WNP-2

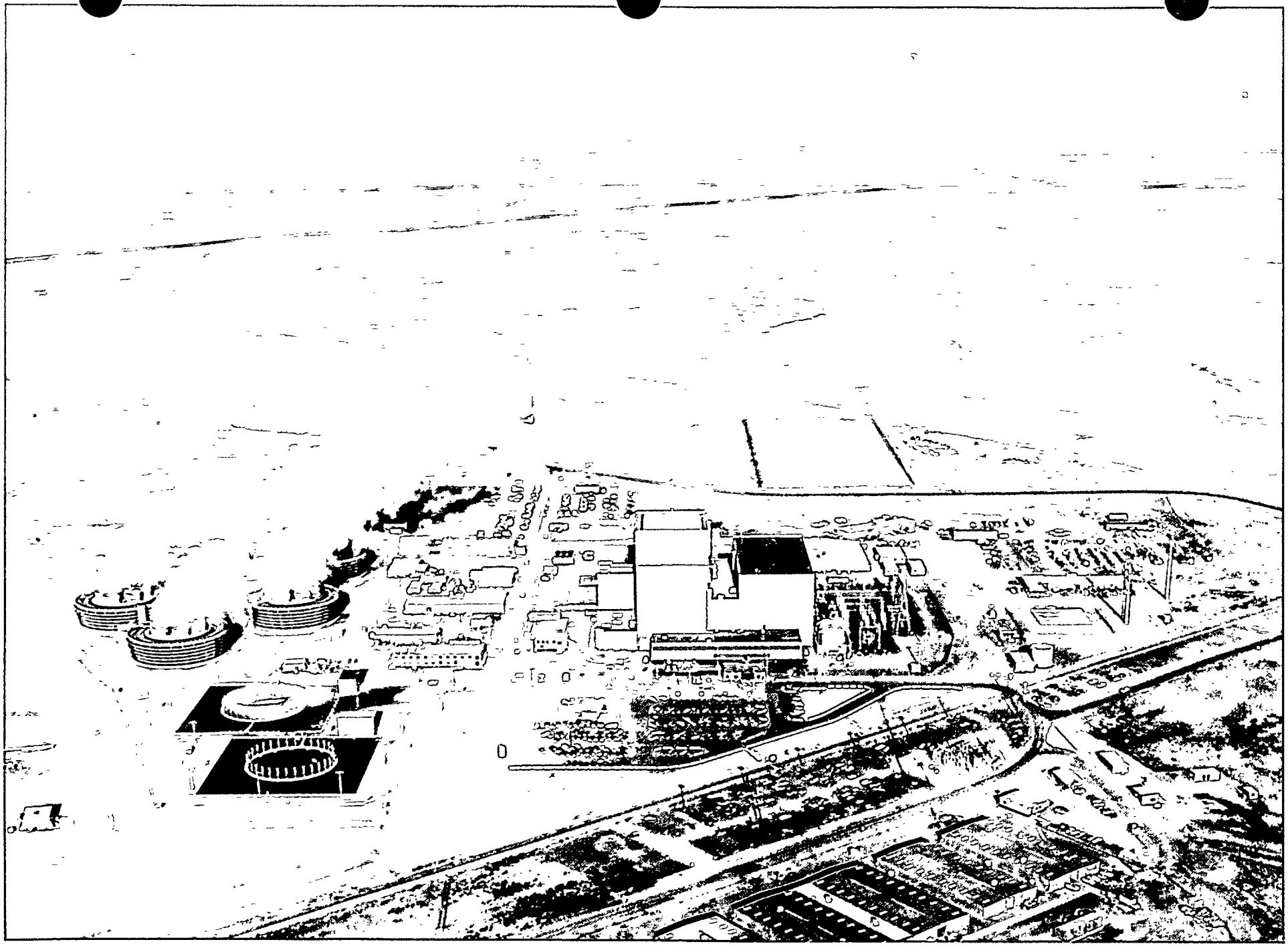
INSERVICE INSPECTION PROGRAM PLAN

INTERVAL - 2

VOLUME 1

Program Plan

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM



NUCLEAR PLANT 2

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

WNP-2
INSERVICE INSPECTION PROGRAM PLAN
Inspection Interval - 2
December, 1994
Revision 0

Owner: Washington Public Power Supply System
3000 George Washington Way
Richland, Washington 99352

Plant: WNP-2, located 11 miles north of Richland, Washington on the U.S. Department of Energy Hanford Reservation.

Commercial Service Date: December 13, 1984

Capacity: 1,145 MWe

Reactor Pressure Vessel Manufacturer: CBIN Serial Number: T-45
State No.: N/A Nat'l Bd. No.: CBIN-8

Prepared By: _____ 12-5-94
ISI Engineer Date

Reviewed By: _____ 12-5-94
Supervisor, NDE/ISI Services Date

_____ 12-6-94
Manager, Materials & Inspection Date

_____ 12/7/94
Manager, Engineering Programs Date

_____ 12/7/94
Manager, Quality Assessments Date

_____ 12/7/94
Plant Operating Committee Date

Approved By: _____ 12/14/94
Plant Manager Date

Concurrence: _____ 12/15/94
Authorized Nuclear Inservice Inspector Date

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	SW-310	1	3
	SW-311	1	2
	SW-312	1	2
		2	1
	SW-313	1	2
	SW-314	1	2
		2	1
	SW-315	1	2
9.17	Miscellaneous		
	Weld & Component Diag.	9-74	0
	CEP-201	1	1
	CEP-202	1	1
	CSP-201	1	1
	CSP-202	1	1
	DE-401	1	1
		2	1
	DE-402	1	1
	DE-403	1	1
		2	1
	DE-404	1	1
		2	1
	DE-405	1	1
		2	1
	HY-201	1	1
	HY-202	1	1
	HY-203	1	1
	MD-201	1	0
	MD-202	1	0
	MD-203	1	0
	MD-204	1	0
	MD-205	1	0
	MD-206	1	2
	MSLC-101	1	0
	MSLC-102	1	1
	MSLC-103	1	1

2.2 Page Revision Status

Title	Sheet	Revision
MSLC-104	1	0
MSLC-201	1	0
	2	0
	3	0
MSLC-202	1	0
	2	1
	3	0
MSLC-203	1	0
	2	0
	3	0
MSLC-204	1	0
	2	1
	3	0
MSLC-205	1	0
MSLC-206	1	0
MSLC-207	1	0
	2	0
	3	0
	4	0
SGT-201	1	1
SGT-202	1	1
VR-401	1	1
	2	1

3.0 REFERENCES

1. ASME Boiler and Pressure Vessel Code, Section XI, entitled "Rules for Inservice Inspection of Nuclear Power Plant Components", ASME Section XI, 1989 Edition, no Addenda

2. ASME Boiler and Pressure Vessel Code, Section XI, entitled "Rules for Inservice Inspection of Nuclear Power Plant Components", ASME Section XI, 1992 Edition, Addenda through 1993

3. ASME Boiler and Pressure Vessel Code, Section XI, entitled "Rules for Inservice Inspection of Nuclear Power Plant Components", ASME Section XI, Interpretations Volume 30, XI-1-92-01, page 242, XI-1-92-04, page 243, Interpretations Volume 34, XI-1-92-56, page 281

4. ASME/ANSI OM Part 4, 1987 Edition

5. Generic Letter 83-15 "Regulatory Guide 1.150, Ultrasonic Testing of Reactor Vessel Welds During Preservice and Inservice Examinations", Revision 1

6. Generic Letter 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping"

7. Generic Letter 88-01 Supplement 1 "NRC Position on Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping"

8. Generic Letter 89-09 "ASME Section III Component Replacement"

9. Generic Letter 90-05 "Guidance for Performing Temporary Non-Code Repair of ASME Code Class 1, 2, and 3 Piping"

10. Generic Letter 90-09 "Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions"

11. Generic Letter 94-03 "Intergranular Stress Corrosion Cracking of Core Shrouds in Boiling Water Reactors"

12. Letter, Nuclear Regulatory Commission to Mr. G.C. Sorensen, "Issuance of Amendment No. 77 to Facility Operating Licence No. NPF-21 - WPPSS Nuclear Project No. 2 (TAC No. 66885)" dated March 1, 1990.

13. Regulatory Guide 1.147 "Inservice Inspection Code Case Acceptability ASME Section XI Division 1" Revision 11 (dated October 1994)

14. Supply System letter G02-83-523, G.D. Bouchey to Mr. A. Schwencer, "PSI Summary Report Clarification" dated June 15, 1983.

15. Supply System letter G02-90-024, "Request for Amendment to Technical Specifications, Final Feedwater Temperature Reduction (FFTR)", dated February 14, 1990

16. Supply System letter G02-94-202, "Reponse to Generic Letter 94-03, Intergranular Stress Corrosion Cracking of Core Shrouds", dated August 24, 1994

17. Title 10 Code of Federal Regulations Part 50 Section 50.55a, dated December 31, 1992

18. WNP-2 Final Safety Analysis Report (FSAR)

4.0 PROGRAM DESCRIPTION

4.1 INTRODUCTION

This Inservice Inspection (ISI) Program Plan is applicable to the Washington Public Power Supply System Nuclear Plant No. 2 (WNP-2). This single unit Boiling Water Reactor (BWR) power plant is located 11 miles north of Richland, Washington, on the Hanford Reservation. The plant employs a General Electric (GE) supplied Nuclear Steam Supply System (NSSS) designated as BWR/5. The reactor is contained within an over-under drywell/wetwell containment vessel designated Mark II. The plants net rated electrical output is 1,145 MWe. The plant received its operating license December 20, 1983 and was placed into commercial operation December 13, 1984.

This Program Plan has been prepared as the controlling document governing the inservice examination activities at WNP-2 during the second 10-year inspection interval. The requirements for inservice examinations are outlined in the ASME Boiler and Pressure Vessel Code, Section XI, entitled "Rules for Inservice Inspection of Nuclear Power Plant Components", Title 10 Code of Federal Regulations Part 50 Section 50.55a (10 CFR 50.55a), and various other regulatory and licensing documents including Inspection and Enforcement Bulletins, Generic Letters, Regulatory Guides and the Final Safety Analysis Report (FSAR).

4.2 PROGRAM PHILOSOPHY

The overall intent of the Supply System in preparing the WNP-2 Inservice Inspection (ISI) Program Plan is to develop a program which reflects a good balance of the following objectives and constraints:

1. To the maximum extent practical, comply with the approved codes, regulations, and commitments governing the inservice inspection of WNP-2 during the second 10-year inspection interval.

2. Minimize the cost and schedule impact of the required examination activities during plant operation and refueling outages.

3. Develop a program which includes the philosophy of the latest published addenda of ASME Section XI.

The Supply System believes that the WNP-2 Inservice Inspection Program Plan reflects the above philosophy and as such will result in a program of inspections which are in the best interest of the health and safety of the general public.

4.3 PROGRAM SCOPE

The scope of this plan is limited to nondestructive examinations of ASME Section III Class 1, 2 and 3 piping systems, components and examination and testing of component supports. Inservice testing of pumps and valves, required by subsection IWP and IWV of ASME

Section XI, is not included in this plan, but is the subject of a separate document.

This Program Plan governs all manual and automated nondestructive examinations, evaluations, and reporting activities required by ASME Section XI as invoked by 10CFR50.55a and applicable augmented examination requirements.

4.4 PROGRAM SUMMARY

Following is a listing of the Program Plan Sections with brief summaries of the purpose and content of certain sections. This summary is intended to orient the reader with the organization of the Program Plan. Details regarding the use of a given section are found in the introduction to that section.

1.0 TABLE OF CONTENTS

2.0 RECORD OF PROGRAM PLAN REVISIONS

Identifies latest revision of each page of the Program Plan.

3.0 REFERENCES

Lists references used to develop this program plan.

4.0 PROGRAM DESCRIPTION

Contains an overview of the Program Plan.

5.0 CODE COMPLIANCE

Identifies applicable Code commitments, Code cases, Code exemptions and Code applicability. Contains requests for relief.

6.0 FSAR/NRC COMMITMENTS/AUGMENTED EXAMINATIONS

Identifies FSAR and other regulatory commitments and applicable augmented inspection requirements.

7.0 UT CALIBRATION STANDARDS

Tabulates the various ultrasonic calibration standards, their material, their applicability, and their identification numbers. Also included are design drawings for each standard.

8.0 PROCEDURES

Lists the procedures that are used to develop and implement this program.

9.0 BOUNDARY DIAGRAMS, EXAMINATION SCHEDULE AND WELD AND COMPONENT DIAGRAMS

Illustrates on piping isometric-type diagrams, each pipe spool and associated welds and components which require examination per the ISI Boundary Diagrams in Section 9.0. Each weld and component requiring surface, visual (VT-1, VT-3) or volumetric examination is assigned a unique ISI identification number which is used exclusively in referring to that weld or component on all examination diagrams, tables, examination records, and reports. The first part of this section contains the table listing each examination area. The last part of this section contains the Weld and Component Identification Diagrams. This section is divided by systems. Each system section contains the exemptions that are being applied to it, the boundary diagram, a summary of Code examination categories containing the number of items in each and how many are scheduled for examination and weld and component diagrams showing the location of the items being examined.

5.0 CODE COMPLIANCE

5.1 REFERENCE CODE

5.1.1 Code Edition and Addenda - 10 CFR 50.55a

Inservice inspection of nuclear power plant components is required by federal law as stated in the Code of Federal Regulations, Title 10, Part 50 (10CFR50), Paragraph 50.55a. According to that document the applicable edition of ASME Section XI for the second inservice inspection interval at WNP-2 is the 1989 Edition, no Addenda [see 10CFR50.55a (g)(4)(i), dated December 31, 1992]. Therefore, the Reference Code is the 1989 Edition, no Addenda of the ASME Boiler and Pressure Vessel Code Section XI. The 10 CFR 50.55a document has not approved for use Article IWE of this Edition. This program plan does not address Article IWE.

5.1.2 Relief Requests

This section contains the Supply System's relief requests from the Referenced Code requirements. The Supply System has determined that the items in this section are not practical to examine to the requirements of the Reference Code, present a hardship to examine, or that an alternative examination will provide a better examination. Each item is supported by the basis for not performing the examination per the Reference Code.

All requests for relief in this section, except as noted, apply during the entire second inspection interval. The alternate examinations will be performed during the second inspection interval.

The following relief requests are included in this section:

Request #	Description
2ISI-01	Reactor pressure vessel welds in Examination Category B-A that can not be fully examined.
2ISI-02	Reactor pressure vessel welds in Examination Category B-D welds that can not be fully examined.
2ISI-03	Reactor pressure vessel closure head nuts Examination Category B-G-1.
2ISI-04	IWA-5244, standby service water (SW) buried piping.
2ISI-05	Relief from doing pneumatic test on MSRV downcomers Examination Category D-A.
2ISI-06	IWA-5250(a)(2) Flange leaks during pressure testing - CRD bolting
2ISI-07	IWA-5250(a)(2) Flange leaks during pressure testing

2ISI-08	Examination Category B-K-1 welded attachments that can not be fully examined due to excessive radiation dose.
2ISI-09	Examination Category C-C welded attachments that can not be fully examined due to plant design.
2ISI-10	Examination Category D-B welded attachments
2ISI-11	IWF-5300(a) Snubber Examination
2ISI-12	IWA-4340 Defect Removal
2ISI-13	Use of Code Case N-416-1
2ISI-14	IWA-5250(a)(2) Flange leaks after repairs or replacements

RELIEF REQUEST NO. 2ISI-01

Welds for Which Relief is Requested

ASME Section XI Examination Category B-A, pressure retaining welds in reactor pressure vessel.

Ident. No.	Description	Item No.	ISI Diagram No.
AB	#1-#2 SC CRC WD	B1.11	RPV-101 (Figure 5.1.2.1)
AD	#3-#4 SC CRC WD	B1.11	RPV-101 (Figure 5.1.2.1)
AE	#4 SC-FL CRC WD	B1.30	RPV-116 (Figure 5.1.2.2)
DG	BOT HD DOL at 270°	B1.21	RPV-102 (Figure 5.1.2.3)
DR	BOT HD DOL at 90°	B1.21	RPV-102 (Figure 5.1.2.3)
DA	BTM HD MRD at 272°	B1.22	RPV-102 (Figure 5.1.2.3)
DB	BTM HD MRD at 332°	B1.22	RPV-102 (Figure 5.1.2.3)
DC	BTM HD MRD at 32°	B1.22	RPV-102 (Figure 5.1.2.3)
DD	BTM HD MRD at 92°	B1.22	RPV-102 (Figure 5.1.2.3)
DE	BTM HD MRD at 152°	B1.22	RPV-102 (Figure 5.1.2.3)
DF	BTM HD MRD at 212°	B1.22	RPV-102 (Figure 5.1.2.3)

Section XI Requirements

Section XI, Table IWB-2500-1, Examination Category B-A, items B1.11, B1.21, B1.22, and B1.30 requires a volumetric examination of the weld and adjacent base metal as defined in Figures IWB-2500-1, IWB-2500-3, and IWB-2500-4.

Code Requirement from Which Relief is Requested

Relief is requested from performing a volumetric examination of 100% of the examination volumes defined in Figures IWB-2500-1, IWB-2500-3, and IWB-2500-4.

Basis for Relief

Relief is requested from ASME Section XI examination requirements on the basis of partial inaccessibility of the welds due to plant design. Design of the Reactor Pressure Vessel and biological shield wall were completed prior to promulgation of amendments to 10CFR50.55a. The design limits access to less than 100% of these welds. Table 5.1.2.1 illustrates the coverage obtained during the first inspection interval and reasons full Code coverage was not obtained.

Table 5.1.2.1 Examination Coverage Obtained First Inspection Interval

Weld Number	Description	ISO No.	% of Weld Volume Examinable	Remarks
AB	#1-#2 SC CRC WD	RPV-101	79%	See Note 1
AD	#3-#4 SC CRC WD	RPV-101	83%	See Note 2
AE	#4 SC-FL CRC WD	RPV-101	49%	See Note 3
DA	BTM HD MRD at 272°	RPV-102	78%	See Note 4
DB	BTM HD MRD at 332°	RPV-102	78%	See Note 4
DC	BTM HD MRD at 32°	RPV-102	78%	See Note 4
DD	BTM HD MRD at 92°	RPV-102	78%	See Note 4
DE	BTM HD MRD at 152°	RPV-102	78%	See Note 4
DF	BTM HD MRD at 212°	RPV-102	78%	See Note 4
DG	BOT HD DOL at 270°	RPV-102	17%	See Note 5
DR	BOT HD DOL at 90°	RPV-102	17%	See Note 5

Notes to Table

1. Examination coverage limited by weld taper.
2. Examination coverage limited by RPV stabilizer lugs.
3. Design of flange limits examination to one side.
4. Only 21" starting from the intersection of weld AA and 14" starting from the intersection of weld AJ can be examined due to the vessel skirt. (Approximately one foot is not being examined on each weld).
5. Only 12" to 23" on each end of the weld, starting from the intersection of weld AJ, can be examined due to CRD penetrations and housings.

Alternative Examinations

Each weld will be examined per Section XI requirements to the extent defined in Table 5.1.2.1 above.

Justification for the Granting of Relief

There will be no adverse impact on plant quality and safety by doing only a partial Code examination of these welds.

1. The Class 1 RPV welds have passed radiographic, magnetic particle and ultrasonic examinations in accordance with ASME Section III requirements.

2. Examinations of the RPV welds during the first inspection interval did not reveal any unacceptable indications.

3. The identified welds will be subject to a system pressure test in accordance with ASME Section XI Code Case N-498 requirements.

4. Leak detection systems identify significant leakage in the areas of the subject welds. Appropriate operator action would occur due to leak detection system alarms.

5. Other similar welds in the vessel will receive full Code examinations. During the first inspection interval 84% of the total weld volume in the RPV received a complete Code volume examination. No unacceptable indications were found. Table 5.1.2.2 presents the coverage obtained during the first inspection interval.

6. The welds examined represent a large and representative sample of the reactor pressure vessel. The integrity of the RPV can be verified by examination of this sample.

Implementation Schedule

This relief request will be implemented during the third inspection period of the second inspection interval.

Table 5.1.2.2 Examination Coverage Obtained During First Inspection Interval

RPV COVERAGE

Ident. No.	Description	Weld length (inches)	Weld Area (square inch)	Weld Volume (cubic inches)	Percent Examined	Volume Scanned (cubic inches)
AA	BTM HD-SC#1 WD	840	71.8	60312	99.8	60191
AB	#1-#2 SC CRC WD	840	70.5	59220	79.7	47198
AC	#2-#3 SC CRC WD	840	57.9	48636	92.4	44940
AD	#3-#4 SC CRC WD	840	60.7	50988	83.6	42626
AE	#4 SC-FL CRC WD	792	74.3	58846	49.4	29070
AG	TOP HD-FLG WELD	783	36.6	28658	95.1	27254
AH	TOP HD DOL PLT	516	31.4	16202	100.0	16202
AJ	BOT HD DOL WELD	684	70.4	48154	100.0	48154
BA	#1 SC VRT WD@45	130	119.8	15574	90.8	14141
BB	#1 SC VRT W@135	130	119.8	15574	91.9	14313
BC	#1 SC VRT W@225	130	119.8	15574	91.2	14203
BD	#1 SC VRT W@315	130	119.8	15574	92.8	14453
BE	#2 SC VRT W@ 10	175	53.2	9310	98.1	9133
BF	#2 SC VRT W@100	175	53.2	9310	95.6	8900
BG	#2 SC VRT W@190	175	53.2	9310	98.1	9133
BH	#2 SC VRT W@280	175	53.2	9310	93.7	8723
BJ	#3 SC VRT W@ 50	169	61.9	10461	91.7	9593
BK	#3 SC VRT W@170	169	61.9	10461	96.8	10126
BM	#3 SC VRT W@290	169	61.9	10461	92.1	9635
BN	#4 SC VRT W@330	146	66.8	9746	100.0	9746
BP	#4 SC VRT W@ 90	146	66.8	9746	100.0	9746
BR	#4 SC VRT W@210	146	66.8	9746	100.0	9746
DA	BOT HD MRD @272	56	62.7	3499	78.6	2750
DB	BOT HD MRD @332	56	62.7	3499	78.6	2750
DC	BOT HD MRD @ 32	56	62.7	3499	78.6	2750
DD	BOT HD MRD @ 92	56	62.7	3499	78.6	2750
DE	BOT HD MRD @152	56	62.7	3499	78.6	2750
DF	BOT HD MRD @212	56	62.7	3499	78.6	2750
DG	BOT HD DOL /270	219	77.3	16944	16.7	2830
DH	TOP HD MRD @15	78	41.0	3198	100.0	3198
DJ	TOP HD MRD @75	78	41.0	3198	100.0	3198
DK	TOP HD MRD @135	78	41.0	3198	100.0	3198
DM	TOP HD MRD @195	78	41.0	3198	100.0	3198
DN	TOP HD MRD @255	78	41.0	3198	100.0	3198
DP	TOP HD MRD @315	78	41.0	3198	100.0	3198
DR	BOT HD DOL / 90	219	77.3	16944	16.7	2830

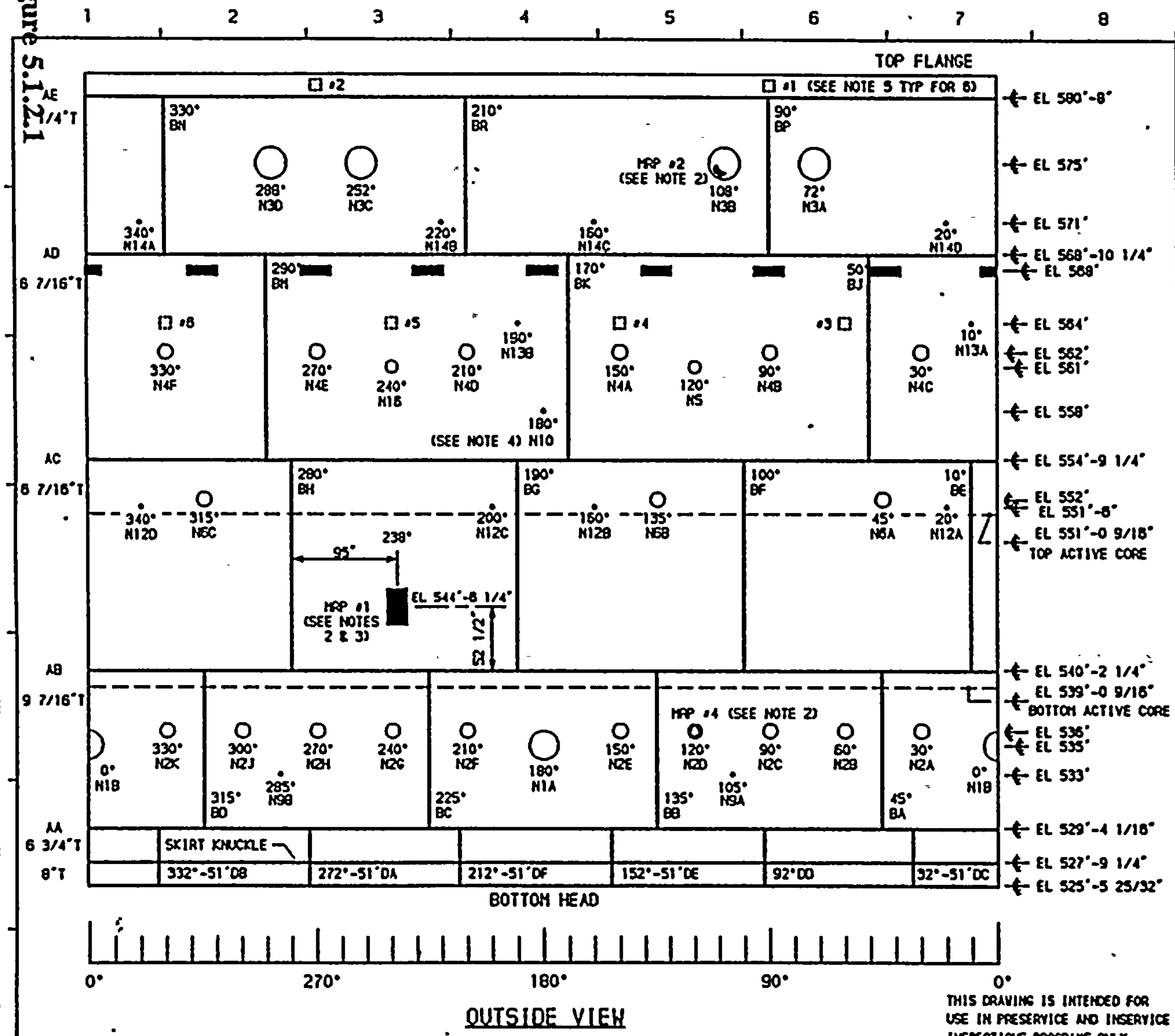
Total Weld Length 9,541 inches

Total Weld Volume 605,241 cubic inches

Total Weld Volume Scanned 508,574 cubic inches

Percent of Total Volume Examined = 84.0

Figure 5.1.2.1



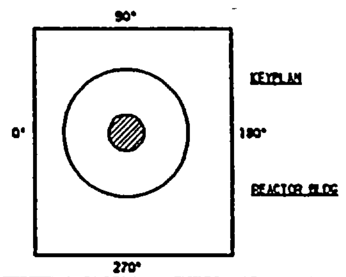
THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

NOTES.

1. REFER TO PROGRAM PLAN & SCHEDULE TABLES FOR EXAMINATION & CALIBRATION BLOCK REQUIREMENTS.
2. "MRP" INDICATES MAJOR REPAIR AREA. MRP #3 AT N2E NOZZLE TO SAFE-END WELD PREP IS NOT SHOWN.
3. MRP #1 IS 2 3/4" TO 3 7/8" IN DEPTH & IS 15" WIDE BY 30" HIGH. NOTE THAT MRP #1 AREA CENTER IS DIMENSIONALLY REFERENCED.
4. FOR DETAILS OF NOZZLE ASSEMBLY SEE RPV-113.
5. CLADDING PATCH LOCATIONS.
   - #1 AT 90° AZ
   - #2 AT 270° AZ (ARE 21" BELOW FLANGE LIP)
   - #3 AT 60° AZ
   - #4 AT 150° AZ
   - #5 AT 240° AZ
   - #6 AT 330° AZ (ARE 24" ABOVE THE N4 NOZZLES)
6. STABILIZER LUGS LOCATED 7" BELOW N5 NOZZLES.
   - #A AT 0° AZ
   - #B AT 45° AZ
   - #C AT 90° AZ
   - #D AT 135° AZ
   - #E AT 180° AZ
   - #F AT 225° AZ
   - #G AT 270° AZ
   - #H AT 315° AZ

REFERENCES.

BURNS & ROE DRAWING N986 REV 2



QUALITY CLASS: 1 | ASME CODE CLASS: 1

ENGR: K HANNAH | DRAWN: K-McA | DATE: 2-23-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE: REACTOR PRESSURE VESSEL ROLL-OUT

DWG NO. RPV-101 REV 5

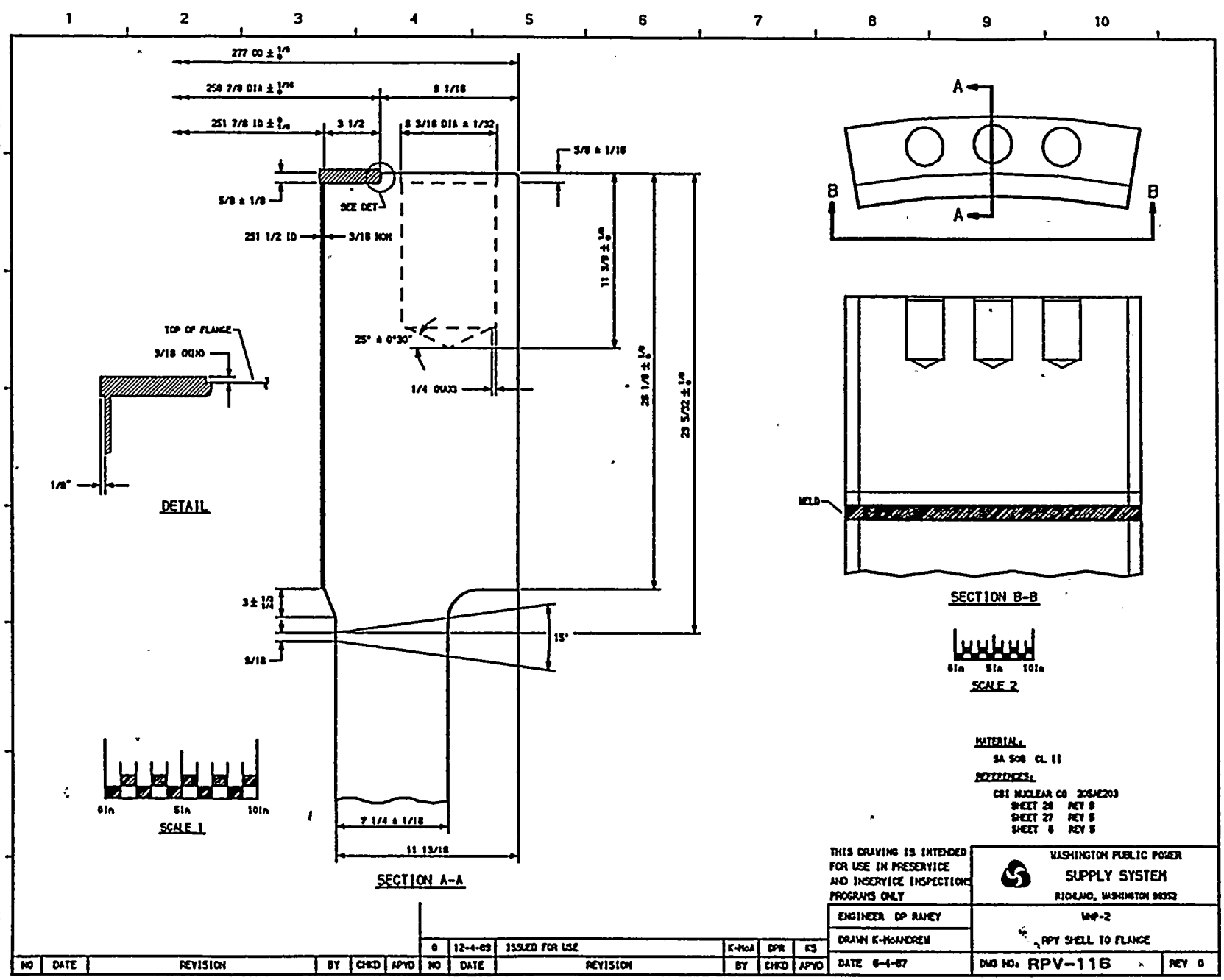
PIPING SYSTEM	NOM DIA (IN)	SCH	NOMINAL WALL THICKNESS	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
REACTOR PRESSURE VESSEL	251	NA	7 1/4, 6 7/16, 9 7/16	SA 108 CR 8	CS	NOTE 1

NO	DATE	REVISION	BY	CHKD	APVD
5	6-8-84	ADDED STABILIZER LUGS. SEE NOTE 6.	K-McA	DPR	DW
4	12-9-82	CORRECTED N14B LOCATION GRAPHICALLY ADDED KEYPLAN. MODIFIED LOCO. REDRAWN	K-McA	DPR	DRW
3	12-2-81	EL 551'-8" WAS 551' LOWERED ACTIVE CORE TO COINCIDE.	K-McA	DPR	TFH
2	11-5-80	ADDED ELEVATIONS - ACTIVE CORE	K-McA	TFH	DWP
1	7-17-79	REVISED NOZZLE LETTERS PER AS BUILT. ADDED NOTES 4 & 5.	K-McA	TFH / DWP	LFB
0	12-22-78	ISSUED FOR USE	K-McA	TFH / DWP	LFB
A	5-17-78	ISSUED FOR INFORMATION ONLY	K-McA	DWP	DWP

ISI PROGRAM PLAN
INTERVAL - 2
REVISION 0
DECEMBER, 1994

file: CODEI

Figure 5:1.2.2


277 00 ± 1/8
258 7/8 DIA ± 1/16
251 7/8 ID ± 1/16
3 1/2
8 3/16 DIA ± 1/32
8 1/16
5/8 ± 1/16
5/8 ± 1/8
SEE DET
251 1/2 ID
3/16 NOM
11 3/8 ± 1/8
25° ± 0°30'
1/4 GUID
28 1/8 ± 1/8
29 5/32 ± 1/8
TOP OF FLANGE
3/16 CHAM
1/8"
DETAIL
3 ± 1/32
9/16
15°
7 1/4 ± 1/16
11 13/16
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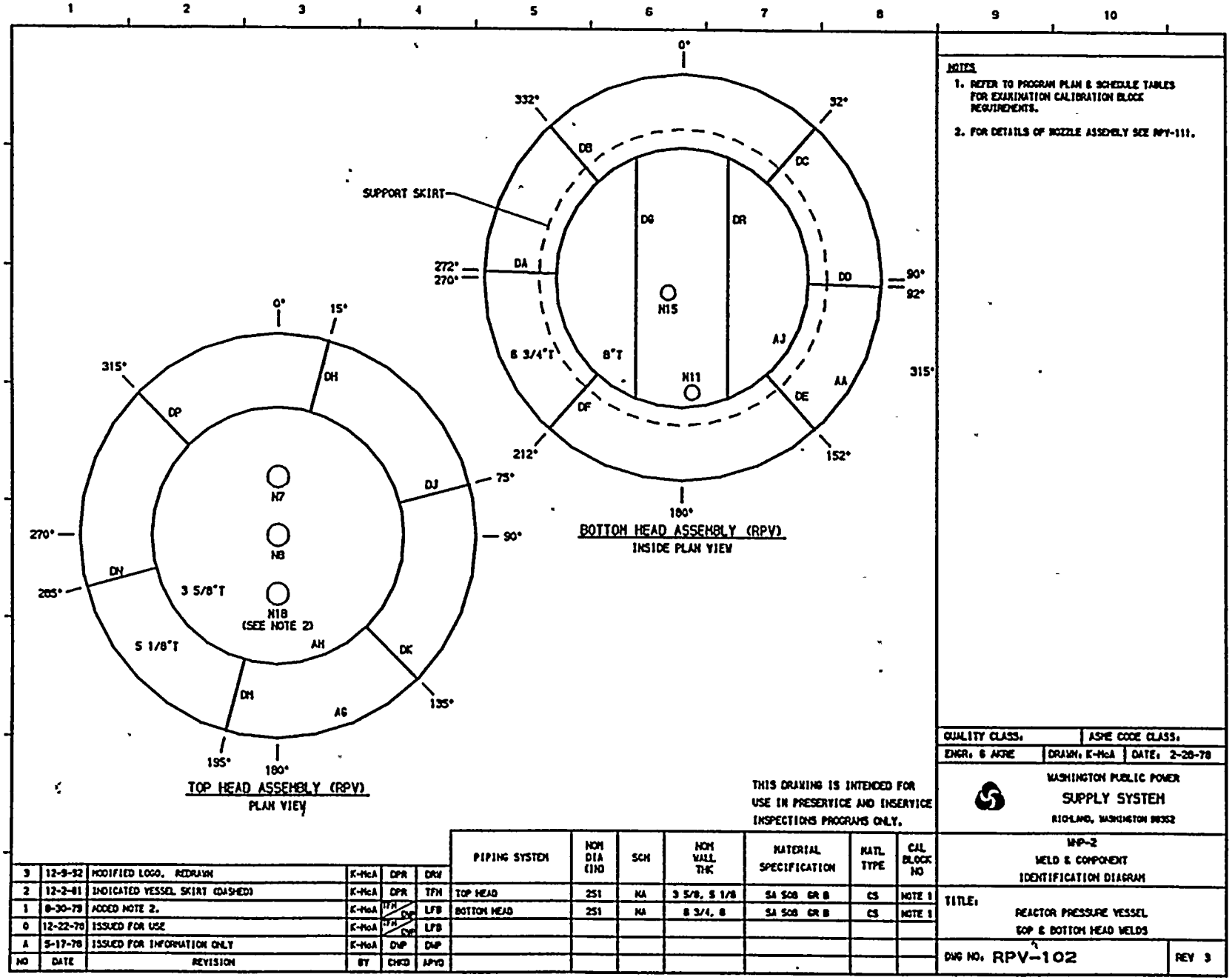
SCALE 1
A
B
B
A
WELD
SECTION B-B
0in 5in 10in
SCALE 2
MATERIAL:
SA 508 CL II
REFERENCES:
CBI NUCLEAR CO 30SAE203
SHEET 26 REV 9
SHEET 27 REV 5
SHEET 6 REV 5
THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352
ENGINEER DP RAMEY
DRAWN K-McANDREW
DATE 6-4-97
WNP-2
RPV SHELL TO FLANGE
DWG NO. RPV-116
REV 0
NO | DATE | REVISION | BY | CHKD | APVD
0 | 12-4-09 | ISSUED FOR USE | K-McA | DPR | ES

Figure 5.1.2.3



NO	DATE	REVISION	BY	CHKD	APVD
3	12-9-92	MODIFIED LOGO, REDRAWN	K-McA	DPR	DRV
2	12-2-81	INDICATED VESSEL SKIRT (DASHED)	K-McA	DPR	TFH
1	8-30-79	ADDED NOTE 2.	K-McA	TFH / DNP	LFB
0	12-22-78	ISSUED FOR USE	K-McA	TFH / DNP	LFB
A	5-17-78	ISSUED FOR INFORMATION ONLY	K-McA	DNP	DNP

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
TOP HEAD	251	NA	3 5/8, 5 1/8	SA 508 GR 8	CS	NOTE 1
BOTTOM HEAD	251	NA	8 3/4, 8	SA 508 GR 8	CS	NOTE 1

RELIEF REQUEST NO. 2ISI-02

Welds for Which Relief is Requested

ASME Section XI Examination Category B-D, item B3.90, pressure retaining welds in reactor pressure vessel. See table below.

Weld No.	Description	Diagram No. (see Figure 5.1.2.4)
N1-0	RRC NZ-V @ 0	RPV-101
N1-180	RRC NZ-V @ 180	RPV-101
N2-120	RRC NZ-V @ 120	RPV-101
N2-150	RRC NZ-V @ 150	RPV-101
N2-210	RRC NZ-V @ 210	RPV-101
N2-240	RRC NZ-V @ 240	RPV-101
N2-270	RRC NZ-V @ 270	RPV-101
N2-30	RRC NZ-V @ 30	RPV-101
N2-300	RRC NZ-V @ 300	RPV-101
N2-330	RRC NZ-V @ 330	RPV-101
N2-60	RRC NZ-V @ 60	RPV-101
N2-90	RRC NZ-V @ 90	RPV-101
N3-108	MS NZ-V @ 108	RPV-101
N3-252	MS NZ-V @ 252	RPV-101
N3-288	MS NZ-V @ 288	RPV-101
N3-72	MS NZ-V @ 72	RPV-101
N4-150	FW NZ-V @ 150	RPV-101
N4-210	FW NZ-V @ 210	RPV-101
N4-270	FW NZ-V @ 270	RPV-101
N4-30	FW NZ-V @ 30	RPV-101
N4-330	FW NZ-V @ 330	RPV-101
N4-90	FW NZ-V @ 90	RPV-101
N5-120	LPCS NZ-V @ 120	RPV-101
N6-135	LPCI NZ-V @ 135	RPV-101
N6-315	LPCI NZ-V @ 315	RPV-101
N6-45	LPCI NZ-V @ 45	RPV-101
N16-240	HPCS NZ-V @ 240	RPV-101

Section XI Requirements

ASME Section XI, Table IWB-2500-1, Examination Category B-D, item B3.90 requires a volumetric examination of the weld and adjacent base metal as defined in Figure IWB-2500-7(b).

Code Requirement from Which Relief is Requested

Relief is requested from performing a volumetric examination of 100% of the examination volume defined in Figure IWB-2500-7(b).

Basis for Requesting Relief

Relief is requested from ASME Section XI examination requirements on the basis of partial inaccessibility of the weld due to configuration. The design of the vessel to nozzle weld prevents examination of 100% of the volume defined in Figure IWB-2500-7(b) with equipment available.

Alternative Examinations

Each weld will be examined per Section XI requirements to the extent defined in Table 5.1.2.3.

Justification for the Granting of Relief

There will be no adverse impact on plant quality and safety by doing only a partial Code examination of these welds.

1. The Class 1 RPV welds have passed radiographic, magnetic particle and ultrasonic examinations in accordance with Section III.
2. No unacceptable indications were found during the first inspection interval examinations.
3. The identified welds will be subject to a system pressure test in accordance with ASME Section XI Code Case N-498 requirements.
4. Leak detection systems identify significant leakage in the areas of the subject welds. Appropriate operator action would occur due to leak detection system alarms.
5. No automatic inspection system in use today can effectively examine 100% of the required Code volume. Additional manual examinations will not significantly increase, if at all, the volume examined.
6. The achievable coverage will detect flaws in the inner volume where they are most likely to occur.
7. The percent of achievable examination volume is significant and representative of the item B3.90 welds. RPV nozzle weld integrity will be ensured by completing the percent of the welds defined in Table 5.1.2.3.

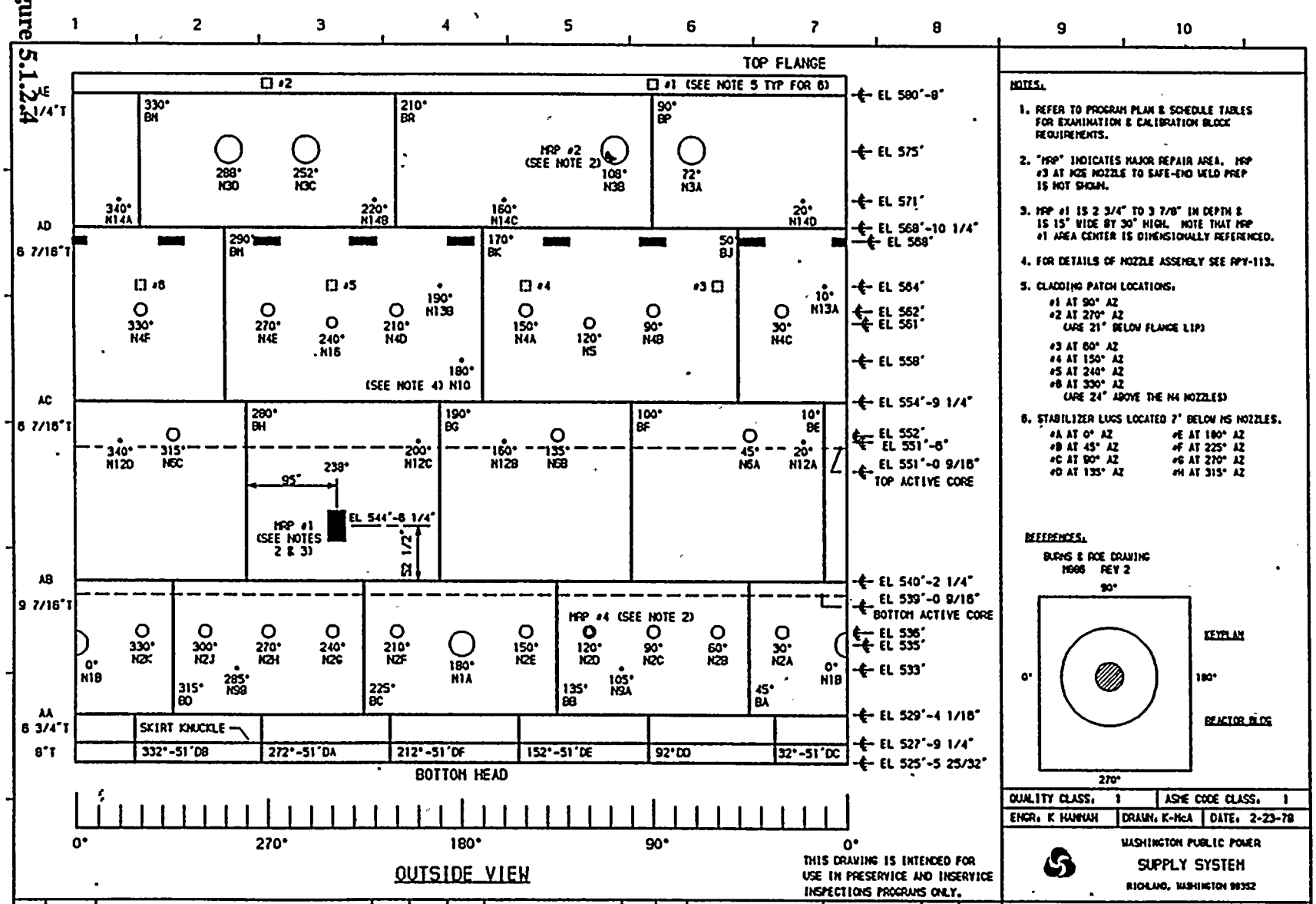
Implementation Schedule

Seven (7) of the examinations will be performed during the first inspection period and the remaining ones will be performed during the third inspection period.

Table 5.1.2.3 Examination Coverage Obtained First Inspection Interval

Identification No.	Description	Diagram No.	% Volume Examined 45 Degree	% Volume Examined 60 Degree
N1-0	RRC NZ-V @ 0	RPV-101	75	81
N1-180	RRC NZ-V @ 180	RPV-101	75	81
N2-120	RRC NZ-V @ 120	RPV-101	75	81
N2-150	RRC NZ-V @ 150	RPV-101	75	81
N2-210	RRC NZ-V @ 210	RPV-101	75	81
N2-240	RRC NZ-V @ 240	RPV-101	75	81
N2-270	RRC NZ-V @ 270	RPV-101	75	81
N2-30	RRC NZ-V @ 30	RPV-101	75	81
N2-300	RRC NZ-V @ 300	RPV-101	75	81
N2-330	RRC NZ-V @ 330	RPV-101	75	81
N2-60	RRC NZ-V @ 60	RPV-101	75	81
N2-90	RRC NZ-V @ 90	RPV-101	75	81
N3-108	MS NZ-V @ 108	RPV-101	86	90
N3-252	MS NZ-V @ 252	RPV-101	86	90
N3-288	MS NZ-V @ 288	RPV-101	86	90
N3-72	MS NZ-V @ 72	RPV-101	86	90
N4-150	FW NZ-V @ 150	RPV-101	71	79
N4-210	FW NZ-V @ 210	RPV-101	71	79
N4-270	FW NZ-V @ 270	RPV-101	71	79
N4-30	FW NZ-V @ 30	RPV-101	71	79
N4-330	FW NZ-V @ 330	RPV-101	71	79
N4-90	FW NZ-V @ 90	RPV-101	71	79
N5-120	LPCS NZ-V @ 120	RPV-101	86	90
N6-135	LPCI NZ-V @ 135	RPV-101	72	79
N6-315	LPCI NZ-V @ 315	RPV-101	72	79
N6-45	LPCI NZ-V @ 45	RPV-101	72	79
N16-240	HPCS NZ-V @ 240	RPV-101	72	80

Figure 5.1.2.4



NOTES:

1. REFER TO PROGRAM PLAN & SCHEDULE TABLES FOR EXAMINATION & CALIBRATION BLOCK REQUIREMENTS.
2. "MRP" INDICATES MAJOR REPAIR AREA. MRP #3 AT M2E NOZZLE TO SAFE-END WELD PREP IS NOT SHOWN.
3. MRP #1 IS 2 3/4" TO 3 7/8" IN DEPTH & IS 15" WIDE BY 30" HIGH. NOTE THAT MRP #1 AREA CENTER IS DIMENSIONALLY REFERENCED.
4. FOR DETAILS OF NOZZLE ASSEMBLY SEE RPV-113.
5. CLADDING PATCH LOCATIONS:
   #1 AT 90° AZ
   #2 AT 270° AZ
   (ARE 21" BELOW FLANGE LIP)
   #3 AT 60° AZ
   #4 AT 150° AZ
   #5 AT 240° AZ
   #6 AT 330° AZ
   (ARE 24" ABOVE THE N4 NOZZLES)
6. STABILIZER LUGS LOCATED 7" BELOW N5 NOZZLES.
   #A AT 0° AZ #E AT 180° AZ
   #B AT 45° AZ #F AT 225° AZ
   #C AT 90° AZ #G AT 270° AZ
   #D AT 135° AZ #H AT 315° AZ

REFERENCES:
BURNS & ROE DRAWING M908 REV 2

5	6-8-84	ADDED STABILIZER LUGS. SEE NOTE 6.	K-McA	DPR	DW	PIPING SYSTEM	NOM DIA (IN)	SCH	NOMINAL WALL THICKNESS	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
4	12-9-82	CORRECTED M4B LOCATION GRAPHICALLY. ADDED M2 WELDS. ADDED M3TD LOCO. REDRAWN	K-McA	DPR	DRM							
3	12-2-81	EL 551'-8" WAS 551' LOWERED ACTIVE CORE TO COINCIDE.	K-McA	DPR	TFH							
2	11-5-80	ADDED ELEVATIONS - ACTIVE CORE	K-McA	TFH	DMP	REACTOR PRESSURE VESSEL	251	NA	7 1/4, 8 7/16, 9 7/16	SA 108 GR B	CS	NOTE 1
1	7-17-79	REVISED NOZZLE LETTERS PER AS BUILT. ADDED NOTES 4 & 5.	K-McA	TFH/DMP	LFB							
0	12-22-78	ISSUED FOR USE	K-McA	TFH/DMP	LFB							
A	5-17-78	ISSUED FOR INFORMATION ONLY	K-McA	DMP	DMP							
NO	DATE	REVISION	BY	CHKD	APVD							

QUALITY CLASS: 1	ASME CODE CLASS: 1
ENGR: K HANNAH	DRAWN: K-McA DATE: 2-23-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
REACTOR PRESSURE VESSEL ROLL-OUT

DWG NO. RPV-101 REV 5

RELIEF REQUEST NO. 2ISI-03

Components for Which Relief is Requested

ASME Section XI Examination Category B-G-1, Item Number B6.10, reactor pressure vessel nuts.

Component No.	Description	Diagram No. (see section 9.0)
RPV NUT 36-1-n where n is 1A through 76A	RPV NUT	RPV-101

Section XI Requirements

ASME Section XI, Table IWB-2500-1, Examination Category B-G-1, item B6.10 requires a surface examination of the nut.

Code Requirement from Which Relief is Requested

Relief is requested from ASME Section XI, Table IWB-2500-1, Examination Category B-G-1, item B6.10 requirement to perform a 100% surface examination of the nut.

Basis for Requesting Relief

A meaningful surface examination of the thread area cannot be achieved with the protective phosphate coating.

Alternative Examinations

A volumetric (ultrasonic) examination of the nut will be performed to augment the surface examination. The ultrasonic examination will consist of a L-wave from the end and shear wave in four directions (two parallel to axis and two perpendicular to axis). A spare RPV nut will be used for the calibration standard.

Justification for the Granting of Relief

This alternative examination of the RPV nuts provides for a more thorough examination. This examination technique was used during the first inspection interval. During the first inspection interval no unacceptable indications were found.

RELIEF REQUEST NO. 2ISI-04

Components for Which Relief is Requested

ASME Section III Code Class 3 service water (SW) buried piping.

The buried portions of the following systems are affected by this relief request:

SW Loop A Supply 20" SW (1)-2
SW Loop B Supply 20" SW (2)-2

Section XI Requirements

ASME Section XI (IWA-5244) requires a test to determine the change in flow between ends of nonisolatable, redundant buried piping.

Code Requirement from Which Relief is Requested

Relief is requested from ASME Section XI IWA-5244 to perform a test to determine the change in flow between the ends of buried piping.

Basis for Requesting Relief

The design of the piping in the service water pump houses prevents direct flow monitoring. Figures 5.1.2.5 and 5.1.2.6 show the dimensions between the pump, valves and elbow. The close proximity of these items does not allow sufficient stable flow required for meaningful flow measurement. The direct measurement of flow at this end of the buried piping is impossible.

Alternate Examination

In place of the Code required flow test, WNP-2 will verify that the flow during operation is adequate to perform the systems required function. This will be accomplished by verifying the flow and pump discharge pressure is within the acceptable range per the last pump and valve surveillance. In addition, each inspection period the area between the pump house and reactor building where the buried piping runs will be observed for anomalies or disturbances which may indicate a leak.

Justification for the Granting of Relief

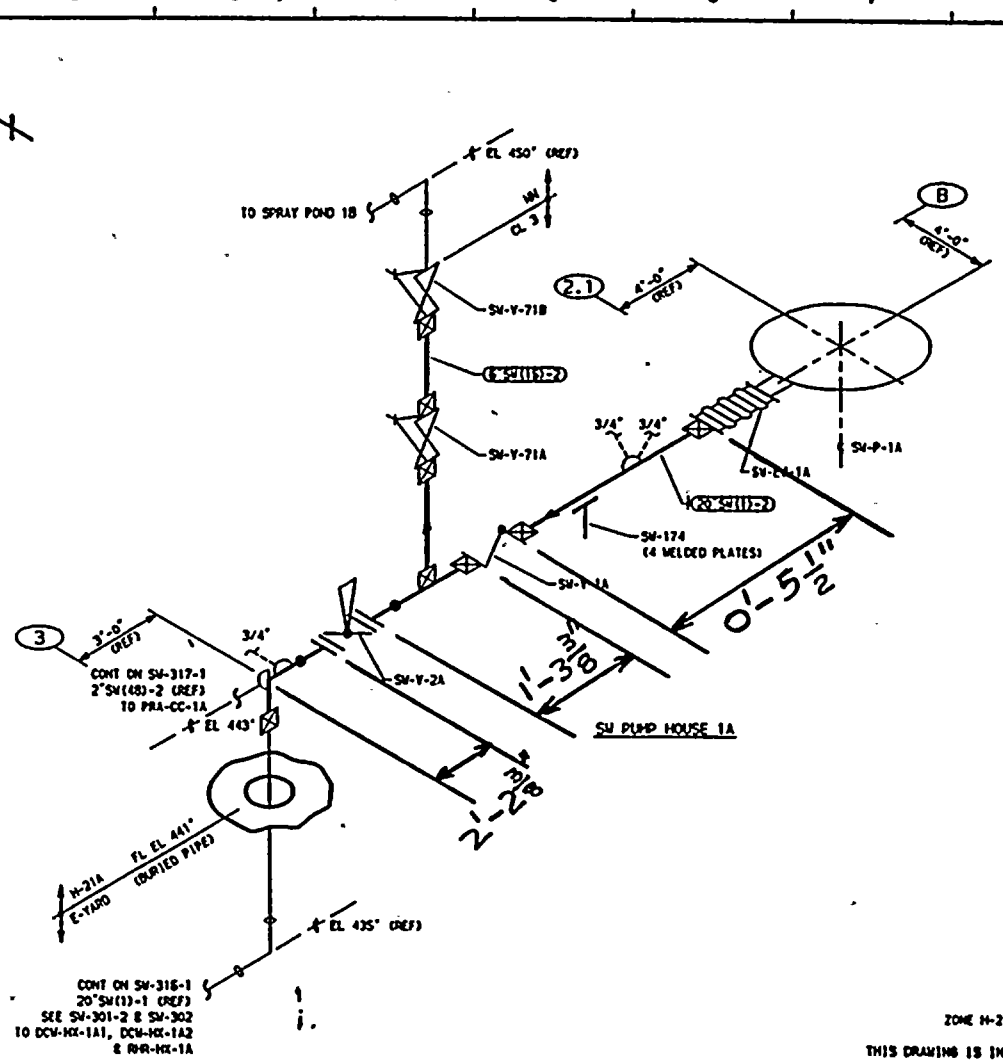
There will be no decrease in plant quality and safety by performing the alternate examinations. Per the Pump Inservice Test Program, the pumps in both SW Loops A and B are tested quarterly to verify that they are operating correctly and providing adequate flow. Per Section XI IWA-5244 verification of adequate flow is an acceptable test to perform as the VT-2 visual examination for buried piping. In addition to being recognized by the Code, the alternate examination would be performed more frequently,

quarterly versus once per inspection period. Based on more frequent testing, Code acceptability and system function, the performance of the alternate examination will not decrease plant quality or safety.

Implementation Schedule

This relief request will be implemented at the end of the first inspection period of the second inspection interval.

Figure 5.1.2.5

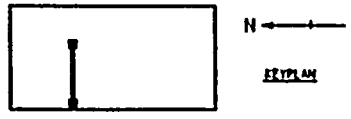


NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:
ISI - 224-S
BOYCE & CRAIL ISOMETRICS
SW-250-1.3 REV 15
SW-291-1.6 REV 11

SERVICE WATER
PUMP HOUSE 1A



QUALITY CLASS: 1	ASME CODE CLASS: 3
ENGR: GA KUGLER	DRAWN: K-HcA
DATE: 10-20-78	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
SW LOOP A SUPPLY
SW-P-1A DISCHARGE TO RHR-HX-1A

DWG NO: SW-301-1 REV 1

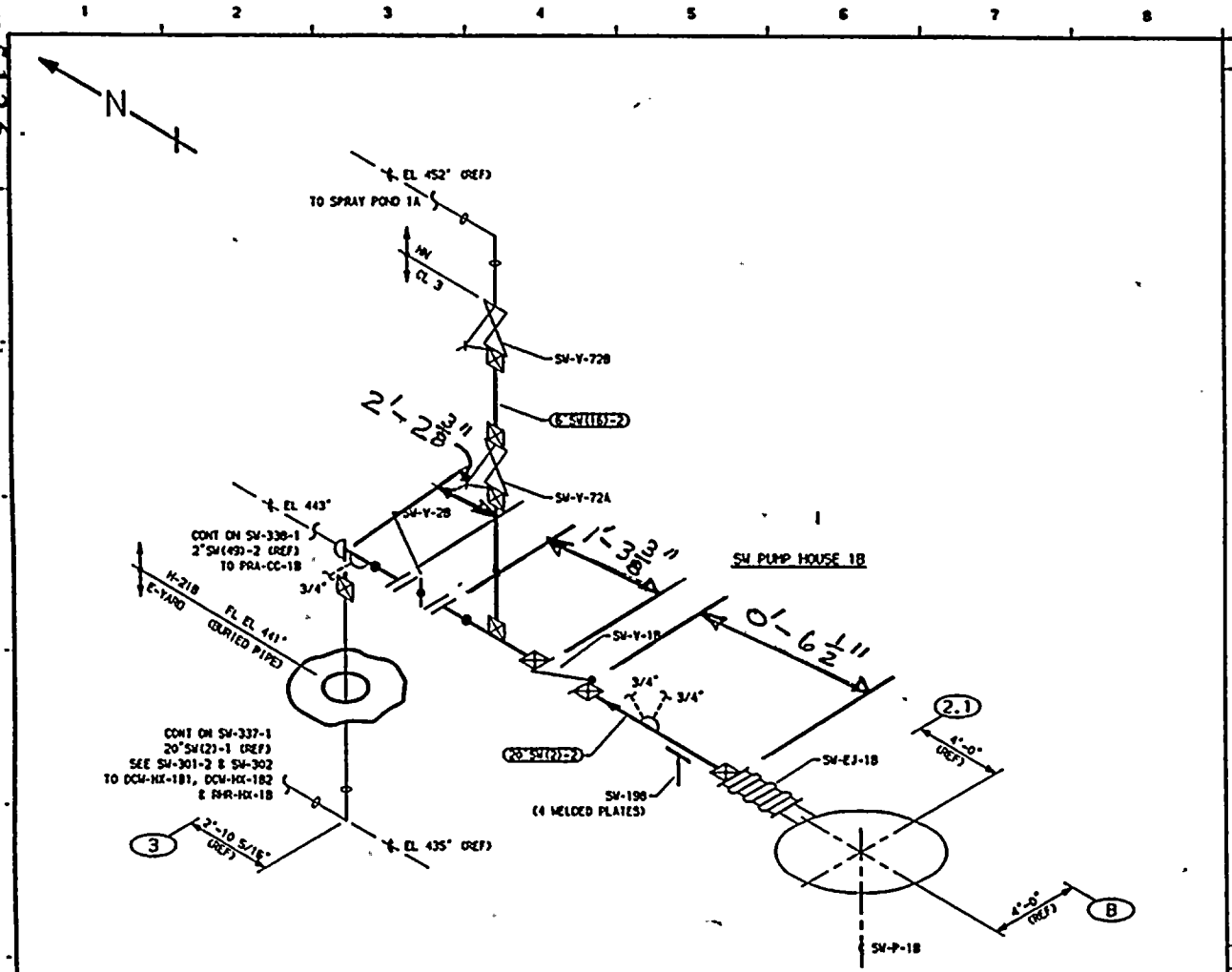
ZONE H-21A & E

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
20"SW(1)-2	20	STD	0.375	SA 106 GR B	CS	NA
6"SW(15)-2	6	STD	0.280	SA 106 GR B	CS	NA
6"SW(15)-2	6	160	0.719	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	12-6-89	ADDED ISI DWG REF, DWG LINE CONT, KEYPLAN & LOCO. REDRAWN	[illegible]	[illegible]	[illegible]
0	11-5-80	ISSUED FOR USE	K-HcA	GAK	

Figure 5.1.2.6



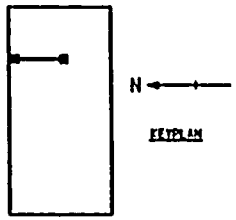
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 224-5 & 224-4A

BOYEE & CRAIL ISOMETRICS
SW-251-1.3 REV 12
SW-252-1.5 REV 9



						PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
						20"SW(2)-2	20	STD	0.375	SA 106 GR B	CS	NA
2	12-1-89	ADDED ISI DWG REF, DWG LINE CONT, KEYPLAN & LOOP. REDRAWN	K-McA	DPR	TFH	6"SW(1B)-2	6	STD	0.280	SA 106 GR B	CS	NA
1	1-27-84	RELOCATED SW-19B ADDED KEYPLAN	K-McA	DPR	TFH	6"SW(1B)-2	6	160	0.719	SA 106 GR B	CS	NA
0	11-5-80	ISSUED FOR USE	K-McA	GJK	TFH							
NO	DATE	REVISION	BY	CHKD	APVD							

QUALITY CLASS: 1	ASME CODE CLASS: 3
ENGR: GA KUGLER	DRAWN: K-McA DATE: 2-5-78

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
SW LOOP B SUPPLY
SW-P-1B DISCHARGE

DWG NO: SW-305-1 REV 2

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

RELIEF REQUEST 2ISI-05

Components for Which Relief is Requested

ASME Class 3, Section XI Examination Category D-A item number D1.10, pressure retaining boundary, main steam relief valve discharge piping (piping located in drywell). ASME Class 2 main steam relief valve discharge piping upgraded from ASME Class 3 (piping located in wetwell).

This relief request includes the 18 main steam relief valves and associated discharge lines identified by the following line numbers and illustrated on the corresponding ISI weld and component identification diagrams (diagrams located in section 9.0).

Line number	ISI Diagram Number	Material Specification
10MS(18)-2-1	MS-301-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-2	MS-302-1. -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-3	MS-303-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-4	MS-304-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-10	MS-305-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-11	MS-306-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-12	MS-307-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-13	MS-308-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-14	MS-309-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-9	MS-310-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-8	MS-311-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-7	MS-312-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-6	MS-313-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-5	MS-314-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-18	MS-315-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-17	MS-316-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-16	MS-317-1, -2, -3	10" Sch 80, SA-106 Gr. B
10MS(18)-2-15	MS-318-1, -2, -3	10" Sch 80, SA-106 Gr. B

	Pressure	Temperature
design	500 psig	470 degree F
operating	388-465 psig	445-463 degree F

The range of operating pressures and temperatures is due to the location and settings of the relief valves that discharge into these piping systems.

Section XI Requirements

Table IWD-2500-1 requires pressure testing and VT-2 examination of item D1.10 per IWD-5221 and IWD-5223.

IWA-5214 requires pressure testing and VT-2 examination of repairs and replacements.

IWD-5223, System Hydrostatic Test, paragraph (f) requires a pneumatic test (at a pressure of 90% of the pipe submergence head of water) that demonstrates leakage integrity be performed in lieu of the system hydrostatic test. The test pressure is 6.6 psig.

It is also the intent of the Code that the pneumatic test described in IWD-5223(f) be performed for the system leakage test required by Table IWD-2500-1 (see interpretation XI-1-92-04, Section XI, Interpretations Volume 30, page 243).

Code Requirements from Which Relief is Requested

Relief is requested from performing the pneumatic pressure test of IWD-5223(f) on the systems designated in section titled "Components for Which Relief is Requested" for Examination Category D-A, item D1.10 and for performing IWA-5214 pressure test on the Class 3 discharge side of the relief valves after repairs and replacement of the main steam relief valves and vacuum breaker valves on these systems.

Basis for Requesting Relief

The pressure test at less than two (2) percent of the operating pressure of the system does not add to the public safety. The test adds unnecessarily to the plants radiological exposure burden (approximately 1.6 person rems per outage). This test has been eliminated in the 1992 Edition, 1992 Addenda to Section XI (see page 207 1992 Addenda to ASME Section XI).

Alternative Examinations

No alternative to this test is proposed since this test has been eliminated from the later Section XI Code.

Justification for the Granting of Relief

The test pressure required by the Code (6.6 psig) is significantly less than (less than 2%) the operating pressure of the discharge lines (388-465 psig). The test pressure does not assure integrity of the piping and adds unnecessarily to the plants radiological burden.

Additionally, the Code required test has been deleted in the 1992 Edition, 1992 Addenda of ASME Section XI.

Approximately 1.6 person rems are expended each time this test is performed.

Implementation Schedule

This relief request will be implemented during the second inspection interval.

RELIEF REQUEST 2ISI-06

Components for Which Relief is Requested

Table IWB-2500-1, Examination Category B-P, items B15.10 and B15.11, control rod drive (CRD) flange bolting. WNP-2's reactor vessel has 185 CRD flanges located in the reactor pressure vessel (RPV) bottom head. Each flange has 8 cap screws.

Section XI Requirements

The CRD flanges are subject to a system leakage test at the end of every refueling outage (item B15.10) and a hydrostatic test every inspection interval (item B15.11). If leakage is observed at the bolted connection of these flanges, corrective action per [IWA-5250(a)(2)] requires all the bolting from that flange be removed and VT-3 visually examined for corrosion and evaluated per IWA-3100. The purpose of this requirement is to determine if bolting degradation has occurred.

Code requirement from Which Relief is Requested

Removal of bolting per IWA-5250(a)(2) to perform a visual examination.

Basis for Requesting Relief

Relief is requested from the corrective action of [IWA-5250(a)(2)] based on the hardship to remove the cap screws from these flanges at the end of a refueling outage. The pressure test is performed just prior to startup when the equipment required for cap screw removal has been removed from under the RPV. To remove all the bolting from a leaking drive will require depressurization of the RPV and reassembly of the equipment necessary to remove the bolting. The dose rates under the RPV in the area where bolting removal will occur are estimated to be between 200 mRem/hr at the knees and 600 mRem/hr at the head.

Alternative

Relief is requested to use the following alternative examination for satisfying the requirements of IWA-5250(a)(2). When control rod drives are exchanged, perform a VT-1 visual examination on the removed bolting. This VT-1 examination will be in accordance with Table IWB-2500-1 Examination Category B-G-2, Item Number B7.80.

Justification for the Granting of Relief

Approximately 30-40 CRD flanges are disassembled for CRD exchange every 2 years. During this activity all the CRD cap screws from the disassembled flanges are required to be VT-1 visually examined in accordance with Examination Category B-G-2, item number B7.80. The provisions of this examination are to determine if degradation of the bolting has occurred. All the CRD flanges are disassembled and the cap screws examined

within an approximate 10 year cycle.

During the first 10 year inservice inspection interval, 187 sets of CRD cap screws received a VT-1 visual examination after removal. All new cap screws receive a Preservice Inspection VT-1 examination prior to installation. Corrosion pitting has been observed on the cap screw's shank. Metallurgical evaluation of the worst case from two outages was performed. The analysis concluded that the pitting was shallow and the ASME acceptance standards were not exceeded. No cap screws that exhibited pitting corrosion were reused. No failed bolting was found during the first 10 year inspection interval. This demonstrates that the VT-1 examinations required by Examination Category B-G-2, item number B7.80 provide an effective method to detect the early signs of bolting degradation.

WNP-2 is a Boiling Water Reactor (BWR) that does not utilize a process system with a borated water chemistry, except the standby liquid control system, like a Pressurized Water Reactor (PWR). The corrosiveness of leaking borated water in a PWR is known but is not applicable to WNP-2. The alternatives described provide assurance that corrosive conditions are evaluated.

There will be no adverse impact on plant quality and safety by implementing the alternative measures. The alternative examination to perform VT-1 examination on removed bolting provides a superior method of detecting bolting degradation than that required by IWA-5250(a)(2). The sample size (every cap screw within an approximate 10 year period) and frequency (approximately 16-20% of the cap screws examined every two years) provides assurance that bolting degradation will be detected.

Implementation Schedule

This relief request will be implemented during the second inspection interval.

RELIEF REQUEST 2ISI-07

Components for Which Relief is Requested

All bolted connections within the ASME Section XI pressure test boundary in non-borated systems except:

1) Control Rod Drives and;
2) Bolted connections that were assembled as part of a Section XI repair and replacement activity and have not been subject to inservice conditions.

Section XI Requirements

If during pressure tests a bolted connection within the test boundary leaks it is subject to the corrective action of IWA-5250(a)(2). This would require all the connection's bolting to be removed and visually examined to VT-3 requirements.

Code Requirements from Which Relief is Requested

Removal of bolting per IWA-5250(a)(2) to perform a VT-3 visual examination.

Basis for Requesting Relief

Removing all the bolting from a leaking joint and performing a VT-3 visual examination on the bolting places a hardship on the plant. Bolting degradation due to bolted connection leaks would not occur at bolting that was not exposed to the leaking fluid. The Code requirement, if met, will require all the bolting at a leaking joint to be removed even if it is not in contact with the leaking fluid. This will result in unnecessary work for, and radiation exposure to, plant personnel.

Alternative Corrective Action

Relief is requested to use the corrective measures described in the following paragraphs.

For bolted connections that are shown to have metal-to-metal contact ("hard joints"), torque the bolted connection up to the maximum torque allowed for this joint while this joint is under pressure. If the leak stops no further action will take place. If the leak does not stop, the leakage will be evaluated for further corrective action.

For bolted connections other than hard joints, remove one bolt closest to the leak, perform a VT-3 examination for corrosion, and evaluate in accordance with IWA-3100.

Justification for the Granting of Relief

For bolted connections classified as hard joints, the retorquing of the bolting to no greater value than that allowed for that specific joint will provide a more positive test that the bolting is not degraded than removing the bolting and performing a visual examination on it. The retorquing will demonstrate that the bolting has not failed. In addition to being a demonstration of the bolting integrity, the retorquing should stop the leakage condition, which can cause degradation of the bolting.

Where removal of the bolting is the corrective action, the removal of only one bolt is supported by subparagraph IWA-5250(a)(2) of ASME Section XI, 1992 Edition, 1993 Addenda. By removing the bolt closest to the leak, the worst case condition will be examined. Bolting that is not in contact with the leaking fluid will not be unnecessarily removed. This will avoid unnecessary radiation exposure to plant personnel.

WNP-2 is a Boiling Water Reactor (BWR) that does not utilize a process system with a borated water chemistry, except the standby liquid control system, like a Pressurized Water Reactor (PWR). The corrosiveness of leaking borated water in a PWR is known but is not applicable to WNP-2. The alternatives described provide assurance that corrosive conditions are evaluated.

There will be no adverse impact on plant quality and safety by implementing the alternate corrective measures. The alternate corrective measures will demonstrate bolting integrity and provide reasonable assurance that bolting degradation caused by leakage at the bolted connection will be detected.

Specific radiation exposure savings from this alternative corrective action cannot be calculated since they are bolted connection dependant.

Implementation Schedule

This alternate examination will be implemented during the entire second inspection interval.

RELIEF REQUEST 2ISI-08

Welds for Which Relief is Requested

ASME Section XI Examination Category B-K-1, Item Number B10.10, integral attachment welds for piping, pumps, and valves.

Identification No.	Description	ISI Diagram No. (see section 9.0)
RRC-HA-1(W)	4 WELDED LUGS	RRC-101-1
RRC-HB-1(W)	4 WELDED LUGS	RRC-102-1

Section XI Requirements

ASME Section XI, Table IWB-2500-1, Examination Category B-K-1, item B10.10 requires a surface or volumetric examination of the weld and adjacent base metal.

Code Requirement from Which Relief is Requested

Relief is requested from performing a surface examination of 100% of the examination surface.

Basis for Requesting Relief

Relief is requested from ASME Section XI examination requirements for the two item B10.10 welds on the basis of high dose required to prepare for and perform the examinations. The welds identified in this relief request require disassembly of a component support collar to gain access to perform a 100% Code examination. Radiation dose rates in the area of these welds are 400mR/hr. To access the remaining portion of these welds will require the disassembly of the collars preventing full Code coverage. The component supports associated with these welds are twin variable springs supporting a 24 inch diameter pipe. The support has a vertical load of approximately 24,000 pounds. To access the welds the piping being supported by these springs will need to be temporarily supported so the collars can be disassembled. After the examination the collars will be reassembled, temporary supports removed, and the variable springs rebalanced. It is anticipated that total exposure to examine the remaining portions of attachment welds RRC-HA-1(W) and RRC-HB-1(W) will exceed 4 person rem.

Alternative Examinations

The accessible portion of the item B10.10 attachment welds RRC-HA-1(W) and RRC-HB-1(W), without removing the component support, will be examined per Section XI requirements.

Justification for the Granting of Relief

There will be no adverse impact on plant quality and safety by doing only a partial Code examination of the item B10.10 welds.

1. During the first inspection interval, weld RRC-HA-1(W) received a dye penetrant examination of 75% of the required examination surface and weld RRC-HB-1(W) received a dye penetrant examination of 50% of the required surface. No unacceptable indications were found.

2. The percent of Examination Category B-K-1 welds examined exceeds 95% of total welds in this category. No unacceptable indications were found in category B-K-1 welds during the first inspection interval.

3. Other Examination Category B-K-1 welds will receive full Code surface examination coverage. There is a total of forty-two (42) attachment welds in Examination Category B-K-1. The integrity of the Class 1 attachment welds is verified by performing examinations on this large representative sample.

RELIEF REQUEST 2ISI-09

Welds for Which Relief is Requested

ASME Section XI Examination Category C-C, Item Number C3.20, integral attachment welds for piping, pumps, and valves.

Identification No.	Description	ISI Diagram No.
RHR-77(W)	Welded Attachment	RHR-205-1
RHR-410(W)	Welded Attachment	RHR-203-2

Section XI Requirements

Section XI requires examination of 100% of each category C-C weld. All integral attachment welds require examination.

Code Requirement from Which Relief is Requested

Relief is requested from performing a surface examination of 100% of the Examination Category C-C items.

Basis for Requesting Relief

Relief is requested from ASME Section XI examination requirements for the two item C3.20 welds on the basis of inaccessibility of the welds due to their location in separate pipe chases where access will place a hardship on the plant to gain access. Access is gained by removing the steel and lead brick shielding walls.

Alternative Examinations

No alternate examination is proposed for these item C3.20 welds.

Justification for the Granting of Relief

There will be no adverse impact on plant quality and safety by not doing a Code examination of the two (2) item C3.20 welds.

1. The percent of category C-C welds examined exceeds 96% of total welds in this category. No unacceptable indications were found in category C-C during the first inspection interval.

2. Other similar welds in this system and in the area of the subject welds have or will receive full Code surface examination coverage. The total number of item C3.20 welds is fifty-five (55). Performing surface examination of 53 of the 55 welded attachments in Item C3.20 represents a significantly large and representative sample of this type of weld. The integrity of the attachment welds is verified by sampling.

Implementation Schedule

This relief request will be implemented during the third inspection period of the second inspection interval.

RELIEF REQUEST 2ISI-10

Welds for Which Relief is Requested

Welded Attachments ASME Examination Category D-B (item number D2.20).

Ident. No.	Diagram	Description	Category	Item No.
SW-90(W)	SW-307	Welded Attach	D-B	D2.20
SW-123(W)	SW-301	Welded Attach	D-B	D2.20
SW-439(W)	SW-303	Welded Attach	D-B	D2.20
SW-946N(W)	SW-314	Welded Attach	D-B	D2.20
SW-951N(W)	SW-315	Welded Attach	D-B	D2.20

Section XI Requirements

Section XI requires a visual examination (VT-3) of Examination Category D-B welded attachments.

Code Requirement from Which Relief is Requested

Relief is requested from performing a visual examination (VT-3) of the class 3 attachment welds listed above.

Basis for Requesting Relief

The welded attachments are completely or partially inaccessible to examination. The welded attachments are within fire barriers or enclosed in cubicles or pipe chases.

Alternate Examinations

The welded attachments are completely or partially inaccessible to all examination techniques. No alternate examinations are proposed.

Justification for the Granting of Relief

There will be no adverse impact on plant quality and safety. During the first inspection period the following percent of items were examined:

Examination Category	Percent Examined	Number Examined
D-B	>96%	141

No unacceptable indications were found during these examinations.

The class 3 welded attachments in category D-B examined during the first inspection interval represent greater than 96% of the total welded attachments in this category.

The sample size in this category is reasonably large and representative and assures continued plant quality and safety.

Implementation Schedule

This relief request will be implemented during the second inspection interval.

RELIEF REQUEST 2ISI-11

Component

All ASME Section III Code Class 1, 2, and 3 snubbers.

Code Requirement Requesting Relief From

ASME Section XI, 1989 Edition, no Addenda requires that snubbers be examined using the VT-3 method in accordance with ASME/ANSI OM Part 4, 1987 Edition [IWF-5300(a)].

Number of Snubbers

The snubbers are listed in Section 6.0, Table 6.2.1.

Basis for Requesting Relief

Snubber examinations are currently performed under WNP-2 Technical Specification 3/4.7.4 which was previously amended per Generic Letter 90-09, "Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions". The stated purpose of the generic letter was to provide alternative guidance to snubber inspection schedules which were excessively restrictive. The alternative schedule was provided to alleviate the expenditure of unnecessary resources and prevent radiological exposure associated with the over restrictive examination schedule. The implementation of ASME/ANSI OM-1987 would return the snubber examination program to the state which existed prior to the publication of Generic Letter 90-09, effectively cancelling the benefits intended through the Generic Letter.

Alternative Examinations

As an alternative to the visual examinations required by IWF-5300(a) WNP-2 will perform the visual examinations per Technical Specification "3/4.7.4 Snubbers", governing snubber examination and testing.

Impact on Plant Quality and Safety

The current program as defined by the Technical Specification provides for a level of quality and safety equal to or greater than that of the proposed OM Code. The OM Code provides for failure mode grouping of snubbers which fail visual examination, meaning only those snubbers identified as being in that group would require shortened examination intervals. Under the existing Technical Specification program all snubbers in the population would be placed in a shortened inspection interval. On this basis the existing Technical Specification program is more conservative in corrective action than the OM Code requirements.

The existing Technical Specification has been approved by the NRC. The alternative examination criteria is based on Generic Letter 90-09. It is the Supply System's position that examinations conducted per the Technical Specification provide an equal or greater level of quality and safety than examinations under ASME Section XI IWF-5300(a).

RELIEF REQUEST 2ISI-12

Component

Defect removal for ASME Section III, Code Class 1, 2, and 3 piping systems and components.

ASME Section XI Requirements

ASME Section XI, IWA-4340 requires that after the final grinding, the affected surfaces including surfaces of the cavities prepared for welding, shall be examined by magnetic particle (MT) or liquid penetrant (PT) method to ensure that the indication has been reduced to an acceptable level.

ASME Section XI Requirement from Which Relief is Requested

Relief is requested from performing magnetic particle (MT) or liquid penetrant (PT) examination when defect elimination removes the full thickness of the weld where the back side of the weld joint is not accessible for removal of the examination material.

Basis for Relief

The basis for the relief is that when the full thickness of the joint is removed the defect is removed and the back side is not accessible, the NDE material cannot be properly applied or removed and a meaningful examination cannot be performed. In addition, ASME requirements have been clarified in the 1983 Edition of ASME Section III and 1992 Edition of ASME Section XI.

Alternative

The unacceptable indications will be removed by mechanical means or by the thermal gouging method as specified by ASME Section III, Code Case N-275, "Repair Of Welds". The area prepared for repair will be examined by magnetic particle (MT) or liquid penetrant (PT) method in accordance with ASME Section III, NX-5110 and the acceptance standards of ASME Section III, NX-5300 as specified by ASME Section III, Code Case N-275. The NDE examination is not required where the full thickness of the weld is removed and where the back side of the weld joint assembly is not accessible for removal of the NDE examination material as specified by ASME Section III, Code Case N-275. The completed weld repair will be NDE examined in accordance with ASME Section III, NX-4453.4 as specified by ASME Section III, Code Case N-275. Gouging through the wall in order to qualify for use of the ASME Section III, Code Case N-275 will not be used.

Justification for the Granting of Relief

There will be no adverse impact on plant quality and safety by implementing the above discussed alternative since ASME Section III requirements for defect removal were previously implemented in conjunction with the requirements of ASME Section III, Code Case N-275 during construction of the piping systems.

ASME Section III, Code Case N-275 was previously approved for use in Regulatory Guide 1.84. This Code Case was annulled on December 31, 1983 and was incorporated in ASME Section III, NX-4453.1, 1983 Edition. The surface examination using magnetic particle (MT) or liquid penetrant (PT) methods of a through wall excavation, without ID access, results in NDE material such as magnetic particle powder or liquid penetrant dye or developer becoming entrained in a plant piping system and creates a difficulty in obtaining a meaningful NDE examination. The ASME Section III related piping systems and components at WNP-2 were constructed (material, designed, fabricated, installed, examined and tested) in accordance with ASME Section III requirements. The ASME Section III requirements which were implemented during construction are also implemented during defect removal for ASME Section XI repairs in conjunction with the requirements of ASME Section III, Code Case N-275, "Repair Of Welds".

Gouging through the wall in order to qualify for use of the ASME Section III, Code Case N-275 will not be used.

ASME Section III and ASME Section XI, IWA-4331(a), Page 34 of 1992 Edition with 1993 Addenda clarifies that magnetic particle (MT) or liquid penetrant (PT) examination is not required when defect elimination removes the full thickness of the weld where the back side of the weld joint is not accessible for removal of the examination material.

Implementation Schedule

This relief request for defect removal for ASME Section III, Code Class 1, 2, and 3 piping systems and components will be implemented during the second ten (10) year interval whenever defect removal is required during ASME Section XI repair activities.

RELIEF REQUEST 2ISI-13

Component

Welded joints in ASME Section III, Code Class 1, 2, and 3 piping systems and components.

ASME Section XI Requirements

ASME Section XI, IWA-5214 and IWA-4700 requires hydrostatic test on ASME Section III, Code Class 1, 2, and 3 welded joints. Hydrostatic test is required on those welded joints which were made during the course of welded repairs or installation of replacements by welding.

ASME Section XI Requirement from Which Relief is Requested

Relief is requested from performing hydrostatic test on welded joints in ASME Section III Code Class 1, 2, and 3 piping systems and components as required by ASME Section XI, IWA-5214 and IWA-4700.

Basis for Relief

Relief is requested from ASME Section XI hydrostatic test requirements on the basis of ASME Section XI Code Case N-416-1, "Alternative Pressure Test Requirements for Welded Repairs or Installation of Replacement Items by Welding, Class 1, 2, and 3". This Code Case allows alternative examination and testing requirements in lieu of performing the hydrostatic test on the welded joints.

Alternative

The non-destructive examination (NDE) on the welded joints in ASME Section III related piping systems and components will be performed in accordance with Code Case N-416-1 and applicable ASME Section III requirements. Code Case N-416-1 requires that the NDE examination and acceptance criteria shall be in accordance with ASME Section III, 1992 Edition requirements.

The VT-2 visual examination during pressure test on the welded joints in ASME Section III related piping systems and components will be performed at nominal operating pressure in accordance with Code Case N-416-1 and ASME Section XI, IWA-5000 requirements. Code Case N-416-1 requires that the VT-2 visual examination shall be performed in conjunction with a system leakage test in accordance with ASME Section XI, 1992 Edition requirements. The nominal operating pressure will be within a value that is obtained when the system is in service and the nominal operating temperature will be equal to the fluid state conditions for that pressure. In addition, welded joints less than 2" nominal pipe size (NPS) in ASME Section III, Code Class 3 piping systems and components will be NDE examined by either magnetic particle (MT) or liquid penetrant

(PT) examination in lieu of visual examination as required by ASME Section III, ND-5000, 1992 Edition.

Justification for the Granting of Relief

There will be no adverse impact on plant quality and safety by implementing Code Case N-416-1 requirements on ASME Section III Code Class 1, 2, and 3 welded joints due to the use of NDE examination and NDE examination acceptance criteria of ASME Section III, 1992 Edition and the alternate pressure test requirements at nominal operating pressure.

The ASME Section III related piping systems and components at WNP-2 were constructed (material, designed, fabricated, installed, examined and tested) in accordance with ASME Section III requirements.

The welded repairs or installation of replacement by welding will be performed in accordance with ASME Section XI, 1989 Edition and ASME Section III, (Code Edition and Addenda applicable to the component) requirements except that the NDE and pressure test requirements will be in accordance with Code Case N-416-1.

The final welds for welded joints in ASME Section III, Code Class 1 (NB) and 2 (NC) piping systems and components will be NDE examined in accordance with ASME Section III, NX-5000, 1992 Edition requirements. The NDE examination acceptance criteria for Code Class 1 and 2 will also be in accordance with ASME Section III, NX-5000, 1992 Edition requirements as required by Code Case N-416-1. The final welds for welded joints over 2" nominal pipe size (NPS) in ASME Section III, Code Class 3 piping systems and components will be NDE examined by either magnetic particle (MT) or liquid penetrant (PT) examination as required by ASME Section III, ND-5000, 1992 Edition. The NDE examination acceptance criteria will also be in accordance with ASME Section III, ND-5000, 1992 Edition requirements as required by Code Case N-416-1. The final welds for welded joints less than 2" nominal pipe size (NPS) in ASME Section III, Code Class 3 piping systems and components will be NDE examined by either magnetic particle (MT) or liquid penetrant (PT) examination in lieu of visual examination as required by ASME Section III, ND-5000, 1992 Edition.

The VT-2 visual examination will be performed in conjunction with a system leakage test in accordance with ASME Section XI, IWA-5000, 1992 Edition requirements as required by Code Case N-416-1.

The purpose of the hydrostatic test on the welded joints is to verify the leak tightness of the joint. The ability to identify a potential leak in the welded joint would be the same during a system leakage test at nominal operating pressure per Code Case N-416-1 as it would be at an elevated pressure test of 1.1 X design pressure through 1.25 X design pressure for the hydrostatic test of ASME Section XI.

Implementation Schedule

This relief request for use of Code Case N-416-1 requirements will be implemented during the second ten (10) year interval whenever a hydrostatic test is required subsequent to welded repairs or installation of replacements by welding is performed in accordance with ASME Section XI and ASME Section III requirements.

RELIEF REQUEST 2ISI-14

Component

Bolted mechanical joints in ASME Section III, Code Class 1, 2, and 3 piping systems and components when disassembled and reassembled during the course of ASME Section XI repair and replacement activities.

ASME Section XI Requirements

ASME Section XI, IWA-5250(a)(2) requires that if leakage is observed during VT-2 visual examination during the system pressure test at bolted mechanical joints, 1) remove all the bolting material associated with that joint, 2) perform VT-3 visual examination for localized general corrosion on the removed bolting material associated with that joint, 3) if the localized general corrosion reduces the bolting material cross sectional area by more than 5%, replace the unacceptable (corroded) bolting material.

ASME Section XI, IWA-5250(a)(2) requirements apply only to those bolted mechanical joints with repair or replacement bolting material and are not applicable to bolted mechanical joints disassembled and reassembled during or a result of associated maintenance activities. This is supported by ASME Interpretation No 29, XI-1-86-13R.

ASME Section XI Requirement from Which Relief is Requested

Relief is requested from removal of bolting and performing VT-3 visual examination on bolting material for bolted mechanical joints in ASME Section III, Code Class 1, 2, and 3 piping systems and components disassembled and reassembled during the course of ASME Section XI repair and replacement activities as required by ASME Section XI, IWA-5250(a)(2).

Basis for Relief

Relief is requested from ASME Section XI, IWA-5250(a)(2), removal and VT-3 visual examination of bolting material for bolted mechanical joints when leakage is observed during VT-2 visual examination during the system pressure test following ASME Section XI repair and replacement activities. The alternatives addressed below will provide an equivalent determination of whether the bolting material is degraded. These alternatives provide acceptable detection of bolting corrosion in a Boiling Water Reactor (BWR) service with process systems not using borated water.

Alternative

The following alternatives will be implemented to comply with the intent of ASME Section XI, IWA-5250(a)(2) requirements. These alternative requirements will be implemented when bolting material is replaced for bolted mechanical joints in ASME Section III, Code Class 1, 2, and 3 piping systems and components during the course of

ASME Section XI repair and replacement activities and are not applicable to bolted mechanical joints disassembled and reassembled during, or a result of, associated maintenance activities.

Bolted mechanical joints in air or gaseous systems will have a VT-2 visual examination performed of the bolting material as required by ASME Section XI. Any leakage observed from the bolted mechanical joint during VT-2 visual examination will be evaluated for acceptability or corrective action.

Bolted mechanical joints in other than air or gaseous systems where all *new replacement* bolting material is used will have a VT-2 visual examination performed on the bolted mechanical joint during system pressure test. If leakage is observed from the bolted mechanical joint during the VT-2 visual examination it will be evaluated for acceptability or corrective action.

Bolted mechanical joints in other than air or gaseous systems where *existing* bolting material has been removed and is being reused will have a VT-3 visual examination performed on the bolting material prior to installation. If leakage is observed from the bolted mechanical joint during the VT-2 visual examination during system pressure test it will be evaluated for acceptability or corrective action. Existing bolting material reused without a VT-3 visual examination would include the bolting not required to be removed as part of the repair or replacement activity. This bolting would be included in the ASME Section XI system pressure test boundary.

Bolting material for mechanical joints for Control Rod Drives (CRD) will have a VT-1 visual examination performed on all the reused *existing and/or new replacement* bolting material prior to installation. If leakage is observed from the bolted mechanical joint during the VT-2 visual examination during system pressure test it will be evaluated for acceptability or corrective action.

Justification for the Granting of Relief

ASME Section XI, IWA-5250(a)(2), 1989 Edition would literally require complete removal and inspection of all the bolting of a bolted mechanical joint for evaluation if leakage occurs at the bolted mechanical joint during the system pressure test following ASME Section XI repair and replacement activities, even though the leakage could be very small and considered acceptable or known to stabilize or stop after a period of time. This could require an unnecessary cooldown or shutdown of the plant, including extra unnecessary radiation exposure of personnel, and a delay in plant startup following an outage. The alternatives presented provide assurance that the bolted mechanical joints are adequately evaluated for a Boiling Water Reactor (BWR) plant to provide an acceptable level of quality and safety.

The purpose of ASME Section XI, IWA-5250(a)(2) is to determine if inservice leakage has degraded the bolting material. By installing new replacement bolting material or performing a VT-3 examination on the existing bolting material prior to reinstalling, the

integrity of the bolting material is assured prior to performing the pressure test for repair and replacement activities. ASME Interpretation No 30, XI-1-92-01 supports exclusion of ASME Section XI, IWA-5250(a)(2) for new or VT-3 examined bolting material.

Bolting material subject to leakage from process systems such as air or gaseous are not subject to a corrosive environment and therefore do not warrant removal for VT-3 visual examination.

WNP-2 is a Boiling Water Reactor (BWR) that does not utilize a process system with a borated water chemistry (except the Standby Liquid Control system) like a Pressurized Water Reactor (PWR). The corrosiveness of leaking borated water in a PWR is not applicable to WNP-2. The alternatives described provide assurance that corrosive conditions are evaluated.

Bolting material that has been replaced (new) would not warrant a VT-3 visual examination of the bolting material if leakage was observed. The purpose of the VT-3 visual examination is to examine for localized general corrosion. The localized general corrosion is not expected to be observed on the new replacement bolting material since the bolting material has not been through the service conditions associated with the piping system. If leakage is observed during VT-2 visual examination during the system pressure test, the leakage from the bolted mechanical joint would be evaluated for acceptability to determine the corrosive effects on the bolting material or the corrective action.

VT-3 visual examination performed on the existing bolting material for mechanical joints prior to reassembly establishes a baseline that bolting corrosion is not present prior to installation. Therefore leakage observed during the VT-2 visual examination during the system pressure test, for the joint would be evaluated for acceptability to determine the corrosion effects on the bolting material or for corrective action. Bolting not removed and not part of the repair or replacement activity are included in the ASME Section XI system pressure test boundary (relief request 2ISI-07).

The VT-1 visual examination performed on the reused existing and/or replacement (new) bolting material for the Control Rod Drives (CRD) bolted mechanical joints prior to reassembly establishes a baseline that the bolting corrosion is not present prior to installation. If leakage is observed during VT-2 visual examination during the system pressure test, the leakage from the bolted mechanical joint would be evaluated for acceptability to determine the corrosive effects on the bolting material or the corrective action.

Implementation Schedule

This relief request will be implemented during the second ten (10) year interval whenever bolted mechanical joints in ASME Section III, Code Class 1, 2, and 3 piping systems and components are disassembled and reassembled as a result of ASME Section XI repair and replacement activities.

5.1.3 Code Cases

The Supply System has reviewed the Code Cases in effect for applicability to the WNP-2 Inservice Inspection Program. The Code Cases listed below, accepted by the NRC in Regulatory Guide 1.147 "Inservice Inspection Code Case Acceptability ASME Section XI Division 1" Revision 11 (dated October 1994) will be used in the WNP-2 ISI Program. The extent of applicability of the Code Cases will be as defined in the NRC acceptance of the Code Cases as contained in the latest revision of Regulatory Guide 1.147 unless modified below.

N-236-1	Repair and Replacement of Class MC Vessels
N-432	Repair Welding Using Automatic or Machine Gas Tungsten-Arc Welding (GTAW) Temper Bead Technique
N-460	Alternative Examination Coverage Class 1 and Class 2 Welds
N-489	Alternative Rules for Level III NDE Qualification Examinations
N-491	Alternative Rules for Examination of Class 1, 2, 3, and MC Component Supports of Light-Water Cooled Power Plants
N-503	Limited Certification of Non-destructive Examination Personnel

Additional Code Cases may be added to this list as they are reviewed and accepted by the NRC.

5.1.4 Use of Later Editions and Addenda of ASME Section XI

This section identifies the editions and addenda issued after the 1989 Edition of ASME Section XI that are incorporated into this Inservice Inspection Program Plan as allowed by 10 CFR 50.55a(g)(4)(iv). Per 10 CFR 50.55a(g)(4)(iv) the NRC has approved for use at WNP-2 the following portions from later editions and addenda:

At this time there are no subsequent editions or addenda of ASME Section XI being used at WNP-2.

5.2 ASME SECTION XI, 1989 EDITION

Areas where additional information or clarification of WNP-2's implementation of Section XI are addressed in this section. If an area of the Code is not addressed in this section, the Supply System does not feel any clarification is necessary and intends to fully comply with that Code requirement.

5.2.1 IWA General Requirements

IWA-1000 Scope and Responsibility

The following is a summary of the owner's responsibilities under Section XI and where in this Program Plan additional information can be found on how these responsibilities are being carried out. The format of this discussion follows the format of IWA-1400, so direct correlation between the owner's responsibilities and implementation at WNP-2 can be made.

IWA-1400 Owner's Responsibilities

(a) System inspection boundaries showing appropriate Code classes are defined on the ISI Boundary Diagrams located in Section 9.0. With each diagram is included a summary sheet of exemptions that are being applied to that system.

(b) The construction design specifications included provisions for inservice inspection access. Current design procedures include provisions for ISI access.

(c) This document contains the plans and schedules for filing with the regulatory and enforcement authorities.

