

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

PA4

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: SORENSEN, G.C. AUTHOR AFFILIATION: Washington Public Power Supply System
 RECIP. NAME: SCHWENCER, A. RECIPIENT AFFILIATION: Licensing Branch 2

SUBJECT: Forwards response to FSAR Question 110.44 in NRC 830803
 1tr. w/one oversize drawing. Aperture Card is available in
 PDR.

DISTRIBUTION CODE: B001S COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 8x11
 TITLE: Licensing Submittal: PSAR/FSAR Amdts & Related Correspondence

NOTES:

Aperture Card Dist.

	RECIPIENT		COPIES			RECIPIENT		COPIES	
	ID	CODE/NAME	LTTR	ENCL		ID	CODE/NAME	LTTR	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/HFEB40	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 FILES	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

Draws. to PM

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 Hosenber

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

GCS:PDH: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 Unit
Drawings To: PM*

*13001
11*

DUP of (830930257)

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



1977

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 B31.7-1967 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.

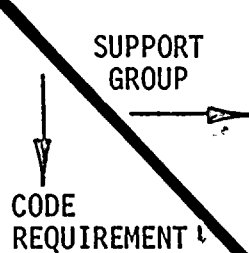
All ASME and AISC support members meet applicable code and quality requirements, for example, NF support members meet ASME material requirements and are fabricated using ASME IX welding requirements whereas AISC members meet ASTM material requirements and are fabricated using AWS welding requirements. 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

	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
<u>INSPECTION</u>	QC VERIFICATION REQUIRED NO 3RD PARTY (ANI) INVOLVEMENT	QC VERIFICATION REQUIRED NO 3RD PARTY (ANI) INVOLVEMENT	QC VERIFICATION REQUIRED	NO QC VERIFICATION REQUIRED
<u>FABRICATION</u>				
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***

	NF1	NF2 & NF3	AISC - QC I	AISC - QC II
<u>MATERIAL OTHER THAN WELD ROD</u> 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 & NF1 SMALL PRODUCTS & ASME NF2 & NF3, PROGRAM REQUIREMENTS AT WNP-2 FOR BPC ARE IDENTICAL)	ASTM MATERIAL SPECIFICATION WITH NO QUALITY PROGRAM REQUIREMENTS EXCEPT CMTR ON FILE
<u>TRACEABILITY</u>	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
<u>WELD ROD</u>	ALL WELD ROD PROCURED BY WBG AND BPC WAS QUALIFIED FOR ASME USE			
<u>EXAMINATION</u>				
PRIMARY MEMBER FULL PENETRATION BUTT WELDS **	THIS TYPE WELD REQUIRES RADIOGRAPHY PER NF-5320	THIS TYPE WELD ONLY REQUIRES VISUAL PER NF-5360	VISUAL OR MAGNETIC PARTIAL 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 PARTIAL 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
<u>TESTING</u>				
	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.

RECEIVED
JAN 13 1964
U.S. AIR FORCE
HONOLULU, HAWAII
AIR MAIL
13 & 14
CLTD
NOT APT
(S) PUBLISHED
WANT TO
13 & 14
CLTD
NOT APT
(S) PUBLISHED
WANT TO

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 Power 05000397
 AUTH. NAME: SØRENSEN, G.C. AUTHOR AFFILIATION: Washington Public Power Supply System
 RECIP. NAME: SCHWENCER, A. RECIPIENT AFFILIATION: Licensing Branch 2

SUBJECT: Forwards response to FSAR Question 110.44 in NRC 830803.
 1tr. Response w/o encl. W/one oversize drawing. Aperture card
 is available in PDR.

DISTRIBUTION CODE: B0015 COPIES RECEIVED: LTR 1 ENCL 60 SIZE: 11x11
 TITLE: Licensing Submittal: PSAR/FSAR Amdts & Related Correspondence

NOTES: *Aperture Card Dist*

RECIPIENT		COPIES		RECIPIENT		COPIES	
ID CODE/NAME		LTTR	ENCL	ID CODE/NAME		LTTR	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/EGB 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/HFEB40		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	<u>REG FILE</u> 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

