DATE: 83/09/21 NOTARIZED: NO DOCKET #
FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
AUTH.NAME AUTHOR AFFILIATION
SORENSEN,G.C. Washington Public Power Supply System
RECIP.NAME RECIPIENT AFFILIATION
SCHWENCER,A. Licensing Branch 2

SUBJECT: Forwards response to FSAR Question 110.44 in NRC 830803 ltr.W/one oversize drawing.Aperture Card is available in PDR.

DISTRIBUTION CODE: B001S COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 2+1
TITLE: Licensing Submittal: PSAR/FSAR Amdts & Related Correspondence

NOTES: Aperture card list.

	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL
	NRR/DL/ADL		1	0	NRR LB2 BC		1	0
	NRR LB2 LA		1	0	AULUCK,R.	01	1	1
INTERNAL:	ELD/HDS2		1	0	IE FILE		1	1
	IE/DEPER/EPB	36	3	3	IE/DEPER/IRB	35	1	1
	IE/DEQA/QAB	21	1	1	NRR/DE/AEAB		1	0
	NRR/DE/CEB	11	1	1	NRR/DE/EHEB		1	1
	NRR/DE/EQB	13	2	2	NRR/DE/GB	28	2	2
	NRR/DE/MEB	18	1	1	NRR/DE/MTEB	17	1	1
	NRR/DE/SAB	24	1	1	NRR/DE/SGEB	25	1	1
	NRR/DHFS/HFEB	40	1	1	NRR/DHFS/LQB	32	1	1
	NRR/DHFS/PSRB		1	1	NRR/DL/SSPB		1	0
	NRR/DSI/AEB	26	1	1	NRR/DSI/ASB		1	1
	NRR/DSI/CPB	10	1	1	NRR/DSI/CSB	09	1	1
	NRR/DSI/ICSB	16	1	1	NRR/DSI/METB	12	1	1
	NRR/DSI/PSB	19	1	1	NRR/DSI/RAB	22	1	1
	NRR/DSI/RSB	23	1	1	REG FILE	04	1	1
	RGN5		3	3	RM/DDAMI/MIB		1	0
EXTERNAL:	ACRS	41	6	6	BNL(AMDTS ONLY)		1	1
	DMB/DSS (AMDTS)		1	1	FEMA-REP DIV	39	1	1
	LPDR	03	1	1	NRC PDR	02	1	1
	NSIC	05	1	1	NTIS		1	1

RMDS. to. PM

TOTAL NUMBER OF COPIES REQUIRED: LTTR 53 ENCL 46

Washington Public Power Supply System
P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000

September 21, 1983
G02-83-855

Docket No. 50-397

Director, Nuclear Reactor Regulation
Attention: Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Schwencer:

Subject: NUCLEAR PROJECT NO. 2
SUPPLY SYSTEM RESPONSE TO
FSAR QUESTION 110.44

Reference: (a) Letter, A. Schwencer (NRC) to DW Mazur (SS), dated August 3, 1983, subject, "FSAR Questions 110.41, 110.42, 110.43 and 110.44"

The Washington Public Power Supply System hereby provides a reply to FSAR Question 110.44 which was submitted as an attachment to reference (a) above. Our reply consists of this letter and 2 attachments.

If you have any questions or desire further information, please contact Pat Powell, Manager, WNP-2 Licensing.

Very truly yours,

Alan Sorensen

G. C. Sorensen, Acting Manager
Nuclear Safety and Regulatory Program

GCS:PWH:ch

Attachment: (1) Attachment 1 - Response
(2) Attachment 2 - H-501, Sheet 3

cc: Mr. R. Auluck - NRC
Mr. W. S. Chin - BPA
Mr. A. D. Toth - NRC Resident Inspector

Aperture Card Dist
Drawings To: PM

B001
1/1

DUPE of 8309302573

Attachment 1

FSAR Question 110.44

Section 3.9.3.4 of your FSAR states that all piping and component supports are designed in accordance with Subsection NF of the ASME Code. Provide the criteria used for the other elements of construction, in addition to design. As stated in Footnote 2 to SRP 5.2.1.1 construction includes materials, fabrication, examination, testing, inspection and installation as well as design. Provide sufficient graphic detail so that the boundaries to which the above construction criteria elements including design are clearly specified. The graphic sketches should provide information for all items in the support load path from the component being supported to the building structure, including any supplementary steel. The purpose of this request is to assure continuity of construction criteria across any jurisdictional boundaries in the support load path.