(d) A list of examination procedures is included in Section 8.0, Procedure List. Weld & Component Diagrams are included for each system in Section 9.0 of this Plan.

(e) Qualification of personnel is maintained under the Qualification and Certification Program administrated by the Quality Assurance organization.

(f) The Supply System has a contract with an Authorized Inspection Agency to provide inspection services.

(g) WNP-2 schedules as part of each refueling outage the appropriate examinations and tests to comply with this requirement.

(h) The procedures used to implement this program identify the recording criteria.

(i) The procedures used to implement this program identify the evaluation criteria.

(j) WNP-2 maintains a program that governs the repair and replacement of ASME Section III items per the requirements of ASME Section XI. A discussion of the repair and replacement program is in section 5.3 "Repair and Replacement Program".

(k) Examination and test data and personnel qualification records are controlled through procedures listed in Section 8.0 of this plan.

(l) WNP-2 retains all the inspection, examination, testing, repair, and replacement records for the service life of the component or system. The control of these records is through procedures listed in Section 8.0 of this plan.

(m) WNP-2 retains and maintains the calibration blocks necessary to carry out the examinations defined in Section XI. A description of these blocks is included in Section 7.0 of this plan.

(n) The WNP-2 quality assurance program is documented in the "Operational Quality Assurance Program Description".

(o) WNP-2 has not required implementation of IWB-3410.2.

IWA-2000 Examination and Inspection

The following discusses how WNP-2 Inservice Inspection Program Plan addresses the requirements of IWA-2420.

IWA-2420 Inspection Plans and Schedules

(a)(1) The Edition and Addenda of Section XI that applies to this Plan is defined in Section 5.1, Reference Code

(2) The classification of the components and the system Code class boundaries are defined on the ISI Boundary Diagrams and the Weld and Component Diagrams found in Section 9.0.

(3) The components subject to examination and test are identified in the Weld and Component Schedule in Section 9.0.

(4) The Code category and item numbers for each component and the examination to be performed is defined in the Weld and Component Schedule in Section 9.0.

(5) Relief requests are found in Section 5.1.2 and define the examination or test that is not being satisfied and presents an alternative examination, if appropriate.

(6) Code Cases being used in this program are identified in Section 5.1.3.

(b) The schedule for implementation is found in the Weld and Component Schedule in Section 9.0.

IWA-2430 Inspection Intervals.

As in the first interval, WNP-2 will follow the Inspection Program B for all items in this second inspection interval. The first inspection interval was not extended. This program is written to incorporate a 12-month refueling cycle into the inspection schedule. The inspection interval is defined in Table 5.2.1.

TABLE 5.2.1

SECOND INSPECTION INTERVAL ENDING 12/12/2004
12 MONTH REFUELING CYCLE

Inspection Period	Refueling[1] Outage	From[2]	To[2]
1		12/13/94	09/15/98
	10	04/15/95	06/01/95
	11	04/15/96	06/01/96
	12	04/15/97	06/01/97
	13	04/15/98	06/01/98
2		09/16/98	09/15/01
	14	04/15/99	06/01/99
	15	04/15/00	06/01/00
	16	04/15/01	06/01/01
3		09/16/01	12/12/04
	17	04/15/02	06/01/02
	18	04/15/03	06/01/03
	19	04/15/04	06/01/04

(1) Assuming one refueling or maintenance outage each year. Actual timing of the spring outages may vary due to BPA's hydroelectric capacity and WNP-2's maintenance schedule.

(2) These dates are approximate and are included here for illustration purposes.

IWA-2440 Application of Code Cases

The Code Cases used in this Program are identified in section 5.1.3, Code Cases.

IWA-2600 Weld Reference System

WNP-2 established a weld reference system during the preservice examinations. The welds were stamped with a unique identifying number. These numbers are identified on the weld and component identification diagrams. Reference marks were also stamped on the pipe in the area of the weld to designate points around the weld (0, 90, 180, etc degrees). This reference system meets the requirements of Appendix III, III-4300.

IWA-4000 Repair Procedures

See section 5.3 Repair and Replacement Program

IWA-5000 System Pressure Tests

IWA-5250 - See relief requests 2ISI-06, 2ISI-07, and 2ISI-14.

IWA-5260 - This section applies only to the system tests described in IWA-5211(d) and (e). See IWA-5212(d).

IWA-6000 Records and Reports

Following the completion of the WNP-2 inservice inspection for each refueling outage, an Inservice Inspection Summary Report will be prepared by the Supply System and filed with the Nuclear Regulatory Commission (NRC) and Washington State's Department of Labor and Industries. The report will satisfy the reporting requirements of the Reference Code, Article IWA-6000, "Records and Reports".

The WNP-2 Inservice Inspection Report will include at least the following information:

1. Abstract of examinations and tests performed, including Form NIS-1, since the last refueling outage.

2. Summary of examination and results, including disposition of significant indications.

3. NIS-2 forms for repairs and replacements completed between the filing of the last NIS-1 form and the end of the present refueling outage.

The ISI Summary Report will be submitted to the NRC and the State of Washington within 90 days (IWA-6230) after the examinations have been completed for a particular refueling outage. WNP-2 will use the date the plant begins supplying electricity to the grid as the date the outage is over and the 90 day clock starts.

IWA-7000 Replacements

See section 5.3 Repair and Replacement Program

IWA-9000 Glossary

Terms and abbreviations used in this document will conform to Article IWA-9000. The following terms and abbreviations, not included in Article IWA-9000, are defined below as they are used in this document.

Access - The ability to perform nondestructive examinations (NDE) on a weld or component in accordance with applicable Codes, Standards, and Regulatory Requirements. Access may include: ability to physically reach the point of examination; proper weld contouring and surface finish; proper weld geometry; adequate clearances from a weld to adjacent structures, fittings, restraints; removability of insulation; adequate radiation protection; and lighting.

Alternative Examination - Examination, approved by the NRC, performed in lieu of the Code requirements. Alternative examinations are normally submitted as part of relief requests.

Analysis - Process of determining the pertinent characteristics of an indication--such as its origin (crack, porosity, lamination, etc.), location, orientation, and may include sizing.

ANII - Authorized Nuclear Inservice Inspector also referred to as the Inspector

Augmented Requirement - In addition to or if more stringent in place of the Reference Code.

BPA - Bonneville Power Administration - The organization that receives and markets the power generated by WNP-2

BOP - Balance of Plant

Calibration Block (Standard) - An NDE calibration device used to simulate defects in a weld or component, the purpose of which is to calibrate ultrasonic or other NDE equipment.

CHR - Containment heat removal

Code Acceptance Standards - Acceptance standards for flaw indications as defined in ASME Section XI, IWB-3000 and IWC-3000.

Commission - Nuclear Regulatory Commission

ECC - Emergency Core Cooling

Enforcement Agency - Washington State Department of Labor and Industries

Examination - A performance of a nondestructive examination (NDE) method such as visual observation, radiography, ultrasonic, liquid penetrant, and magnetic particle.

Examination Equipment - Instruments, mechanical devices, data acquisition systems, tracks, film, sources, etc., used to accomplish a nondestructive examination.

Examiner - Person performing a nondestructive examination.

FFWTR - Final feedwater temperature reduction ("coastdown")

Inaccessible - An examination area which is within the scope of this document which cannot be

fully examined in compliance with the applicable Codes, Standards, and Regulations due to insufficient access.

Inspection Interval - The 10 years following initial start of power unit commercial operation, and each subsequent 10 years.

Inspection Period - The inspection interval is divided into three inspection periods, 1st period, 0-3 years; 2nd period, 4-7 years; and 3rd period, 8-10 years of plant service.

Inservice Inspection (ISI) - Inspection and examination activities performed in accordance with ASME Section XI, which include preservice inspection (PSI) activities.

Nominal Operating Pressure - The pressure attained when the system is in service

Nominal Operating Temperature - The temperature equal to the fluid state conditions for the nominal operating pressure.

NPS - Nominal Pipe Size

NRC - Nuclear Regulatory Commission

NSSS - Nuclear Steam Supply System

Owner Recording Criteria - Requirements the Owner places on ISI examinations in addition to the requirements of the Reference Code.

Preservice Inspection (PSI) - Inspection activities performed before the plant enters service.

RPV - Reactor Pressure Vessel

Reactor coolant pressure boundary, RCPB - "Reactor coolant pressure boundary" means all those pressure-containing components of boiling and pressurized water-cooled nuclear power reactors, such as pressure vessels, piping, pumps, and valves, which are:
(1) Part of the reactor coolant system, or
(2) Connected to the reactor coolant system, up to and including any and all of the following:

(i)The outermost containment isolation valve in system piping which penetrates primary reactor containment,
(ii)The second of two valves normally closed during normal reactor operation in system piping which does not penetrate primary reactor containment,
(iii)The reactor coolant system safety and relief valves.

For nuclear power reactors of the direct cycle boiling water type, the reactor coolant system extends to and includes the outermost containment isolation valve in the main steam and feedwater piping (from 10 CFR 50 Section 50.2(v); revised January 1, 1975 Section XI references this definition).

Recordable Indication - An indication which equals or exceeds Owner recording criteria. The Owner recording criteria may be more restrictive than the Code requirements, but will not be less restrictive than the Code requirements.

Regulatory Agency - Nuclear Regulatory Commission

Reportable Indication - Any indication which equals or exceeds Code reporting criteria.

Reference Code - The ASME Section XI Edition and Addenda and any portions of later editions or addenda with which the ISI Program Plan complies.

RHR - Residual heat removal

Safety-Related - Systems or parts of systems defined in FSAR Table 3.2-1 as Quality Control Class I.

Sizing of Indications - Application of the sizing criteria given in ASME Section XI, IWB-3000 and IWC-3000, to determine the size of a flaw indication--part of the evaluation process.

Snubber - A device which provides restraint to a component or system during a sudden application of forces but allows essentially free motion during thermal movement.

Supply System - Washington Public Power Supply System

Surface Examination - Liquid penetrant or magnetic particle examinations performed in accordance with the applicable Codes, Standards, and Regulations.

System Designations - WNP-2

CCH - Control Room Chilled Water

CRD - Control Rod Drive

EDR - Equipment Drain Processing

FDR - Floor Drain Processing

FPC - Fuel Pool Cooling

LPCS - Low Pressure Core Spray

HPCS - High Pressure Core Spray

MS - Main Steam

RCC - Reactor Closed Cooling

RCIC - Reactor Core Isolation Cooling

RFW- Reactor Feedwater

RHR - Residual Heat Removal

RWCU - Reactor Water Cleanup

RRC - Reactor Recirculation

SW - Standby Service Water

SLC - Stand-by Liquid Control

5.2.2 IWB Requirements for Class 1 Components

IWB-1000 Scope and Responsibility

IWB-1210 Components subject to examination - examination requirements

IWB-1220 - The exemptions allowed by this paragraph have been applied to each Class 1 system requiring volumetric and/or surface examinations. The application of these exemptions to each system is defined in Section 9.0.

a) IWB-1220(a) The Supply System will exempt from volumetric and surface examination components that are of such size and shape so that upon postulated rupture the resultant coolant flow from the reactor coolant system under normal plant operating conditions is within the capacity of the makeup systems which are operable from on-site emergency power. This exemption is applied to all Class 1 ISI boundaries as follows:

1) Class 1 piping penetrating the RPV below the normal reactor water level and 1.5 inch NPS or less, and

2) Class 1 piping penetrating the RPV above the normal reactor water level and 3.0 inch NPS or less.

The above exemption is supported by Calculation Number ME-02-78-01-1.

b) The examination boundaries extend up to the transition to instrument tubing. Instrument tubing is not within the scope of Section XI.

IWB-2000 Examination and Inspection

IWB-2410 Inspection Program

This Inservice Inspection Program Plan will comply with Inspection Program B.

IWB-2420 Successive Inspections

Examinations will be performed in the same sequence as established in the first inspection interval as follows:

1. Exams will be performed in the same period as they were performed during first inspection interval;
2. Exams will be performed in the order they were performed in the first interval to the extent practical. The order may vary to accommodate performing exams in the same plant area due to outage planning and ALARA considerations.

Table IWB-2500-1

EXAMINATION CATEGORY B-A PRESSURE RETAINING WELDS IN REACTOR VESSEL				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
B1.10	Shell Welds			
B1.11	Circumferential	No	2ISI-01	
B1.12	Longitudinal	No	2ISI-01	
B1.20	Head Welds			
B1.21	Circumferential	No	2ISI-01	
B1.22	Meridianial	No	2ISI-01	
B1.30	Shell-to-Flange Weld	No	2ISI-01	
B1.40	Head-to-Flange Weld	Yes		
B1.50	Repair Welds			
B1.51	Beltline Region	Yes		

EXAMINATION CATEGORY B-B PRESSURE RETAINING WELDS IN VESSELS OTHER THAN RPV				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
A11	There are no Class 1 pressure vessels at WNP-2 other than the reactor vessel.	N/A		

EXAMINATION CATEGORY B-D
PENETRATION WELDS OF NOZZLES IN VESSELS

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
	Reactor Vessel			
B3.90	Nozzle-to-Vessel Welds	No	2ISI-02	
B3.100	Nozzle Inside Radius Sections	Yes		1
All Other Item No.	Pertain to PWRs WNP-2 is a BWR	N/A		

Notes

1 An augmented UT examination of the Feedwater nozzle bore and inner radius (IR) will be performed per the requirements in section 6.2.3. The feedwater IR has 3 examination requirements: 1) Section XI - every 10 years; 2) NUREG 0619 - 1 IR each of first 6 outages of interval; 3) 1 IR every time FFWTR is implemented.

EXAMINATION CATEGORY B-D
PENETRATION WELDS OF NOZZLES IN VESSELS

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
	Reactor Vessel			
B3.90	Nozzle-to-Vessel Welds	No	2ISI-02	
B3.100	Nozzle Inside Radius Sections	Yes		1
All Other Item No.	Pertain to PWRs WNP-2 is a BWR	N/A		

Notes

1 An augmented UT examination of the Feedwater nozzle bore and inner radius (IR) will be performed per the requirements in section 6.2.3. The feedwater IR has 3 examination requirements: 1) Section XI - every 10 years; 2) NUREG 0619 - 1 IR each of first 6 outages of interval; 3) 1 IR every time FFWTR is implemented.

EXAMINATION CATEGORY B-E
PRESSURE RETAINING PARTIAL PENETRATION WELDS IN VESSELS

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
B4.10	Partial Penetration Welds	Yes		
B4.11	Vessel Nozzles	Yes		
B4.12	Control Rod Drive Nozzles	Yes		
B4.13	Instrumentation Nozzles	Yes		
B4.20	Pressurizer			
	Heater Penetration Welds	N/A		

EXAMINATION CATEGORY B-F PRESSURE RETAINING DISSIMILAR METAL WELDS				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
	Reactor Vessel			
B5.10	Nominal Pipe Size ≥4 in. Nozzle-to-Safe End Butt Welds	Yes		
B5.20	Nominal Pipe Size <4 in. Nozzle-to-Safe End Butt Welds	Yes		
B5.30	Nozzle-to-Safe End Socket Welds	N/A		
	Piping			
B5.130	Nominal Pipe Size ≥4 in. Dissimilar Metal Butt Welds	Yes		
B5.140	Nominal Pipe Size <4 in. Dissimilar Metal Butt Welds	Yes		
B5.150	Dissimilar Metal Socket Welds	N/A		
All Other Item No.	WNP-2 is a BWR. These items pertain to PWR	N/A		

EXAMINATION CATEGORY B-G-1
PRESSURE RETAINING BOLTING GREATER THAN 2 IN. DIAMETER

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
	Reactor Vessel			
B6.10	Closure Head Nuts	No	ISI-2-004	
B6.20	Closure Studs, in place	Yes		
B6.30	Closure Studs, when removed	Yes		
		Yes		
B6.40	Threads in Flange	Yes		
B6.50	Closure Washers, Bushings			
B6.150	Piping	N/A		
B6.160	No piping bolting greater than 2 in.			
B6.170	diameter			
	Pumps			
B6.180	Bolts and Studs	Yes		
B6.190	Flange Surfaces when connection	Yes		
	disassembled	Yes		
B6.200	Nuts, Bushings and Washers			
	Valves			
B6.210	Bolts and Studs	Yes		
B6.220	Flange surfaces when connection	Yes		
	disassembled	Yes		
B6.230	Nuts, Bushing and Washers			

EXAMINATION CATEGORY B-G-1 PRESSURE RETAINING BOLTING GREATER THAN 2 IN. DIAMETER				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
All other Item No.	WNP-2 is a BWR. The other Item No. apply to PWRs			

EXAMINATION CATEGORY B-G-2
PRESSURE RETAINING BOLTING 2 IN. AND LESS IN DIAMETER

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
	Reactor Vessel			
B7.10	Bolts, Studs, and Nuts	Yes		
	Piping			
B7.50	Bolts, Studs, and Nuts	Yes		
	Pumps			
B7.60	Bolts, Studs, and Nuts	Yes		
	Valves			
B7.70	Bolts, Studs, and Nuts	Yes		
	CRD Housings			
B7.80	Bolts, Studs, and Nuts when disassembled	Yes		
All other Item No.	WNP-2 is a BWR. The other Item No. apply to PWRs			

EXAMINATION CATEGORY B-H
INTEGRAL ATTACHMENTS FOR VESSELS

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
B8.10	Reactor Vessel Integrally Welded Attachments	Yes		
All other Item No.	WNP-2 is a BWR. The other Item No. apply to PWRs			

EXAMINATION CATEGORY B-J
PRESSURE RETAINING WELDS IN PIPING

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
B9.10	Nominal Pipe Size ≥4 in.			
B9.11	Circumferential Welds	Yes		
B9.12	Longitudinal Welds	Yes		
B9.20	Nominal Pipe Size <4 in.			
B9.21	Circumferential Welds	Yes		
B9.22	Longitudinal Welds	Yes		
B9.30	Branch Pipe Connection Welds			
B9.31	Nominal Pipe Size ≥4 in.	Yes		
B9.32	Nominal Pipe Size <4 in.	Yes		
B9.40	Socket Welds	Yes		

EXAMINATION CATEGORY B-J
PRESSURE RETAINING WELDS IN PIPING

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES

Notes

Selection of welds is defined in note (1) of this table. The first selection criteria say to pick welds that are terminal ends and ones that exceed certain stress and usage criteria. The note goes on to say to then pick enough additional welds to examine so that the total welds equals 25% of the total welds in the system. When making this selection per terminal ends and stress and usage criteria the number of welds exceeds 25% of the RCPB welds. It is our interpretation of this note that the intent of the Code was to examine 25% of the welds, choosing them on the basis of note (1)a, b and c until you were examining 25% of the RCPB welds. If you could not identify 25% of welds through these first three criteria then you pick enough other welds to make the total 25%. This interpretation is supported by ASME Section XI interpretation XI-1-92-56.

The Reactor Coolant Pressure Boundary is defined as the ASME Section III Code Class 1 portion of the following systems:

System	Boundary Diagram	Description
HPCS	ISI-220	From RPV to HPCS-V-4
LPCS	ISI-220	From RPV to LPCS-V-5
MS	ISI-229	From RPV to MS-V-28A
		From RPV to MS-V-28B
		From RPV to MS-V-28C
		From RPV to MS-V-28D
		RPV nozzle N8 to MS-V-2
RCIC	ISI-219	RPV nozzle N7 to RCIC-V-13 and RHR-V-23
		MS line RCIC-V-64
RHR	ISI-221	RHR-V-112A to RHR-V-53A
		RHR-V-112B to RHR-V-53B
		RHR-V-113 to RHR-V-8
		RPV nozzle N6A to RHR-V-42A
		RPV nozzle N6B to RHR-V-42B
		RPV nozzle N6C to RHR-V-42C
RPV		Instrument penetrations - From the RPV nozzle to the point of transition to instrument tubing outside containment.
RRC	ISI-230	All Code Class 1 portions

EXAMINATION CATEGORY B-K-1
INTEGRAL ATTACHMENTS FOR PIPING, PUMPS AND VALVES

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
	Piping			
B10.10	Integrally Welded Attachments	No	2ISI-08	
	Pumps			
B10.20	Integrally Welded Attachments	Yes		
	Valves			
B10.30	Integrally Welded Attachments. WNP-2 does not have any valves with integrally welded attachments.	N/A		

EXAMINATION CATEGORIES B-L-1, B-M-1 PRESSURE RETAINING WELDS IN PUMP CASINGS AND VALVE BODIES
EXAMINATION CATEGORIES B-L-2, B-M-2 PUMP CASINGS AND VALVE BODIES

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
	Pumps			
B12.10	Pump Casing Welds - WNP-2 does not have Class 1 pumps with casing welds.	N/A		
B12.20	Pump Casing (B-L-2)	Yes		
	Valves			
B12.30	Valves, NPS less than 4 in. valve body welds - WNP-2 does not have Class 1 valves with body welds.	N/A		
B12.40	Valves, NPS 4 in or larger. valve body welds - WNP-2 does not have Class 1 valves with body welds.	N/A		
B12.50	Valve body exceeding NPS 4 in. (B-M-2)	Yes		

EXAMINATION CATEGORY B-N-1, B-N-2 - INTERIOR OF REACTOR VESSEL, INTEGRALLY WELDED CORE SUPPORT STRUCTURES AND INTERIOR ATTACHMENTS TO REACTOR VESSELS				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
	Reactor Vessel			
B13.10	Vessel Interior Reactor Vessel (BWR)	Yes		
B13.20	Interior Attachments Within Beltline Region (B-N-2)	Yes		
B13.30	Interior Attachments Beyond Beltline Region (B-N-2)	Yes		
B13.40	Core Support Structure (B-N-2)	Yes		
All remaining Item No.	WNP-2 is a BWR. The other Item No. apply to PWRs			

EXAMINATION CATEGORY B-O PRESSURE RETAINING WELDS IN CONTROL ROD HOUSINGS				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
B14.10	Reactor Vessel Welds in CRD Housing	Yes		Exempt by IWB-1220(a)

EXAMINATION CATEGORY B-P
PRESSURE RETAINING BOUNDARY

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
	Reactor Vessel			
B15.10	Pressure Retaining Boundary (System Leakage Test)	Yes		
B15.11	Pressure Retaining Boundary (System Hydro Test)	Yes		
	Piping			
B15.50	Pressure Retaining Boundary (System Leakage Test)	Yes		
B15.51	Pressure Retaining Boundary (System Hydro Test)	Yes		
	Pumps			
B15.60	Pressure Retaining Boundary (System Leakage Test)	Yes		
B15.61	Pressure Retaining Boundary (System Hydro Test)	Yes		
	Valves			
B15.70	Pressure Retaining Boundary (System Leakage Test)	Yes		
B15.71	Pressure Retaining Boundary (System Hydro Test)	Yes		

EXAMINATION CATEGORY B-P PRESSURE RETAINING BOUNDARY				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
All remaining Item No.	WNP-2 is a BWR. The other Item No. apply to PWRs			
Notes				

IWB-3000 Acceptance Standards

No comments or clarifications of this section.

IWB-4000 Repair Procedures

See section 5.3 Repair - Replacement Program

IWB-5000 System Pressure Tests

WNP-2 will implement Code Case N-498 for Class 1 and 2 pressure testing. See Section 5.1.3.

IWB-7000 Replacements

See section 5.3 Repair and Replacement Program

5.2.3 IWC Requirements for Class 2 Components

IWC-1000 Scope and Responsibility

The exemptions allowed by paragraphs IWC-1220 and IWC-1230 have been applied to each Class 2 system requiring a volumetric and/or surface examination. The portions of the system where these exemptions have been applied are detailed in the Boundary Diagram tables found after each Boundary Diagram in Section 9.0.

IWC-2000 Examination and Inspection

Table IWC-2500-1

EXAMINATION CATEGORY C-A PRESSURE RETAINING WELDS IN PRESSURE VESSELS				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
C1.10	Shell Circumferential Welds	Yes		
C1.20	Head Circumferential Welds	Yes		
C1.30	Tubesheet-to-Shell Weld	Yes		

EXAMINATION CATEGORY C-B PRESSURE RETAINING NOZZLE WELDS IN VESSELS				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
C2.10	Nozzles in Vessels ≤ ½ in. Nominal Thickness	Yes		
C2.11	Nozzle-to-Shell (or Head) Weld	Yes		
C2.20	Nozzles in Vessels > ½ in. Nominal Thickness	Yes		
C2.21	Nozzle-to-Shell (or Head) Weld	Yes		
C2.22	Nozzle inside radius section	NA		
All other Item Numbers	Not applicable to WNP-2	NA		

EXAMINATION CATEGORY C-C
INTEGRAL ATTACHMENTS FOR VESSELS, PIPING, PUMPS AND VALVES

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
	Pressure Vessels			
C3.10	Integrally Welded Attachments	Yes		
	Piping			
C3.20	Integrally Welded Attachments	No	2ISI-09	
	Pumps			
C3.30	Integrally Welded Attachments WNP-2 does not have any Class 2 pumps with integrally welded attachments.	N/A		
	Valves			
C3.40	Integrally Welded Attachments WNP-2 does not have any Class 2 valves with integrally welded attachments.	N/A		

EXAMINATION CATEGORY C-D
PRESSURE RETAINING BOLTING GREATER THAN 2 IN. IN DIAMETER

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
All	WNP-2 does not have any Class 2 bolting greater than 2 in. diameter.	N/A		

EXAMINATION CATEGORY C-F-1 PRESSURE RETAINING WELDS IN AUSTENITIC STAINLESS STEEL OR HIGH ALLOY PIPING				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
All	WNP-2 does not have any Class 2 austenitic stainless steel or high alloy piping.	N/A		

EXAMINATION CATEGORY C-F-2
PRESSURE RETAINING WELDS IN CARBON AND LOW ALLOY STEEL PIPING

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
C5.50	Piping welds ≥3/8 in. Nominal wall thickness for piping >NPS4			
C5.51	Circumferential weld	Yes		
C5.52	Longitudinal weld	Yes		
C5.60	Not applicable, applies to PWR			
C5.61				
C5.62				
C5.70	Socket welds	Yes		
C5.80	Pipe branch connections of branch piping ≥NPS2*	Yes		
C5.81	Circumferential weld	Yes		
C5.82	Longitudinal weld	NA		

*≥NPS4 for BWR

EXAMINATION CATEGORY C-G PRESSURE RETAINING WELDS IN PUMPS AND VALVES				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
C6.10	Pump Casing Welds	No		See note 1
C6.20	Valve Body Welds WNP-2 does not have any Class 2 valves with body welds.	N/A		

EXAMINATION CATEGORY C-G
PRESSURE RETAINING WELDS IN PUMPS AND VALVES

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES

Note

1. The RHR pumps were designed prior to the requirement to perform Class 2 component examinations for inservice inspection. The pump casings are embedded in a pump pit which allows no access from the outside surface. The upper flange is at floor level. The welds are accessible from the inside, if the pump impeller is removed. Removal of the pump impeller is considered impractical and not in the interest of safety, both from a potential pump damage or reassembly error and from a radiation exposure standpoint. Also per 10CFR50.55a (g) (4) access is not required to be upgraded to the Inservice Inspection Code. Diagram RHR-213 in Section 9.0 illustrates the pump installation details.

   The welds are inaccessible to all examination methods. If the internals are removed for maintenance the Supply System will evaluate whether inservice examination is practical.

EXAMINATION CATEGORY C-H ALL PRESSURE RETAINING COMPONENTS				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
	Pressure Vessels			
C7.10	Pressure Retaining Components (System Leakage Test)	Yes		
C7.20	Pressure Retaining Components (System Hydro Test)	Yes		
	Piping			
C7.30	Pressure Retaining Components (System Leakage Test)	Yes		
C7.40	Pressure Retaining Components (System Hydro Test)	Yes		
	Pumps			
C7.50	Pressure Retaining Components (System Leakage Test)	Yes		
C7.60	Pressure Retaining Components (System Hydro Test)	Yes		

EXAMINATION CATEGORY C-H ALL PRESSURE RETAINING COMPONENTS				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
	Valves			
C7.70	Pressure Retaining Components (System Leakage Test)	Yes		
C7.80	Pressure Retaining Components (System Hydro Test)	Yes		

IWC-3000 Acceptance Standards

No comments or clarifications.

IWC-4000 Repair Procedures

See section 5.3 Repair and Replacement Program

IWC-5000 System Pressure Tests

No comments or clarifications.

IWC-7000 Replacements

See section 5.3 Repair - Replacement Program

5.2.4 IWD Requirements for Class 3 Components

IWD-1000 Scope and Responsibility

The exemptions allowed by paragraph IWD-1220 have been applied to each Class 3 system requiring examination under Table IWD 2500-1. The portions of the system where these exemptions have been applied are detailed in the Boundary Diagram tables found after each Boundary Diagram in Section 7.0.

IWD-2000 Examination and Inspection

Table IWD-2500-1

EXAMINATION CATEGORY D-A SYSTEM IN SUPPORT OF REACTOR SHUTDOWN FUNCTION				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
D1.10	Pressure Retaining Components	Yes		
D1.20	Integral Attachment - Component Supports and Restraints	Yes		
D1.30	Integral Attachment Mechanical Snubbers	Yes		
D1.40	Integral Attachment Spring type supports	Yes		
D1.50	Integral Attachment Constant load type supports	Yes		
D1.60	Integral Attachment Shock Absorbers	N/A		

Table IWD-2500-1

EXAMINATION CATEGORY D-A
SYSTEM IN SUPPORT OF REACTOR SHUTDOWN FUNCTION

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
D1.10	Pressure Retaining Components	Yes		
D1.20	Integral Attachment - Component Supports and Restraints	Yes		
D1.30	Integral Attachment Mechanical Snubbers	Yes		
D1.40	Integral Attachment Spring type supports	Yes		
D1.50	Integral Attachment Constant load type supports	Yes		
D1.60	Integral Attachment Shock Absorbers	N/A		

EXAMINATION CATEGORY D-B, SYSTEMS IN SUPPORT OF EMERGENCY CORE COOLING, CONTAINMENT HEAT REMOVAL, ATMOSPHERE CLEANUP, AND RESIDUAL HEAT REMOVAL				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
D2.10	Pressure Retaining Components	Yes		
D2.20	Integral Attachment - Component Supports and Restraints	No	2ISI-10	
D2.30	Integral Attachment Mechanical Snubbers	Yes		
D2.40	Integral Attachment Spring type supports	Yes		
D2.50	Integral Attachment Constant load type supports	Yes		
D2.60	Integral Attachment Shock Absorbers	N/A		

EXAMINATION CATEGORY D-C
SYSTEMS IN SUPPORT OF RESIDUAL HEAT REMOVAL FROM SPENT FUEL STORAGE POOL

ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
D3.10	Pressure Retaining Components	Yes		
D3.20	Integral Attachment - Component Supports and Restraints	Yes		
D3.30	Integral Attachment Mechanical Snubbers	Yes		
D3.40	Integral Attachment Spring type supports	Yes		
D3.50	Integral Attachment Constant load type supports	Yes		
D3.60	Integral Attachment Shock Absorbers	N/A		

Table IWD-2500-1 Examination Category D-A

Relief request 2ISI-06

Table IWD-2500-1 Examination Category D-B

Relief request 2ISI-11

Table IWD-2500-1 Examination Category D-C

Relief request 2ISI-11

IWD-3000 Acceptance Standards

No comments or clarifications for this section.

IWD-4000 Repair Procedures

See section 5.3 Repair and Replacement Program

IWD-5000 System Pressure Tests

No comments or clarifications for this section.

IWD-7000 Replacements

See section 5.3 Repair and Replacement Program

5.2.5 IWE Requirements for Class MC Components

This subsection of the Reference Code has not been approved for use by the NRC, therefore it is not addressed in this ISI Program Plan. Repair and replacement work on the containment will be performed per Code Case N-236-1. See section 5.3.

5.2.6 IWF Requirements for Class 1, 2, 3, and MC Component Supports

IWF-1000 Scope and Responsibility (Use Code Case N-491)

WNP-2 will apply the exemptions described in -1230 of Code Case N-491 to all component supports. WNP-2's position on inaccessible supports encapsulated by guard pipe includes pipe supports that are within concrete wall penetrations were the penetrations are filled with fire seal foam. The fire seal makes the support inaccessible to examination.

IWF-2000 Examination and Inspection (Use Code Case N-491)

Table IWF-2500-1 identifies the item numbers associated with each component support. The table requires, per note (1), the owner to add an identifying symbol to the end of each item number to distinguish between the different types of supports (springs, one dimensional, etc.). To comply with this requirement, the following item numbers will be used:

F1.10A	Class 1 piping support rigid, rod, anchor, strut
F1.10B	Class 1 piping support constant load type support
F1.10C	Class 1 piping support spring
F1.10D	Class 1 piping support snubber
F1.20A	Class 2 piping support rigid, rod, anchor, strut
F1.20B	Class 2 piping support constant load type support
F1.20C	Class 2 piping support spring
F1.20D	Class 2 piping support snubber
F1.30A	Class 3 piping support rigid, rod, anchor, strut
F1.30B	Class 3 piping support constant load type support
F1.30C	Class 3 piping support spring
F1.30D	Class 3 piping support snubber
F1.40A	Supports other than piping rigid, rod, anchor, strut
F1.40B	Supports other than piping constant load type support
F1.40C	Supports other than piping spring
F1.40D	Supports other than piping snubber

EXAMINATION CATEGORY F-A SUPPORTS				
ITEM NO.	DESCRIPTION	COMPLIES WITH SECTION XI	REQUEST FOR RELIEF NO.	NOTES
F1.10 F1.10A F1.10B F1.10C F1.10D	Class 1 Piping Supports rigid, rod, anchor, strut constant load type support spring snubber	Yes		The item numbers are from Code Case N-491.
F1.20 F1.20A F1.20B F1.20C F1.20D	Class 2 Piping Supports rigid, rod, anchor, strut constant load type support spring snubber	Yes		
F1.30 F1.30A F1.30B F1.30C F1.30D	Class 3 Piping Supports rigid, rod, anchor, strut constant load type support spring snubber	Yes		
F1.40 F1.40A F1.40B F1.40C F1.40D	Supports Other than Piping Supports (Class 1, 2, 3, and MC) rigid, rod, anchor, strut constant load type support spring snubber	Yes		

IWF-3000 Standards for Examination Evaluation (Use Code Case N-491)

Code Case N-491 will be used in place of this article.

IWF-4000 Repair Procedures (Use ASME Section XI, 1989 Edition, no Addenda)

See section 5.3 Repair and Replacement Program

IWF-5000 Inservice Inspection Requirements for Snubbers (Use ASME Section XI, 1989 Edition, no Addenda)

IWF-5300(b) requires inservice tests of snubbers to be conducted per ASME/ANSI OM (Part 4),1987 Code. The NRC has not approved the use of this Code for snubber testing. WNP-2 will continue to test its safety-related snubbers to the Technical Specification requirements. No relief request is required since the test requirements referenced by this paragraph of the Code have not been approved by the NRC (see Federal Register, Volume 57 No. 152 starting page 34666, dated August 6, 1992).

IWF-7000 Replacements

See section 5.3 Repair - Replacement Program

5.2.7 RPV Visual (proposed Article IWG)

The requirements for RPV internal examination are contained in category B-N-1, B-N-2 and augmented requirements found in section 6.0.

5.2.8 Erosion/Corrosion

Addressed in "WNP-2 Pipe Wall Thinning Program Plan" issued internally as a separate document.

5.2.9 IWL

This subsection of the Reference Code is not applicable to WNP-2. WNP-2 containment is class MC not CC.

5.2.10 IWP

Pump testing is addressed in the "WNP-2 Pump and Valve Program Plan" issued as a separate document.

5.2.11 IWV

Valve testing is addressed in the "WNP-2 Pump and Valve Program Plan" issued as a separate

document.

5.2.12 Appendix I

No comments or clarifications for this section.

5.2.13 Appendix II

The Supply System will issue NIS-1 and NIS-2 forms that contains the information found on these sample forms.

5.2.14 Appendix III

No comments or clarifications for this section.

5.2.15 Appendix IV

WNP-2 is a boiling water reactor (BWR) and does not have a steam generator. This appendix is not applicable to this plant.

5.2.16 Appendix V

This appendix addresses inquiries to the ASME Boiler and Pressure Vessel Committee. WNP-2 will follow this appendix in its inquiries to the Committee.

5.2.17 Appendix VI

No comments or clarifications for this section.

5.2.18 Appendix VII

No comments or clarifications for this section.

5.2.19 Appendix VIII

This Appendix is not included in the Reference Code.

5.2.20 Non-mandatory Appendices

Non-mandatory Appendix F has been used for guidance in preparing this ISI Program Plan. Appendix J from the 1992 Edition of ASME Section XI will be used for guidance in the repair and replacement program.

5.3 Repair and Replacement Program

Repair and replacement requirements of ASME Section III components are found in several articles of ASME Section XI. This section will describe the WNP-2 repair and replacement program. Requirements are found in the following:

ASME Section XI
- IWA-4000, IWA-7000
- IWB-4000, IWB-7000
- IWC-4000, IWC-7000
- IWD-4000, IWD-7000
- IWF-4000, IWF-7000

Code Cases

N-236-1	Repair and Replacement of Class MC Vessels
N-416-1	Alternate Pressure Test Requirements for Welded Repairs or Installation of Replacement Items by Welding, Class 1, 2 and 3 Section XI, Division 1
N-389	Alternative Rules for Repairs, Replacements, or Modifications, Section XI, Division 1

Guidance for repairs and replacements is found in the following:

ASME Section XI
- Appendix J, 1992 Edition

Generic Letters

89-09	ASME Section III Component Replacement
90-05	Guidance for Performing Temporary Non-Code Repair of ASME Code Class 1, 2, and 3 Piping

A repair or replacement plan will be prepared for each repair or replacement or series of similar repair or replacement per the Reference Code. The plan may be a generic procedure (i.e., repair of pumps and valves). The repair or replacement plan will generally conform to the ASME Section III edition and addenda the component was constructed to. If this construction Code is not used, the Supply System will reconcile the Code used for the repair or replacement with the construction Code.

Repairs or replacements, including modifications, to ASME Section III Code Class 1, 2, and 3 components and NF supports will be performed under the rules of the referenced Code. Repairs or replacements to ASME Section III Code Class MC components will be performed using Code Case N-236 "Repairs and Replacements of Class MC Vessels".

Temporary non Code repairs will be considered on a case-by-case basis. Guidance from Generic Letter 90-05 will be used.

Replacements for piping systems, components, parts, and appurtenances which were originally constructed to ASME Section III, Code Class 1, 2, and 3 requirements, but are not available in full compliance with the stamping and documentation requirements of ASME Section III, will be procured in accordance with Generic Letter 89-09.

The Supply System intends to use Appendix J "Guide to Plant Maintenance Activities and Section XI Repairs and Replacements" from ASME Section XI, 1992 Edition. Guidance from this appendix will be used to assist the Supply System to determine the applicability of Article IWA-4000 for repairs and Article IWA-7000 for replacements.

6.0 FSAR - NRC COMMITMENTS

6.1 INTRODUCTION

This section of the ISI Program Plan contains inservice inspection commitments between WNP-2 and the Nuclear Regulatory Commission (Commission) which are outside the scope of ASME Section XI. These commitments are found in the Final Safety Analysis Report (FSAR) and WNP-2 responses to regulatory documents like Generic Letters, Inspection Bulletins, Regulatory Guides and plant specific issues. Since this section is not required by ASME Section XI the examinations performed to this section, unless they are also used to comply with ASME Section requirements, are not reviewed or concurred with by the Authorized Nuclear Inservice Inspector (ANII).

6.2 FSAR COMMITMENTS

The Supply System committed in the WNP-2 FSAR to perform inservice inspections pursuant to the requirements of 10CFR50.55a(g). Based on this commitment the mandatory inservice inspection Code is defined in section 5.0. Compliance to this Code is described in section 5.0.

6.2.1	FSAR Section 3.6.2.1.2.1(a)	Augmented High Energy Piping Examination
	FSAR Section 5.2.4.9	Augmented Inservice Inspection to Protect Against Postulated Piping Failures

These sections of the FSAR committed the Supply System to a program of augmented inservice inspection to provide 100% examination, each inspection interval, of all pressure boundary welds in high energy piping systems exceeding one inch nominal diameter between containment isolation valves.

Augmented inservice inspections will be implemented on high energy piping systems which penetrate containment for which the effects of postulated pipe breaks would be unacceptable. This program will entail a volumetric examination of all circumferential butt welds (surface examination for socket welds) between the first pipe whip restraint beyond the inside containment isolation valve, and the first pipe whip restraint beyond the outside containment isolation valve on high energy lines greater than one inch which penetrate the containment. (see Fig. 6.1.2A) If there is no inside/outside containment isolation valve, the augmented inservice inspection will extend to the first pipe whip restraint beyond the containment penetration or up to the Class 2 boundary, whichever comes first. (see Fig. 6.1.2B and Fig. 6.1.2C) If there is no pipe whip restraint located beyond the inside/outside containment isolation valve, the augmented inservice inspection boundary will extend to the isolation valve. (see Fig. 6.1.2D) Where two containment isolation valves in series are located outside containment, the above criteria will be applied to the outermost valve. (see Fig. 6.1.2E)

This program will include branch lines which fall within the augmented inservice inspection boundary to the first pipe whip restraint beyond the branch line isolation valve or the first normally closed valve, whichever comes first. (see Fig. 6.1.2A)

If no pipe whip restraint and/or isolation (normally closed) valve is located on the branch line, the same criteria stated above for main run line will be applied.

The augmented inservice inspection boundary is identified on ISI Boundary Diagrams and on Weld and Component Identification Diagrams in Section 9.0 as follows:

Figure 6.1.1
Augmented ISI Boundary
for High Energy Piping

Augmented inservice inspection will be implemented on high energy piping systems associated with the following penetrations:

Penetration No.	System	Boundary Diagram (Sec. 9.0)	Location
X-18A	Main Steam	ISI-229-1A	C-8
X-18B	Main Steam	ISI-229-1A	E-8
X-18C	Main Steam	ISI-229-2A	C-3
X-18D	Main Steam	ISI-229-2A	E-3
X-21	RCIC	ISI-219-1	D-9
X-45	RCIC	ISI-219-1	G-8
X-17A	RFW	ISI-229-1A	C-8
X-17B	RFW	ISI-229-1B	C-3
X-14	RWCU	ISI-223-1	C-2

These examinations will be done once each inspection interval.

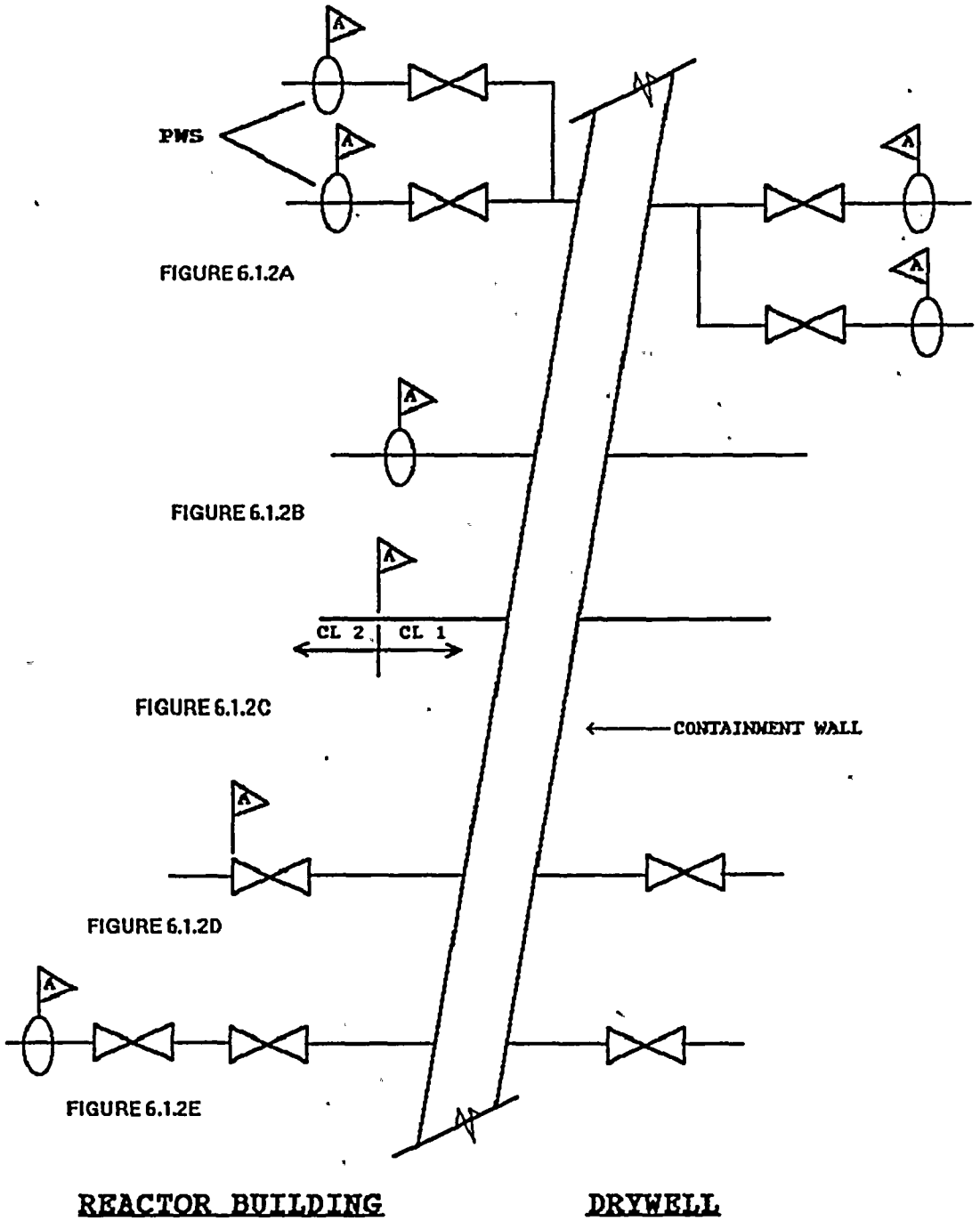


Figure 6.1.2
Augmented High Energy
Examination Line Boundary

6.2.2 FSAR Section 3.9.3.4 Component Supports
Section 3.9.3.4.1.e Operability Assurance of Snubbers

This FSAR section committed to providing a list of safety-related snubbers in the ISI Program Plan and to specify snubber inspection, testing, accessibility, maintenance and repair/replacement requirements. The list of safety-related snubbers is provided in Table 6.2.1. The snubber examination, testing and maintenance program is defined in Plant Procedures 7.4.7.4.1 "Snubber Visual Inspection and Acceptance Criteria", 7.4.7.4.2 "Snubber Functional Test and Acceptance Criteria", and 10.2.29 "Installation, Modification and Inspection of Pipe Supports". The examination and testing requirements are found in Technical Specification 3/4.7.4.

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
CEP-905S	UA	PSA-1/2 SNUBBER	CEP-201		Y
CEP-907S	UA	PSA-1/2 SNUBBER	CEP-201		Y
CEP-908N	UA	PSA-3 SNUBBER	CEP-202		Y
DE-2	UA	PSA-3 SNUBBER	DE-405	01	Y
DE-23	UA	PSA-3 SNUBBER	DE-403		Y
DE-2836-15	UA	PSA-1/2 SNUBBER	DE-405	02	Y
DE-2837-17	UA	PSA-1/4 SNUBBER	DE-403		Y
DE-2838-18	UA	PSA-1/4 SNUBBER	DE-404	02	Y
DE-2839-14B	UA	PSA-1/4 SNUBBER	DE-401	02	Y
DE-3	E	PSA-3 SN(2)	DE-405		Y
DE-3	W	PSA-3 SN(2)	DE-405		Y
DE-49	UA	PSA-3 SNUBBER	DE-404		Y
DE-57	UA	PSA-3 SNUBBER	DE-402		Y
DE-59	UA	PSA-3 SNUBBER	DE-401	01	Y
DE-902N	BM	PSA-1 SN(2)	DE-405		Y
DE-902N	TP	PSA-1 SN(2)	DE-405		Y
EDR-903N	N	PSA-1/2 SN(2)	EDR-201		Y
EDR-903N	S	PSA-1/2 SN(2)	EDR-201		Y
EDR-905N	UA	PSA-1 SNUBBER	EDR-201		Y
FPC-227	UA	PSA-3 SNUBBER	FPC-305	09	Y

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
FPC-43	UA	PSA-3 SNUBBER	FPC-301	08	Y
FPC-65	UA	PSA-1 SNUBBER	FPC-301	04	Y
FPC-908N	E	PSA-1 SN(2)	FPC-301	08	Y
FPC-908N	W	PSA-1 SN(2)	FPC-301	08	Y
FPC-918N	UA	PSA-1 SNUBBER	FPC-301	04	Y
HPCS-47	N	PSA-3 SN(2)	HPCS-201	02	Y
HPCS-47	S	PSA-3 SN(2)	HPCS-201	02	Y
HPCS-905N	UA	PSA-10 SNUBBER	HPCS-202	06	Y
HPCS-924N	E	PSA-3 SN(2)	HPCS-202	06	Y
HPCS-924N	W	PSA-3 SN(2)	HPCS-202	06	Y
HPCS-925N	UA	PSA-3 SNUBBER	HPCS-202	06	Y
HY-4235-110	UA	PSA-1/4 SNUBBER	HY-201		Y
HY-4236-110	UA	PSA-1/4 SNUBBER	HY-202		Y
HY-4237-110	UA	PSA-1/4 SNUBBER	HY-203		Y
LPCS-28	UA	PSA-3 SNUBBER	LPCS-101	01	Y
MD-1285-11B	UA	PSA-1/4 SNUBBER	MD-201		N
MD-1285-14A	UA	PSA-1/2 SNUBBER	MD-201		N
MD-1285-14C	UA	PSA-1/4 SNUBBER	MD-204		N
MD-1285-14D	UA	PSA-1/2 SNUBBER	MD-204		N
MD-1287-11	UA	PSA-1/4 SNUBBER	MD-202		N
MD-1287-15	UA	PSA-1 SNUBBER	MD-202		N
MD-1288-17	UA	PSA-1 SNUBBER	MD-203		N
MD-1288-18	UA	PSA-1/4 SNUBBER	MD-203		N
MD-1290-11B	UA	PSA-1/4 SNUBBER	MD-204		N
MD-1364-12A	UA	PSA-1/4 SNUBBER	MD-206		N
MD-74	UA	PSA-1 SNUBBER	MD-205		N
MS-1001N	UA	PSA-35 SNUBBER	MS-203	02	N
MS-1002N	N	PSA-10 SN(2)	MS-203	02	N
MS-1002N	S	PSA-10 SN(2)	MS-203	02	N

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
MS-1003N	E	PSA-10 SN(2)	MS-203	01	N
MS-1003N	W	PSA-10 SN(2)	MS-203	01	N
MS-1005N	UA	PSA-35 SNUBBER	MS-204	04	N
MS-114	N	PSA-10 SN(2)	MS-201	02	N
MS-114	S	PSA-10 SN(2)	MS-201	02	N
MS-135	UA	PSA-35 SNUBBER	MS-201	01	N
MS-1368-12	UA	PSA-1/2 SNUBBER	MS-105	02	N
MS-1368-13	UA	PSA-1/2 SNUBBER	MS-105	02	N
MS-1369-12	UA	PSA-1/2 SNUBBER	MS-105	03	N
MS-1369-13	UA	PSA-1/2 SNUBBER	MS-105	03	N
MS-145	UA	PSA-10 SNUBBER	MS-202	04	N
MS-147	N	PSA-35 SN(2)	MS-202	03	N
MS-147	S	PSA-35 SN(2)	MS-202	03	N
MS-148	UA	PSA-10 SNUBBER	MS-202	03	N
MS-151	BM	PSA-3 SN(2)	MS-202	03	N
MS-151	TP	PSA-3 SN(2)	MS-202	03	N
MS-162	BM	PSA-10 SN(2)	MS-202	02	N
MS-162	TP	PSA-10 SN(2)	MS-202	02	N
MS-167	BM	PSA-10 SN(2)	MS-202	02	N
MS-167	TP	PSA-10 SN(2)	MS-202	02	N
MS-174	UA	PSA-35 SNUBBER	MS-202	01	N
MS-177	N	PSA-3 SN(2)	MS-202	03	N
MS-177	S	PSA-3 SN(2)	MS-202	03	N
MS-255	UA	PSA-1 SNUBBER	MS-206		N
MS-2619-11	UA	PSA-1/4 SNUBBER	MS-106	01	N
MS-2619-13	UA	PSA-1 SNUBBER	MS-106	01	N
MS-2619-42C	UA	PSA-1/2 SNUBBER	MS-106	04	N
MS-2619-45	UA	PSA-1/4 SNUBBER	MS-106	04	N
MS-27	BM	PSA-10 SN(2)	MS-203	03	N

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
MS-27	TP	PSA-10 SN(2)	MS-203	03	N
MS-38	BM	PSA-10 SN(2)	MS-203	02	N
MS-38	TP	PSA-10 SN(2)	MS-203	02	N
MS-4448-12	UA	PSA-1/4 SNUBBER	MS-108		N
MS-4448-413	UA	PSA-1/4 SNUBBER	MS-109		N
MS-4448-46	UA	PSA-1/4 SNUBBER	MS-109		N
MS-45	UA	PSA-35 SNUBBER	MS-203	01	N
MS-48	UA	PSA-3 SNUBBER	MS-203	03	N
MS-72	UA	PSA-35 SNUBBER	MS-204	11	N
MS-91	E	PSA-3 SN(2)	MS-201	03	N
MS-91	W	PSA-3 SN(2)	MS-201	03	N
MS-954N	UA	PSA-3 SNUBBER	MS-206		N
MS-96	BM	PSA-10 SN(2)	MS-201	03	N
MS-96	TP	PSA-10 SN(2)	MS-201	03	N
MS-993N	BM	PSA-10 SN(2)	MS-201	02	N
MS-993N	TP	PSA-10 SN(2)	MS-201	02	N
MS-996N	BM	PSA-10 SN(2)	MS-202	02	N
MS-996N	TP	PSA-10 SN(2)	MS-202	02	N
MS-998N	N	PSA-10 SN(2)	MS-202	02	N
MS-998N	S	PSA-10 SN(2)	MS-202	02	N
MS-999N	UA	PSA-10 SNUBBER	MS-203	03	N
MS-SC-1	UA	PSA-100 SNUBBER	MS-103	02	N
MS-SC-10	UA	PSA-35 SNUBBER	MS-103	01	N
MS-SC-2	UA	PSA-100 SNUBBER	MS-103	02	N
MS-SC-3	UA	PSA-35 SNUBBER	MS-103	02	N
MS-SC-4	UA	PSA-35 SNUBBER	MS-103	02	N
MS-SC-5	UA	PSA-35 SNUBBER	MS-103	01	N
MS-SC-6	UA	PSA-35 SNUBBER	MS-103	01	N
MS-SC-7	UA	PSA-35 SNUBBER	MS-103	01	N

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
MS-SC-8	UA	PSA-35 SNUBBER	MS-103	01	N
MS-SC-9	UA	PSA-35 SNUBBER	MS-103	01	N
MSLC-2821-12	BM	PSA-1/4 SN(2)	MSLC-102		N
MSLC-2821-12	TP	PSA-1/4 SN(2)	MSLC-102		N
MSLC-2821-22	UA	PSA-1 SNUBBER	MSLC-202		N
MSRV-1A-3	UA	PSA-10 SNUBBER	MS-301	01	N
MSRV-1B-2	UA	PSA-10 SNUBBER	MS-305	01	N
MSRV-1C-1	UA	PSA-10 SNUBBER	MS-310	01	N
MSRV-1C-2	UA	PSA-35 SNUBBER	MS-310	01	N
MSRV-1C-3	UA	PSA-35 SNUBBER	MS-310	01	N
MSRV-1C-4	UA	PSA-10 SNUBBER	MS-310	02	N
MSRV-1C-5	UA	PSA-10 SNUBBER	MS-310	02	N
MSRV-1C-7	UA	PSA-10 SNUBBER	MS-310	01	N
MSRV-1D-3	UA	PSA-10 SNUBBER	MS-315	02	N
MSRV-2A-2	UA	PSA-10 SNUBBER	MS-302	01	N
MSRV-2B-3	UA	PSA-35 SNUBBER	MS-306	01	N
MSRV-2C-1	UA	PSA-10 SNUBBER	MS-311	01	N
MSRV-2C-2	UA	PSA-10 SNUBBER	MS-311	01	N
MSRV-2C-3	UA	PSA-10 SNUBBER	MS-311	01	N
MSRV-2C-4	UA	PSA-10 SNUBBER	MS-311	02	N
MSRV-2C-5	UA	PSA-10 SNUBBER	MS-311	02	N
MSRV-2C-6	UA	PSA-10 SNUBBER	MS-311	02	N
MSRV-2C-7	UA	PSA-10 SNUBBER	MS-311	03	N
MSRV-2C-8	UA	PSA-10 SNUBBER	MS-311	01	N
MSRV-2C-9	UA	PSA-10 SNUBBER	MS-311	02	N
MSRV-2D-2	UA	PSA-10 SNUBBER	MS-316	01	N
MSRV-3A-2	UA	PSA-10 SNUBBER	MS-303	01	N
MSRV-3B-2	UA	PSA-10 SNUBBER	MS-307	01	N
MSRV-3B-3	UA	PSA-10 SNUBBER	MS-307	01	N

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
MSRV-3C-1	UA	PSA-35 SNUBBER	MS-312	01	N
MSRV-3C-2	UA	PSA-10 SNUBBER	MS-312	01	N
MSRV-3C-3	UA	PSA-10 SNUBBER	MS-312	01	N
MSRV-3C-5	UA	PSA-10 SNUBBER	MS-312	02	N
MSRV-3C-6	UA	PSA-10 SNUBBER	MS-312	02	N
MSRV-3C-7	UA	PSA-10 SNUBBER	MS-312	02	N
MSRV-3C-8	UA	PSA-10 SNUBBER	MS-312	02	N
MSRV-3D-4	UA	PSA-10 SNUBBER	MS-317	01	N
MSRV-4A-2	UA	PSA-10 SNUBBER	MS-304	01	N
MSRV-4B-3	UA	PSA-10 SNUBBER	MS-308	01	N
MSRV-4C-1	UA	PSA-10 SNUBBER	MS-313	01	N
MSRV-4C-2	UA	PSA-10 SNUBBER	MS-313	01	N
MSRV-4C-3	UA	PSA-10 SNUBBER	MS-313	01	N
MSRV-4C-5	UA	PSA-10 SNUBBER	MS-313	02	N
MSRV-4C-6	UA	PSA-10 SNUBBER	MS-313	02	N
MSRV-4C-7	UA	PSA-10 SNUBBER	MS-313	02	N
MSRV-4C-8	UA	PSA-35 SNUBBER	MS-313	02	N
MSRV-4C-9	E	PSA-3 SN(2)	MS-313	03	N
MSRV-4C-9	W	PSA-3 SN(2)	MS-313	03	N
MSRV-4D-2	UA	PSA-10 SNUBBER	MS-318	01	N
MSRV-5B-3	UA	PSA-10 SNUBBER	MS-309	01	N
MSRV-5C-1	UA	PSA-10 SNUBBER	MS-314	01	N
MSRV-5C-2	UA	PSA-10 SNUBBER	MS-314	01	N
MSRV-5C-3	UA	PSA-35 SNUBBER	MS-314	01	N
MSRV-5C-4	UA	PSA-35 SNUBBER	MS-314	02	N
MSRV-5C-5	UA	PSA-10 SNUBBER	MS-314	02	N
MSRV-5C-6	UA	PSA-10 SNUBBER	MS-314	02	N
MSRV-5C-7	UA	PSA-10 SNUBBER	MS-314	02	N
MSRV-5C-8	UA	PSA-35 SNUBBER	MS-314	02	N

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
MSRV-5C-9	UA	PSA-10 SNUBBER	MS-314	03	N
RCIC-1	UA	PSA-1 SNUBBER	RCIC-203	01	Y
RCIC-100	E	PSA-1/2 SN(2)	RCIC-205	6A	Y
RCIC-100	W	PSA-1/2 SN(2)	RCIC-205	6A	Y
RCIC-1490-13	UA	PSA-1/2 SNUBBER	RCIC-206	01	Y
RCIC-1C-6	E	PSA-3 SN(2)	RCIC-101	02	N
RCIC-1C-6	W	PSA-3 SN(2)	RCIC-101	02	N
RCIC-1C-9	UA	PSA-10 SNUBBER	RCIC-101	01	N
RCIC-2562-25	UA	PSA-1/2 SNUBBER	RCIC-213		Y
RCIC-26	UA	PSA-3 SNUBBER	RCIC-203	03	Y
RCIC-38	E	PSA-1 SN(2)	RCIC-201	01	Y
RCIC-38	W	PSA-1 SN(2)	RCIC-201	01	Y
RCIC-4	UA	PSA-1 SNUBBER	RCIC-203	02	Y
RCIC-943N	UA	PSA-10 SNUBBER	RCIC-201	01	Y
RCIC-944N	BM	PSA-3 SN(2)	RCIC-201	01	Y
RCIC-944N	TP	PSA-3 SN(2)	RCIC-201	01	Y
RCIC-945N	UA	PSA-10 SNUBBER	RCIC-201	01	Y
RCIC-948N	E	PSA-3 SN(2)	RCIC-102	01	Y
RCIC-948N	W	PSA-3 SN(2)	RCIC-102	01	Y
RCIC-961N	UA	PSA-1/4 SNUBBER	RCIC-201	02	Y
RCIC-968S	UA	PSA-1 SNUBBER	RCIC-103		N
RCIC-971N	UA	PSA-1 SNUBBER	RCIC-203	02	Y
RFW-146	NE	PSA-10 SN(2)	RFW-101	01	N
RFW-146	SW	PSA-10 SN(2)	RFW-101	01	N
RFW-151	UA	PSA-35 SNUBBER	RFW-101	03	N
RFW-162	E	PSA-10 SN(2)	RFW-102	01	N
RFW-162	W	PSA-10 SN(2)	RFW-102	01	N
RFW-171	UA	PSA-10 SNUBBER	RFW-102	03	N
RFW-180	UA	PSA-1 SNUBBER	RFW-103		N

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
RFW-915N	UA	PSA-10 SNUBBER	RFW-102	03	N
RFW-929N	UA	PSA-10 SNUBBER	RFW-101	03	N
RFW-942N	BM	PSA-1 SN(2)	RFW-103		N
RFW-942N	TP	PSA-1 SN(2)	RFW-103		N
RHR-1000N	UA	PSA-3 SNUBBER	RHR-201	03	Y
RHR-1001N	N	PSA-3 SN(2)	RHR-201	03	Y
RHR-1001N	S	PSA-3 SN(2)	RHR-201	03	Y
RHR-1002N	BM	PSA-3 SN(2)	RHR-207	04	Y
RHR-1002N	TP	PSA-3 SN(2)	RHR-207	04	Y
RHR-1021N	E	PSA-3 SN(2)	RHR-210	01	Y
RHR-1021N	W	PSA-3 SN(2)	RHR-210	01	Y
RHR-1022N	N	PSA-35 SN(2)	RHR-201	11	Y
RHR-1022N	S	PSA-35 SN(2)	RHR-201	11	Y
RHR-121	E	PSA-10 SN(2)	RHR-206	01	Y
RHR-121	W	PSA-10 SN(2)	RHR-206	01	Y
RHR-137	E	PSA-10 SN(2)	RHR-205	04	Y
RHR-137	W	PSA-10 SN(2)	RHR-205	04	Y
RHR-142	E	PSA-1 SN(2)	RHR-201	04	Y
RHR-142	W	PSA-1 SN(2)	RHR-201	04	Y
RHR-150	NW	PSA-3 SN(2)	RHR-203	03	Y
RHR-150	SE	PSA-3 SN(2)	RHR-203	03	Y
RHR-160	UA	PSA-3 SNUBBER	RHR-201	01	Y
RHR-183	E	PSA-10 SN(2)	RHR-207	18	Y
RHR-183	W	PSA-10 SN(2)	RHR-207	18	Y
RHR-20	UA	PSA-1/2 SNUBBER	RHR-208	03	Y
RHR-200	UA	PSA-1/2 SNUBBER	RHR-222		Y
RHR-206	UA	PSA-1 SNUBBER	RHR-221		Y
RHR-210	UA	PSA-1/2 SNUBBER	RHR-221	01	Y
RHR-214	UA	PSA-1/2 SNUBBER	RHR-221	01	Y

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
RHR-218	E	PSA-10 SN(2)	RHR-207	15	Y
RHR-218	W	PSA-10 SN(2)	RHR-207	15	Y
RHR-2264-11	UA	PSA-1/4 SNUBBER	RHR-108		N
RHR-2264-22	UA	PSA-1 SNUBBER	RHR-108		N
RHR-23	E	PSA-1/4 SN(2)	RHR-228		Y
RHR-23	W	PSA-1/4 SN(2)	RHR-228		Y
RHR-235	UA	PSA-10 SNUBBER	RHR-201	08	Y
RHR-244	UA	PSA-35 SNUBBER	RHR-201	11	Y
RHR-256	UA	PSA-35 SNUBBER	RHR-202	02	Y
RHR-260	UA	PSA-10 SNUBBER	RHR-201	11	Y
RHR-264	N	PSA-3 SN(2)	RHR-201	07	Y
RHR-264	S	PSA-3 SN(2)	RHR-201	07	Y
RHR-269	UA	PSA-3 SNUBBER	RHR-201	07	Y
RHR-270	UA	PSA-3 SNUBBER	RHR-201	07	Y
RHR-271	N	PSA-3 SN(2)	RHR-201	07	Y
RHR-271	S	PSA-3 SN(2)	RHR-201	07	Y
RHR-273	UA	PSA-3 SNUBBER	RHR-203	01	Y
RHR-274	UA	PSA-3 SNUBBER	RHR-203	01	Y
RHR-275	UA	PSA-3 SNUBBER	RHR-203	01	Y
RHR-276	N	PSA-3 SN(2)	RHR-203	01	Y
RHR-276	S	PSA-3 SN(2)	RHR-203	01	Y
RHR-277	UA	PSA-3 SNUBBER	RHR-203	01	Y
RHR-282	UA	PSA-35 SNUBBER	RHR-103		N
RHR-286	E	PSA-10 SN(2)	RHR-103		N
RHR-286	W	PSA-10 SN(2)	RHR-103		N
RHR-287	UA	PSA-35 SNUBBER	RHR-103		N
RHR-290	UA	PSA-1/2 SNUBBER	RHR-221	02	Y
RHR-301	UA	PSA-3 SNUBBER	RHR-210	01	Y
RHR-311	E	PSA-3 SN(2)	RHR-210	01	Y

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
RHR-311	W	PSA-3 SN(2)	RHR-210	01	Y
RHR-325	UA	PSA-1/2 SNUBBER	RHR-232		Y
RHR-326	E	PSA-1/4 SN(2)	RHR-232	01	Y
RHR-326	W	PSA-1/4 SN(2)	RHR-232	01	Y
RHR-332	UA	PSA-1 SNUBBER	RHR-232		Y
RHR-333	UA	PSA-1/2 SNUBBER	RHR-232	02	Y
RHR-334	UA	PSA-1/4 SNUBBER	RHR-232		Y
RHR-345	E	PSA-1 SN(2)	RHR-210	03	Y
RHR-345	W	PSA-1 SN(2)	RHR-210	03	Y
RHR-357	UA	PSA-10 SNUBBER	RHR-201	05	Y
RHR-359	UA	PSA-3 SNUBBER	RHR-201	05	Y
RHR-361	UA	PSA-3 SNUBBER	RHR-201	05	Y
RHR-373	UA	PSA-1 SNUBBER	RHR-232		Y
RHR-381	E	PSA-10 SN(2)	RHR-101		N
RHR-381	W	PSA-10 SN(2)	RHR-101		N
RHR-382	UA	PSA-35 SNUBBER	RHR-101		N
RHR-383	UA	PSA-35 SNUBBER	RHR-101		N
RHR-388	E	PSA-10 SN(2)	RHR-102		N
RHR-388	W	PSA-10 SN(2)	RHR-102		N
RHR-389	UA	PSA-35 SNUBBER	RHR-102		N
RHR-39	N	PSA-3 SN(2)	RHR-211	01	Y
RHR-39	S	PSA-3 SN(2)	RHR-211	01	Y
RHR-390	UA	PSA-35 SNUBBER	RHR-102		N
RHR-400	UA	PSA-1/2 SNUBBER	RHR-233		Y
RHR-401	BM	PSA-1/2 SN(2)	RHR-233	04	Y
RHR-401	TP	PSA-1/2 SN(2)	RHR-233	04	Y
RHR-403	UA	PSA-1 SNUBBER	RHR-233	04	Y
RHR-405	UA	PSA-3 SNUBBER	RHR-203	01	Y
RHR-406	UA	PSA-3 SNUBBER	RHR-203	01	Y

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
RHR-414	N	PSA-3 SN(2)	RHR-203	02	Y
RHR-414	S	PSA-3 SN(2)	RHR-203	02	Y
RHR-416	BM	PSA-10 SN(2)	RHR-203	02	Y
RHR-416	TP	PSA-10 SN(2)	RHR-203	02	Y
RHR-419	E	PSA-3 SN(2)	RHR-203	03	Y
RHR-419	W	PSA-3 SN(2)	RHR-203	03	Y
RHR-42	UA	PSA-3 SNUBBER	RHR-211	03	Y
RHR-437	N	PSA-3 SN(2)	RHR-207	07	Y
RHR-437	S	PSA-3 SN(2)	RHR-207	07	Y
RHR-442	UA	PSA-1/2 SNUBBER	RHR-233	01	Y
RHR-443	UA	PSA-1/2 SNUBBER	RHR-233	01	Y
RHR-448	UA	PSA-1/2 SNUBBER	RHR-233		Y
RHR-449	N	PSA-1/2 SN(2)	RHR-233		Y
RHR-449	S	PSA-1/2 SN(2)	RHR-233		Y
RHR-453	UA	PSA-1/4 SNUBBER	RHR-233	03	Y
RHR-454	UA	PSA-1/2 SNUBBER	RHR-233	03	Y
RHR-4605-41A	UA	PSA-1/4 SNUBBER	RHR-217	04	Y
RHR-463	UA	PSA-3 SNUBBER	RHR-207	09	Y
RHR-465	N	PSA-3 SN(2)	RHR-207	09	Y
RHR-465	S	PSA-3 SN(2)	RHR-207	09	Y
RHR-466	UA	PSA-3 SNUBBER	RHR-207	09	Y
RHR-472	UA	PSA-3 SNUBBER	RHR-207	09	Y
RHR-479	E	PSA-3 SN(2)	RHR-207	10	Y
RHR-479	W	PSA-3 SN(2)	RHR-207	10	Y
RHR-481	UA	PSA-35 SNUBBER	RHR-207	10	Y
RHR-485	UA	PSA-10 SNUBBER	RHR-207	10	Y
RHR-492	N	PSA-3 SN(2)	RHR-207	12	Y
RHR-492	S	PSA-3 SN(2)	RHR-207	12	Y
RHR-494	UA	PSA-10 SNUBBER	RHR-207	13	N

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
RHR-495	BM	PSA-35 SN(2)	RHR-207	13	N
RHR-495	TP	PSA-35 SN(2)	RHR-207	13	N
RHR-496	UA	PSA-10 SNUBBER	RHR-207	13	N
RHR-50	BM	PSA-3 SNB/STRUT	RHR-211	02	Y
RHR-50	TP	PSA-3 SNB/STRUT	RHR-211	02	Y
RHR-500	UA	PSA-10 SNUBBER	RHR-207	13	Y
RHR-502	UA	PSA-35 SNUBBER	RHR-207	14	Y
RHR-503	UA	PSA-35 SNUBBER	RHR-207	14	Y
RHR-52	UA	PSA-3 SNUBBER	RHR-207	08	Y
RHR-548	E	PSA-3 SN(2)	RHR-207	03	Y
RHR-548	W	PSA-3 SN(2)	RHR-207	03	Y
RHR-551	E	PSA-3 SN(2)	RHR-207	03	Y
RHR-551	W	PSA-3 SN(2)	RHR-207	03	Y
RHR-558	UA	PSA-3 SNUBBER	RHR-207	06	Y
RHR-562	UA	PSA-3 SNUBBER	RHR-207	06	Y
RHR-563	N	PSA-1 SN(2)	RHR-207	06	Y
RHR-563	S	PSA-1 SN(2)	RHR-207	06	Y
RHR-59	UA	PSA-10 SNUBBER	RHR-205	02	Y
RHR-60	UA	PSA-3 SNUBBER	RHR-205	02	Y
RHR-61	UA	PSA-10 SNUBBER	RHR-205	02	Y
RHR-67	UA	PSA-3 SNUBBER	RHR-205	01	Y
RHR-87	UA	PSA-10 SNUBBER	RHR-103		Y
RHR-9	UA	PSA-3 SNUBBER	RHR-228		Y
RHR-901N	N	PSA-3 SN(2)	RHR-207	15	N
RHR-901N	S	PSA-3 SN(2)	RHR-207	15	N
RHR-902N	UA	PSA-10 SNUBBER	RHR-207	16	Y
RHR-903N	UA	PSA-3 SNUBBER	RHR-207	17	Y
RHR-906N	NW	PSA-10 SN(2)	RHR-207	18	Y
RHR-906N	SE	PSA-10 SN(2)	RHR-207	18	Y

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
RHR-907N	UA	PSA-35 SNUBBER	RHR-102		Y
RHR-908N	BM	PSA-3 SN(2)	RHR-207	12	Y
RHR-908N	TP	PSA-3 SN(2)	RHR-207	12	Y
RHR-912N	UA	PSA-10 SNUBBER	RHR-207	15	Y
RHR-913N	UA	PSA-3 SNUBBER	RHR-207	17	Y
RHR-914N	UA	PSA-10 SNUBBER	RHR-207	18	Y
RHR-915N	UA	PSA-10 SNUBBER	RHR-207	16	Y
RHR-922N	UA	PSA-1 SNUBBER	RHR-207	05	Y
RHR-940N	BM	PSA-3 SN(2)	RHR-224		Y
RHR-940N	TP	PSA-3 SN(2)	RHR-224		Y
RHR-941N	UA	PSA-10 SNUBBER	RHR-101		Y
RHR-942N	N	PSA-1 SN(2)	RHR-207	05	Y
RHR-942N	S	PSA-1 SN(2)	RHR-207	05	Y
RHR-943N	UA	PSA-3 SNUBBER	RHR-207	01	Y
RHR-944N	UA	PSA-3 SNUBBER	RHR-207	01	Y
RHR-945N	E	PSA-1 SN(2)	RHR-207	05	Y
RHR-945N	W	PSA-1 SN(2)	RHR-207	05	Y
RHR-946N	UA	PSA-3 SNUBBER	RHR-203	05	Y
RHR-947N	BM	PSA-3 SN(2)	RHR-203	03	Y
RHR-947N	TP	PSA-3 SN(2)	RHR-203	03	Y
RHR-948N	BM	PSA-3 SN(2)	RHR-203	03	Y
RHR-948N	TP	PSA-3 SN(2)	RHR-203	03	Y
RHR-952N	UA	PSA-3 SNUBBER	RHR-203	04	Y
RHR-954N	E	PSA-1 SN(2)	RHR-216		Y
RHR-954N	W	PSA-1 SN(2)	RHR-216		Y
RHR-959N	NE	PSA-3 SN(2)	RHR-224		Y
RHR-959N	SW	PSA-3 SN(2)	RHR-224		Y
RHR-962N	UA	PSA-10 SNUBBER	RHR-207	18	Y
RHR-974N	UA	PSA-3 SNUBBER	RHR-203	03	Y

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
RHR-977N	N	PSA-3 SN(2)	RHR-203	04	Y
RHR-977N	S	PSA-3 SN(2)	RHR-203	04	Y
RHR-980N	UA	PSA-10 SNUBBER	RHR-207	04	Y
RHR-983N	UA	PSA-1/2 SNUBBER	RHR-232	03	Y
RHR-986N	UA	PSA-1 SNUBBER	RHR-203	04	Y
RHR-993N	UA	PSA-1 SNUBBER	RHR-221		Y
RHR-998N	UA	PSA-3 SNUBBER	RHR-207	08	Y
RHR-SA-32	E	PSA-10 SN(2)	RHR-105		N
RHR-SA-32	W	PSA-10 SN(2)	RHR-105		N
RHR-SA-33	UA	PSA-10 SNUBBER	RHR-105		N
RHR-SA-34	UA	PSA-35 SNUBBER	RHR-105		N
RHR-SA-38	UA	PSA-10 SNUBBER	RHR-105		N
RHR-SA-50	UA	PSA-35 SNUBBER	RRC-105		N
RHR-SA-51	UA	PSA-35 SNUBBER	RRC-105		N
RHR-SA-52	UA	PSA-10 SNUBBER	RRC-105		N
RHR-SA-53	UA	PSA-10 SNUBBER	RHR-104		N
RHR-SA-56	UA	PSA-10 SNUBBER	RHR-104		N
RHR-SB-33	UA	PSA-10 SNUBBER	RHR-106		N
RHR-SB-37	UA	PSA-10 SNUBBER	RHR-106		N
RHR-SB-38	UA	PSA-10 SNUBBER	RHR-106		N
RRC-1549-62	UA	PSA-1/4 SNUBBER	RRC-113		N
RRC-1946-32	UA	PSA-1/4 SNUBBER	RRC-112		N
RRC-1C-1	BM	PSA-1 SN(2)	RRC-104		N
RRC-1C-1	TP	PSA-1 SN(2)	RRC-104		N
RRC-1C-900N	BM	PSA-1 SN(2)	RRC-104		N
RRC-1C-900N	TP	PSA-1 SN(2)	RRC-104		N
RRC-4470-31	UA	PSA-1 SNUBBER	RRC-111		N
RRC-SA-3	UA	PSA-100 SNUBBER	RRC-103		N
RRC-SA-4	UA	PSA-100 SNUBBER	RRC-103		N

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
RRC-SA-5	UA	PSA-100 SNUBBER	RRC-103		N
RRC-SA-6	UA	PSA-100 SNUBBER	RRC-103		N
RRC-SA-65	UA	PSA-35 SNUBBER	RRC-101	02	N
RRC-SA-7	UA	PSA-35 SNUBBER	RRC-101	02	N
RRC-SB-3	UA	PSA-100 SNUBBER	RRC-103		N
RRC-SB-4	UA	PSA-100 SNUBBER	RRC-103		N
RRC-SB-5	UA	PSA-100 SNUBBER	RRC-103		N
RRC-SB-6	UA	PSA-100 SNUBBER	RRC-103		N
RRC-SB-65	UA	PSA-35 SNUBBER	RRC-102	02	N
RRC-SB-7	UA	PSA-35 SNUBBER	RRC-102	02	N
RRC-SB-8	UA	PSA-35 SNUBBER	RRC-102	02	N
RRC-SB-9	UA	PSA-35 SNUBBER	RRC-102	02	N
RWCU-1C-16	UA	PSA-1 SNUBBER	RWCU-101	01	N
RWCU-1C-17	NW	PSA-1 SN(2)	RWCU-101	01	N
RWCU-1C-17	SE	PSA-1 SN(2)	RWCU-101	01	N
RWCU-1C-2	UA	PSA-1 SNUBBER	RWCU-101	04	N
RWCU-1C-3	E	PSA-3 SN(2)	RWCU-101	04	N
RWCU-1C-3	W	PSA-3 SN(2)	RWCU-101	04	N
RWCU-1C-5	UA	PSA-3 SNUBBER	RWCU-101	03	N
RWCU-1C-6	UA	PSA-3 SNUBBER	RWCU-101	03	N
RWCU-1C-7	UA	PSA-3 SNUBBER	RWCU-101	02	N
RWCU-1C-8	UA	PSA-3 SNUBBER	RWCU-101	03	N
RWCU-927N	UA	PSA-3 SNUBBER	RWCU-301		Y
RWCU-928N	UA	PSA-10 SNUBBER	RWCU-301		Y
SGT-11	BM	PSA-10 SN(2)	SGT-202		Y
SGT-11	TP	PSA-10 SN(2)	SGT-202		Y
SGT-19	UA	PSA-3 SNUBBER	SGT-201		Y
SGT-23	BM	PSA-3 SN(2)	SGT-202		Y
SGT-23	TP	PSA-3 SN(2)	SGT-202		Y

Table 6.2.1
Safety Related
Snubbers

Identification No.	Pos.	Description	Diagram No.	Pg	Accessible
SLC-4475-21	UA	PSA-1 SNUBBER	SLC-101	05	N
SW-124	N	PSA-35 SN(2)	SW-301	06	Y
SW-124	S	PSA-35 SN(2)	SW-301	06	Y
SW-29	NE	PSA-10 SN(4)	SW-305	03	Y
SW-29	NW	PSA-10 SN(4)	SW-305	03	Y
SW-29	SE	PSA-10 SN(4)	SW-305	03	Y
SW-29	SW	PSA-10 SN(4)	SW-305	03	Y
VR-3	E	PSA-1/2 SN(2)	VR-401	01	Y
VR-3	W	PSA-1/2 SN(2)	VR-401	01	Y
VR-6	UA	PSA-1 SNUBBER	VR-401		N
VR-8	UA	PSA-1 SNUBBER	VR-401		N
VR-900N	UA	PSA-1/2 SNUBBER	VR-401		Y
VR-901N	UA	PSA-1/2 SNUBBER	VR-401		Y
VR-902N	UA	PSA-1/2 SNUBBER	VR-401	01	Y

KEY

BM	Bottom	SE	Southeast
E	East	SW	Southwest
N	North	TP	Top
NE	Northeast	UA	Unassigned - Consists of a single snubber
NW	Northwest	W	West
S	South		

Accessible - This column indicates if the snubber is accessible during plant operations.

6.2.3 FSAR Section 5.2.4: Inservice Inspection and Testing of the Reactor Coolant Pressure Boundary

Inservice inspections will be performed in accordance with the requirements of 10 CFR 50.55a subparagraph (g) to the extent practical.

FSAR 5.2.4.10 Augmented Inservice Inspection of RPV Feedwater Nozzles

An augmented inservice inspection program will be implemented to examine the reactor feedwater nozzle inner radii for cracks. Per Supply System's response to FSAR question 121.8 and NUREG 0619 (letter G02-82-36, dated January 13, 1982) the augmented program will consist of the following:

Ultrasonic examination of one feedwater nozzle each refueling outage;

If an indication is found to result from service induced cracks propagating from the nozzle inner surfaces, the following actions will be taken:

a. All remaining feedwater nozzles will be examined using UT (from the OD) and penetrant techniques during the refueling outage in which the cracking is verified.

b. Remove by local grinding all surface indications determined to be service induced cracks.

c. The integrity of the RFW thermal sleeve to safe end joints will be determined by an inspection method such as a leak test.

d. Appropriate corrective action will be taken as required and as practical to prevent recurrence of crack initiation.

e. A RFW nozzle examination program for subsequent refueling outages will be modified to include an external ultrasonic examination of all feedwater nozzle radii, bore and safe end regions for each scheduled refueling outage for 3 consecutive outages. If no new indications are discovered or if new indications are determined to not result from service induced cracks at the nozzle inner surfaces, the original Supply System program will be resumed.

f. Surface examination of accessible nozzle inner radius surfaces will continue to be used throughout plant life only to confirm or characterize new UT indications.

If no indications resulting from service induced cracks are found after six refueling

outages, subsequent inservice examinations will be performed in accordance with normal ASME Section XI requirements.

The UT examination technique will be similar to the technique used in the preservice examinations and the first inspection interval. The technique and personnel will be qualified on the WNP-2 Feedwater Nozzle Mockup.

FSAR 5.2.4.11 Augmented Inservice Inspection for Intergranular Stress Corrosion Cracking (IGSCC)

An augmented inservice inspection of all piping and components which are considered susceptible to IGSCC will be performed. The program will follow the guidelines set forth in Generic Letter 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping" and supplements, as modified by Supply System responses and NRC SERs on these responses.

The examinations will be performed on piping and components;

1) made of nonconforming material,

2) four (4) inches or larger in nominal diameter and

3) containing reactor coolant at a temperature above 200°F during power operation.

The augmented program will consist of the following:

1) Examine at least 25% of the Category B welds and 12% of the Category A welds within six years of the refueling outage scheduled for Spring, 1989 (RF89A);

2) Within 10 years of RF89A, examine at least 50% of Category B welds and at least 25% of Category A welds;

3) Examine all Category C welds by the end of refueling outage eleven (R11), then all Category C welds every 10 years (at least 50% within 6 years of refuling outage eleven.

3) Examine all Category D welds every three years.

4) In addition to complying with the ASME Section XI Code committed to by this ISI Program Plan, detailed procedures, equipment and personnel will be qualified by the formal program conducted in accordance with the NRC/EPRI/BWROG Coordination Plan at the EPRI NDE Center in Charlotte, North Carolina;

5) If one or more cracked welds are found during a sample inspection, an additional sample of welds will be examined during that outage. The sample will contain the approximate same number of welds as the original sample. Unless there exists a technical reason to select a different distribution, the additional sample will be similar in distribution (pipe size, system and location) to the original sample. If additional cracked welds are found, all welds in that IGSCC Category will be examined unless the sample was chosen on a technical basis. In that case all the IGSCC Category welds that meet that technical basis will be examined.

6) The Supply System will use ASME Section XI Section IWB-3600 of the 1989 Edition, no Addenda of the ASME Boiler and Pressure Vessel Code for methods and criteria for crack evaluation and repair. The Commission will be notified if a flaw is found that does not meet Section XI, Section IWB-3500 criteria for continued operation without evaluation. Prior to resuming operation, an evaluation of the flaw justifying continued operation and/or the repair plans will be submitted to the Commission.

FSAR 5.2.4.12 ASME Section XI Repairs and Replacements

See section 5.2.21 Repair and Replacement Program

6.2.4 FSAR Section 6.6: Inservice Inspection of ASME III Code Class 2 and 3 Components

Inservice inspections of Class 2 and 3 components will be performed in accordance with the requirements of 10 CFR 50.55a Subparagraph (g) to the extent practical.

FSAR 6.6.8 Augmented Inservice Inspection to Protect Against Postulated Piping Failures

An augmented inservice inspection program is not applicable to WNP-2 as there is no Class 2 or 3 piping greater than 1-inch penetrating the containment, classified as high energy during normal operation.

6.3 TECHNICAL SPECIFICATIONS

The following technical specifications contain requirements applicable to this ISI Program Plan.

4.0.5 Surveillance

3/4.7.4 Snubber Examination and Testing

6.10.3 Records Retention

6.4 NRC REGULATORY GUIDES

The Supply System has reviewed the augmented inservice inspection requirements found in the NRC Regulatory Guides listed in Table 6.4.1. Following careful review and consideration of those augmented requirements, the WNP-2 Inservice Inspection Program Plan has been written to comply with the Regulatory Guides which are applicable to WNP-2. A brief statement of applicability is given for each Guide in Table 6.4.1.

Some Regulatory Guides have been addressed through Generic Letters. See next section on Generic Letters.

Table 6.4.1
NRC Regulatory Guide Review
for
Applicability to WNP-2 ISI Program Plan

1.26, Rev 3	Quality Group Classifications and Standard for Water, Steam, and Radioactive Waste Containing Components in Nuclear Power Plants.	Applicable; WNP-2 ISI Program Plan is written to comply.
1.65, Rev. 0	Materials and Inspections for Reactor Pressure Vessel Closure Studs.	Applicable; WNP-2 ISI Program Plan complies through incorporation of ASME Section XI examination requirements.
1.147, Rev. 11	Inservice Inspection Code Case Acceptability ASME Section XI Division I.	Applicable; The Code cases being used are identified in Section 5.1.3
1.150, Rev. 1	UT of Reactor Vessel Welds during Preservice and Inservice Inspection.	Applicable; WNP-2 will comply with Appendix A of this Reg. Guide.

6.5 GENERIC LETTERS

83-15 Implementation of Regulatory Guide 1.150, "Ultrasonic Testing of Reactor Vessel Welds During Preservice and Inservice Examinations, Revision 1

WNP-2 uses the guidance in Appendix A of this Regulatory Guide.

88-01 Supplement 1 "NRC Position on Intergranular Stress Corrosion Cracking (IGSCC) in BWR Austenitic Stainless Steel Piping"

See section 6.2.3.

89-09 ASME Section III Component Replacements

See section 5.3 Repair and Replacement Program

90-05 Guidance for Performing Temporary Non-Code Repair of ASME Code Class 1, 2, and 3 Piping

See section 5.3 Repair and Replacement Program

90-09 Alternative Requirements for Snubber Visual Inspection Intervals and Corrective Actions

See relief request 2ISI-11 in section 5.1.2.

94-03 Intergranular Stress Corrosion Cracking of Core Shrouds in Boiling Water Reactors

See section 6.6.5.

6.6 OTHER COMMITMENTS

6.6.1 Jet Pump Holddown Beams

The augmented examination commitment made during the first inservice inspection interval is no longer valid. The beams that were subject to this requirement were replaced with a later design during refueling outage nine (R9) in the Spring of 1994. WNP-2 will address additional examination of the jet pump beams when General Electric issues their examination recommendations of the new beams. Prior to this time, WNP-2 will schedule a volumetric examination every ten (10) years.

6.6.2 Core Spray Spargers

An augmented inservice inspection program that complies with IE Bulletin 80-13 will be implemented to examine the reactor core spray spargers. This program will entail remote underwater TV examinations of the core spray spargers and the segment of piping between the inlet nozzle and the vessel shroud. The examination will be performed once every twenty-four months. This differs from the first Inspection Interval in that WNP-2 performed the examination every refueling outage. WNP-2 is on an annual refueling schedule as opposed to an eighteen (18) or twenty-four (24) month cycle which is the industry standard. This will bring WNP-2's inspection schedule more in line with the rest of the industry.

6.6.3. CRD Scram Discharge Headers

During the first inservice inspection interval, the inservice inspection for the CRD scram discharge headers (SDH) consisted of a visual examination of all welds for evidence of leakage once an inspection period and a volumetric examination of 10% of the circumferential welds greater than 4 NPS once each inspection interval. The welds subject to

volumetric examination were the same ones which received a preservice examination. (Reference letter number G02-83-523, G.D. Bouchey to Mr. A. Schwencer, "PSI Summary Report Clarification" dated June 15, 1983.). During the second inspection interval the SDH welds will be incorporated into the ASME Section XI Examination Category C-F-2 scope. Seven and one-half (7.5) percent of the SDH welds will be subject to both a volumetric and surface examination.

6.6.4 Final Feedwater Temperature Reduction

When final feedwater temperature reduction (FFWTR) or "coastdown" is used to extend the fuel cycle, one feedwater nozzle inner radii will be examined at the next refueling outage per Section 6.3.2. This commitment is contained in Supply System letter G02-90-024, dated February 14, 1990 and NRC SER dated March 1, 1990 (Supply System letter G02-90-024, "Request for Amendment to Technical Specifications, Final Feedwater Temperature Reduction (FFTR)", dated February 14, 1990 and Letter, Nuclear Regulatory Commission to Mr. G.C. Sorensen, "Issuance of Amendment No. 77 to Facility Operating Licence No. NPF-21 - WPPSS Nuclear Project No. 2 (TAC No. 66885)" dated March 1, 1990). The feedwater nozzle selected for examination will be the nozzle with the longest time since the previous examination.

6.6.5 RPV Core Shroud

Generic Letter 94-03, "Intergranular Stress Corrosion Cracking of Core Shrouds in Boiling Water Reactors" was issued July 25, 1994. The Supply System responded via letter G02-94-202 dated August 24, 1994 (Supply System letter G02-94-202, "Reponse to Generic Letter 94-03, Intergranular Stress Corrosion Cracking of Core Shrouds", dated August 24, 1994). In this letter the Supply System committed to performing an examination on the core shroud during the Spring 1996 (R-11) refuel outage. This commitment also included the provision to notify the NRC no later than three months prior to performing the examination.

7.0 CALIBRATION BLOCKS

The design drawings at the end of this section illustrate the ultrasonic calibration blocks which will be used to perform ultrasonic examinations at WNP-2. Table 7.1 lists those blocks being used for the RPV, including top and bottom heads, the nozzle-to-shell welds and inner radii, and the nozzle safe end welds. Table 7.2 lists those blocks being used for the Class 1 and 2 piping systems. These tables include the block identification number which will be used exclusively whenever referencing the calibration block on data sheets or other records, and the corresponding design drawing number. The block identification number is the same number referenced from the Program Plan and Schedule Tables and the Weld and Component Identification Diagrams found in Section 9.0 "Boundary Diagrams / Schedules / Weld and Component Diagrams".

Table 7.1
RPV
Calibration Blocks

Block No.	Application	Drawing No.	Mat'l.	Dia	Thickness	Material Specification
UT-101	Nozzle to safe-end N1	UTCB-101	CS-SS	22	1-29/32	SA-508 SA-336
UT-102	Nozzle to safe-end N4, N5, N6, N16	UTCB-102	CS-INCO	12	1-1/8 1-5/16	SA-508, SB-166
UT-103	Not Used					
UT-104	Nozzle to safe-end N3	UTCB-104	CS-CS	24	1-5/8	SA-508 Gr. B
UT-105	Safe-end to Stub	UTCB-105	INCO-INCO	12	15/16	SB-166-70
UT-106	Safe-end or Stub to Safe-end extension N4, N5, N6, N16	UTCB-106	INCO-CS	10/12	13/16	SB-166, SA-508
UT-107	Nozzle to flange N7 N18	UTCB-107	CS-CS	6	1-3/4	SA-508
UT-108	Nozzle to flange N8	UTCB-108	CS-CS	4	1-1/4	SA-508
UT-109	Nozzle to safe-end N9	UTCB-109	CS-SS	4	3/4	SA-508

Table 7.1
RPV
Calibration Blocks

Block No.	Application	Drawing No.	Mat'l.	Dia	Thickness	Material Specification
UT-110	Nozzle safe-end N10	UTCB-110	CS-CS	5	3/4	SA-508
UT-111	Nozzle to safe-end N2	UTCB-111	CS-SS	12	1-1/4	SA-508, SA-182 F 316L
UT-112	Not Used					
UT-113	Not Used					
UT-114	Not Used					
UT-115	Top head dollar plates	UTCB-203	CS	N/A	3-5/8	SA-533 Gr. B
UT-116	Top head radial plates	UTCB-204	CS	N/A	5-1/8	SA-533 Gr. B
UT-117	Bottom head dollar plates	UTCB-205	CS	NA	8	SA-533 Gr. B
UT-118	Bottom head radial plates	UTCB-206	CS	NA	6-3/4	SA-533 Gr. B
UT-119	Shell Course #1	UTCB-207	CS	NA	9-3/4	SA-533 Gr. B
UT-120	Shell Course #2 & #3	UTCB-208	CS	NA	6-9/16	SA-533 Gr. B

Table 7.1
RPV
Calibration Blocks

Block No.	Application	Drawing No.	Mat'l.	Dia	Thickness	Material Specification
UT-121	Shell Course #4	UTCB-209	CS	NA	7-1/4	SA-533 Gr. B
UT-122	N4 Nozzle inner radius & bore mockup	UTCB-250	CS	NA	NA	SA-533 Gr. B, SA-508
UT-123	RPV Flange to shell course #4	UTCB-251	CS	NA	NA	SA-508
UT-124	Not Used					
UT-125	Not Used					
UT-126	Not Used					
UT-127	Not Used					
UT-128	Not Used					
UT-129	Not Used					
UT-130	RPV Studs	UTCB-210	CS	6	NA	SA-540 Gr. 23
UT-131	Not Used					
UT-132	.RPV Nuts	UTCB-211	CS	NA	5-1/8	SA-533 Gr. B

Table 7-2
Piping and Miscellaneous
Calibration Blocks

Block No.	Application	Drawing No.	Mat'l.	Dia.	Thickness	Material Specification	Notes
UT-1	30MS(1)-4	UTCB-220	CS	30	1.250	SA-155 KCF-70	
UT-2	28MS(1)-4	UTCB-220	CS	28	1.420	SA-155 KCF-70	
UT-3	26MS(1)-4	UTCB-220	CS	26	1.125	SA-155 KCF-70	
UT-4	26MS(1)-4	UTCB-224	CS	26	1.125	SA-106 Gr. B	
UT-5	24RFW(1)-4	UTCB-220	CS	24	1.812	SA-106 Gr. B	
UT-6	24MS(1)-4	UTCB-220	CS	24	1.218	SA 106 Gr. B	
UT-7	24RRC(1)-4S 24RRC(2)-4S	UTCB-220	SS	24	1.140	SA-358 Gr. 304	
UT-8	20RHR(1)-2	UTCB-233	CS	20	0.500	SA-106 Gr. B	
UT-9	20RHR(2)-4S 20RRC(6)-4S	UTCB-220	SS	20	1.031	SA-358 Gr. 304	1
UT-10	20RHR(2)-4	UTCB-220	CS	20	1.031	SA-106 Gr. B	
UT-11	18RFW(1)-4	UTCB-220	CS	18	1.375	SA-106 Gr. B	
UT-12	18MS(1)-4	UTCB-220	CS	18	0.938	SA-106 Gr. B	
UT-13R	16RRC(1)-4S	UTCB-220	SS	16	0.758	SA-358 Gr. 304	7
UT-14	14RHR(1)-4	UTCB-221	CS	14	0.750	SA-106 Gr. B	
UT-15	12RFW(1)-4	UTCB-221	CS	12	1.000	SA-106 Gr. B	

Table 7-2
Piping and Miscellaneous
Calibration Blocks

Block No.	Application	Drawing No.	Mat'l.	Dia.	Thickness	Material Specification	Notes
UT-16	12HPCS(1)-4 12LPCS(1)-4 12RHR(1)-4	UTCB-221	CS	12	0.844	SA-106 Gr. B	2
UT-17	12HPCS(1)-4 12LPCS(1)-4	UTCB-221	CS	12	0.688	SA-106 Gr. B	
UT-18	12LPCS(1)-2 12LPCS(3)-2 12RHR(1)-2	UTCB-232	CS	12	0.375	SA-106 Gr. B	
UT-19	12RHR(1)-4S 12RRC(1)-4S 12RRC(7)-4S	UTCB-221	SS	12	0.688	SA-358 Gr. 304	3
UT-20	18RHR(1)-1 18RHR(1)-2 18RHR(2)-1 18RHR(2)-2	UTCB-232	CS	18	0.375	SA-106 Gr. B	
UT-21	10RCIC(12)-4	UTCB-221	CS	10	0.719	SA-106 Gr. B	
UT-22	10HPCS(1)-4 10LPCS(1)-4 10RCIC(12)-4	UTCB-221	CS	10	0.594	SA-106 Gr. B	
UT-23	10RCIC(12)-4	UTCB-221	CS	10	0.844	SA-106 Gr. B	

Table 7-2
Piping and Miscellaneous
Calibration Blocks

Block No.	Application	Drawing No.	Mat'l.	Dia.	Thickness	Material Specification	Notes
UT-24	8MS(1)-4	UTCB-221	CS	8	0.906	SA-106 Gr. B	
UT-25	8RCIC(12)-4 8RHR(20)-4	UTCB-221	CS	8	0.594	SA-106 Gr. B	
UT-26	8RRC(1)-4S	UTCB-221	SS	8	0.500	SA-376 Tp. 304	
UT-27	6RCIC(1)-4 6RCIC(6)-4	UTCB-221	CS	6	0.562	SA-106 Gr. B	
UT-28	6RCIC(1)-4 6RFW(11)-4 6RHR(10)-4 6RWCU(2)-4 6RWCU(3)-4 6RWCU(4)-4	UTCB-221	CS	6	0.432	SA-106 Gr. B	
UT-29	4RRC(4)-4S 4RRC(8)-4S	UTCB-221	SS	4	0.337	SA-312 Tp. 304	6

Table 7-2
Piping and Miscellaneous
Calibration Blocks

Block No.	Application	Drawing No.	Mat'l.	Dia.	Thickness	Material Specification	Notes
UT-30	4HPCS(1)-4 4HPCS(4) 4LPCS(1)-4 4MS(12)-4 4RCIC(10)-4 4RCIC(13)-4 4RFW(11)-4 4RRC(51)-4 4RWCU(3)-4 4RWCU(4)	UTCB-221	CS	4	0.337	SA-106 Gr. B	
UT-32	5RFW(11)-4	UTCB-221	CS	5	0.500	SA-106 Gr. B	4
UT-33	24RFW(1)-4	UTCB-220	CS	24	2.343	SA-106 Gr. B	
UT-34	CRD Scram Discharge Volume	UTCB-230	CS	12	0.688	SA-106 Gr. B	
UT-35	CRD Scram Discharge Volume	UTCB-231	CS	8	0.500	SA-106 Gr. B	
UT-36	CRD Scram Discharge Volume	UTCB-231	CS	6	0.432	SA-106 Gr. B	
UT-37	18RHR(1)-2 18RHR(20)-2 18RHR(4)-2	UTCB-232	CS	18	0.438	SA-106	

Table 7-2
Piping and Miscellaneous
Calibration Blocks

Block No.	Application	Drawing No.	Mat'l.	Dia.	Thickness	Material Specification	Notes
UT-38	14LPCS(1)-1 14RHR(1)-1	UTCB-232	CS	14	0.375	SA-106 Gr. B	
UT-39	16LPCS(1)-2	UTCB-232	CS	16	0.375	SA-106 Gr. B	
UT-40	MS Flued Head	UTCB-222	CS	FLAT	5.000	SA-105	5
UT-41	RRC Pump Studs	UTCB-223	CS	3-1/4	N/A	SA-193 Gr. 7	
UT-42		UTCB-225	CS	Flat	1.000	SA-516 Gr. 70	
UT-43	RRC Flow Control Valve	UTCB-226	CS	2-3/4	14-1/4	SA-193 Gr. B7	
UT-44	3MS(20)-4	UTCB-229	CS	3	0.437	SA-106 Gr. B	
UT-45	20LPCS(10)-1 20RHR(2)-2 20RHR(8)-2	UTCB-232	CS	20	0.375	SA-106 Gr. B	
UT-48	16RHR(1)-2 16RHR(5)-2	UTCB-233	CS	16	0.500	SA-106 Gr. B	
UT-49	16HPCS(1)-4 16HPCS(9)-4	UTCB-233	CS	16	1.031	SA-106 Gr. B	

Table 7-2
Piping and Miscellaneous
Calibration Blocks

Block No.	Application	Drawing No.	Mat'l.	Dia.	Thickness	Material Specification	Notes
UT-50	24LPCS(2)-1 24RHR(1)-2 24RHR(2)-2 24RHR(3)-1	UTCB-232	CS	24	0.375	SA-106 Gr. B	
UT-51	24CSP(1)-1 30CSP(1)-1	UTCB-234	CS	24	0.500	SA-106	8

Table 7-2
Piping and Miscellaneous
Calibration Blocks

Block No.	Application	Drawing No.	Mat'l.	Dia.	Thickness	Material Specification	Notes

Notes:

1 This block is for use on 20" RHR(2)-4S which is of material specifications SA-312 rather than SA-358. This is acceptable based on the acoustic similarity of the two materials.