DATE	TIME	LOCATION	WIND	TEMP	SEA	REMARKS
1	0800	1000	10	25	1	1000
2	0900	1100	10	25	1	1100
3	1000	1200	10	25	1	1200
4	1100	1300	10	25	1	1300
5	1200	1400	10	25	1	1400
6	1300	1500	10	25	1	1500
7	1400	1600	10	25	1	1600
8	1500	1700	10	25	1	1700
9	1600	1800	10	25	1	1800
10	1700	1900	10	25	1	1900
11	1800	2000	10	25	1	2000
12	1900	2100	10	25	1	2100
13	2000	2200	10	25	1	2200
14	2100	2300	10	25	1	2300
15	2200	2400	10	25	1	2400
16	2300	2500	10	25	1	2500
17	2400	2600	10	25	1	2600
18	2500	2700	10	25	1	2700
19	2600	2800	10	25	1	2800
20	2700	2900	10	25	1	2900
21	2800	3000	10	25	1	3000
22	2900	3100	10	25	1	3100
23	3000	3200	10	25	1	3200
24	3100	3300	10	25	1	3300
25	3200	3400	10	25	1	3400
26	3300	3500	10	25	1	3500
27	3400	3600	10	25	1	3600
28	3500	3700	10	25	1	3700
29	3600	3800	10	25	1	3800
30	3700	3900	10	25	1	3900
31	3800	4000	10	25	1	4000
32	3900	4100	10	25	1	4100
33	4000	4200	10	25	1	4200
34	4100	4300	10	25	1	4300
35	4200	4400	10	25	1	4400
36	4300	4500	10	25	1	4500
37	4400	4600	10	25	1	4600
38	4500	4700	10	25	1	4700
39	4600	4800	10	25	1	4800
40	4700	4900	10	25	1	4900
41	4800	5000	10	25	1	5000
42	4900	5100	10	25	1	5100
43	5000	5200	10	25	1	5200
44	5100	5300	10	25	1	5300
45	5200	5400	10	25	1	5400
46	5300	5500	10	25	1	5500
47	5400	5600	10	25	1	5600
48	5500	5700	10	25	1	5700
49	5600	5800	10	25	1	5800
50	5700	5900	10	25	1	5900
51	5800	6000	10	25	1	6000
52	5900	6100	10	25	1	6100
53	6000	6200	10	25	1	6200
54	6100	6300	10	25	1	6300
55	6200	6400	10	25	1	6400
56	6300	6500	10	25	1	6500
57	6400	6600	10	25	1	6600
58	6500	6700	10	25	1	6700
59	6600	6800	10	25	1	6800
60	6700	6900	10	25	1	6900
61	6800	7000	10	25	1	7000
62	6900	7100	10	25	1	7100
63	7000	7200	10	25	1	7200
64	7100	7300	10	25	1	7300
65	7200	7400	10	25	1	7400
66	7300	7500	10	25	1	7500
67	7400	7600	10	25	1	7600
68	7500	7700	10	25	1	7700
69	7600	7800	10	25	1	7800
70	7700	7900	10	25	1	7900
71	7800	8000	10	25	1	8000
72	7900	8100	10	25	1	8100
73	8000	8200	10	25	1	8200
74	8100	8300	10	25	1	8300
75	8200	8400	10	25	1	8400
76	8300	8500	10	25	1	8500
77	8400	8600	10	25	1	8600
78	8500	8700	10	25	1	8700
79	8600	8800	10	25	1	8800
80	8700	8900	10	25	1	8900
81	8800	9000	10	25	1	9000
82	8900	9100	10	25	1	9100
83	9000	9200	10	25	1	9200
84	9100	9300	10	25	1	9300
85	9200	9400	10	25	1	9400
86	9300	9500	10	25	1	9500
87	9400	9600	10	25	1	9600
88	9500	9700	10	25	1	9700
89	9600	9800	10	25	1	9800
90	9700	9900	10	25	1	9900
91	9800	10000	10	25	1	10000
92	9900	10100	10	25	1	10100
93	10000	10200	10	25	1	10200
94	10100	10300	10	25	1	10300
95	10200	10400	10	25	1	10400
96	10300	10500	10	25	1	10500
97	10400	10600	10	25	1	10600
98	10500	10700	10	25	1	10700
99	10600	10800	10	25	1	10800
100	10700	10900	10	25	1	10900
101	10800	11000	10	25	1	11000
102	10900	11100	10	25	1	11100
103	11000	11200	10	25	1	11200
104	11100	11300	10	25	1	11300
105	11200	11400	10	25	1	11400
106	11300	11500	10	25	1	11500
107	11400	11600	10	25	1	11600
108	11500	11700	10	25	1	11700
109	11600	11800	10	25	1	11800
110	11700	11900	10	25	1	11900
111	11800	12000	10	25	1	12000
112	11900	12100	10	25	1	12100
113	12000	12200	10	25	1	12200
114	12100	12300	10	25	1	12300
115	12200	12400	10	25	1	12400
116	12300	12500	10	25	1	12500