Supply System Response

On August 5, 1983, the Supply System responded to an NRC Region V Notice of Deviation on the matter of NF boundaries. That communication is provided as part of this response for purposes of clarity:

Notice of Deviation

As a result of the inspection conducted on May 1-31, 1983, and in accordance with the NRC Enforcement Policy, 10 CFR Part 2 Appendix C, 47 FR 9887 (March 9, 1982), the following deviation was identified:

> *Paragraph 3.2.3 of the FSAR states that piping system supports shall be appropriate for the components supported as defined by the ASME Code Section III. The ASME Code Section III NF-1510(d) defines a non-integral pipe support as one which "bears on the pressure boundary component" and NF-1511 states that "the jurisdictional boundary between a building structure and a non-integral support shall be the surface of the building structure."*
>
> *Contrary to the above, on April 9, 1982, the architect engineer issued drawing H-501, sheet three, which allowed non-integral supports to be excluded from the construction and inspection requirements of ASME Section III, subsection NF even though the non-integral supports extend beyond the building surface structure into the jurisdictional boundary of the ASME Code."*

You are hereby requested to submit to this office within thirty days of the date of this Notice, a written statement or explanation

regarding the item of deviation, describing corrective action taken, the results achieved (or corrective steps that are planned), and the date when corrective action will be completed."

Supply System Response: (to Notice of Deviation)

The Supply System position in regard to the Notice of Deviation is that the subject supports are in question because of differences in ASME Code interpretation and that regardless of interpretation, equivalency between the NF and AISC support members has been demonstrated.

WNP-2 committed in the FSAR to design component supports in accordance with the Winter 1973 Addenda in order that the design rules of NF could be used. This decision was a voluntary upgrade of criteria since the mandatory code would have been Summer 1973. Component supports under Summer 1973 would have been designed in accordance with ANSI B31.7-1969 for ASME Class 1 and B31.1-1967 for ASME Class 2 or 3.

NF section was intended to provide design rules for support members which connect AISC structural building members and standard component supports. There was no ASME definition for building structures. Further, ASME Code interpretations have indicated that the requirements of NF 1000 (jurisdictional boundaries) are only a guideline and that it is the Owner's responsibility to define the Code jurisdictional boundaries. The following ASME Code interpretations clarify this responsibility: III-1-78-47; III-1-78-58; III-80-51; and III-80-138. These interpretations repeatedly state two Owner responsibilities: definition of the jurisdictional boundaries and assurance of compatibility between boundaries and corresponding loads. The Supply System has met both requirements.

At WNP-2, the rules of NF are used for the design of both ASME and the AISC support members. The materials specified and the allowable stresses used are identical.

Welding used for the AISC support meets the requirements of the AWS D1.1 structural code. No impact testing is required by either code for AISC or the ASME supports. The principal differences between AISC supports and ASME supports is in the transfer of material markings and material traceability of support members and in the non-destructive examination of ASME Class 1 support members following erection.

The ASME Code does not require the use of an authorized inspector, Code Data reports or Code stamping of ASME supports for WNP-2.

For the reasons stated above and because the FSAR commitment of design to ASME Subsection NF was met, we believe that there is equivalency between the NF and AISC support members. Additionally, the Supply System is consistent with industry practice, having similar if not identical NF boundaries as the following plants:

Palo Verde 1, 2, and 3
South Texas 1 and 2
San Onofre 2 and 3
Wolf Creek
Calloway
Vogtle

No corrective action has been taken or is planned with regard to the AISC/NF boundary, however a clarification of FSAR paragraph 3.2.3 will be made by September 1, 1983.

In summary, the above response stated that the jurisdictional boundary between ASME Section III, Subsection NF and AISC members has been designated consistent with code requirements and also discusses the equivalency of design for component support members regardless of jurisdictional boundary.

Question 110.44 requests additional information regarding construction practices for NF and AISC members. The attached table provides summary information regarding the construction requirements in the areas of inspection, fabrication, materials, examination, and testing.

Each support is categorized as either Quality Class I or Quality Class II dependent upon the safety significance of the system being supported. This quality classification and the applicable code dictate generic construction requirements. The construction requirements for any particular support can be easily established by using design drawing H-501 in conjunction with the support detail. When a jurisdictional boundary exists within a particular support, the applicable code requirements and construction practices are selectively applied to the individual members. As stated previously, the design of all supports for ASME piping is equivalent to ASME-NF regardless of jurisdictional boundary or quality class.