2 For these piping systems, the UT calibration block is for use on the schedule 100 elbows only.

3 This block is for use on 12" RHR(1)-4S which is of material specifications SA-312 rather than SA-358. This is acceptable based on the acoustic similarity of the two materials.

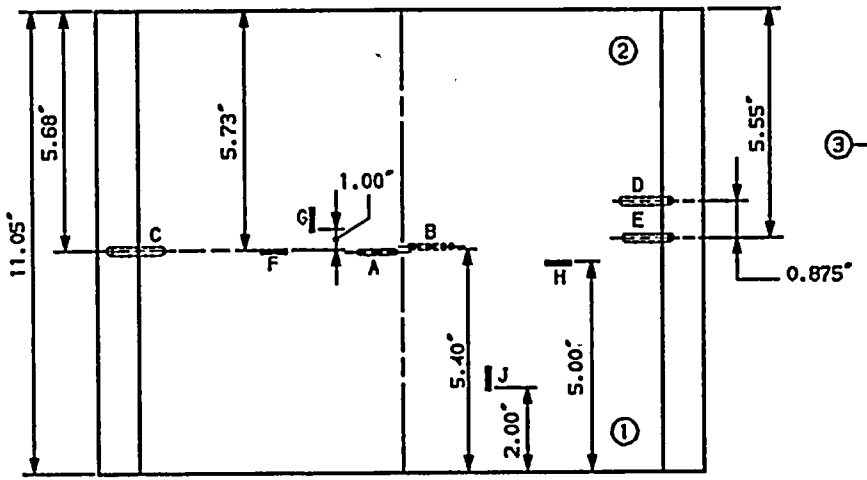
4 See detail for special 5" thermal sleeve on RFW-101-1 in Section 15.0, "WELD ID DIAGRAMS".

5 See detail for flued head fitting on MS-101-3. This block is intended for use along with pipe block UT-3.

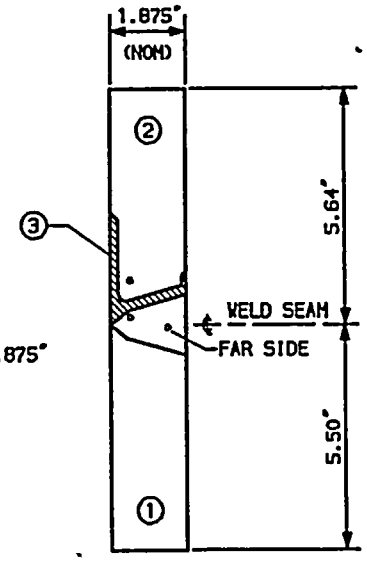
6 This block is for use on 4" RRC (8)-4S which is of material specification SA-312 rather than SA-376. This is acceptable based on the acoustic similarity of the two materials. Appendix III-3411 allows this substitution.

7 UT-13R is used in place of UT-13 which was lost prior to being used for ISI. Both blocks were made from the same pipe section.

8 This calibration block is not used on ASME Section XI welds. It is used on 24" and 30" CSP.



PLAN VIEW



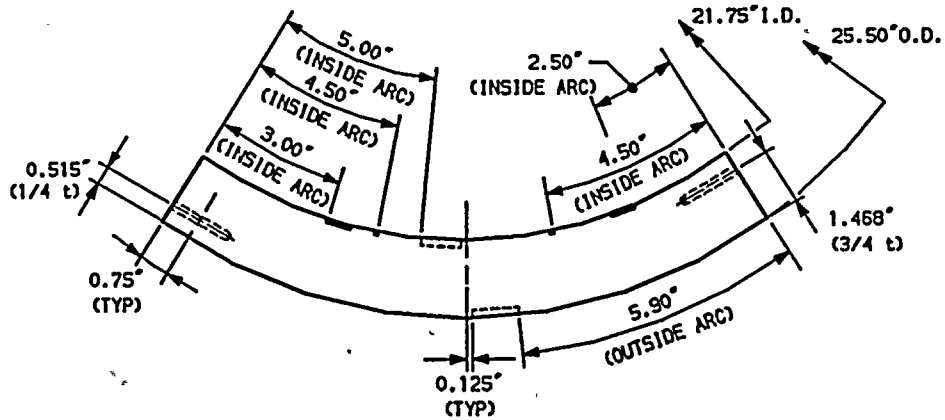
END VIEW

EDM NOTCHES			
NOTCH	LENGTH	WIDTH	DEPTH
F	0.50	0.030	0.563
G	0.50	0.030	0.543
H	0.50	0.030	0.182
J	0.50	0.030	0.184

NOTES:
NOTCHES F & G
20% BASE METAL PLUS
0.20" CLAD ON WELD
NOTCHES H & J
10% BASE METAL ON
SAFE-END SIDE

NOTCH	LENGTH	WIDTH	DEPTH
A	1.125	0.128	0.185
B	1.125	0.125	0.185

HOLE	DIAMETER	LENGTH
C	0.125	1.468
D	0.125	1.375
E	0.125	1.468



ELEVATION

NO	MATERIAL	HEAT NUMBER
①	SA 336 CL F8 SS	656511
②	SA 508 CL 2 CS	719453
③	INCONEL 182	

REFERENCES:
CBI NUCLEAR CO.
YPF #3133-519 REV 1
ISI DRAWING
RPV-105 REV 1

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

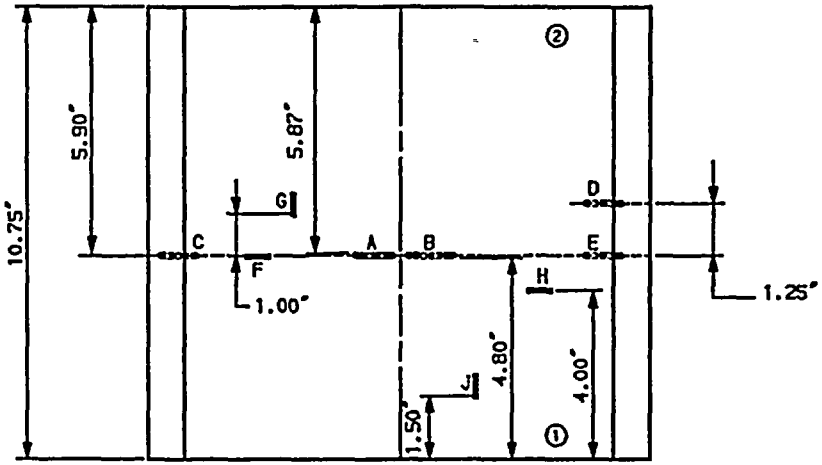
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

ENGINEER T HOYLE
DRAWN K-McANDREW
DATE 5-30-79

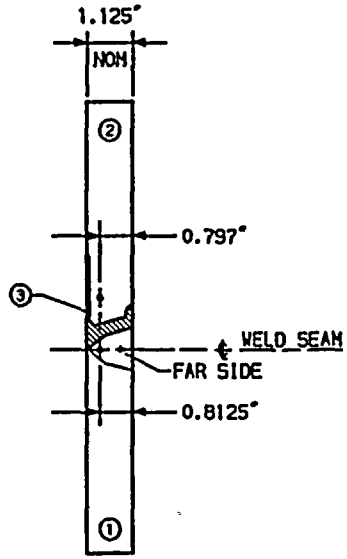
WNP-2
NOZZLE TO SAFE-END, N1
UT CALIBRATION BLOCK, UT-101

DWG NO. UTCB-101 REV 2

NO	DATE	REVISION	BY	CHKD	APVD
2	6-15-82	INCORPORATED AS BUILT EDM NOTCHES. REDRAWN	K-McA	DPR	DRW
1	12-2-81	ADDED HEAT NUMBERS	K-McA	DPR	TPH
0	7-31-79	ISSUED FOR USE, AS BUILT	K-McA	TPH / DPR	LPB



PLAN VIEW



END VIEW

EDM NOTCHES			
NOTCH	LENGTH	WIDTH	DEPTH
F	0.50	0.030	0.274
G	0.50	0.030	0.280
H	0.50	0.030	0.110
J	0.50	0.030	0.109

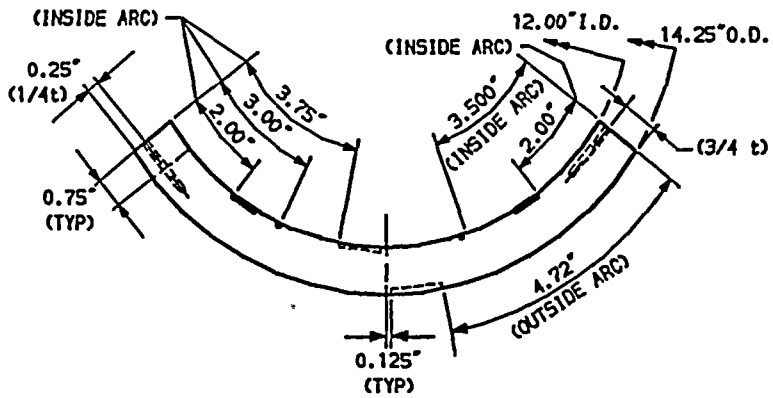
NOTES

NOTCHES F & G
20% BASE METAL PLUS
0.20" CLAD ON WELD

NOTCHES H & J
10% BASE METAL ON
SAFE-END SIDE

NOTCH	LENGTH	WIDTH	DEPTH
A	1.219	0.126	0.114
B	1.219	0.126	0.118

HOLE	DIAMETER	LENGTH
C	0.126	1.484
D	0.127	1.484
E	0.127	1.484



ELEVATION

NO	MATERIAL	HEAT NUMBER
①	SB 166 (600) INCONEL	NX 7733
②	SA 508 CL 2 CS	522308
③	INCONEL 182	

REFERENCES:

CBI NUCLEAR CO.
YPF #3613-649 REV 0

ISI DRAWINGS
RPV-108 REV 1
RPV-109 REV 1
RPV-110 REV 1

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

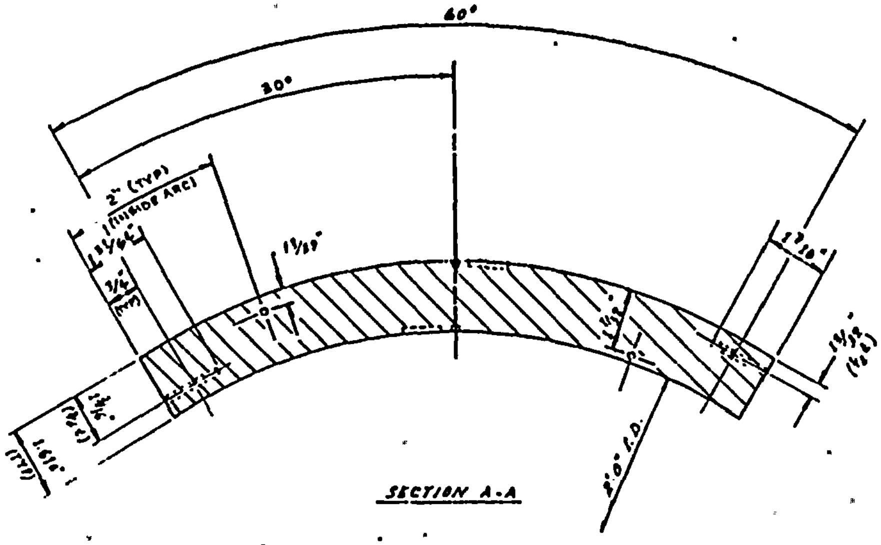
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

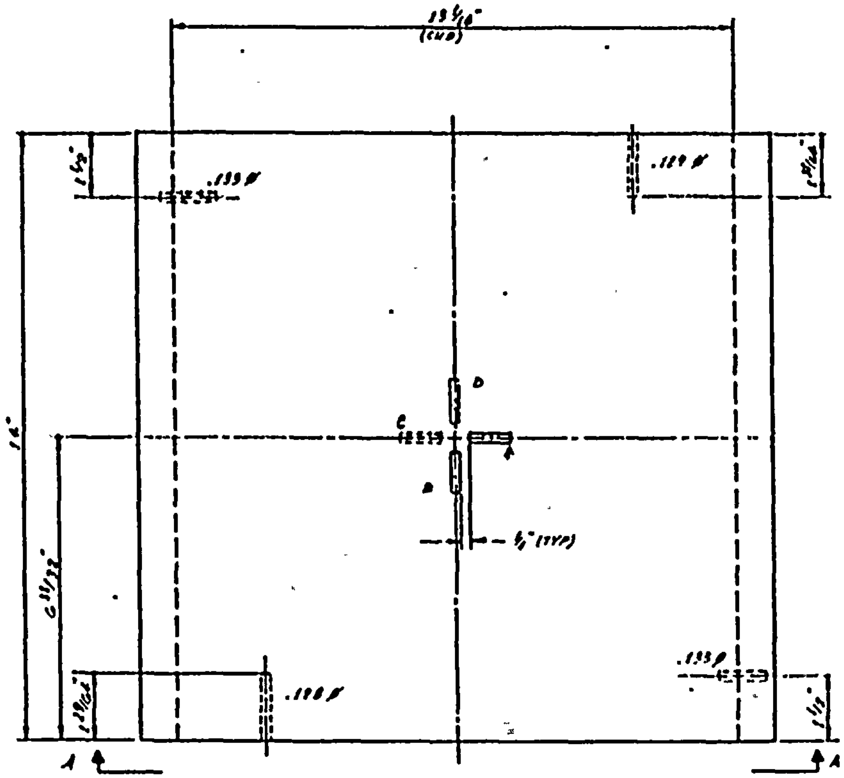
ENGINEER T HOYLE
DRAWN K-McANDREW
DATE 5-31-79

WNP-2
NOZZLE TO SAFE-END, N4, N5, N6, & N16
UT CALIBRATION BLOCK, UT-102

DWG NO. UTCB-102 REV 2

NO	DATE	REVISION	BY	CHKD	APVD
2	6-15-82	INCORPORATED AS BUILT EDM NOTCHES. REDRAWN	K-McA	DPR	DRV
1	12-2-81	ADDED HEAT NUMBERS	K-McA	DPR	TPH
0	7-31-79	ISSUED FOR USE, AS BUILT	K-McA	TPH / DPR	LPB





NOTCH	LENGTH	WIDTH	DEPTH
A	61/64"	.133"	.134"
B	59/64"	.134"	.110"
C	59/64"	.127"	.112"
D	15/16"	.125"	.114"

MATERIAL

SA508 CL 2 HEAT No 283642

REFERENCES:

- CBI NUCLEAR CO. VPF # 3159-580 REV 0
- ISI DRAWING RPV-107 REV 0

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION, PROGRAMS ONLY

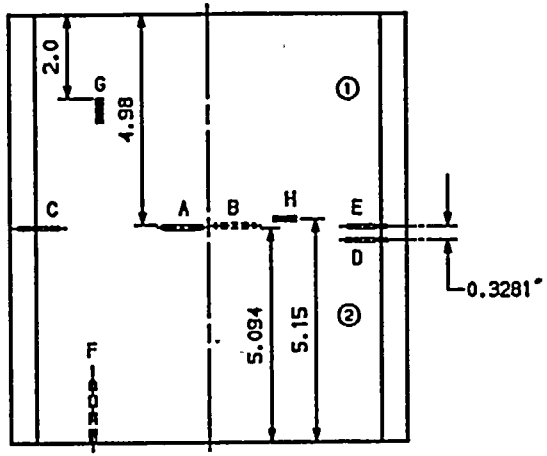
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

NO	DATE	REVISION	BY	CHKD	APPVD
1	12261	ADDED HEAT No & I.D. DIM			
0	11379	ISSUED FOR USE, AS BUILT			

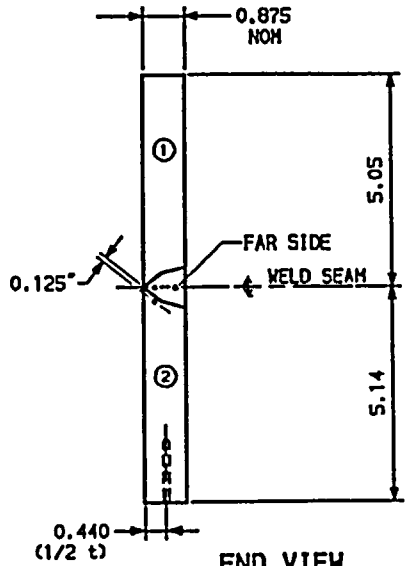
ENGINEER T NOYLE
DRAWN K. McANDREW
DATE 6-11-79

WNP-2
NOZZLE TO SAFE-END N3
UT CALIBRATION BLOCK, UT-104

DWG NO UTCB-104 REV 1



PLAN VIEW



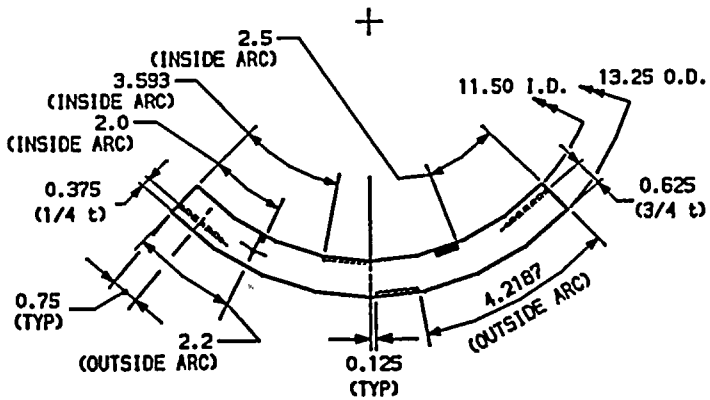
END VIEW

HOLE	DIAMETER	LENGTH
F	0.09375	1.53

EDM NOTCH	LENGTH	WIDTH	DEPTH
G	0.5	0.3	0.085
H	0.5	0.3	0.085

NOTCH	LENGTH	WIDTH	DEPTH
A	1.03125	0.127	0.090
B	1.03125	0.127	0.081

HOLE	DIAMETER	LENGTH
C	0.094	1.500
D	0.096	1.453
E	0.096	1.484



ELEVATION

NO	MATERIAL	HEAT NUMBER
①	SB 166 (600) INCONEL	NX 7733
②	SB 166 (600) INCONEL	NX 7733

REFERENCES:
CBI NUCLEAR CO.
YPF #3133-519 REV 1
ISI DRAWING
RPV-108 REV 1

NOTES
1. ALL DIMENSIONS ARE IN INCHES.

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

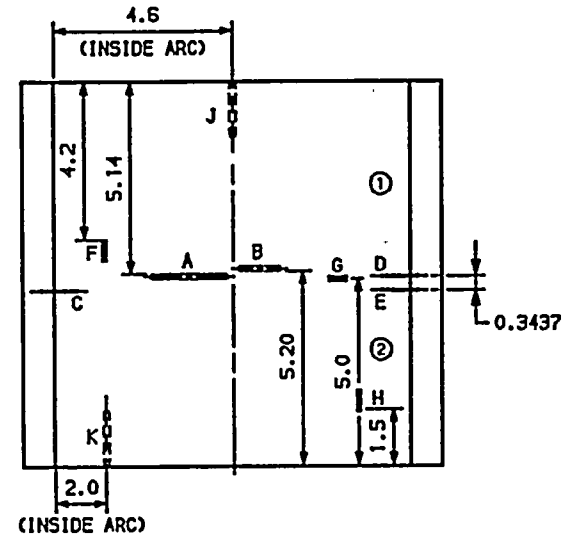
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

NO	DATE	REVISION	BY	CHKD	APVD
2	10-2-82	INCORPORATED AS BUILT EDM NOTCHES. REDRAWN	K-HoA	DPR	DPR
1	12-2-81	ADDED HEAT NUMBERS	K-HoA	DPR	TPH
0	7-31-79	ISSUED FOR USE, AS BUILT	K-HoA	TPH DPR	LPB

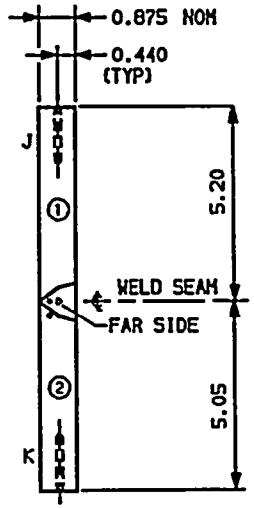
ENGINEER T HOYLE
DRAWN K-HoANDREN
DATE 5-30-79

WNP-2
SAFE-END TO SAFE-END STUB, N4
UT CALIBRATION BLOCK, UT-105

DWG NO. UTCB-105 REV 2



PLAN VIEW



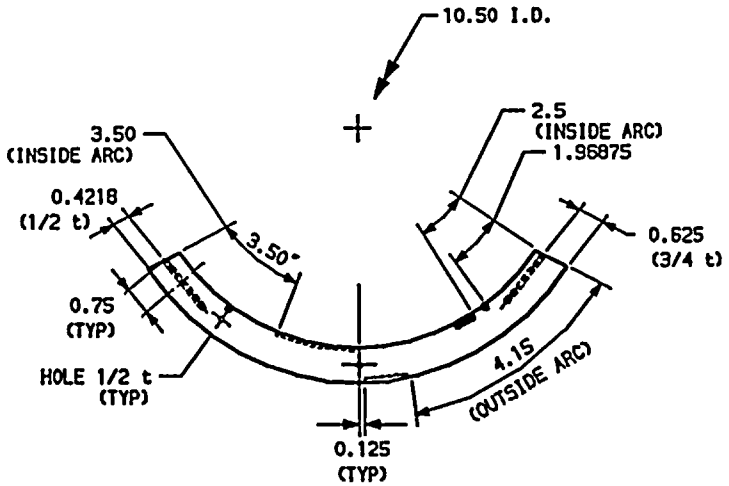
END VIEW

HOLE	DIAMETER	LENGTH
J	0.09375	1.52
K	0.09375	1.52

EDM NOTCH	LENGTH	WIDTH	DEPTH
F	0.5	0.3	0.082
G	0.5	0.3	0.082
H	0.5	0.3	0.082

NOTCH	LENGTH	WIDTH	DEPTH
A	1.9375	0.126	0.091
B	1.1250	0.126	0.091

HOLE	DIAMETER	LENGTH
C	0.091	1.500
D	0.095	1.500
E	0.095	1.500



ELEVATION

NO	MATERIAL	HEAT NUMBER
①	SA 508 CL 1 CS	718419
②	SB 166 (600) INCONEL	NX 7733

REFERENCES:

CBI NUCLEAR CO.
VPF #3613-650 REV 0

ISI DRAWINGS
RPV-108 REV 0
RPV-109 REV 0
RPV-110 REV 0

NOTES

1. ALL DIMENSIONS ARE IN INCHES.

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

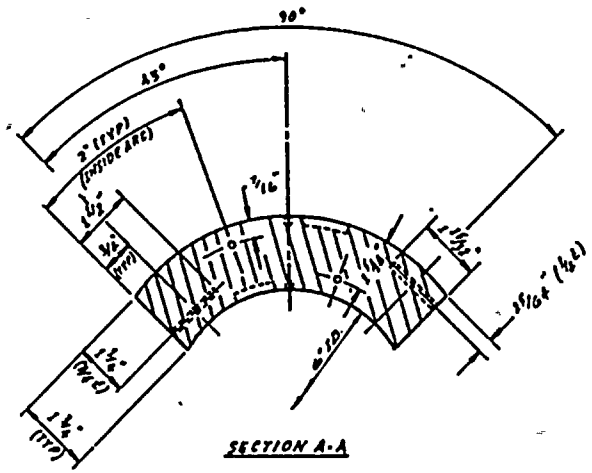
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

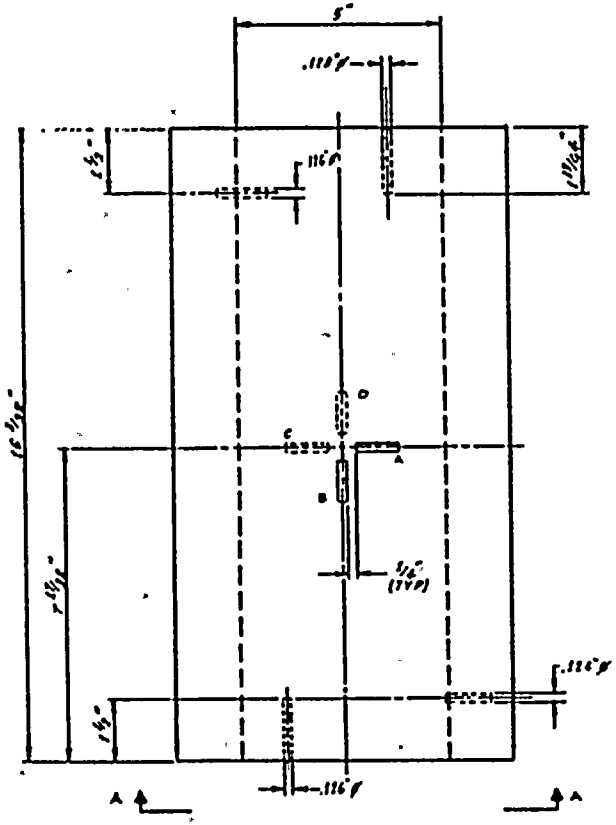
NO	DATE	REVISION	BY	CHKD	APVD
2	10-2-82	INCORPORATED AS BUILT EDM NOTCHES. REDRAWN	K-HoA	DPR	DRV
1	12-2-81	ADDED HEAT NUMBERS	K-HoA	DPR	TPH
0	7-31-79	ISSUED FOR USE, AS BUILT	K-HoA	TPH / DPR	LPB

ENGINEER T HOYLE
DRAWN K-HoANDREW
DATE 8-31-79

MNP-2
SAFE-END TO SAFE-END EXTENSION, N4, N5, N6 & N16 UT CALIBRATION BLOCK, UT-108

DWG NO. UTCB-108 · REV 2





NOTCH	LENGTH	WIDTH	DEPTH
A	1 1/32"	.115"	.111"
B	1 1/32"	.125"	.156"
C	1 1/32"	.127"	.154"
D	1"	.127"	.160"

MATERIAL
SA 508 CL II HEAT NO 1P1 T 1/0

REFERENCES:
- CBI NUCLEAR CO. VPF # 9188-591 REV 0
- ISI DRAWING RPV-111 REV 0

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

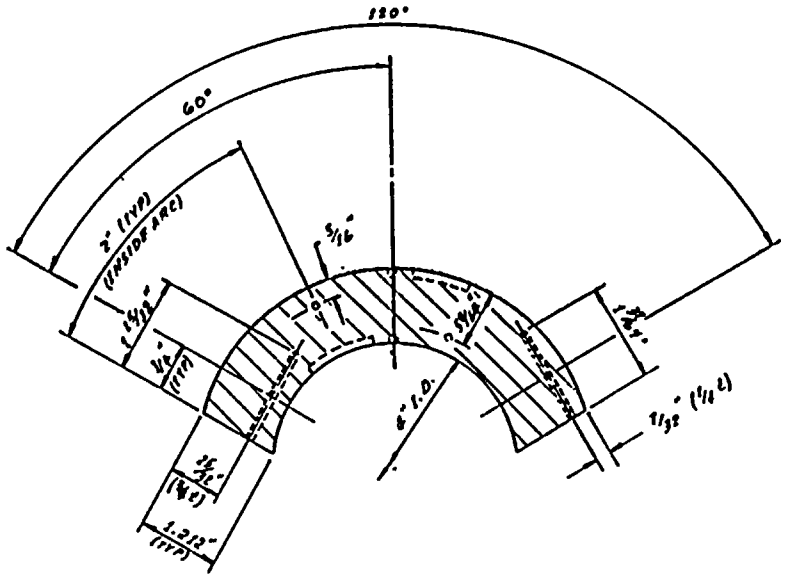
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

ENGINEER T HOYLE
DRAWN T McANDREW
DATE 6-6-79

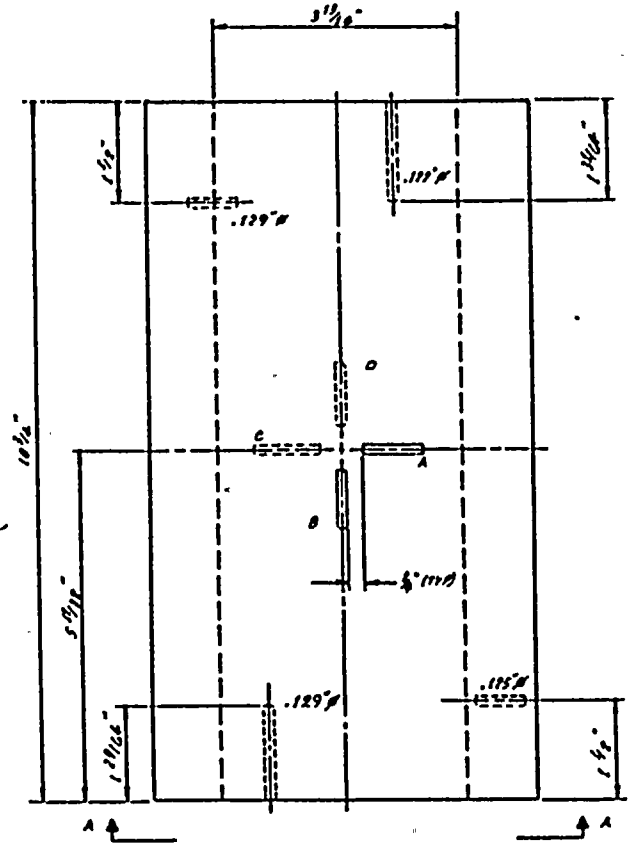
NOZZLE TO FLANGE, N1, N1B UT CALIBRATION BLOCK, UT-107.

DWG NO UTCB-107 REV 1

NO	DATE	REVISION	BY	CHKD	APPVD
1	12-5-11	ADDED HEAT NO & I.D. DIM.	KMA	DR	TSH
0	5-11-79	ISSUED FOR USE, AS BUILT	KMA	[illegible]	[illegible]



SECTION A-A



NOTCH	LENGTH	WIDTH	DEPTH
A	39/32"	.127"	.113"
B	41/64"	.126"	.114"
C	1 1/32"	.125"	.103"
D	1 1/32"	.125"	.113"

MATERIAL

SA 508 CL II HEAT NO 223603

REFERENCES

- CBI NUCLEAR CO VPF # 9199-520 REV 0
- ISI DRAWING RPV-212 REV 0

NO	DATE	REVISION	BY	CHKD	APPVD
1	12/5/81	ADDED HEAT NO & I.D. DIM.	[illegible]	[illegible]	[illegible]
0	7/11/79	ISSUED FOR USE, AS BUILT	[illegible]	[illegible]	[illegible]

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

ENGINEER T. HOVIS

DRAWN T. McANDREW

DATE 6-19-79

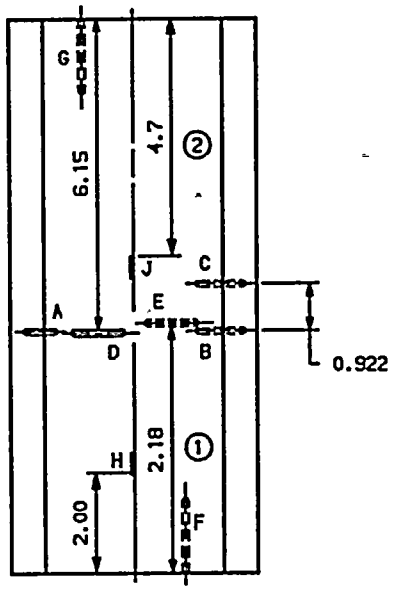
WASHINGTON PUBLIC POWER SUPPLY SYSTEM

RICHLAND, WASHINGTON 99352

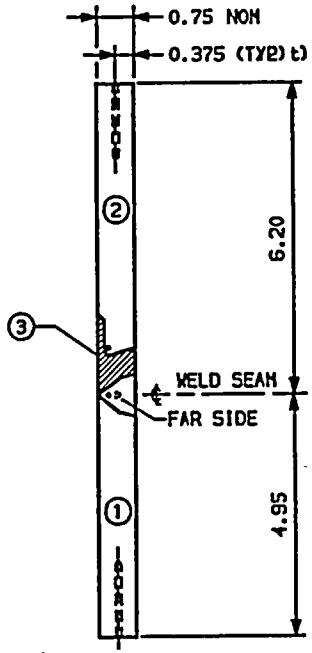
WNP-2

NOZZLE TO FLANGE, N8 UT CALIBRATION BLOCK, UT-108

DWG NO UTCB-108 REV 1



PLAN VIEW



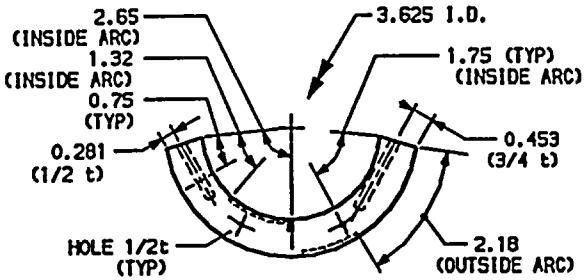
END VIEW

HOLE	DIAMETER	LENGTH
F	0.09375	1.55
G	0.09375	1.53

EDM NOTCH	LENGTH	WIDTH	DEPTH
H	0.5	0.3	0.070
J	0.5	0.3	0.200

HOLE	DIAMETER	LENGTH
A	0.095	1.2187
B	0.095	1.5625
C	0.095	1.5312

NOTCH	LENGTH	WIDTH	DEPTH
D	1.1562	0.126	0.078
E	1.1875	0.126	0.076



ELEVATION

NO	MATERIAL	HEAT NUMBER
①	SA 336 CL F8 SS	5977
②	SA 508 CL 2 CS	113382
③	INCONEL 182	

REFERENCES:
CBI NUCLEAR CO.
YPF #3613-652 REV 0

NOTES
1. ALL DIMENSIONS ARE IN INCHES.

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

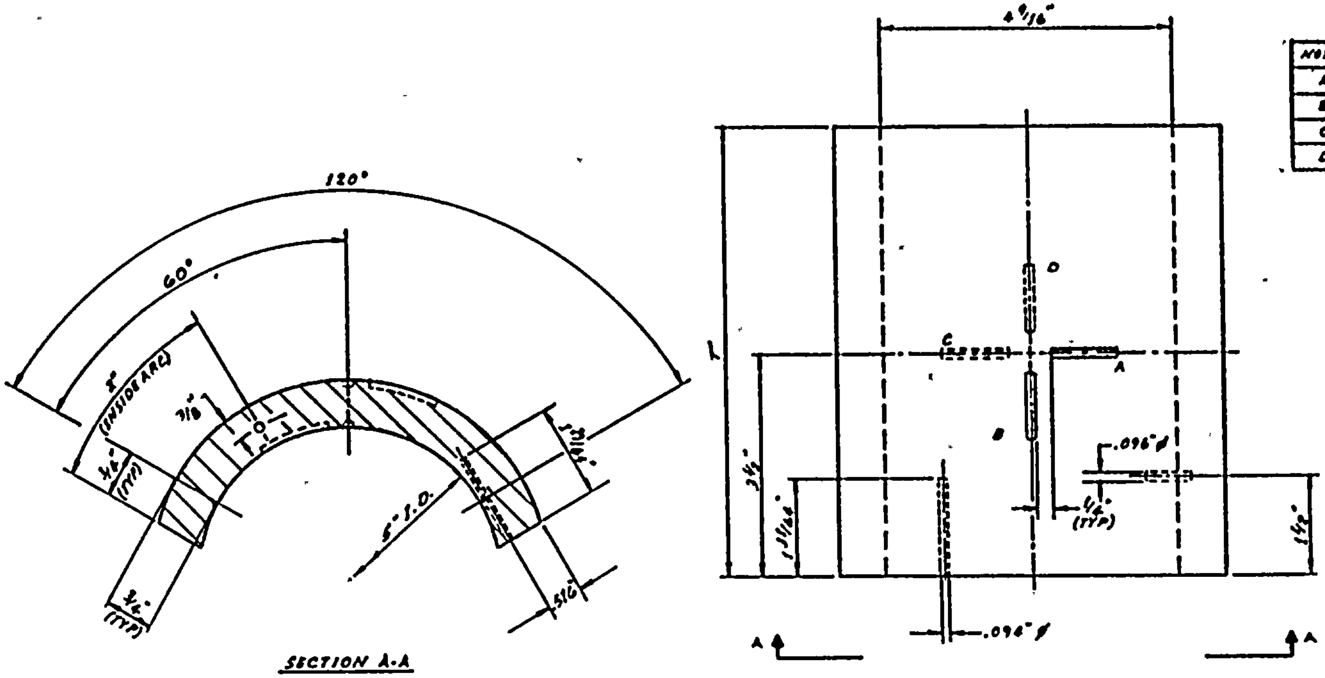
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

NO	DATE	REVISION	BY	CHKD	APVD
2	10-2-82	INCORPORATED AS BUILT EDM NOTCHES. REDRAWN	K-McA	DPR	DPR
1	12-2-81	ADDED HEAT NUMBERS	K-McA	DPR	TPH
0	7-31-79	ISSUED FOR USE, AS BUILT	K-McA	TPH / DPR	LPB

ENGINEER T HOYLE
DRAWN K-McANDREW
DATE 7-12-79

WNP-2
JET PUMP INSTRUMENTATION, NS
UT CALIBRATION BLOCK, UT-109

DWG NO: UTCB-109 REV 2



NOTCH	LENGTH	WIDTH	DEPTH
A	1 1/16"	.186"	.076"
B	1 1/16"	.185"	.077"
C	1 1/16"	.186"	.077"
D	1 1/32"	.186"	.071"

MATERIAL

SA 508 CL I HEAT Nº 214G40

REFERENCES:

CBI NUCLEAR CO.
VPF # 3139-391 REV 0

ISI DRAWING
RPV-113 REV 0

NO	DATE	REVISION	BY	CHKD	APPVD
1	12-2-81	ADDED HEAT Nº & I.D. DIM.	K.M.A		
0	3-11-79	ISSUED FOR USE, AS BUILT	K.M.A		

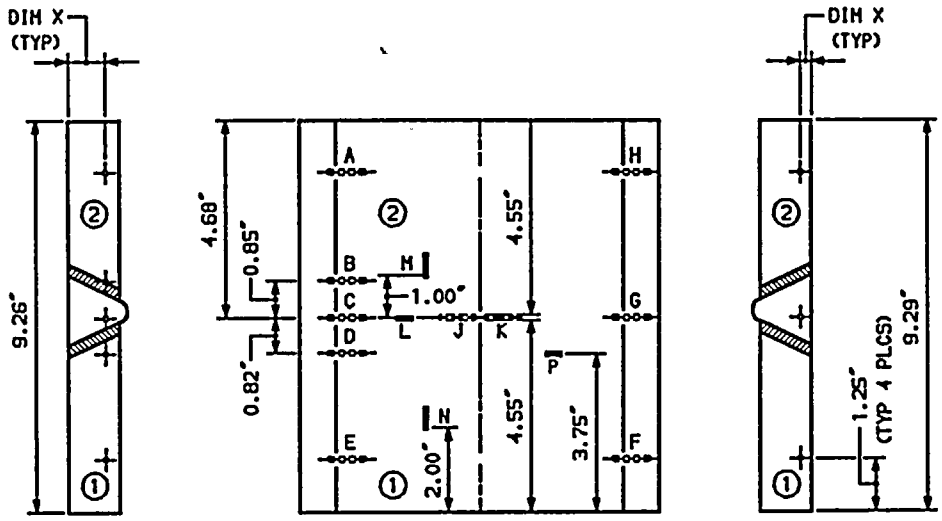
THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

ENGINEER T NOYCE
DRAWN K. McANDREW
DATE 6-7-79

WNP-2
NOZZLE TO SAFE-END, N10
UT CALIBRATION BLOCK, UT-110

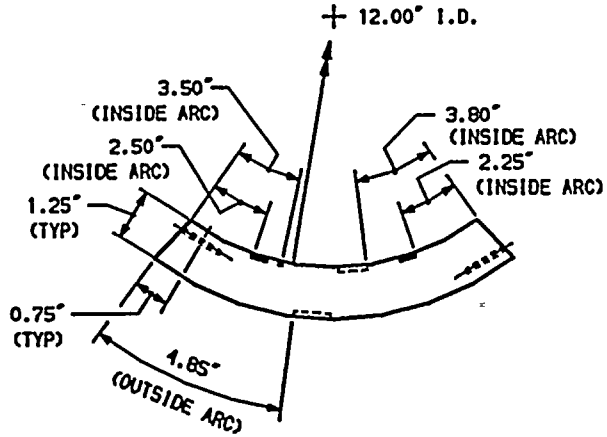
DWG NO UTCB-110
REV 1



EDM NOTCHES			
NOTCH	LENGTH	WIDTH	DEPTH
L	0.50	0.030	0.248
M	0.50	0.030	0.249
N	0.50	0.030	0.126
P	0.50	0.030	0.121

NOTCH	LENGTH	WIDTH	DEPTH
J	1.234	0.133	0.114-0.124
K	1.171	0.126	0.104-0.109

HOLE	DIAMETER	LENGTH	DIM X
A	0.125	1.51	0.90
B	0.126	1.53	0.90
C	0.125	1.50	0.91
D	0.126	1.50	0.88
E	0.126	1.50	0.89
F	0.125	1.50	0.29
G	0.125	1.57	0.28
H	0.126	1.54	0.27



ELEVATION

NO	MATERIAL	HEAT NUMBER
①	SA 182 GR F316L SS	77086
②	SA 508 CL 2 CS	224697

REFERENCES:
APEE / GE ORDER #F-20165A
SHOP SHEET 1 REV 3

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

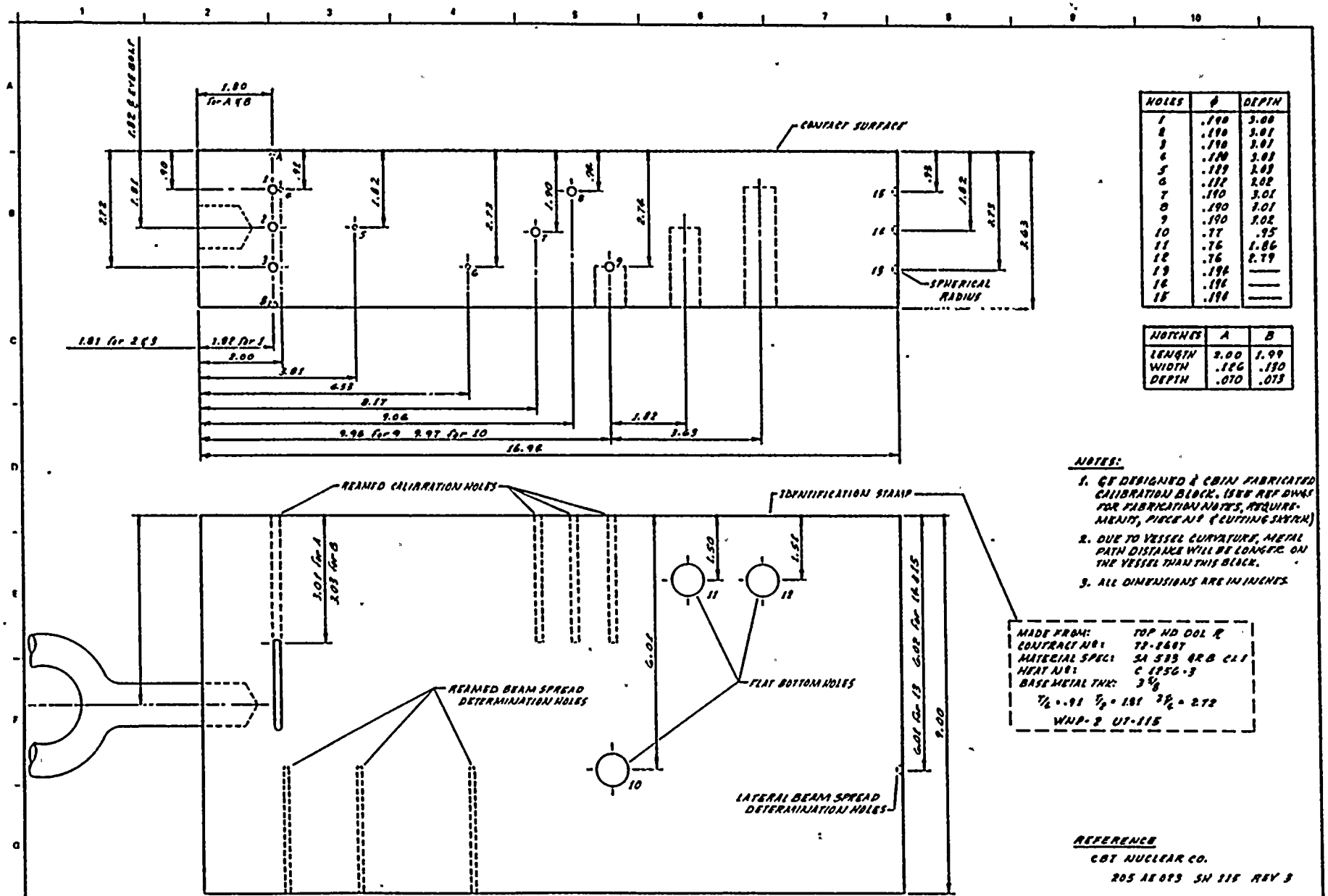
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

NO	DATE	REVISION	BY	CHKD	APVD
2	5-15-82	INCORPORATED AS BUILT EDM NOTCHES, REDRAWN	K-McA	DPR	DRM
1	12-2-81	ADDED HEAT NUMBERS & I.D. DIM	K-McA	DPR	TPH
0	9-17-79	ISSUED FOR USE, AS BUILT	K-McA	TPH / DPR	LPB

ENGINEER T HOYLE
DRAWN K-McANDREW
DATE 8-27-79

WNP-2
NOZZLE TO SAFE-END, N2
UT CALIBRATION BLOCK, UT-111

DWG NO. UTCB-111 REV 2



HOLES	ϕ	DEPTH
1	.190	3.00
2	.190	3.01
3	.190	3.01
4	.190	3.03
5	.189	3.03
6	.192	3.02
7	.190	3.01
8	.190	3.01
9	.190	3.02
10	.77	.95
11	.76	1.86
12	.76	2.79
13	.196	——
14	.196	——
15	.196	——

NOTCHES	A	B
LENGTH	2.00	1.99
WIDTH	.186	.190
DEPTH	.070	.073

NOTES:

1. GE DESIGNED & CBIN FABRICATED CALIBRATION BLOCK. (SEE REF DWGS FOR FABRICATION NOTES, REQUIREMENTS, PIECE NO & CUTTING SKETCH)
2. DUE TO VESSEL CURVATURE, METAL PATH DISTANCE WILL BE LONGER ON THE VESSEL THAN THIS BLOCK.
3. ALL DIMENSIONS ARE IN INCHES.

MADE FROM:	TOP HD DOL PL
CONTRACT NO:	72-6607
MATERIAL SPEC:	SA 533 GR B CL 1
HEAT NO:	C 1956-3
BASE METAL THK:	3 5/8

7/8 = .91 7/8 = 1.81 3 7/8 = 2.72

WNP-2 UT-115

REFERENCE

CBT NUCLEAR CO.

205 AE 093 SH 115 REV 3

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352
WNP-2

ENGINEER T Hoyle

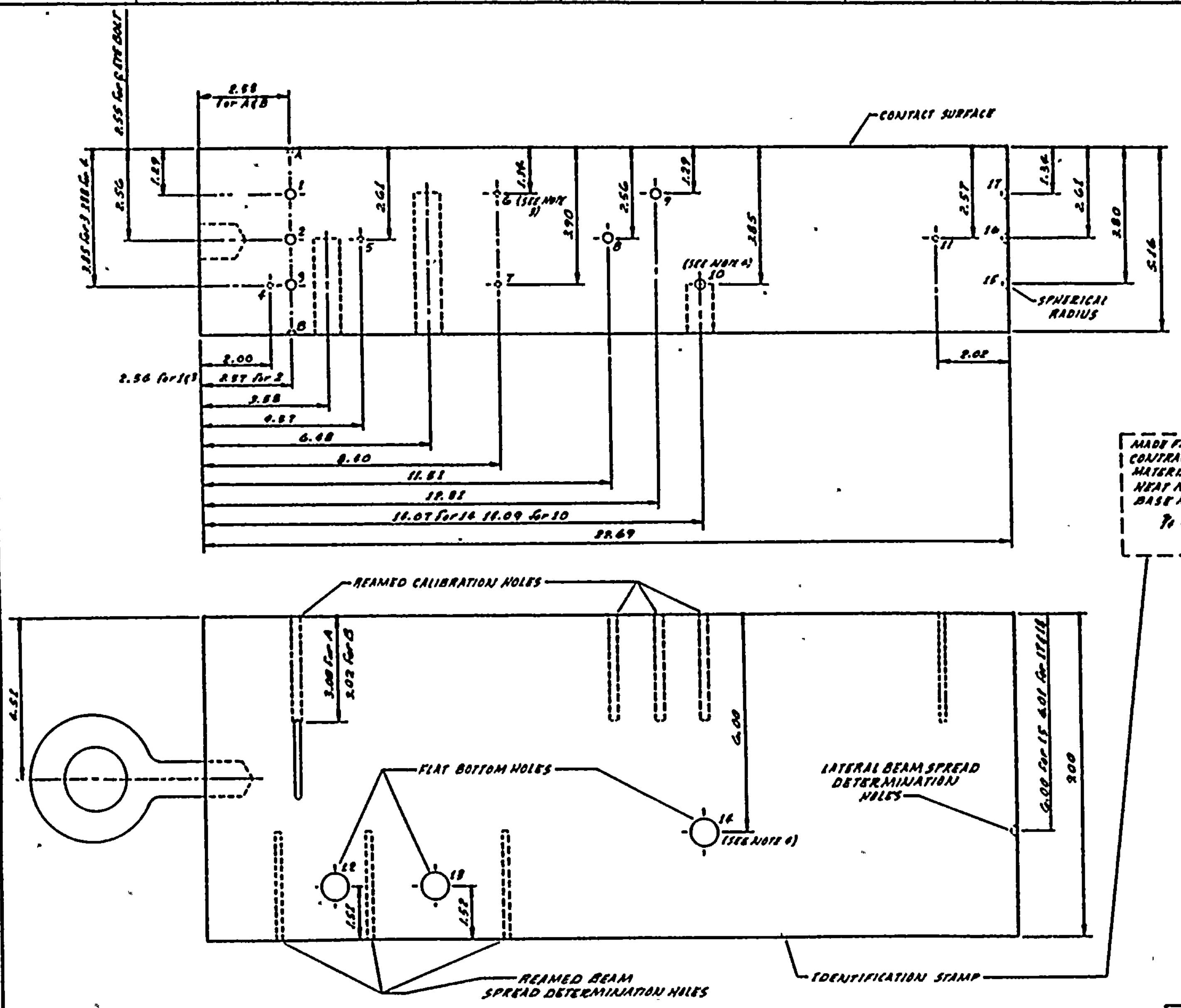
DRAWN K McAndrew

DATE 1-10-80

UT CALIBRATION BLOCK, UT-115, RPV TOP HEAD DOLLAR PLATE STANDARD

DWG NO UTCB-203 REV 1

NO	DATE	REVISION	BY	CHKD	APPVD
1	6-10-80	AS BUILT	KMA	TFH	[illegible]



HOLES	⌀	DEPTH
1	.251	3.05
2	.251	3.04
3	.251	3.05
4	.126	2.00
5	.126	2.00
6	.138	2.00
7	.125	2.99
8	.252	3.01
9	.252	3.00
10	.252	3.06
11	.132	3.03
12	.76	2.63
13	.76	3.87
14	.76	1.35
15	.257	——
16	.257	——
17	.256	——

NOTCHES	A	B
LENGTH	2.00	2.01
WIDTH	.125	.119
DEPTH	.104	.111

MADE FROM: TOP HD RAD ℄
CONTRACT Nº: 72-2647
MATERIAL SPEC: SA 533 GR B CL 1
HEAT Nº: A 0709-1
BASE METAL THK: 5 ⅝

T/4 = 1.25, T/2 = 2.62, 3T/4 = 3.84

WNP-2 UT-116

NOTES:

1. GE DESIGNED & CBIN FABRICATED CALIBRATION BLOCK. (SEE REF. DWGS FOR FABRICATION NOTES, REQUIREMENTS, PIECE Nº & CUTTING SKETCH)
2. DUE TO VESSEL CURVATURE, METAL PATH DISTANCES WILL BE LONGER ON THE VESSEL THAN THIS BLOCK.
3. THE ½ ℄ BEAM SPREAD DETERMINATION HOLE (6) IS LOCATED FARTHER FROM THE CONTACT SURFACE THAN ½ ℄. USE AS BUILT DIMENSION.
4. THE ¼ ℄ (12) & ¾ ℄ (10) HOLES ARE LOCATED CLOSER TO THE CONTACT SURFACE THAN ¼ ℄ & ¾ ℄ RESPECTIVELY. USE AS BUILT DIM.
5. ALL DIMENSIONS ARE IN INCHES.

REFERENCE

CBI NUCLEAR CO.
205 AE 023 SH 116 REV 4

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

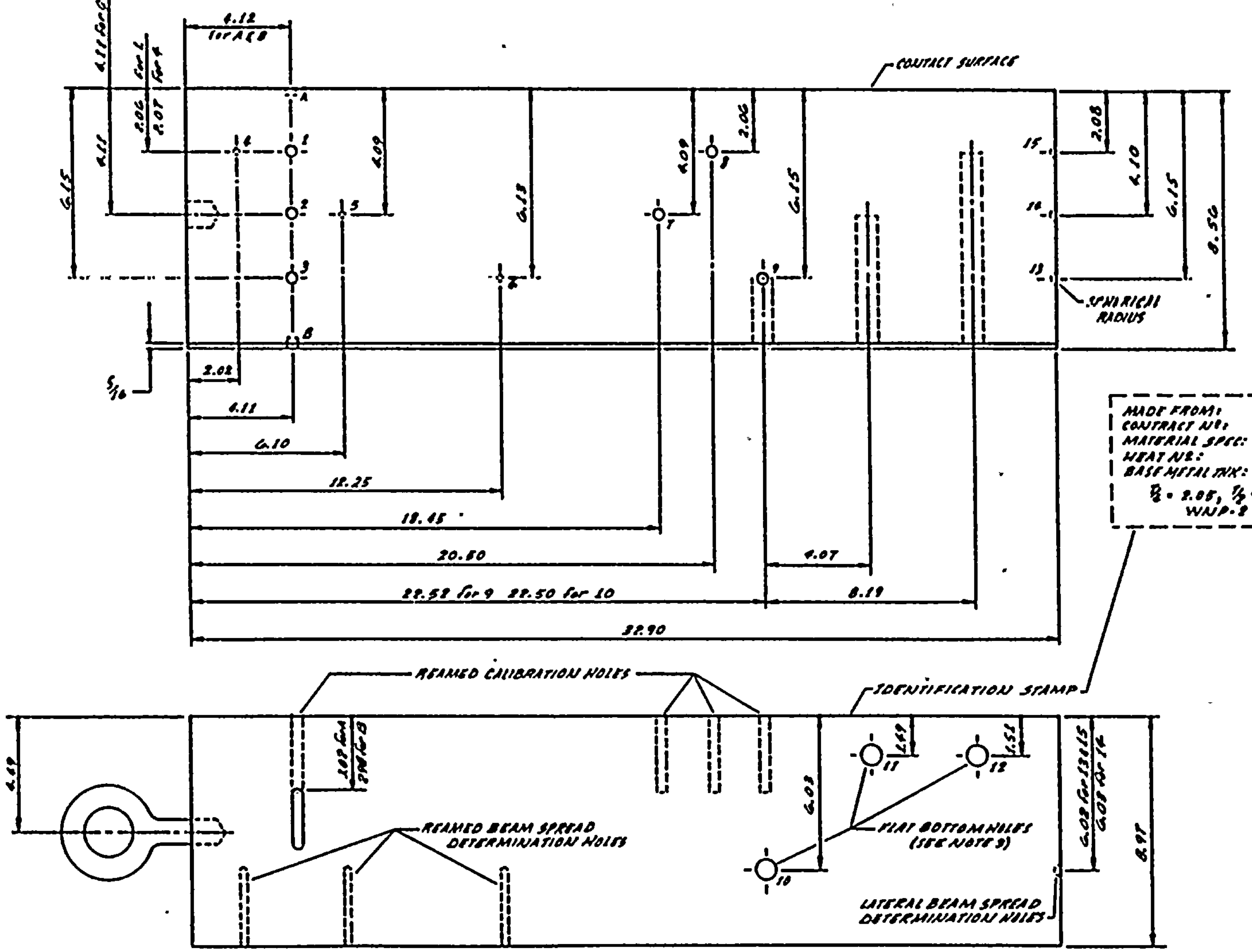
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON

WNP-2

UT CALIBRATION BLOCK, UT-116
RPV TOP HEAD RADIAL PLATES

ENGINEER T. HOYLE
DRAWN K. McANDREW
DATE 1-11-80
DWG NO UTCB-204
REV 1

NO	DATE	REVISION	BY	CHKD	APPVD
1	6-4-80	AS BUILT	[illegible]	[illegible]	[illegible]



HOLES	⌀	DEPTH
1	.376	3.16
2	.376	3.09
3	.372	3.09
4	.132	2.00
5	.130	2.05
6	.130	3.10
7	.377	3.16
8	.378	3.12
9	.378	3.09
10	.75	2.16
11	.75	4.25
12	.75	6.27
13	.376	—
14	.376	—
15	.376	—

NOTCHES	A	B
LENGTH	2.00	2.06
WIDTH	.125	.132
DEPTH	.192	.440

MADE FROM: BOT HD DOL R
CONTRACT NO: 72-2647
MATERIAL SPEC: SA 533 GR B CL 1
HEAT NO: B 5130-1
BASE METAL THK: 8
T/4 = 2.05, T/2 = 4.09, 3T/4 = 6.10
WNP-2 UT-117

NOTES:

1. GE DESIGNED & CBIN FABRICATED CALIBRATION BLOCK. (SEE REF DWG FOR FABRICATION NOTES, REQUIREMENTS, PIECE NO & CUTTING SKETCH)
2. DUE TO VESSEL CURVATURE, METAL PATH DISTANCES WILL BE LONGER ON THE VESSEL THAN THIS BLOCK.
3. THE FLAT BOTTOM HOLES (10, 11 & 12) ARE CLOSER TO THE CONTACT SURFACE THAN 1/4 t, 1/2 t & 3/4 t. USE AS BUILT DIMENSIONS.
4. ALL DIMENSIONS ARE IN INCHES.

REFERENCE

CBI NUCLEAR CO.
205 AE 023 SHEET 117 REV 3

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

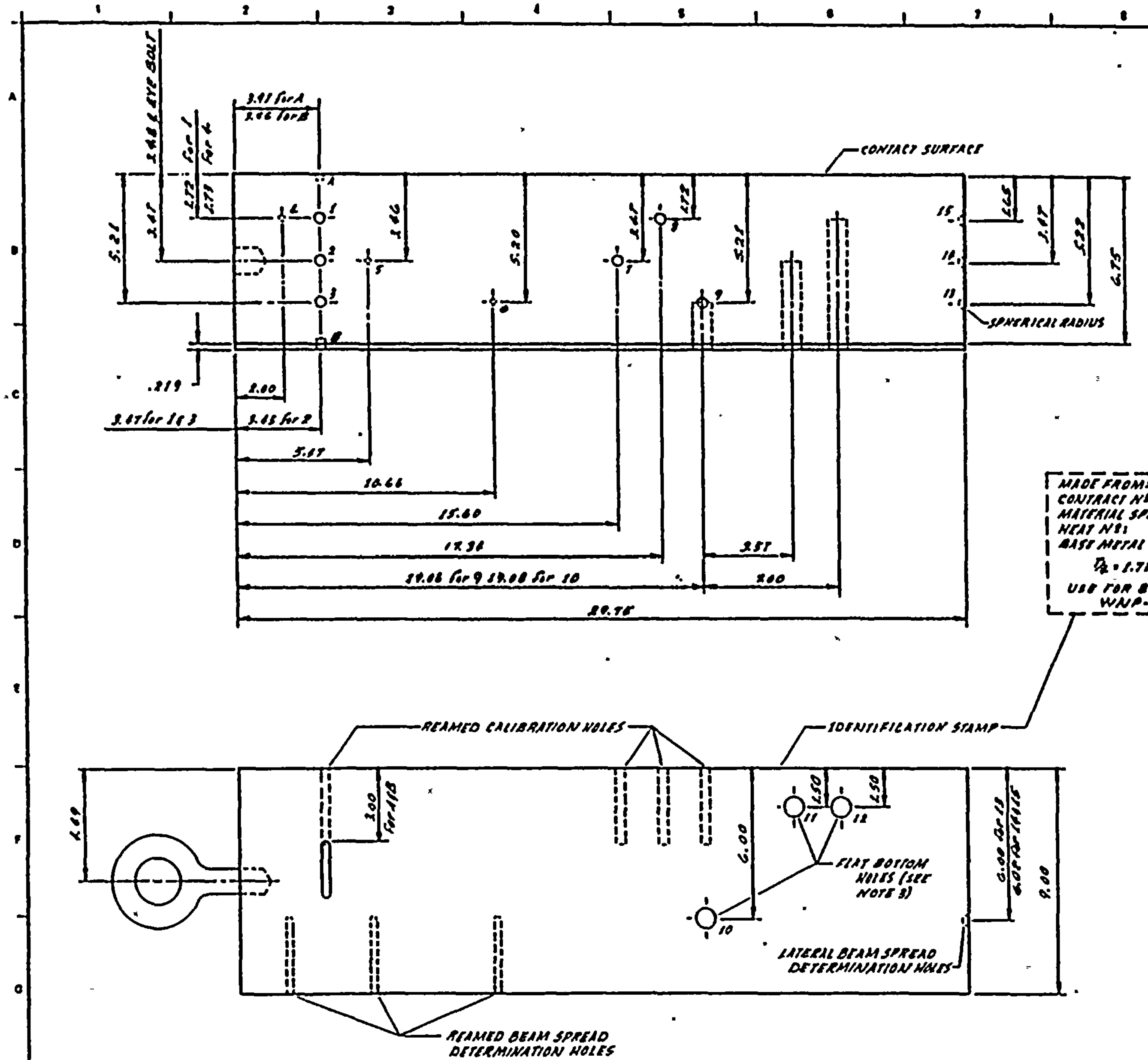
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON

WNP-

UT CALIBRATION BLOCK, UT 117
RPV BOTTOM HEAD DOLLAR PLATES

ENGINEER T HOYLE
DRAWN K McANDREW
DATE 2-11-80
DWG NO UTCB-205
REV 1

NO	DATE	REVISION	BY	CHKD	APPVD
1	6-10-80	AS BUILT	[illegible]	[illegible]	[illegible]



HOLES	⌀	DEPTH
1	.316	3.10
2	.316	3.11
3	.316	2.96
4	.132	3.09
5	.130	3.06
6	.130	3.08
7	.316	3.10
8	.316	2.76
9	.316	3.15
10	.77	1.81
11	.76	3.56
12	.77	5.26
13	.320	—
14	.312	—
15	.320	—

NOTCHES	A	B
LENGTH	2.00	2.00
WIDTH	.125	.128
DEPTH	.171	.152

MADE FROM: BOT HD DOL ℄
CONTRACT Nº: 72-2647
MATERIAL SPEC: SA 533 GR B CL 1
HEAT Nº: B 5330-1
BASE METAL THK: 6 3/4
T/4 = 1.72, T/2 = 3.47 3T/4 = 5.20
USE FOR BOTTOM HEAD RAD. PLATE
WNP-2 UT-118

NOTES:

1. GE DESIGNED & CB&I FABRICATED CALIBRATION BLOCK. (SEE REF DWG FOR FABRICATION NOTES, REQUIREMENTS, PIECE Nº, & CUTTING SKETCH)
2. DUE TO VESSEL CURVATURE METAL PATH DISTANCES WILL BE LONGER ON THE VESSEL THAN THIS BLOCK.
3. THE 1/2 T (11) & 3/4 T (10) FLAT BOTTOM HOLES ARE LOCATED CLOSER TO THE CONTACT SURFACE THAN 1/2 T & 3/4 T RESPECTIVELY. USE AS BUILT DIMENSIONS.
4. ALL DIMENSIONS ARE IN INCHES.
5. WHEN USING NOTCHES FOR EVALUATION, USE AS BUILT DIMENSIONS - THEY ARE NOT 2% NOTCHES.

REFERENCE

CBI NUCLEAR CO.
205 AB 089 SH 118 REV 3

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

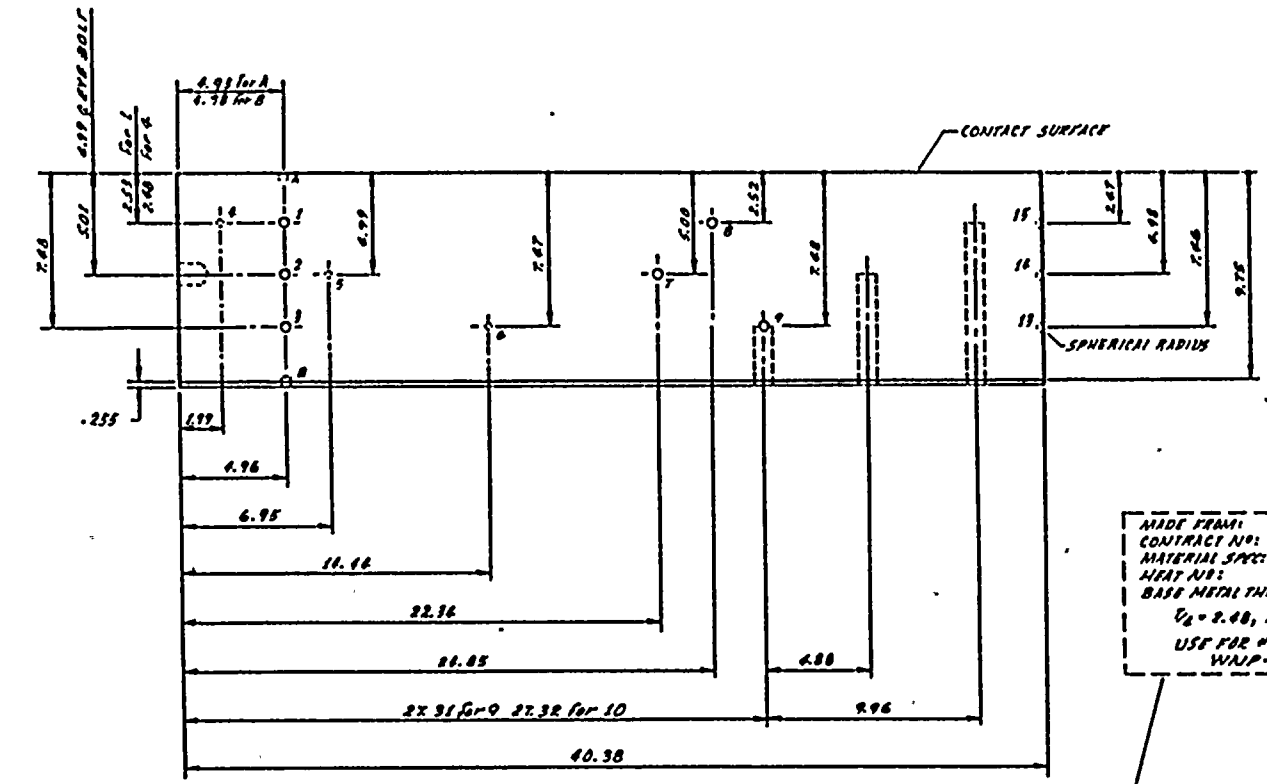
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

ENGINEER J HOYLE
DRAWN K McANDREW
DATE 1-14-80

WNP-2
UT CALIBRATION BLOCK, UT 118
RPV BOTTOM HEAD RADIAL PLATES

DWG NO UTCB-206 REV 1

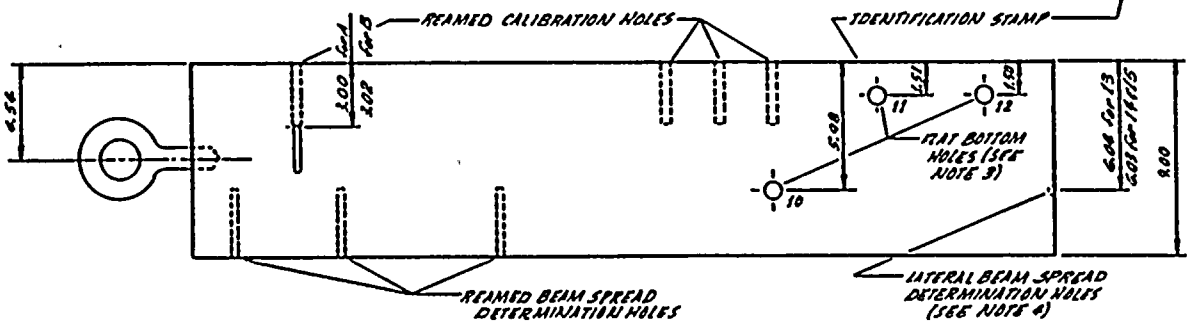
NO	DATE	REVISION	BY	CHKD	APPVD
1	6-10-80	AS BUILT	[illegible]	[illegible]	[illegible]



HOLES	⌀	DEPTH
1	.378	3.13
2	.378	3.13
3	.378	3.12
4	.187	3.00
5	.152	3.02
6	.152	3.00
7	.377	3.13
8	.378	3.13
9	.378	3.13
10	.76	2.53
11	.76	5.03
12	.76	7.52
13	.382	—
14	.380	—
15	.381	—

NOTCHES	A	B
LENGTH	2.00	2.00
WIDTH	.195	.190
DEPTH	.202	.491

MADE FROM: SHROUD LEG MATERIAL
CONTRACT NO: 72-2667
MATERIAL SPEC: SA 533 GR B CL 1
HEAT NO: A 0093-1
BASE METAL THK: 9.75"
$t/_8$ = 2.48, $t/_2$ = 4.97, $3t/_4$ = 7.45
USE FOR #1 SHELL RING
WNP-2 UT-119



NOTES:

1. GE DESIGNED & CBI N FABRICATED CALIBRATION BLOCK. (SEE REF DWG. FOR FABRICATION NOTES, REQUIREMENTS, & PIECE NOS.)
2. DUE TO VESSEL CURVATURE; METAL PATH DISTANCES WILL BE LONGER ON THE VESSEL THAN THIS BLOCK.
3. THE FLAT BOTTOM HOLES (10, 11, 12) ARE LOCATED CLOSER TO THE CONTACT SURFACE THAN $t/_8$, $t/_2$ & $3t/_4$. USE AS BUILT DIM.
4. THE $3t/_4$ L (13) LATERAL BEAM SPREAD DETERMINATION HOLE IS LOCATED SLIGHTLY OFF CENTER. USE AS BUILT DIM.
5. ALL DIMENSIONS ARE IN INCHES.

REFERENCE
CBI NUCLEAR CO.
205 AE 028 SH. 119 REV 3

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352
WNP-2

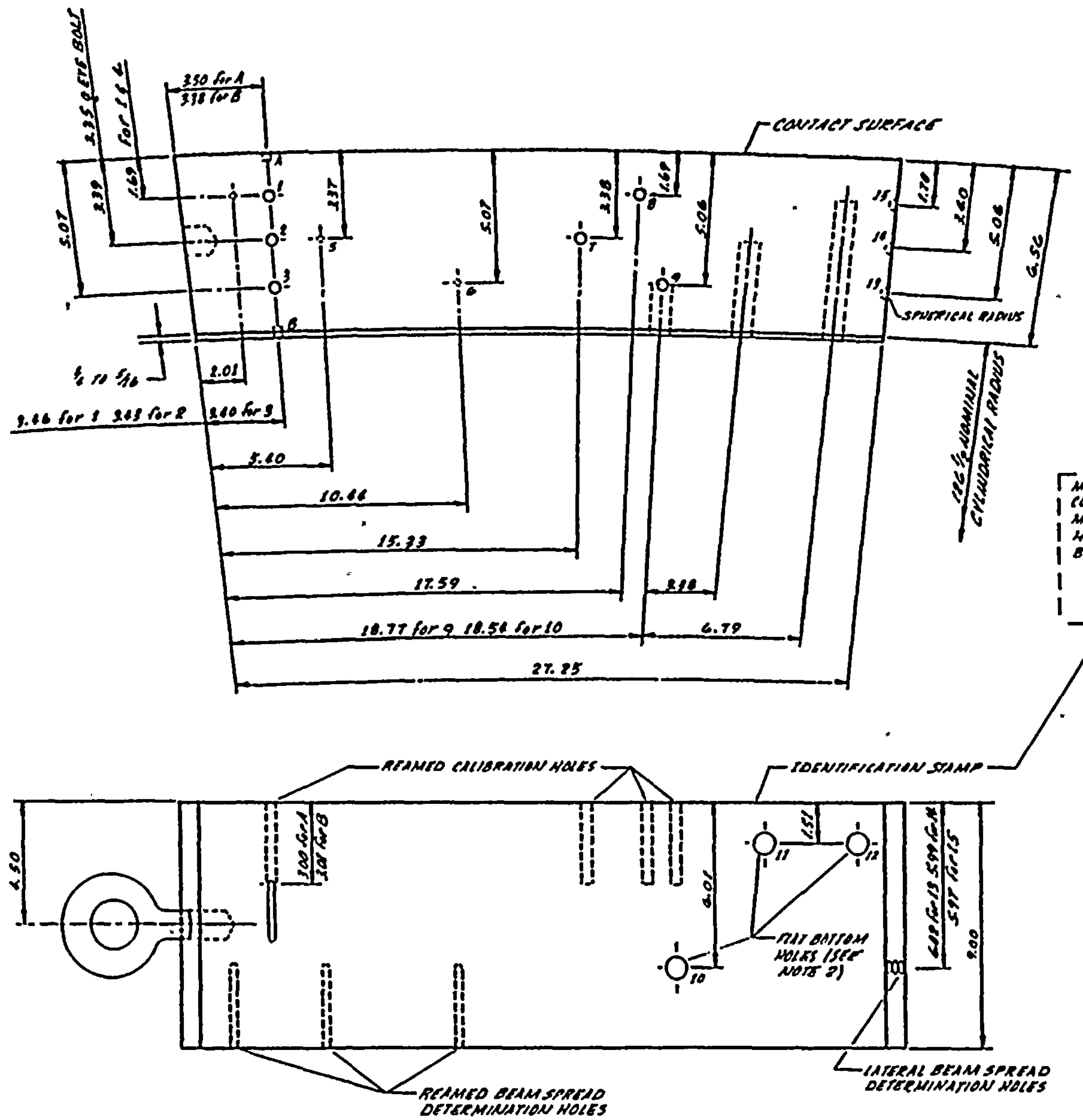
ENGINEER T HOYLE
DRAWN K. McANDREW
DATE 5-14-80

UT CALIBRATION BLOCK, UT 119
RPV #1 SHELL RING

DWG NO UTCB-ROT REV 1

NO	DATE	REVISION	BY	CHKD	APPVD
1	6-13-80				

NO	DATE	REVISION	BY	CHKD	APPVD



HOLES	⌀	DEPTH
1	.313	2.00
2	.313	3.02
3	.313	3.02
4	.130	2.04
5	.129	2.01
6	.129	2.01
7	.313	3.03
8	.313	3.03
9	.314	3.01
10	.76	1.82
11	.76	3.47
12	.76	5.17
13	.319	—
14	.319	—
15	.319	—

NOTCHES	A	B
LENGTH	2.00	2.00
WIDTH	.127	.128
DEPTH	.130	.415

MADE FROM: #3 SHELL RING
CONTRACT NO: 78-2G67
MATERIAL SPEC: SA 533 GR B CL 1
HEAT NO: C 1308-1
BASE METAL THK: 6 3/16.
1/4 = 1.69, 1/2 = 3.38 3/4 = 5.06
WNP-2 UT-120

NOTES:

1. GE DESIGNED & CBIN FABRICATED CURVED CALIBRATION BLOCK. (SEE REF. DWG. FOR FABRICATION NOTES, REQUIREMENTS, PIECE NO & CUTTING SKETCH.)
2. THE 1/4 T (10) FLAT BOTTOM HOLE IS CLOSER TO THE CONTACT SURFACE THAN 1/4 T. USE AS BUILT DIM.
3. ALL DIMENSIONS ARE IN INCHES.

REFERENCE

CBI NUCLEAR CO.
205 AE 023 SH 120 REV 3

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

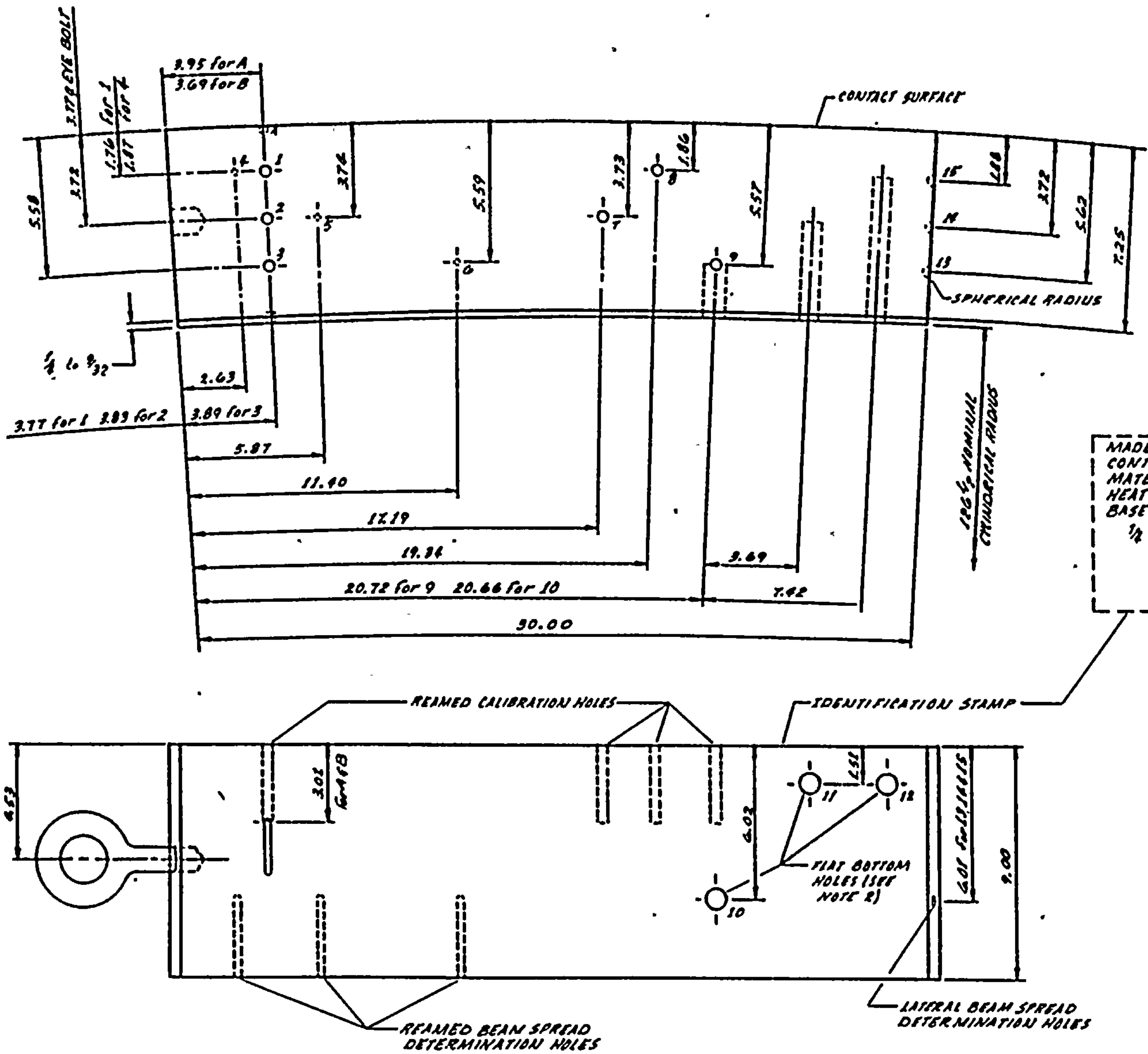
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352
WNP-2

					1	6-14-91	AS BUILT		[illegible]	[illegible]	[illegible]	
NO	DATE	REVISION	BY	CHKD	APPVD	NO	DATE	REVISION	BY	CHKD	APPVD	

ENGINEER T HOYLE
DRAWN K McANDREW
DATE 1-15-80

UT CALIBRATION BLOCK, UT 120
RPV #2 & #3 SHELL RINGS

DWG NO UTCB-208
REV 1



HOLES	ϕ	DEPTH
1	.314	3.06
2	.316	3.06
3	.312	3.08
4	.188	2.97
5	.189	2.98
6	.190	2.99
7	.313	3.06
8	.311	3.05
9	.311	3.06
10	.75	2.00
11	.75	3.96
12	.75	5.85
13	.312	—
14	.312	—
15	.312	—

NOTCHES	A	B
LENGTH	1.99	1.98
WIDTH	.125	.126
DEPTH	.162	.405

MADE FROM: #4 SHELL RING
CONTRACT Nº: 78-2647
MATERIAL SPEC: SA 533 GR B CL 1
HEAT Nº: C 1873
BASE METAL THK: 7¼
¼t = 1.86, ½t = 3.72, ¾t = 5.58
¾ DIA HOLES
⅛t = 1.78 ½t = 3.67
WNP-2 UT-121

NOTES:

1. GE DESIGNED & CBIN FABRICATED CURVED CALIBRATION BLOCK. (SEE REF. DWG. FOR FABRICATION NOTES, REQUIREMENTS, PIECE Nº & CUTTING SKETCH)
2. THE ¼t (12) & ½t (11) FLAT BOTTOM HOLES ARE CLOSER TO THE CONTACT SURFACE THAN ¼t & ½t RESPECTIVELY. USE AS BUILT DIM.
3. ALL DIMENSIONS ARE IN INCHES.

REFERENCE
CBI NUCLEAR CO.
205 AE 083 SH 121 REV 3

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

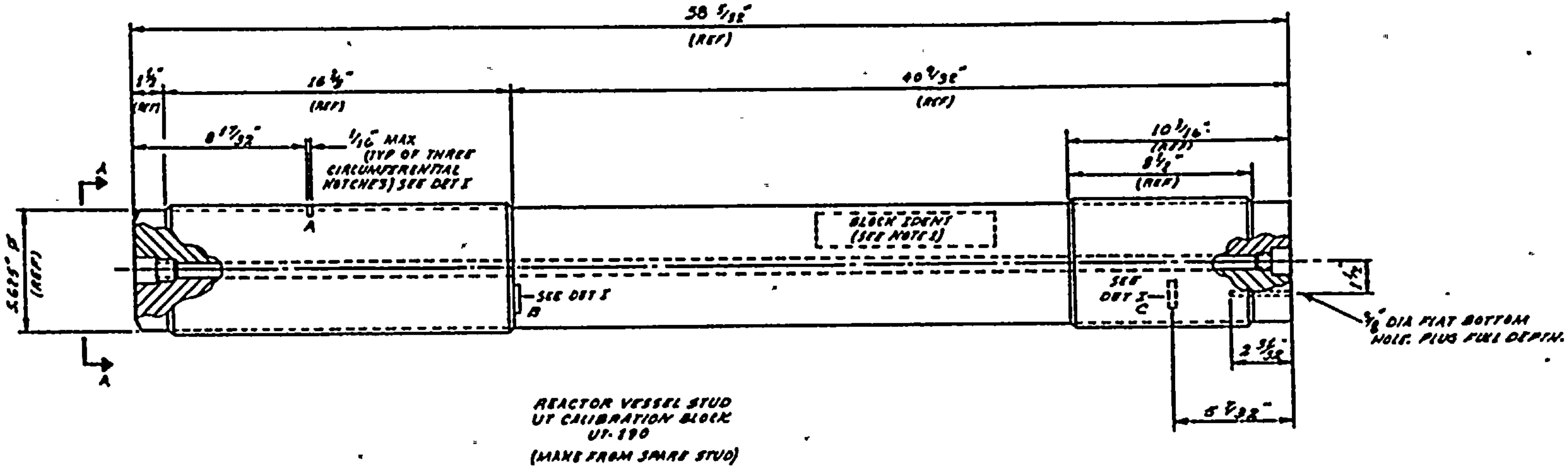
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

NO	DATE	REVISION	BY	CHKD	APPVD
1	6.10.80	AS BUILT	KMA	TTR	RWL

ENGINEER T HOYLE
DRAWN K. McANDREW
DATE 1-15-80

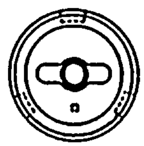
WNP-2
UT CALIBRATION BLOCK, UT 121 RPV #4 SHELL RING

DWG NO UTCB-209 REV 1

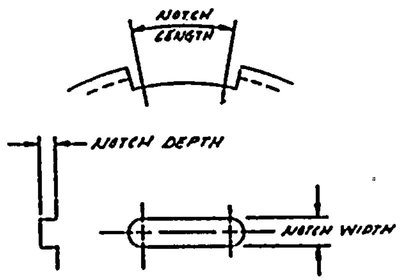


REACTOR VESSEL STUD
UT CALIBRATION BLOCK
UT-190
(MAKE FROM SPARE STUD)

NOTCHES	A	B	C
LENGTH	0.379	0.379	0.372
WIDTH	0.0625	0.0626	0.0626
DEPTH	0.166	0.149	0.157



SECTION A-A



DETAIL I
SEE NOTE 3

NOTES:

1. STUD STAMPED ON SHANK WITH 1/8" HIGH STEEL STAMP WITH CAL BLOCK NO "UT-190".
2. 1/32 INCH MACHINING TOLERANCES ARE APPLICABLE UNLESS OTHERWISE NOTED.
3. LOCATE NOTCHES 120° APART AS SHOWN IN SECTION A-A.

REFERENCES:

CBI NUCLEAR CO.
205 AE 628 SHT. 35 REV 1

DANIEL W. PORTER — PROFESSIONAL ENGINEER (seal)

Daniel W. Porter

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

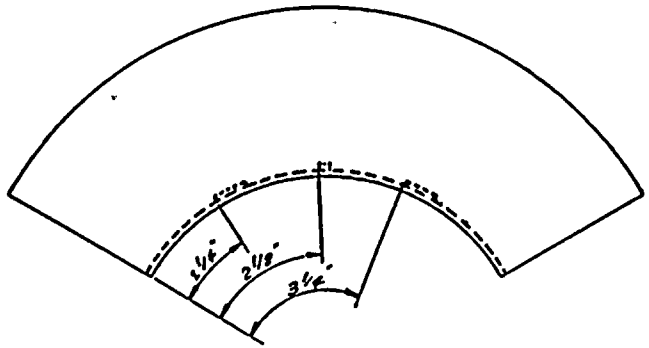
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

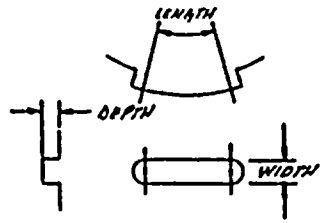
NO	DATE	REVISION	BY	CHKD	APPVD
2	6-4-81	CHANGED NOTCH DET. ZN F-G	KML	TFH	[illegible]
1	3-25-81	REDRAWN, CALIBRATION DESIGN CHANGED TO FULL LENGTH STANDARD CALIBRATION.	KML	[illegible]	[illegible]
0	7-29-78	ISSUED FOR CONSTRUCTION	KML	NCH	[illegible]
3	10-29-9	AS BUILT	[illegible]	[illegible]	TFH

ENGINEER NC HALLAS
DRAWN K. McANDREW
DATE 7-28-78

WNP-2
RPV STUD
UT CALIBRATION BLOCK

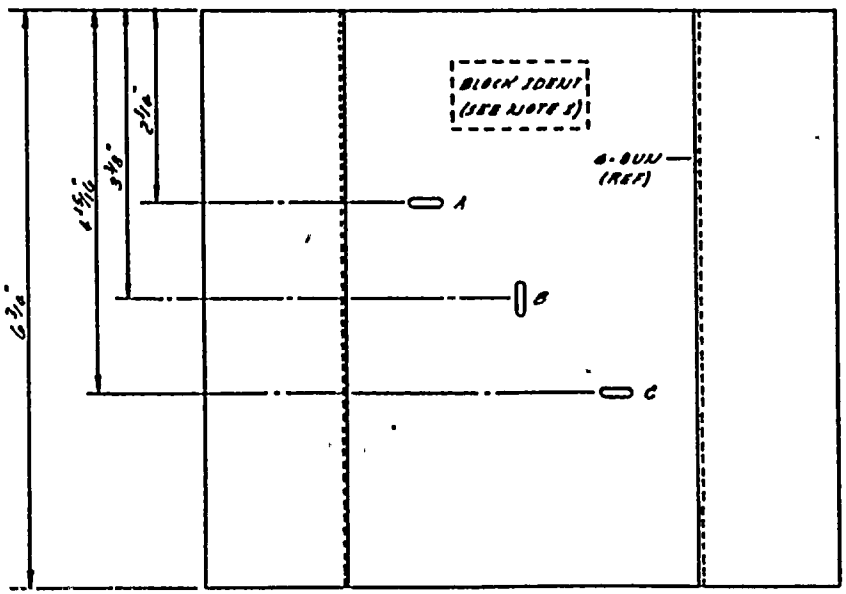
DWG NO UTCB-210 | REV 3





NOTCH DETAIL

NOTCH	LENGTH	WIDTH	DEPTH
A	0.374	0.188	0.0625
B	0.373	0.250	0.0625
C	0.371	0.365	0.0625



NOTES:

1. BLOCK STAMPED WITH 5/32 HIGH STEEL STAMP WITH CAL BLOCK NO. UT-132 & WNP-2.
2. MADE FROM SPARE NUT.

REFERENCES:

CBI NUCLEAR CO
206 AE 083 SH 36 REV 5

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

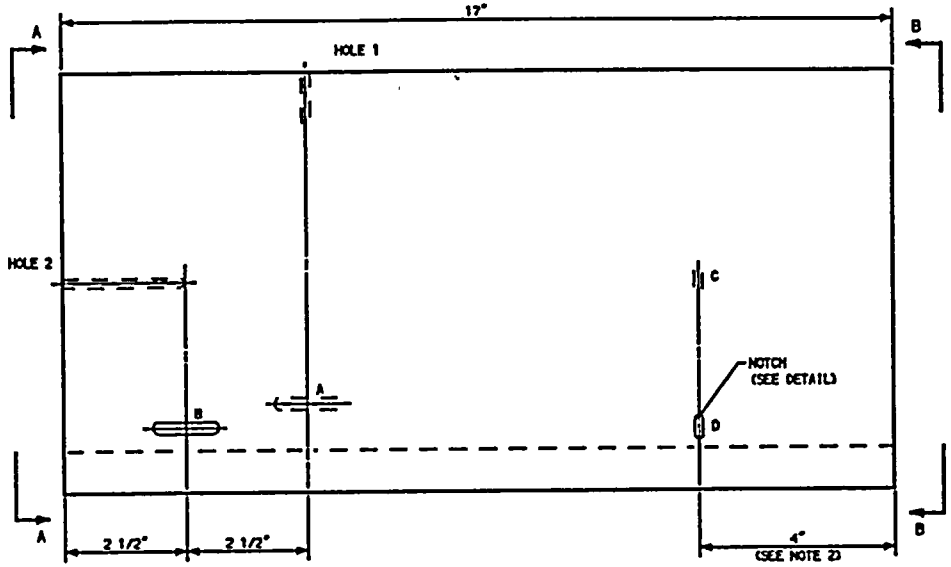
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
RPV NUT
UT CALIBRATION BLOCK, UT-132

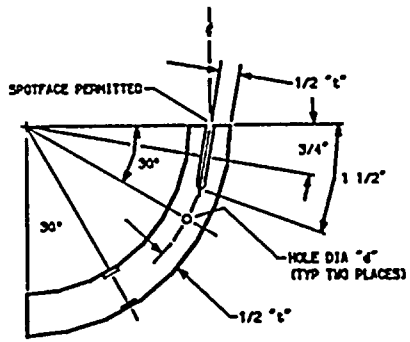
DWG NO UTCB-211 REV 3

ENGINEER N.C. MILLS
DRAWN K.J. McANDREW
DATE 7-12-78

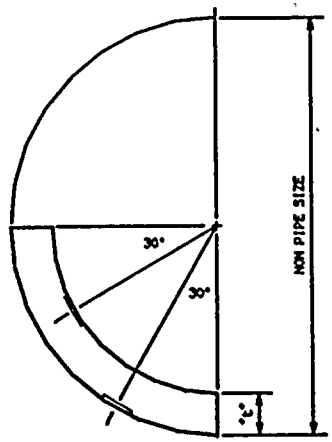
NO	DATE	REVISION	BY	CHKD	APPVD
3	2-11-81	AS BUILT, REDRAWN (SPACE WAS SUSTAINED)	KJM	DR	TFH
2	6-8-81	REVISED AS NOTED	KJM	TFH	DWP
1	7-31-79	REVISED NOTCHES AS NOTED	KJM	TFH	DWP
0	7-19-78	ISSUED FOR CONSTRUCTION	KJM	DWP	TFH



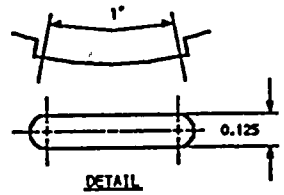
CAL BLOCK NUMBER	NOM. PIPE SIZE	NOM. WALL THK "t"	MATERIAL SPEC	NOTCH DEPTH	HOLE DIA "d"	HEAT NUMBER
UT-1	30	1.250	SA 155 KCF-70	0.123 0.122 0.118 0.110	1/8"	M10234
UT-2	28	1.420	SA 155 KCF-70	0.127 0.125 0.130 0.111	1/8"	14308
UT-3	26	1.125	SA 155 KCF-70	0.109 0.113 0.108 0.109	1/8"	M01468
UT-4	SEE UTCB-224					
UT-5	24	1.812	SA 106 GR B	0.152 0.151 0.155 0.154	1/8"	L2308
UT-6	24	1.218	SA 106 GR B	0.113 0.130 0.110 0.115	1/8"	L85730
UT-7	24	1.140	SA 358 GR 304	0.109 0.109 0.110 0.108	1/8"	19068
UT-8	SEE UTCB-233					
UT-9	20	1.031	SA 358 GR 304	0.105 0.106 0.109 0.104	1/8"	25090
UT-10	20	1.031	SA 106 GR B	0.105 0.099 0.099 0.106	1/8"	L85486
UT-11	18	1.375	SA 106 GR B	0.124 0.120 0.126 0.125	1/8"	M10188
UT-12	18	0.938	SA 106 GR B	0.093 0.095 0.092 0.092	3/32"	L00193
UT-13	16	1.035	SA 358 GR 304	0.075 0.075 0.077 0.078	3/32"	37060
UT-33	24	2.343	SA 106 GR B	0.186 0.186 0.193 0.182	3/16"	443549
UT-13R	16	1.035	SA 358 GR 304	0.073 0.077 0.073 0.076	3/32"	37060



SECTION A-A

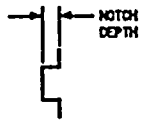


SECTION B-B



DETAIL

(TYPICAL FOUR PLACES EXCEPT FOR CURVATURE. SEE NOTE 6.)