117	12400	12600	10	25	1	12600
118	12500	12700	10	25	1	12700
119	12600	12800	10	25	1	12800
120	12700	12900	10	25	1	12900
121	12800	13000	10	25	1	13000
122	12900	13100	10	25	1	13100
123	13000	13200	10	25	1	13200
124	13100	13300	10	25	1	13300
125	13200	13400	10	25	1	13400
126	13300	13500	10	25	1	13500
127	13400	13600	10	25	1	13600
128	13500	13700	10	25	1	13700
129	13600	13800	10	25	1	13800
130	13700	13900	10	25	1	13900
131	13800	14000	10	25	1	14000
132	13900	14100	10	25	1	14100
133	14000	14200	10	25	1	14200
134	14100	14300	10	25	1	14300
135	14200	14400	10	25	1	14400
136	14300	14500	10	25	1	14500
137	14400	14600	10	25	1	14600
138	14500	14700	10	25	1	14700
139	14600	14800	10	25	1	14800
140	14700	14900	10	25	1	14900
141	14800	15000	10	25	1	15000
142	14900	15100	10	25	1	15100
143	15000	15200	10	25	1	15200
144	15100	15300	10	25	1	15300
145	15200	15400	10	25	1	15400
146	15300	15500	10	25	1	15500
147	15400	15600	10	25	1	15600
148	15500	15700	10	25	1	15700
149	15600	15800	10	25	1	15800
150	15700	15900	10	25	1	15900
151	15800	16000	10	25	1	16000
152	15900	16100	10	25	1	16100
153	16000	16200	10	25	1	16200
154	16100	16300	10	25	1	16300
155	16200	16400	10	25	1	16400
156	16300	16500	10	25	1	16500
157	16400	16600	10	25	1	16600
158	16500	16700	10	25	1	16700
159	16600	16800	10	25	1	16800
160	16700	16900	10	25	1	16900
161	16800	17000	10	25	1	17000
162	16900	17100	10	25	1	17100
163	17000	17200	10	25	1	17200
164	17100	17300	10	25	1	17300
165	17200	17400	10	25	1	17400
166	17300	17500	10	25	1	17500
167	17400	17600	10	25	1	17600
168	17500	17700	10	25	1	17700
169	17600	17800	10	25	1	17800
170	17700	17900	10	25	1	17900
171	17800	18000	10	25	1	18000
172	17900	18100	10	25	1	18100
173	18000	18200	10	25	1	18200
174	18100	18300	10	25	1	18300
175	18200	18400	10	25	1	18400
176	18300	18500	10	25	1	18500
177	18400	18600	10	25	1	18600
178	18500	18700	10	25	1	18700
179	18600	18800	10	25	1	18800
180	18700	18900	10	25	1	18900
181	18800	19000	10	25	1	19000
182	18900	19100	10	25	1	19100
183	19000	19200	10	25	1	19200
184	19100	19300	10	25	1	19300
185	19200	19400	10	25	1	19400
186	19300	19500	10	25	1	19500
187	19400	19600	10	25	1	19600
188	19500	19700	10	25	1	19700
189	19600	19800	10	25	1	19800
190	19700	19900	10	25	1	19900
191	19800	20000	10	25	1	20000
192	19900	20100	10	25	1	20100
193	20000	20200	10	25	1	20200
194	20100	20300	10	25	1	20300
195	20200	20400	10	25	1	20400
196	20300	20500	10	25	1	20500
197	20400	20600	10	25	1	20600
198	20500	20700	10	25	1	20700
199	20600	20800	10	25	1	20800
200	20700	20900	10	25	1	20900
201	20800	21000	10	25	1	21000
202	20900	21100	10	25	1	21100
203	21000	21200	10	25	1	21200
204	21100	21300	10	25	1	21300
205	21200	21400	10	25	1	21400

Washington Public Power Supply System

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

September 21, 1983
602-83-855

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,

G. C. Sorensen

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

GCS:PDH: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

Asentive Card Deck

*Boo1
1/60 - H-501, sheet 3*

*Rec'd
w/out Attach 1 - Response*

8309300257 830921
PDR ADDCK 05000397
A PDR

100-100000

100-100000

100-100000

100-100000