All ASME and AISC support members meet applicable code and quality requirements, for example, NF support members meet ASME material requirements and are fabricated using ASME IX welding requirements whereas AISC members meet ASTM material requirements and are fabricated using AWS welding requirements. The above response identified principal differences in the construction of NF and AISC support members. Those material traceability differences do exist on certain AISC members; however,

recent reviews indicate that no differences exist in the nondestructive examination of ASME Class I NF support members as previously stated due to the absence of such welds in the AISC scope. In terms of construction continuity the basic differences are: 1) AISC Quality Class I members may not have the material identification markings required of NF 1 or NF 2 component support members (NF 2151, 4122), 2) AISC QCII materials may not have been procured under a 10CFR Part 21 material program, and 3) AISC QCII materials may not have been subject to ASME material control and verification requirements during receipt or installation.

It should be noted that AISC Quality Class II support members are fabricated using essentially the same procedures as AISC QCI although trained field engineers rather than QC inspectors are used for verification activities.

No substantial differences exist in the construction practices other than those cited above; minor differences do exist between the applicable codes referenced on the following table such as weld qualification parameters.

SUMMARY OF COMPONENT SUPPORT CONSTRUCTION PRACTICES - CONTRACT 215

SUPPORT GROUP → / CODE REQUIREMENT ↓	WITHIN ASME NF BOUNDARY - COMPONENT SUPPORTS FOR ASME SECTION III CLASS 1 (NF_1)	WITHIN ASME NF BOUNDARY - COMPONENT SUPPORTS FOR ASME SECTION III CLASS 2 & 3 (NF_2 & NF_3)	AISC QCI STRUCTURE FOR ASME PIPING SYSTEMS SEISMIC I OR II	AISC QCII STRUCTURE FOR ASME PIPING SYSTEMS SEISMIC I OR II
INSPECTION	QC VERIFICATION REQUIRED NO 3RD PARTY (ANI) INVOLVEMENT	QC VERIFICATION REQUIRED NO 3RD PARTY (ANI) INVOLVEMENT	QC VERIFICATION REQUIRED	NO QC VERIFICATION REQUIRED
FABRICATION				
CUTTING	ALL WORK CONFORMS TO NF-4000	ALL WORK CONFORMS TO NF-4000	ALL WORK CONFORMS TO AISC SPECIFICATION FOR THE DESIGN FABRICATION & ERECTION OF STRUCTURAL STEEL FOR BUILDINGS 1.23.1,2,3 & 8	ALL WORK CONFORMS TO AISC SPECIFICATION FOR THE DESIGN FABRICATION & ERECTION OF STRUCTURAL STEEL FOR BUILDINGS 1.23.1,2,3 & 8
BOLTING	ALL WORK CONFORMS TO NF-4000	ALL WORK CONFORMS TO NF-4000	ALL WORK CONFORMS TO AISC SPECIFICATION FOR THE DESIGN FABRICATION & ERECTION OF STRUCTURAL STEEL FOR BUILDINGS 1.16 1.23.4 & 5	ALL WORK CONFORMS TO AISC SPECIFICATION FOR THE DESIGN FABRICATION & ERECTION OF STRUCTURAL STEEL FOR BUILDINGS 1.16 1.23.4 & 5
WELDING	ALL WELDING QUALIFICATION AND WELDERS QUALIFICATION TO ASME IX	ALL WELDING QUALIFICATION AND WELDERS QUALIFICATION TO ASME IX	ALL WORK CONFORMS TO AISC SPECIFICATION FOR THE DESIGN FABRICATION & ERECTION OF STRUCTURAL STEEL FOR BUILDINGS 1.23.6 AWS D1.1***	ALL WORK CONFORMS TO AISC SPECIFICATION FOR THE DESIGN FABRICATION & ERECTION OF STRUCTURAL STEEL FOR BUILDINGS 1.23.6 AWS D1.1***