KEY

NOTES

1. BLOCKS STAMPED WITH 1/8" HIGH STEEL STAMP WITH WNP-2, CAL BLOCK NUMBER, NOM PIPE SIZE, MATERIAL AND HEAT NUMBER.
2. DIMENSION 2 1/2" FOR UT-1.
3. DELETED
4. DELETED
5. ALL DIMENSIONS ARE IN INCHES.
6. NOTCH BOTTOM CURVATURE CONFORMS TO PIPE WALL CURVATURE.

NO	DATE	REVISION	BY	CHKD	APVD	NO	DATE	REVISION	BY	CHKD	APVD
7	5-14-90	ADDED UT-13R, AS BUILT. NUMBERED HOLES.	K-McA	OJ	TFH	3	3-26-79	AS BUILT, UT-1, 3, 5, 6, 10, 11 & 12.	K-McA	MCH	LFB
6	12-4-89	ADDED LOGO & REF DWG FOR UT-8. REDRAWN	K-McA	DPR	TFH	2	2-2-78	CORRECTED Z DIMENSIONS, DELETED UT-4.	K-McA	DMP	LFB
5	12-2-81	CORRECTED HEAT NO. FOR UT-8	K-McA	DPR	TFH	1	1-2-78	TABLE REVISED. HOLE DEPTH CHANGED.	K-McA	TFH / DMP	LFB
4	7-17-79	AS BUILT UT-2, 7, 9, 13 & 33.	K-McA	TFH / DMP	LFB	0	7-13-78	ISSUED FOR CONSTRUCTION	K-McA	OJ / MCH	LTH

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

ENGINEER NC HALLAS

DRAWN K-McANDREW

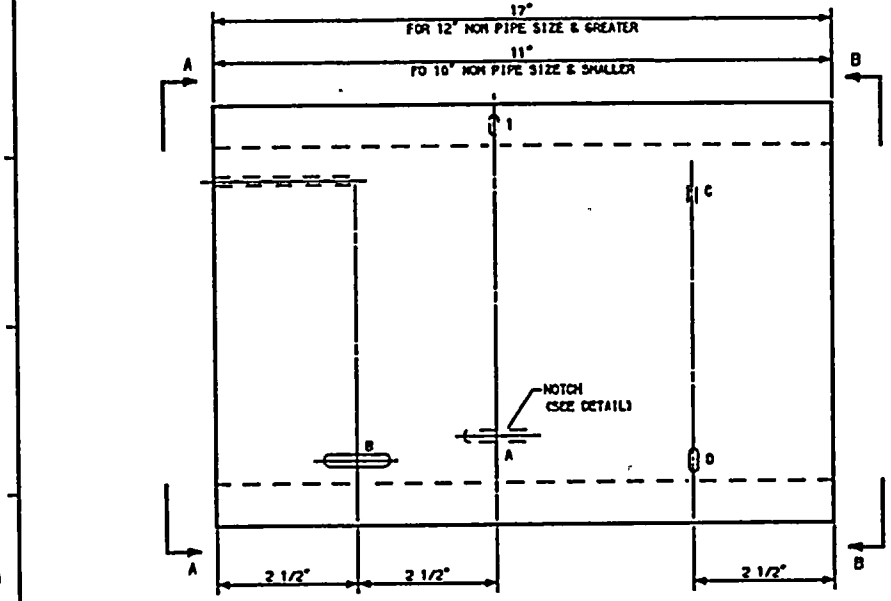
DATE 7-10-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

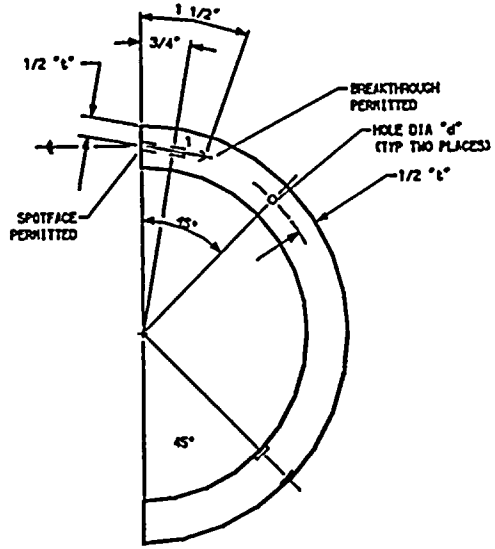
WNP-2

UT CALIBRATION BLOCKS

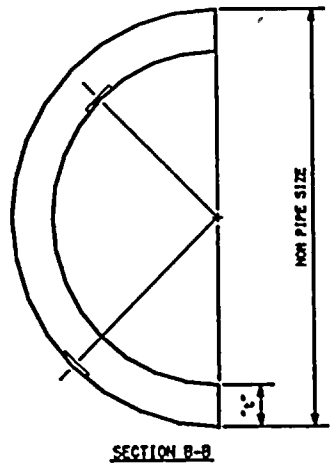
DWG NO. UTCB-220 REV 7



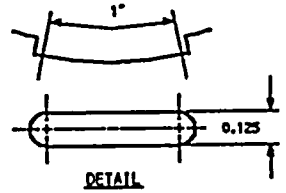
CAL BLOCK NUMBER	NOM. PIPE SIZE	NOM. WALL THK "t"	MATERIAL SPEC	NOTCH DEPTH	HOLE DIA "d"	HEAT NUMBER
UT-14	14	0.750	SA 106 GR B	0.075 0.076 0.075 0.076	3/32"	M10630
UT-15	12	1.000	SA 106 GR B	0.091 0.096 0.097 0.097	3/32"	L45845
UT-16	12	0.844	SA 106 GR B	0.081 0.086 0.082 0.083	3/32"	84975
UT-17	12	0.688	SA 106 GR B	0.073 0.067 0.068 0.070	3/32"	L05057
UT-18	SEE UTCB-232					
UT-19	12	0.688	SA 358 GR 304	0.068 0.069 0.070 0.071	3/32"	297134
UT-20	SEE UTCB-232					
UT-21	10	0.719	SA 106 GR B	0.071 0.072 0.071 0.073	3/32"	152177
UT-22	10	0.594	SA 106 GR B	0.056 0.056 0.057 0.057	3/32"	N33495
UT-23	10	0.844	SA 106 GR B	0.081 0.081 0.081 0.081	3/32"	N33495
UT-24	8	0.906	SA 106 GR B	0.090 0.092 0.079 0.086	3/32"	N54295
UT-25	8	0.594	SA 106 GR B	0.060 0.061 0.060 0.060	3/32"	45037
UT-26	8	0.500	SA 376 TP 304	0.047 0.054 0.053 0.051	3/32"	M1385
UT-27	6	0.562	SA 106 GR B	0.054 0.061 0.058 0.058	3/32"	M10088
UT-28	6	0.432	SA 106 GR B	0.046 0.045 0.042 0.044	3/32"	L84413
UT-29	4	0.337	SA 312 TP 304	0.036 0.037 0.032 0.032	3/32"	F50309
UT-30	4	0.337	SA 106 GR B	0.030 0.036 0.035 0.033	3/32"	N34874
UT-31	4	0.237	SA 376 TP 304	0.027 0.024 0.020 0.025	3/32"	01480
UT-32	5	0.500	SA 106 GR B	0.056 0.055 0.050 0.053	3/32"	L44776



SECTION A-A

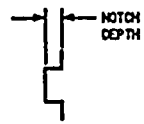


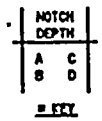
SECTION B-B



DETAIL

(TYPICAL FOUR PLACES EXCEPT FOR CURVATURE. SEE NOTE 6.)





NOTES

1. STAMP BLOCKS WITH 1/8" HIGH STEEL STAMP WITH WNP-2, CAL BLOCK NUMBER, NOM PIPE SIZE, MATERIAL AND HEAT NUMBER.
2. DELETED
3. DELETED
4. DELETED
5. ALL DIMENSIONS ARE IN INCHES.
6. NOTCH BOTTOM CURVATURE CONFORMS TO PIPE WALL CURVATURE.

NO	DATE	REVISION	BY	CHKD	APVD
6	12-4-89	ADDED LOGO & REF DWG FOR UT-18 & UT-20. REDRAW	K-MoA	DPR	TFH
5	12-2-81	CORRECTED HEAT NO. FOR UT-31.	K-MoA	DPR	TFH
4	7-17-79	AS BUILT UT-32.	K-MoA	TFH / DMP	LFB
3	3-26-79	AS BUILT UT-14 THRU 31.	K-MoA	NCH	LFB
2	2-2-79	CORRECTED Z DIMENSION FOR UT-31.	K-MoA	DMP	LFB
1	1-2-79	TABLE REVISED. HOLE DEPTH CHANGED.	K-MoA	TFH / DMP	LFB
0	7-13-78	ISSUED FOR CONSTRUCTION	K-MoA	DMP / NCH	LTH

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

ENGINEER NC HALLAS

DRAWN K-MoANDREW

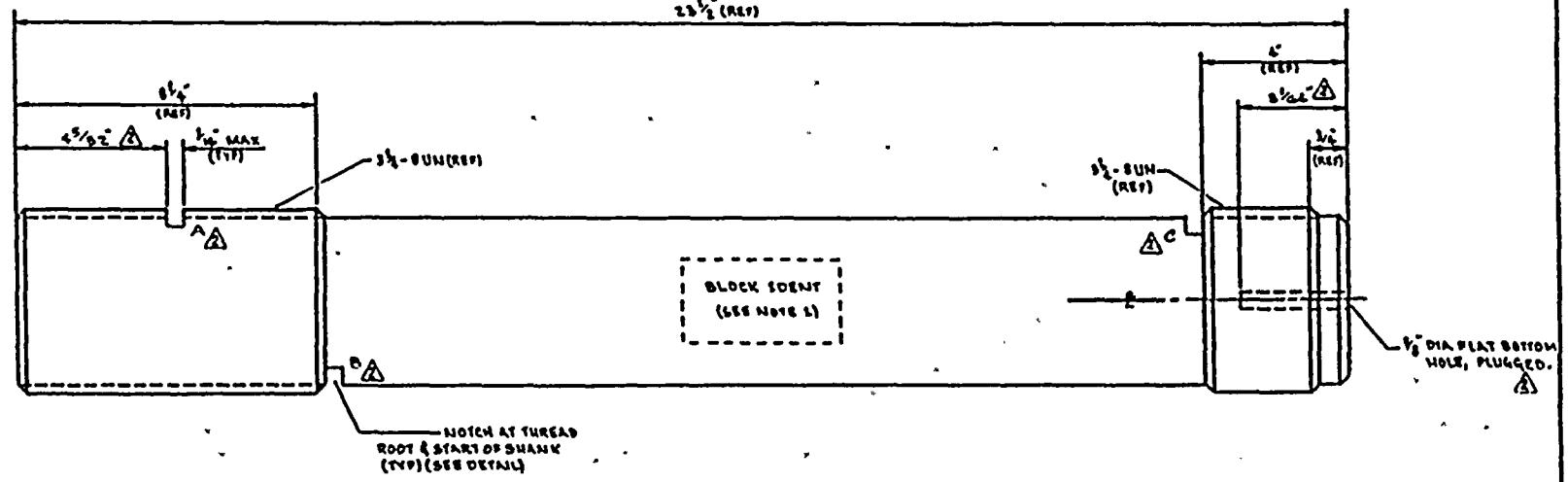
DATE 7-10-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

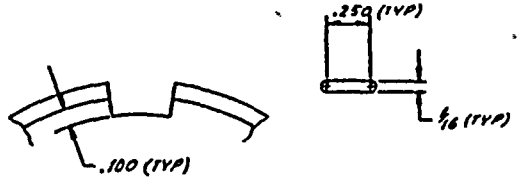
WNP-2

UT CALIBRATION BLOCKS

DWG NO. UTCB-221 REV 6



NOTCH	LENGTH	WIDTH	DEPTH
A	.252	1/16"	.101
B	.248	1/16"	.100
C	.253	1/16"	.100



NOTCH DETAIL

RECIRC PUMP STUD UT CALIBRATION BLOCK UT-41 (MAKE FROM SPARE STUD)

NOTES:

1. STUD SHANK STAMPED WITH ⅛" HIGH STEEL STAMP WITH CAL BLOCK NO., UT-41 & WNP-2.
2. DELETED.
3. NOTCHES LOCATED 120° APART.
4. NOTCHES ARE PERPENDICULAR TO THE AXIS OF THE STUD.

DANIEL W. PORTER PROFESSIONAL ENGINEER

Daniel W. Porter

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON

WNP 2

RECIRC PUMP STUD UT-41 UT CALIBRATION BLOCK

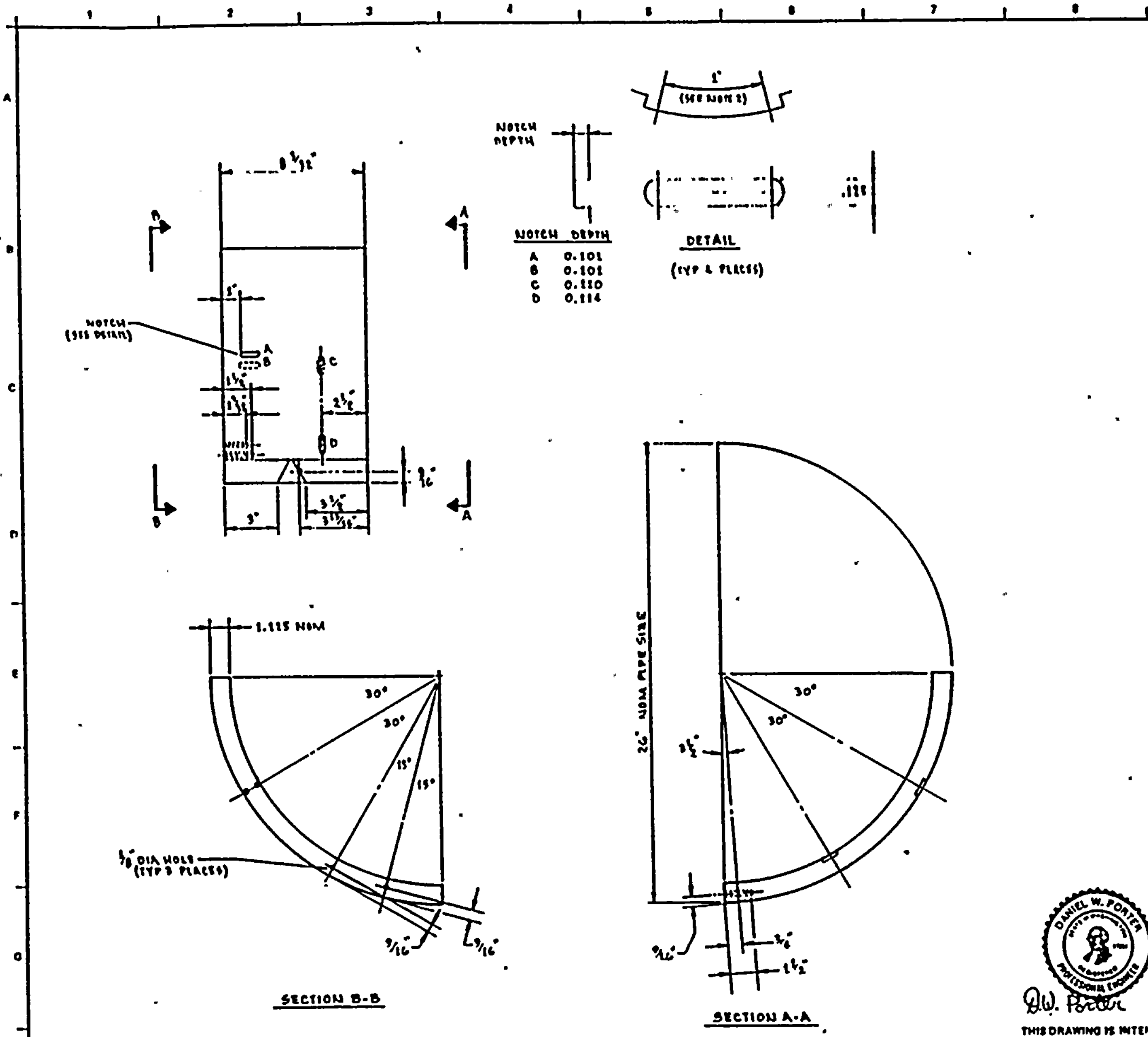
ENGINEERING HALLAS

DRAWN K. McANDREW

DATE 7-11-78

DWG NO UTCB-223 REV 2

NO	DATE	REVISION	BY	CHKD	APPVD
E	4/78	AS BUILT REVISED AS NOTED			
1	6/78	CORRECTED NOTCH DETAIL			
0	7-11-78	ISSUED FOR CONSTRUCTION			



NOTES:

1. BLOCKS STAMPED WITH 1/8" HIGH STEEL STAMP ON ENDS WITH NOM PIPE SIZE, SCH OR WALL THK, MATL SPEC, HEAT NO & CAL BLOCK NO.
2. NOTCH C IS 1¼" IN LENGTH. ALL OTHER NOTCHES ARE 1" IN LENGTH.
3. DELETED
4. ALL DIMENSIONS ARE IN INCHES.
5. NOTCH BOTTOM CURVATURE CONFORMS TO PIPE WALL CURVATURE.

MATERIAL
SA 106 GR B
HEAT NO J4584

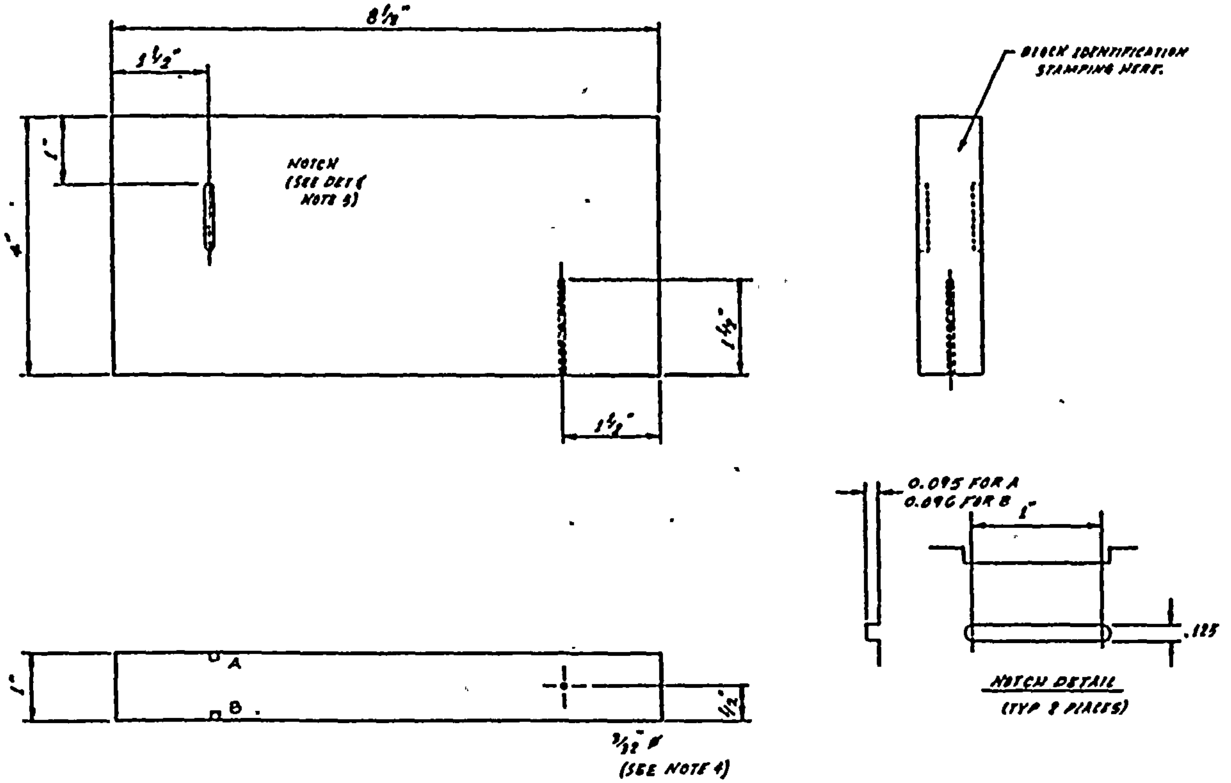
D.W. Porter

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON
WNP-2

NO	DATE	REVISION	BY	CHKD	APPVD
2	12-2-81	ADDED MATERIAL & HEAT NO			
1	4-3-79	AS BUILT			
0	2-16-79	ISSUED FOR CONSTRUCTION			

ENGINEER MC HALLAS
DRAWN K. McANDREW
DATE 2-16-79
UT-4 CALIBRATION BLOCK
DWG NO UTCB-224
REV 2



NOTES:

1. BLOCK STAMPED WITH 1/8" HIGH STEEL STAMP WITH MATERIAL SPEC, HEAT NO., CAL BLOCK NO. & "WNP-2, RHR-HT-EXCH."
2. ALL DIMENSIONS ARE IN INCHES.
3. MACHINING TOLERANCE IS ± 1/32 INCH UNLESS OTHERWISE NOTED.
4. CALIBRATION HOLE PARALLEL TO PLATE SURFACE, NORMAL TO EDGE, DRILLED & REAMED.
5. NOTCHES TO BE MACHINED WITH .125 DIA FLAT END MILL.

MATERIAL

SA 516 GR 70
HEAT NO T1071

DANIEL W. PORTER — PROFESSIONAL ENGINEER

Daniel W. Porter

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

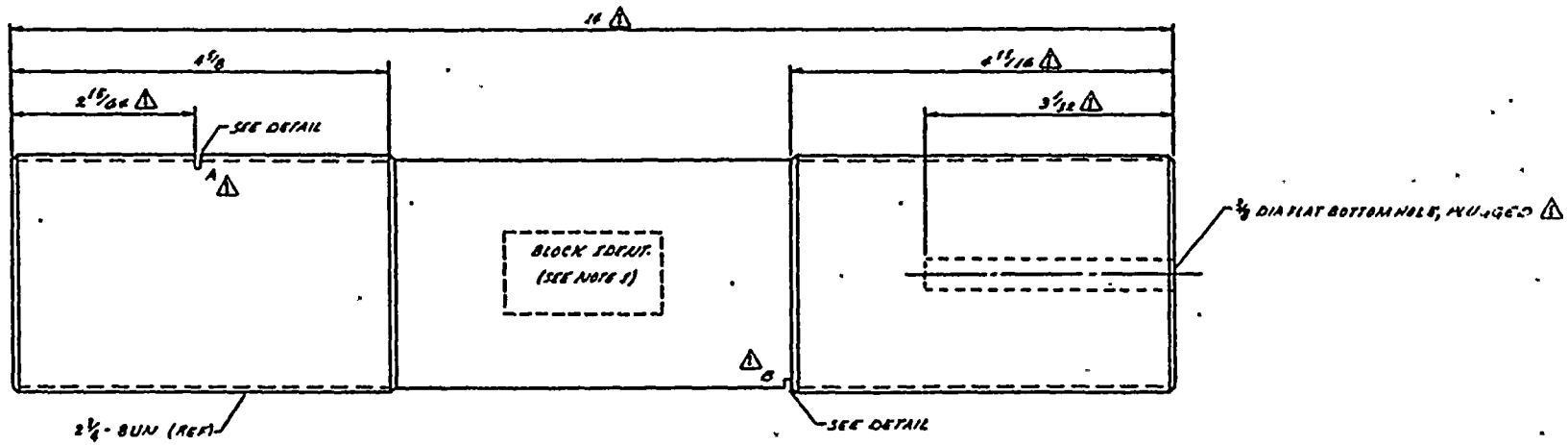
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

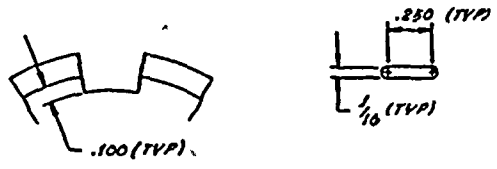
NO	DATE	REVISION	BY	CHKD	APPVD
1	12-7-81	ADDED PROF. ENGR. STAMP AS BUILT	KMA	TH	DWP
0	7-11-79	ISSUED FOR CONSTRUCTION	KMA	[illegible]	TH

ENGINEER T HOYLE
DRAWN K. McANDREW
DATE 6-11-79

WNP-2
RHR HEAT EXCHANGER CALIBRATION BLOCK UT-42

DWG NO UTCB-885
REV 1





NOTCH DETAIL ⚠

⚠

NOTCH	LENGTH	WIDTH	DEPTH
A	.269	1/16"	.100
B	.268	1/16"	.099

⚠ NOTES:

1. STUD SHANK STAMPED WITH 1/8" HIGH STEEL STAMP WITH CAL BLOCK NO UT-43, MWP-2, & SA 193 GR B7.
2. DELETED.
3. NOTCHES ARE PERPENDICULAR TO THE AXIS OF THE STUD.
4. DIMENSIONS ARE IN INCHES.

DANIEL W. PORTER — PROFESSIONAL ENGINEER

Daniel W. Porter

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

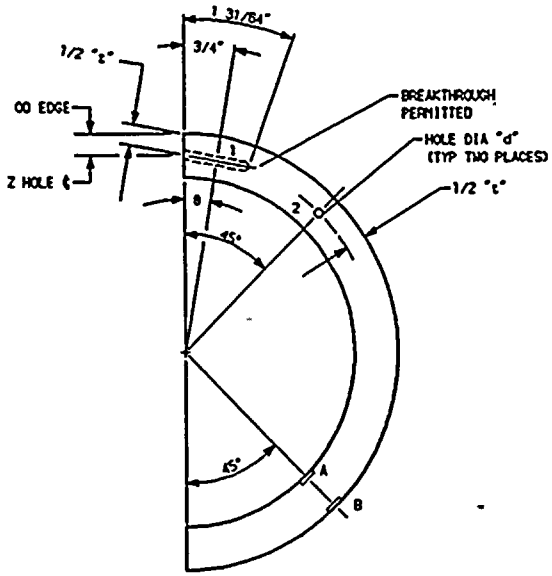
NO	DATE	REVISION	BY	CHKD	APPVD
1	6-7-83	AS BUILT REVISED AS NOTED	K.M.A	DR	TFH
0	6-24-82	ISSUED FOR CONSTRUCTION	K.M.A	DR	TFH

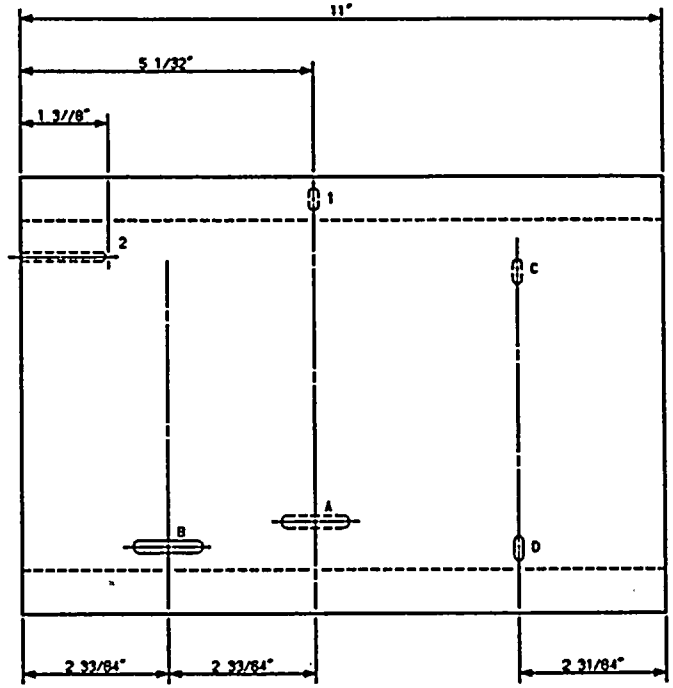
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352
WNP- 2

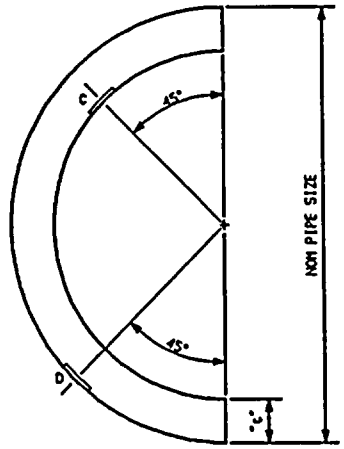
ENGINEER TF HOYLE
DRAWN K.M. McANDREW
DATE 6-4-80

RECIRC FLOW CONTROL VALVE UT CALIBRATION BLOCK UT-43

DWG NO UTCB-226 REV 1

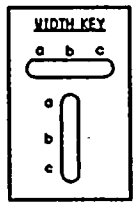


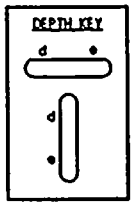


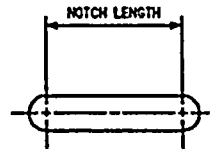


NOTCH	LENGTH	WIDTH	DEPTH
A	0.953	a 0.133 b 0.133 c 0.133	d 0.041 e 0.041
B	0.969	a 0.127 b 0.126 c 0.129	d 0.046 e 0.048
C	0.959	a 0.134 b 0.132 c 0.150	d 0.043 e 0.051
D	0.969	a 0.132 b —— c 0.135	d 0.048 e 0.038

HOLE	DIAMETER	LENGTH
1	0.093	1.484
2	0.093	1.375







NOTCH DETAIL

(TYPICAL FOUR PLACES EXCEPT FOR CURVATURE. SEE NOTE 6.)

NOTES

1. BLOCKS STAMPED WITH 1/8" HIGH STEEL STAMP ON ENDS WITH WNP-2, CAL BLOCK NUMBER, NOM PIPE SIZE, SCH OR WALL THK, MATL SPEC, AND HEAT NUMBER.
2. TOLERANCE FOR θ IS ± 1/4°.
3. TOLERANCE FOR Z IS ± 0.005.
4. STANDARD MACHINE TOLERANCES ARE APPLICABLE UNLESS OTHERWISE NOTED.
5. ALL DIMENSIONS ARE IN INCHES.
6. NOTCH BOTTOM CURVATURE CONFORMS TO PIPE WALL CURVATURE.
7. DO NOT USE FOR SECT XI EXAMS, NOTCH DEPTH DOES NOT MEET SECT XI REQUIREMENTS.

CAL BLOCK NUMBER	NOM. PIPE SIZE	NOM. WALL THK "t"	MATERIAL SPEC	NOTCH DEPTH	HOLE DIA "d"	HEAT NUMBER
UT-44	3	0.437	SA 106 GR B	$0.044 \pm \frac{0.004}{0.008}$	3/32	N15462

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

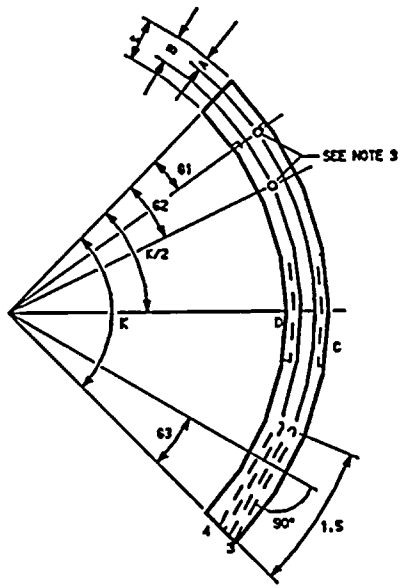
ENGINEER DP RAMEY
DRAWN K-McANDREW
DATE 2-8-82

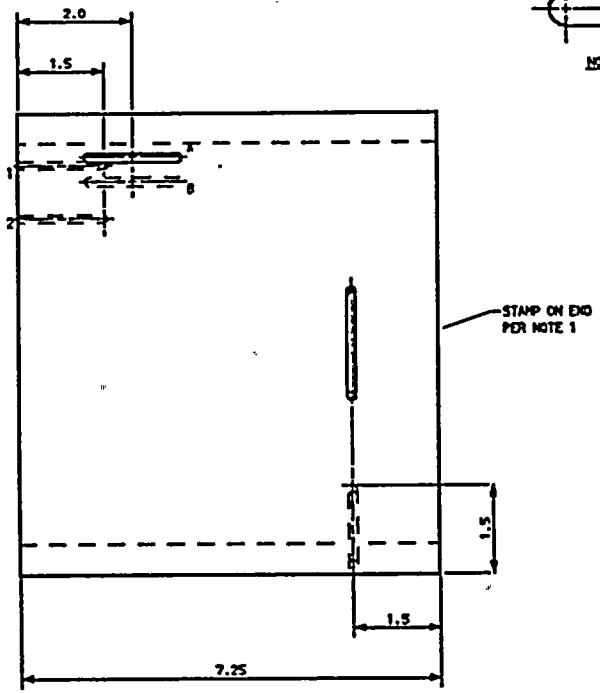
WNP-2
UT CALIBRATION BLOCK UT-44
DWG NO. UTCB-229
REV 1

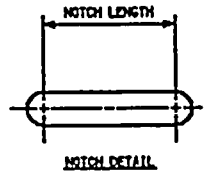
NO	DATE	REVISION	BY	CHKD	APVD
1	1-25-93	AS BUILT	K-McA	DPR	DRM
0	9-18-89	ISSUED FOR CONSTRUCTION	K-McA	DM	TFH

t >1/2														
CAL BLOCK NUMBER	NOMINAL PIPE SIZE	SCHEDULE	WALL THICKNESS	Ks1°	La.100	θ1±.25°	θ2±.25°	θ3±.25°	NOTCH DEPTH ± 0.005 ± 0.010	A ± 0.010	B ± 0.010	HOLE DIAMETER ± 0.010	HEAT NUMBER	MATERIAL SPEC
UT-34	12	80	0.688	57.5	7.25	14.3	21.5	7.2	.067	.172	.518	3/32"	150875	SA 333 GR 6

HOLE	DIAMETER	LENGTH
1	0.093	1.409
2	0.093	1.448
3	0.093	1.500
4	0.093	1.500







NOTCH	LENGTH (NOTE 9)	WIDTH	DEPTH
A	1.002	0.190	0.068
B	1.036	0.186	0.064
C	1.032	0.186	0.060
D	1.014	0.186	0.063

NOTES

1. BLOCKS STAMPED WITH 1/8" HIGH STEEL STAMP WITH WNP-2, CAL BLOCK NUMBER, NOM PIPE SIZE, MATERIAL, AND HEAT NUMBER.
2. NOTCH BOTTOM CURVATURE CONFORMS TO PIPE WALL CURVATURE.
3. HOLE PARALLEL TO AXIAL SURFACE WITHIN ± .010.
4. HOLES ARE TO BE DRILLED AND REAMED.
5. NOTCH SIDES PERPENDICULAR TO THE SURFACE WITHIN ± 5°.
6. NOTCH WIDTH .250 MAX.
7. ALL DIMENSIONS ARE IN INCHES.
8. MACHINED SURFACE TO BE 250 RMS MAX.
9. LENGTH 1.000 MINIMUM.

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

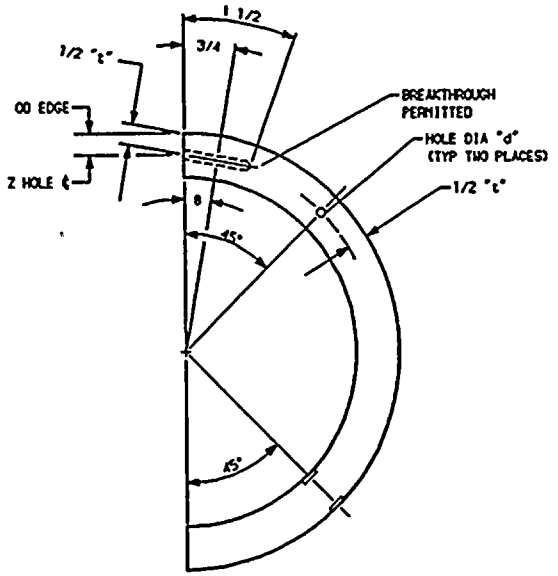
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

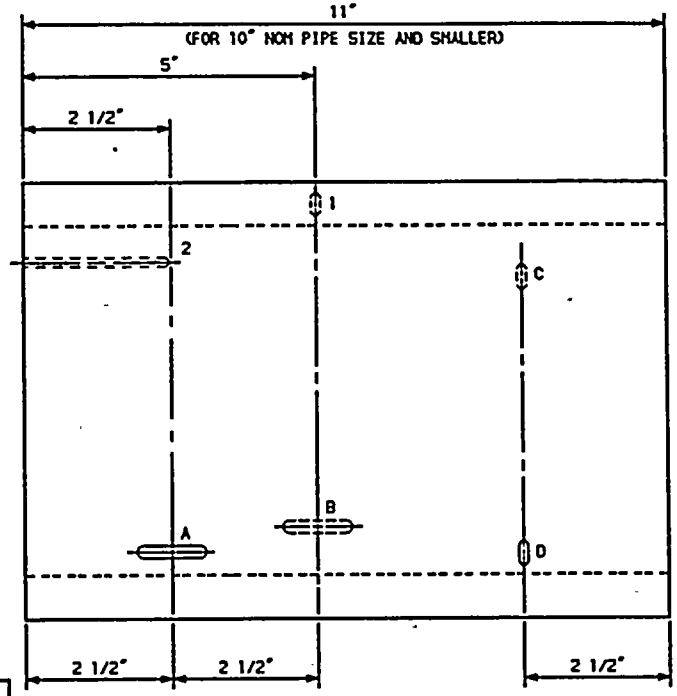
ENGINEER DP RAMEY
DRAWN K-MoANDREW
DATE 8-27-83

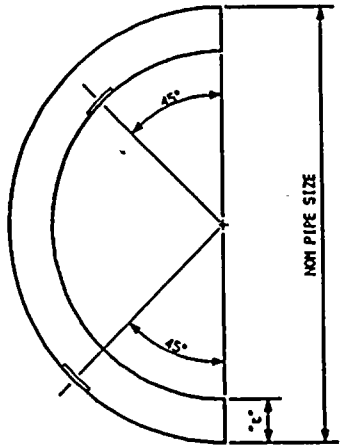
WNP-2
UT CALIBRATION BLOCK UT-34

DWG NO: UTCB-230 REV 1

NO	DATE	REVISION	BY	CHKD	APVD
1	4-18-90	AS BUILT	K-MoA	GJ	TPH
0	7-21-83	ISSUED FOR CONSTRUCTION	K-MoA	DPR	TPH







UT-35 — SEE NOTE 7

NOTCH	LENGTH	WIDTH	DEPTH
A	1.023	0.125	0.048
B	1.023	a 0.151 b 0.131	0.044
C	1.000	0.190	0.045
D	1.025	0.124	0.044

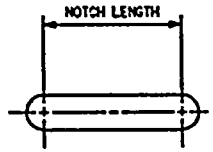
HOLE	DIAMETER	LENGTH
1	0.093	1.500
2	0.093	2.500

WIDTH KEY

UT-36

NOTCH	LENGTH	WIDTH	DEPTH
A	1.043	0.123	0.044
B	1.045	0.128	0.047
C	1.045	0.124	0.043
D	1.087	0.124	0.047

HOLE	DIAMETER	LENGTH
1	0.093	1.500
2	0.093	2.500



NOTCH DETAIL

(TYPICAL FOUR PLACES EXCEPT FOR CURVATURE. SEE NOTE 6.)

CAL BLOCK NUMBER	NOM. PIPE SIZE	NOM. WALL THK "t"	MATERIAL SPEC	NOTCH DEPTH	HOLE DIA "d"	θ	Z	HEAT NUMBER
UT-35	8	0.500	SA 106 GR B	0.050 ± 0.005 0.010	3/32	10.5°	0.181	N14692
UT-36	6	0.432	SA 106 GR B	0.043 ± 0.004 0.004	3/32	13.5°	0.126	N14445

NOTES

1. BLOCKS STAMPED WITH 1/8" HIGH STEEL STAMP ON ENDS WITH WNP-2, CAL BLOCK NUMBER, NOM PIPE SIZE, SCH OR WALL THK, MATL SPEC, AND HEAT NUMBER.
2. TOLERANCE FOR θ IS ± 1/4°.
3. TOLERANCE FOR Z IS ± 0.005.
4. STANDARD MACHINE TOLERANCES ARE APPLICABLE UNLESS OTHERWISE NOTED.
5. ALL DIMENSIONS ARE IN INCHES.
6. NOTCH BOTTOM CURVATURE CONFORMS TO PIPE WALL CURVATURE.
7. NOTCH WIDTH ACCEPTABLE MAX WIDTH IS 0.250 IN. PER SECT XI 1980 W 80 APPENDIX III-3430.

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

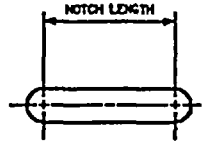
ENGINEER DP RAMEY
DRAWN K-McANDREW
DATE 6-17-83

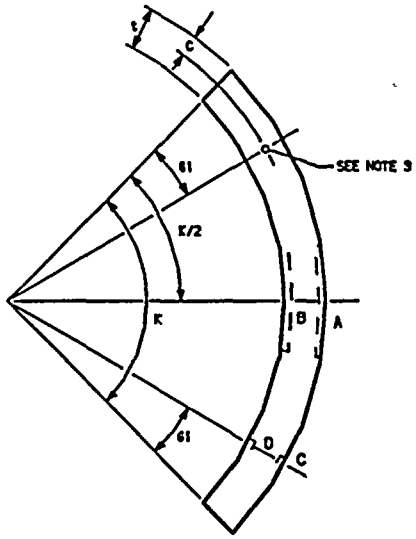
WNP-2
UT CALIBRATION BLOCKS UT-35 & UT-36

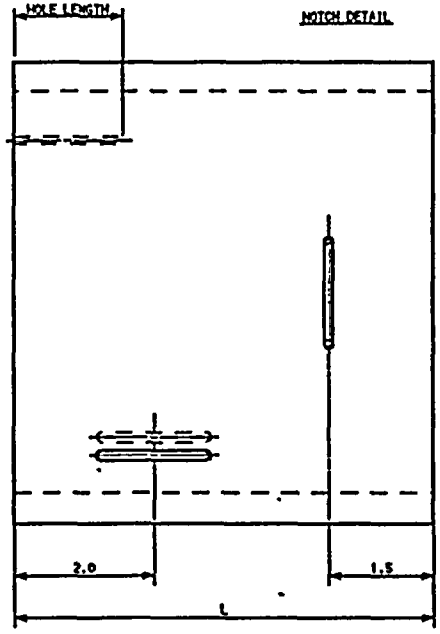
DWG NO. UTCB-231 REV 1

NO	DATE	REVISION	BY	CHKD	APVD
1	1-25-83	AS BUILT	K-McA	DPR	DRW
0	7-14-83	ISSUED FOR CONSTRUCTION	K-McA	DPR	TFH

t < 0.500									
CAL BLOCK NUMBER	NOMINAL PIPE SIZE	SCHEDULE	WALL THICKNESS	K±1°	La.100	G1±.25°	Ca.010	HEAT NUMBER	MATERIAL SPEC
UT-18	12	STD	0.375	45.0°	5.5	13.5°	0.188	J614481	SA 106 GR B
UT-37	18	30	0.438	32.0°	8.0	9.8°	0.219	L20182	SA 106 GR B
UT-38	14	STD	0.375	39.0°	5.5	12.3°	0.188	L25099	SA 106 GR B
UT-39	16	STD	0.375	34.0°	5.5	10.7°	0.188	L00727	SA 106 GR B
UT-45	20	STD	0.375	27.0°	5.5	9.6°	0.188	M15878	SA 106 GR B
UT-20	18	STD	0.375	30.0°	5.5	9.6°	0.188	L21507	SA 106 GR B
UT-50	24	STD	0.375	23.0°	5.5	7.2°	0.188	K33206	SA 106 GR B







UT-18			
NOTCH	LENGTH	WIDTH	DEPTH
A	1.002	0.186	0.041
B	1.006	0.186	0.042
C	1.015	0.186	0.039
D	1.010	0.186	0.039
HOLE	DIAMETER		LENGTH
1	0.094		1.494

UT-20			
NOTCH	LENGTH	WIDTH	DEPTH
A	1.000	0.190	0.037
B	1.009	0.187	0.041
C	1.008	0.183	0.038
D	1.018	0.189	0.037
HOLE	DIAMETER		LENGTH
1	0.094		1.495

UT-37			
NOTCH	LENGTH	WIDTH	DEPTH
A	1.128	0.190	0.048
B	1.008	0.199	0.046
C	1.009	0.191	0.044
D	1.003	0.191	0.041
HOLE	DIAMETER		LENGTH
1	0.094		1.491

UT-38			
NOTCH	LENGTH	WIDTH	DEPTH
A	1.000	0.188	0.039
B	1.015	0.191	0.042
C	1.006	0.191	0.039
D	1.000	0.191	0.038
HOLE	DIAMETER		LENGTH
1	0.094		1.477

UT-39			
NOTCH	LENGTH	WIDTH	DEPTH
A	1.009	0.190	0.038
B	1.000	0.187	0.040
C	1.014	0.183	0.035
D	1.000	0.187	0.033
HOLE	DIAMETER		LENGTH
1	0.094		1.500

UT-45			
NOTCH	LENGTH	WIDTH	DEPTH
A	1.005	0.190	0.038
B	1.037	0.190	0.043
C	1.010	0.190	0.043
D	1.009	0.187	0.035
HOLE	DIAMETER		LENGTH
1	0.094		1.500

UT-50			
NOTCH	LENGTH	WIDTH	DEPTH
A	1.002	0.187	0.043
B	1.000	0.189	0.039
C	1.012	0.188	0.040
D	1.000	0.185	0.042
HOLE	DIAMETER		LENGTH
1	0.094		1.500

NOTES

1. BLOCKS STAMPED WITH 1/8" HIGH STEEL STAMP WITH WNP-2, CAL BLOCK NUMBER, NOM PIPE SIZE, MATERIAL, AND HEAT NUMBER.
2. NOTCH BOTTOM CURVATURE CONFORMS TO PIPE WALL CURVATURE.
3. HOLE PARALLEL TO AXIAL SURFACE WITHIN ± .010.
4. HOLES ARE DRILLED AND REAMED.
5. NOTCH SIDES PERPENDICULAR TO THE SURFACE WITHIN ± 5°.
6. NOTCH WIDTH .250 MAX.
7. ALL DIMENSIONS ARE IN INCHES.
8. MACHINED SURFACE TO BE 250 RMS MAX.

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

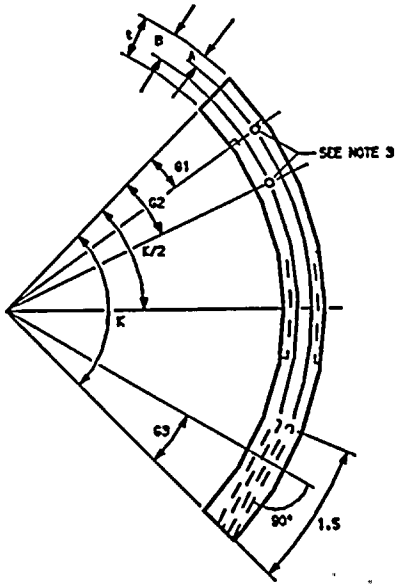
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

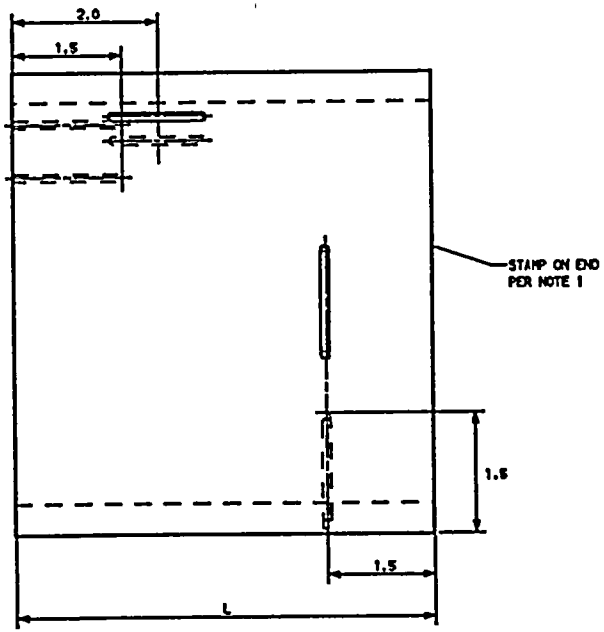
ENGINEER DP RAMEY
DRAWN K-MoANDREW
DATE 9-25-85

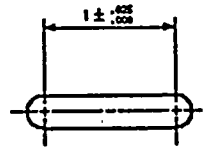
WNP-2
UT CALIBRATION BLOCK
DWG NO. UTCB-232 REV 1

NO	DATE	REVISION	BY	CHKD	APVD
1	1-9-90	AS BUILT	K-MoA	DPR	TPH
0	1-23-86	ISSUED FOR CONSTRUCTION	K-MoA	DPR	TPH

t > 0.500														
CAL BLOCK NUMBER	NOMINAL PIPE SIZE	SCHEDULE	WALL THICKNESS	K±1°	L±.100	G1±.25°	G2±.25°	G3±.25°	NOTCH DEPTH ±.005	A1±.010	B1±.010	HOLE DIAMETER ±.010	HEAT NUMBER	MATERIAL SPEC
UT-48	18	40	0.500	37°	8.25	10.7°	18.1°	5.4°	0.050	0.125	0.375	3/32"	XXXX	SA 106 GR B
UT-49	18	100	1.031	53°	9.2	10.7°	18.1°	5.4°	0.098	0.258	0.773	1/8"	XXXX	SA 106 GR B
UT-8	20	30	0.500	30°	8.25	8.6°	13°	4.5°	0.050	0.125	0.375	3/32"	XXXX	SA 106 GR B







NOTCH DETAIL

NOTES

1. STAMP BLOCKS WITH 1/8" HIGH STEEL STAMP WITH WNP-2, CAL BLOCK NUMBER, NOM PIPE SIZE, MATERIAL, AND HEAT NUMBER.
2. NOTCH BOTTOM CURVATURE CONFORMS TO PIPE WALL CURVATURE.
3. HOLE PARALLEL TO AXIAL SURFACE WITHIN ± .010.
4. HOLES ARE TO BE DRILLED AND REAMED.
5. NOTCH SIDES PERPENDICULAR TO THE SURFACE WITHIN ± 5°.
6. NOTCH WIDTH .250 MAX.
7. ALL DIMENSIONS ARE IN INCHES.
8. MACHINED SURFACE TO BE 250 RMS MAX.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

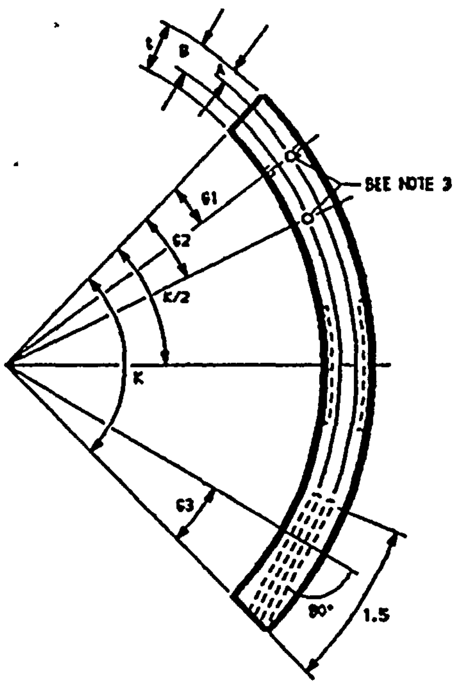
ENGINEER DP RAMEY
DRAWN K-McANDREW
DATE 9-25-85

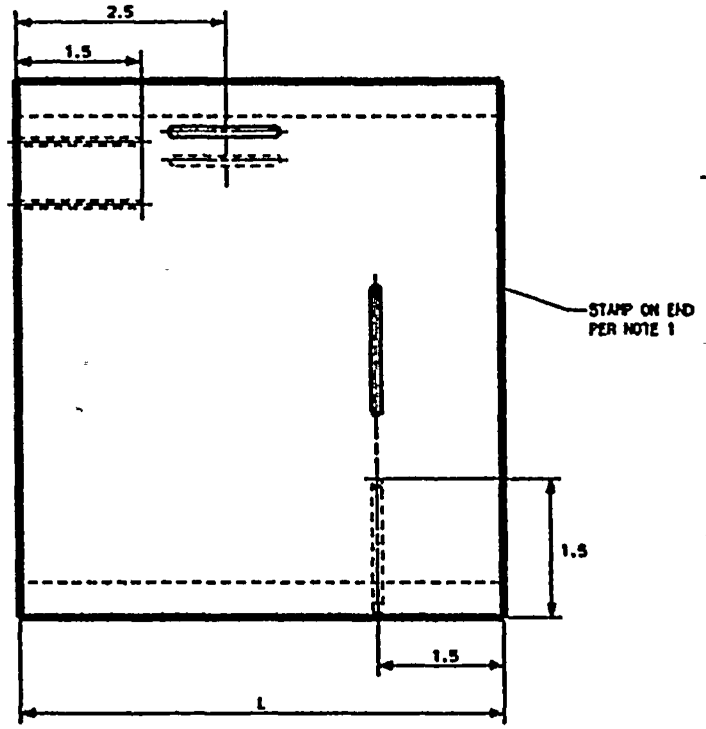
WNP-2
UT CALIBRATION BLOCK

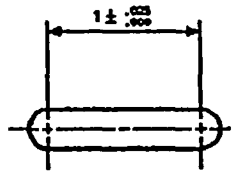
DWG NO. UTCB-233 . REV 0

NO	DATE	REVISION	BY	CHKD	APVD
0	1-23-86	ISSUED FOR CONSTRUCTION	K-McA	DPR	TTH

t > 1/2													
CAL BLOCK NUMBER	NOMINAL PIPE SIZE	SCHEDULE	WALL THICKNESS t	K±1°	L±.100	θ1±.25°	θ2±.25°	θ3±.25°	NOTCH DEPTH ±.005	A±.010	B±.010	HOLE DIAMETER ±.010	HEAT NUMBER	MATERIAL SPEC
UT-51	24	EXTRA STRONG	0.500	25.0	5.25	7.2°	10.75°	3.6°	0.050	0.125	0.375	3/32"	XXXX	SA 106 GR B
UT-52	30	EXTRA STRONG	0.500	20.0	5.25	5.7°	8.5°	2.9°	0.050	0.125	0.375	3/32"	XXXX	SA 155 CL 1 C 50







NOTCH DETAIL

NOTES

1. STAMP BLOCKS WITH 1/8" HIGH STEEL STAMP WITH WNP-2, CAL BLOCK NUMBER, NOM PIPE SIZE, MATERIAL, AND HEAT NUMBER.
2. NOTCH BOTTOM CURVATURE CONFORMS TO PIPE WALL CURVATURE.
3. HOLE PARALLEL TO AXIAL SURFACE WITHIN ± .010.
4. HOLES ARE TO BE DRILLED AND REAMED.
5. NOTCH SIDES PERPENDICULAR TO THE SURFACE WITHIN ± 5°.
6. NOTCH WIDTH .250 MAX.
7. ALL DIMENSIONS ARE IN INCHES.
8. MACHINED SURFACE TO BE 250 RMS MAX.

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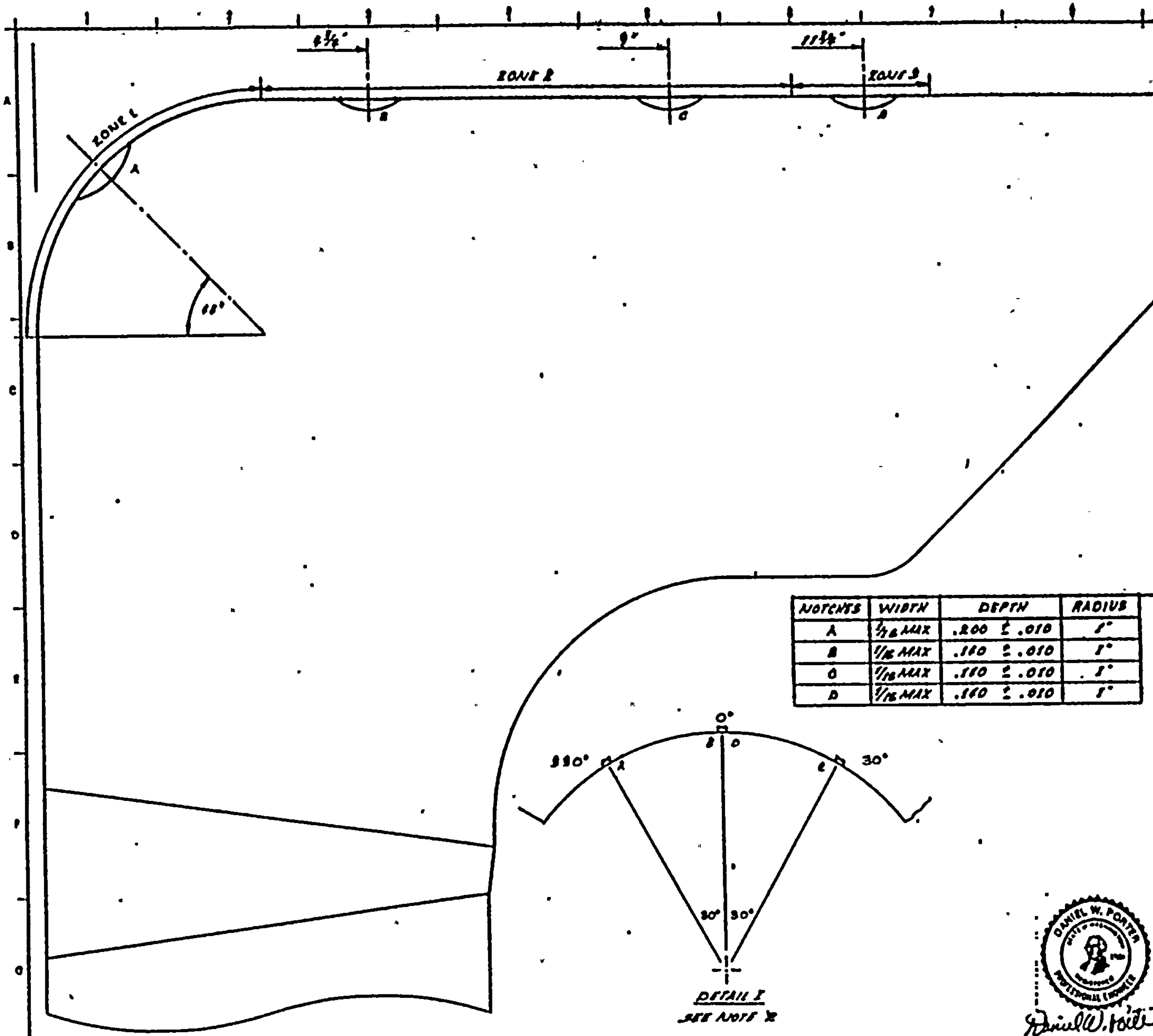
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

ENGINEER DP RANEY	WNP-2
DRAWN K-McANDREW	UT CALIBRATION BLOCK
DATE 8-14-86	DWG NO: UTCB-234 REV 0

NO	DATE	REVISION	BY	CHKD	APVD	NO	DATE	REVISION	BY	CHKD	APVD
						0	3-3-87	ISSUED FOR CONSTRUCTION	K-McA	DPR	TFH



NOTCHES	WIDTH	DEPTH	RADIUS
A	1/16 MAX	.200 ± .010	1"
B	1/16 MAX	.150 ± .010	1"
C	1/16 MAX	.150 ± .010	1"
D	1/16 MAX	.150 ± .010	1"

NOTES:

1. NOTCHES TO BE CUT WITH A MAX. NOMINAL 1/16" THK 2"⌀ GRINDING WHEEL. WIDTH OF NOTCH SHALL BE THAT OBTAINED BY MOVING WHEEL INTO METAL IN ONE PASS - NOMINAL THK OF WHEEL. RADIUS IS NOMINAL 1". DUE TO WEARING OF ABRASIVE RADIUS MAY BE SMALLER THAN 1/2".
2. NOTCHES SHALL BE LOCATED AS SHOWN IN DETAIL I WHEN VIEWING NOZZLE FROM THE VESSEL INTERIOR.
3. NOTCH LOCATION SHALL BE ± 1/8".
4. NOTCHES SHALL BE 90° ± 2° TO THE BORE.
5. NAME PLATE (ATTACHED TO O.D.)

   WNP-2 FEEDWATER NOZZLE MOCKUP UT-122

   MADE FROM: DOUGLAS POINT UNIT 1 RPV

   MATERIAL:

   PLATE SA 533 HT. NO.

   NOZZLE SA 508 HT. NO. K-1231,0006

REFERENCES:

CBIN NUCLEAR CO.

1. 72-2687 SHT 58,59 (VPF-3133-63,60)
2. (VPF-3615-190) (VPF-3613-712)

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTION PROGRAMS ONLY

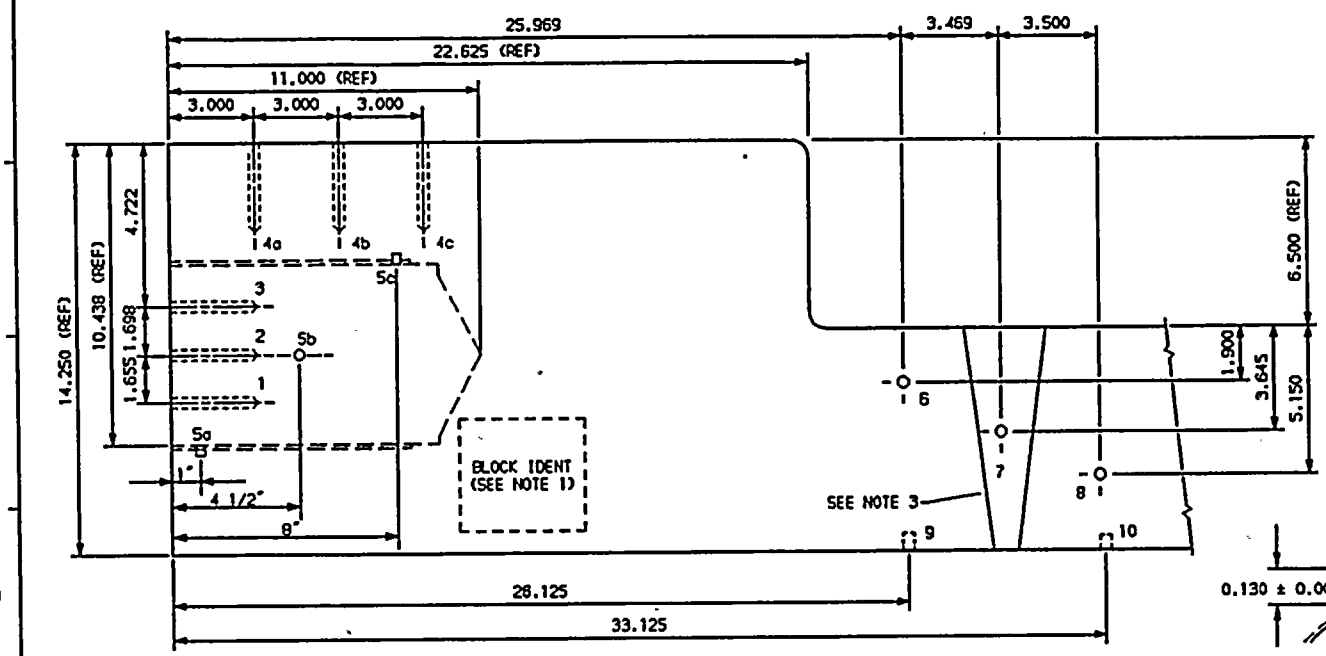
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON

WNP-2

WNP-2 FW NOZZLE MOCK-UP, UT-122

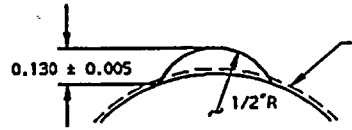
ENGINEER	T F NOYLE
DRAWN	K.M. ANDREW
DATE	8-25-82
DWG NO	UTCB-250 SH 2 of 2
REV	0

NO	DATE	REVISION	BY	CHKD	APPVD
0		ISSUED FOR CONSTRUCTION			

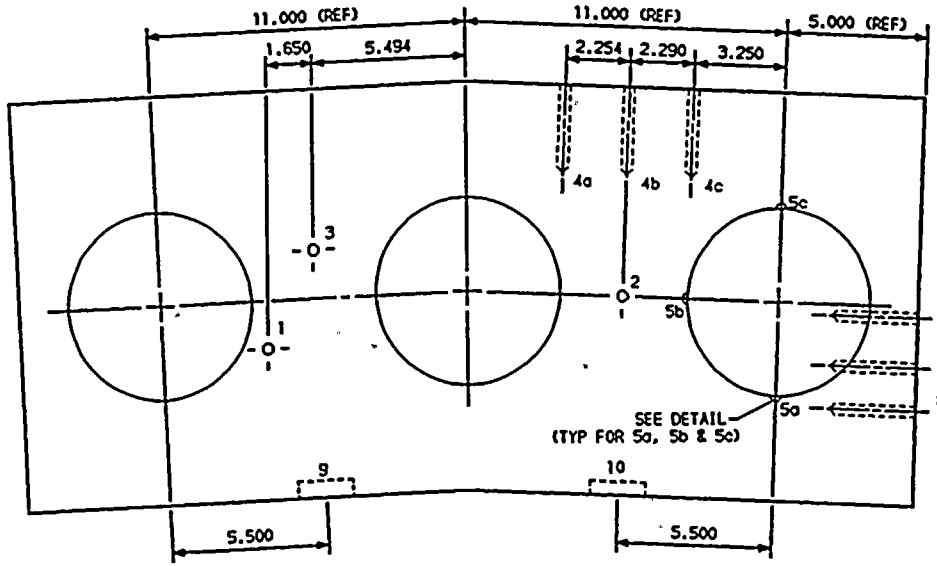


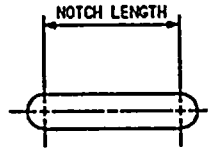
HOLE	DIA	DEPTH	UT TECHNIQUE
1	0.372	3.050	SEE NOTE 6
2	0.375	3.077	
3	0.372	3.077	
4a	0.435	3.050	SEE NOTE 6
4b	0.436	3.050	
4c	0.436	3.105	
5a	1.000	0.130	FLANGE THREADS, L-WAVE FROM MATING SURFACE
5b	1.000	0.130	
5c	1.000	0.130	
6	0.310	3.035	WELD, L-WAVE FROM MATING SURFACE FLANGE THREADS
7	0.310	3.047	
8	0.310	3.035	

NOTCH	LENGTH	WIDTH	DEPTH
9	2.000	0.200	0.620
10	2.000	0.200	0.500



DETAIL





NOTCH DETAIL

NOTES

1. BLOCK STAMPED WITH MIN 3/16" HIGH STEEL STAMP WITH WNP-2, CAL BLOCK NO. UT-123, MATERIAL SA 508 CL 2, HEAT NO. 490165-1-1 & MADE FROM SCRAPPED DOUGLAS PT UNIT 1 RPV.
2. DELETED
3. REPRESENTS WELD IN WNP-2 RPV FLANGE
4. HOLE DEPTH 3.00 MIN.
5. NOTCH WIDTH 0.250 MAX.
6. ASME SECT XI 1980 EDITION, WINTER 1980 ADDENDUM, DOES NOT REQUIRE UT OF LIGAMENT AREA.
7. ALL DIMENSIONS ARE IN INCHES.

REFERENCES:

C B I NUCLEAR CO.
VFP 3133-35
VFP 3133-36

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

NO	DATE	REVISION	BY	CHKD	APVD
3	4-28-94	ADDED NOTCHES, 5a, 5b & 5c.	K-McA	DPR	DW
2	1-25-93	DELETED HOLES 5a, 5b, 5c, & NOTE 2. ADDED NOTCHES, NOTCH DETAIL, HOLES 4, 5, 6 & 7. AS BUILT, REDRAWN	K-McA	DPR	DRW
1	11-18-81	REVISED AS NOTED	K-McA	DPR	TFH
0	10-12-81	ISSUED FOR CONSTRUCTION	K-McA	DPR	TFH

ENGINEER DP RAMEY
DRAWN K-McANDREW
DATE 9-3-81

WNP-2
RPV FLANGE UT CAL BLOCK, UT-123
DWG NO. UTCB-251-2 REV 3

8.0 PROCEDURE LIST

This section lists the procedures that are used to implement the requirements found in this ISI Program Plan.

8.1 Administrative

Nuclear Operating Standards -

NOS 33	"Inservice Inspections"
NOS 21	"ASME Pressure Boundary Work"

Engineering Directorate Procedures

EDP 4.4	"Preparation of Inservice Inspection Program Plans"
EDP 4.5	"Conduct of Inservice Inspection"
EDP 4.6	"Preparation of Preservice Inspection/ Inservice Inspection Summary Reports"
EDP 4.8	"Transmittal and Storage of Preservice Inspection and Inservice Inspection Quality Assurance Records"
EDP 4.9	"Processing of ASME Section XI NIS-1 and NIS-2 Forms"

Plant Procedure Manual

PPM 1.3.30	"Repair, Replacement and Testing of ASME Items" (Repair/Replacement Program)
PPM 8.3.1	"ISI, IST and Appendix J Examination and Testing Program Administration and Control"
PPM 10.2.29	"Installation, Modification and Inspection of Pipe Supports"

"Operational Quality Assurance Program Description"

"Program Manual for Qualification and Certification of Examination, Testing and Inspection Personnel"

"Record Management Standards"

8.2 NDE/TESTING

Plant Procedure Manual

PPM 8.3.4	"Non-Destructive Testing and Examination Program" (Plant approval of NDE procedures)

Non-Destructive Examinations and Inspection Manual

QCI 3-3	"Liquid Penetrant Examination (WNP-2)"
QCI 4-3	"Magnetic Particle Examination (WNP-2)"
QCI 6-2	"Ultrasonic Examination of Austenitic Steel Piping Welds"
QCI 6-3	"Ultrasonic Examination of Dissimilar Metal Welds (Manual)"
QCI 6-4	"Ultrasonic Examination Feedwater Nozzle Inner Radii"
QCI 6-13	"Ultrasonic Examination of Ferritic Piping Welds (WNP2)"
QCI 6-14	"Ultrasonic Examination of Bolting Larger than 2" Diameter"
QCI 6-16	"Examination of WNP-2 Reactor Pressure Vessel Welds"
QCI 6-23	"Ultrasonic Transducer Evaluation"
QCI 6-25	"Ultrasonic Sizing of Planar Flaws in Piping Systems"
QCI 6-26	"Examination of Reactor Vessel Threads in Flange"
QCI 6-27	"Examination of Class 2 Pressure Vessel Welds"
QCI 7-1	"Visual Examination (VT-1/VT-3)"
QCI 7-2	"Visual Examination (VT-2)"
QCI 7-3	"Visual Examination (VT-3 component supports)"
QCI 12-10	"Layout of Welds and System Components for WNP-2 Preservice Examination"

Vendor Procedures

8.3 Evaluation - Analysis

Engineering Directorate Procedures

EI 4.1	"Evaluation Procedure for Unacceptable Flaws Found in ASME Class 1 Austenitic Piping Caused by IGSCC"

Non-Destructive Examinations and Inspection Manual

QCI 12-8	"NDE Data Evaluation"

8.4 Plant Technical Specification

Section 4.0.5	"Surveillance Requirements for Inservice Inspection"
Section 3.4.7.4	"Snubbers"

9.0 Boundary Diagrams, Schedules, and Weld and Component Diagrams

This section contains the following information on each system within the ASME Section XI inspection boundary:

1) Exemptions applied
2) Boundary Diagrams
3) Schedule Table 9.1.4
4) Weld & Component Diagrams.

Exemptions applied

The Code exemptions from IWX-1200 that are applied to the system are tabulated for reference back to the ASME Section XI Code that defines the exemption.

Boundary Diagrams

The ISI Boundary Diagrams on the following pages provide schematic views of the examination requirements for each system which contains components subject to examination within the scope of the applicable Codes, standards, and regulations listed in Section 5.0, "Code Compliance" and Section 6.0, "FSAR - NRC Commitments". The key to the symbolism used on these drawings is found on ISI-200, found at the end of this section.

These drawings illustrate the overall piping system examination requirements, distinguishing between systems requiring volumetric, surface and visual examinations (dashed lines), those requiring surface and visual examinations but not volumetric (dash-dot-lines), and those requiring only a visual examination during pressure tests (solid lines). Examination items such as hangers, instruments, thermal wells, and leak off connections are not typically shown on the ISI Boundary Diagrams in order to maintain drawing clarity. Detailed item-by-item examination requirements for all examination items in each of these piping systems is given in the Weld & Component Identification Diagrams and Schedule Table 9.1.4 found in the following Section.

Schedule Table 9.1.4

Following the Boundary Diagrams is that portion of the Schedule Table 9.1.4 that is applicable to that system. These tables list and describe each weld and component shown on the diagrams, in order as they appear, tracing the line in the direction of flow. They further define the Section XI examination category, the item number, and the examination method for each examination item.

The following tables, 9.1.1, 9.1.2, and 9.1.3 provide keys to the abbreviations used in the schedule Table 9.1.4 columns "Requmt", "Out. Code", and "Rel. Req" respectively. The column "Requmt " is used to identify requirements and basis for each item in the table. The column "Out. Code" is used to identify the items that are being examined for

ASME Section XI, for other regulatory commitments, or both. The column "Rel. Req" is used to identify any relief requests associated with the item.

Weld & Component Diagrams

This section of the WNP-2 ISI Program Plan contains Weld and Component Identification Diagrams for each system subject to inservice inspection. The diagrams identify each weld, component, and component support subject to inspection by illustrating the system in piping isometric format. For piping systems or portions thereof which require volumetric and/or surface examination, each weld and component is assigned an ISI identification number unique to that item. This number will be used exclusively for identification of welds and components on data sheets, reports, etc. For systems requiring only a visual examination for evidence of leakage, no ISI numbers are assigned.

Also shown on the diagram are such items as platforms, floors, walls, ladders, elevations and azimuths, compartment names, details, penetrations, and various notes; these are intended to aid the examination crew in locating and gaining access to the items to be examined and to note potential access restrictions.

Table 9.1.1

Key to Abbreviations
Used in Schedule Table 9.1.4
Column "Requmt"

Abbreviation	Definition
1	Examine 16 - 34% 1st per., 50 - 67% 2nd per., 100% 3rd per.
2	Examine 7.5% of these welds each interval
3	Examine 25% of these component supports each interval
4	Examine 15% of these component supports each interval
5	Examine 10% of these component supports each interval
6	Examine 100% of these component supports each interval
7	Snubber
8	Examine each interval
9	Examine 25% of these welds each interval. Table IWB 2500-1, B-J, note 1
<	Weld stress below Table IWB 2500-1 B-J, note (1)(b)
>	Weld stress exceeds Table IWB 2500-1 B-J, note (1)(b)
A	GL 88-01 category "A" weld. Examine at least 25% every 10 years
B	GL 88-01 category "B" weld. Examine at least 50% every 10 years
C	Not used
D	GL 88-01 category "D" weld. Examine 100% every 2 Refueling Outages
E	Perform toward or at end of inspection interval
F	GL 88-01 category "F" weld. Examine every Refueling Outage
G	Structural Discontinuity
H	Augmented exam for high energy lines penetrating containment
I	Pipe wall < 3/8 Nominal wall thickness, Table IWC 2500-1, C-F-2, note 2
J	Can be deferred to end of interval
K	Examine with corresponding component support
L	Examine with intersecting circumferential weld
M	Augmented FW nozzle exam. 1 FW noz each RO 1st 6 RO of interval
N	Examine next ISI outage (indication)
O	Examine each refueling outage
P	Examine each inspection period
Q	Not used
R	Examine only when removed
S	Steam condensing mode de-energized
T	Terminal End
U	Examine when disassembled.
V	Item deleted
W	Not used
X	Can be examined in place
Y	Special exam - not ASME Section XI
Z	ISI exam not required.

Table 9.1.2

Key to Abbreviations
Used in Schedule Table 9.1.4
Column "Out. Code"

C =	ASME Section XI
E =	Examine for ASME Section XI
F =	FSAR
G =	Generic Letter 88-01
H =	FSAR Section 5.2.5.9

Table 9.1.3

Key to Abbreviations Used
in Schedule Table 9.1.4
Column "Rel. Req"

01	Relief request 2ISI-01, Category B-A
02	Relief request 2ISI-02, Category B-D
03	Relief request 2ISI-03, Category B-G-1
04	Relief request 2ISI-04, IWA-5244, Standby Service Water Buried Piping
05	Relief request 2ISI-05, Category D-A, MSRV Pneumatic Test
08	Relief request 2ISI-08, Category B-K-1
09	Relief request 2ISI-09, Category C-C
10	Relief request 2ISI-10, Category D-B
11	Relief request 2ISI-11, IWF-5300(a) Snubber Examination

ISI BOUNDARY DIAGRAM SYMBOLS

- PIPING SYSTEMS REQUIRING VISUAL, SURFACE AND VOLUMETRIC EXAMINATIONS.
- PIPING SYSTEMS REQUIRING VISUAL AND SURFACE EXAMINATIONS.
- PIPING SYSTEMS REQUIRING ONLY A VISUAL (VT-1, 2, 3 OR 4) EXAMINATION.
- PIPING SYSTEMS FOR WHICH NO EXAMINATION IS REQUIRED PER ASME SECTION XI.
- AUGMENTED ISI BOUNDARY
- X-75 — CONTAINMENT PENETRATION, TYPICAL
- BULKHEAD PENETRATION, TYPICAL
- FLOW ARROW
- REDUCER (INDICATES LINE SIZE CHANGE ONLY)
- CONNECTION TO COMPONENT
- TRAP
- PIPE CAP, WELDED / PIPE CAP, THREADED, RESPECTIVELY
- FILTER
- "Y" TYPE STRAINER
- CONICAL STRAINER, IN-LINE
- FLANGE
- FLOW ELEMENT
- EXPANSION JOINT
- RUPTURE DISK
- SPECTACLE FLANGE
- ORIFICE, SINGLE
- ORIFICE, MULTIPLE
- FLEX HOSE
- FLOW NOZZLE
- CROSS
- EXCESS FLOW CHECK VALVE
- EXPLOSIVELY ACTUATED SHEAR PLUG VALVE
- SOLENOID VALVE WITH BUILT IN FLOW CONTROL

GENERAL SYMBOLS

- GATE VALVE, NORMALLY OPEN/NORMALLY CLOSED, RESPECTIVELY
- GLOBE VALVE, NORMALLY OPEN/NORMALLY CLOSED, RESPECTIVELY
- CLOSE, STOP CHECK VALVE
- CHECK VALVE
- BUTTERFLY VALVE
- PLUG OR BALL VALVE
- DIAPHRAGH VALVE
- UNION CONNECTION
- RELIEF VALVE

WELD & COMPONENT IDENTIFICATION DIAGRAM SYMBOLS

- SHOP WELD
- FIELD WELD
- WELDOLET, SOCKOLET, SWEEPOLET BRANCH CONNECTION
- SPRING HANGER, NON-WELDED AND WELDED ATTACHMENTS, RESPECTIVELY
- SNUBBER OR SHOCK ABSORBER, NON-WELDED AND WELDED ATTACHMENTS, RESPECTIVELY
- RIGID HANGER, NON-WELDED AND WELDED ATTACHMENTS, RESPECTIVELY
- PIPE WHIP RESTRAINT (PWS), GUIDE
- X-3 — CONTAINMENT PENETRATION
- MS — VESSEL NOZZLE, TYPICAL

SYSTEM NAME & NUMBER AS SHOWN

(12 LPCS (1)-4)

- SYSTEM PRESSURE RATINGS.
  1 = 150 PSI, 2 = 300 PSI, 3 = 600 PSI, 4 = 900 PSI, 5 = 1500 PSI, 6 = 2500 PSI
- SYSTEM NUMBER
- SYSTEM NAME
- PIPE SIZE (NOMINAL INCHES)

WELD NUMBERING SYSTEM SAMPLES

28 MS(1) A-4 LD
- LD — LONGITUDINAL WELD, DOWNSTREAM OF WELD #4
- A-4 — WELD SEQUENCE NUMBER
- (1) — LOOP OF MULTIPLE STREAM SYSTEM
- MS — SYSTEM NAME AND NUMBER
- 28 — PIPE SIZE (NOMINAL INCHES)

28 MS(1) A-4 LU
- LU — LONGITUDINAL WELD, UPSTREAM OF WELD #4

28 MS(1) A-4 BD
- BD — BOLTING, DOWNSTREAM OF WELD #4

28 MS(1) A-4 BU
- BU — BOLTING, UPSTREAM OF WELD #4

12 LPCS(1)-2/3/4 V-14
- V-14 — (FOR BRANCH LINES REQUIRING ONLY A VISUAL EXAMINATION) VALVE WHICH ESTABLISHES LIMIT OF VISUAL EXAMINATION
- 2/3/4 — BRANCH CONNECTION SIZE

12 LPCS(1)-17/4 LPCS(1)-4
- 17/4 — (WELDOLET TO MAIN LINE WELD, BRANCH LINE REQUIRES SURFACE OR VOLUMETRIC EXAMINATION)
- LPCS(1)-4 — BRANCH LINE SYSTEM NAME AND NUMBER AS SHOWN ON BOUNDARY DIAGRAM
- 12 — BRANCH CONNECTION (WELDOLET) SIZE

INDEX TO BOUNDARY DIAGRAMS

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

ENGINEER D PORTER
DRAWN K-McANDREW
DATE 5-10-78

WNP-2
INSERVICE INSPECTION BOUNDARY DIAGRAM LEGEND

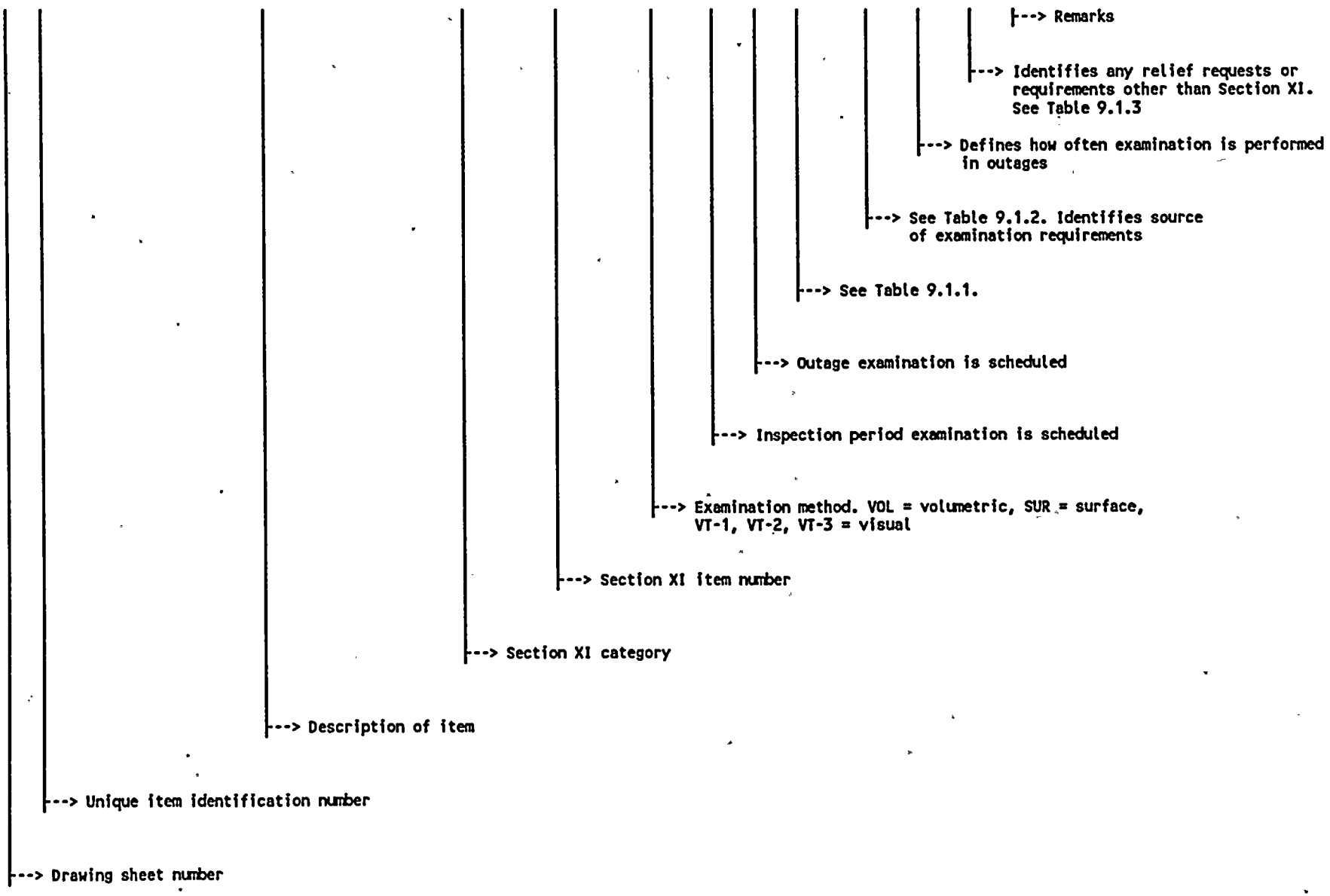
DWG NO. ISI-200 REV 3

NO	DATE	REVISION	BY	CHKD	APVD
3	12-1-92	ADDED LOGO	K-McA	DPR	DRW
2	1-24-85	REVISED FOR ISI	K-McA	DPR	TFH
1	11-28-84	GENERAL UPDATE REDRAWN	K-McA	DPR	TFH
0	1-9-79	ISSUED FOR USE	K-McA	TFH / DMP	DMP / LFH
A	5-10-78	ISSUED FOR INFORMATION ONLY	K-McA	DMP	DMP

file: BNDSCHD

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Out. Code	Out. Freq.	Rel. Req.	Remarks



file: BNDSCHD

9.1 Containment Penetrations

Boundary Diagram ISI-217

9.1.1 Exemptions Applied:

IWB-1220		
(a)	NA	No Class 1 piping within system
(b)(1)	NA	
(b)(2)	NA	
(c)	NA	
IWC-1221		
(a)	Yes	All piping 4 NPS and smaller
(b)	NA[1]	
(c)	Yes	
(d)	NA[1]	
(e)	NA[1]	
(f)	Yes	
IWC-1222	NA	
IWD-1220.1	NA	No Class 3 piping within system
IWD-1220.2	NA	No Class 3 piping within system
Code Case N-491		
-1230	Yes	

The following systems are covered by this boundary diagram:

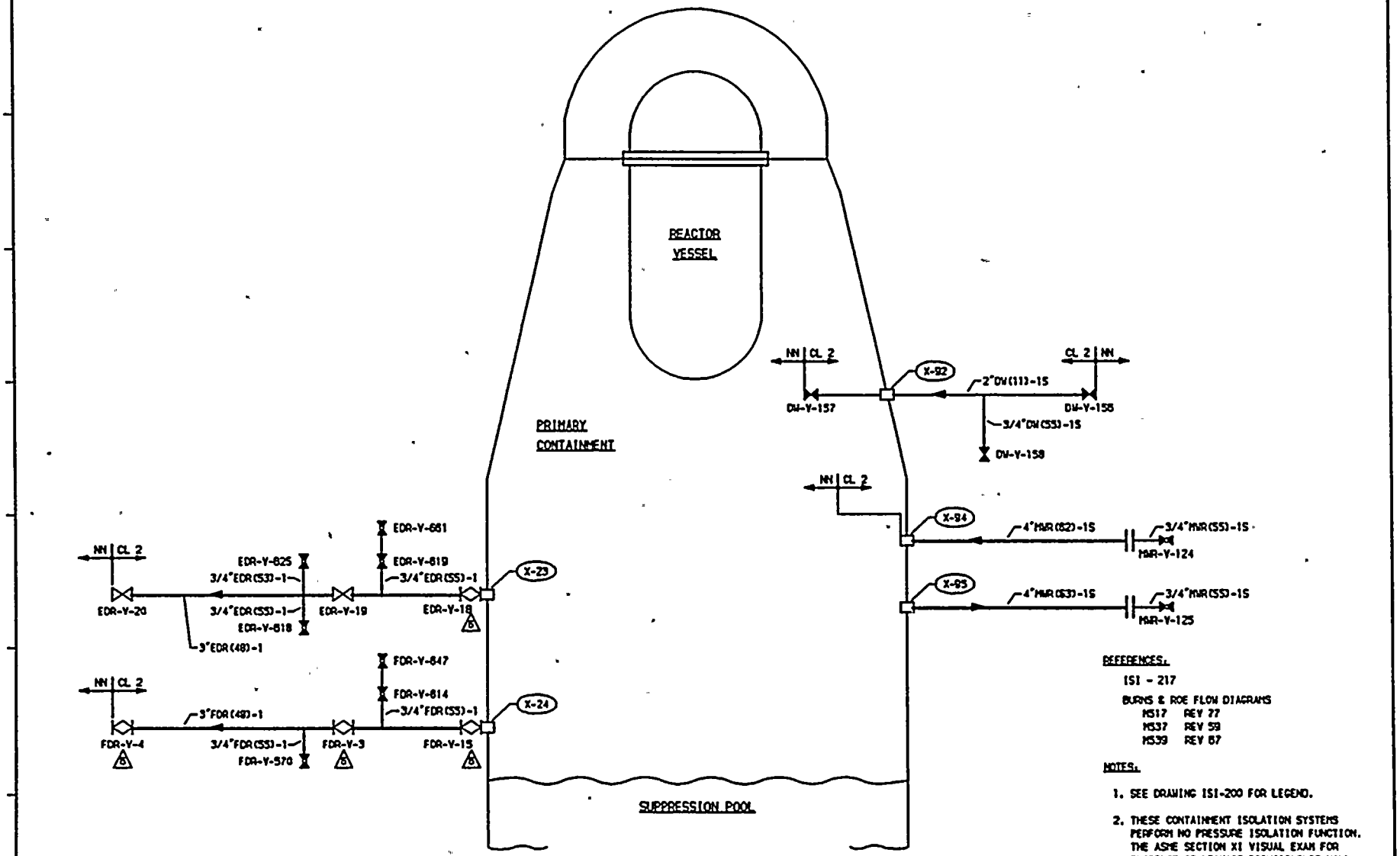
DW Demineralized Water
EDR Equipment Drain Radioactive
FDR Floor Drain Radioactive
MWR Miscellaneous Waste Radioactive.

These containment isolation systems perform no pressure isolation function. The ASME Section XI visual examination for evidence of leakage will be satisfied by the 10CFR 50 Appendix J tests.

---

[1] WNP-2 is a BWR

9.1.2 Boundary Diagrams



REFERENCES:

ISI - 217

BURNS & ROE FLOW DIAGRAMS
M517 REV 27
M537 REV 59
M539 REV 67

NOTES:

1. SEE DRAWING ISI-200 FOR LEGEND.
2. THESE CONTAINMENT ISOLATION SYSTEMS PERFORM NO PRESSURE ISOLATION FUNCTION. THE ASME SECTION XI VISUAL EXAM FOR EVIDENCE OF LEAKAGE REQUIREMENTS WILL BE SATISIFIED BY THE 10CFR 50 APPENDIX J TESTS.

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

ENGINEER D PORTER
DRAWN K-McANDREW
DATE 10-12-78

WNP-2
INSERVICE INSPECTION BOUNDARY DIAGRAM
MISCELLANEOUS CONTAINMENT PENETRATIONS

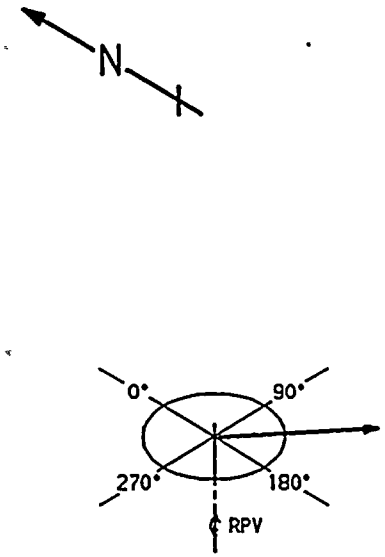
DWG NO. ISI-217 REV 6

NO	DATE	REVISION	BY	CHKD	APVD
6	11-22-94	REVISED PER BDC 87-0151-0A.	K-McA	DPR	DW
5	6-7-94	REVISED PER LATEST TOP TIER DRAWINGS.	K-McA	DPR	DW
4	12-1-92	CORRECTED CLASS BREAK ZN C-9. ADDED LOGO.	K-McA	DPR	DRM
3	1-24-85	REVISED FOR ISI	K-McA	DPR	TFH
2	11-2-84	GENERAL UP-DATE REDRAWN	K-McA	DPR	TFH

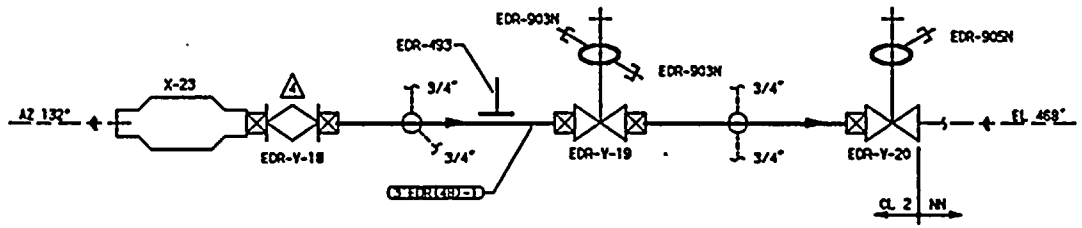
9.1.3 Examination Schedule

There are no items in these systems that are tested under the Section XI progam. These items are tested under the Appendix J program.

9.1.4 Weld and Component Diagrams



TRUE ORIENTATION



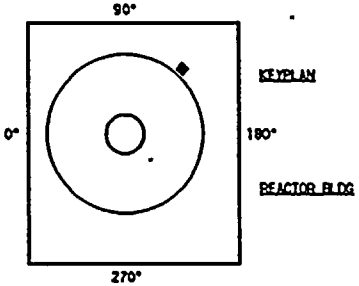
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT TO A VISUAL EXAM FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.
3. DRAWING IS SHOWN IN ELEVATION FOR CLARITY.
4. EDR-904N & EDR-906N WERE DELETED PER BOC 087-0151-0A-071..

REFERENCES:

ISI - 217

BOYEE & CRAIL ISOMETRIC
EDR-528-7.9 REV 11



ZONE R-23

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: D TIMMINS	DRAWN: K-McA
DATE: 3-13-79	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

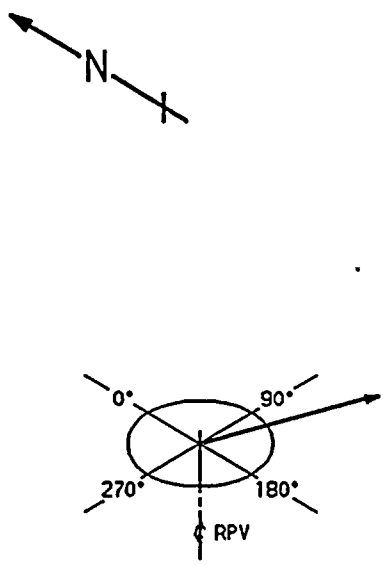
WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
DRYWELL TO EQUIPMENT DRAIN SUMP

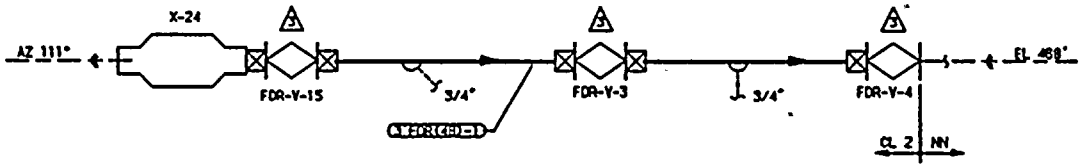
DWG NO. EDR-201 REV 4

NO	DATE	REVISION	BY	CHKD	APVD
4	11-22-94	REVISED PER BOC 087-0151-0A-071.	K-McA	DPR	DW
3	12-9-92	ADDED NOTE 4. MODIFIED EDR-903N.	K-McA	DPR	DRV
2	10-18-87	ADDED SNUBBERS, ISI DWG REF & LEGEND. MOD KEYPLAN REDRAWN	K-McA	DPR	TFH
1	1-24-84	CHG EDR-493 TO WELDED, ADDED KEYPLAN	K-McA	DPR	TFH
0	7-31-79	ISSUED FOR USE	K-McA	TFH / DPR	LFB

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"EDR(48)-1	3	40	0.216	SA 106 GR B	CS	NA



TRUE ORIENTATION



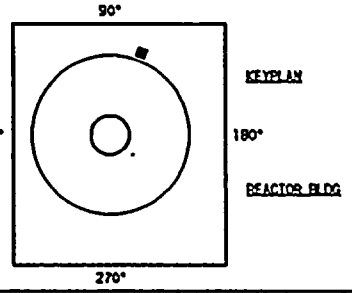
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT TO A VISUAL EXAM FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.
3. DRAWING IS SHOWN IN ELEVATION FOR CLARITY.
4. FDR-900N, FDR-901N, FDR-902N & FDR-903N WERE DELETED PER BOC-87-0151-OA-071.

REFERENCES:

ISI - 217

BOVEE & CRAIL ISOMETRIC
FDR-527-7.9 REV 9



ZONE R-23

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: D TIMMINS	DRAWN: K-McA
	DATE: 3-13-79

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE: REACTOR DRAIN TO FLOOR DRAIN SUMP

DWG NO: FDR-201 REV 3

NO	DATE	REVISION	BY	CHKD	APVD
3	11-22-94	REVISED PER BOC 087-0151-OA.	K-McA	DPR	DW
2	12-9-92	ADDED NOTE 4.	K-McA	DPR	DRW
1	10-18-87	ADDED SNUBBERS, ISI DWG REF & LOOP. MOD KEYPLAN REDRAWN	K-McA	DPR	TFH
0	7-31-79	ISSUED FOR USE	K-McA	TFH/DPR	LFB

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"FDR(48)-1	3	40	0.216	SA 106 GR B	CS	NA

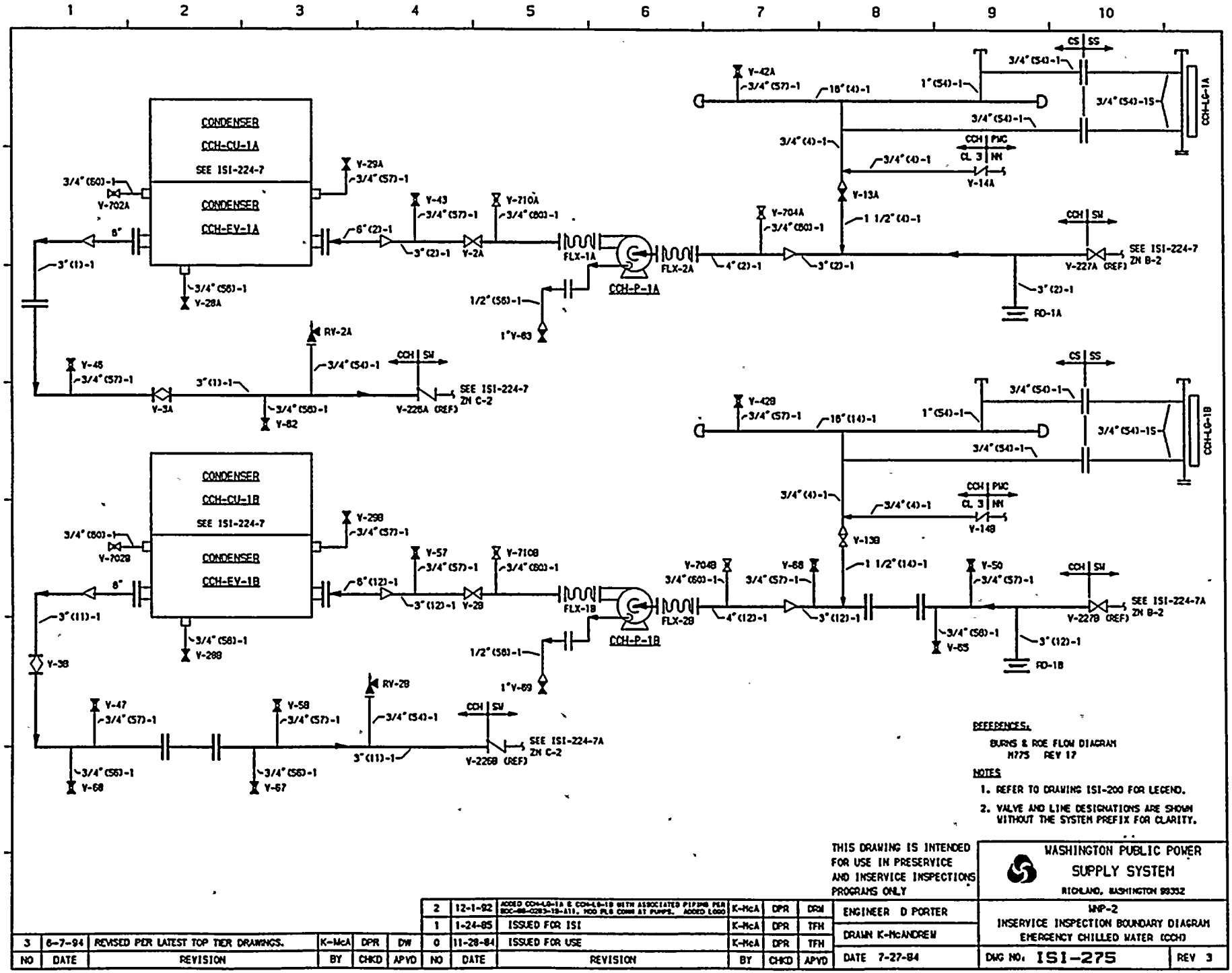
9.2 CCH Control Room Emergency Chilled Water System

Boundary Diagram ISI-275

Exemptions Applied:

IWB-1220		
(a)	NA	No Class 1 piping within system
(b)(1)	NA	
(b)(2)	NA	
(c)	NA	
IWC-1221	NA	No Class 2 piping within system
IWC-1222		
(a)	NA	
(b)	NA	
(c)	NA	
(d)	NA	
IWD-1220.1	Yes	
IWD-1220.2	Yes	
Code Case N-491		
-1230	Yes	

9.2.2 Boundary Diagrams



REFERENCES:

BURNS & ROE FLOW DIAGRAM
M775 REV 17

NOTES

1. REFER TO DRAWING ISI-200 FOR LEGEND.
2. VALVE AND LINE DESIGNATIONS ARE SHOWN WITHOUT THE SYSTEM PREFIX FOR CLARITY.

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

NO	DATE	REVISION	BY	CHKD	APVD
3	6-7-94	REVISED PER LATEST TOP TIER DRAWINGS.	K-McA	DPR	DW
2	12-1-92	ADDED CCH-LG-1A & CCH-LG-1B WITH ASSOCIATED PIPING PER EDC-88-0283-19-A11. MOD PLG COMM AT PUMPS. ADDED LOGO	K-McA	DPR	DRM
1	1-24-85	ISSUED FOR ISI	K-McA	DPR	TFH
0	11-28-84	ISSUED FOR USE	K-McA	DPR	TFH

ENGINEER D PORTER
DRAWN K-McANDREW
DATE 7-27-84

WNP-2
INSERVICE INSPECTION BOUNDARY DIAGRAM
EMERGENCY CHILLED WATER (CCH)

DWG NO. ISI-275 REV 3

9.2.3 Examination Schedule

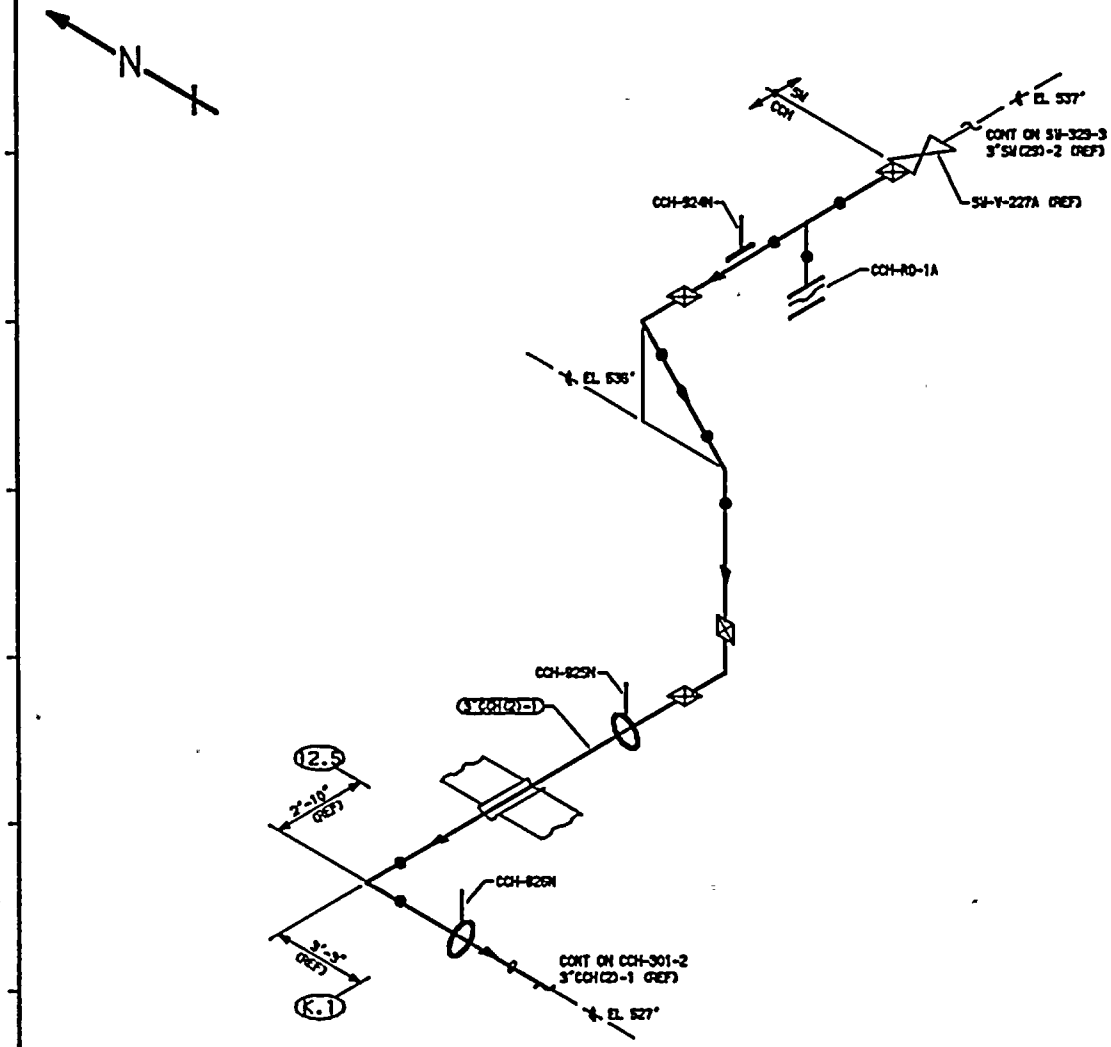
WNP-2
Interval 2
CCH - Control Room Chilled Water

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CCH-301												
	CCH-PB-301(L)	LK PRES BNDRY	D-B	D2.10	VT-2	1	13	P	CE	3		
	CCH-PB-301(H)	HYDRO PRES BNDR	D-B	D2.10	VT-2	3	19	E	CE	10		
Diagram No. CCH-302												
	CCH-PB-302(L)	LK PRES BNDRY	D-B	D2.10	VT-2	1	13	P	CE	3		
	CCH-PB-302(H)	HYDRO PRES BNDR	D-B	D2.10	VT-2	3	19	E	CE	10		
Diagram No. CCH-303												
	CCH-PB-303(L)	LK PRES BNDRY	D-B	D2.10	VT-2	1	13	P	CE	3		
	CCH-PB-303(H)	HYDRO PRES BNDR	D-B	D2.10	VT-2	3	19	E	CE	10		
Diagram No. CCH-304												
	CCH-PB-304(L)	LK PRES BNDRY	D-B	D2.10	VT-2	1	13	P	CE	3		
	CCH-PB-304(H)	HYDRO PRES BNDR	D-B	D2.10	VT-2	3	19.	E	CE	10		
Diagram No. CCH-305												
	CCH-PB-305(L)	LK PRES BNDRY	D-B	D2.10	VT-2	1	13	P	CE	3		
	CCH-PB-305(H)	HYDRO PRES BNDR	D-B	D2.10	VT-2	3	19	E	CE	10		
Diagram No. CCH-306												
	CCH-PB-306(L)	LK PRES BNDRY	D-B	D2.10	VT-2	1	13	P	CE	3		
	CCH-PB-306(H)	HYDRO PRES BNDR	D-B	D2.10	VT-2	3	19	E	CE	10		

9.2.4 Weld and Component Diagrams



ZONE M-42

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

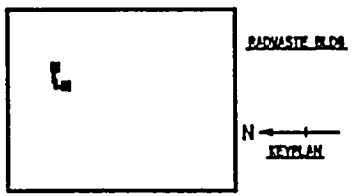
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.

REFERENCES:

ISI - 275

BOYEE & CRAIL ISOMETRIC
CCH-107-1.7 REV 4



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"CCH(2)-1	3	STD	0.216	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-16-87	ISSUED FOR USE	K-McA	DPR	TFH

QUALITY CLASS: 1 | ASME CODE CLASS: 3

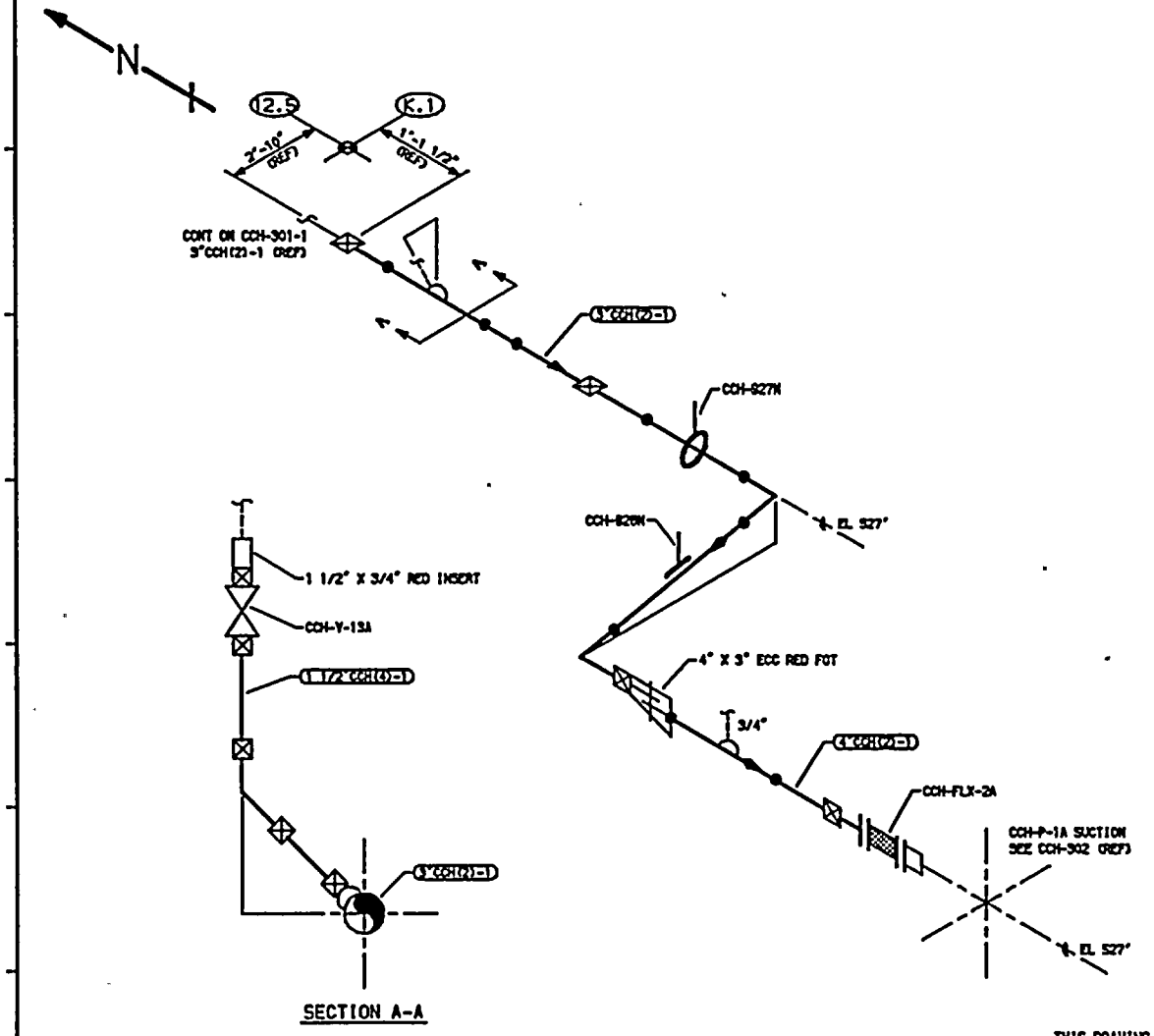
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 1-28-88

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
CCH-P-1A SUCTION FROM WNA-CC-51A-1

DWG NO: CCH-301-1 | REV 0



SECTION A-A

ZONE B-42

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

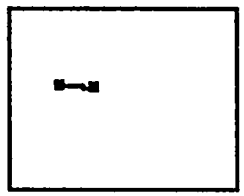
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 275

BOYCE & GRAIL ISOMETRICS
CCH-107-1.7 REV 4
CCH-1001-1 REV 4



QUALITY CLASS: 1	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 1-28-88	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

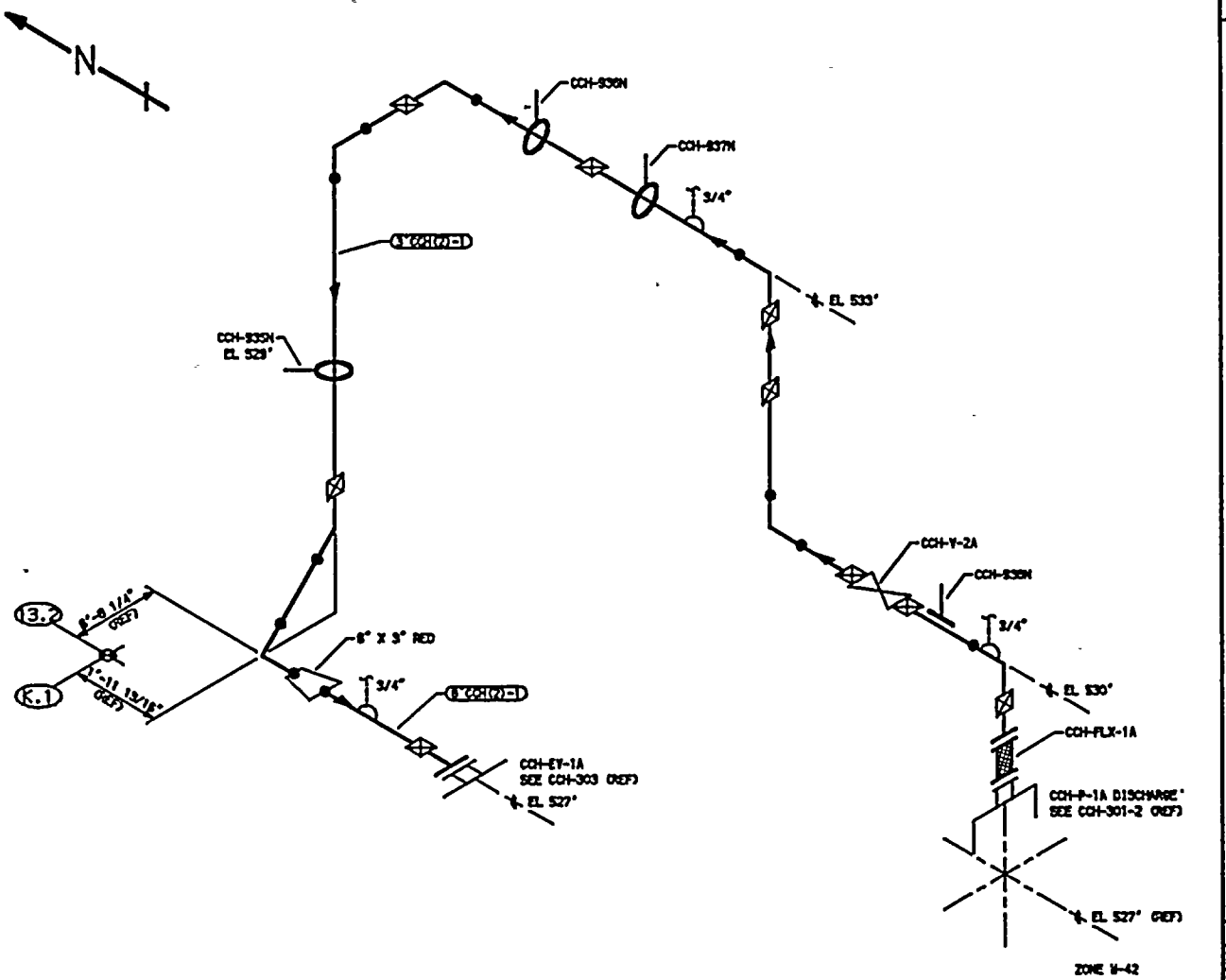
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"CCH(2)-1	3	STD	0.216	SA 106 GR B	CS	NA
1 1/2"CCH(4)-1	1 1/2	80	0.200	SA 106 GR B	CS	NA
4"CCH(2)-1	4	STD	0.237	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-18-87	ISSUED FOR USE	K-McA	DPR	TFH

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
CCH-P-1A SUCTION FROM MHA-CC-51A-1

DWG NO: CCH-301-2 REV 0



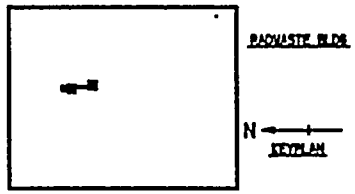
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 275

BOYEE & CRAIL ISOMETRIC
CCH-101-1.8 REV 5



THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"CCH(2)-1	3	STD	0.216	SA 106 GR B	CS	NA
6"CCH(2)-1	6	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-18-87	ISSUED FOR USE	K-McA	DPR	TFH

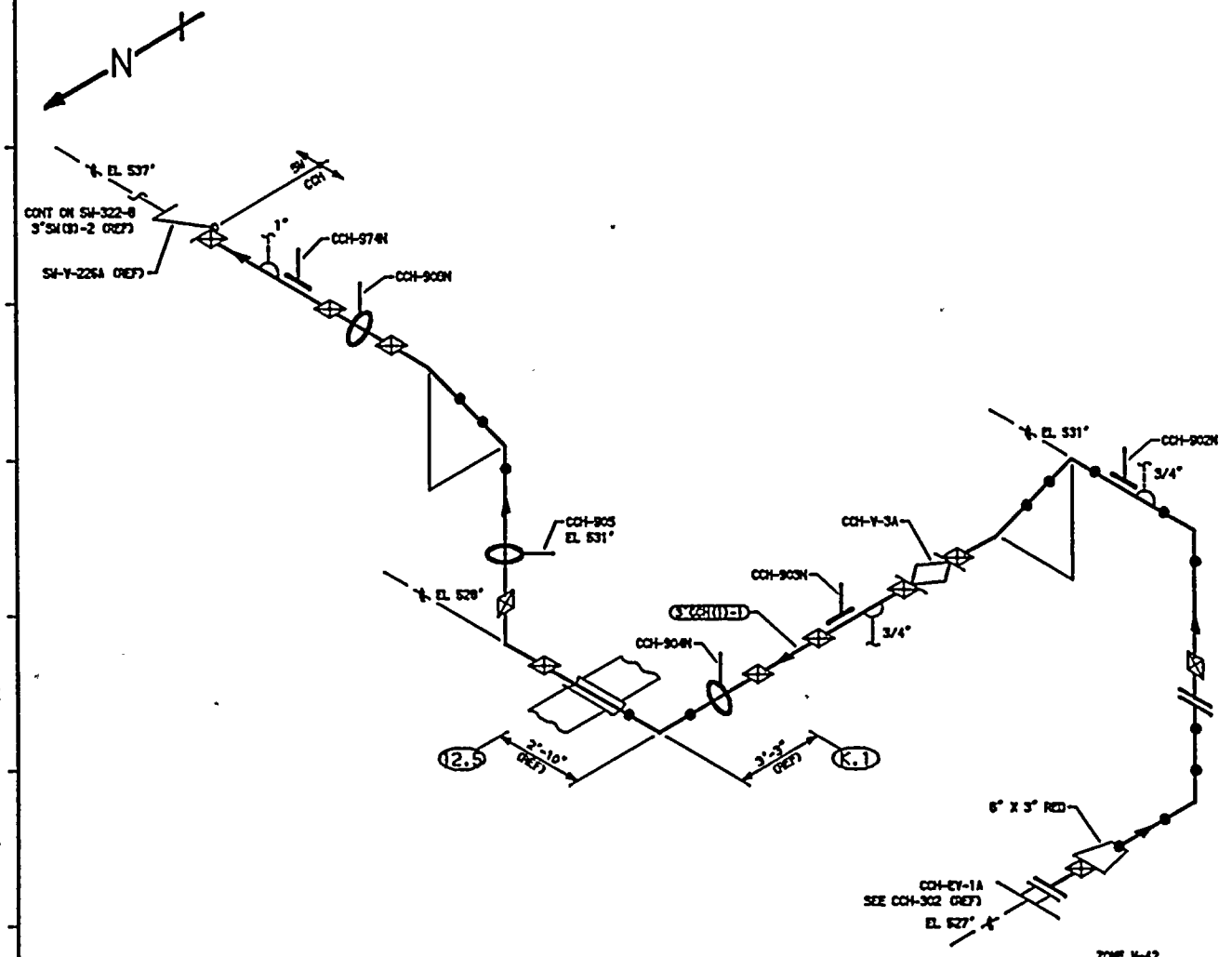
QUALITY CLASS: 1	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA DATE: 1-30-86

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
CCH-P-1A DISCHARGE TO CCH-EV-1A

DWG NO. CCH-302 REV 0



THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

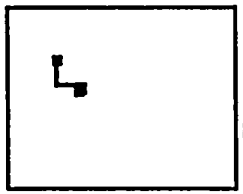
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 275

BOYEE & CRAIL ISOMETRIC CCH-100-1.7 REV 5



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
6"CCH(1)-1	6	STD	0.280	SA 106 GR B	CS	NA
3"CCH(1)-1	3	STD	0.216	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-16-87	ISSUED FOR USE	K-McA	DPR	TFH

QUALITY CLASS: 1 | ASME CODE CLASS: 3

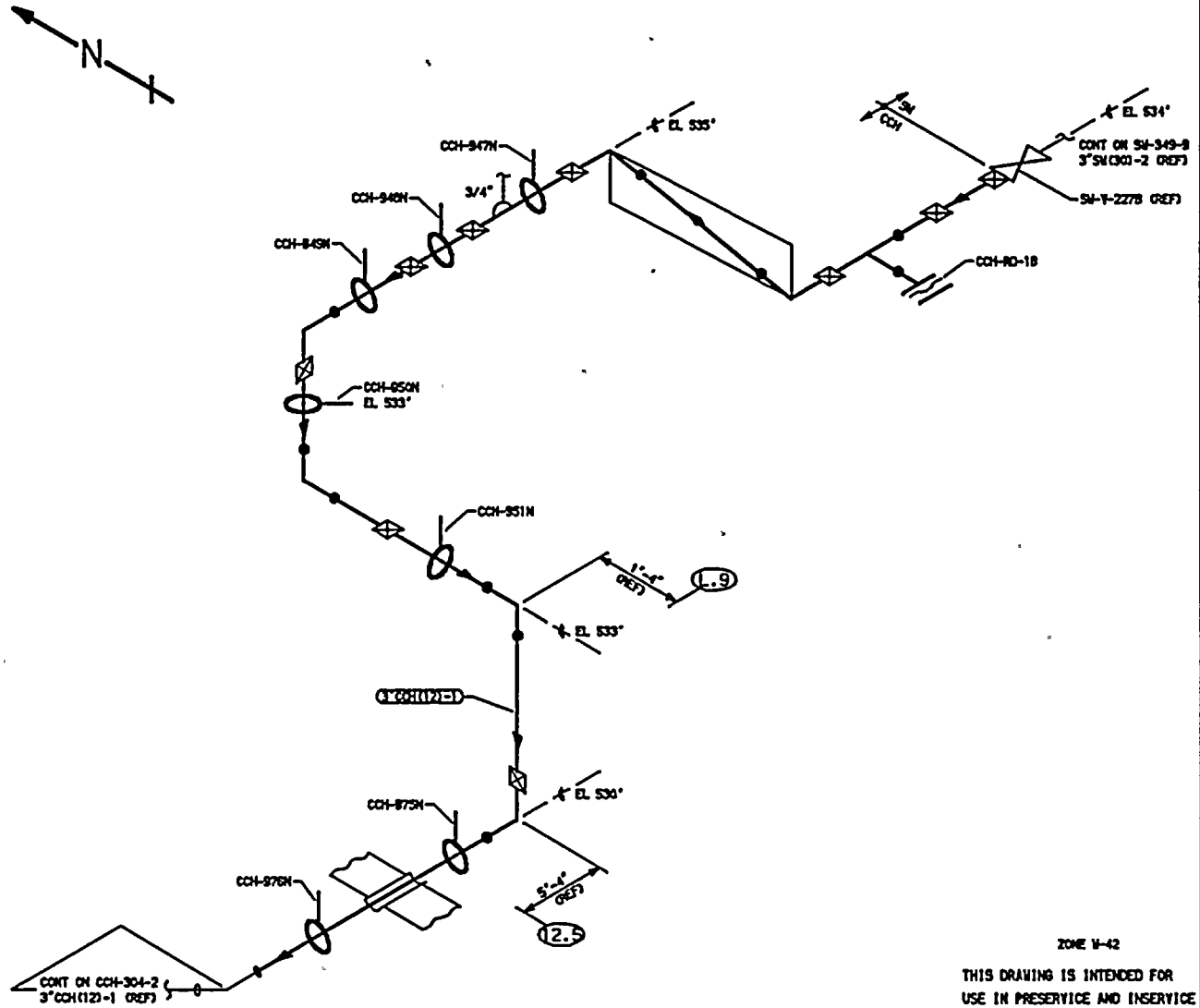
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 1-30-88

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
CCH-EY-1A SUPPLY LINE TO WNA-CC-51A-1

DWG NO. CCH-303 | REV 0



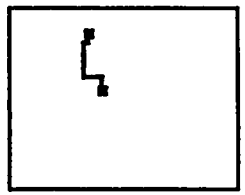
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 275

BOYEE & CRAIL ISOMETRIC
CCH-109-1.8 REV 4



THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

QUALITY CLASS: 1	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA
	DATE: 1-30-68

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

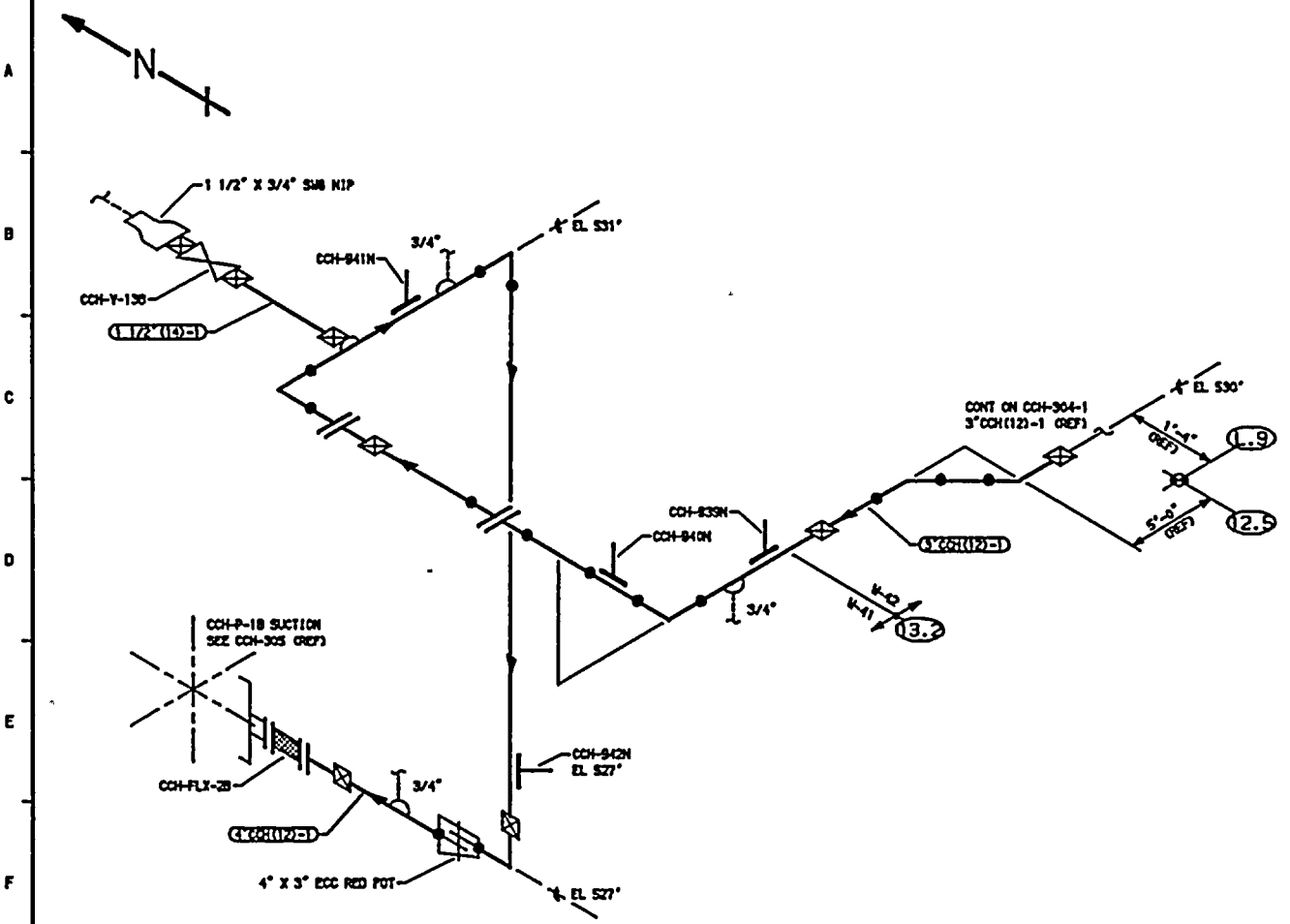
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"CCH(12)-1	3	STD	0.216	SA 106 GR B	CS	NA

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
CCH-P-1B SUCTION FROM WHA-CC-518-1

DWG NO: CCH-304-1 REV 0

NO	DATE	REVISION	BY	CHKD	APVD
0	10-16-67	ISSUED FOR USE	K-McA	DPR	TFM



NOTES:

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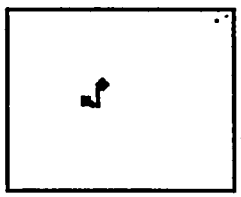
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 275

BOYEE & CRAIL ISOMETRICS
CCH-100-1.5 REV 3
CCH-1000-1 REV 4



ZONES W-42 & W-41

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"CCH(12)-1	3	STD	0.216	SA 106 GR B	CS	NA
1 1/2"CCH(14)-1	1 1/2	80	0.200	SA 106 GR B	CS	NA
4"CCH(12)-1	4	STD	0.237	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-16-87	ISSUED FOR USE	K-HoA	DPR	TFH

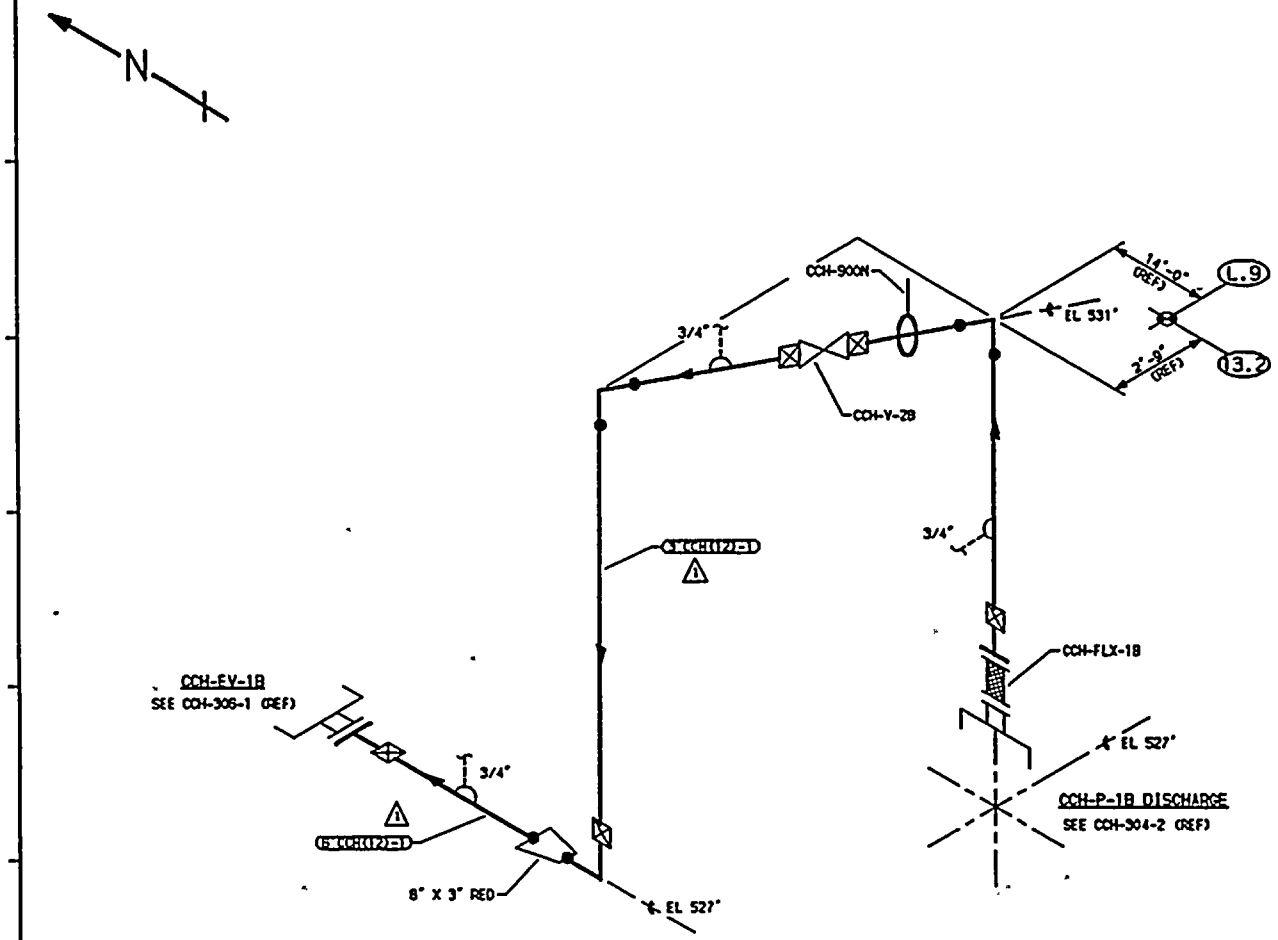
QUALITY CLASS: 1	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-HoA DATE: 2-9-88

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
CCH-P-1B SUCTION FROM WHA-CC-518-1

DWG NO: CCH-304-2 REV 0



NOTES:

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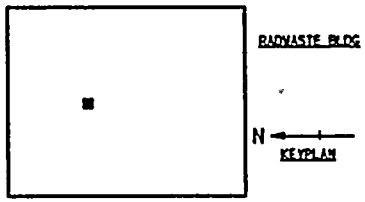
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 275

BOYEE & CRAIL ISOMETRIC
CCH-105-1.3 REV 4



QUALITY CLASS: 1	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA
	DATE: 2-4-88

ZONE W-41

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

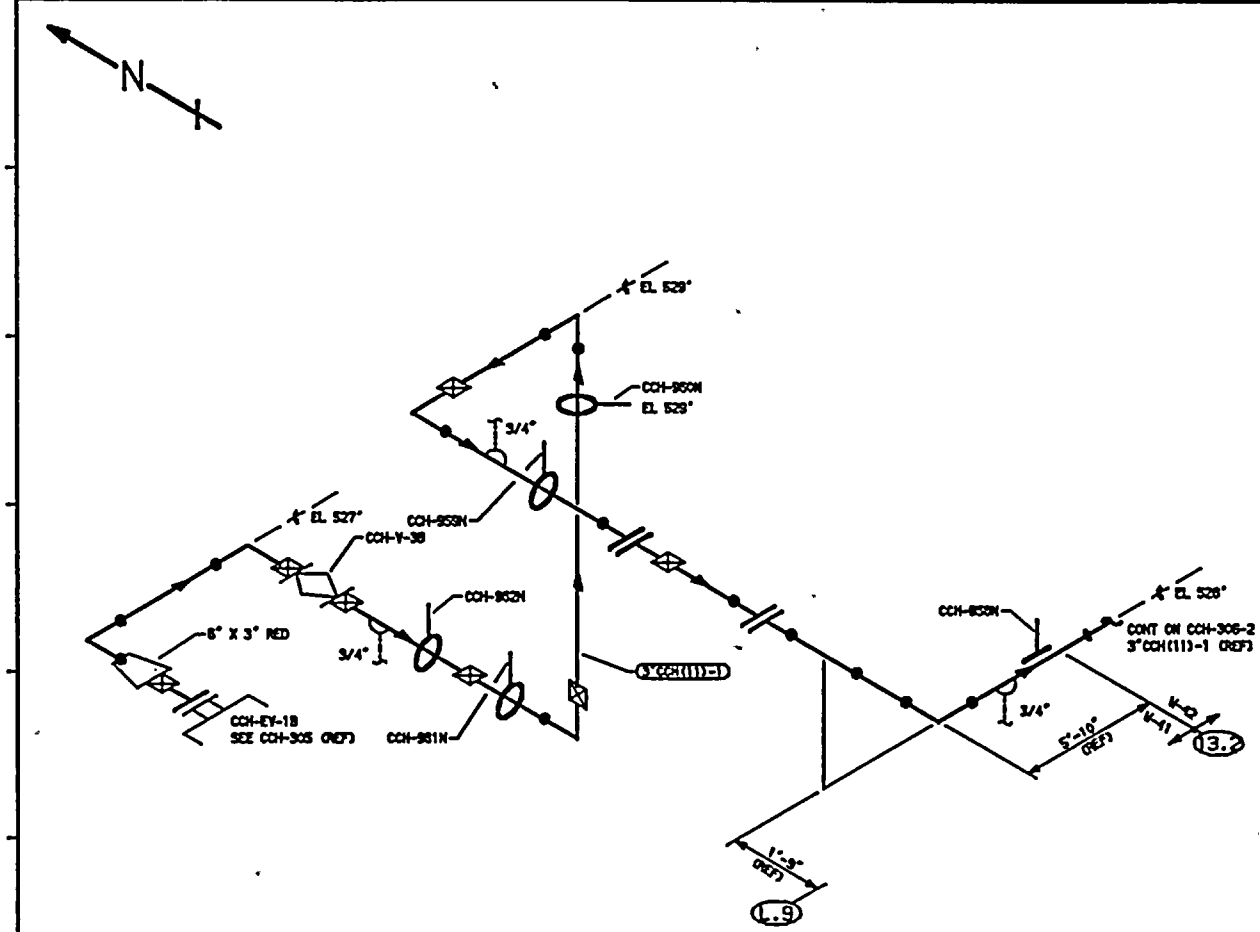
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"CCH(12)-1	3	STD	0.216	SA 106 GR B	CS	NA
6"CCH(12)-1	6	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-22-94	CORRECTED SYSTEM LINE NUMBER.	K-McA	DPR	DW
0	10-16-87	ISSUED FOR USE	K-McA	DPR	TFH

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
CCH-P-1B DISCHARGE TO CCH-EV-1B

DWG NO: CCH-305 REV 1



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2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

151 - 275

BOYEE & CRAIL ISOMETRIC
CCH-103-1.8 REV 4

RADWASTE BLDG

N KEYPLAN

ZONES M-41 & M-42

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
6"CCH(11)-1	6	STD	0.280	SA 106 GR B	CS	NA
3"CCH(11)-1	3	STD	0.216	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-16-87	ISSUED FOR USE	K-McA	DPR	TFH

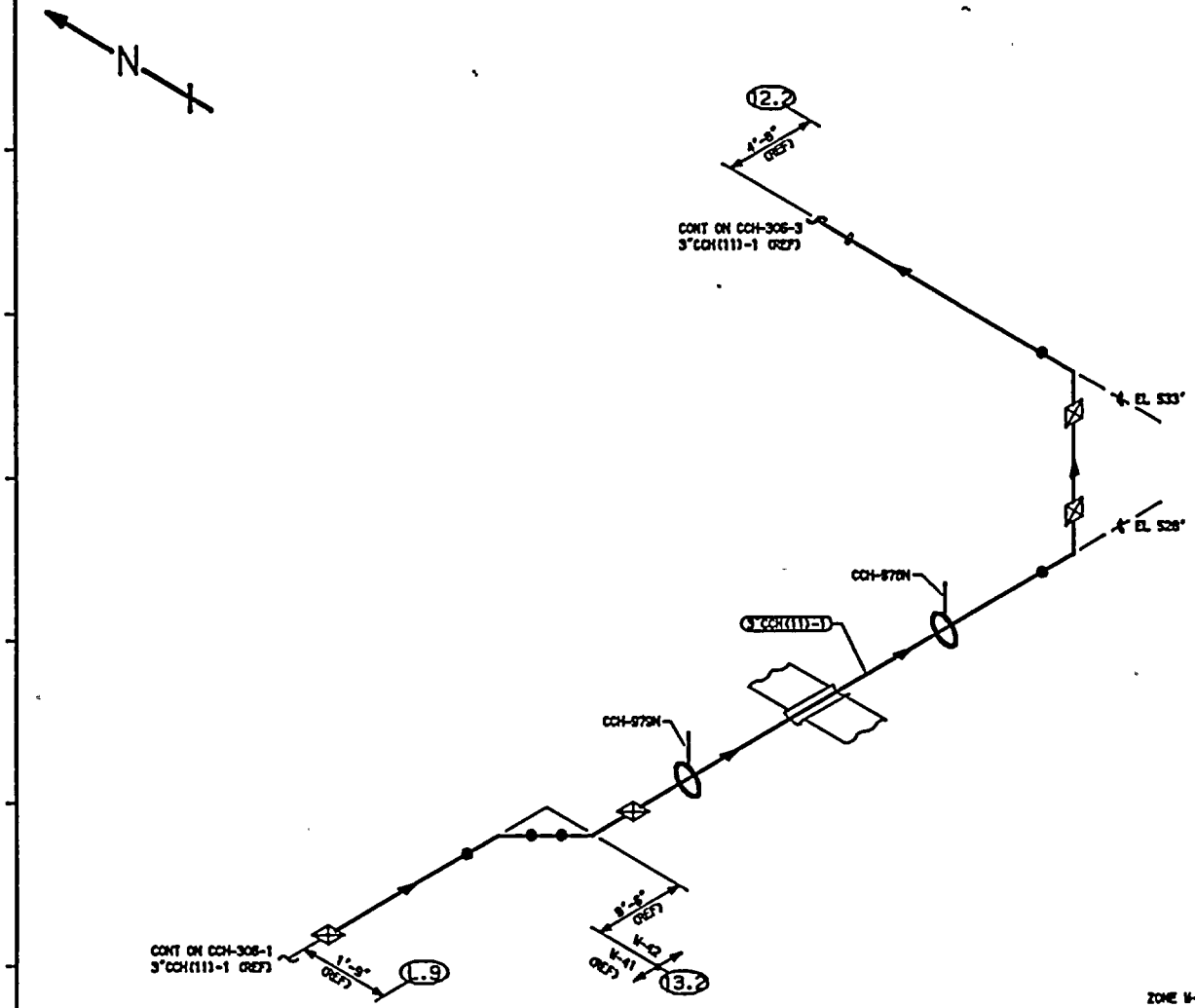
QUALITY CLASS: 1	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 2-4-88	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
CCH-EY-1B SUPPLY LINE TO WAA-CC-518-1

DWG NO. CCH-306-1 REV 0



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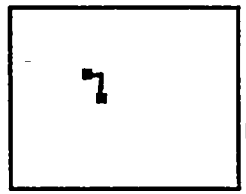
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 275

BOYEE & CRAIL ISOMETRICS
CCH-103-1.8 REV 4
CCH-104-1.14 REV 5



ZONE M-42

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"CCH(11)-1	3	STD	0.216	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-16-87	ISSUED FOR USE	K-McA	DPR	TFH

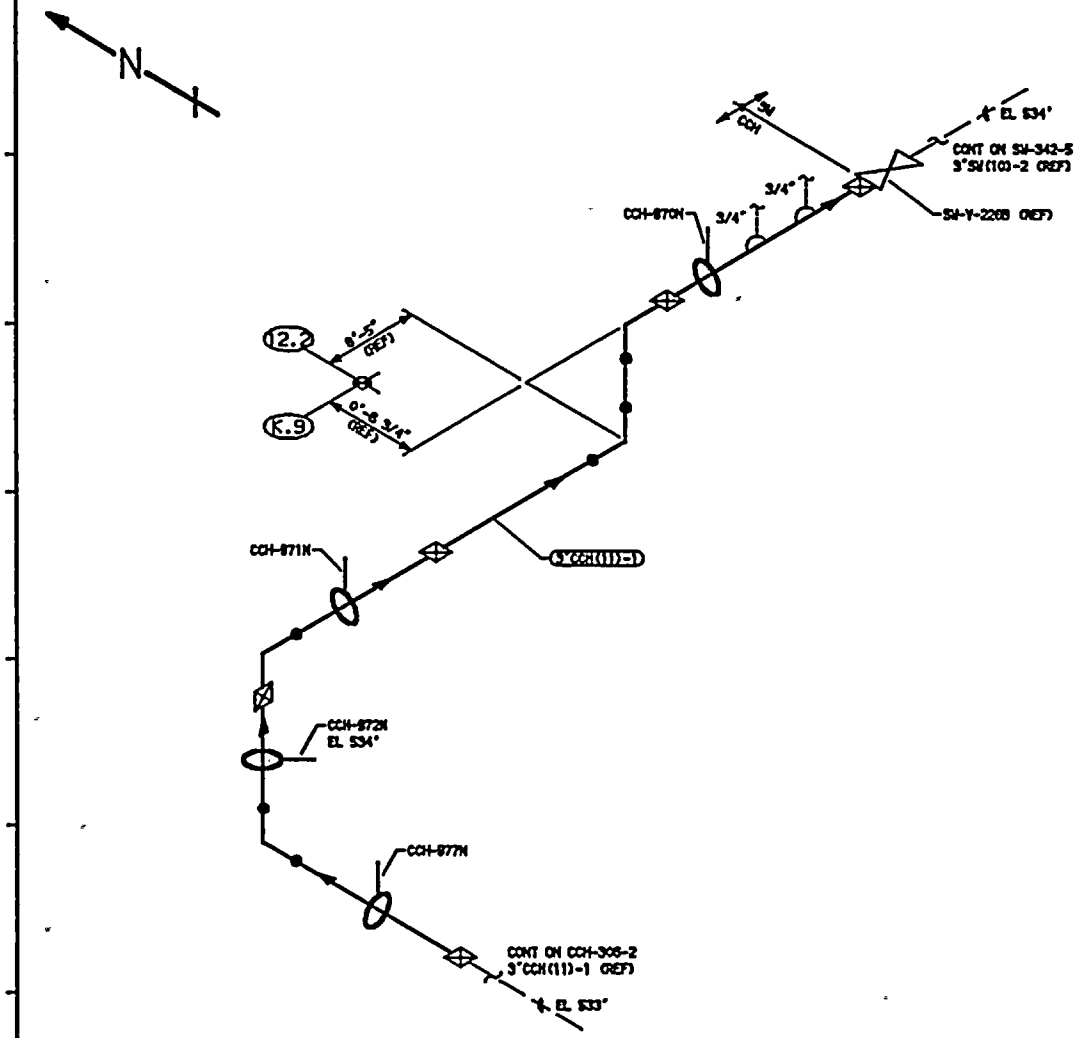
QUALITY CLASS: 1	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA DATE: 2-5-88

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
CCH-EY-1B SUPPLY LINE TO WNA-CC-51B-1

DWG NO. CCH-306-2 REV 0



NOTES:

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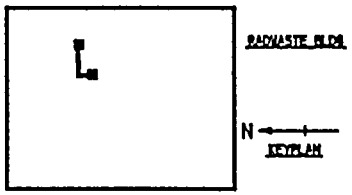
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 275

BOYEE & CRAIL ISOMETRIC
CCH-104-1.14 REV 5



ZONE M-42

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"CCH(11)-1	3	STD	0.216	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-18-87	ISSUED FOR USE	K-McA	DPR	TFH

QUALITY CLASS: 1 | ASME CODE CLASS: 3

ENGR: K-McANDREW | DRAWN: K-McA | DATE: 2-5-88

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
CCH-EY-1B SUPPLY LINE TO WNA-CC-51B-1

DWG NO: CCH-306-3 | REV 0

9.3 CRD Control Rod Drive System

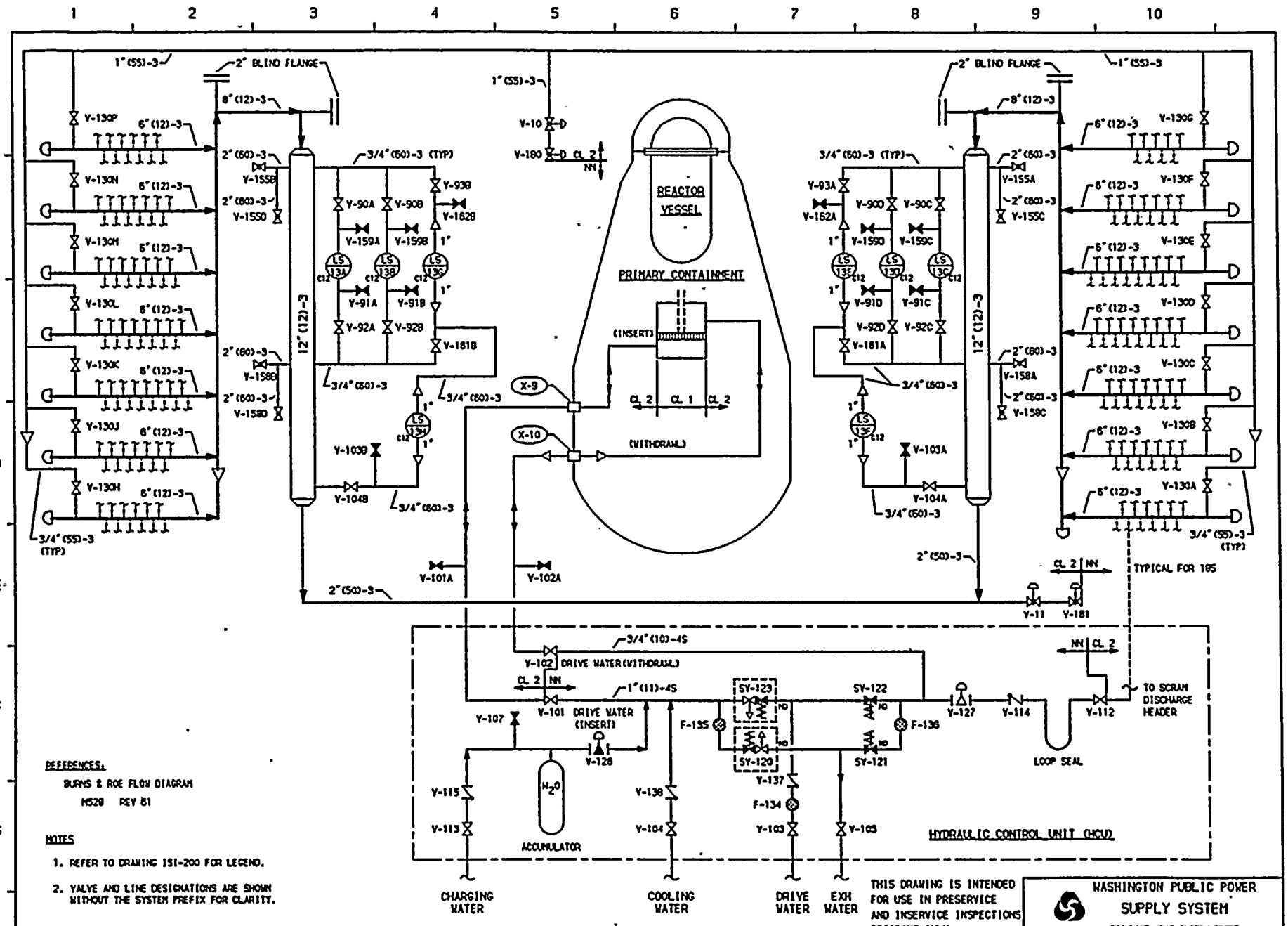
Boundary Diagram ISI-228

Exemptions Applied:

IWB-1220		
(a)	NA	
(b)(1)	NA	
(b)(2)	NA	
(c)	NA	
IWC-1221	NA	CRD system is not within the RHR, ECC, or CHR systems.
IWC-1222		
(a)	Yes	All piping 4 NPS and smaller
(b)	Yes	All components 4 NPS and smaller
(c)	No	
(d)	No	
IWD-1220.1	NA	No Class 3 piping within CRD
IWD-1220.2	NA	No Class 3 piping within CRD
Code Case N-491		
-1230	Yes	

Supply System will include the scram discharge volume welds in the scope of ASME class 2 welds. During the previous inspection period 10% of the welds in the scram discharge volume were examined using a volumetric technique. Reference letter G02-83-523, G. D. Bouchey to A. Schwencer, "PSI Summary Report Clarification" dated June 15, 1983, Generic Letter 81-35 and NUREG 0803.

9.3.2 Boundary Diagrams



REFERENCES:

BURNS & ROE FLOW DIAGRAM M528 REV 81

NOTES

1. REFER TO DRAWING ISI-200 FOR LEGEND.
2. VALVE AND LINE DESIGNATIONS ARE SHOWN WITHOUT THE SYSTEM PREFIX FOR CLARITY.

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

NO	DATE	REVISION	BY	CHKD	APVD
4	6-7-84	REVISED PER LATEST TOP TIER DRAWINGS.	K-McA	DPR	DW
3	12-1-82	ADDED LOGO	K-McA	DPR	DRW
2	1-24-85	REVISED FOR ISI	K-McA	DPR	TFH
NO	DATE	REVISION	BY	CHKD	APVD
1	11-28-84	GENERAL UPDATE REDRAWN	K-McA	DPR	TFH
0	1-9-79	ISSUED FOR USE	K-McA	TFH	DWP
A	10-18-78	ISSUED FOR INFORMATION ONLY	K-McA	NCH	DWP
NO	DATE	REVISION	BY	CHKD	APVD

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

ENGINEER D PORTER
DRAWN K-McANDREW
DATE 8-30-78

WNP-2
INSERVICE INSPECTION BOUNDARY DIAGRAM
CONTROL ROD DRIVE (CRD)

DWG NO. ISI-228 REV 4

9.3.3 Examination Schedule

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CRD-201												
	CRD-PB-201(L)	LK PRES BNDRY	C-H	C7.30	VT-2	1	13	P	CE	3		
	CRD-PB-201(H)	HYDRO PRES BNDR	C-H	C7.40	VT-2	3	19	E	CE	10		
01	6CRD(12)A-1	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G306	RIGID	F-A	F1.20A	VT-3			4	C	0		
	6CRD(12)A-2	PIPE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)A-3	PIPE TO ELL	C-F-2	C5.51	SUR	1	11	21	CE	10		
					VOL	1	11	21	CE	10		
	6CRD(12)A-4	ELL TO PIPE	C-F-2	C5.51	SUR	3	19	21	CE	10		
					VOL	3	19	21	CE	10		
	G500	RIGID	F-A	F1.20A	VT-3			4	C	0		
	6CRD(12)A-5	PIPE TO RED	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)A-1	RED TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)A-6	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G613	RIGID	F-A	F1.20A	VT-3			4	C	0		
	6CRD(12)A-7	PIPE TO TEE	C-F-2	C5.51	SUR	3	19	21	CE	10		
					VOL	3	19	21	CE	10		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CRD-201												
01	8CRD(12)A-2	TEE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)A-3	ELL TO ELL	C-F-2	C5.51	SUR	3	19	21	CE	10		
					VOL	3	19	21	CE	10		
	8CRD(12)A-4	ELL TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)A-5	ELL TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)A-8	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G319	RIGID	F-A	F1.20A	VT-3	1	10	41	CE	10		
	6CRD(12)A-9	PIPE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)A-10	ELL TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)A-6	TEE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G501	RIGID	F-A	F1.20A	VT-3			4	C	0		
	8CRD(12)A-7	PIPE TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)A-11	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		

WNP-2
Interval 2
CRD - Control Rod Drive

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CRD-201												
01	6CRD(12)A-11	CAP TO PIPE	C-F-2	C5.51	VOL			2	C	0		
	G323	RIGID	F-A	F1.20A	VT-3	1	10	41	CE	10		
	6CRD(12)A-12	PIPE TO ELL	C-F-2	C5.51	SUR	3	19	21	CE	10		
					VOL	3	19	21	CE	10		
	6CRD(12)A-13	ELL TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)A-17	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
02	8CRD(12)A-8	TEE T PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G513	RIGID	F-A	F1.20A	VT-3			41	C	0		
	8CRD(12)A-9	PIPE TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)A-14	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G327	RIGID	F-A	F1.20A	VT-3			4	C	0		
	6CRD(12)A-15	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)A-16	ELL TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)A-10	TEE TO PIPE	C-F-2	C5.51	SUR			2	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CRD-201												
02	8CRD(12)A-10	TEE TO PIPE	C-F-2	C5.51	VOL			2	C	0		
	G503	RIGID	F-A	F1.20A	VT-3	1	10	41	CE	10		
	8CRD(12)A-11	PIPE TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)A-17	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G333	RIGID	F-A	F1.20A	VT-3			4	C	0		
	6CRD(12)A-18	PIPE TO ELL	C-F-2	C5.51	SUR	1	11	21	CE	10		
					VOL	1	11	21	CE	10		
	6CRD(12)A-19	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)A-12	TEE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)A-13	PIPE TO TEE	C-F-2	C5.51	SUR	3	19	21	CE	10		
					VOL	3	19	21	CE	10		
	6CRD(12)A-20	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G339	RIGID	F-A	F1.20A	VT-3			4	C	0		
	6CRD(12)A-21	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)A-22	ELL TO TEE	C-F-2	C5.51	SUR			2	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CRD-201												
02	6CRD(12)A-22	ELL TO TEE	C-F-2	C5.51	VOL			2	C	0		
	8CRD(12)A-14	TEE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)A-15	ELL TO PIPE	C-F-2	C5.51	SUR	3	19	21	CE	10		
					VOL	3	19	21	CE	10		
	8CRD(12)A-16	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
03	G504	RIGID	F-A	F1.20A	VT-3			4	C	0		
	8CRD(12)A-18	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)A-18/2FLG	PIPET TO EL	NA	NA	SUR			2	C	0		
	8CRD(12)A-19	ELL TO PIPE	C-F-2	C5.51	SUR	3	19	21	CE	10		
					VOL	3	19	21	CE	10		
	G519	RIGID	F-A	F1.20A	VT-3			41	C	0		
	G506	RIGID	F-A	F1.20A	VT-3	1	10	41	CE	10		
	8CRD(12)A-20	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)A-21	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)A-22	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

WNP-2
Interval 2
CRD - Control Rod Drive

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CRD-201												
03	8CRD(12)A-22/2FLG	PIPET TO EL	NA	NA	SUR	3	19	21	CE	10		
	12CRD(12)A-1	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	12CRD(12)A-2	PIPE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	12CRD(12)A-3	PIPE TO CAP	C-F-2	C5.51	SUR	3	19	21	CE	10		
					VOL	3	19	21	CE	10		
	SDV-A(CS)	SDV BASE	F-A	F1.40A	VT-3	1	11	41	CE	10		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CRD-202												
	CRD-PB-202(L)	LK PRES BNDRY	C-H	C7.30	VT-2	1	13	P	CE	3		
	CRD-PB-202(H)	HYDRO PRES BNDR	C-H	C7.40	VT-2	3	19	E	CE	10		
01	8CRD(12)B-1	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)B-1	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G601	RIGID	F-A	F1.20A	VT-3			4	C	0		
	6CRD(12)B-2	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)B-3	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-2	TEE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G603	RIGID	F-A	F1.20A	VT-3			4	C	0		
	8CRD(12)B-3	PIPE TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)B-4	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G432	RIGID	F-A	F1.20A	VT-3			4	C	0		
	6CRD(12)B-5	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CRD-202												
01	6CRD(12)B-6	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-4	TEE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-5	PIPE TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)B-7	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G426	RIGID	F-A	F1.20A	VT-3	1	10	41	CE	10		
	6CRD(12)B-8	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)B-9	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-6	TEE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G604	RIGID	F-A	F1.20A	VT-3	1	10	41	CE	10		
	G605	RIGID	F-A	F1.20A	VT-3	1	10	41	CE	10		
	6CRD(12)B-12	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
02	8CRD(12)B-7	PIPE TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per. Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CRD-202											
02	6CRD(12)B-10	CAP TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	G422	RIGID	F-A	F1.20A	VT-3		4	C	0		
	6CRD(12)B-11	PIPE TO ELL	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	6CRD(12)B-13	PIPE TO TEE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	8CRD(12)B-8	TEE TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	G606	RIGID	F-A	F1.20A	VT-3		4	C	0		
	8CRD(12)B-9	PIPE TO TEE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	6CRD(12)B-14	CAP TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	G418	RIGID	F-A	F1.20A	VT-3		4	C	0		
	6CRD(12)B-15	PIPE TO ELL	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	6CRD(12)B-16	ELL TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	6CRD(12)B-17	PIPE TO TEE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CRD-202												
02	8CRD(12)B-10	TEE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-11	PIPE TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)B-18	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G600	RIGID	F-A	F1.20A	VT-3			4	C	0		
	6CRD(12)B-19	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)B-20	ELL TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-12	TEE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
03	8CRD(12)B-13	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-14	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-15	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G607	RIGID	F-A	F1.20A	VT-3			4	C	0		
	8CRD(12)B-16	PIPE TO TEE	C-F-2	C5.51	SUR			2	C	0		

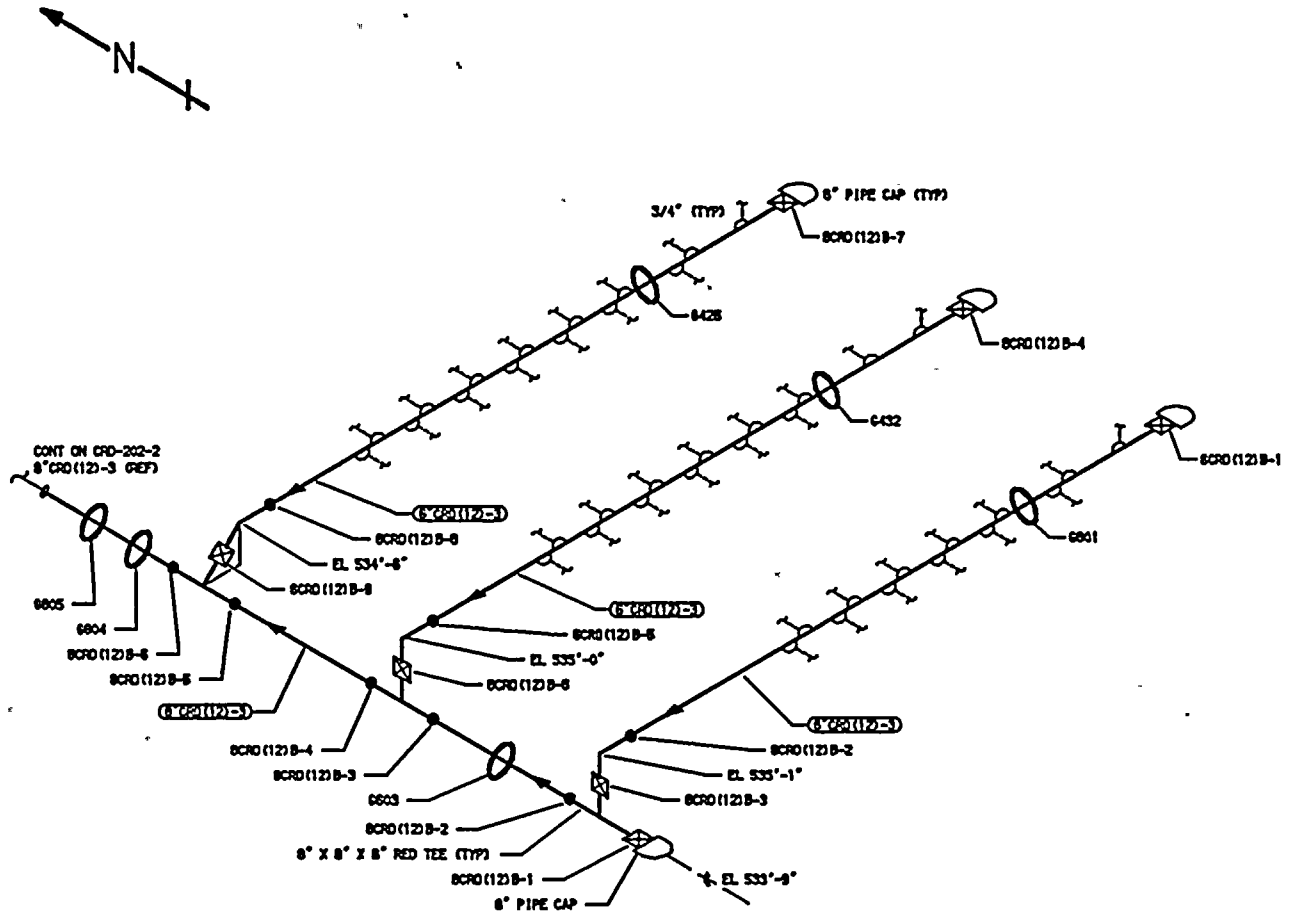
Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CRD-202												
03	8CRD(12)B-16	PIPE TO TEE	C-F-2	C5.51	VOL			2	C	0		
	6CRD(12)B-21	CAP TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)B-22	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)B-23	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	6CRD(12)B-24	PIPE TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-17	TEE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-18	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-18/2FLG	PIPET TO EL	NA	NA	SUR			2	C	0		
	8CRD(12)B-19	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	G608	RIGID	F-A	F1.20A	VT-3			4	C	0		
	8CRD(12)B-20	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-21	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. CRD-202												
03	8CRD(12)B-22	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	8CRD(12)B-22/2FLG	PIPET TO EL	NA	NA	SUR			2	C	0		
	12CRD(12)B-1	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	12CRD(12)B-2	PIPE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	12CRD(12)B-3	PIPE TO CAP	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	SDV-B(CS)	SDV BASE	F-A	F1.40A	VT-3	1	11	41	CE	10		

9.3.4 Weld and Component Diagrams



NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT TO A VISUAL EXAM FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 228

GENERAL ELECTRIC DWGS
SK-X01-75C-02 SH 28 REV 0
SK-X01-75C-02 SH 42 REV 0
SK-X01-75C-02 SH 41 REV 0
SK-X01-75C-02 SH 40 REV 0

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"CRD(12)-3	8	80	0.500	SA 106 GR B	CS	NA
6"CRD(12)-3	6	80	0.432	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	ADDED LOGO	K-McA	DPR	DRW
0	1-17-83	ISSUED FOR USE	K-McA	DPR	TFN

QUALITY CLASS: 1 | ASME CODE CLASS: 2

ENGR: K-McANDREW | DRAWN: K-McA | DATE: 12-28-82

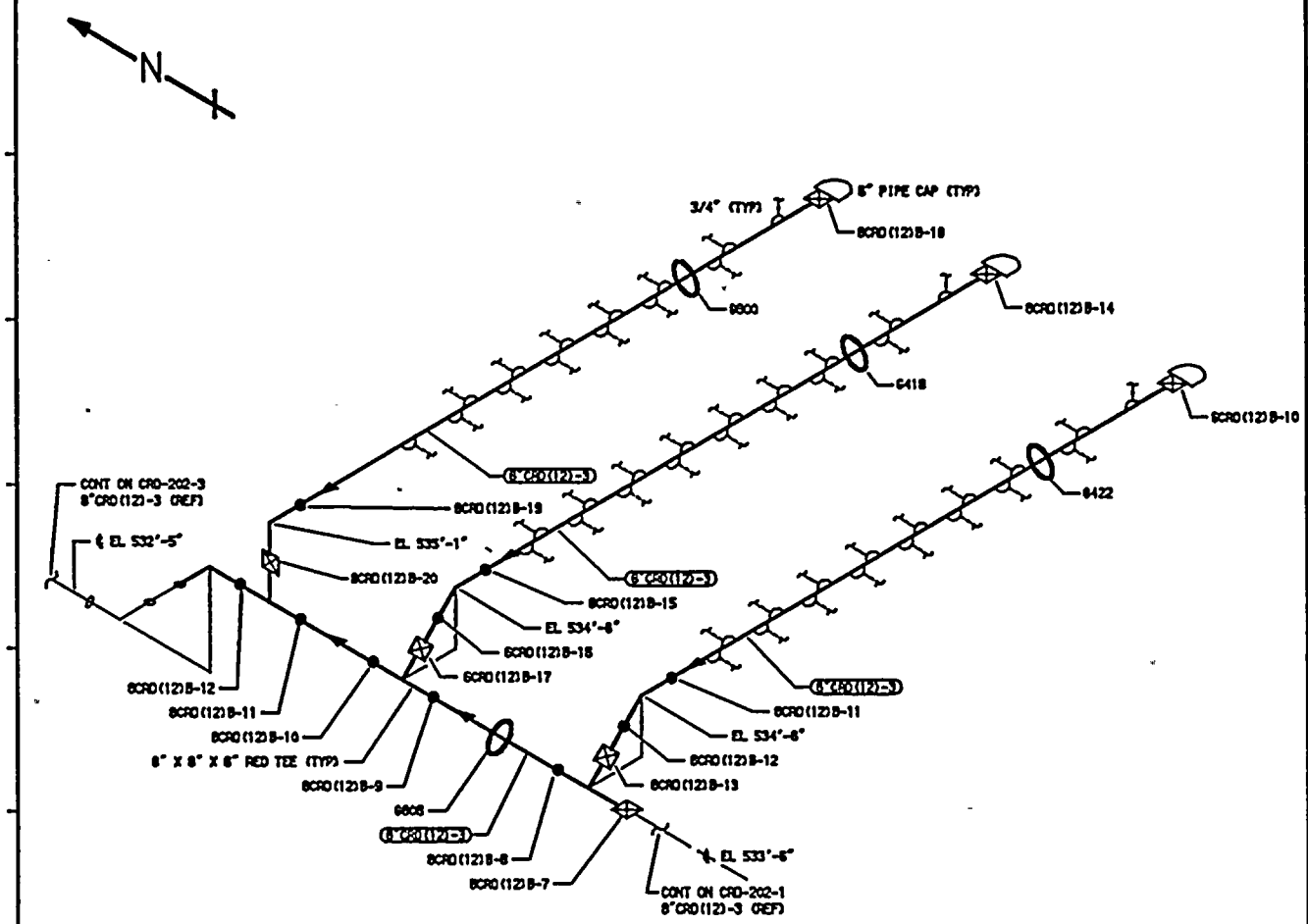
THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
CONTROL ROD DRIVE SYSTEM
SCRAM DISCHARGE HEADER B

DWG NO: CRD-202-1 | REV 1



NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT TO A VISUAL EXAM FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 228

GENERAL ELECTRIC DWGS
SK-X01-75C-02 SH 27 REV 0
SK-X01-75C-02 SH 39 REV 0
SK-X01-75C-02 SH 36 REV 0
SK-X01-75C-02 SH 37 REV 0

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"CRD(12)-3	8	80	0.500	SA 106 GR B	CS	NA
8"CRD(12)-3	8	80	0.432	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	ADDED LOGO	K-McA	DPR	DRM
0	1-17-83	ISSUED FOR USE	K-McA	DPR	TFH

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

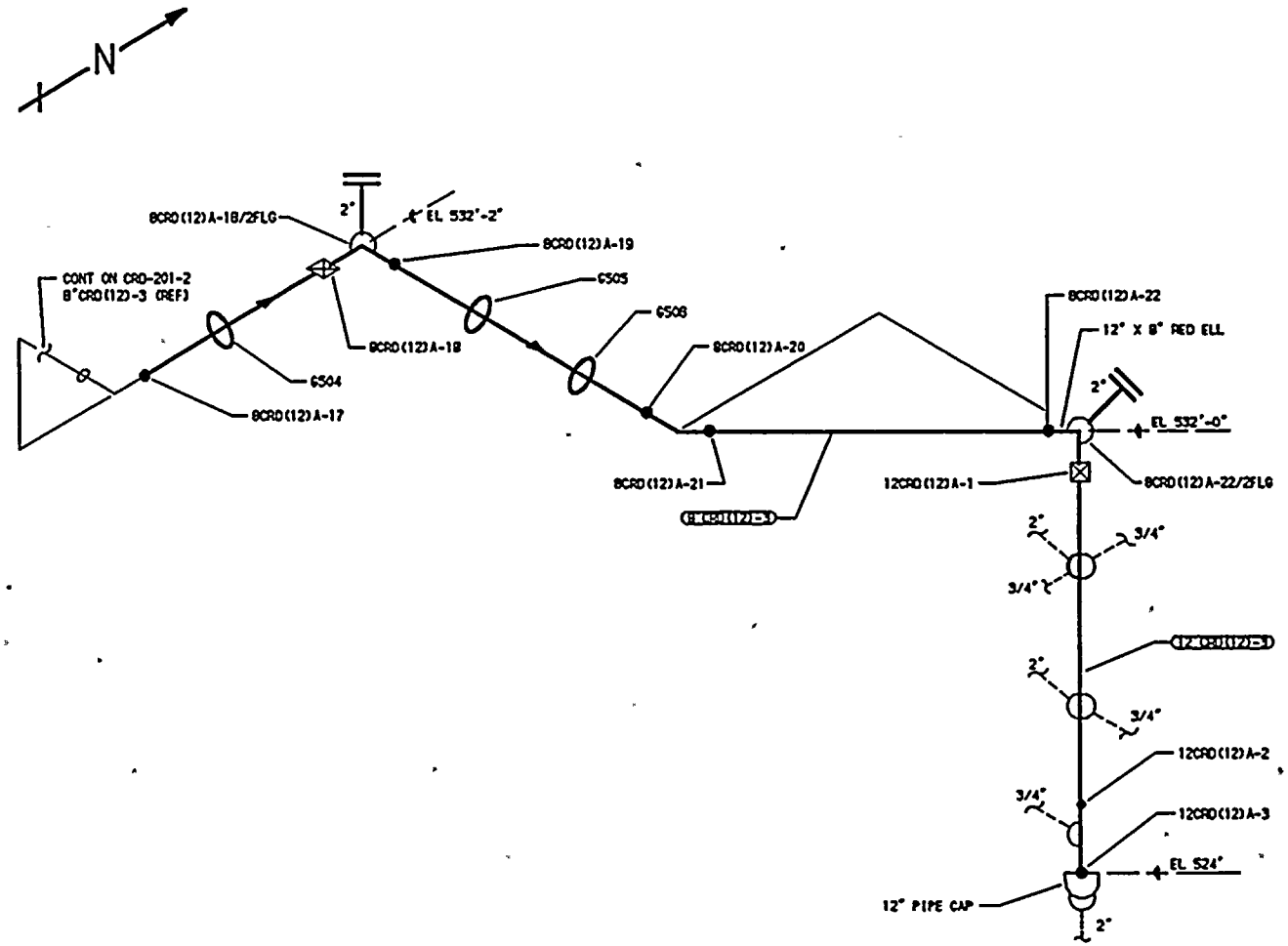
QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 12-28-82	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
CONTROL ROD DRIVE SYSTEM
SCRAM DISCHARGE HEADER B

DWG NO: CRD-202-2 REV 1



NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT TO A VISUAL EXAM FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.
3. PIPET FLANGES WERE INSTALLED ON 12" CRD LINE PER SECTION XI PLAN NO. 2-0878. WELDS WERE NOT STAMPED AS THERE WASN'T ROOM.

REFERENCES:

ISI - 228

GENERAL ELECTRIC DWGS
- SK-X01-75C-02 SH 23 REV 0
- SK-X01-75C-02 SH 24 REV 0

BURNS AND ROE DWGS
- CRD-1000-1 REV 4
- CRD-1002-1 REV 3

QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 12-26-82	

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

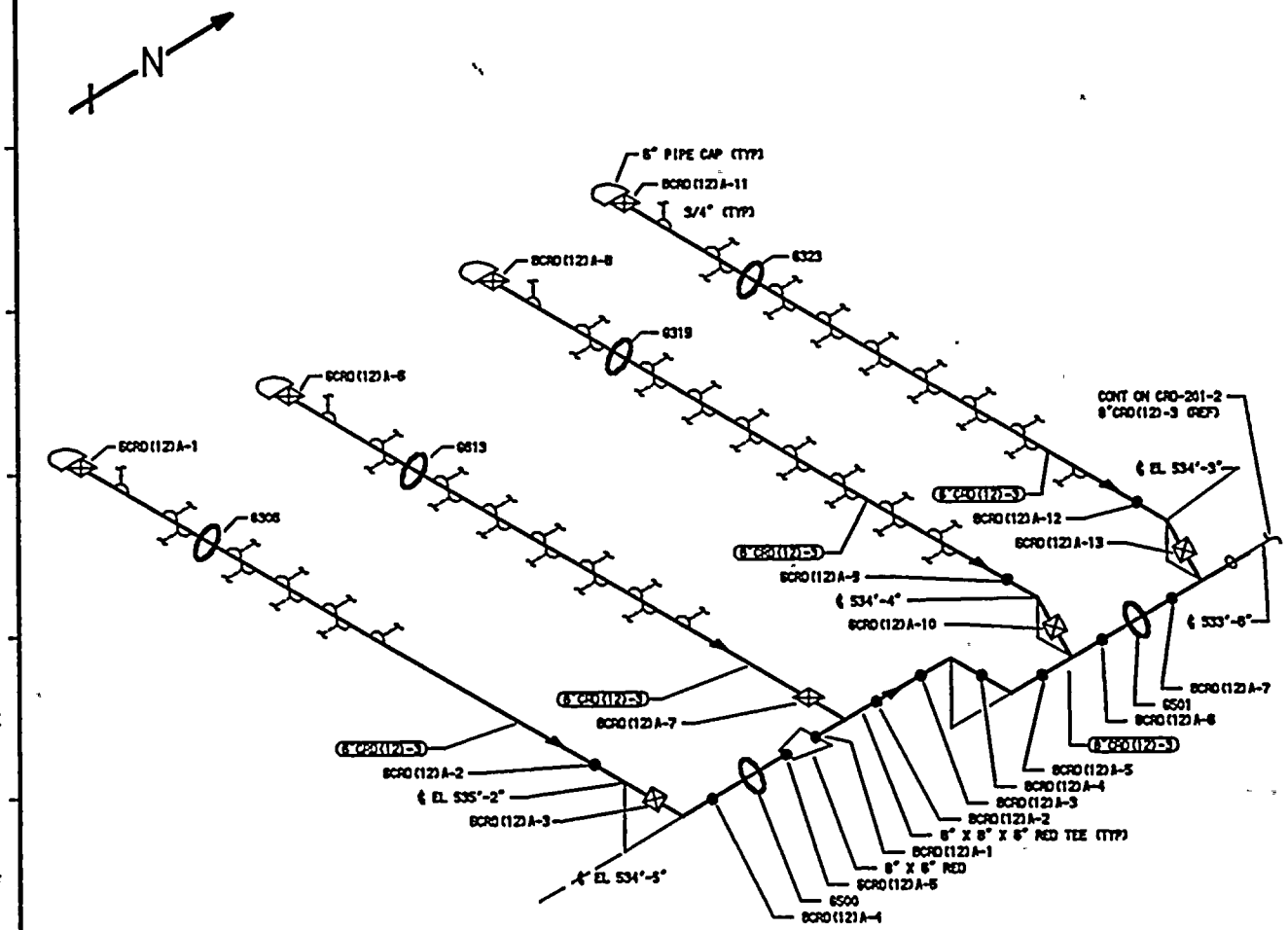
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"CRD(12)-3	8	80	0.500	SA 106 GR B	CS	NA
12"CRD(12)-3	12	80	0.688	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	9-16-93	ADDED TEN NEW WELDS & WELD NUMBERS FOR PIPET FLANGES ZONE B-3, C-7 & NOTE 3.	K-McA	DPR	DRW
1	11-13-92	ADDED LOGO	K-McA	DPR	DRW
0	1-17-83	ISSUED FOR USE	K-McA	DPR	TFH

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
CONTROL ROD DRIVE SYSTEM
SCRAM DISCHARGE HEADER A

DWG NO. CRD-201-3 REV 2



NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT TO A VISUAL EXAM FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 228

GENERAL ELECTRIC DWGS

SK-X01-75C-02	SH 22	REV 0
SK-X01-75C-02	SH 29	REV 0
SK-X01-75C-02	SH 30	REV 0
SK-X01-75C-02	SH 31	REV 0
SK-X01-75C-02	SH 32	REV 0

QUALITY CLASS: 1	ASME CODE CLASS: 2	
ENGR: K-McANDREW	DRAWN: K-McA	DATE: 12-23-82

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

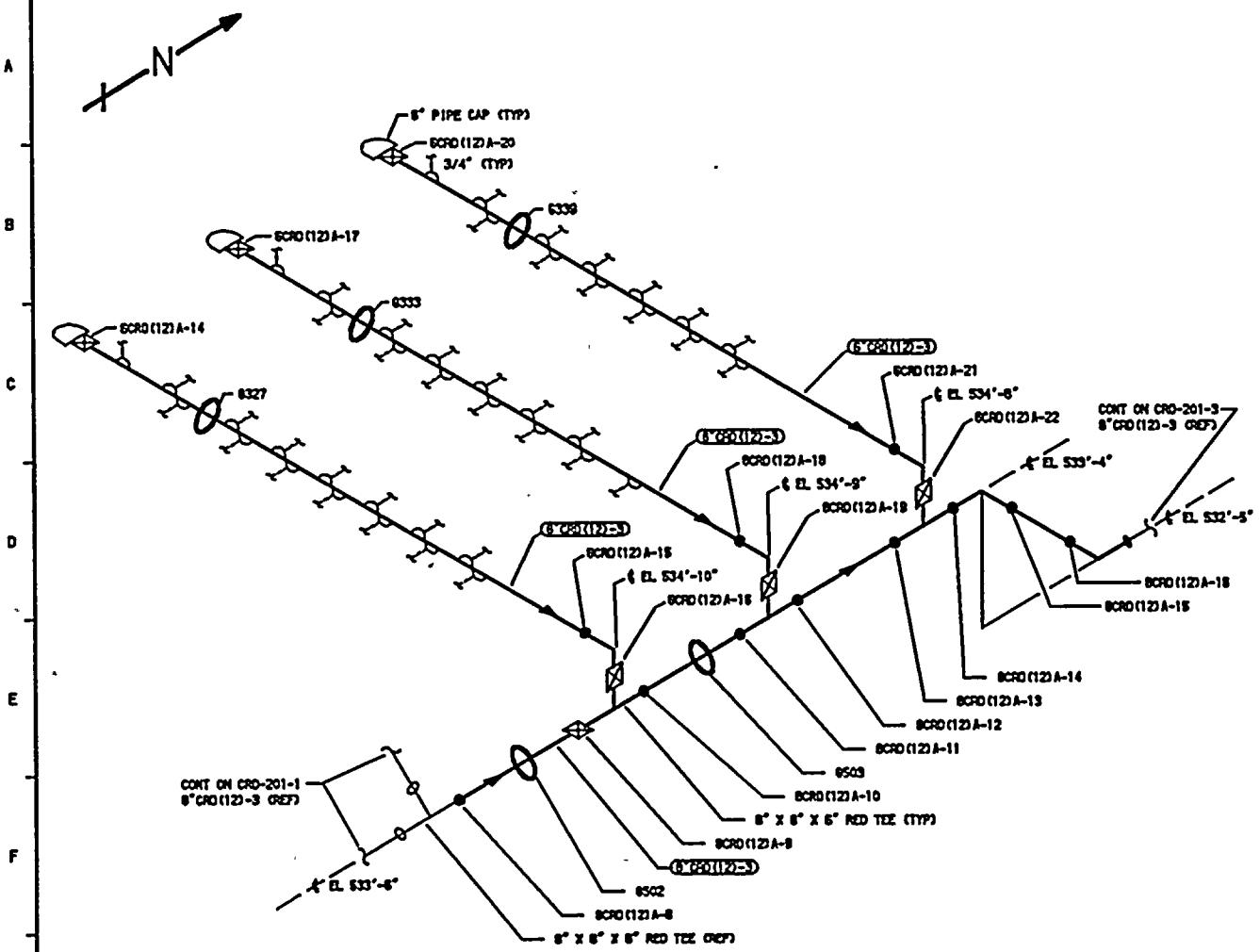
WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
CONTROL ROD DRIVE SYSTEM
SCRAM DISCHARGE HEADER A

DWG NO: CRD-201-1 REV 1

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
6"CRD(12)-3	6	80	0.500	SA 106 GR B	CS	NA
6"CRD(12)-3	6	80	0.432	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-82	ADDED LOGO	K-McA	DPR	DRW
0	1-17-83	ISSUED FOR USE	K-McA	DPR	TPH



NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT TO A VISUAL EXAM FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 228

GENERAL ELECTRIC DWGS

SK-X01-75C-02 SH 22 REV 0
SK-X01-75C-02 SH 23 REV 0
SK-X01-75C-02 SH 33 REV 0
SK-X01-75C-02 SH 34 REV 0
SK-X01-75C-02 SH 35 REV 0

QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
	DATE: 12-23-82

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

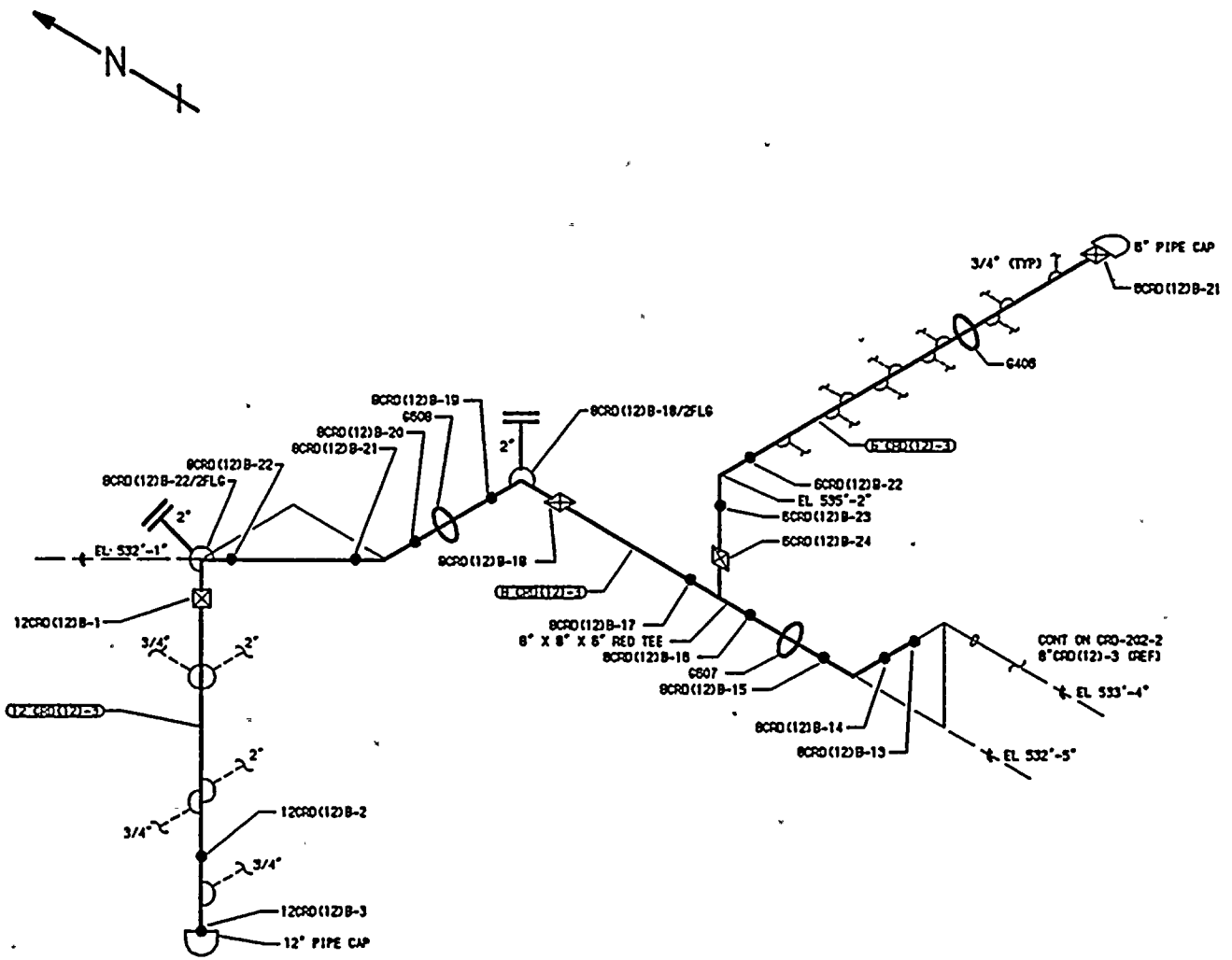
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"CRD(12)-3	8	80	0.500	SA 106 GR B	CS	NA
6"CRD(12)-3	6	80	0.432	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	ADDED LOGO	K-McA	DPR	DRM
0	1-17-83	ISSUED FOR USE	K-McA	DPR	TFH

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
CONTROL ROD DRIVE SYSTEM
SCRAM DISCHARGE HEADER A

DWG NO: CRD-201-2 REV 1



NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT TO A VISUAL EXAM FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.
3. PIPET FLANGES WERE INSTALLED ON 12" CRD LINE PER SECTION XI PLAN NO. 2-0878. WELDS WERE NOT STAMPED AS THERE WASN'T ROOM.