	NF_1	NF_2 & NF_3	AISC - QC I	AISC - QC II
MATERIAL OTHER THAN WELD ROD PHYSICAL	ALL MATERIAL MEETS THE REQUIREMENTS OF NF-2000	ALL MATERIAL MEETS THE REQUIREMENTS OF NF-2000	MEETS * ASTM MATERIAL SPECIFICATION	MEETS * ASTM MATERIAL SPECIFICATION
PROCUREMENT QUALITY	QUALITY PROGRAM FOR MATERIAL CONFORMS TO NF-2610 INCLUDING SMALL PRODUCT EXEMPTION FROM FULL NA/NCA-3700 PROGRAM	MATERIAL DOES NOT NEED QUALITY PROGRAM AS EXEMPTED BY NF-2610 (b)&(c) MATERIAL EXEMPTED FROM FULL NA/NCA-3700 PROGRAM	MATERIAL PROCURED THROUGH QUALITY PROGRAM. DOCUMENTATION REQUIRED: CMTR OR CERTIFICATE OF CONFORMANCE (NOTE: EXCEPT FOR BOLTING MATERIAL OVER 2" IN DIAMETER, AISC QC 1 & NF_1 SMALL PRODUCTS & ASME NF_2 & NF_3, PROGRAM REQUIREMENTS AT WNP-2 FOR BPC ARE IDENTICAL)	ASTM MATERIAL SPECIFICATION WITH NO QUALITY PROGRAM REQUIREMENTS EXCEPT CMTR ON FILE
TRACEABILITY	TRACEABILITY OF ALL MATERIAL EXCEPT SMALL PRODUCTS IS REQUIRED BY PROGRAM AND CODE, ALL MATERIAL IS REQUIRED TO BE CONTROLLED (SEE NF-2610)	TRACEABILITY OF ALL MATERIAL EXCEPT SMALL PRODUCTS IS REQUIRED ASME CODE DOES NOT REQUIRE TRACEABILITY (SEE NF-2610 (b) AND (c) AND NF-2130). MATERIAL IS REQUIRED TO BE CONTROLLED (SEE NF-2610).	TRACABILITY OF MATERIAL EXCEPT SMALL PRODUCTS IS REQUIRED AISC DOES NOT REQUIRE TRACEABILITY. (SEE SECTION 5 OF CODE OF STANDARD PRACTICE FOR STEEL BUILDUPS & BRIDGES) MATERIAL IS REQUIRED TO BE CONTROLLED.	TRACEABILITY OF MATERIAL IS NOT REQUIRED, BUT MATERIAL IS REQUIRED TO BE IDENTIFIED.

	NF_1	NF_2 & NF_3	AISC - QC I	AISC - QC II
WELD ROD	ALL WELD ROD PROCURED BY WBG AND BPC WAS QUALIFIED FOR ASME USE			
EXAMINATION				
PRIMARY MEMBER FULL PENETRATION BUTT WELDS **	THIS TYPE WELD REQUIRES RADIOGRAPHY PER NF-5320	THIS TYPE WELD ONLY REQUIRES VISUAL PER NF-5360	VISUAL MAGNETIC PARTICAL INSPECTION IN CERTAIN CASES	VISUAL INSPECTION ONLY
PRIMARY MEMBER PARTIAL PENETRATION & FILLET WELDS OVER 1" **	THIS TYPE WELD REQUIRES PENETRANT OR MAGNETIC PARTICLE TESTING PER NF-5340 OR 5350	THIS TYPE WELD ONLY REQUIRES VISUAL PER NF-5360	VISUAL OR MAGNETIC PARTICAL INSPECTION IN CERTAIN CASES	VISUAL INSPECTION ONLY
PRIMARY MEMBER PARTIAL PENETRATION & FILLET WELDS UNDER 1" & ALL SECONDARY MEMBER WELDS	THIS TYPE WELD ONLY REQUIRES VISUAL PER NF-5360	THIS TYPE WELD ONLY REQUIRES VISUAL PER NF-5360	THIS TYPE WELD REQUIRES VISUAL INSPECTION ONLY	VISUAL INSPECTION ONLY
TESTING	THE REQUIREMENTS OF NF-6000 ARE MET. THE FOLLOWING ARE INSPECTED: 1) LOCATION 2) DIRECTION 3) COLD LOADS 4) TRAVEL	THE REQUIREMENTS OF NF-6000 ARE MET. THE FOLLOWING ARE INSPECTED: 1) LOCATION 2) DIRECTION 3) COLD LOADS 4) TRAVEL	THE FOLLOWING* ARE INSPECTED: 1) LOCATION 2) DIRECTION	THE FOLLOWING* ARE INSPECTED: 1) LOCATION 2) DIRECTION

* ALL SPRING CANS, VARIABLE SUPPORTS, CONSTANT SUPPORTS, AND SNUBBERS ARE UNDER ASME ARTICLE NF IF ON ASME PIPING.