REFERENCES:

ISI - 228

GENERAL ELECTRIC DWGS
- SK-X01-75C-02 SH 27 REV 0
- SK-X01-75C-02 SH 35 REV 0
- SK-X01-75C-02 SH 26 REV 0
- SK-X01-75C-02 SH 25 REV 0

BURNS AND ROE DWGS
- CRD-1001-1 REV 4
- CRD-1002-1 REV 3

QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 12-26-82	

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
CONTROL ROD DRIVE SYSTEM
SCRAM DISCHARGE HEADER B

DWG NO. CRD-202-3 REV 2

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"CRD(12)-3	8	80	0.500	SA 106 GR B	CS	NA
6"CRD(12)-3	6	80	0.432	SA 106 GR B	CS	NA
12"CRD(12)-3	12	80	0.688	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	9-15-93	ADDED TWO NEW WELDS & WELD NUMBERS FOR PIPET FLANGES ZONE D-2, C-4 & NOTE 3.	K-McA	DPR	DRW
1	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
0	1-17-83	ISSUED FOR USE	K-McA	DPR	TFH

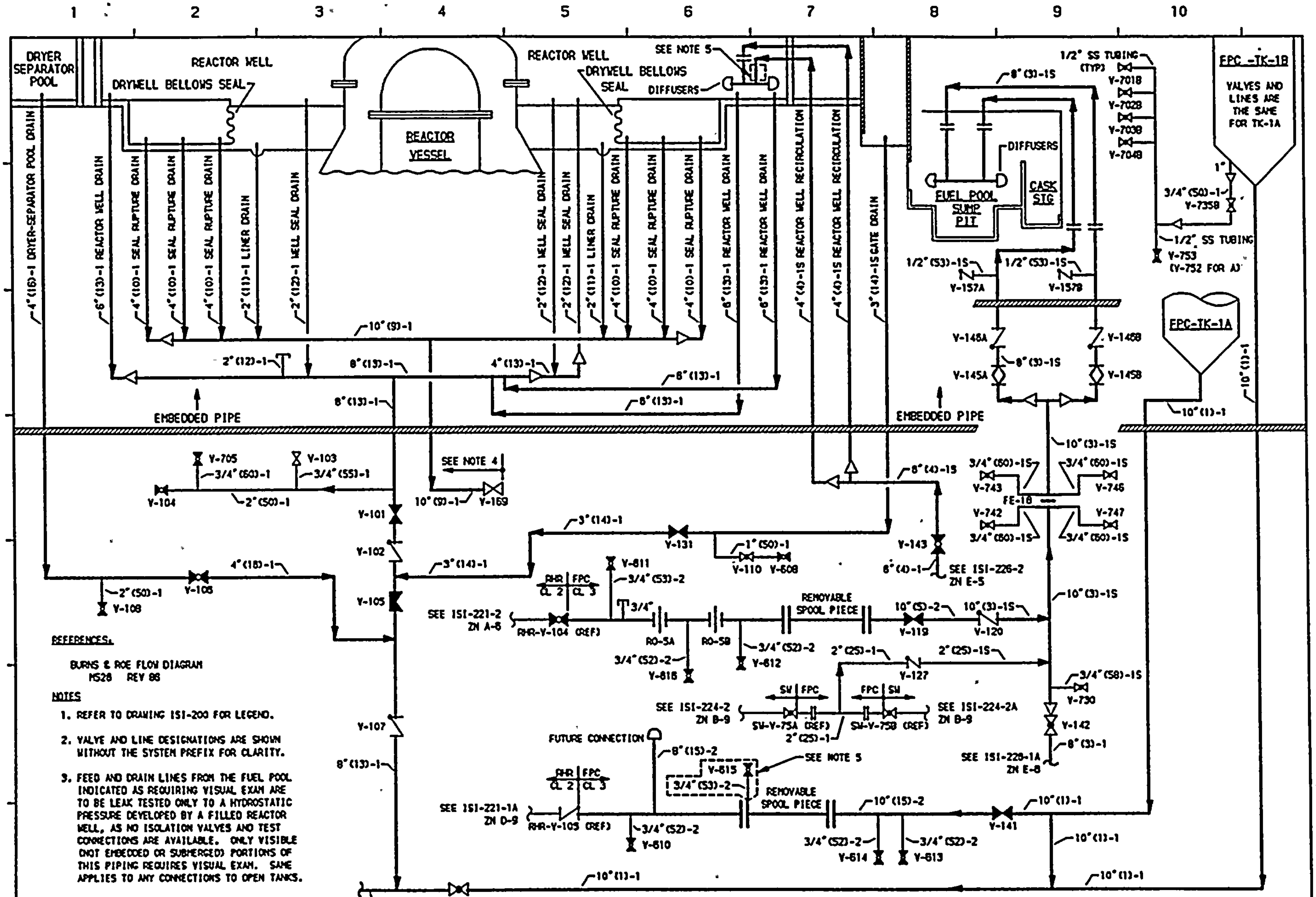
9.4 FPC Fuel Pool Cooling System

Boundary Diagram ISI-226

Exemptions Applied:

IWB-1220		
(a)	NA	
(b)(1)	NA	
(b)(2)	NA	
(c)	NA	
IWC-1221	NA	FPC system is not within the RHR, ECC, or CHR systems.
IWC-1222		
(a)	Yes	All piping 4 NPS and smaller
(b)	Yes	All components 4 NPS and smaller
(c)	Yes	Entire FPC system operates below 275 psig and 200 degrees F.
(d)	No	
IWD-1220.1	Yes	
IWD-1220.2	Yes	FPC does not support RHR, CHR or ECC systems. Entire FPC system operates below 275 psig and 200 degrees F. All attachment welds in FPC system within items D3.20, D3.30, D3.40, D3.50 and D3.60 are not required to be examined using the VT-3 method.
Code Case N-491		
-1230	Yes	

9.4.2 Boundary Diagrams



REFERENCES:

BURNS & ROE FLOW DIAGRAM
M528 REV 86

NOTES

1. REFER TO DRAWING ISI-200 FOR LEGEND.
2. VALVE AND LINE DESIGNATIONS ARE SHOWN WITHOUT THE SYSTEM PREFIX FOR CLARITY.
3. FEED AND DRAIN LINES FROM THE FUEL POOL INDICATED AS REQUIRING VISUAL EXAM ARE TO BE LEAK TESTED ONLY TO A HYDROSTATIC PRESSURE DEVELOPED BY A FILLED REACTOR WELL, AS NO ISOLATION VALVES AND TEST CONNECTIONS ARE AVAILABLE. ONLY VISIBLE (NOT EMBEDDED OR SUBMERGED) PORTIONS OF THIS PIPING REQUIRES VISUAL EXAM. SAME APPLIES TO ANY CONNECTIONS TO OPEN TANKS.
4. ALL PIPING FOR 10"FPC(9)-1 UPSTREAM OF FPC-V-169 IS FABRICATED TO ASME SEC III, CODE CLASS 3 BUT NOT STAMPED.
5. CONFIGURATIONS COMPLY WITH CONSTRUCTION DRAWINGS.

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

NO	DATE	REVISION	BY	CHKD	APVD
7	6-7-94	REVISED PER LATEST TOP TIER DRAWINGS.	K-McA	DPR	DW
6	12-1-92	DELETED FPC-RO-3, ADDED FPC-RO-5A & FPC-RO-5B, ZONE E-5 PER BDC-92-0026-04.	K-McA	DPR	DRW
5	2-20-92	CHG V-110 TO OPEN, ADDED V-608 ZN E-6	K-McA	DJ	TFH
4	12-4-89	REVISED 8"FPC(3)-1S FROM FPC-FE-1B TO FUEL POOL SUMP PIT, ADDING DIFFUSERS. ADDED LOGO.	K-McA	DPR	TFH
3	1-24-85	REVISED FOR ISI	K-McA	DPR	TFH

ENGINEER D PORTER

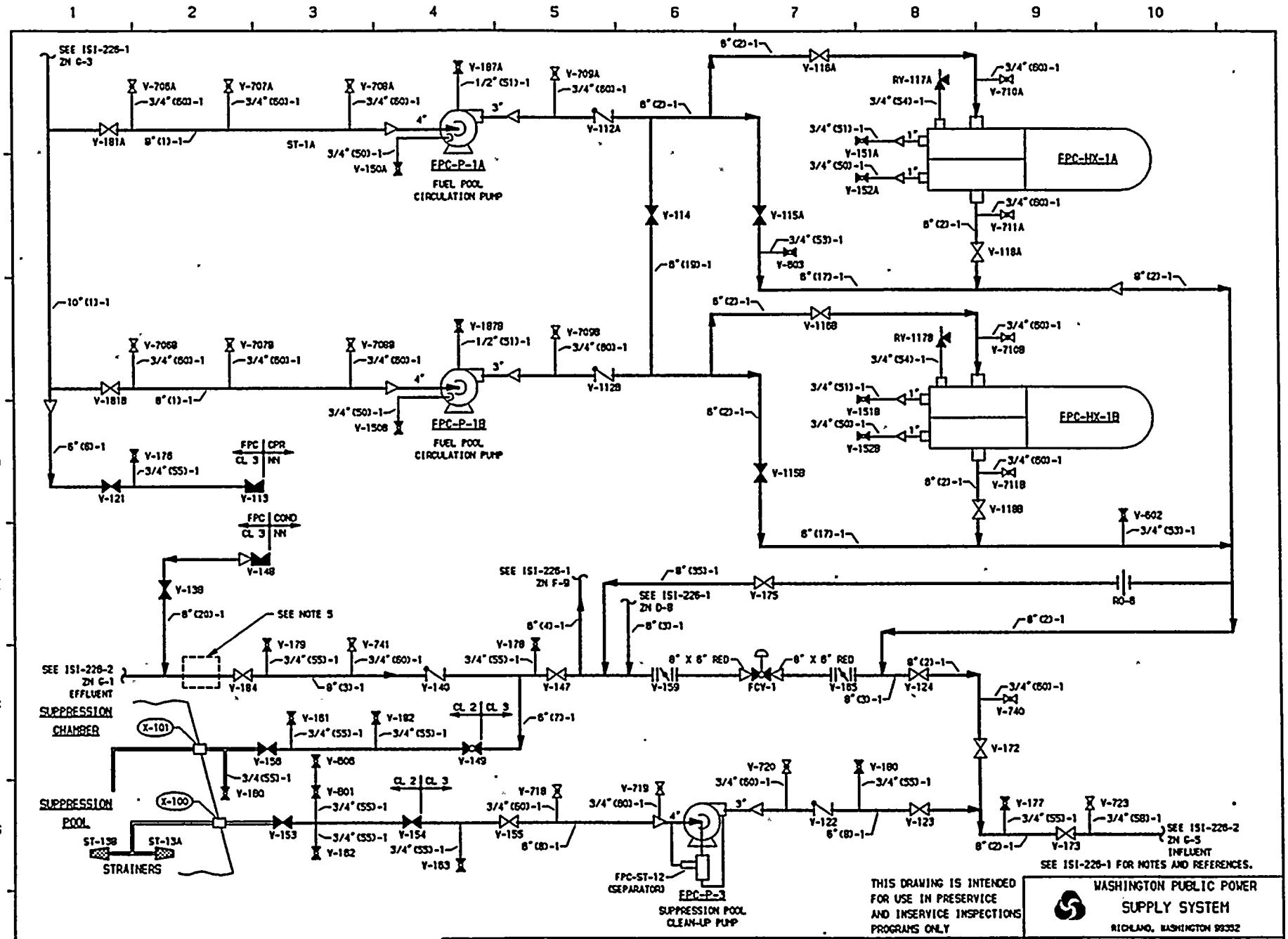
DRAWN K-McANDREW

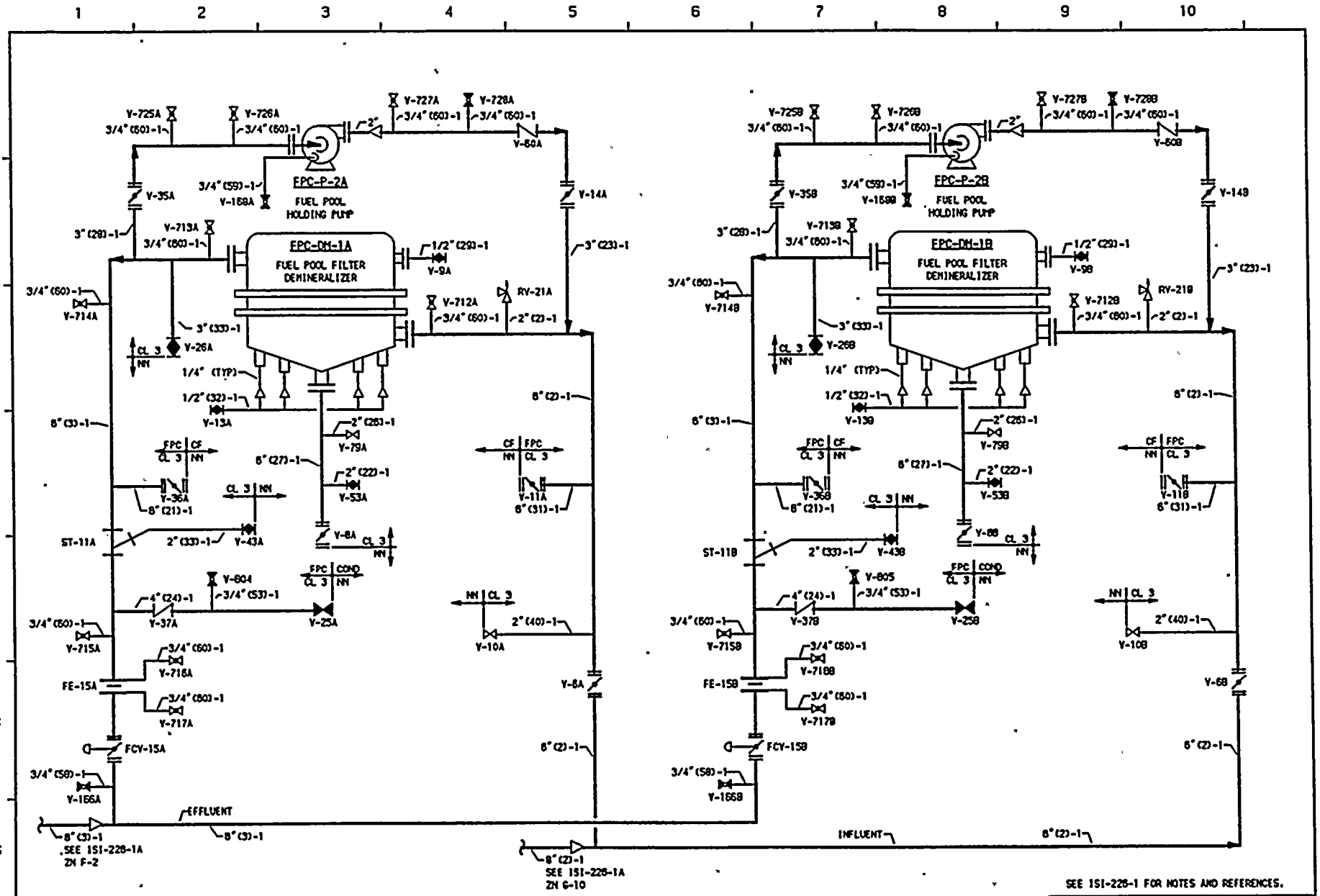
DATE 9-20-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
INSERVICE INSPECTION BOUNDARY DIAGRAM
FUEL POOL COOLING (FPC)

DWG NO. ISI-226-1 REV 7


SEE ISI-226-1 ZN C-3
V-706A 3/4"(60)-1
V-707A 3/4"(60)-1
V-708A 3/4"(60)-1
V-187A 1/2"(51)-1
V-709A 3/4"(60)-1
V-181A
8"(1)-1
ST-1A
3/4"(50)-1
V-150A
EPC-P-1A
FUEL POOL CIRCULATION PUMP
V-112A
8"(2)-1
V-116A
RV-117A
3/4"(54)-1
3/4"(60)-1
V-710A
3/4"(51)-1
V-151A
3/4"(50)-1
V-152A
EPC-HX-1A
3/4"(60)-1
V-711A
8"(2)-1
V-118A
V-114
V-115A
3/4"(53)-1
V-603
8"(19)-1
8"(17)-1
8"(2)-1
10"(1)-1
V-706B 3/4"(60)-1
V-707B 3/4"(60)-1
V-708B 3/4"(60)-1
V-187B 1/2"(51)-1
V-709B 3/4"(60)-1
V-181B
8"(1)-1
3/4"(50)-1
V-150B
EPC-P-1B
FUEL POOL CIRCULATION PUMP
V-112B
V-116B
RV-117B
3/4"(54)-1
3/4"(60)-1
V-710B
3/4"(51)-1
V-151B
3/4"(50)-1
V-152B
EPC-HX-1B
3/4"(60)-1
V-711B
8"(2)-1
V-118B
V-115B
8"(17)-1
8"(6)-1
V-176 3/4"(55)-1
V-121
FPC CL 3 NN
V-119
FPC COND CL 3 NN
V-148
V-139
8"(20)-1
SEE NOTE 5
SEE ISI-226-2 ZN C-1 EFFLUENT
V-179 3/4"(55)-1
V-741 3/4"(60)-1
V-184
8"(3)-1
V-140
V-178 3/4"(55)-1
V-147
SEE ISI-226-1 ZN F-9
8"(4)-1
SEE ISI-226-1 ZN D-8
8"(3)-1
8"(35)-1
V-175
RO-8
8"(2)-1
8" X 8" RED
V-159
FCV-1
8" X 8" RED
V-165
8"(3)-1
V-124
8"(2)-1
3/4"(60)-1
V-740
V-172
SUPPRESSION CHAMBER
X-101
V-161 3/4"(55)-1
V-182 3/4"(55)-1
CL 2 CL 3
8"(7)-1
V-158
V-149
V-806
3/4(55)-1
V-180
SUPPRESSION POOL
X-100
V-801 3/4"(55)-1
CL 2 CL 3
V-153
V-154
3/4"(55)-1
V-162
3/4"(55)-1
V-163
ST-13B
ST-13A
STRAINERS
V-718 3/4"(60)-1
V-155
8"(8)-1
V-719 3/4"(60)-1
4"
3"
V-720 3/4"(60)-1
V-180 3/4"(55)-1
V-122
8"(8)-1
V-123
V-177 3/4"(55)-1
V-723 3/4"(58)-1
V-173
8"(2)-1
SEE ISI-226-2 ZN C-5 INFLUENT
FPC-ST-12 (SEPARATOR)
EPC-P-3
SUPPRESSION POOL CLEAN-UP PUMP
SEE ISI-226-1 FOR NOTES AND REFERENCES.
THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352
ENGINEER D PORTER
DRAWN K-McANDREW
DATE 9-20-78
WNP-2
INSERVICE INSPECTION BOUNDARY DIAGRAM
FUEL POOL COOLING (FPC)
DWG NO: ISI-226-1A
REV 5
4 12-4-89 ADDED FPC-V-148 & LOOP. MADE MINOR CHANGES TO REFLECT ACTUAL FLOW OF PIPING SYSTEM. K-McA DPR TFH
3 1-24-85 REVISED FOR ISI K-McA DPR TFH
2 11-28-84 GENERAL UPDATE REDRAWN K-McA DPR TFH
5 6-7-94 REVISED PER LATEST TOP TIER DRAWINGS. K-McA DPR DW
NO DATE REVISION BY CHKD APVD



SEE ISI-226-1 FOR NOTES AND REFERENCES.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

NO	DATE	REVISION	BY	CHKD	APVD
6	6-7-94	REVISED PER LATEST TOP TIER DRAWINGS.	K-McA	DPR	DW
5	12-4-89	EXTENDED FPC-ST-11A & 11B PIPING TO MK. ADDED LOCO.	K-McA	DPR	TFH
4	1-24-85	REVISED FOR ISI	K-McA	DPR	TFH
3	11-28-84	GENERAL UPDATE REDRAWN	K-McA	DPR	TFH

ENGINEER D PORTER
DRAWN K-McANDREW
DATE 9-20-78

WNP-2
INSERVICE INSPECTION BOUNDARY DIAGRAM
FUEL POOL COOLING (FPC)

DWG NO. ISI-226-2 REV 6

9.4.3 Examination Schedule

WNP-2
Interval 2
FPC - Fuel Pool Coooling

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-201												
	FPC-903N	ANCHOR	F-A	F1.20A	VT-3	1	10	41	CE	10		
	FPC-170	BOX	F-A	F1.20A	VT-3			4	C	0		
	FPC-172	BOX	F-A	F1.20A	VT-3			4	C	0		
	FPC-237	BOX	F-A	F1.20A	VT-3			4	C	0		
	FPC-238	BOX	F-A	F1.20A	VT-3			4	C	0		
	FPC-239	BOX	F-A	F1.20A	VT-3			4	C	0		
	FPC-PB-201(L)	LK PRES BNDRY	C-H	C7.30	VT-2	1	13	P	CE	3		
	FPC-PB-201(H)	HYDRO PRES BNDR	C-H	C7.40	VT-2	3	19	E	CE	10		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-301												
	FPC-PB-301(L)	LK PRES BNDRY	D-C	D3.10	VT-2	1	13	P	CE	3		
	FPC-PB-301(H)	HYDRO PRES BNDR	D-C	D3.10	VT-2	3	19	E	CE	10		
01	FPC-54	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-55	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-56	BOX	F-A	F1.30A	VT-3			5	C	0		
02	FPC-51	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-52	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-53	BOX	F-A	F1.30A	VT-3			5	C	0		
03	FPC-130	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-129	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-128	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-127	BOX	F-A	F1.30A	VT-3			5	C	0		
04	FPC-65	PSA-1 SNUBBER	F-A	F1.30D	VT-3	2	16	51	CE	10		
	FPC-916N	SPRING	F-A	F1.30C	VT-3			5	C	0		
	FPC-918N	PSA-1 SNUBBER	F-A	F1.30D	VT-3			5	C	0		
	FPC-88	SPRING	F-A	F1.30C	VT-3			5	C	0		
	FPC-101	RIGID	F-A	F1.30A	VT-3			5	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-301												
05	FPC-86	SPRING	F-A	F1.30C	VT-3	1	10	51	CE	10		
	FPC-P-1A(CS)	PUMP BASE	F-A	F1.40A	VT-3	1	10	61	CE	10		
06	FPC-87	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-P-1B(CS)	PUMP BASE	F-A	F1.40A	VT-3	1	10	61	CE	10		
07	FPC-57	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-58	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-919N	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-59	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-60	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-61	SPRING	F-A	F1.30C	VT-3			5	C	0		
08	FPC-62	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-63	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-64	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-44	ANCHOR	F-A	F1.30A	VT-3			5	C	0		
	FPC-42	STRUT	F-A	F1.30A	VT-3			5	C	0		
	FPC-43	PSA-3 SNUBBER	F-A	F1.30D	VT-3			5	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-301												
08	FPC-909N	RIGID	F-A	F1.30A	VT-3	2	15	51	CE	10		
	FPC-908N	PSA-1 SNUBBER	F-A	F1.30D	VT-3			5	C	0		
	FPC-41	SPRING	F-A	F1.30C	VT-3	2	15	51	CE	10		
	FPC-40	STRUT	F-A	F1.30A	VT-3	2	15	51	CE	10		
	FPC-39	SPRING	F-A	F1.30C	VT-3			5	C	0		

WNP-2
Interval 2
FPC - Fuel Pool Coooling

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-302												
	FPC-PB-302(L)	LK PRES BNDRY	D-C	D3.10	VT-2	1	13	P	CE	3		
	FPC-PB-302(H)	HYDRO PRES BNDR	D-C	D3.10	VT-2	3	19	E	CE	10		
01	FPC-208	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-184	SPRING	F-A	F1.30C	VT-3			5	C	0		
	FPC-182	BOX	F-A	F1.30A	VT-3			5	C	0		
02	FPC-185	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-186	SPRING	F-A	F1.30C	VT-3			5	C	0		
	FPC-HX-1A(CS)	HX BASE	F-A	F1.40A	VT-3	1	10	61	CE	10		
03	FPC-179	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-180	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-181	BOX	F-A	F1.30A	VT-3			5	C	0		
04	FPC-177	SPRING	F-A	F1.30C	VT-3			5	C	0		
	FPC-178	BOX	F-A	F1.30A	VT-3			5	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-303												
	FPC-PB-303(L)	LK PRES BNDRY	D-C	D3.10	VT-2	1	13	P	CE	3		
	FPC-PB-303(H)	HYDRO PRES BNDR	D-C	D3.10	VT-2	3	19	E	CE	10		
01	FPC-193	SPRING	F-A	F1.30C	VT-3			5	C	0		
	FPC-207	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-192	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-191	BOX	F-A	F1.30A	VT-3			5	C	0		
02	FPC-188	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-187	BOX	F-A	F1.30A	VT-3			5	C	0		
03	FPC-190	SPRING	F-A	F1.30C	VT-3			5	C	0		
	FPC-HX-1B(CS)	HX BASE	F-A	F1.40A	VT-3	1	10	61	CE	10		
04	FPC-189	SPRING	F-A	F1.30C	VT-3			5	C	0		

WNP-2
Interval 2
FPC - Fuel Pool Coooling

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-304												
	FPC-PB-304(L)	LK PRES BNDRY	D-C	D3.10	VT-2	1	13	P	CE	3		
	FPC-PB-304(H)	HYDRO PRES BNDR	D-C	D3.10	VT-2	3	19	E	CE	10		
01	FPC-194	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-195	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-196	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-197	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-198	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-199	BOX	F-A	F1.30A	VT-3			5	C	0		
02	FPC-200	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-202	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-906N	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-203	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-204	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-205	RIGID	F-A	F1.30A	VT-3			5	C	0		
03	FPC-98	RIGID	F-A	F1.30A	VT-3			5	C	0		INACESS. DUE TO FOAMFILLED WATER-TIGHT BOOT.
	FPC-102	RIGID	F-A	F1.30A	VT-3			5	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-304												
03	FPC-103	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-104	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-105	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-106	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-107	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-108	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-109	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-110	RIGID	F-A	F1.30A	VT-3			5	C	0		
04	FPC-111	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-113	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-114	RIGID	F-A	F1.30A	VT-3			5	C	0		INACCESSABLE LOCATED IN CLOSED CUBICLE.
	FPC-DM-1A(CS)	DEMIN BASE	F-A	F1.40A	VT-3	1	10	61	CE	10		
05	FPC-112	STRUT	F-A	F1.30A	VT-3			5	C	0		
	FPC-116	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-DM-1B(CS)	DEMIN BASE	F-A	F1.40A	VT-3	1	10	61	CE	10		

WNP-2
Interval 2
FPC - Fuel Pool Coooling

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-305												
	FPC-PB-305(L)	LK PRES BNDRY	D-C	D3.10	VT-2	1	13	P	CE	3		
	FPC-PB-305(H)	HYDRO PRES BNDR	D-C	D3.10	VT-2	3	19	E	CE	10		
01	FPC-83	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-82	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-79	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-78	BOX	F-A	F1.30A	VT-3			5	C	0		
02	FPC-93	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-92	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-91	STRUT	F-A	F1.30A	VT-3			5	C	0		
03	FPC-77	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-76	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-75	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-74	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-73	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-72	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-71	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-68	RIGID	F-A	F1.30A	VT-3			5	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method Per.	Out. Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-305										
03	FPC-69	RIGID	F-A	F1.30A	VT-3	5	C	0		
04	FPC-70	RIGID	F-A	F1.30A	VT-3	5	C	0		
	FPC-67	RIGID	F-A	F1.30A	VT-3	5	C	0		
	FPC-66	RIGID	F-A	F1.30A	VT-3	5	C	0		
	FPC-168	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-167	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-166	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-911N	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-165	BOX	F-A	F1.30A	VT-3	5	C	0		
05	FPC-206	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-164	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-163	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-201	RIGID	F-A	F1.30A	VT-3	5	C	0		
	FPC-162	BOX	F-A	F1.30A	VT-3	5	C	0		
06	FPC-160	RIGID	F-A	F1.30A	VT-3	5	C	0		
	FPC-161	BOX	F-A	F1.30A	VT-3	5	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method Per.	Out. Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-305										
07	FPC-913N	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-912N	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-211	STRUT	F-A	F1.30A	VT-3	5	C	0		
	FPC-213	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-231	BOX	F-A	F1.30A	VT-3	5	C	0		
08	FPC-214	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-215	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-216	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-240	BOX	F-A	F1.30A	VT-3	5	C	0		
09	FPC-230	SPRING	F-A	F1.30C	VT-3	5	C	0		
	FPC-227	PSA-3 SNUBBER	F-A	F1.30D	VT-3	5	C	0		
	FPC-226	SPRING	F-A	F1.30C	VT-3	5	C	0		
	FPC-225	STRUT	F-A	F1.30A	VT-3	5	C	0		
	FPC-224	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-223	ANCHOR	F-A	F1.30A	VT-3	5	C	0		
	FPC-209	BOX	F-A	F1.30A	VT-3	5	C	0		
	FPC-210	BOX	F-A	F1.30A	VT-3	5	C	0		

WNP-2
Interval 2
FPC - Fuel Pool Coooling

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-305												
10	FPC-159	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-158	BOX	F-A	F1.30A	VT-3			5	C	0		
11	FPC-915N	RIGID	F-A	F1.30A	VT-3			5	C	0		

WNP-2
Interval 2
FPC - Fuel Pool Coooling

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-306												
	FPC-126	STRUT	F-A	F1.30A	VT-3	3	17	51	CE	10		
	FPC-123	BOX	F-A	F1.30A	VT-3	3	17	51	CE	10		
	FPC-122	ANCHOR	F-A	F1.30A	VT-3			5	C	0		
	FPC-120	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-119	SPRING	F-A	F1.30C	VT-3			5	C	0		
	FPC-118	RIGID	F-A	F1.30A	VT-3	2	14	51	CE	10		
	FPC-P-3(CS)	PUMP BASE	F-A	F1.40A	VT-3	1	10	61	CE	10		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-307												
	FPC-45	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-99	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-914N	RIGID	F-A	F1.30A	VT-3			5	C	0		
	FPC-47	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-48	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-49	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-100	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-50	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-907N	RIGID	F-A	F1.30A	VT-3			5	C	0		

WNP-2
Interval 2
FPC - Fuel Pool Coooling

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

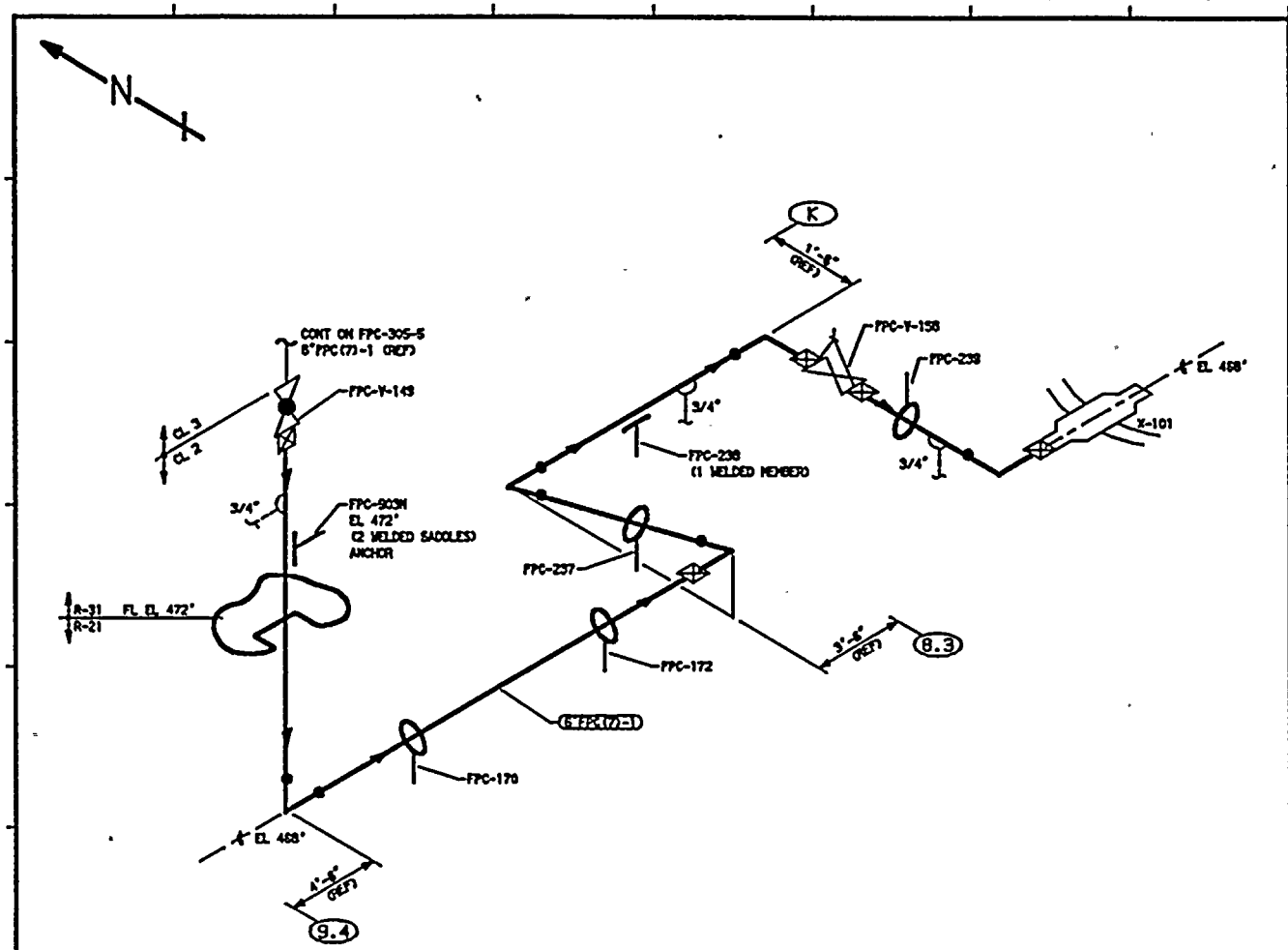
Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-308												
01	FPC-5	SPRING	F-A	F1.30C	VT-3			5	C	0		
	FPC-6	STRUT	F-A	F1.30A	VT-3			5	C	0		
02	FPC-8	STRUT	F-A	F1.30A	VT-3			5	C	0		
	FPC-9	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-10	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-11	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-12	STRUT	F-A	F1.30A	VT-3			5	C	0		
	FPC-13	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-14	STRUT	F-A	F1.30A	VT-3			5	C	0		
03	FPC-17	STRUT	F-A	F1.30A	VT-3			5	C	0		
	FPC-18	SPRING	F-A	F1.30C	VT-3			5	C	0		
04	FPC-19	BOX	F-A	F1.30A	VT-3			5	C	0		
	FPC-20	STRUT	F-A	F1.30A	VT-3			5	C	0		
	FPC-21	STRUT	F-A	F1.30A	VT-3			5	C	0		
	FPC-22	SPRING	F-A	F1.30C	VT-3			5	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per. Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. FPC-325											
01	FPC-246	BOX	F-A	F1.30A	VT-3		5	C	0		UNDERWATER IN FP REMOTE EXAMINATION
	FPC-247	BOX	F-A	F1.30A	VT-3		5	C	0		UNDERWATER IN FP REMOTE EXAMINATION
	FPC-248	BOX	F-A	F1.30A	VT-3		5	C	0		UNDERWATER IN FP REMOTE EXAMINATION
02	FPC-243	BOX	F-A	F1.30A	VT-3		5	C	0		UNDERWATER IN FP REMOTE EXAMINATION
	FPC-244	BOX	F-A	F1.30A	VT-3		5	C	0		UNDERWATER IN FP REMOTE EXAMINATION
	FPC-245	BOX	F-A	F1.30A	VT-3		5	C	0		UNDERWATER IN FP REMOTE EXAMINATION

9.4.4 Weld and Component Diagrams



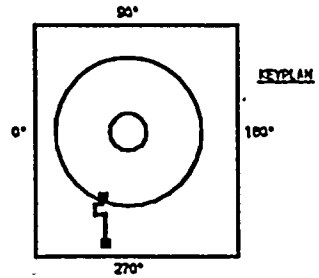
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT TO A VISUAL EXAM FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOYCE & CRAIL ISOMETRIC
FPC-640-10.12 REV 8



ZONES R-31 & R-21

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(7)-1	8	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	10-16-87	GENERAL UPDATE, ADDED 3/4" CONN, REDRAWN	K-HoA	DPR	TFH
1	1-24-84	REVISED AS NOTED ADDED KEYPLAN	K-HoA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-HoA	DPR	TFH

QUALITY CLASS: 1 | ASME CODE CLASS: 2

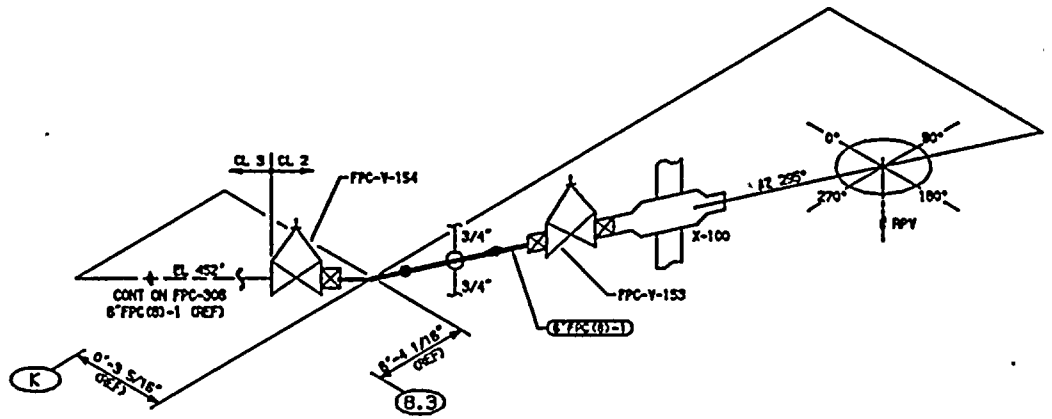
ENGR: K-HoANDREW | DRAWN: K-HoA | DATE: 4-23-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC RETURN TO SUPPRESSION POOL

DWG NO: FPC-201 | REV 2



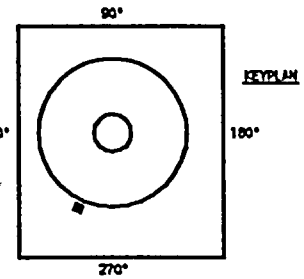
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT TO A VISUAL EXAM FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOYCE & CRAIL ISOMETRIC
FPC-639-1.2 REV 11



ZONE R-11

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(8)-1	8	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	10-16-87	GENERAL UPDATE, ADDED KEYPLAN, REDRAWN	K-McA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH

QUALITY CLASS: 1 | ASME CODE CLASS: 2

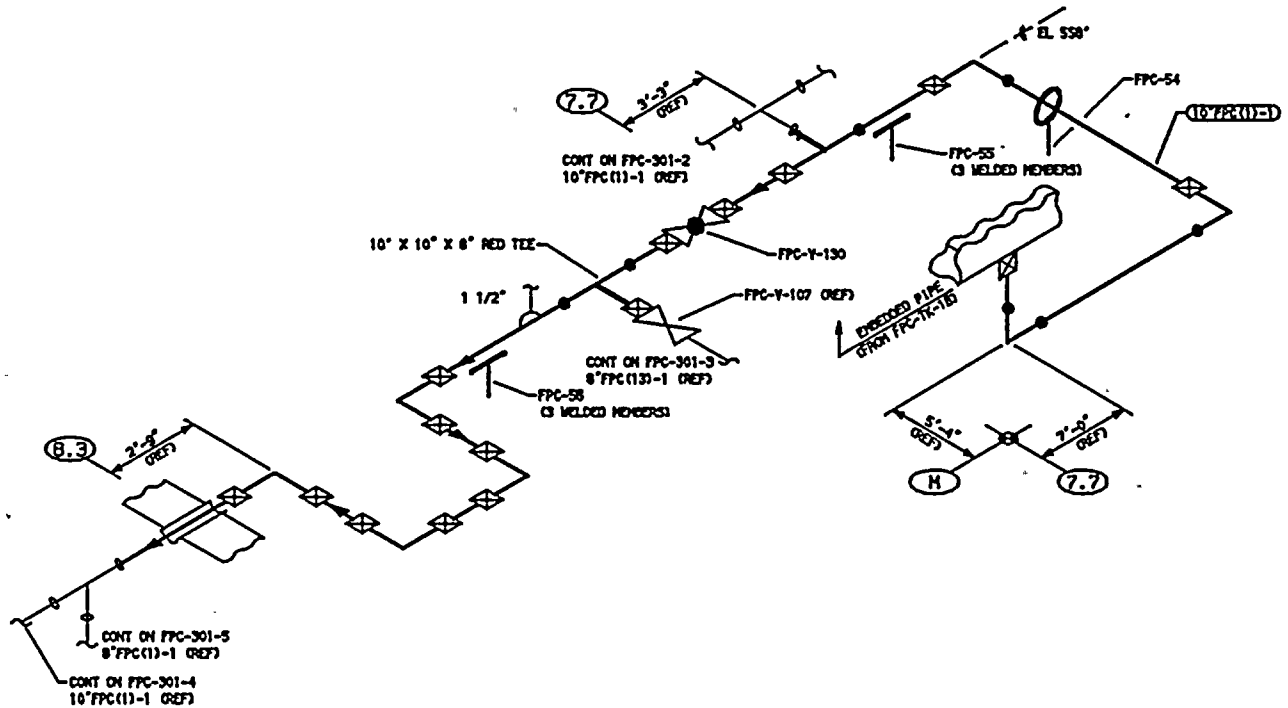
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 4-27-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
SUPPRESSION POOL TO FPC-P-3 SUCTION

DWG NO: FPC-202 | REV 1



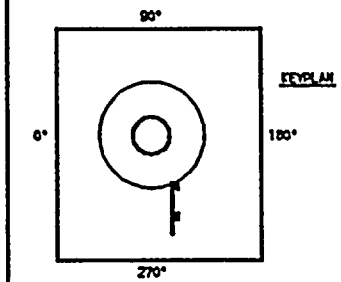
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.

REFERENCES:

ISI - 228-1 & 228-1A

BOYCE & CRAIL ISOMETRIC
FPC-804-4.8 REV 5



ZONE A-63

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

QUALITY CLASS: II	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA DATE: 3-21-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

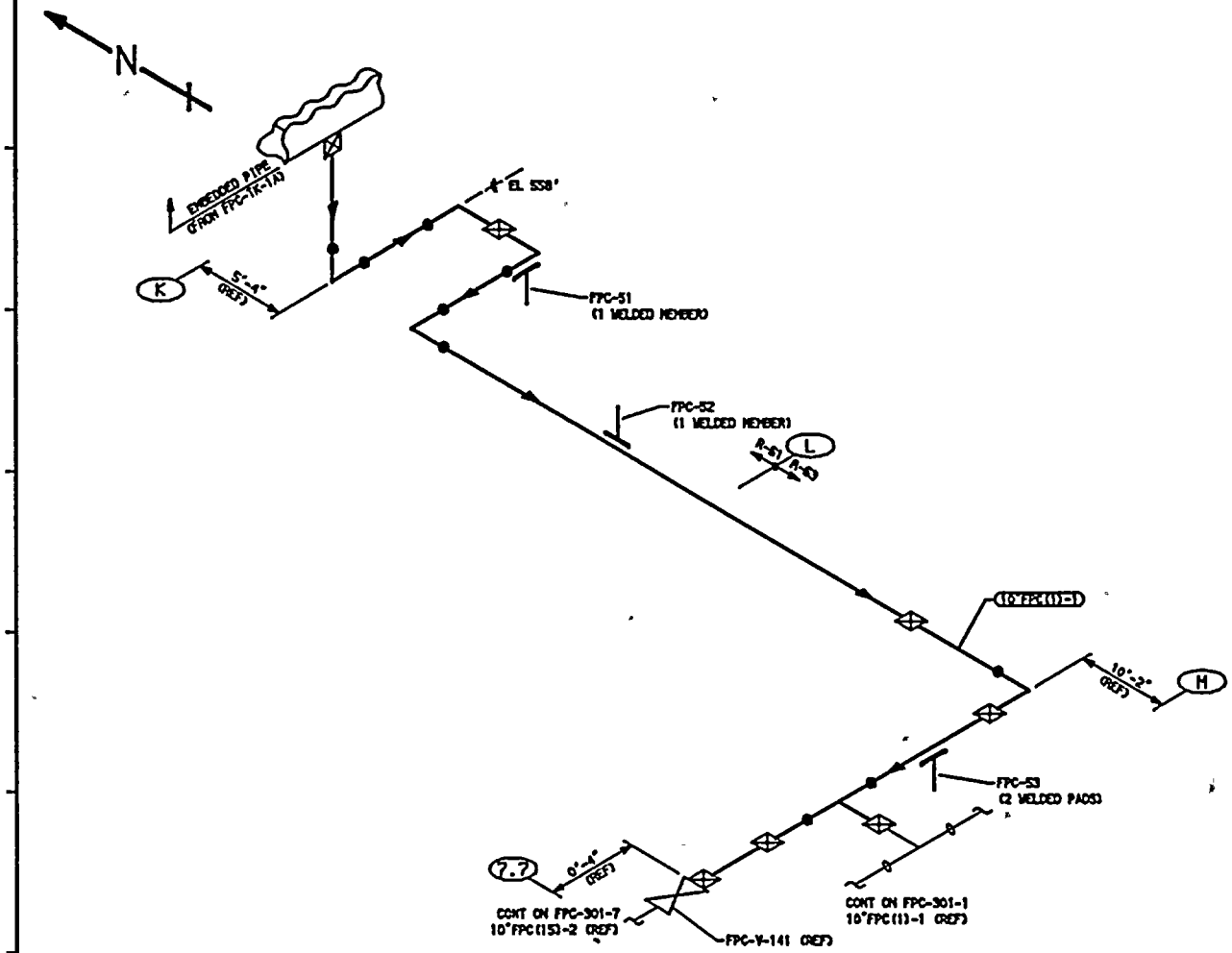
WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FUEL POOL CIRCULATION FROM FPC-TK-1B

DWG NO. FPC-301-1 REV 2

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
10"FPC(1)-1	10	STD	0.365	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-82	ADDED DWG LINE CONT & LOCA. MODIFIED KEYPLAN & ISI DWG REFERENCE.	K-McA	DPR	DRW
1	1-24-64	GENERAL UPDATE REDRAWN	K-McA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH



ZONES R-61 & R-63

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

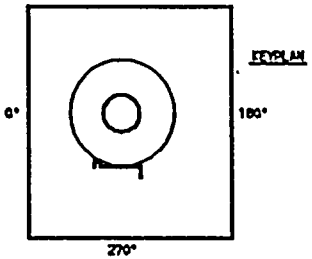
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.

REFERENCES:

ISI - 226-1

BOYCE & CRAIL ISOMETRIC FPC-804-1.3 REV 6



						PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
						10"FPC(1)-1	10	STD	0.365	SA 106 GR B	CS	NA
2	11-13-82	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION, MODIFIED KEYPLAN & LOGO. REDRAWN	K-McA	DPR	DRW							
1	1-24-84	REVISED AS NOTED. ADDED KEYPLAN	K-McA	DPR	TFH							
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH							
NO	DATE	REVISION	BY	CHKD	APVD							

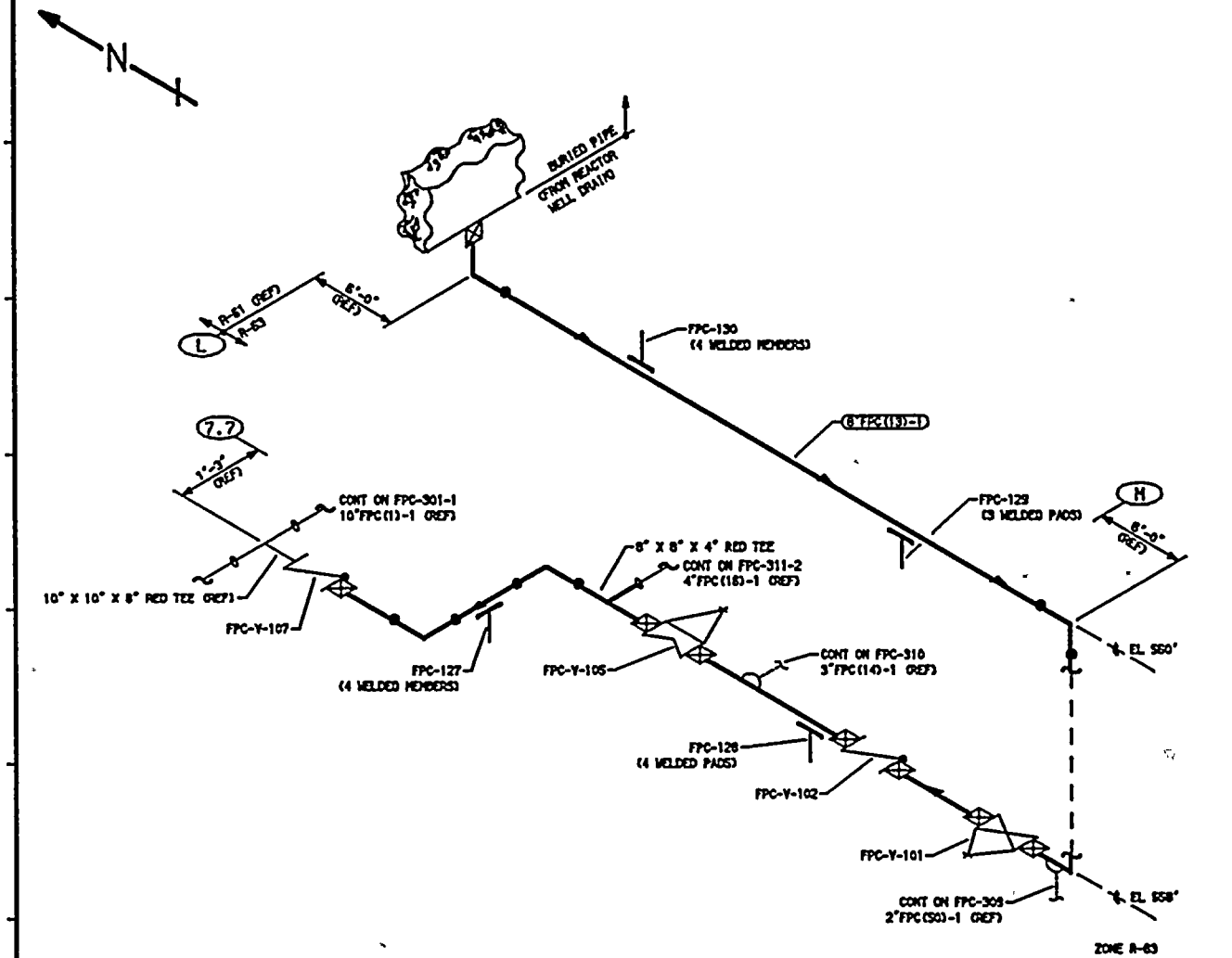
QUALITY CLASS: II	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA DATE: 3-22-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FUEL POOL CIRCULATION FROM FPC-TK-1A

DWG NO. FPC-301-2 REV 2



THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

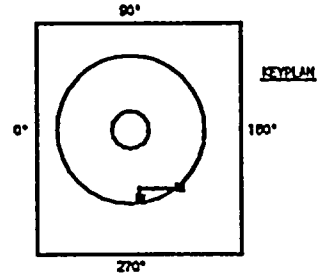
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1

BOYCE & CRAIL ISOMETRIC
FPC-608-1.4 REV 6



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(13)-1	8	STD	0.322	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	10-16-87	GENERAL UPDATE, ADDED DWG CONT, REDRAWN	K-MoA	DPR	TFH
1	1-24-84	REVISED AS NOTED ADDED KEYPLAN	K-MoA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-MoA	DPR	TFH

QUALITY CLASS: 2 | ASME CODE CLASS: 3

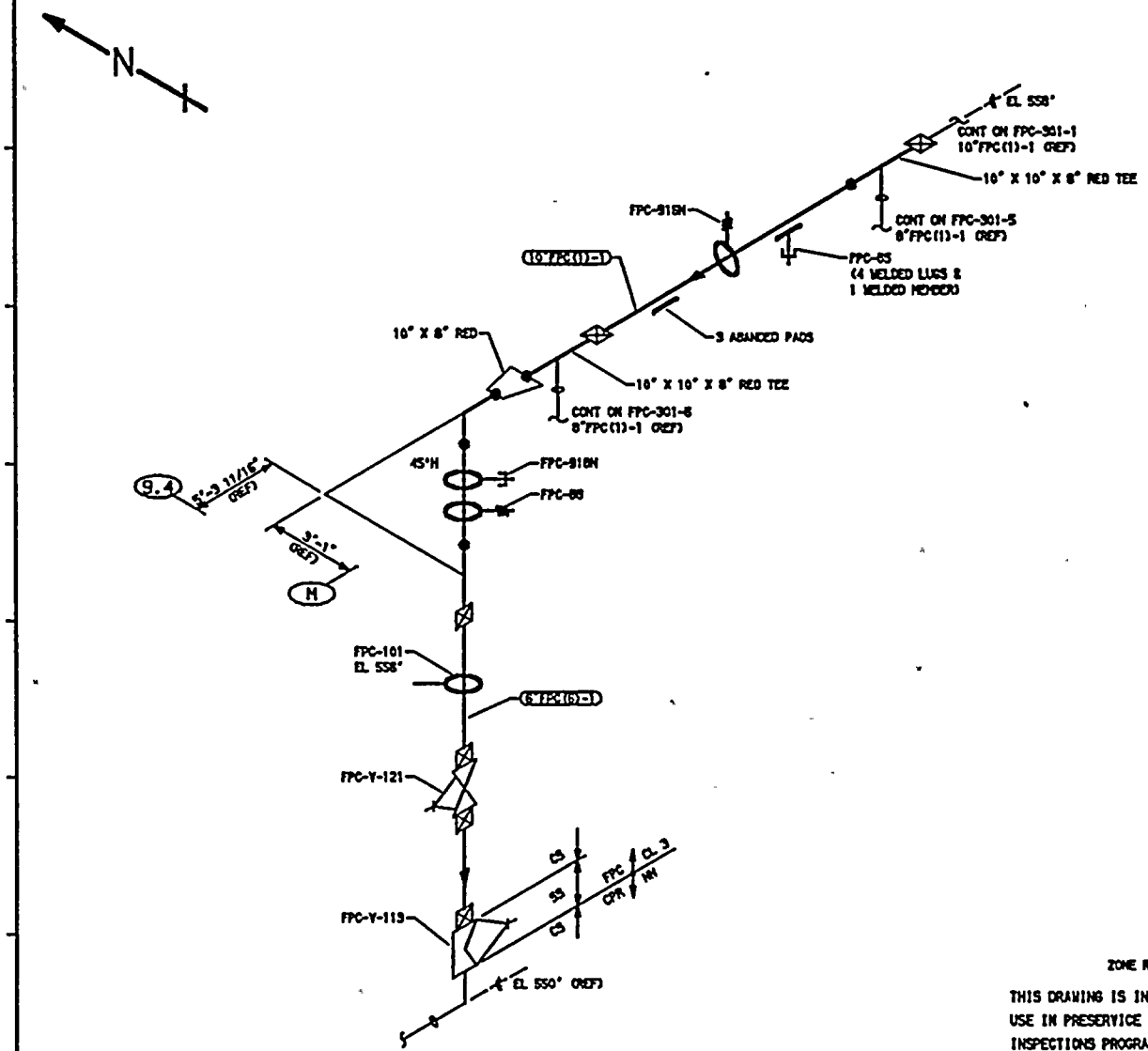
ENGR: K-MoANDREW | DRAWN: K-MoA | DATE: 3-22-79

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
FUEL POOL CIRCULATION FROM REACTOR WELL DRAIN

DWG NO: FPC-301-3 | REV 2



ZONE R-83

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

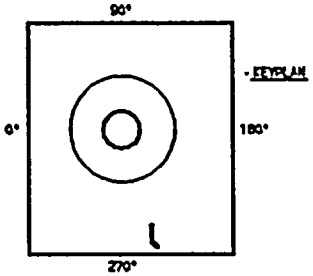
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWO-2000.

REFERENCES:

ISI - 226-1A

BOVEE & CRAIL ISOMETRICS
FPC-804-7.9 REV 8



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(8)-1	8	STD	0.280	SA 106 GR B	CS	NA
10"FPC(1)-1	10	STD	0.365	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-92	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION, MODIFIED KEYPLAN & LOGO. REDRAWN	K-McA	DPR	DRW
1	1-24-84	REVISED AS NOTED. ADDED KEYPLAN	K-McA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH

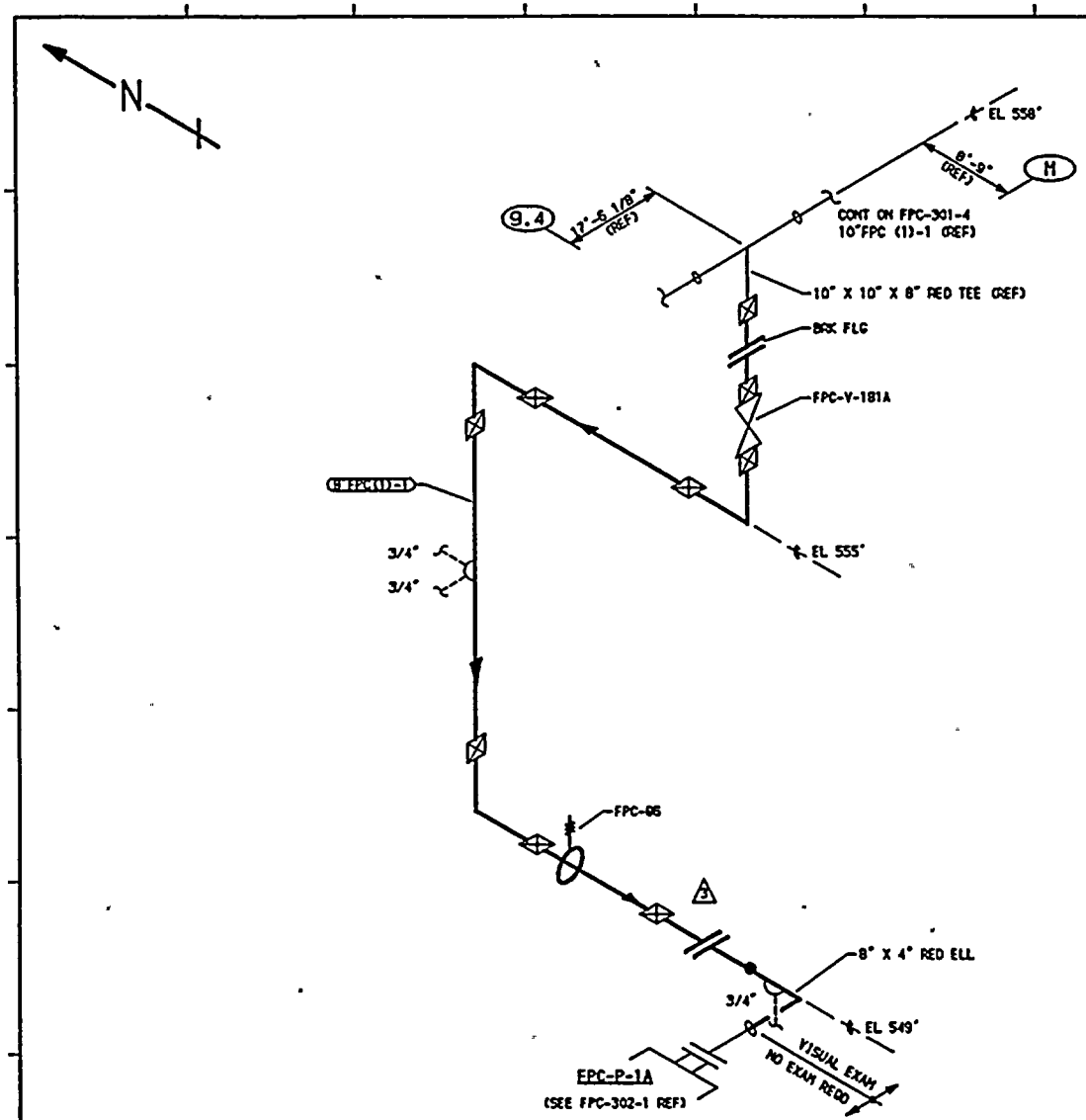
QUALITY CLASS: II	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA / DATE: 3-22-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FUEL POOL CIRCULATION TO FPC-P-1A & 1B

DWG NO. FPC-301-4 REV 2



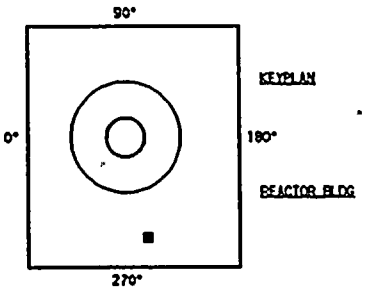
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.
3. EXTEND VISUAL LEAKAGE EXAM THROUGH FPC-P-1A DRAIN PIPING TO FPC-V-150A.

REFERENCES:

ISI - 226-1A

BOYEE & CRAIL ISOMETRIC
FPC-804-10.12 REV 11



ZONE R-83

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

QUALITY CLASS: 2	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 3-23-79	

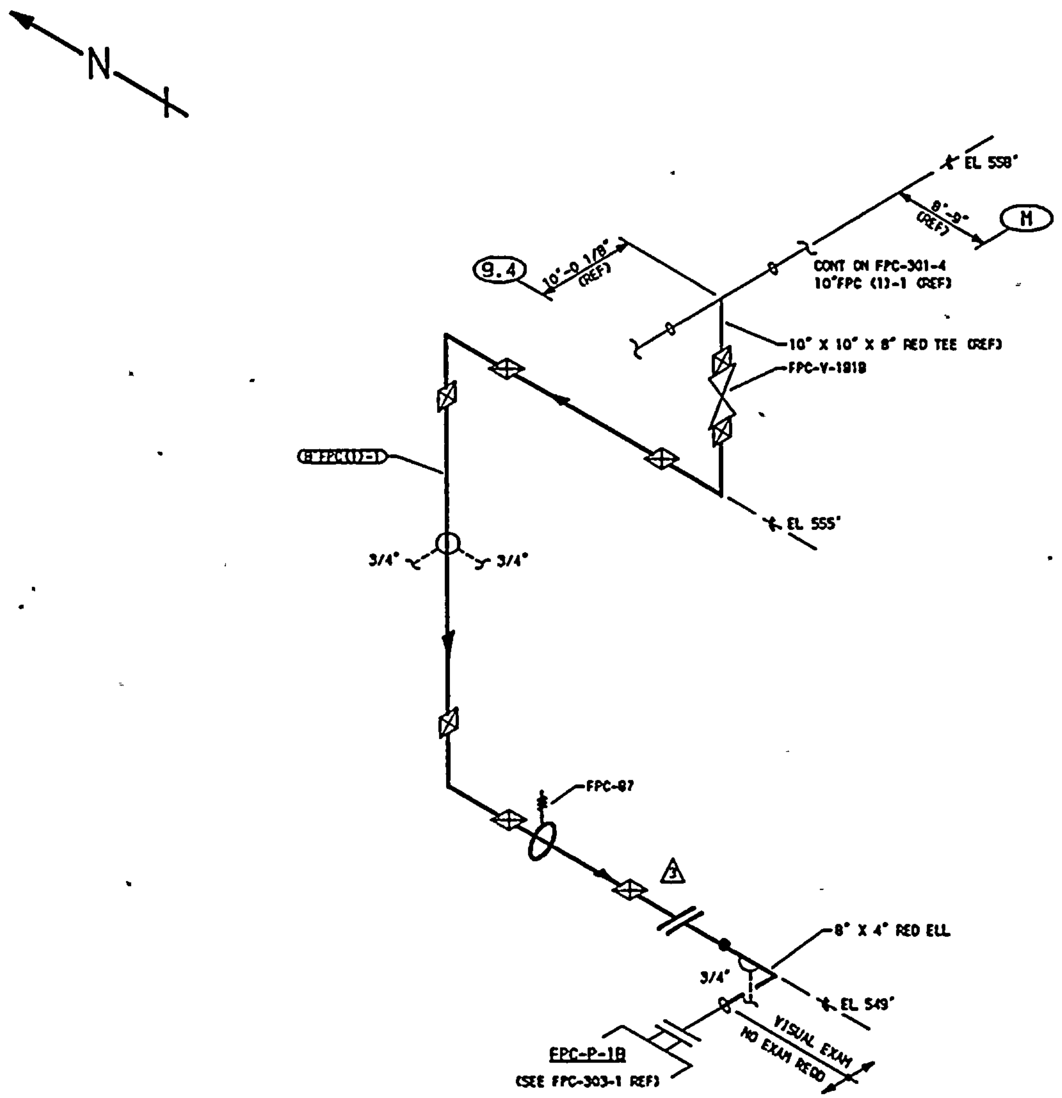
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-P-1A SUCTION
FROM FPC-TK-1A & 1B, REACTOR WELL DRAIN

DWG NO. FPC-301-5 REV 3

NO	DATE	REVISION	BY	CHKD	APVD	PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3	11-22-94	REMOVED FPC-ST-1A PER BDC 85-0052-0A.	K-McA	DPR	DW	8"FPC(1)-1	8	STD	0.322	SA 106 GR B	CS	NA
2	10-18-87	CHANGED FPC-86 TO SPRING. ADDED LOCO.	K-McA	DPR	TFH							
1	1-24-84	GENERAL UPDATE REDRAWN	K-McA	DPR	TFH							
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH							



ZONE R-83

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

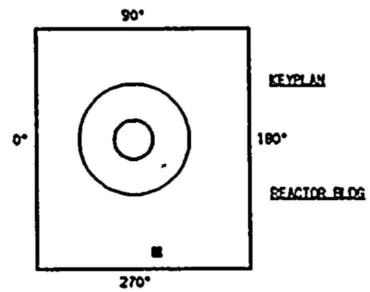
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.
3. EXTEND VISUAL LEAKAGE EXAM THROUGH FPC-P-1B DRAIN PIPING TO FPC-V-150B.

REFERENCES:

ISI - 226-1A

BOYEE & CRAIL ISOMETRIC
FPC-804-14.17 REV 13



QUALITY CLASS: 2 | ASME CODE CLASS: 3

ENGR: K-MCANDREW | DRAWN: K-McA | DATE: 3-23-79

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

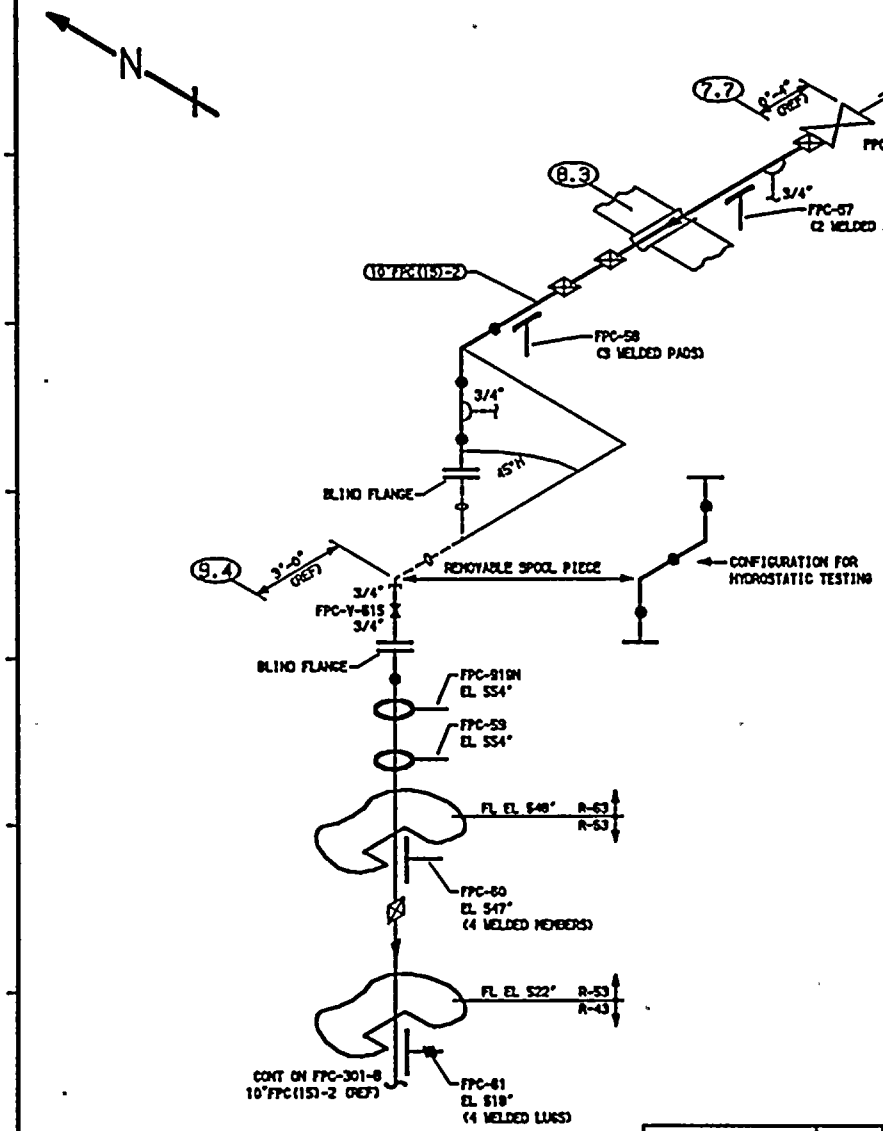
WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(1)-1	8	STD	0.322	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
3	11-22-94	REMOVED FPC-ST-1B PER BDC 85-0052-0A	K-McA	DPR	DW
2	10-16-87	CHANGED FPC-87 TO SPRING. ADDED LOGO.	K-McA	DPR	TFH
1	1-24-84	GENERAL UPDATE REDRAWN	K-McA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH

TITLE:
FPC-P-1B SUCTION
FROM FPC-TK-1A & 1B, REACTOR WELL DRAIN

DWG NO. FPC-301-6 REV 3



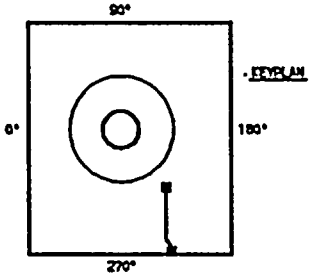
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.

REFERENCES:

ISI - 226-1

BOYEE & CRAIL ISOMETRICS
FPC-60S-1.4 REV 8
FPC-60S-5.8 REV 5



ZONES R-63, R-53 & R-43

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
10"FPC(15)-2	10	STD	0.365	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-82	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION, MODIFIED KEYPLAN & LOOP. REDRAWN	K-McA	DPR	DRW
1	1-24-84	GENERAL UPDATE	K-McA	DPR	TPH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TPH

QUALITY CLASS: 1I | ASME CODE CLASS: 3

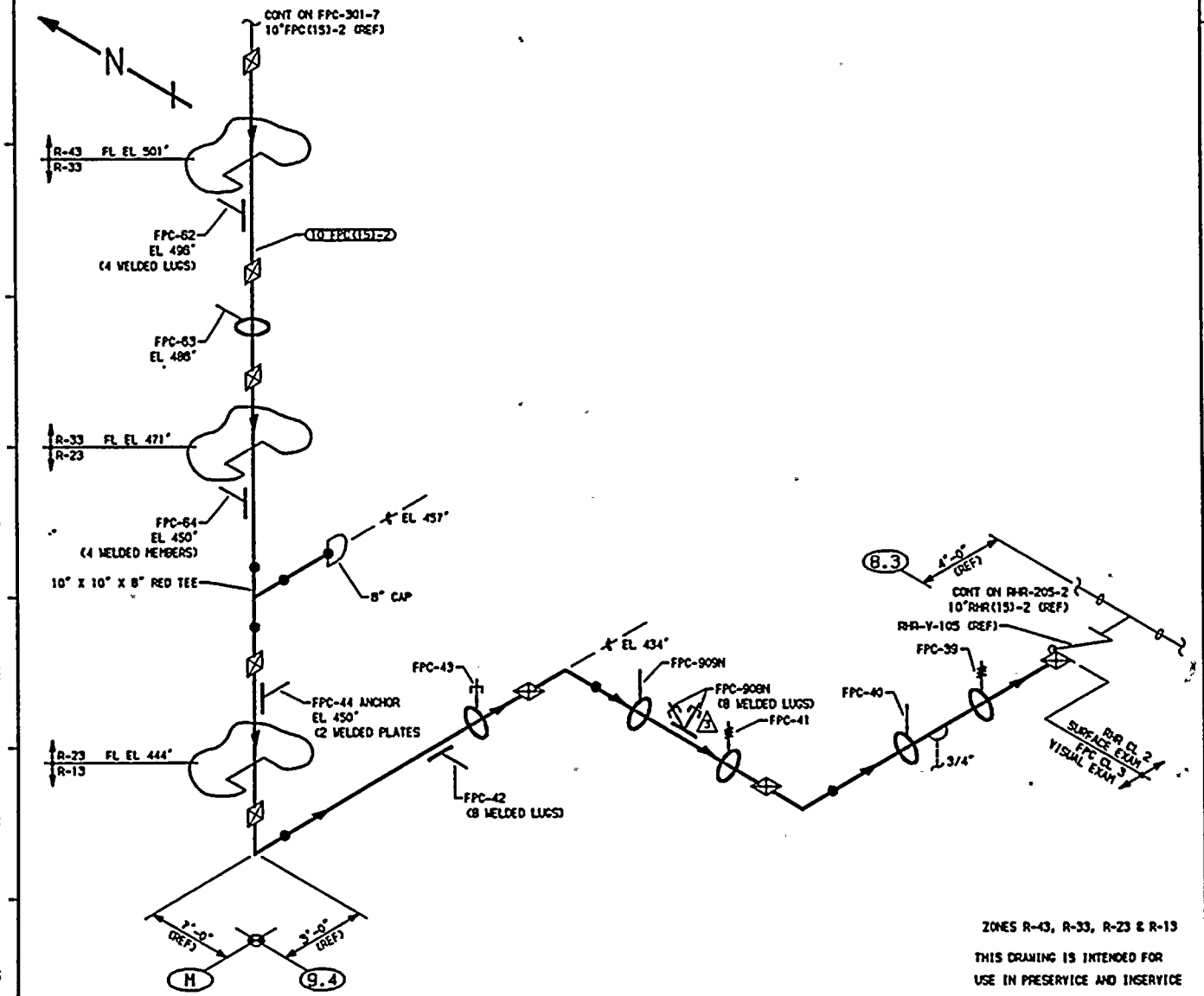
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 4-5-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC INTERTIE RHR-P-2A SUCTION

DWG NO. FPC-301-7 | REV 2



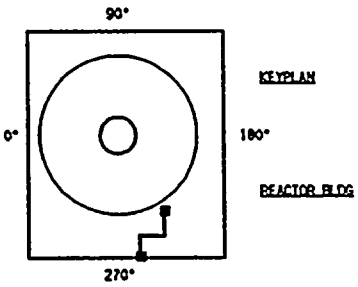
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.

REFERENCES:

ISI - 221-1

BOYEE & CRAIL ISOMETRICS
FPC-605-5.9 REV 5
FPC-605-10.12 REV 8



ZONES R-43, R-33, R-23 & R-13

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

QUALITY CLASS: 2	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 4-6-79	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

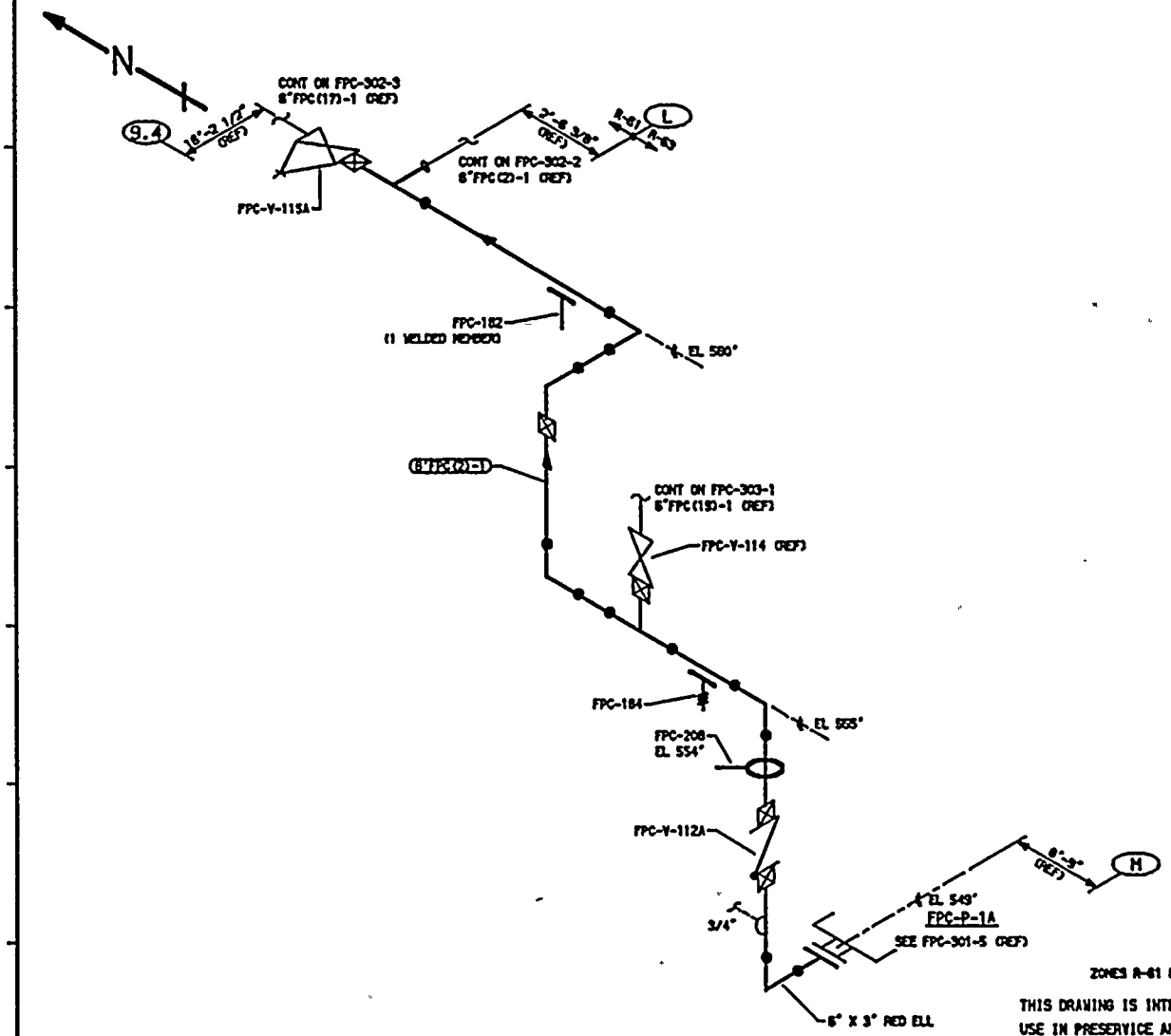
WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC INTERTIE RHR-P-2A SUCTION

DWG NO. FPC-301-8 REV 3

NO	DATE	REVISION	BY	CHKD	APVD
3	11-22-94	MODIFIED FPC-909N.	K-McA	DPR	DW
2	10-18-87	CHG FPC-41 TO SPRING, FPC-42 TO RIGID & FPC-43 TO SNUBBER. ADDED ISI DWG REF, LINE CONT & LOGO. MOD KEYPLAN, REDRAWN.	K-McA	DPR	TFH
1	1-24-84	REVISED AS NOTED ADDED KEYPLAN	K-McA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
10"FPC(15)-2	10	STD	0.365	SA 106 GR B	CS	NA
		-				



ZONES R-81 & R-83

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

NOTES:

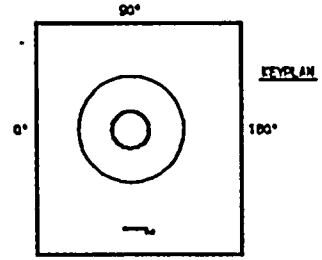
1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 228-1A

BOYCE & CRAIL ISOMETRIC
FPC-836-1.3 REV 8

KEYPLAN



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(2)-1	8	STD	0.200	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-82	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION, MODIFIED KEYPLAN & LOGO. REDRAWN	K-McA	DPR	DRW
1	1-27-84	REVISED AS NOTED. ADDED KEYPLAN	K-McA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH

QUALITY CLASS: II | ASME CODE CLASS: 3

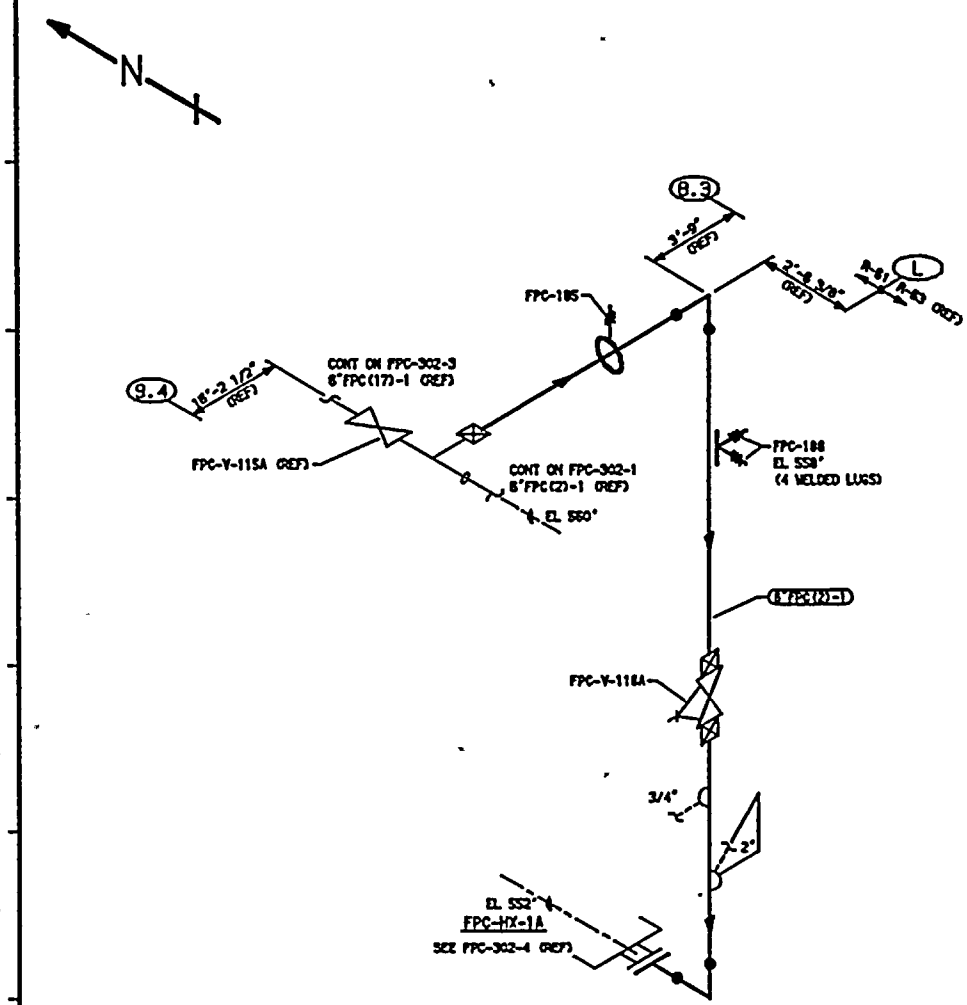
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 4-6-79

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
FPC-P-1A TO FPC-OH-1A & 1B

DWG NO: FPC-302-1 | REV 2



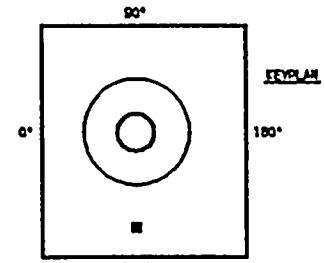
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 225-1A

BOYCE & CRAIL ISOMETRIC
FPC-636-8.7 REV 7



ZONE R-63

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (INS)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(2)-1	8	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-82	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION, MODIFIED KEYPLAN & LOGO. REDRAWN	K-McA	DPR	DRW
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TPH

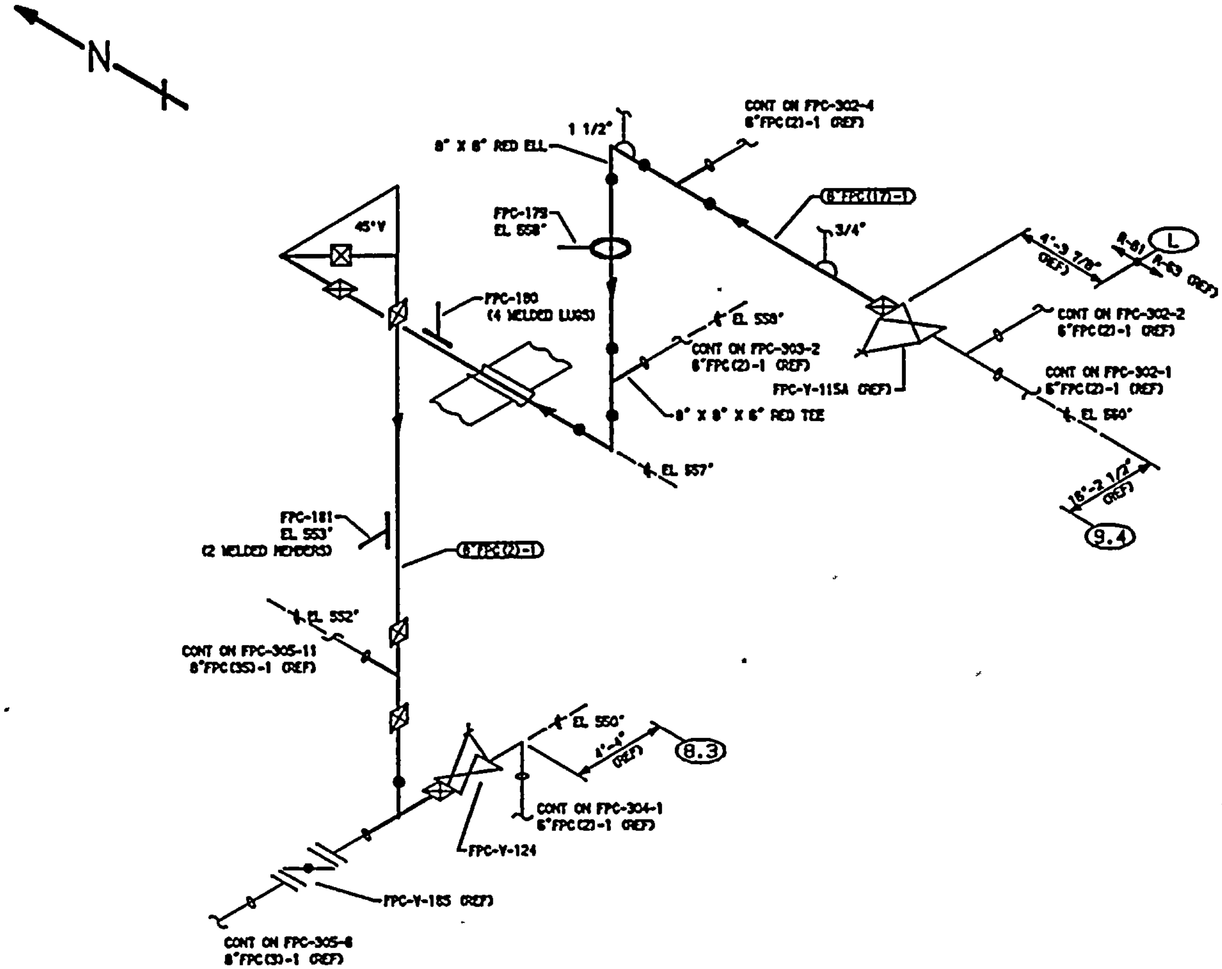
QUALITY CLASS: 1I	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA / DATE: 4-9-79

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE: FPC-P-1A DISCHARGE TO FPC-HX-1A

DWG NO: FPC-302-2 REV 1



NOTES:

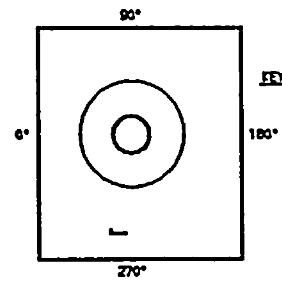
1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.

2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOVEE & CRAIL ISOMETRIC FPC-636-4.5 REV 11



QUALITY CLASS: II | ASME CODE CLASS: 3

ENGR: K-McANDREW | DRAWN: K-McA | DATE: 4-11-79

ZONE R-81

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

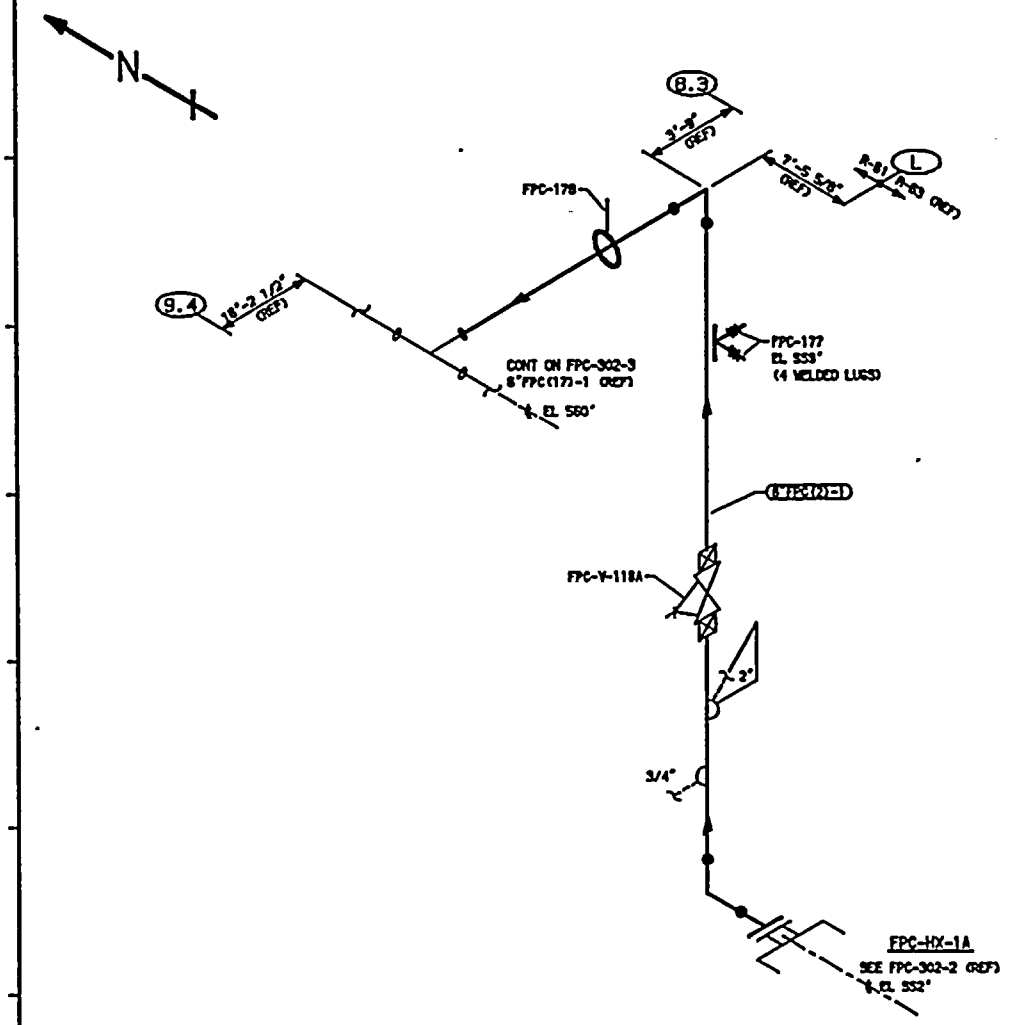
WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(17)-1	8	STD	0.280	SA 106 GR B	CS	NA
8"FPC(2)-1	8	STD	0.322	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-82	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION. MODIFIED KEYPLAN & LOGO. REDRAWN	K-McA	DPR	DRW
1	1-24-84	REVISED AS NOTED. ADDED KEYPLAN	K-McA	DPR	TFM
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFM

TITLE: FPC-P-1A DISCHARGE TO FPC-DM-1A &1B

DWG NO: FPC-302-3 | REV 2



ZONE R-61

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

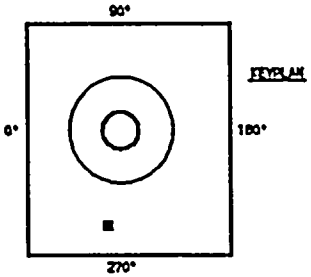
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOYEE & CRAIL ISOMETRIC
FPC-638-8.8 REV 8



QUALITY CLASS: II	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 4-11-79	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

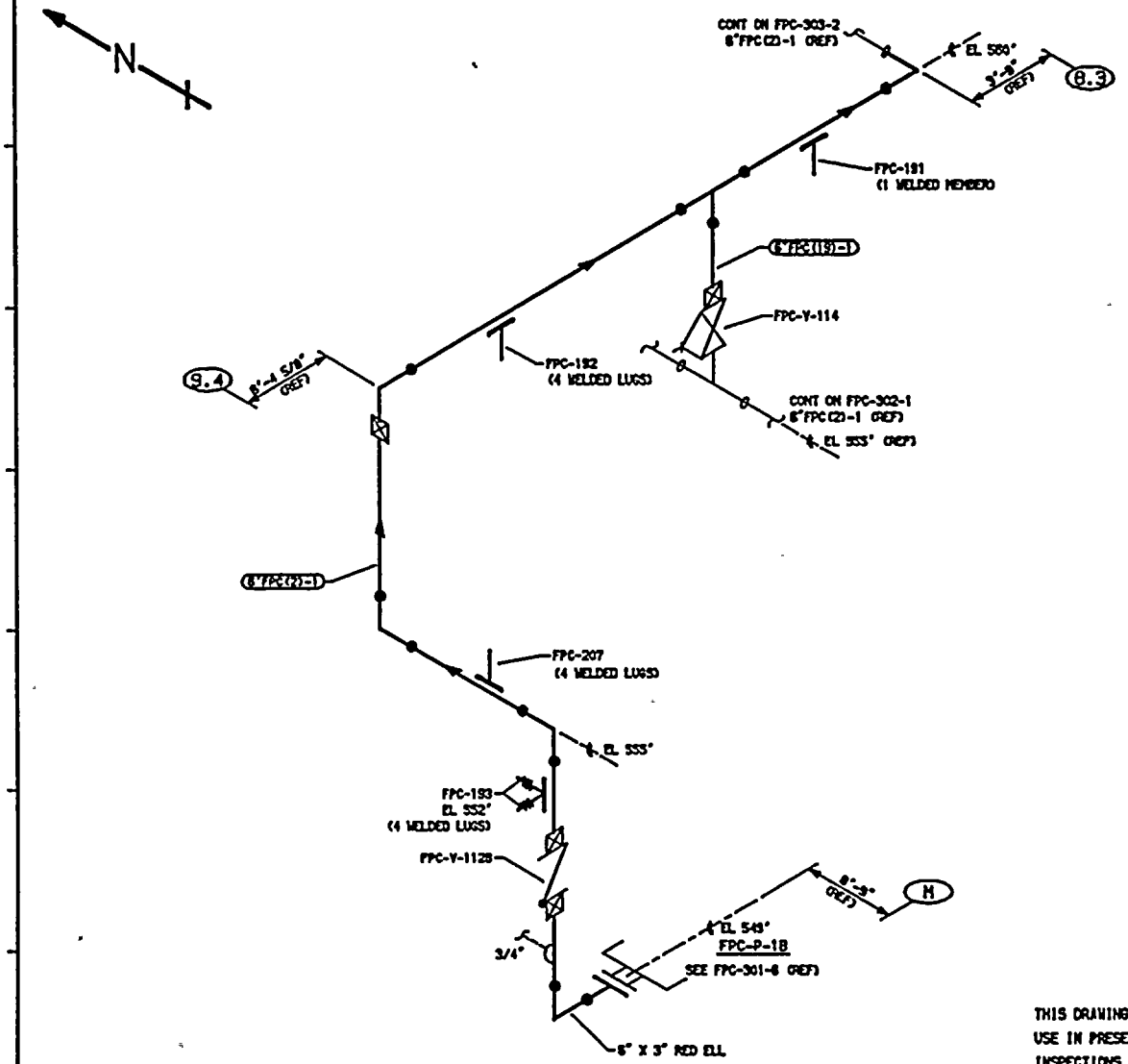
WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE: FPC-HX-1A TO FPC-OH-1A & 1B

DWG NO. FPC-302-4 REV 1

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(2)-1	8	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-82	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION. MODIFIED KEYPLAN & LOGO. REDRAWN	K-McA	DPR	DRW
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH



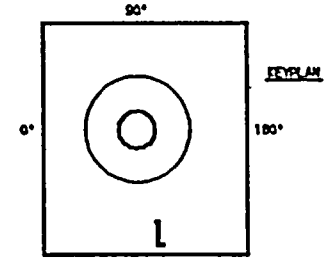
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOYCE & CRAIL ISOMETRIC
FPC-837-1.4 REV 5



ZONE R-63

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (INS)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(2)-1	8	STD	0.280	SA 106 GR B	CS	NA
6"FPC(19)-1	6	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-82	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION. MODIFIED KEYPLAN & LOCS. REDRAWN	K-McA	DPR	DRW
1	1-24-84	REVISED AS NOTED. ADDED KEYPLAN	K-McA	DPR	TPH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TPH

QUALITY CLASS: 1I | ASME CODE CLASS: 3

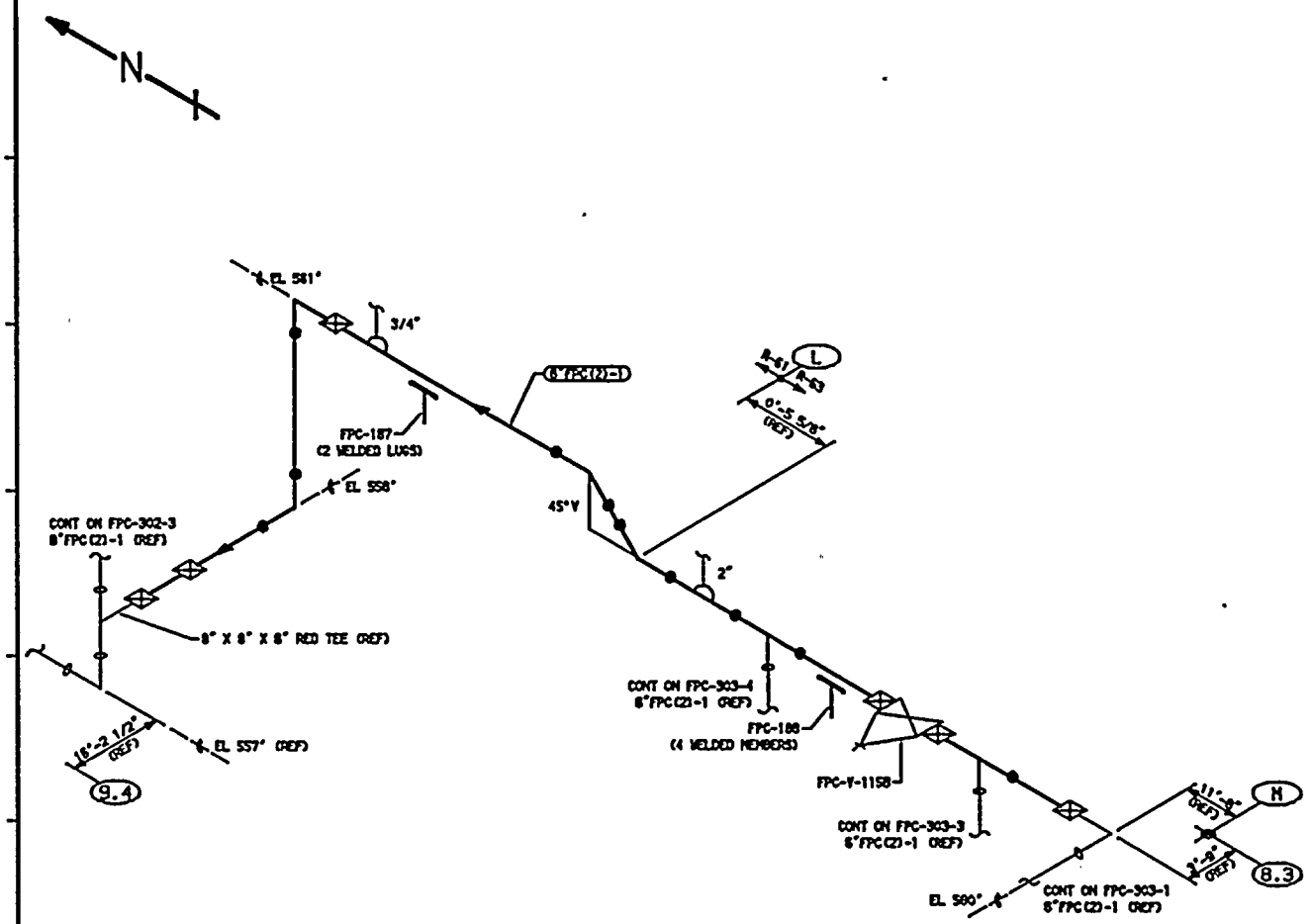
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 4-6-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-P-18 TO FPC-DH-1A & 1B

DWG NO. FPC-303-1 | REV 2



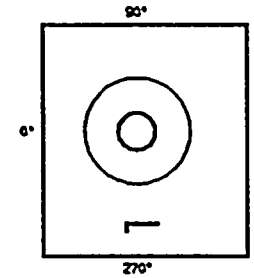
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOYCE & CRAIL ISOMETRIC
FPC-857-5.7 REV 6



QUALITY CLASS: II	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA DATE: 4-11-79

ZONED R-63 & R-61

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

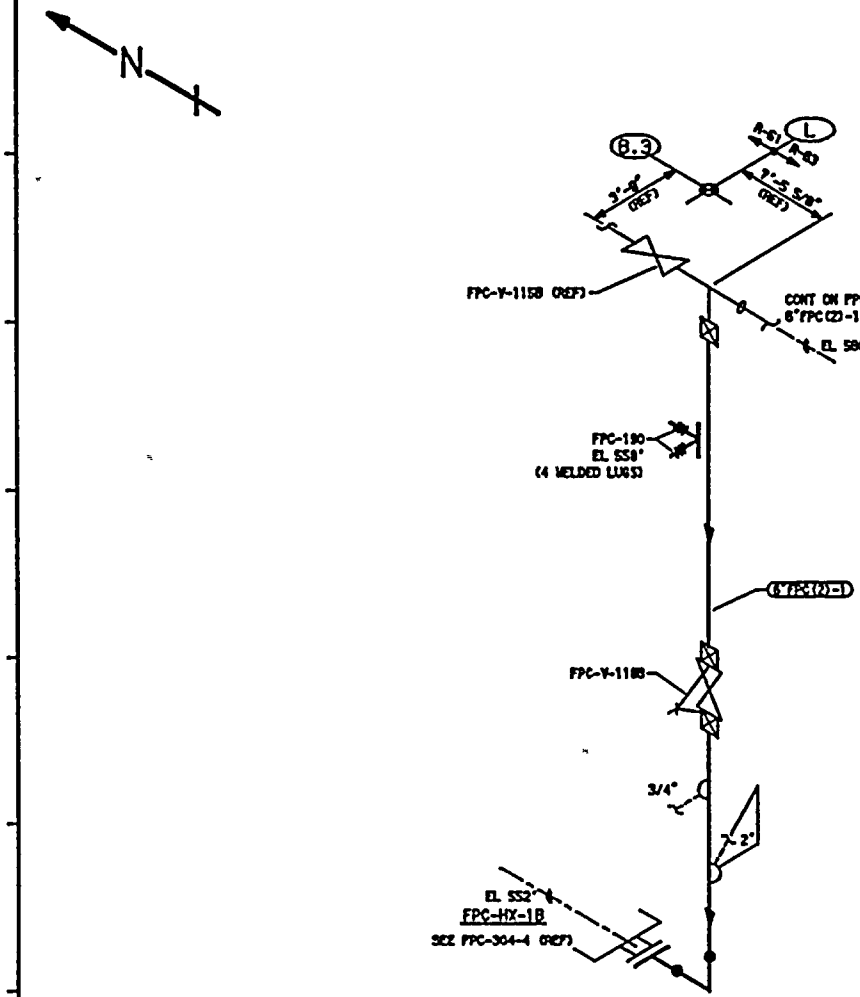
WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
FPC-P-1B DISCHARGE TO FPC-CH-1A & 1B

DWG NO: FPC-303-2 REV 2

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(2)-1	8	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-82	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION. MODIFIED KEYPLAN & LOAD. REMARK	K-McA	DPR	DRW
1	1-24-84	REVISED AS NOTED. ADDED KEYPLAN	K-McA	DPR	TPH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TPH



NOTES:

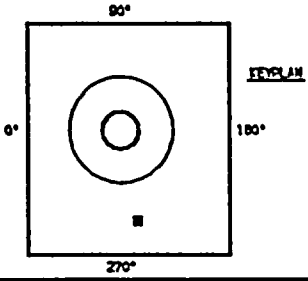
1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOYEE & CRAIL ISOMETRIC
FPC-637-8.9 REV 9

KEYPLAN



ZONE A-61

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(2)-1	8	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-82	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION, MODIFIED KEYPLAN & LOAD. REDRAWN	K-McA	DPR	DRW
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TPH

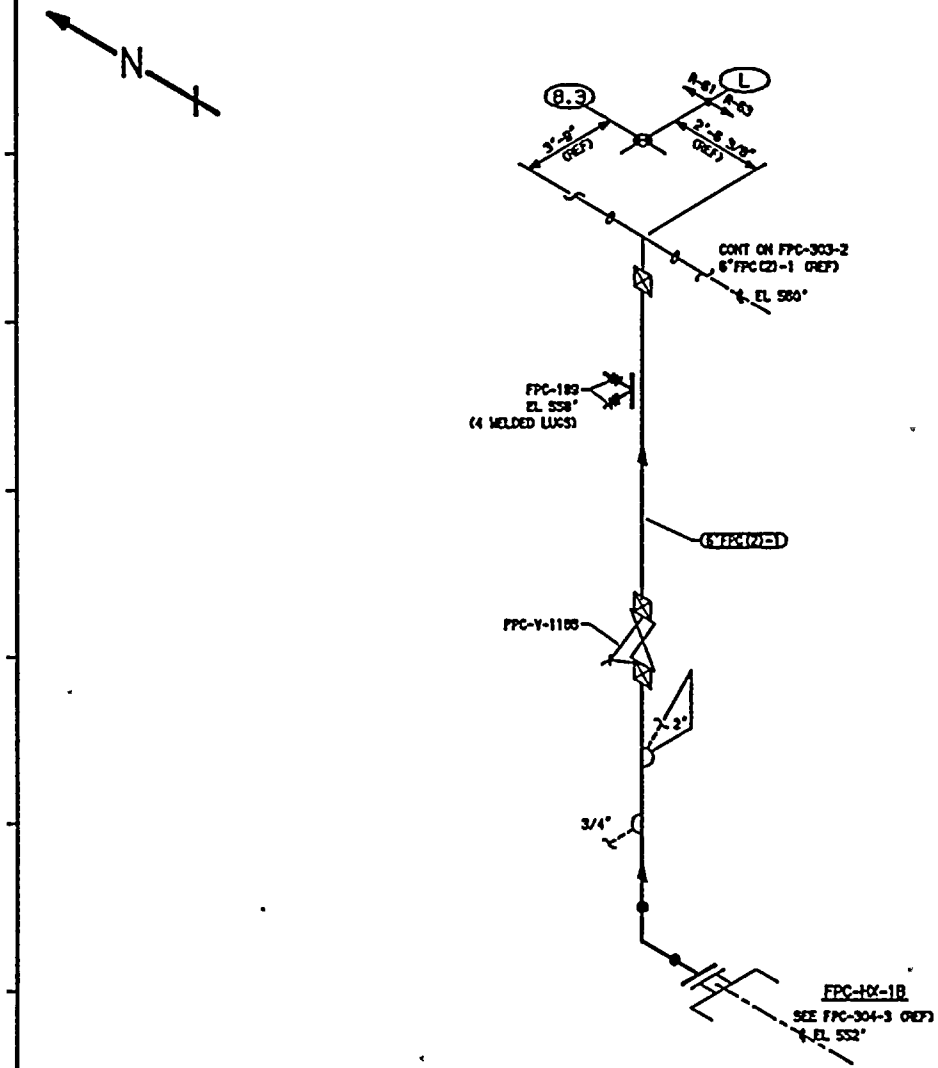
QUALITY CLASS: II	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA DATE: 4-11-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE: FPC-HX-1B TO FPC-DH-1A & 1B

DWG NO: FPC-303-3 REV 1



ZONE R-81

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

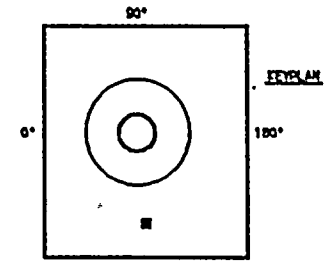
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOYCE & CRAIL ISOMETRIC
FPC-837-10.11 REV 8



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
6"FPC(2)-1	6	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION. MODIFIED KEYPLAN & LOAD. REMARK	K-McA	DPR	DRW
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TPM

QUALITY CLASS: II | ASME CODE CLASS: 3

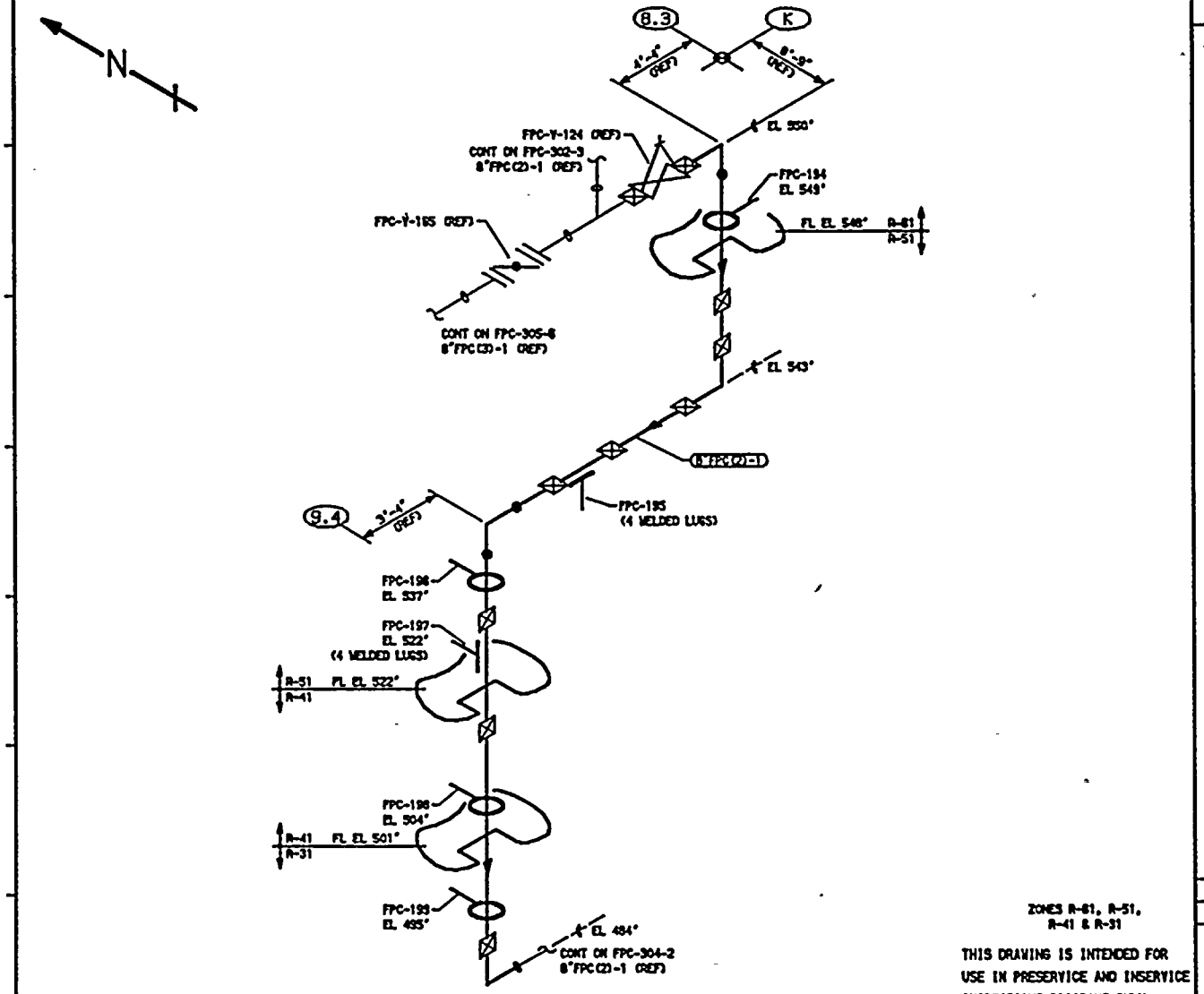
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 4-11-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-HX-1B TO FPC-DH-1A & 1B

DWG NO: FPC-303-4 | REV 1



ZONES R-61, R-51, R-41 & R-31

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

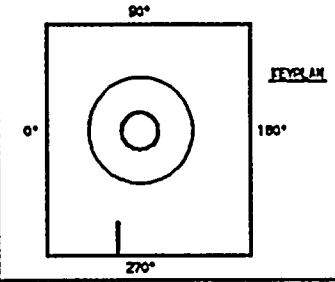
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.

REFERENCES:

ISI - 228-1A

BOYCE & CRAIL ISOMETRIC
FPC-636-10.13 REV 8



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(2)-1	8	STD	0.322	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-82	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION. MODIFIED KEYPLAN & LOAD. ACDAHAM	K-McA	DPR	DRW
1	1-24-84	REVISED AS NOTED. ADDED KEYPLAN	K-McA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH

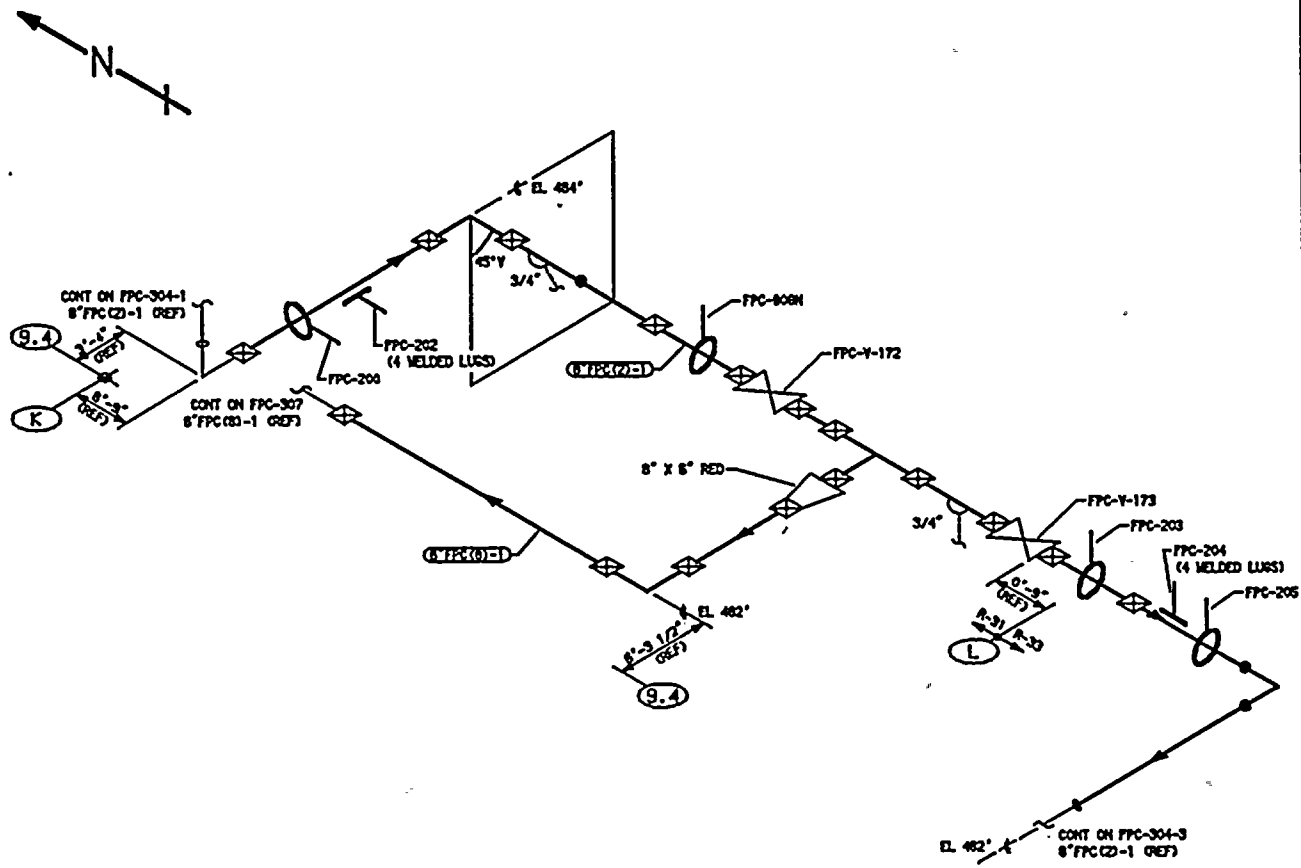
QUALITY CLASS: II	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA DATE: 4-12-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-P-1A & 1B DISCHARGE TO FPC-CH-1A & 1B

DWG NO: FPC-304-1 REV 2



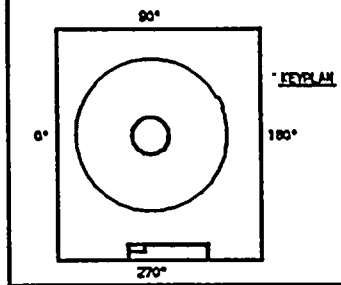
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOYEE & CRAIL ISOMETRIC
FPF-636-14.15 REV 13



ZONES R-31 & R-33

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(8)-1	8	STD	0.280	SA 106 GR B	CS	NA
8"FPC(2)-1	8	STD	0.322	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-92	ADDED DRAWING LINE CONTINUATION & LOCA. MODIFIED ISI DRAWING REFERENCE & KEYPLAN.	K-HoA	DPR	DRW
1	1-24-84	REVISED AS NOTED. ADDED KEYPLAN	K-HoA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-HoA	DPR	TFH

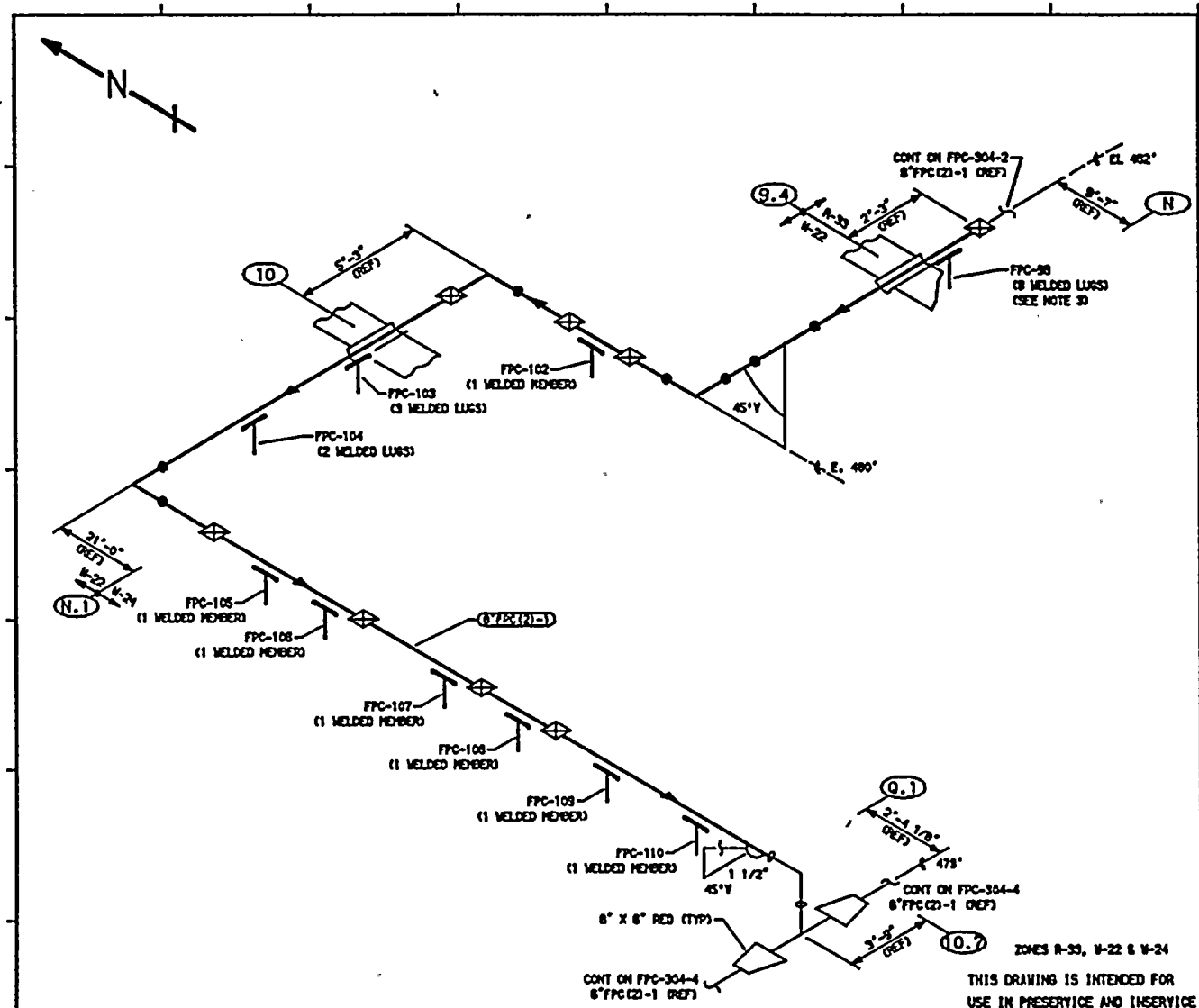
QUALITY CLASS: II	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-HoA / DATE: 4-12-79

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

MNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
FPC-P-1A & 1B DISCHARGE
TO FPC-DH-1A & 1B

DWG NO: FPC-304-2 REV 2



ZONES R-33, W-22 & W-24

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

NOTES:

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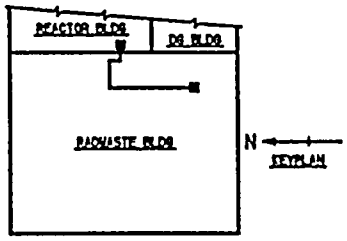
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.
3. COMPONENT SUPPORT IS INACCESSIBLE DUE TO FOAM FILLED WATER TIGHT BOOT.

REFERENCES:

ISI - 226-1A

BOYCE & CRAIL ISOMETRIC
FPC-836-18.21 REV 7



QUALITY CLASS: 1I		ASME CODE CLASS: 3			
ENGR: K-McANDREW		DRAWN: K-McA		DATE: 4-12-79	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

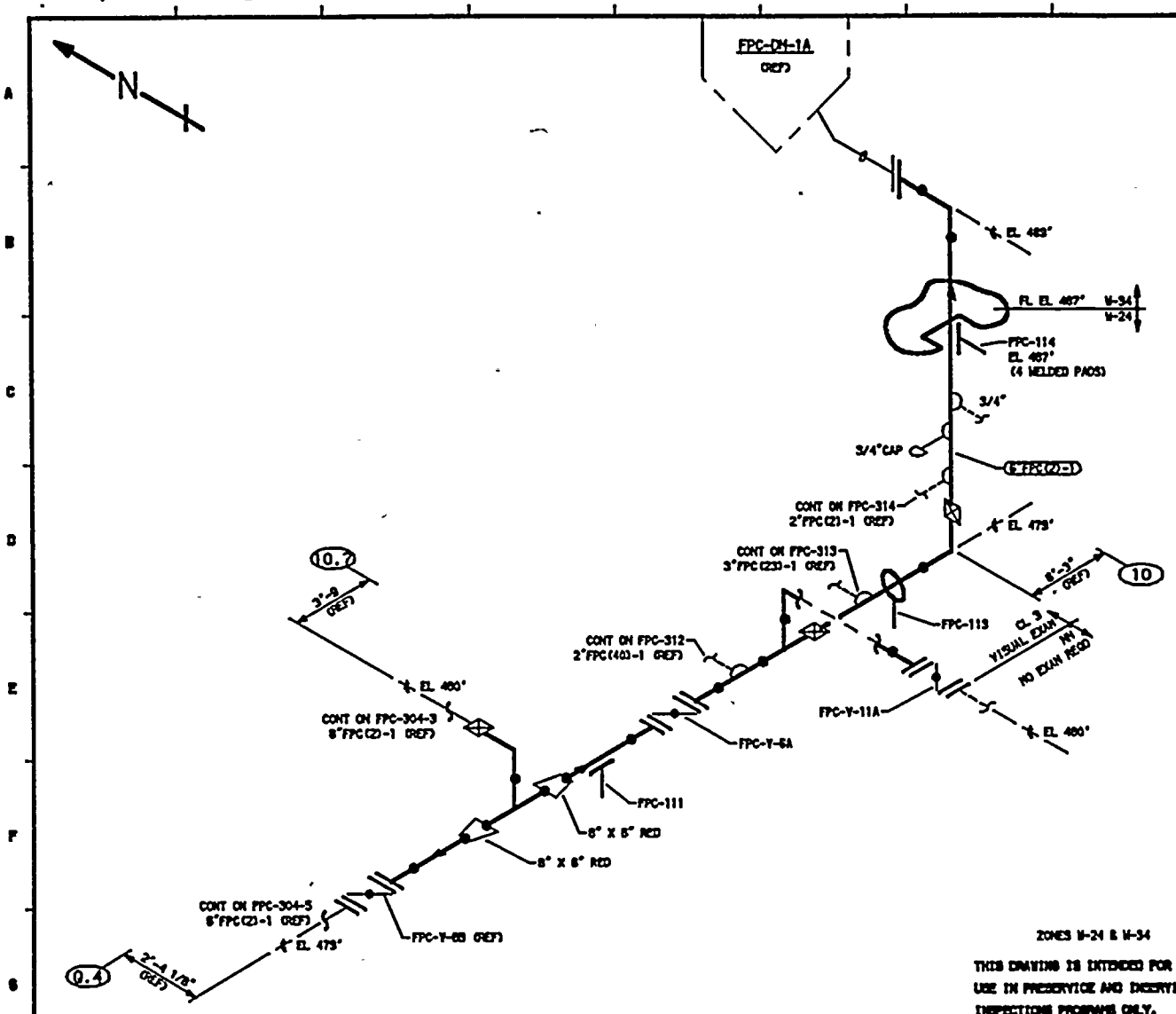
WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-P-1A & 1B DISCHARGE TO FPC-DM-1A & 1B

DWG NO. FPC-304-3 REV 2

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(2)-1	8	STD	0.322	SA 106 GR B	CS	KA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-82	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION. MODIFIED KEYPLAN & LOGO. REDRAWN	K-McA	DPR	DRV
1	1-24-84	REVISED AS NOTED. ADDED KEYPLAN	K-McA	DPR	TPH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TPH



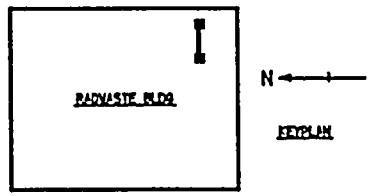
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-2

BOYCE & CRAIL ISOMETRICS
FPC-636-22.24 REV 3
FPC-636-25.26 REV 4



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(2)-1	8	STD	0.322	SA 106 GR B	CS	NA
6"FPC(2)-1	6	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	10-16-87	ADDED DWG CONT, KEYPLAN, REDRAWN	K-MoA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-MoA	DPR	TFH

QUALITY CLASS: 2 | ASME CODE CLASS: 3

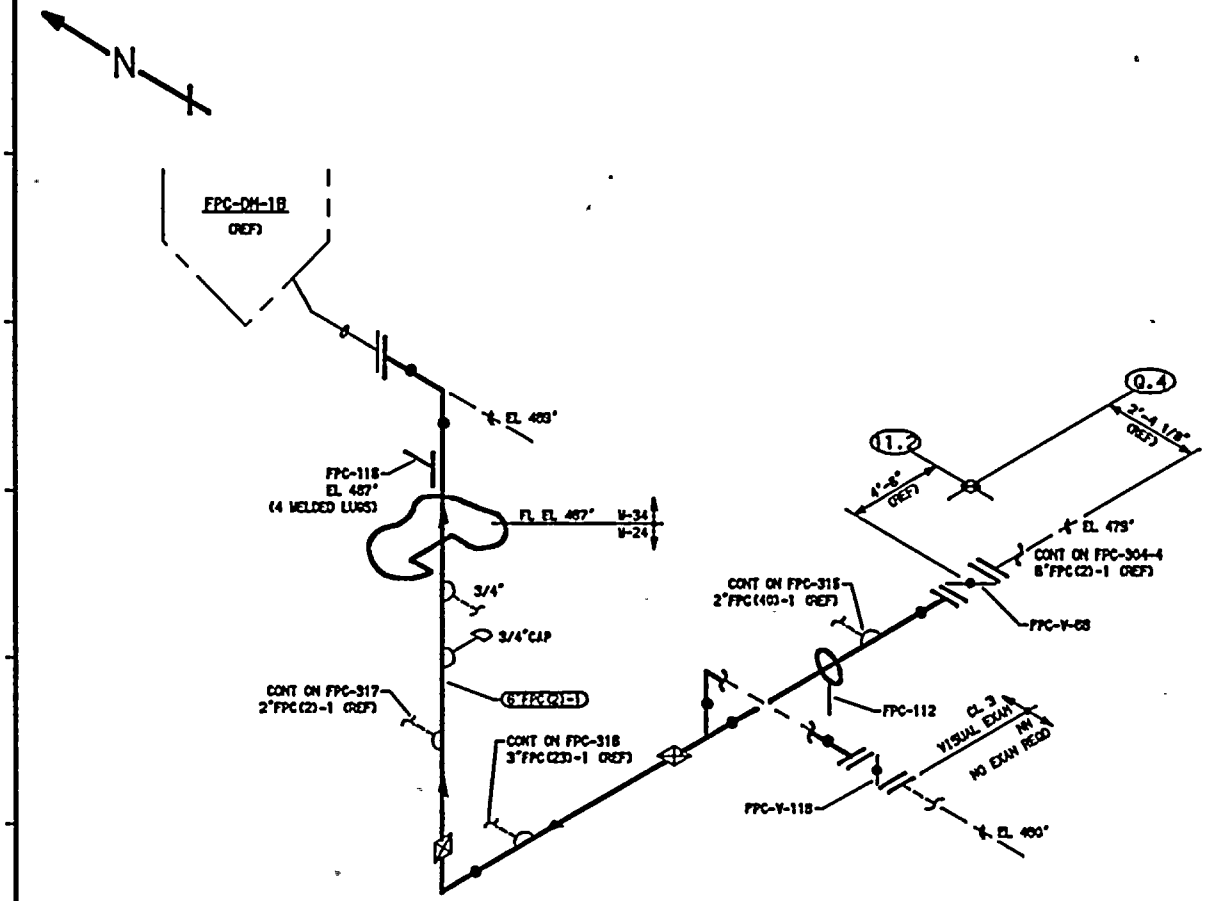
ENGR: K-McANDREW | DRAWN: K-MoA | DATE: 4-12-78

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
FPC-P-1A & 1B DISCHARGE TO FPC-DH-1A & 1B

DWG NO: FPC-304-4 | REV 1



NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-2

BOYCE & CRAIL ISOMETRICS
FPC-636-22.24 REV 3
FPC-636-27.26 REV 4

ZONES W-24 & W-34

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
6"FPC(2)-1	6	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	10-16-87	ADDED DWG CONT, KEYPLAN, REDRAWN	K-HoA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-HoA	DPR	TFH

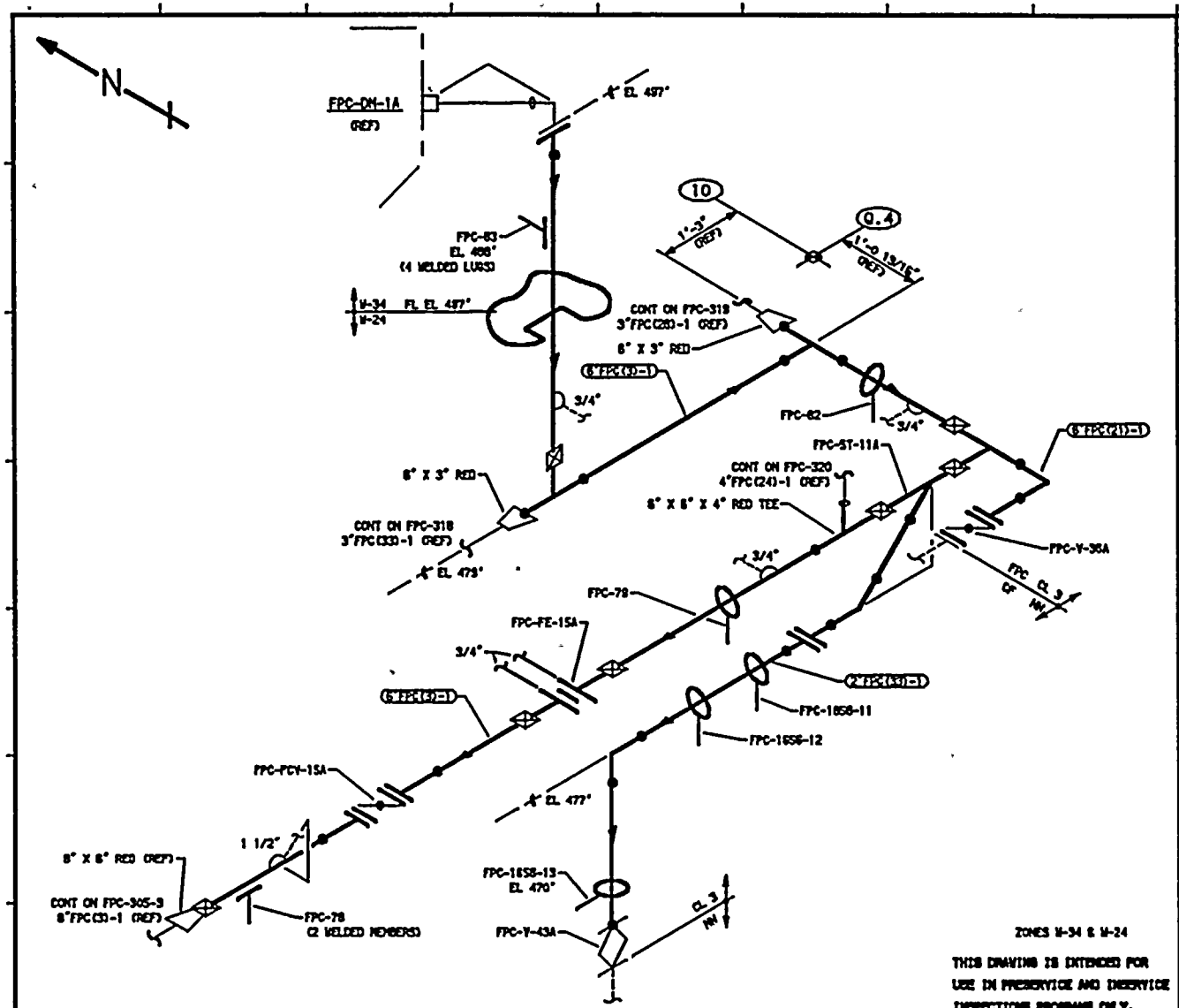
QUALITY CLASS: 2	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-HoA
DATE: 4-12-78	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-P-1A & 1B DISCHARGE TO FPC-DH-1B

DWG NO: FPC-304-5 REV 1



NOTES:

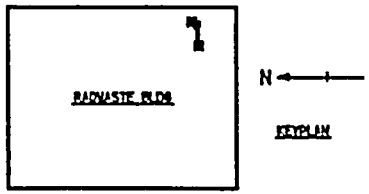
1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 228-2

BOYEE & CRAIL ISOMETRICS

FPC-640-24.25	REV 2
FPC-640-20.23	REV 5
FPC-1658-1	REV 5



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
6"FPC(3)-1	6	STD	0.280	SA 106 GR B	CS	NA
6"FPC(21)-1	6	STD	0.280	SA 106 GR B	CS	NA
2"FPC(33)-1	2	80	0.218	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	10-16-87	ADDED CONT DWG, 2"FPC(33)-1, REDRAWN	K-HoA	DPR	TFH
1	1-24-84	REVISED AS NOTED ADDED KEYPLAN	K-HoA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-HoA	DPR	TFH

QUALITY CLASS: 2 | ASME CODE CLASS: 3

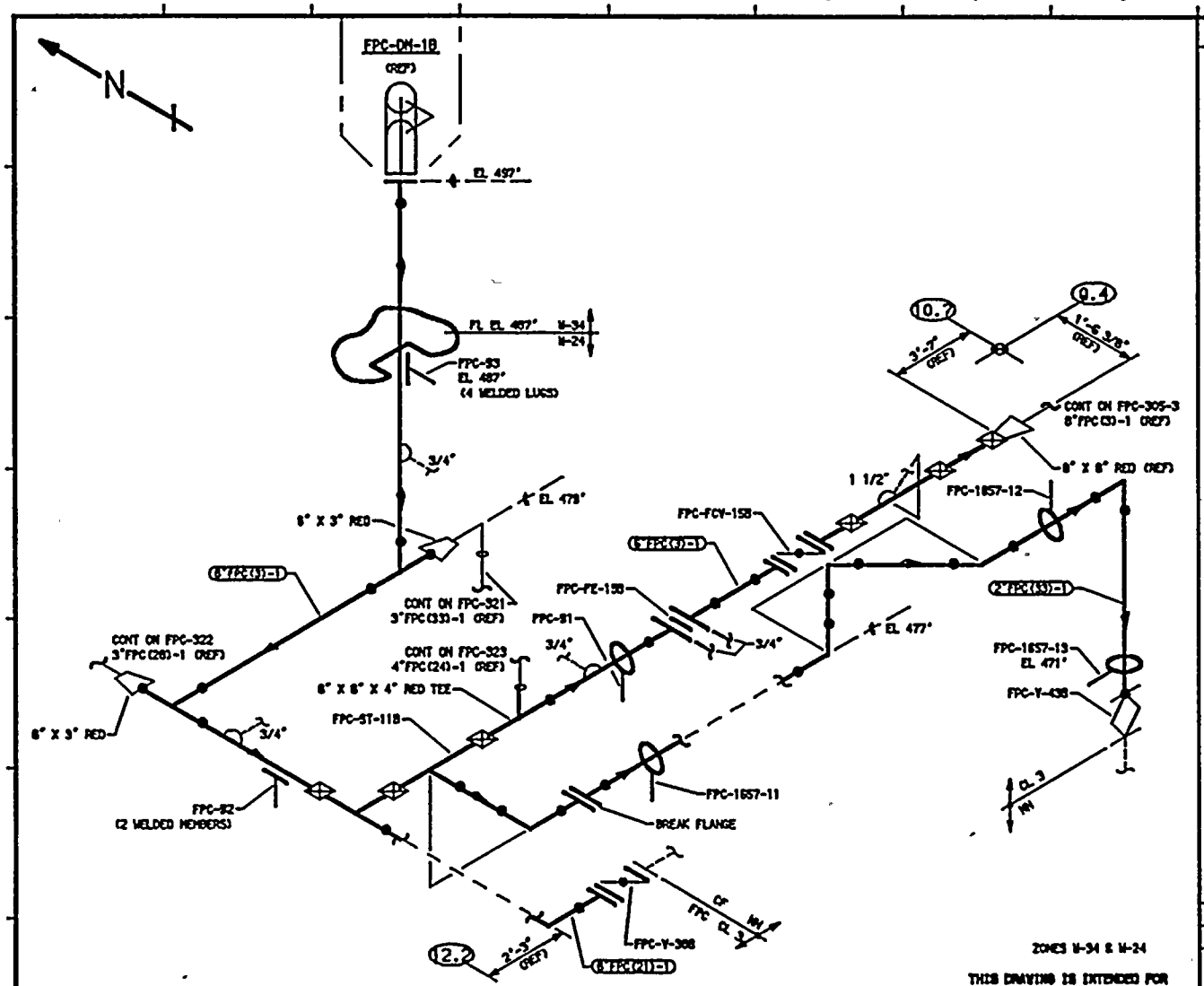
ENGR: K-McANDREW | DRAWN: K-HoA | DATE: 4-17-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-DH-1A RETURN

DWG NO: FPC-305-1 | REV 2



ZONES M-34 & M-24

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

NOTES:

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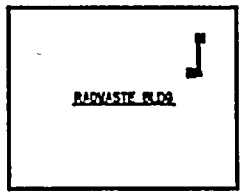
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-2

BOYCE & CRAIL ISOMETRICS

FPC-640-29.30	REV 3
FPC-640-26.28	REV 6
FPC-1857-1	REV 2



QUALITY CLASS: 2	ASME CODE CLASS: 3	
ENGR: K-HoANDREM	DRAWN: K-HoA	DATE: 4-18-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

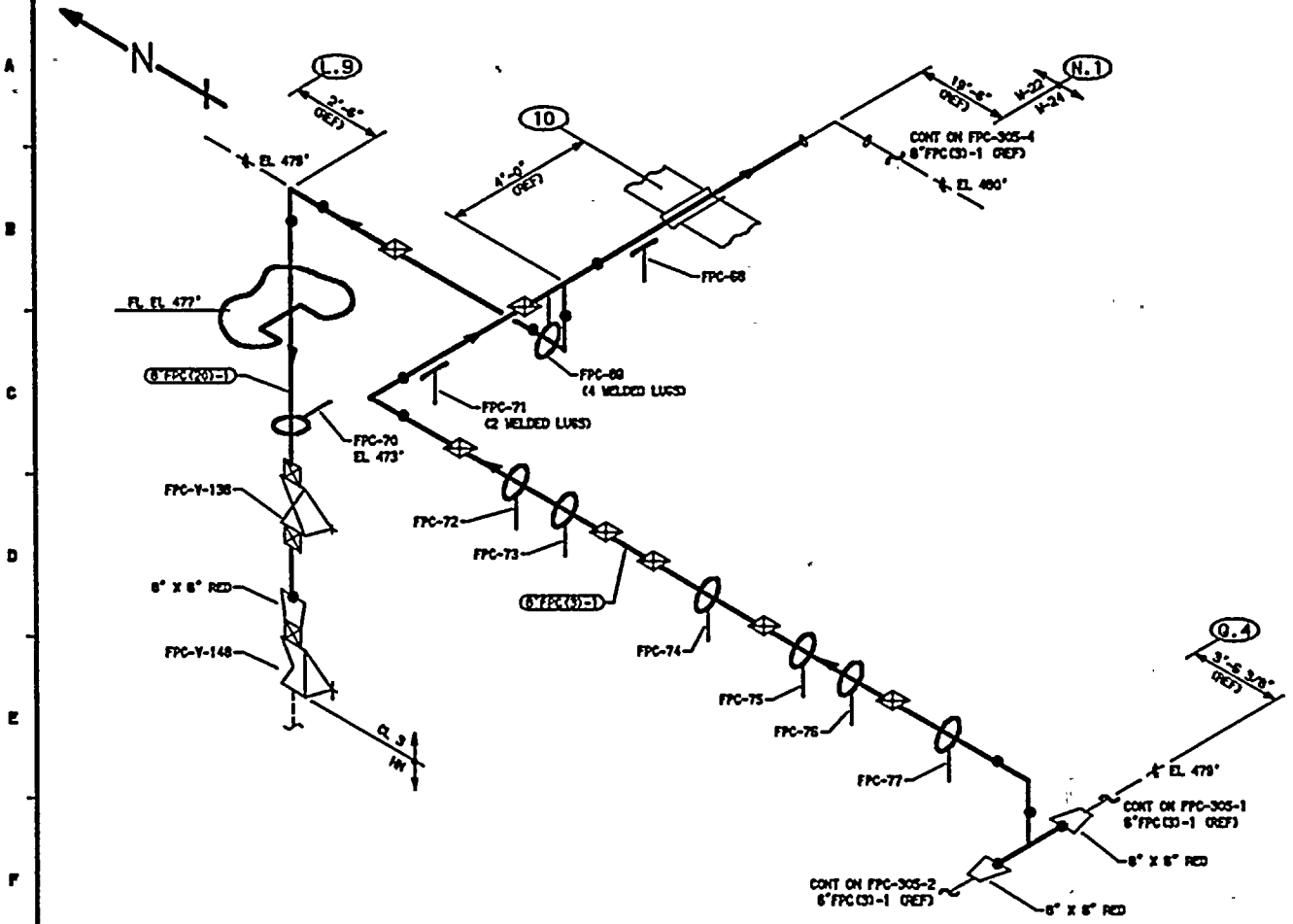
WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-DH-1B RETURN

DWG NO: FPC-305-2 REV 2

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(3)-1	8	STD	0.280	SA 106 GR B	CS	NA
8"FPC(21)-1	8	STD	0.280	SA 106 GR B	CS	NA
2"FPC(33)-1	2	80	0.218	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	10-16-87	ADDED CONT DWG, 2"FPC(33)-1, REDRAWN	K-HoA	DPR	TFH
1	1-24-84	REVISED AS NOTED ADDED KEYPLAN	K-HoA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-HoA	DPR	TFH



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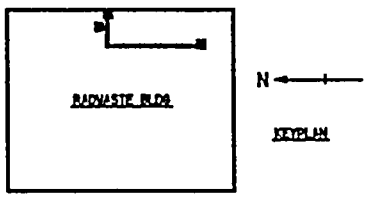
REFERENCES:

ISI - 226-1A

BOYCE & CRAIL ISOMETRICS
FPC-640-17.19 REV 2
FPC-640-19.16 REV 9



ZONES M-24 & M-34

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(20)-1	8	STD	0.322	SA 106 GR B	CS	NA
8"FPC(3)-1	8	STD	0.322	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	10-15-87	ADDED 8" X 8" RED, FPC-V-148, REDRAWN	K-HoA	DPR	TFH
1	1-24-84	REVISED AS NOTED ADDED KEYPLAN	K-HoA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-HoA	DPR	TFH

QUALITY CLASS: 2 | ASME CODE CLASS: 3

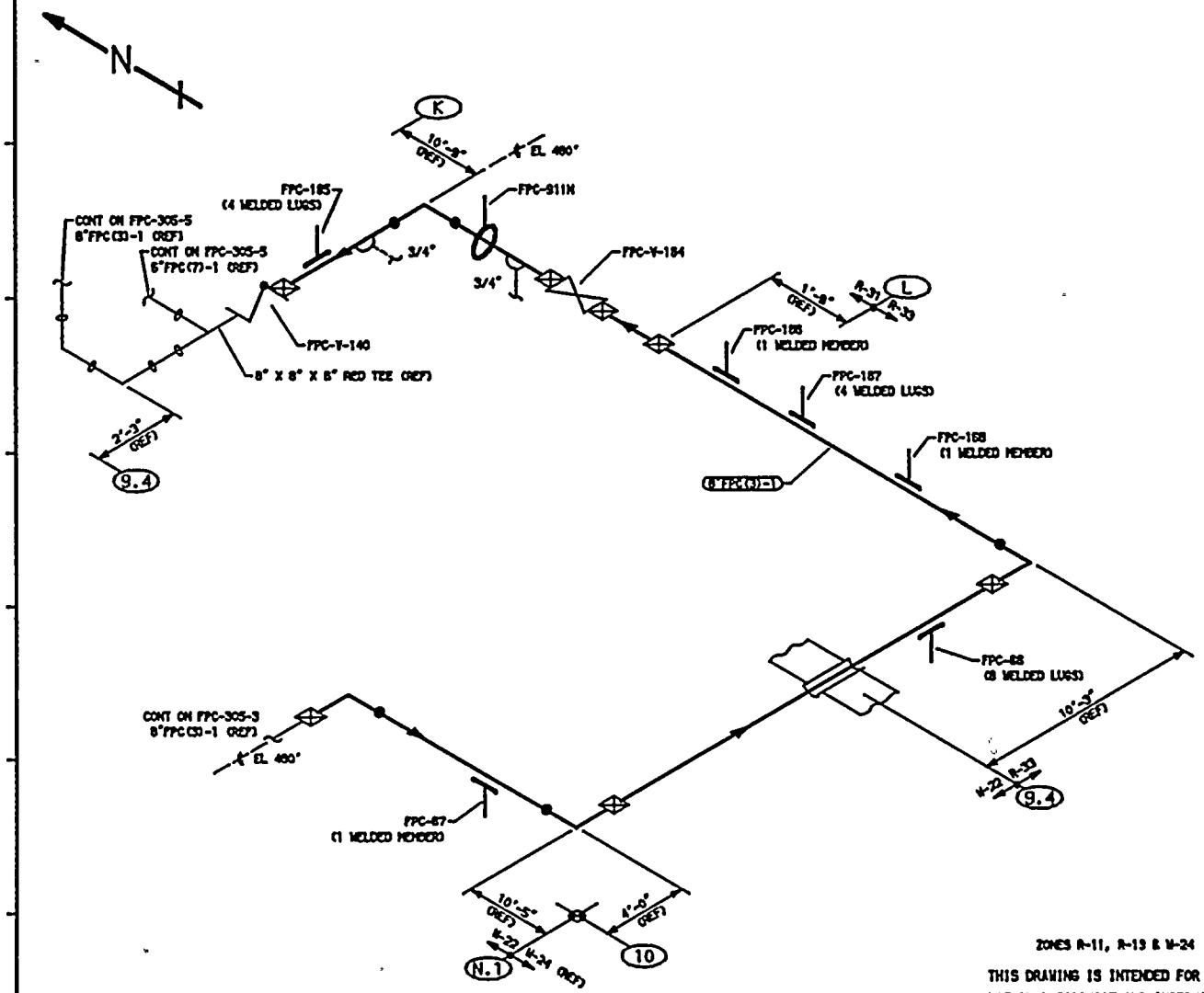
ENGR: K-HoANDREW | DRAWN: K-HoA | DATE: 4-18-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-DH-1A & 1B RETURN

DWG NO: FPC-305-3 | REV 2



ZONES R-11, R-19 & M-24

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NOTES:

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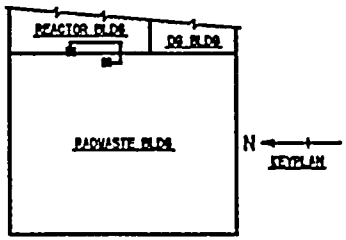
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOYEE & CRAIL ISOMETRICS
FPC-840-7.9 REV 14
FPC-840-13.16 REV 9



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(3)-1	8	STD	0.322	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-82	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION. MODIFIED KEYPLAN & LOOP NUMBER	K-McA	DPR	DRW
1	1-24-84	REVISED AS NOTED. ADDED KEYPLAN	K-McA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH

QUALITY CLASS: 1I | ASME CODE CLASS: 3

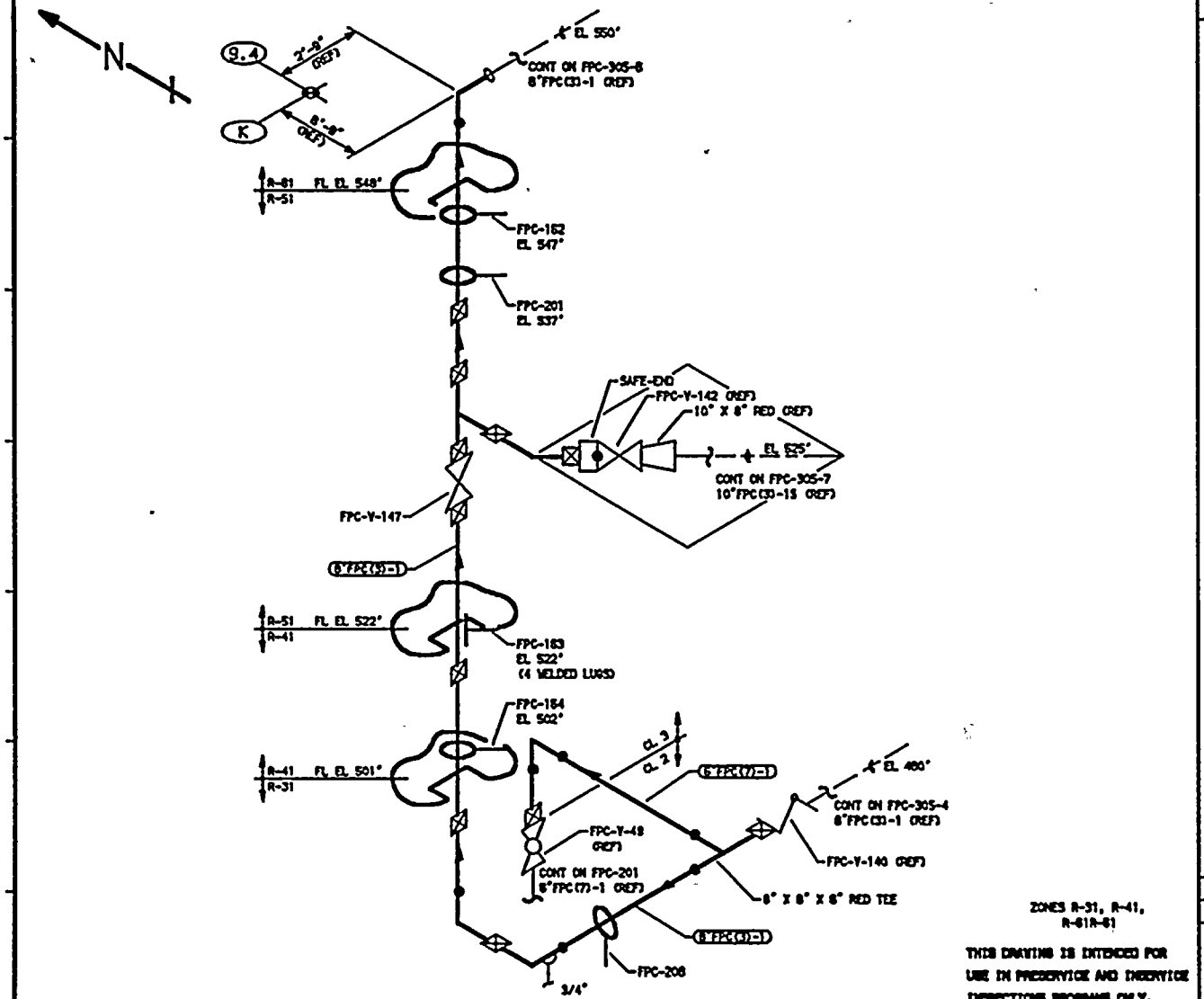
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 4-19-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-DM-1A & 1B RETURN

DWG NO: FPC-305-4 | REV 2



ZONES R-31, R-41, R-61A-61

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

NOTES:

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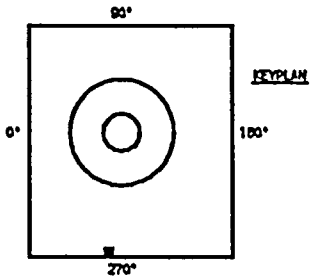
REFERENCES:

ISI - 226-1A

BOYCE & CRAIL ISOMETRICS
FPC-640-1.6 REV 9
FPC-640-7.9 REV 14



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(3)-1	8	STD	0.322	SA 106 GR B	CS	NA
8"FPC(7)-1	8	STD	0.200	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	10-16-87	CHANGED FPC-210 TO FPC-201. CORRECTED HANGER ELEVATIONS. ADDED ISI DWG REF, LINE CONT & LOAD. ADD KEYPLAN REDRAWN	K-HoA	DPR	TPH
1	1-24-84	GENERAL UPDATE REDRAWN	K-HoA	DPR	TPH
0	12-2-81	ISSUED FOR USE	K-HoA	DPR	TPH

QUALITY CLASS: 2 | ASME CODE CLASS: 3

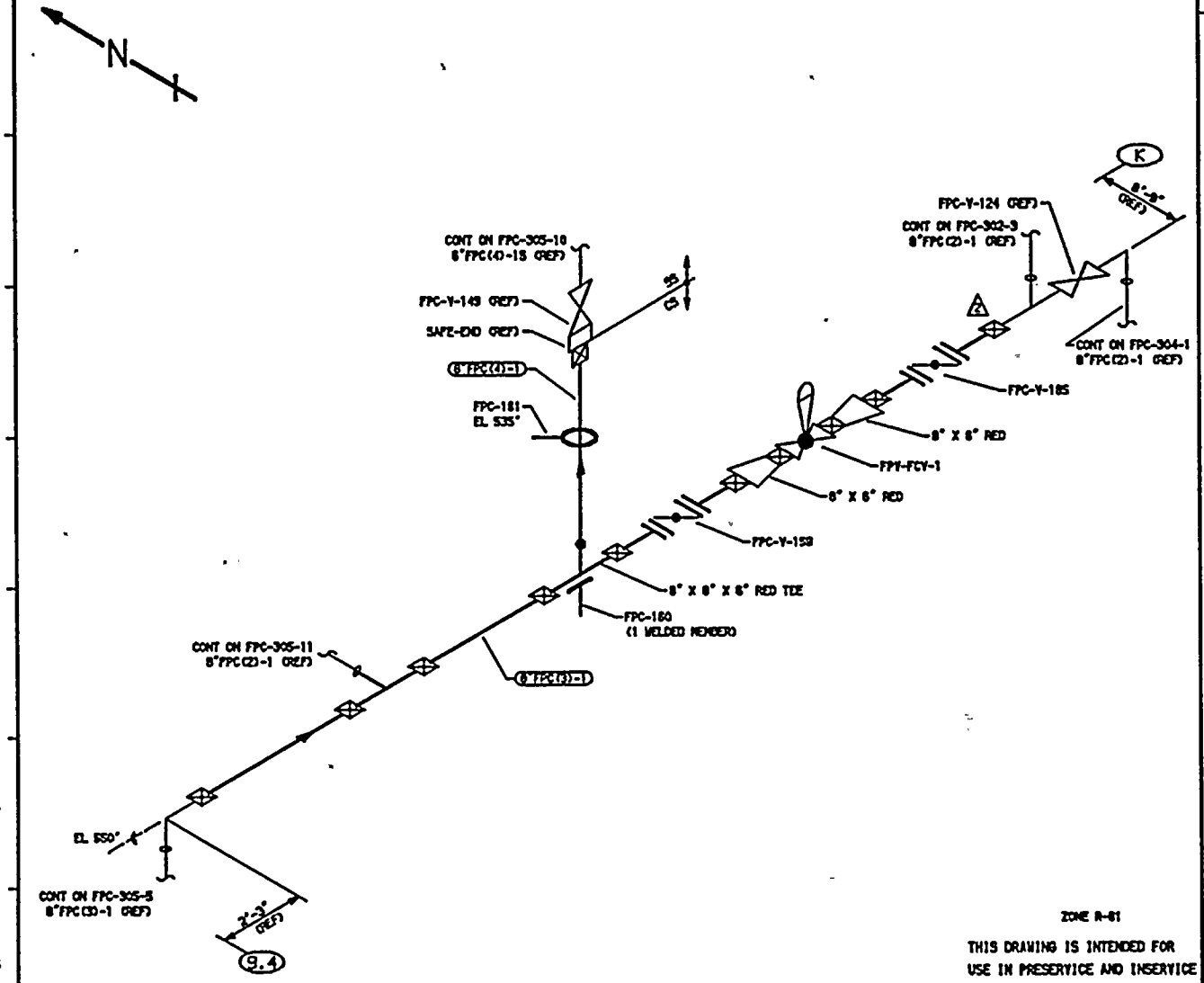
ENGR: K-McANDREW | DRAWN: K-HoA | DATE: 4-19-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-DR-1A & 1B RETURN

DWG NO: FPC-305-5 | REV 2



ZONE R-81

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NOTES:

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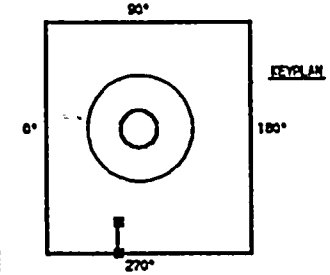
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOYCE & CRAIL ISOMETRIC
FPC-840-1.8 REV 9

KEYPLAN



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(3)-1	8	STD	0.322	SA 106 GR B	CS	NA
8"FPC(4)-1	8	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-82	ADDED ISI DRAWING REFERENCE, DRAWING LINE CONTINUATION & FIELD WELD ZR C-7, MODIFIED KEYPLAN & LOAD, REMARK	K-HoA	DPR	DRW
1	1-24-84	REVISED AS NOTED. ADDED KEYPLAN	K-HoA	DPR	TPH
0	12-2-81	ISSUED FOR USE	K-HoA	DPR	TPH

QUALITY CLASS: II | ASME CODE CLASS: 3

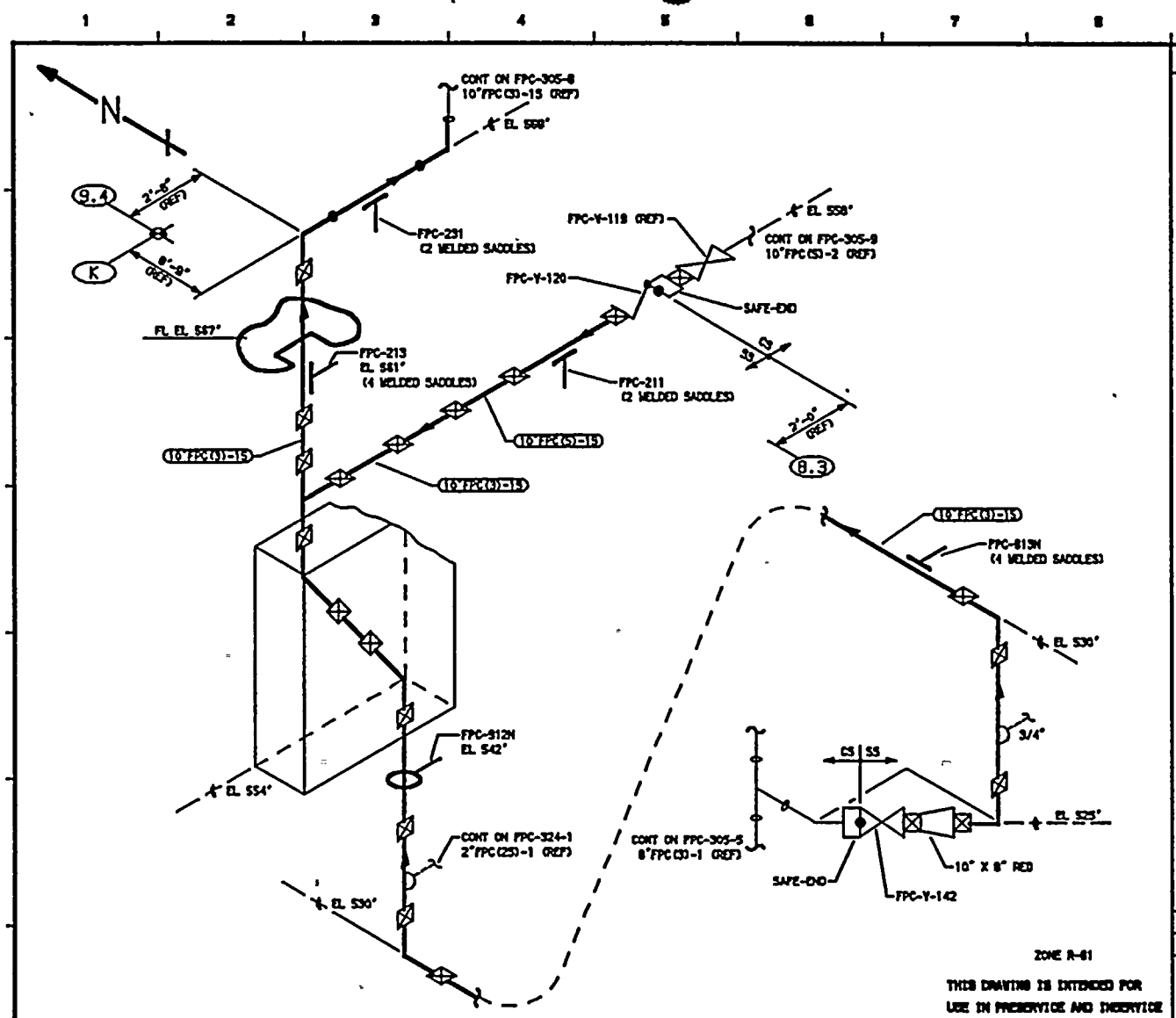
ENGR: K-McANDREW | DRAWN: K-HoA | DATE: 4-23-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-DM-1A & 1B RETURN

DWG NO. FPC-305-8 | REV 2



ZONE R-61

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NOTES:

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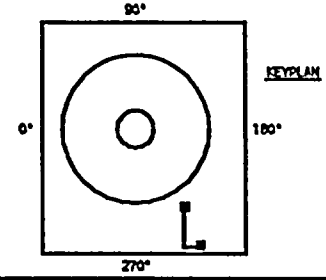
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1

BOVEE & CRAIL ISOMETRICS
FPC-670-1.2 REV 10
FPC-049-1.13 REV 8



QUALITY CLASS: 2	ASME CODE CLASS: 3
ENGR: K-MoANDREN	DRAWN: K-MoA	DATE: 7-24-81

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON

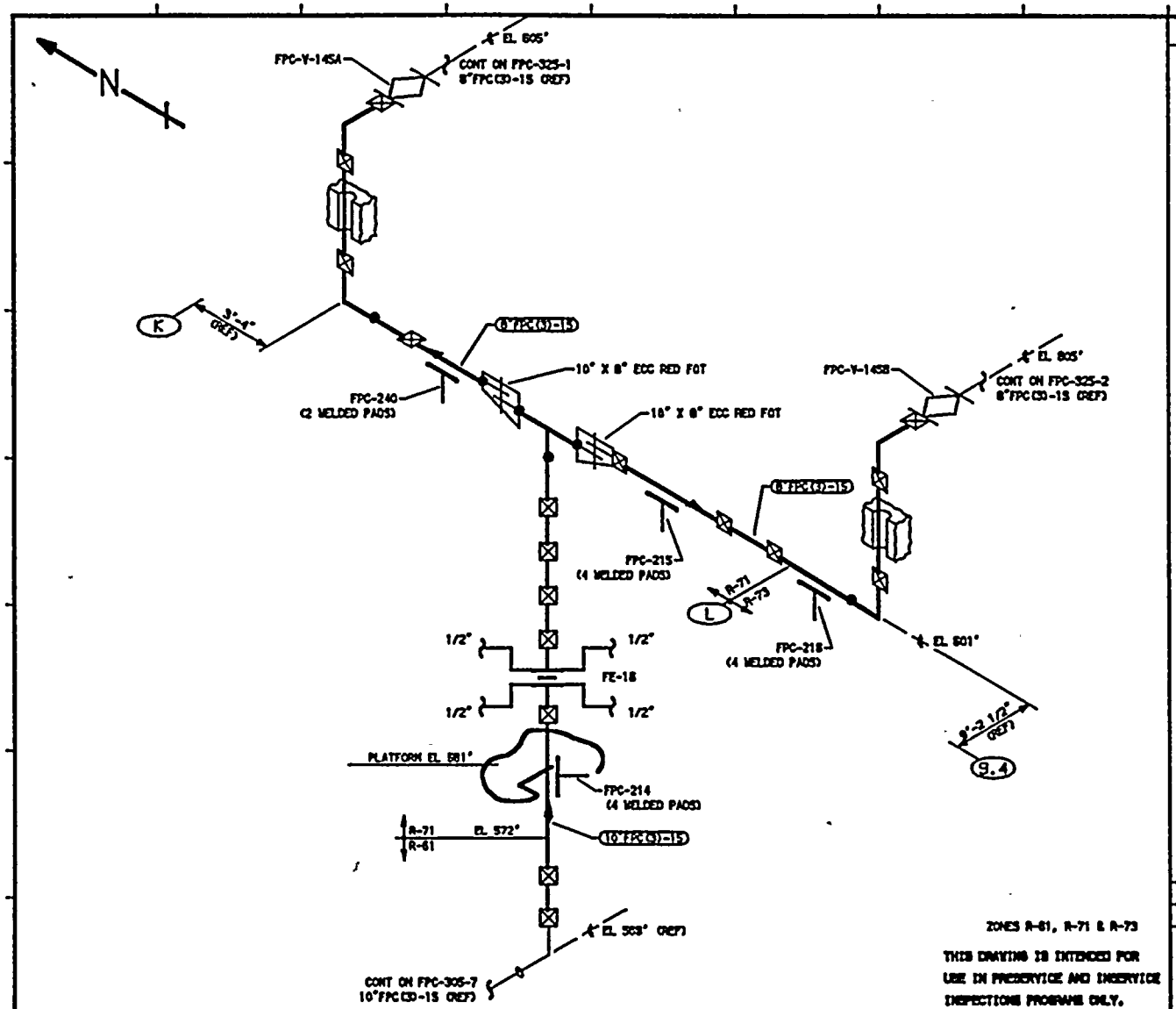
WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-DH-1A &1B RETURN & RHR STEAM INLET

DWG NO: FPC-305-7 REV 2

NO	DATE	REVISION	BY	CHKD	APVD
2	10-16-87	ADDED ISI DWG REF, DWG LINE CONT, LOOP & SHOP WELDS BETWEEN VALVES & SAFE-ENDS, MODIFIED KEYPLAN, REDRAWN	K-MoA	DPR	TFH
1	1-24-84	REVISED AS NOTED ADDED KEYPLAN	K-MoA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-MoA	DPR	TFH

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
10"FPC(3)-15	10	10S	0.165	SA 312 TP 304	55	NA
10"FPC(3)-15	10	10S	0.165	SA 312 TP 304	55	NA



ZONES R-61, R-71 & R-73

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NOTES:

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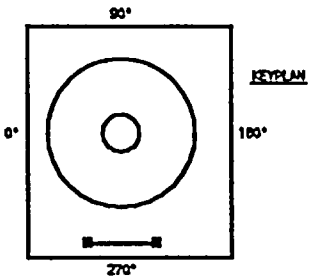
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1

BOYCE & CRAIL ISOMETRICS

FPC-670-3.6	REV 8
FPC-670-7.11	REV 9
FPC-670-12.18	REV 7



						PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK
						10"FPC(3)-15	10	105	0.185
2	10-16-87	GENERAL UPDATE, ADDED DWG CONT.	K-HoA	DPR	TFH	8"FPC(3)-15	8	105	0.148
1	1-24-84	GENERAL UPDATE REDRAWN	K-HoA	DPR	TFH				
0	12-2-81	ISSUED FOR USE	K-HoA	DPR	TFH				
NO	DATE	REVISION	BY	CHKD	APVD				

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
10"FPC(3)-15	10	105	0.185	SA 312 TP 304	SS	NA
8"FPC(3)-15	8	105	0.148	SA 312 TP 304	SS	NA

QUALITY CLASS: 2 | ASME CODE CLASS: 3

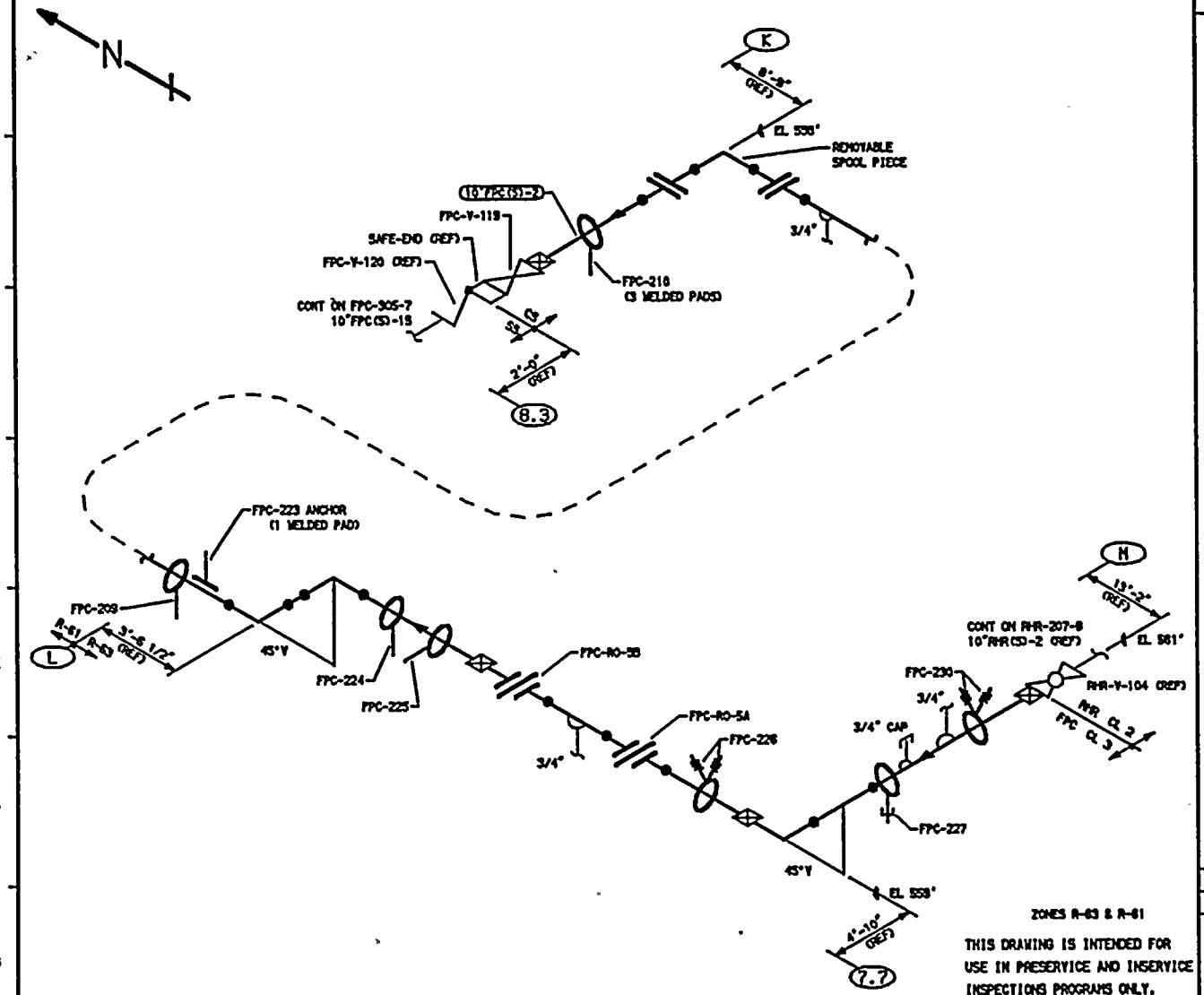
ENGR: K-McANDREW | DRAWN: K-HoA | DATE: 4-24-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-DH-1A & 1B TO DIFFUSERS

DWG NO: FPC-305-8 | REV 2



ZONES R-63 & R-61

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

NOTES:

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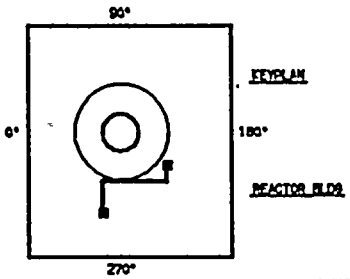
2. FPC-225 CHANGED FROM SNUBBER TO STRUT PER BDC-86-0525-0A.
3. FPC-228 & FPC-229 HAVE BEEN DELETED PER BDC-87-0156.

REFERENCES:

ISI - 226-1

BOYEE & CRAIL ISOMETRIC FPC-671-1.4 REV 11



QUALITY CLASS: 1	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 4-26-79	

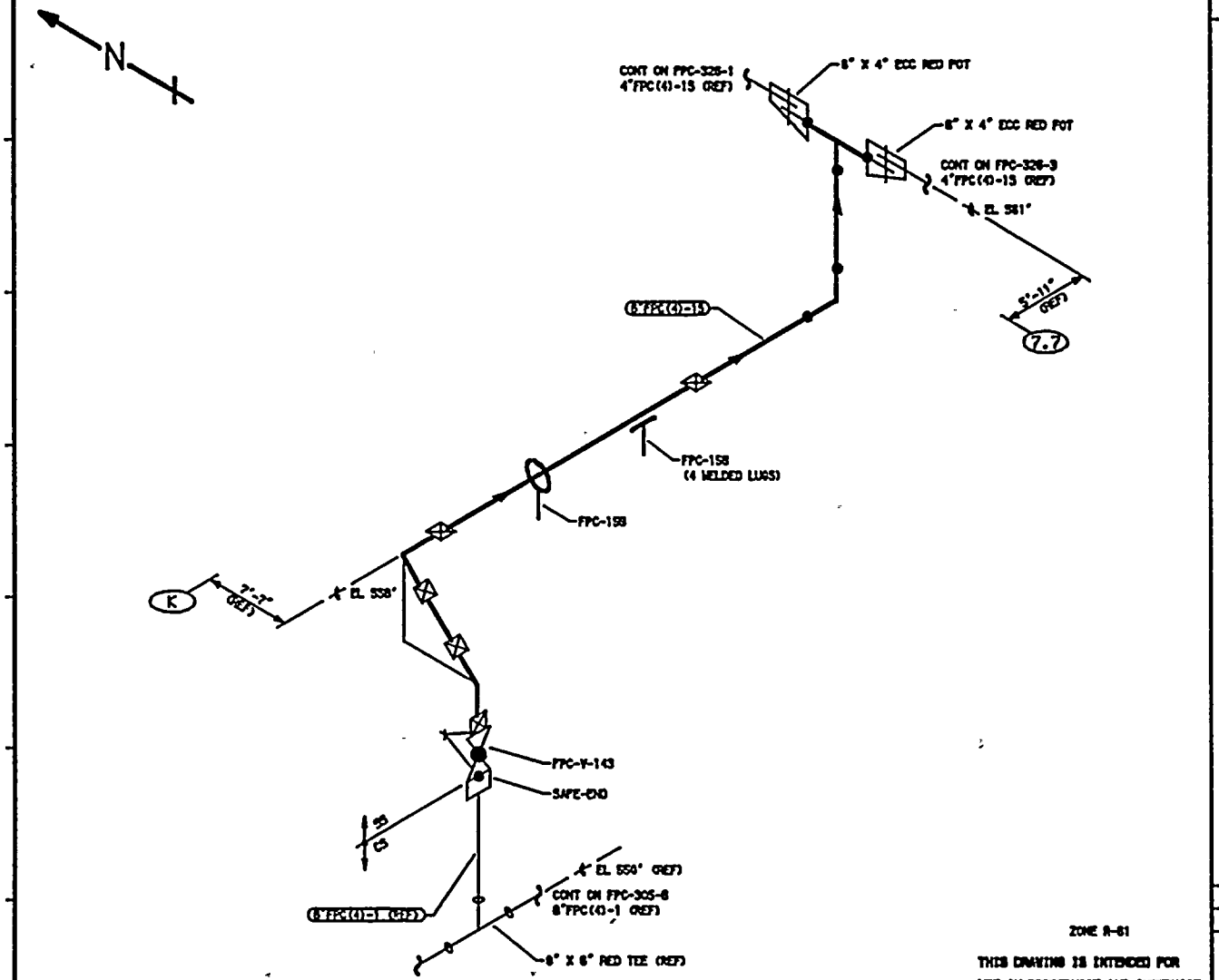
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC - RHR INTERTIE INLET

DWG NO: FPC-305-9 REV 3

NO	DATE	REVISION	BY	CHKD	APVD	PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3	11-13-82	REPLACED FPC-RO-6 WITH FPC-RO-6A & FPC-RO-6B, ADDED TWO 3/4" CONN PER BDC-82-0226-0A, CORRECTED EL 561' IN E-8 REDRAWN	K-McA	DPR	DRW	10"FPC(S)-2	10	STD	0.365	SA 106 GR B	CS	NA
2	12-4-80	ADDED ISI CWD REF, CWD LINE CONT, NOTES 2, 3 & LEGEND, MODIFIED KEYPLAN, REDRAWN	K-McA	DPR	TFH							
1	1-24-84	ADDED 3/4" CONN IN D-4. ADDED KEYPLAN	K-McA	DPR	TFH							
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH							



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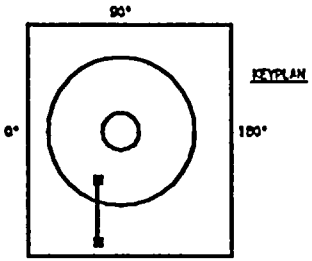
REFERENCES:

ISI - 226-1

BOYCE & CRAIL ISOMETRIC
FPC-669-1.7 REV 5



KEYPLAN

ZONE A-61

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(4)-15	8	105	0.134	SA 312 TP 304	55	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	10-16-87	GENERAL UPDATE, REDRAWN	K-HoA	DPR	TFH
1	1-24-84	REVISED AS NOTED ADDED KEYPLAN	K-HoA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-HoA	DPR	TFH

QUALITY CLASS: 2 | ASME CODE CLASS: 3

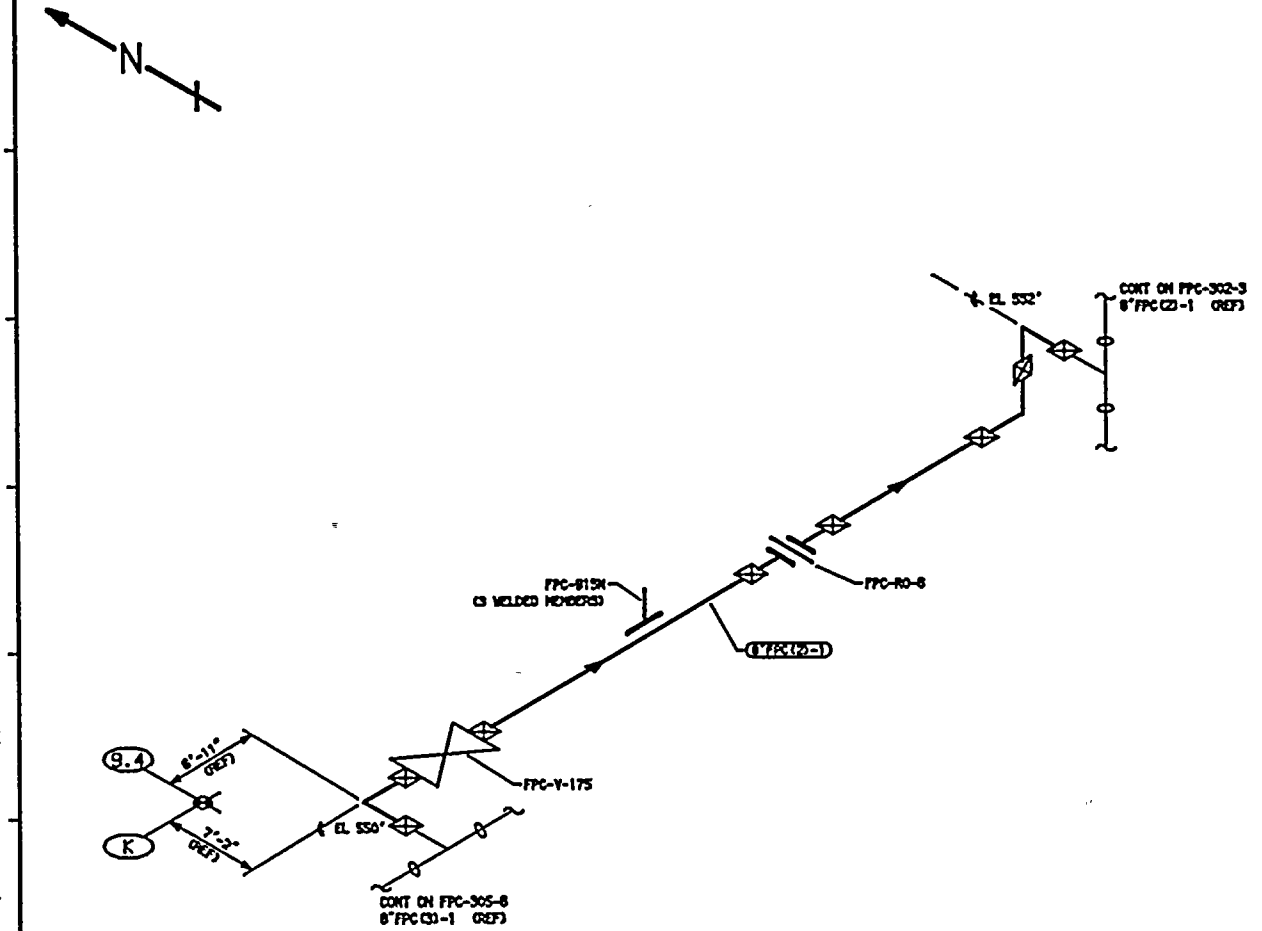
ENGR: K-HoANDREN | DRAWN: K-HoA | DATE: 4-25-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-CH-1A & 1B TO DIFFUSERS

DWG NO: FPC-305-10 | REV 2



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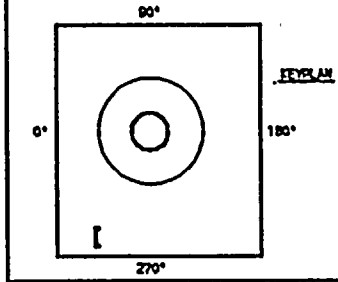
REFERENCES:

ISI - 226-1A

BOYCE & CRAIL ISOMETRIC
FPC-840-31.40 REV 6



ZONE A-61

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC C2)-1	8	STD	0.322	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1		ADDED LOGO. MODIFIED ISI DWG REF & KEYPLAN			
0	1-24-84	ISSUED FOR USE	K-McA	DPR	TFH

QUALITY CLASS: II | ASME CODE CLASS: 3

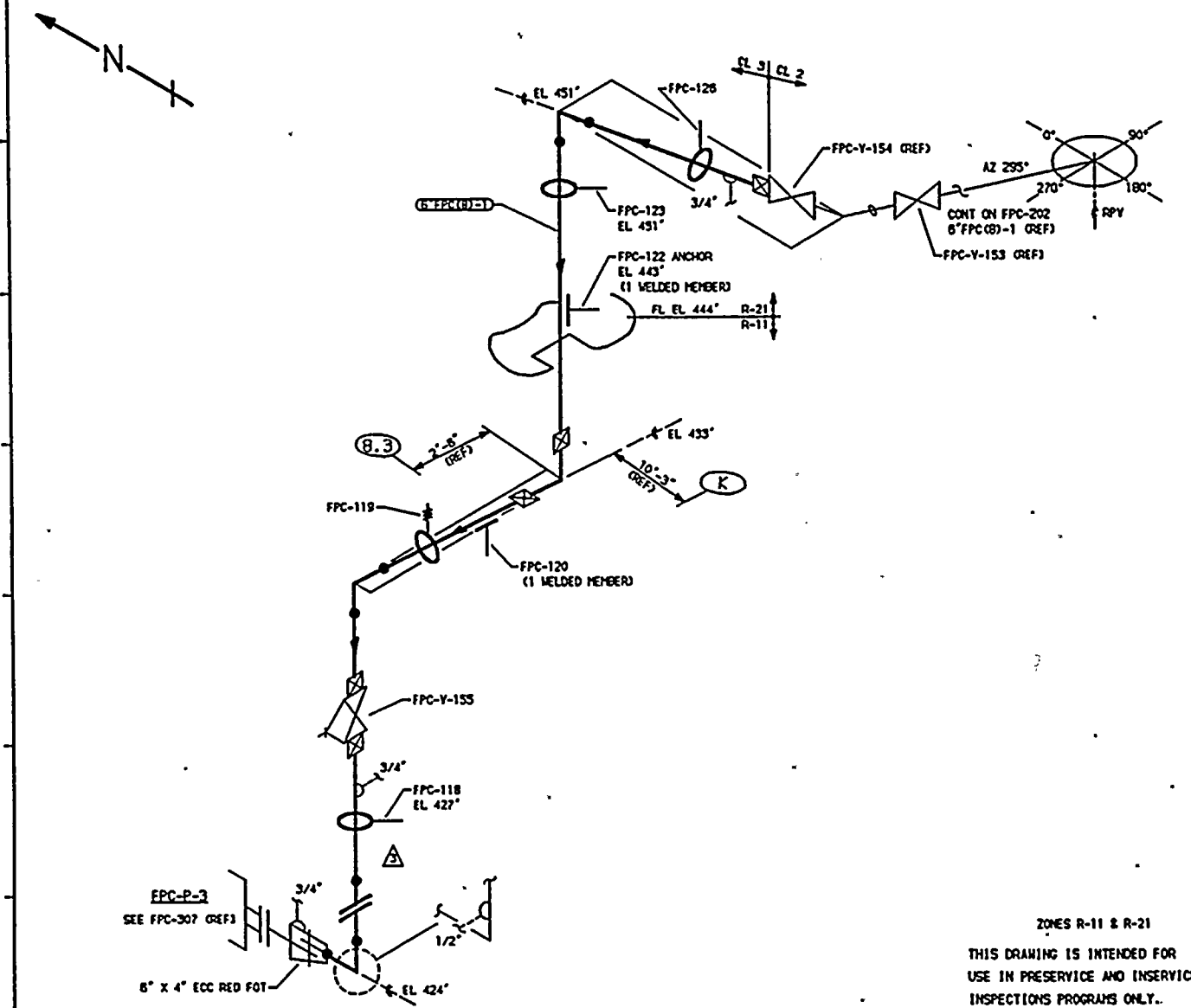
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 1-5-84

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE: BY-PASS BETWEEN INFLUENT & EFFLUENT TO REACTOR

DWG NO. FPC-305-11 | REV 1



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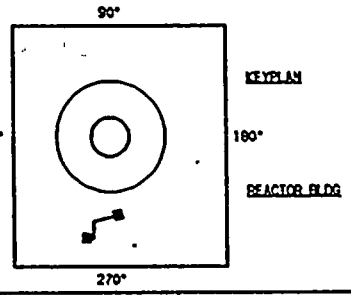
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOYEE & CRAIL ISOMETRICS
FPC-639-1.2 REV 11
FPC-639-3.5 REV 9



ZONES R-11 & R-21

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

NO	DATE	REVISION	BY	CHKD	APVD
3	11-22-94	REMOVED FPC-ST-3 PER BOC-85-0052-0A.	K-McA	DPR	DW
2	11-13-92	ADDED ISI DRAWING REFERENCE & DRAWING LINE CONTINUATION. MODIFIED KEYPLAN & LOCO. RECRAWN	K-McA	DPR	DRW
1	1-24-84	REVISED AS NOTED. ADDED KEYPLAN	K-McA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-McA	DPR	TFH

PIPING SYSTEM*	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
6"FPC(B)-1	6	STD	0.280	SA 106 GR B	CS	NA

QUALITY CLASS: II | ASME CODE CLASS: 3

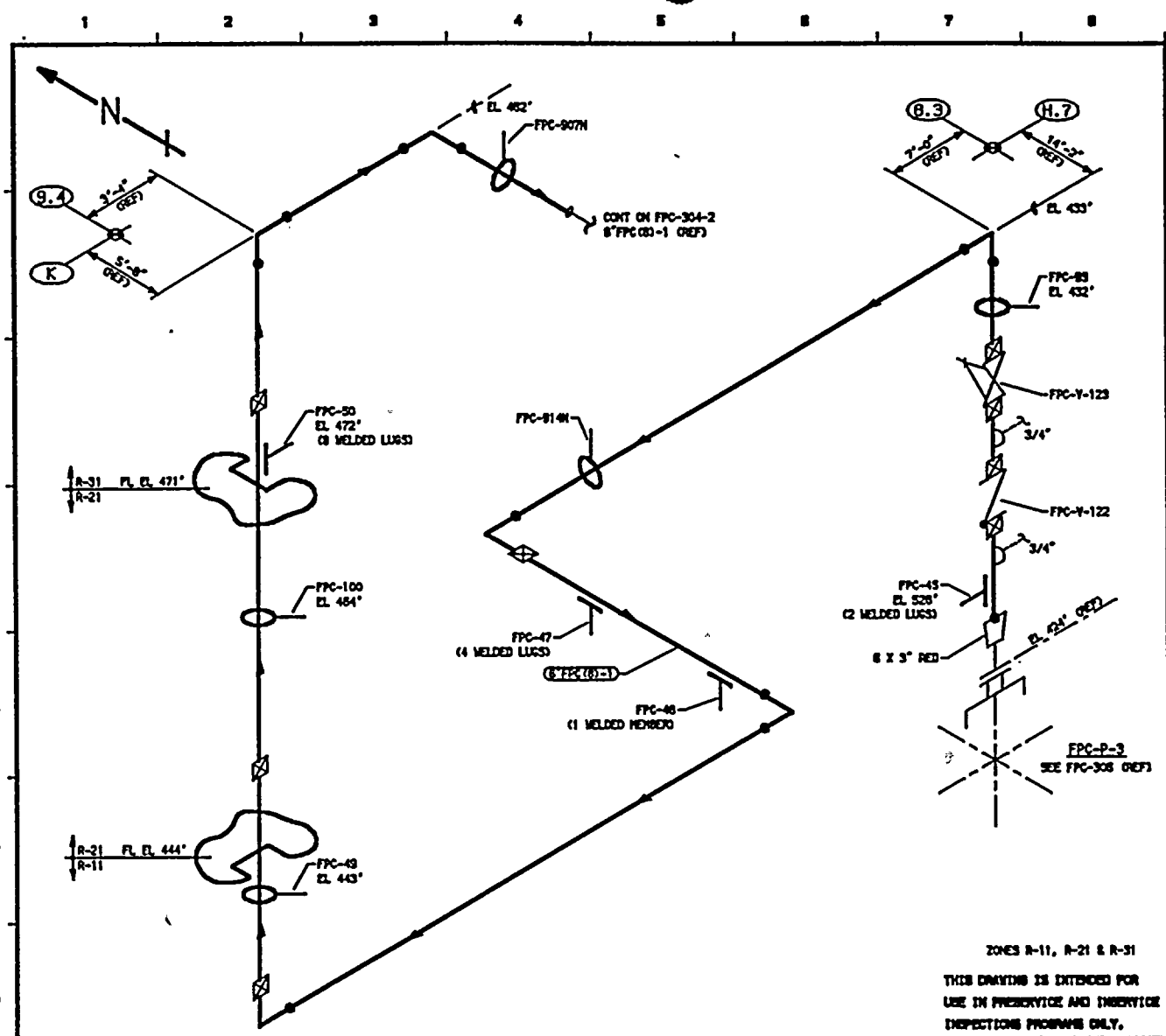
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 4-27-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
SUPPRESSION POOL TO FPC-P-3 SUCTION

DWG NO. FPC-308 | REV 3



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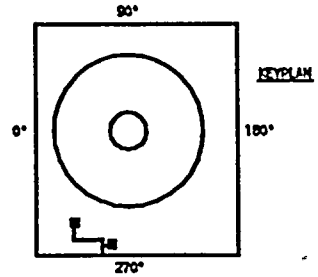
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1A

BOYCE & CRAIL ISOMETRICS
FPC-636-1.3 REV 9
FPC-636-4.7 REV 7



ZONES R-11, R-21 & R-31

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(8)-1	8	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	10-16-87	ADDED ISI DWG REF, DWG LINE CONT. LOGO & FPC-907N. DELETED FPC-46. MODIFIED KEYPLAN. REDRAWN	K-MoA	DPR	TFH
1	1-24-84	REVISED AS NOTED. ADDED KEYPLAN.	K-MoA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-MoA	DPR	TFH