** FEW IF ANY COMPONENT SUPPORTS ARE DESIGNED OR FABRICATED WITH THESE TYPES OF WELD.

*** REINSPECTION OF AISC MEMBERS DURING THE QUALITY REVERIFICATION PROGRAM UTILIZED ALTERNATIVE ACCEPTANCE CRITERIA (QVI-09) AS DISCUSSED IN FOOTNOTES TO FSAR TABLE 3.8-9.

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8309300257 DOC.DATE: 83/09/21 NOTARIZED: NO DOCKET #
FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
AUTH.NAME AUTHOR AFFILIATION
SORENSEN,G.C. Washington Public Power Supply System
RECIP.NAME RECIPIENT AFFILIATION
SCHWENCER,A. Licensing Branch 2

AAM

SUBJECT: Forwards response to FSAR Question 110.44 in NRC 830803 ltr.Response w/o encl.W/one oversize drawing.Aperture card is available in PDR.

DISTRIBUTION CODE: B001S COPIES RECEIVED:LTR 1 ENCL 60 SIZE: 1+1
TITLE: Licensing Submittal: PSAR/FSAR Amdts & Related Correspondence

NOTES: Aperture Card Dist

	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL
	NRR/DL/ADL		1	0	NRR LB2 BC		1	0
	NRR LB2 LA		1	0	AULUCK,R.	01	1	1
INTERNAL:	ELD/HDS2		1	0	IE FILE		1	1
	IE/DEPER/EPB	36	3	3	IE/DEPER/IRB	35	1	1
	IE/DEQA/QAB	21	1	1	NRR/DE/AEAB		1	0
	NRR/DE/CEB	11	1	1	NRR/DE/EHEB		1	1
	NRR/DE/EQB	13	2	2	NRR/DE/GB	28	2	2
	NRR/DE/MEB	18	1	1	NRR/DE/MTEB	17	1	1
	NRR/DE/SAB	24	1	1	NRR/DE/SGEB	25	1	1
	NRR/DHFS/HFEB	40	1	1	NRR/DHFS/LQB	32	1	1
	NRR/DHFS/PSRB		1	1	NRR/DL/SSPB		1	0
	NRR/DSI/AEB	26	1	1	NRR/DSI/ASB		1	1
	NRR/DSI/CPB	10	1	1	NRR/DSI/CSB	09	1	1
	NRR/DSI/ICSB	16	1	1	NRR/DSI/METB	12	1	1
	NRR/DSI/PSB	19	1	1	NRR/DSI/RAB	22	1	1
	NRR/DSI/RSB	23	1	1	REG FILE	04	1	1
	RGN5		3	3	RM/DDAMI/MIB		1	0
EXTERNAL:	ACRS	41	6	6	BNL(AMDTS ONLY)		1	1
	DMB/DSS (AMDTS)		1	1	FEMA-REP DIV	39	1	1
	LPDR	03	1	1	NRC PDR	02	1	1
	NSIC	05	1	1	NTIS		1	1

1/60-H-501, sheets.
Rec'd w/out Attach 1 - Response

TOTAL NUMBER OF COPIES REQUIRED: LTTR 53 ENCL 46

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Washington Public Power Supply System
P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000

September 21, 1983
G02-83-855

Docket No. 50-397

Director, Nuclear Reactor Regulation
Attention: Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Schwencer:

Subject: NUCLEAR PROJECT NO. 2
SUPPLY SYSTEM RESPONSE TO
FSAR QUESTION 110.44

Reference: (a) Letter, A. Schwencer (NRC) to DW Mazur (SS), dated August 3, 1983, subject, "FSAR Questions 110.41, 110.42, 110.43 and 110.44"

The Washington Public Power Supply System hereby provides a reply to FSAR Question 110.44 which was submitted as an attachment to reference (a) above. Our reply consists of this letter and 2 attachments.

If you have any questions or desire further information, please contact Pat Powell, Manager, WNP-2 Licensing.

Very truly yours,

Allan Hoolaubar

G. C. Sorensen, Acting Manager
Nuclear Safety and Regulatory Program

GCS:PWH:ch

Attachment: (1) Attachment 1 - Response
(2) Attachment 2 - H-501, Sheet 3

cc: Mr. R. Auluck - NRC
Mr. W. S. Chin - BPA
Mr. A. D. Toth - NRC Resident Inspector

Aperture Card Dist

B001
1/60 - H-501, Sheets

Rec'd w/out Attach 1 - Response