QUALITY CLASS: 2 | ASME CODE CLASS: 3

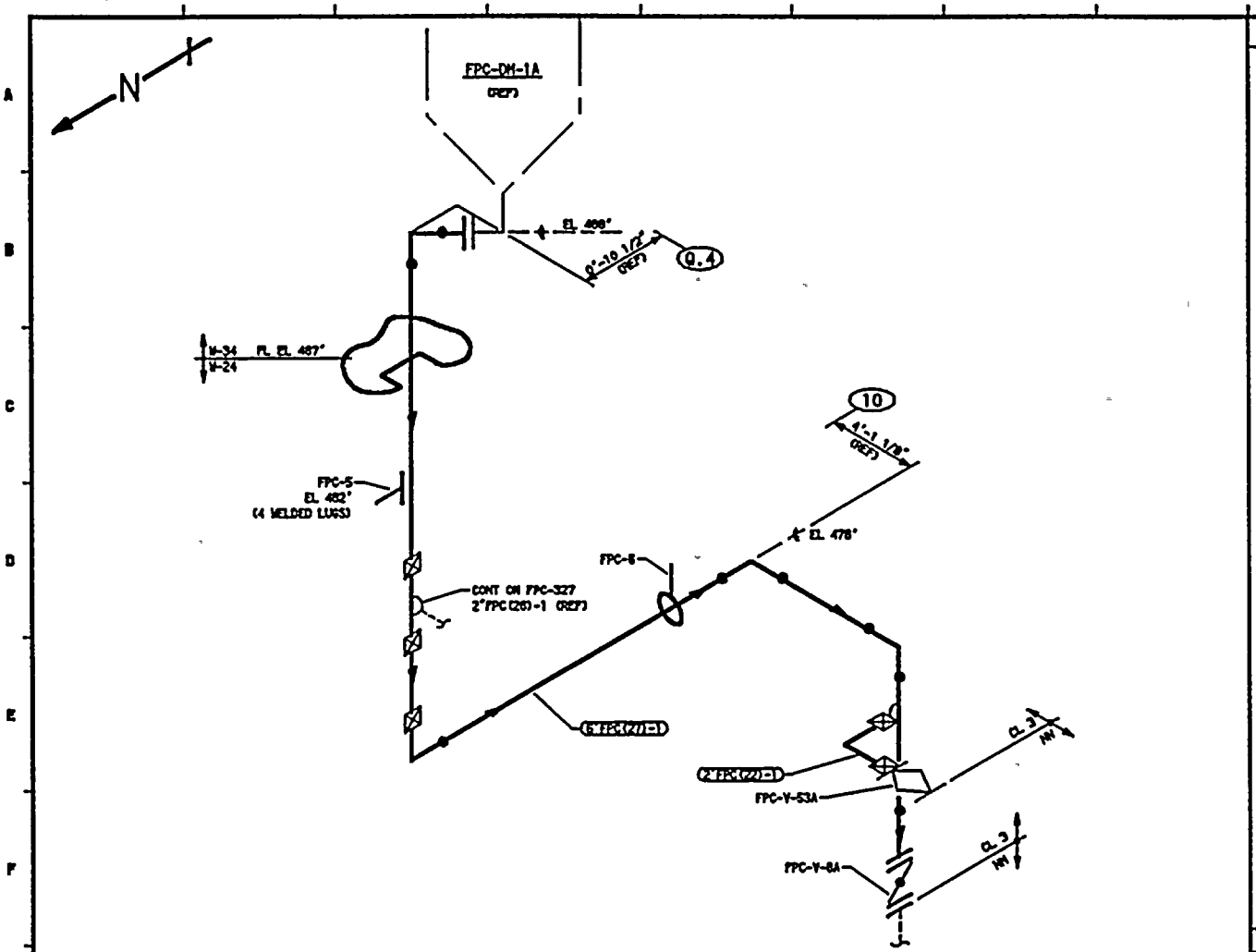
ENGR: K-MoANDREW | DRAWN: K-MoA | DATE: 4-30-79

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
FPC-P-3 DISCHARGE

DWG NO: FPC-307 | REV 2



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REFERENCES:

ISI - 226-2

BOYCE & CRAIL ISOMETRIC
FPC-778-1.3 REV 2

ZONES M-34 & M-24

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

QUALITY CLASS: 2	ASME CODE CLASS: 3
ENGR: K-MoANDREW	DRAWN: K-MoA
DATE: 4-30-78	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON

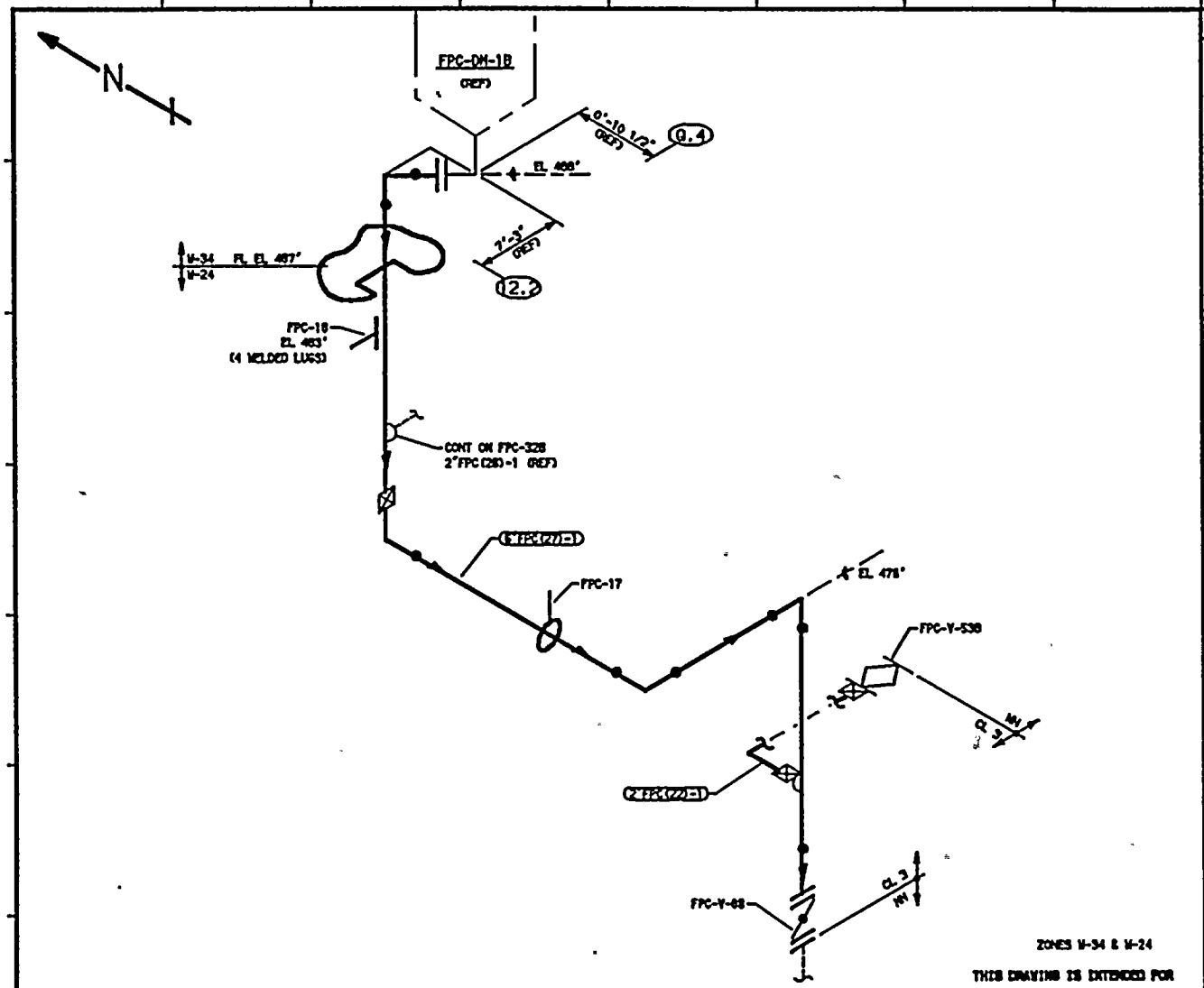
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"FPC(27)-1	8	STD	0.250	SA 106 GR B	CS	NA
2"FPC(22)-1	2	80	0.218	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	10-16-87	ADDED CONT DWG, 2"FPC(22)-1. DELETED NH PIPING, REDRAWN	K-MoA	DPR	TFH
1	1-24-84	REVISED AS NOTED ADDED KEYPLAN	K-MoA	DPR	TFH
0	12-2-81	ISSUED FOR USE	K-MoA	DPR	TFH

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
FPC-DH-1A TO FDR-TK-22

DWG NO: FPC-308-1 REV 2



ZONES W-34 & W-24

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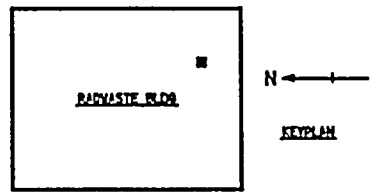
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 228-2

BOYCE & CRAIL ISOMETRIC
FPC-778-10.13 REV 1



						PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
						8"FPC(27)-1	8	STD	0.280	SA 106 GR B	CS	NA
2	10-16-87	ADDED CONT DWG, 2"FPC(22)-1. DELETED IN PIPING, REDRAWN	K-HoA	DPR	TFH	2"FPC(22)-1	2	80	0.218	SA 106 GR B	CS	NA
1	1-24-84	REVISED AS NOTED ADDED KEYPLAN	K-HoA	DPR	TFH							
0	12-2-81	ISSUED FOR USE	K-HoA	DPR	TFH							
NO	DATE	REVISION	BY	CHKD	APVD							

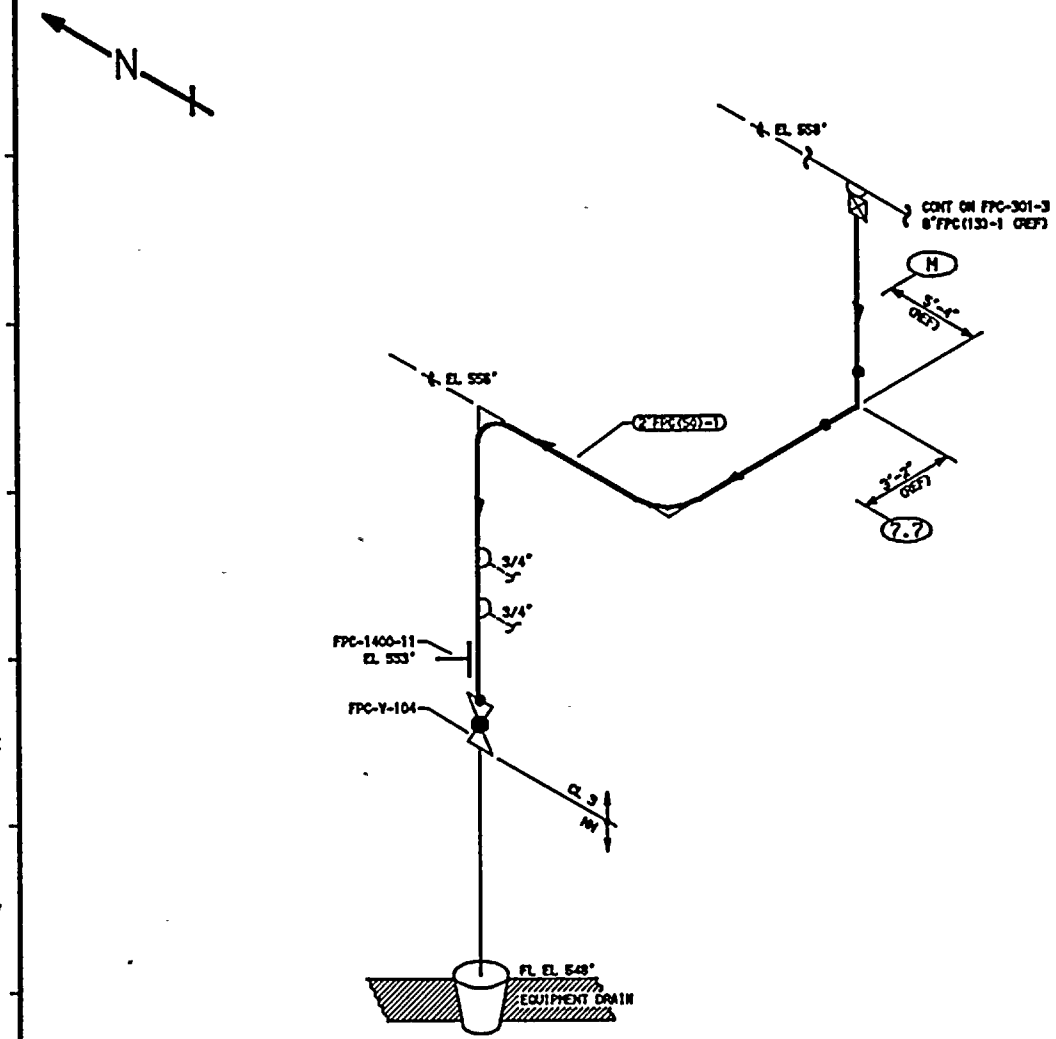
QUALITY CLASS: 2	ASME CODE CLASS: 3
ENGR: K-HoANDREN	DRAWN: K-HoA
DATE: 5-1-78	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
FPC-DM-1B TO FDR-TK-22

DWG NO: FPC-308-3 REV 2



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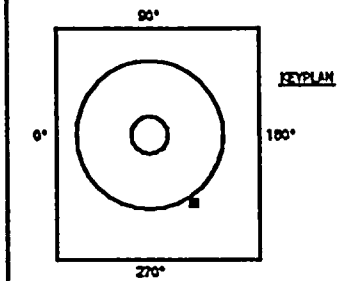
REFERENCES:

ISI - 226-1

BOVEE & CRAIL ISOMETRIC
FPC-1400-1 REV 5



ZONE R-63

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (INCH)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
2"FPC(503)-1	2	80	0.218	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-18-87	ISSUED FOR USE	K-HoA	DPR	TYH

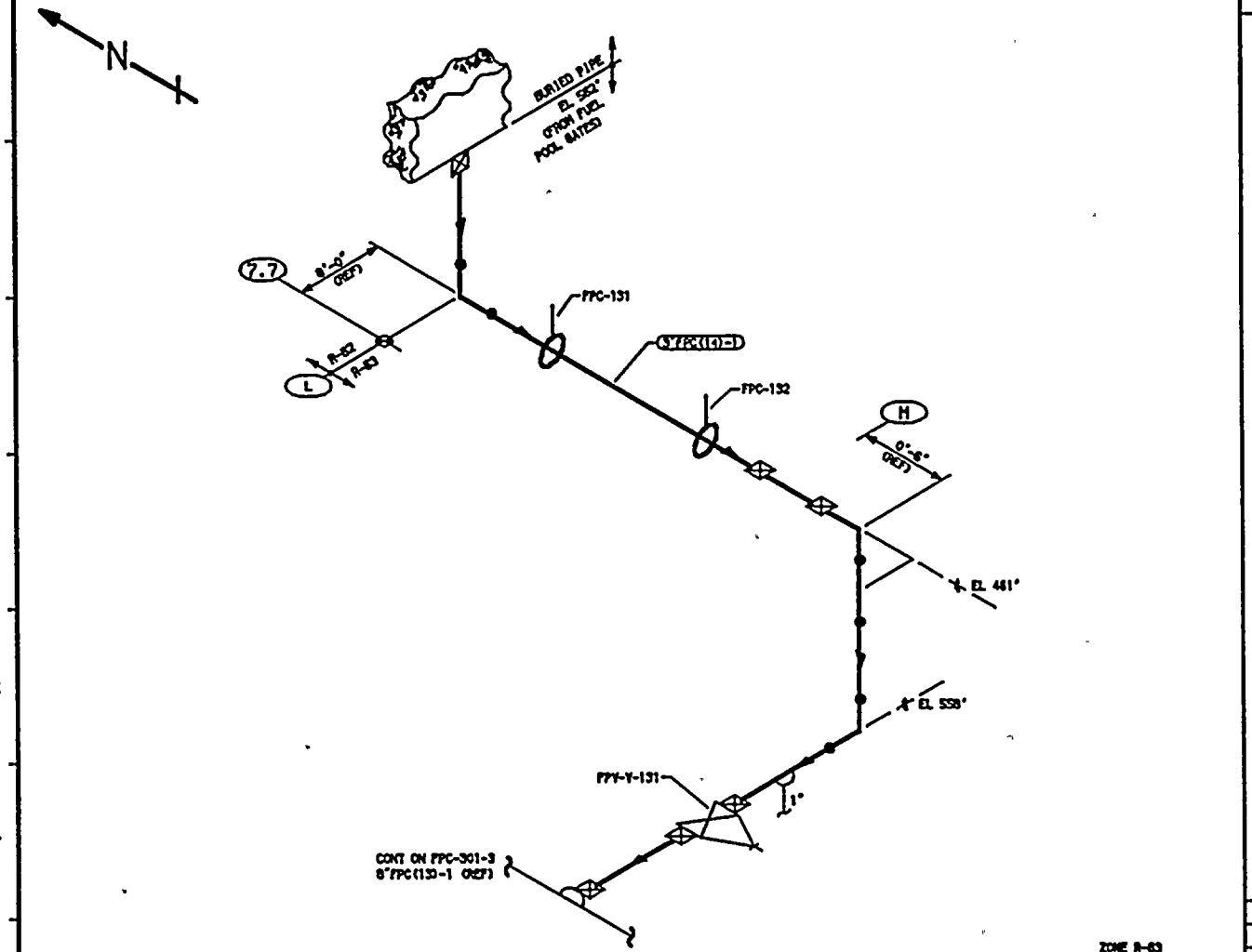
QUALITY CLASS: 2	ASME CODE CLASS: 3
ENGR: K-HoANDREN	DRAWN: K-HoA DATE: 11-19-85

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
FUEL POOL CIRCULATION TO EQUIPMENT DRAIN

DWG NO: FPC-3013 REV 0



ZONE R-63

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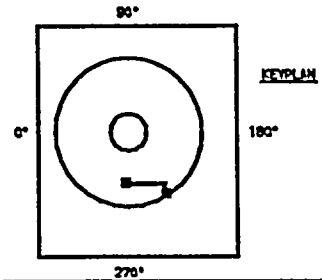
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

131 - 226-1

BOYCE & CRAIL ISOMETRIC
FPC-610-1 REV 8



QUALITY CLASS: 2	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 10-28-85	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON

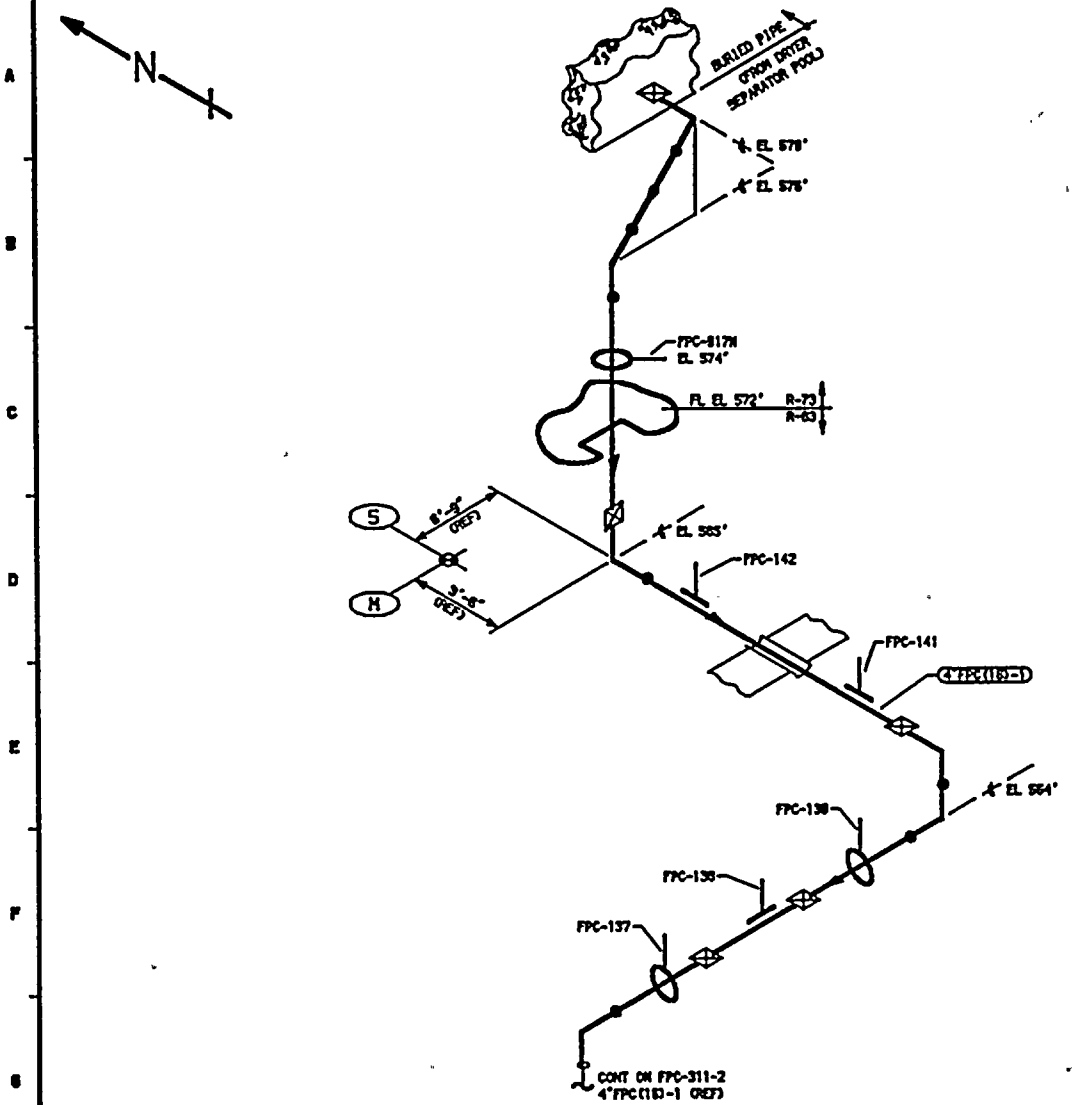
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"FPC(14)-1	3	STD	0.216	SA 106 GR B	CS	NA

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
FUEL POOL GATES TO FUEL POOL CIRCULATION

DWG NO: FPC-310 REV 0

NO	DATE	REVISION	BY	CHKD	APVD
0	10-16-87	ISSUED FOR USE	K-McA	DPR	TFH



ZONES R-73 & R-63

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

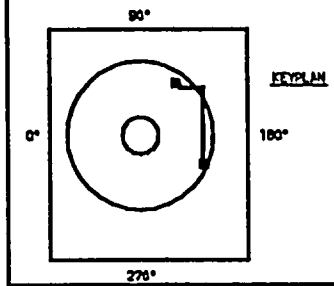
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.

REFERENCES:

ISI - 228-1

BOYCE & CRAIL ISOMETRIC
FPC-809-1.7 REV 5



QUALITY CLASS: 2	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA	DATE: 10-28-85

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON

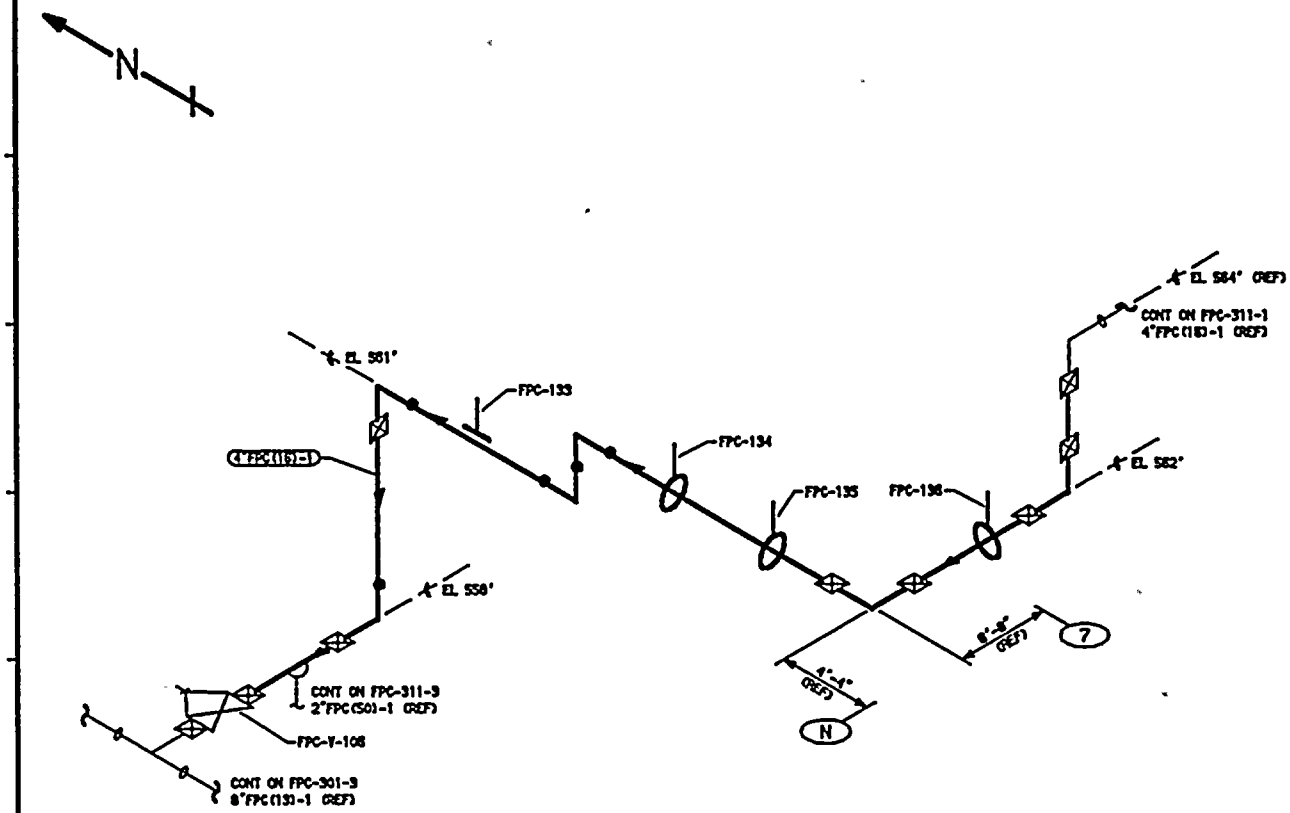
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
4"FPC(18)-1	4	STD	0.237	SA 106 GR B	CS	NA

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
DRYER SEPARATOR POOL TO FUEL POOL CIRCULATION

DWG NO: FPC-311-1 REV 0

NO	DATE	REVISION	BY	CHKD	APVD
0	10-16-87	ISSUED FOR USE	K-McA	DPR	TFH



NOTES:

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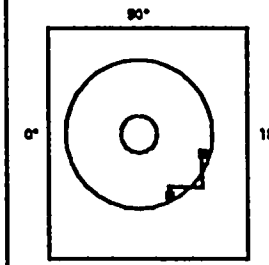
2. FOR BRANCH PIPING 4" NOM. OR LESS CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-1

BOYCE & CRAIL ISOMETRIC
FPC-603-1.7 REV 5



ZONE R-63

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
4"FPC(18)-1	4	STD	0.237	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-16-87	ISSUED FOR USE	K-McA	DPR	TPH

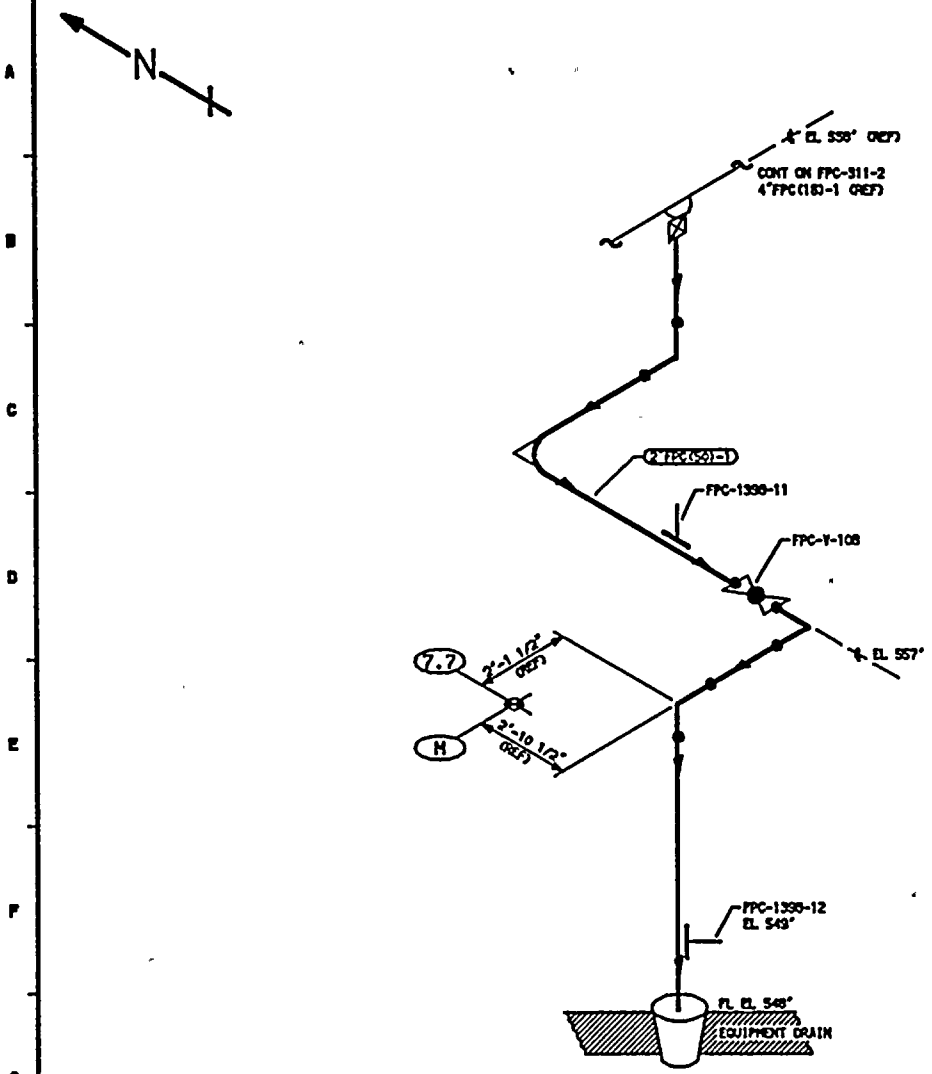
QUALITY CLASS: 2	ASME CODE CLASS: 3
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 10-29-85	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
DRYER SEPARATOR POOL TO FUEL POOL CIRCULATION

DWG NO: FPC-311-2 REV 0



ZONE R-63

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

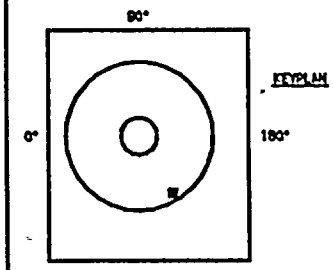
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.

REFERENCES:

ISI - 226-1

BOYCE & CRAIL ISOMETRIC
FPC-1398-1 REV 4



PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
2"FPC(50)-1	2	80	0.218	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-16-87	ISSUED FOR USE	K-MoA	DPR	TPH

QUALITY CLASS: 2 | ASME CODE CLASS: 3

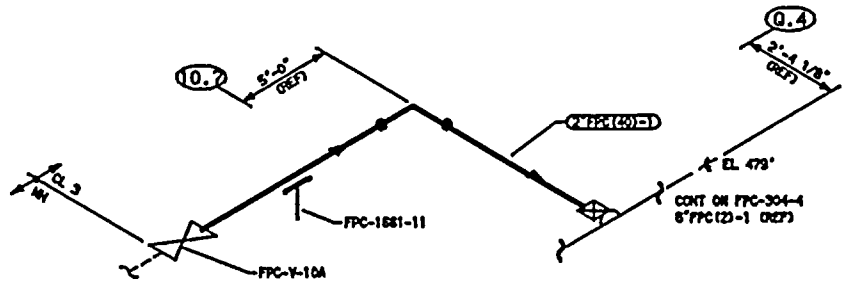
ENGR: K-McANDREW | DRAWN: K-MoA | DATE: 10-30-85

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
DRYER SEPARATOR POOL TO EQUIPMENT DRAIN

DWG NO: FPC-311-3 | REV 0



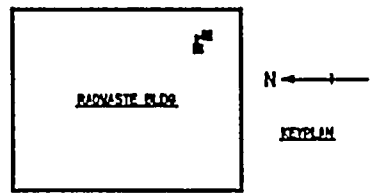
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS; (2) PRESSURE DECAY TESTS OF BURIED PIPING; AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.

REFERENCES:

ISI - 226-2

BOYCE & CRAIL ISOMETRIC
FPC-1681-1 REV 1



ZONE W-24

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
2"FPC(40)-1	2	80	0.218	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-16-87	ISSUED FOR USE	K-MoA	DPR	TFH

QUALITY CLASS: 2 | ASME CODE CLASS: 3

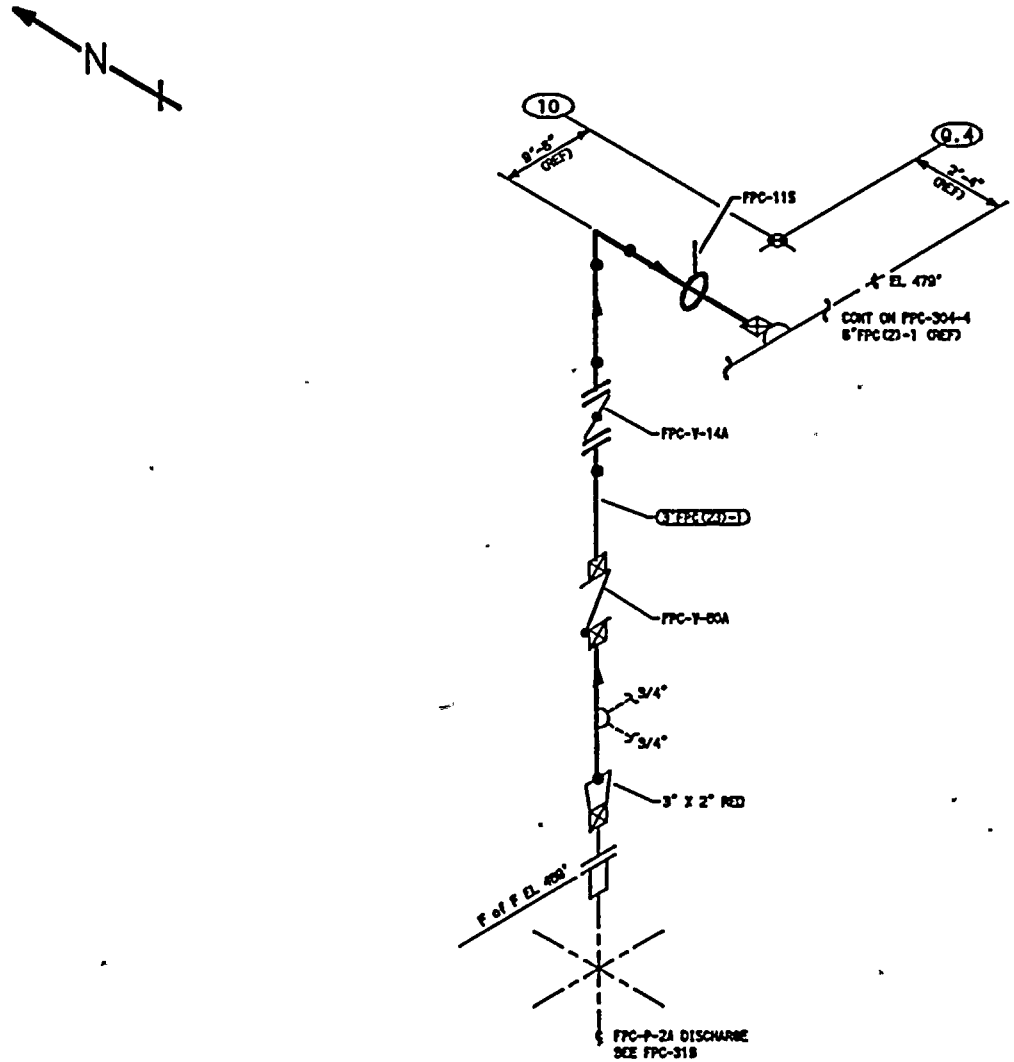
ENGR: K-MoANDREW | DRAWN: K-MoA | DATE: 11-13-85

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
CHEMICAL CLEANING TO FPC-DH-1A

DWG NO: FPC-312 | REV 0



ZONE M-24

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

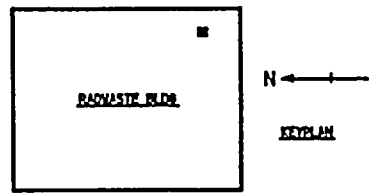
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAM FOR (1) EVIDENCE OF LEAKAGE DURING SYSTEM PRESSURE OR OPERABILITY TESTS, (2) PRESSURE DECAY TESTS OF BURIED PIPING, AND (3) LOSS OF SUPPORT CAPABILITY OR INADEQUATE RESTRAINT FOR SUPPORTS AND HANGERS ON PIPING EXCEEDING 4" NOM. TESTS SHALL BE CONDUCTED PER ASME SECTION XI, ARTICLES IWA-5000 AND IWD-2000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 226-2

BOYCE & CRAIL ISOMETRIC
FPC-689-1.3 REV 4



QUALITY CLASS: 2	ASME CODE CLASS: 2
ENGR: K-MoANDREN	DRAWN: K-MoA
	DATE: 10-31-85

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
HOLDING PUMP FPC-P-2A DISCHARGE

DWG NO: FPC-313 REV 0

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"FPC(2)3)-1	3	STD	0.216	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
0	10-18-87	ISSUED FOR USE	K-MoA	DPR	TFH

9.5 HPCS High Pressure Core Spray

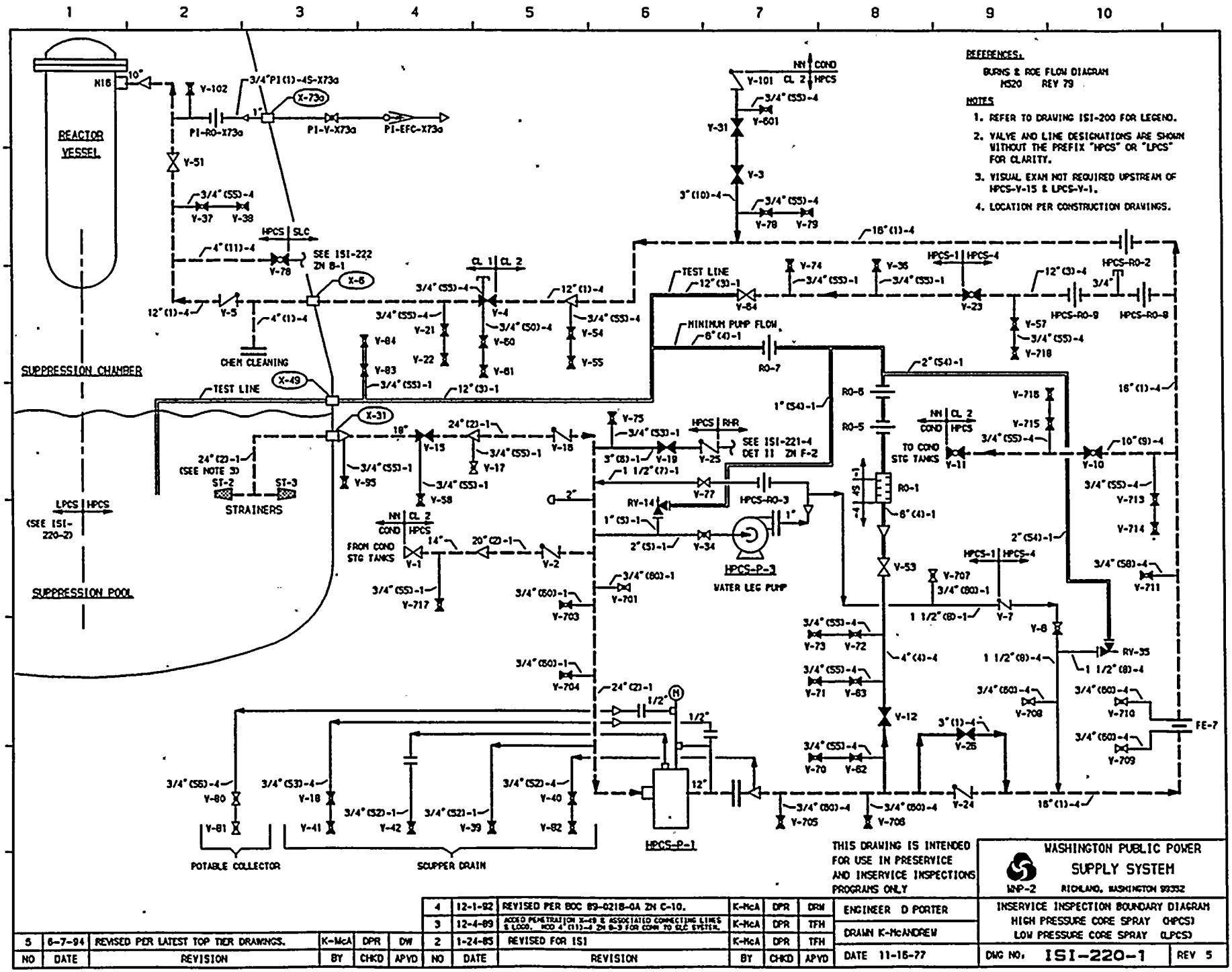
Boundary Diagram - ISI-220-1

Exemptions Applied:

IWB-1220		
(a)	No	
(b)(1)	Yes	All piping 1 NPS and smaller
(b)(2)	Yes	All components 1 NPS and smaller
(c)	No	
IWC-1221		
(a)	Yes	All piping 4 NPS and smaller
(b)	NA[1]	
(c)	Yes	All components 4 NPS and smaller
(d)	NA[1]	
(e)	NA[1]	
(f)	Yes. 6" HPCS(4)-1-1, 12" HPCS(3)-1-1	
IWC-1222	NA	
IWD-1220.1	NA	No Class 3 piping within HPCS system
IWD-1220.2	NA	No Class 3 piping within HPCS system
Code Case N-491		
-1230	Yes	6" HPCS(4)-1-1, 12" HPCS(3)-1-1

[1] WNP-2 is a BWR

9.5.2 Boundary Diagrams



NO	DATE	REVISION	BY	CHKD	APVD
5	6-7-94	REVISED PER LATEST TOP TIER DRAWINGS.	K-McA	DPR	DW
4	12-1-92	REVISED PER BOC 89-0218-0A ZN C-10.	K-McA	DPR	DRM
3	12-4-89	ADDED PENETRATION X-49 & ASSOCIATED CONNECTING LINES & LOOP. ADD 4"(11)-4 ZN B-3 FOR CONN TO SLC SYSTEM.	K-McA	DPR	TFH
2	1-24-85	REVISED FOR ISI	K-McA	DPR	TFH
NO	DATE	REVISION	BY	CHKD	APVD

9.5.3 . Examination Schedule

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-101												
	HPCS-PB-101(L)	LK PRES BNDRY	B-P	B15.50	VT-2	1	10	O	CE	1		
	HPCS-PB-101(H)	HYDRO PRES BNDR	B-P	B15.51	VT-2	3	19	E	CE	10		
	HPCS-V-4-BDY(L)	LK PRES BNDRY	B-P	B15.70	VT-2	1	10	O	CE	1		
	HPCS-V-4-BDY(H)	HYDRO PRES BNDR	B-P	B15.71	VT-2	3	19	E	CE	10		
01	HPCS-V-4-BDY	VALVE BODY	B-M-2	B12.50	VT-3			U	C	0		ANCHOR/DARLING, GATE,CONTAINMENT ISOLATION
	HPCS-V-4-BLT	VALVE BOLTING	B-G-2	B7.70	VT-1	2	16	81	CE	10		
	12HPCS(1)-1	VALVE TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	HPCS-42	SPRING	F-A	F1.10B	VT-3			31	C	0		
	12HPCS(1)-2	PIPE TO ELL	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	12HPCS(1)-3	ELL TO PEN	B-J	B9.11	SUR			>9	C	0		FITTING TO FITTING
					VOL			>9	C	0		FITTING TO FITTING
	12HPCS(1)-4	PEN TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	12HPCS(1)-5	PIPE TO ELL	B-J	B9.11	SUR			>9	C	0		
					VOL			>9	C	0		
	12HPCS(1)-5LDO	ELL SEAM	B-J	B9.12	SUR			L	C	0		
					VOL			L	C	0		
	12HPCS(1)-5LDI	ELL SEAM	B-J	B9.12	SUR			L	C	0		
					VOL			L	C	0		
	12HPCS(1)-6LUO	ELL SEAM	B-J	B9.12	SUR	1	10	L	CE	10		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-101												
01	12HPCS(1)-6LUO	ELL SEAM	B-J	B9.12	VOL	1	10	L	CE	10		
	12HPCS(1)-6LUI	ELL SEAM	B-J	B9.12	SUR	1	10	L	CE	10		
					VOL	1	10	L	CE	10		
	12HPCS(1)-6	ELL TO PIPE	B-J	B9.11	SUR	1	10	>91	CE	10		
					VOL	1	10	>91	CE	10		
	HPCS-907N	STRUT	F-A	F1.10A	VT-3			31	C	0		
	HPCS-911N	RIGID STRUT	F-A	F1.10A	VT-3	1	10	31	CE	10		
	HPCS-908N	STRUT	F-A	F1.10A	VT-3			31	C	0		
	12HPCS(1)-7	PIPE TO ELL	B-J	B9.11	SUR	1	10	>91	CE	10		
					VOL	1	10	>91	CE	10		
	12HPCS(1)-8	ELL TO PIPE	B-J	B9.11	SUR			>9	C	0		
					VOL			>9	C	0		
	12HPCS(1)-9	PIPE TO ELL	B-J	B9.11	SUR			>9	C	0		
					VOL			>9	C	0		
	12HPCS(1)-10	ELL TO PIPE	B-J	B9.11	SUR			>9	C	0		
					VOL			>9	C	0		
	HPCS-906N	SPRING	F-A	F1.10C	VT-3			31	C	0		
	HPCS-904N	SPRING	F-A	F1.10C	VT-3			31	C	0		
	12HPCS(1)-11	PIPE TO ELL	B-J	B9.11	SUR			>9	C	0		
					VOL			>9	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-101												
01	12HPCS(1)-12	ELL TO PIPE	B-J	B9.11	SUR			>9	C	0		
					VOL			>9	C	0		
	12HPCS(1)-13	PIPE TO ELL	B-J	B9.11	SUR			>9	C	0		
					VOL			>9	C	0		
	12HPCS(1)-14	ELL TO PIPE	B-J	B9.11	SUR			>9	C	0		
					VOL			>9	C	0		
	HPCS-66(W)	4 WELDED LUGS	B-K-1	B10.10	SUR	1	12	81	CE	10		3/4"Wx1 1/8"Hx3"L.
	HPCS-66	SPRING	F-A	F1.10B	VT-3	1	12	31	CE	10		
	HPCS-64(W)	4 WELDED LUGS	B-K-1	B10.10	SUR	2	14	81	CE	10		3/4"W x 2"H x 3"L.
	HPCS-64	< HANGER	F-A	F1.10A	VT-3			31	C	0		
	12HPCS(1)-14/4HPCS(1)-4	WOL TO PIPE	B-J	B9.31	SUR			>9	C	0		
					VOL			>9	C	0		
	4HPCS(1)-1BD	FLANGE BOLTING	B-G-2	B7.50	VT-1	2	16	81	CE	10		
	4HPCS(1)-1	FLANGE TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	4HPCS(1)-2	PIPE TO WOL	B-J	B9.11	SUR	3		<9	C	0		
					VOL	3		<9	C	0		
	12HPCS(1)-15	PIPE TO VLV	B-J	B9.11	SUR			>9	C	0		
					VOL			>9	C	0		
02	HPCS-V-5-BDY	VALVE BODY	B-M-2	B12.50	VT-3			U	C	0		VELAN, CHECK CONTAINMENT ISOLATION
	HPCS-V-5-BDY(L)	LK PRES BNDRY	B-P	B15.70	VT-2	1	10	0	CE	1		
	HPCS-V-5-BDY(H)	HYDRO PRES BNDR	B-P	B15.71	VT-2	3	19	E	CE	10		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-101												
02	HPCS-V-5-BLT	VALVE BOLTING	B-G-2	B7.70	VT-1	2	16	81	CE	10		
	12HPCS(1)-16	VLV TO PIPE	B-J	B9.11	SUR	1	12	>91	CE	10		
					VOL	1	12	>91	CE	10		
	4HPCS(11)-3	VALVE TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	4HPCS(11)-4	PIPE TO WOL	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	12HPCS(1)-16/4HPCS(11)-4	PIPE TO WOL	B-J	B9.31	SUR			>9	C	0		
					VOL			>9	C	0		
	12HPCS(1)-17	PIPE TO VLV	B-J	B9.11	SUR	1	12	>91	CE	10		
					VOL	1	12	>91	CE	10		
	HPCS-V-51-BDY	VALVE BODY	B-M-2	B12.50	VT-3			U	C	0		VELAN, GATE, SYSTEM ISOLATION
	HPCS-V-51-BDY(L)	LK PRES BNDRY	B-P	B15.70	VT-2	1	10	0	CE	1		
	HPCS-V-51-BDY(H)	HYDRO PRES BNDR	B-P	B15.71	VT-2	3	19	E	CE	10		
	HPCS-V-51-BLT	VALVE BOLTING	B-G-2	B7.70	VT-1	2	14	81	CE	10		
	12HPCS(1)-18	VLV TO PIPE	B-J	B9.11	SUR	1	12	>91	CE	10		
					VOL	1	12	>91	CE	10		
	12HPCS(1)-19	PIPE TO ELL	B-J	B9.11	SUR	3	17	>91	CE	10		
					VOL	3	17	>91	CE	10		
	10HPCS(1)-1	ELL TO PIPE	B-J	B9.11	SUR	3	17	>91	CE	10		
					VOL	3	17	>91	CE	10		
	10HPCS(1)-2	PIPE TO SE EXT	B-J	B9.11	SUR			<9	C	0		SEE RPV-109, NOZZLE N16

WNP-2
Interval 2
HPCS - High Pressure Core Spray

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-101												
02	10HPCS(1)-2	PIPE TO SE EXT	B-J	B9.11	VOL			<9	C	0		SEE RPV-109, NOZZLE N16
	10HPCS(1)-3	SE EXT TO SE	B-F	B5.130	SUR	3	17	81	CE	10		SEE RPV-105, NOZZLE N16
					VOL	3	17	8A	CGE	10		SEE RPV-105, NOZZLE N16
	10HPCS(1)-4	SE TO NOZZLE	B-F	B5.10	SUR	3	17	81	CE	10		SEE RPV-105, NOZZLE N16
					VOL	1	12	8D	CGE	3		SEE RPV-105, NOZZLE N16

Table 9.1.4
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Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-201												
	HPCS-PB-201(L)	LK PRES BNDRY	C-H	C7.30	VT-2	1	13	P	CE	3		
	HPCS-PB-201(H)	HYDRO PRES BNDR	C-H	C7.40	VT-2	3	19	E	CE	10		
	HPCS-PB-PUMP(L)	LK PRES BNDRY	C-H	C7.50	VT-2	1	13	P	CE	3		
	HPCS-PB-PUMP(H)	HYDRO PRES BNDR	C-H	C7.60	VT-2	3	19	E	CE	10		
01	24HPCS(2)-1	PEN TO RED	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	18HPCS(2)-1	RED TO VALVE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	18HPCS(2)-2	VALVE TO RED	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24HPCS(2)-2	RED TO VALVE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24HPCS(2)-3	VALVE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-900N	STRUT	F-A	F1.20A	VT-3			41	C	0		
	24HPCS(2)-4	PIPE TO ELBOW	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24HPCS(2)-5	ELBOW TO PIPE	C-F-2	C5.51	SUR	3	19	21	CE	10		
					VOL	3	19	21	CE	10		
	24HPCS(2)-6	PIPE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

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Pg	Identification No.	Description	Category	Item No.	Method	Per. Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-201											
01	HPCS-901N	BOX	F-A	F1.20A	VT-3		41	C	0		
	24HPCS(2)-7	PIPE TO ELBOW	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	24HPCS(2)-8	PIPE TO ELBOW	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	HPCS-52	ANCHOR	F-A	F1.20A	VT-3		41	C	0		
	24HPCS(2)-8/2CAP	BRANCH CONN	NA	NA	SUR		Z				
	24HPCS(2)-9	PIPE TO ELBOW	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
02	24HPCS(2)-10	PIPE TO ELBOW	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	24HPCS(2)-11	ELBOW TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	HPCS-46	SPRING	F-A	F1.20C	VT-3		41	C	0		
	24HPCS(2)-12	PIPE TO TEE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	20HPCS(2)-3	TEE TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	HPCS-45	SPRING	F-A	F1.20C	VT-3		41	C	0		
	20HPCS(2)-2	PIPE TO VALVE	C-F-2	C5.51	SUR		2	C	0		

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Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-201												
02	20HPCS(2)-2	PIPE TO VALVE	C-F-2	C5.51	VOL			2	C	0		
	20HPCS(2)-1	VALVE TO RED	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	14HPCS(2)-1	RED TO VALVE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24HPCS(2)-13	TEE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-47	PSA-3 SNUBBER	F-A	F1.20D	VT-3	2	16	41	CE	10		
	HPCS-48	STRUT	F-A	F1.20A	VT-3			41	C	0		
	HPCS-49	STRUT	F-A	F1.20A	VT-3			41	C	0		
	24HPCS(2)-14	PIPE TO FLANGE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24HPCS(2)-15	FLANGE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24HPCS(2)-16	PIPE TO FLANGE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24HPCS(2)-17	FLANGE TO PIPE	C-F-2	C5.51	SUR	3	19	21	CE	10		
					VOL	3	19	21	CE	10		
	24HPCS(2)-18	PIPE TO ELBOW	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24HPCS(2)-19	ELBOW TO PIPE	C-F-2	C5.51	SUR			2	C	0		

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Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-201												
02	24HPCS(2)-19	ELBOW TO PIPE	C-F-2	C5.51	VOL			2	C	0		
	24HPCS(2)-20	PIPE TO NOZZLE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-P-1(CS)	PUMP BASE	F-A	F1.40A	VT-3	1	10	61	CE	10		

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Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-202												
	HPCS-PB-202(L)	LK PRES BNDRY	C-H	C7.30	VT-2	1	21	P	CE	3		
	HPCS-PB-202(H)	HYDRO PRES BNDR	C-H	C7.40	VT-2	3	19	E	CE	10		
01	12HPCS(1)-1A	FLANGE TO RED	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-1	RED TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-1	SPRING	F-A	F1.20C	VT-3			41	C	0		
	16HPCS(1)-2	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-2/4(4)-4	BRANCH CONN	NA	NA	SUR					0		
	16HPCS(1)-2/3(1)-4	BRANCH CONN	NA	NA	SUR			Z				
	16HPCS(1)-3	PIPE TO VLV	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-4	VLV TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-4/3(1)-4	BRANCH CONN	NA	NA	SUR			Z				
	16HPCS(1)-5	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-6	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

Table 9.1.4
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Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-202												
01	16HPCS(1)-7	ELL TO PIPE	C-F-2	C5.51	SUR	2	15	21	CE	10		
					VOL	2	15	21	CE	10		
	HPCS-23	SPRING	F-A	F1.20C	VT-3	2	15	41	CE	10		
	HPCS-21	RIGID	F-A	F1.20A	VT-3	2	15	41	CE	10		
	16HPCS(1)-8	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
02	16HPCS(1)-9	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-10	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-11	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-20	RIGID	F-A	F1.20A	VT-3			41	C	0		
	16HPCS(1)-12	PIPE TO FLANGE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-13	FLANGE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-14	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-15	ELL TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

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Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-202												
02	16HPCS(1)-16	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-17	PIPE TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-44	SPRING	F-A	F1.20C	VT-3	1	10	41	CE	10		
	16HPCS(1)-18	TEE TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	12HPCS(3)-1A	TEE TO RO	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	12HPCS(3)-1B	RO TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	12HPCS(3)-1C	PIPE TO RO	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	12HPCS(3)-3A	RO TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-13	ANCHOR	F-A	F1.20A	VT-3	1	10	41	CE	10		
	12HPCS(3)-4	PIPE TO VALVE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	12HPCS(3)-5	VALVE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	12HPCS(3)-6	PIPE TO VALVE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

WNP-2
Interval 2
HPCS - High Pressure Core Spray

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Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-202												
02	16HPCS(1)-19	TEE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-15	ANCHOR	F-A	F1.20A	VT-3	1	10	41	CE	0		
	16HPCS(1)-20	PIPE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-21	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-22	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-903N	STRUT	F-A	F1.20A	VT-3			41	C	0		
	HPCS-24	STRUT	F-A	F1.20A	VT-3			41	C	0		
03	10HPCS(9)-5	PIPE TO VLV	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-17	STRUT	F-A	F1.20A	VT-3			41	C	0		
	10HPCS(9)-4	VLV TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	10HPCS(9)-3	ELL TO VLV	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	10HPCS(9)-2	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

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Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-202												
03	HPCS-16	STRUT	F-A	F1.20A	VT-3			41	C	0		
	HPCS-18	STRUT	F-A	F1.20A	VT-3			41	C	0		
	10HPCS(9)-1	TEE TO PIPE	C-F-2	C5.51	SUR	1	11	21	CE	10		
					VOL	1	11	21	CE	10		
04	16HPCS(1)-23	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-24	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-25	SPRING	F-A	F1.20C	VT-3			41	C	0		
	16HPCS(1)-25	PIPE TO ELL	C-F-2	C5.51	SUR	2		2	C	0		
					VOL	2		2	C	0		
	16HPCS(1)-26	ELL TO PIPE	C-F-2	C5.51	SUR	2		2	C	0		
					VOL	2		2	C	0		
	HPCS-26	STRUT	F-A	F1.20A	VT-3	2	15	41	CE	10		
	16HPCS(1)-27	PIPE TO ELL	C-F-2	C5.51	SUR	2	15	21	CE	10		
					VOL	2	15	21	CE	10		
	16HPCS(1)-28	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-29	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-30	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		

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Pg	Identification No.	Description	Category	Item No.	Method	Per. Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-202											
04	16HPCS(1)-30	ELL TO PIPE	C-F-2	C5.51	VOL		2	C	0		
	HPCS-27	STRUT	F-A	F1.20A	VT-3		41	C	0		
	HPCS-28	BOX	F-A	F1.20A	VT-3		41	C	0		
	HPCS-917N	STRUT	F-A	F1.20A	VT-3		41	C	0		
	HPCS-915N	STRUT	F-A	F1.20A	VT-3		41	C	0		
	16HPCS(1)-31	PIPE TO ELL	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	HPCS-909N	STRUT	F-A	F1.20A	VT-3		41	C	0		
	16HPCS(1)-32	ELL TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	16HPCS(1)-33	PIPE TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	16HPCS(1)-34	PIPE TO ELL	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	16HPCS(1)-35	ELL TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	16HPCS(1)-36	PIPE TO ELL	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
05	16HPCS(1)-37	ELL TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		

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Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-202												
05	HPCS-31	STRUT	F-A	F1.20A	VT-3			41	C	0		
	HPCS-32	SPRING	F-A	F1.20C	VT-3			41	C	0		
	HPCS-33	BOX/STRUT	F-A	F1.20A	VT-3			41	C	0		
	16HPCS(1)-38	PIPE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-34	SPRING	F-A	F1.20C	VT-3			41	C	0		
	HPCS-916N	BOX	F-A	F1.20A	VT-3			41	C	0		
	16HPCS(1)-39	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-40	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	HPCS-35	SPRING	F-A	F1.20C	VT-3			41	C	0		
	16HPCS(1)-41	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-42	ELL TO PIPE	C-F-2	C5.51	SUR	3	17	21	CE	10		
					VOL	3	17	21	CE	10		
	HPCS-37	ANCHOR	F-A	F1.20A	VT-3			41	C	0		
	HPCS-38	SPRING	F-A	F1.20C	VT-3			41	C	0		
	16HPCS(1)-43	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

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Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-202												
06	HPCS-40	STRUT	F-A	F1.20A	VT-3			41	C	0		
	16HPCS(1)-44	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-45	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-46	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-47	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-48	ELL TO FLANGE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-49	FLANGE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16HPCS(1)-49/3(10)-4	BRANCH CONN	NA	NA	SUR			2				
	HPCS-925N	PSA-3 SNUBBER	F-A	F1.20D	VT-3			4	C	0		
	HPCS-905N	PSA-10 SNUBBER	F-A	F1.20D	VT-3			4	C	0		
	HPCS-924N	PSA-3 SNUBBER	F-A	F1.20D	VT-3			4	C	0		
	16HPCS(1)-50	PIPE TO RED	C-F-2	C5.51	SUR	3	19	21	CE	10		
					VOL	3	19	21	CE	10		
	12HPCS(1)-51	RED TO VALVE	C-F-2	C5.51	SUR			2	C	0		

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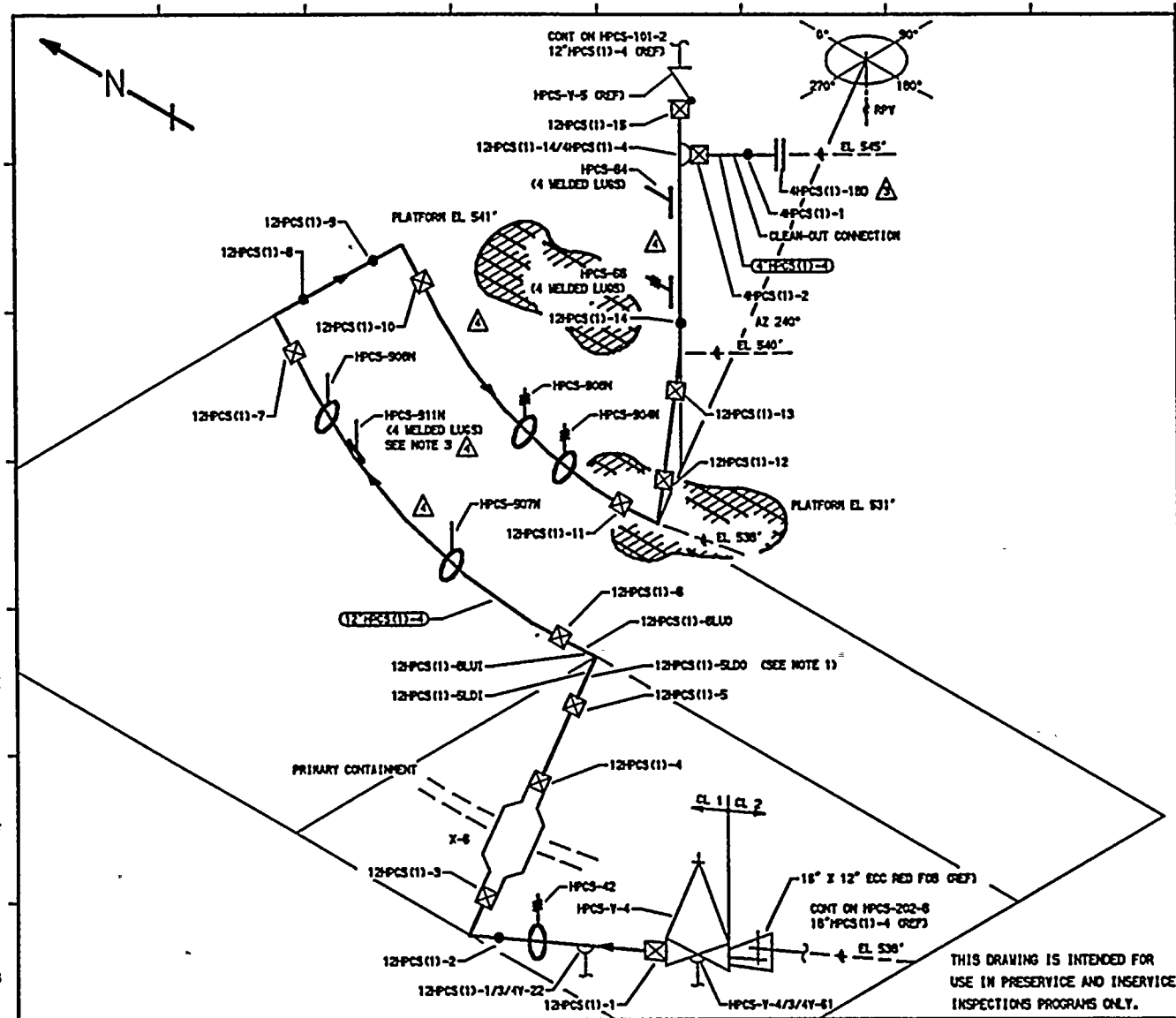
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-202												
06	12HPCS(1)-51	RED TO VALVE	C-F-2	C5.51	VOL			2	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. HPCS-205												
01	HPCS-7	ANCHOR	NA	NA	NA							
02	HPCS-921N	STRUT	NA	NA	NA							
	HPCS-12	STRUT	NA	NA	NA							
	HPCS-922N	STRUT	NA	NA	NA							

9.5.4 Weld and Component Diagrams



THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

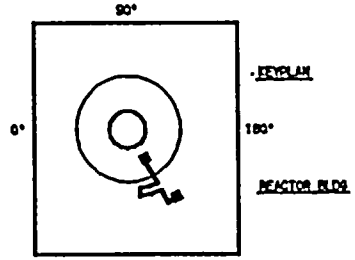
NOTES:

1. PIPING SYSTEM 12"HPCS(1)-4 IS CONSTRUCTED OF SEAMLESS SCH 80 PIPE AND FITTINGS EXCEPT FOR THE SR ELL ASSOCIATED WITH WELDS 12HPCS(1)-5 & 6 WHICH IS WELDED SCH 100. USE THE CAL BLOCKS SHOWN BELOW ACCORDINGLY.
2. WELD 4HPCS(1)-18U WAS CHANGED TO 4HPCS(1)-18D TO BE CONSISTANT WITH THE EXAMINATION SCHEDULE.
3. HPCS-811N CHANGED FROM SNUBBER TO STRUT PER EDC 86-0525-GF-022.
4. HPCS-63, HPCS-810N & HPCS-812N WERE DELETED PER EDC 86-0525-GF-022.

REFERENCES:

ISI - 220-1

BOYEE & CRAIL ISOMETRICS
HPCS-630-28,28 REV 10
HPCS-630-29-30 REV 11



NO	DATE	REVISION	BY	CHKD	APVD
4	11-13-92	ADDED NOTES 3 & 4. MODIFIED ACCORDINGLY.	K-McA	DPR	DRV
3	2-20-92	ADDED ISI DWG REF, DWG LINE CONT, LOCA, NOTE 2 & "R" TO HPCS-908 & 911, MODIFIED HPCS-810N & HPCS-63, DELETED VT-4B.	K-McA	OJ	DPR
2	5-24-83	ADDED SUPPORTS/RESTRAINTS, ADDED LUGS & UT-4B DELETED S/WELDS CREDRAWD	K-McA	DPR	TFH
1	12-2-81	CORRECTED VALVE TAG NO. ZN A-4	K-McA	DPR	TFH
0	11-27-78	ISSUED FOR USE CREDRAWD	K-McA	DNP	LFB
A	11-28-77	ISSUED FOR INFORMATION ONLY	K-McA	DNP	DNP

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
12"HPCS(1)-4	12	80	0.688	SA 106 GR B	CS	UT-17
12"HPCS(1)-4	12	100	0.844	SA 106 GR B	CS	UT-18
4"HPCS(1)-4	4	80	0.337	SA 106 GR B	CS	UT-30

QUALITY CLASS: 1 | ASME CODE CLASS: 1

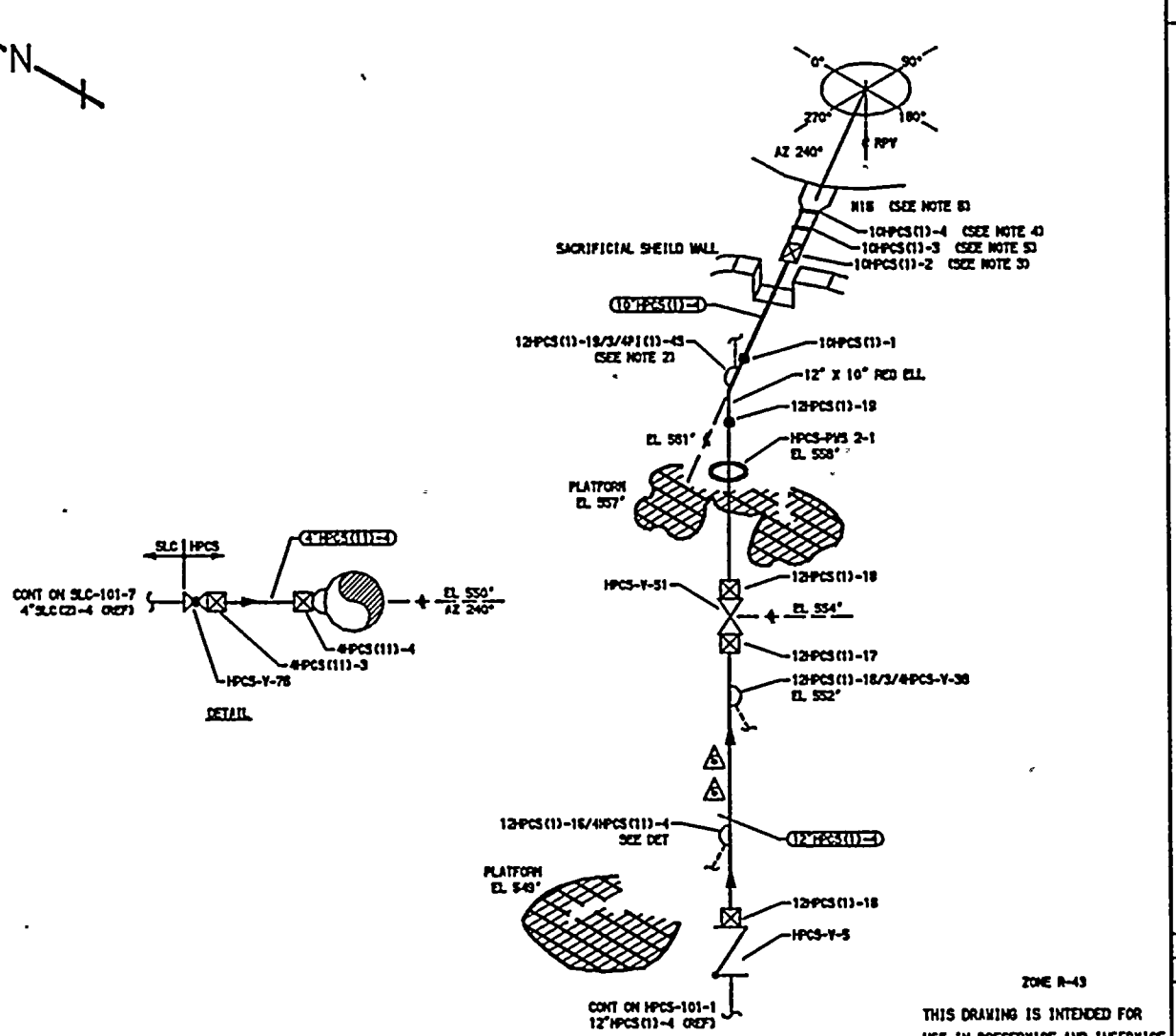
ENGR: GA KUGLER | DRAWN: K-McA | DATE: 11-1-77

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE: HPCS DISCHARGE TO VESSEL

DWG NO. HPCS-101-1 | REV 4



ZONE R-49

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

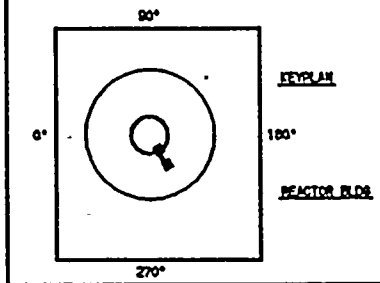
NOTES:

1. DELETED
2. EXTEND VISUAL LEAKAGE EXAM THROUGH CONTAINMENT PENETRATION (X-73a) THROUGH EXCESS FLOW CHECK VALVE TO INSTRUMENT TUBING CONNECTION.
3. DISTANCE BETWEEN WELDS 10HPCS(1)-2 AND 10HPCS(1)-3 IS LESS THAN 6".
4. DISSIMILAR METAL WELD, CS TO INCO, USE CAL BLOCK UT-102.
5. DISSIMILAR METAL WELD, CS TO INCO, USE CAL BLOCK UT-106.
6. FOR NOZZLE ASSEMBLY DETAILS SEE RPV-109.
7. HPCS-81BN & HPCS-81BN WERE DELETED PER DOC 86-0525-GF-022.

REFERENCES:

ISI - 220-1

BOYEE AND CRAIL ISOMETRICS
HPCS-630-29-30 REV 11
HPCS-630-31.33 REV 11



						PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
6	11-13-92	ADDED NOTE 7. MODIFIED ACCORDINGLY.	K-HoA	DPR	DRW							
5	12-4-89	SYSTEM CHANGE AT HPCS-V-76, ADDED DWG LINE CONTINUATION, & LOOO, MODIFIED KEYPLAN, REDRAWN	K-HoA	DPR	TFH	12"HPCS(1)-4	12	80	0.688	SA 106 GR B	CS	UT-17
4	5-24-83	ADDED SHIELDING 81BN & 81BN, REMOVED 3/4LOC, ADDED 4"HPCS(11)-4, ADDED UT-30 REDRAWN	K-HoA	DPR	TFH	10"HPCS(1)-4	10	80	0.594	SA 106 GR B	CS	UT-22
3	12-2-81	REVISED AS NOTED	K-HoA	DPR	TFH	4"HPCS(11)-4	4	80	0.377	SA 106 GR B	CS	UT-30
2	7-17-79	DELETED NOTE 5 AND REF TO WELDS IN REDUCING ELBOW, AS BUILT ELBOW IS SEAMLESS. IN C-6	K-HoA	TFH / DPR	LFB							
NO	DATE	REVISION	BY	CHKD	APVD							

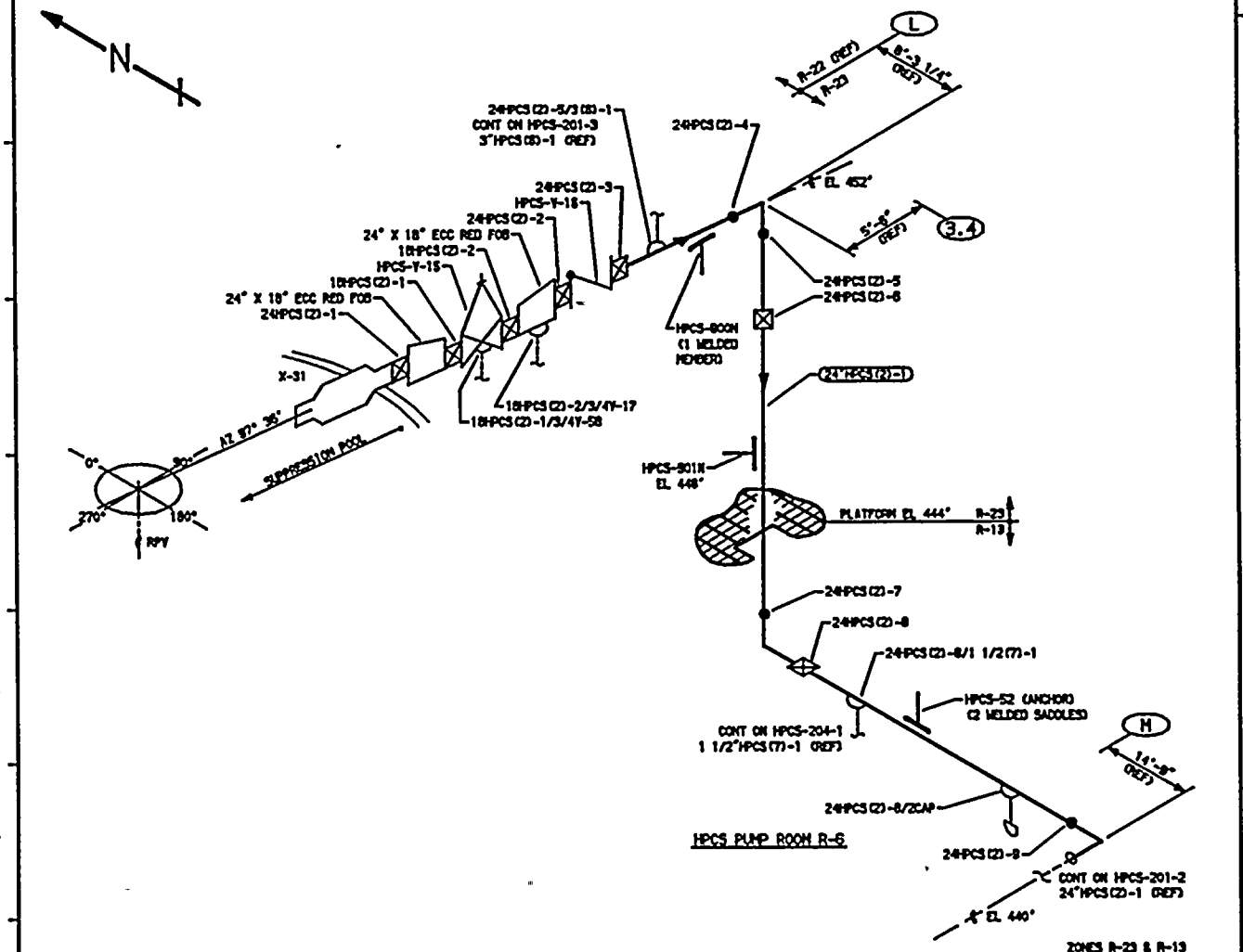
QUALITY CLASS: 1	ASME CODE CLASS: 1
ENGR: GA KUGLER	DRAWN: K-HoA DATE: 11-2-77

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
HPCS DISCHARGE TO YESSEL

DWG NO: HPCS-101-2 REV 6

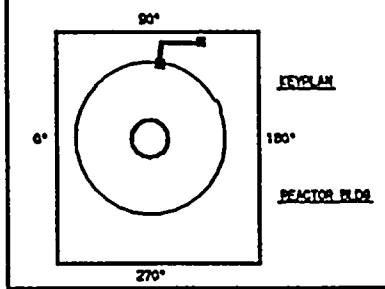


THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-1

BOYEE & CRAIL ISOMETRIC HPCS-629-1.4 REV 9



QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: GA KUGLER	DRAWN: K-McA
	DATE: 8-4-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

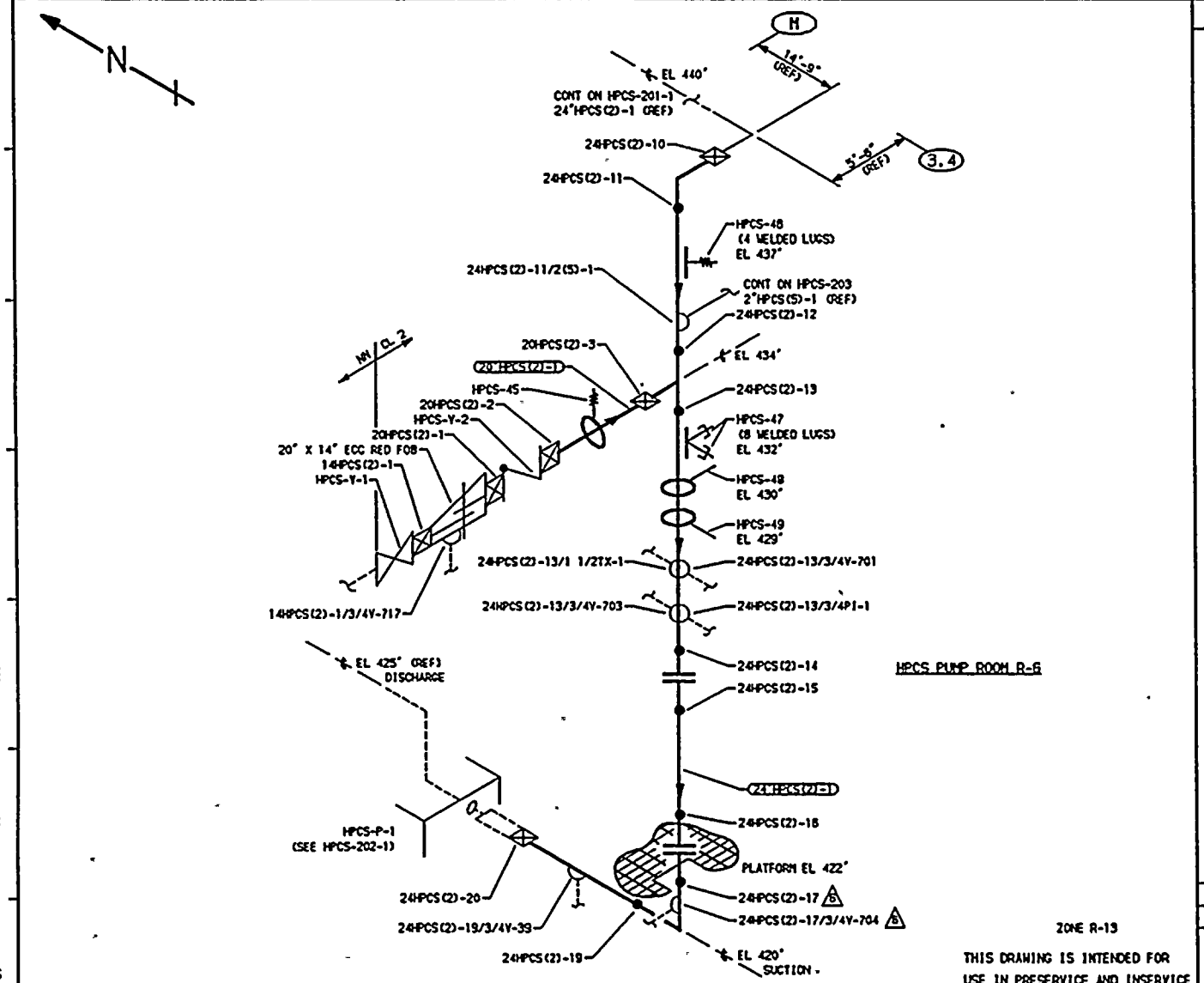
WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
HPCS PUMP SUPPRESSION POOL SUCTION LINE

DWG NO. HPCS-201-1 REV 3

NO	DATE	REVISION	BY	CHKD	APVD
3	12-4-83	ADDED UT-50, UT-20, LOOO & DWG LINE CONT ZN F-6.	K-McA	DPR	TFH
2	4-24-85	REVISED FOR ISI	K-McA	DPR	TFH
1	5-24-83	ADDED HPCS-800N & 801N, DELETED HPCS-60, 61, 64, 66 & 68 ADDED FIELD WELD, ADDED 3" SOL. ORIFICING	K-McA	DPR	TFH
0	12-22-78	ISSUED FOR USE	K-McA	TFH / DMP	LPB
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-McA	GAK	DMP

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
24"HPCS(2)-1	24	STD	0.375	SA 106 GR B	CS	UT-50
18"HPCS(2)-1	18	STD	0.375	SA 106 GR B	CS	UT-20

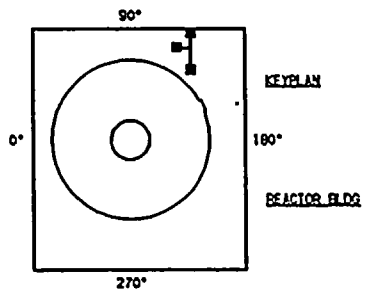


THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-1

BOVEE & CRAIL ISOMETRIC
HPCS-829-5.7 REV 12



QUALITY CLASS: 1	ASME CODE CLASS: 2	
ENGR: GA KUGLER	DRAWN: K-McA	DATE: 8-9-78

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

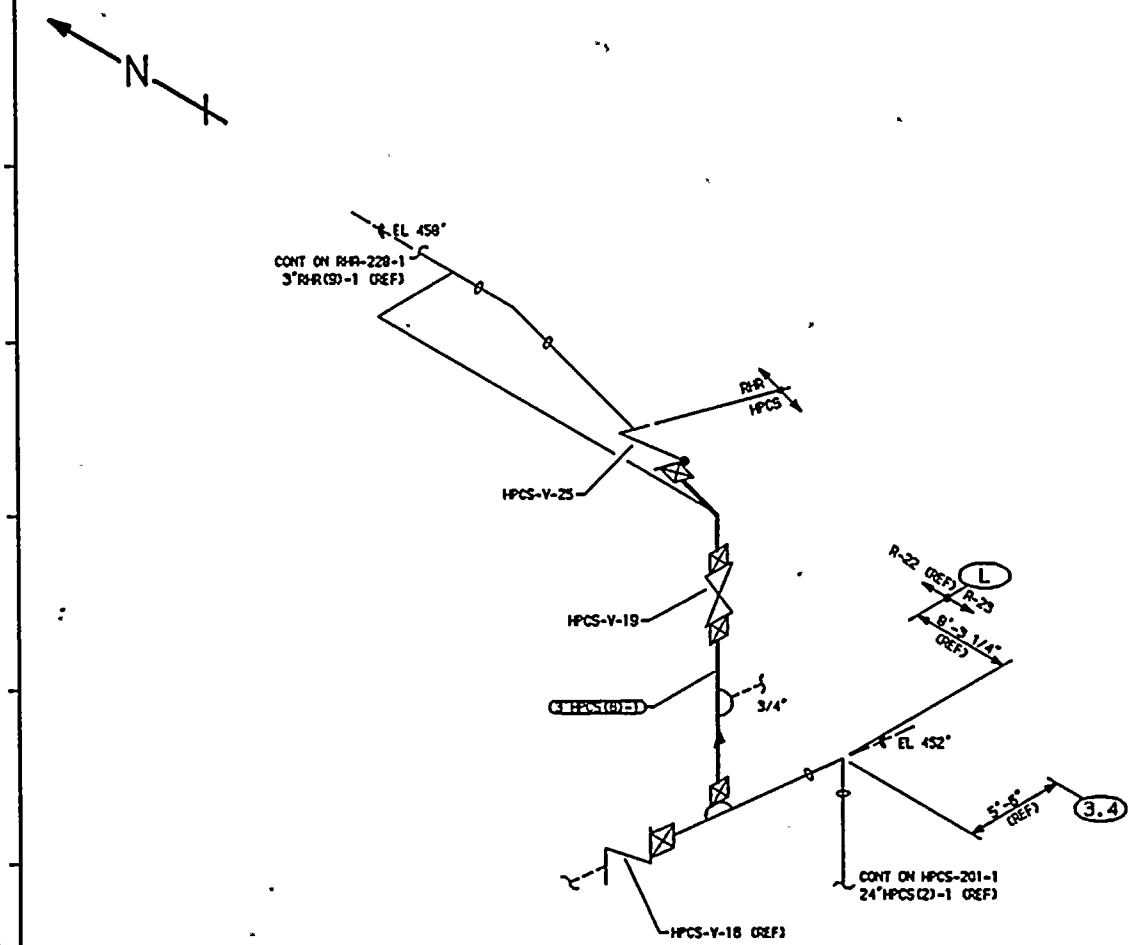
WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
HPCS PUMP SUPPRSSION POOL SUCTION LINE

DWG NO. HPCS-201-2 REV 6

NO	DATE	REVISION	BY	CHKD	APVD
6	9-22-94	CORRECTION BETWEEN ELBOW AND FLANGE ZN F-5.	K-McA	DPR	DW
5	6-7-94	CORRECTED CONTINUATION & LINE REFERENCE ZN C-6. REMOVED HPCS-ST-1 PER BDC 85-0052-0A ZN E-6.	K-McA	DPR	DW
4	9-15-93	ADDED 2"CONN FOR P-3 SUCTION ZN C-5 & 3/4" CONN ZN D-3	K-McA	DPR	DRW
3	12-4-89	ADDED UT-50, UT-45, UT-38 AND LOGO. MOD KEYPLAN.	K-McA	DPR	TFH
2	4-24-85	REVISED FOR ISI	K-McA	DPR	TFH

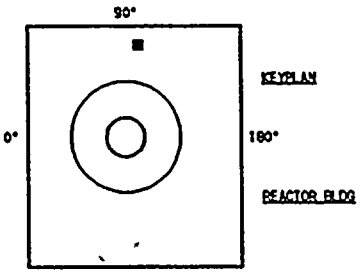
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
24"HPCS(2)-1	24	STD	0.375	SA 106 GR B	CS	UT-50
20"HPCS(2)-1	20	STD	0.375	SA 106 GR B	CS	UT-45
14"HPCS(2)-1	14	STD	0.375	SA 106 GR B	CS	UT-38



REFERENCES:

ISI - 220-1

BOYEE & CRAIL ISOMETRIC
HPCS-829-1.4 REV 9



QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 6-3-85	

ZONE R-23

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

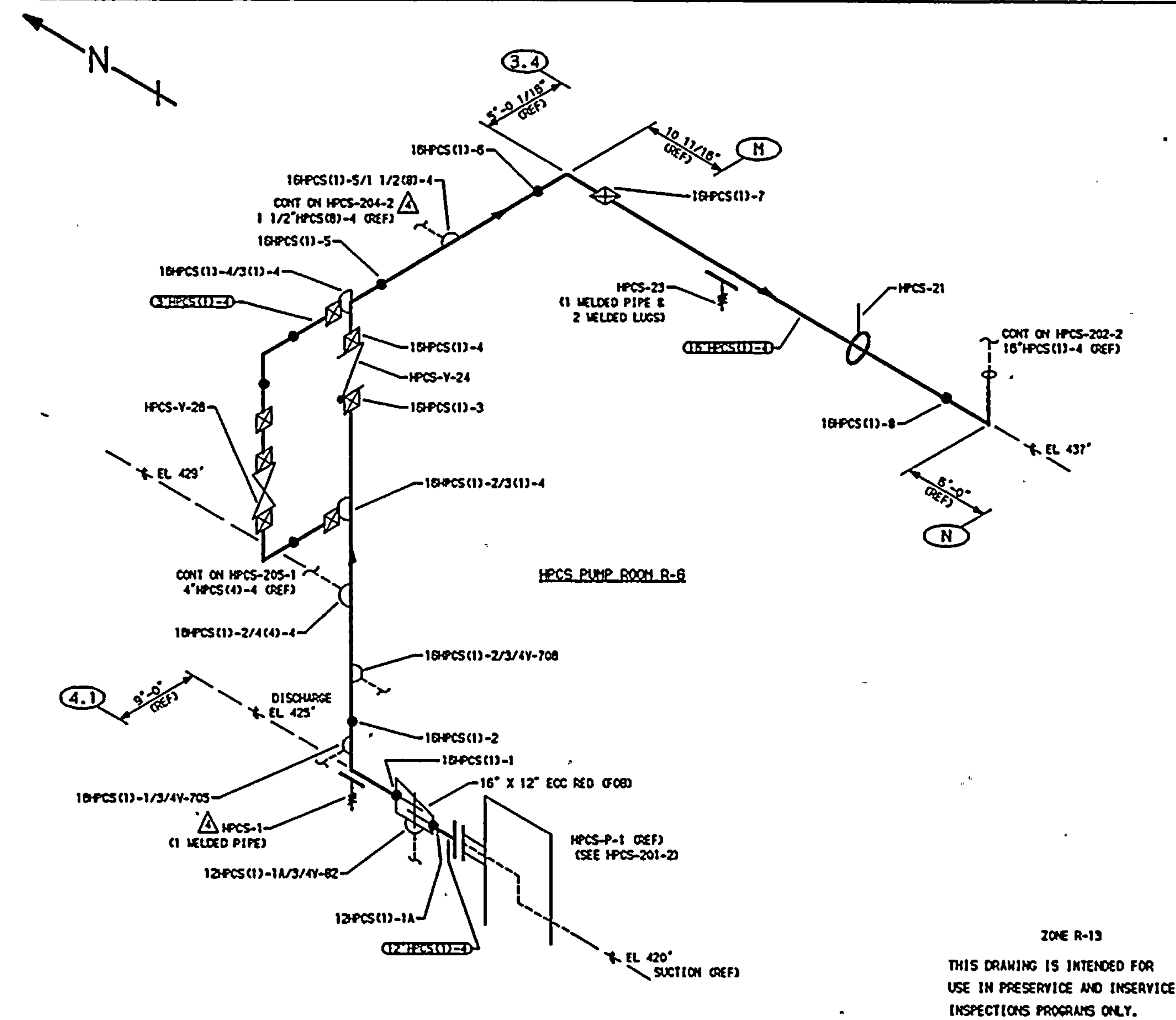
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"HPCS(B)-1	3	40	0.216	SA 106 GR B	CS	NA

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
HPCS PUMP SUPPRSSION POOL SUCTION LINE
FLUSHING OUT CONNECTION

DWG NO. HPCS-201-3 REV 1

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	ADDED LOGO, EL 458' MOD ISI DWG REF & KEYPLAN	K-McA	DPR	DRV
0	1-23-86	ISSUED FOR USE	K-McA	DPR	TFH



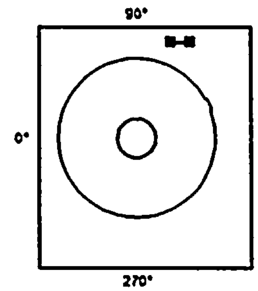
ZONE R-13

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-2

BOYEE & CRAIL ISOMETRICS
HPCS-830-1.4 REV 15
HPCS-830-7.10 REV 10



KEYPLAN

REACTOR BLDG

QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: GA KUGLER	DRAWN: K-McA / DATE: 8-9-78

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

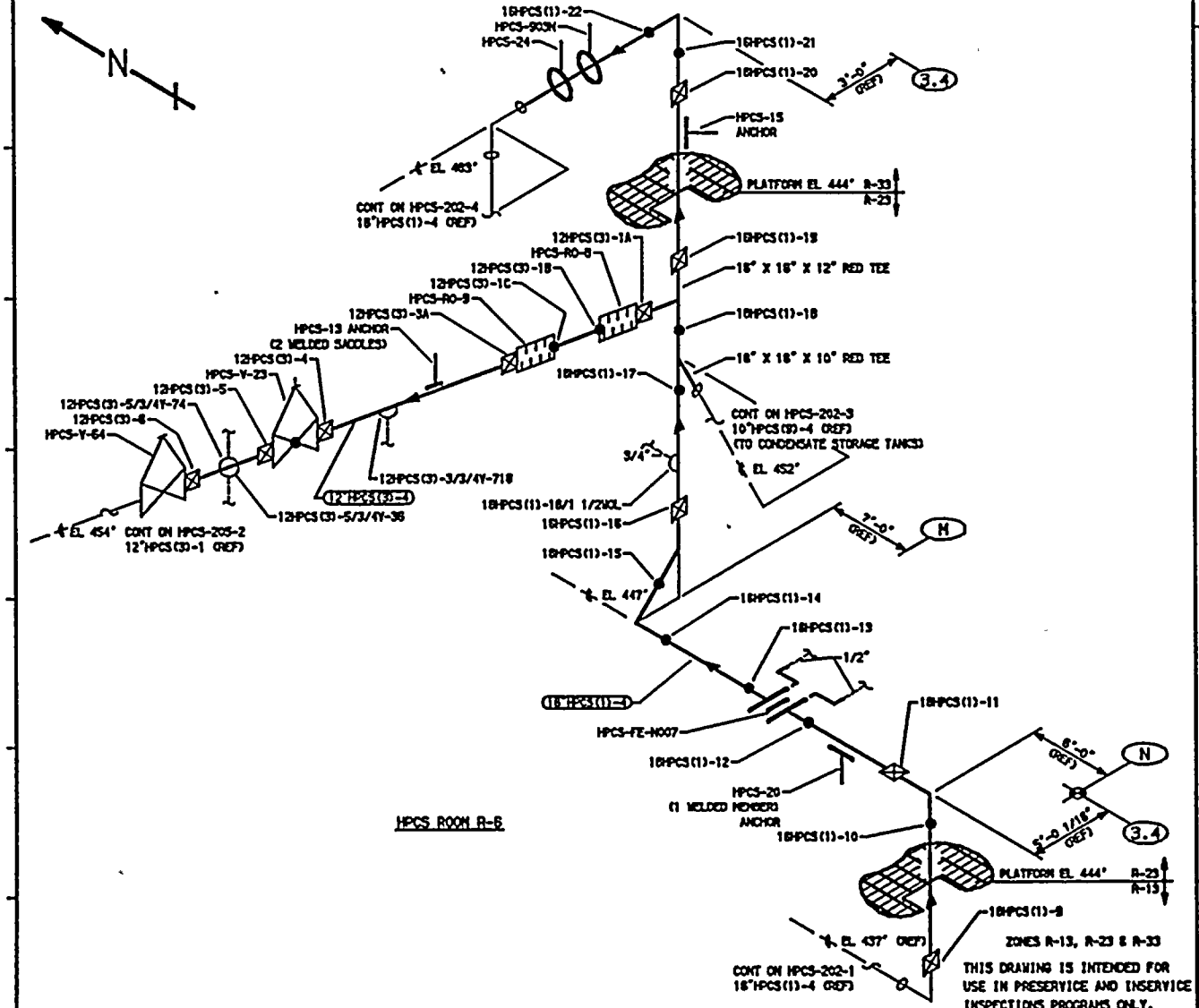
WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE: HPCS-PUMP-1 DISCHARGE

DWG NO. HPCS-202-1 REV 4

NO	DATE	REVISION	BY	CHKD	APVD
4	6-7-94	CORRECTD HANGER TEXT ZN F-2 & AS NOTED.	K-McA	DPR	DW
3	11-13-92	CORRECTED CONT ZN B-2 ADDED LOGO MOD KEYPLAN	K-McA	DPR	DRW
2	1-23-86	ADD 3"HPCS(1)-4, CONT DWG, UT-49, UT-16, DEL NOTES, REDRAWN	K-McA	DPR	TFH
1	5-24-83	NUMBERED WELDS, ADDED RO-4, DELETED HPCS-13 & 14 ADDED HPCS-903N, RELOCATED HPCS-15 (REDRAWN)	K-McA	DPR	TFH
0	12-22-78	ISSUED FOR USE	K-McA	TFH / DWP	LFB
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-McA	GAK	DWP

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
16"HPCS(1)-4	16	100	1.031	SA 106 GR B	CS	UT-49
12"HPCS(1)-4	12	100	0.844	SA 106 GR B	CS	UT-16
3"HPCS(1)-4	3	160	0.438	SA 106 GR B	CS	NA



NOTES:

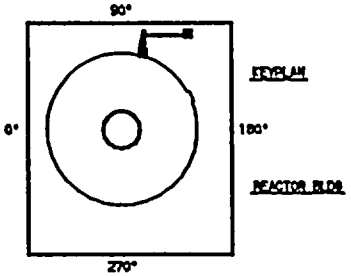
1. HPCS-RO-8 & HPCS-RO-9 REPLACED HPCS-RO-4 PER EDC 89-0218-0M. SEE SEC XI REPAIR PLAN 2-0731.

REFERENCES:

ISI - 220-1

BOYEE & CRAIL ISOMETRICS

HPCS-630-7.10	REV 9
HPCS-630-11.12	REV 11
HPCS-630-13.19	REV 8
HPCS-832-1.3	REV 14



QUALITY CLASS: 1	ASME CODE CLASS: 2	
ENGR: GA KUGLER	DRAWN: K-McA	DATE: 8-10-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

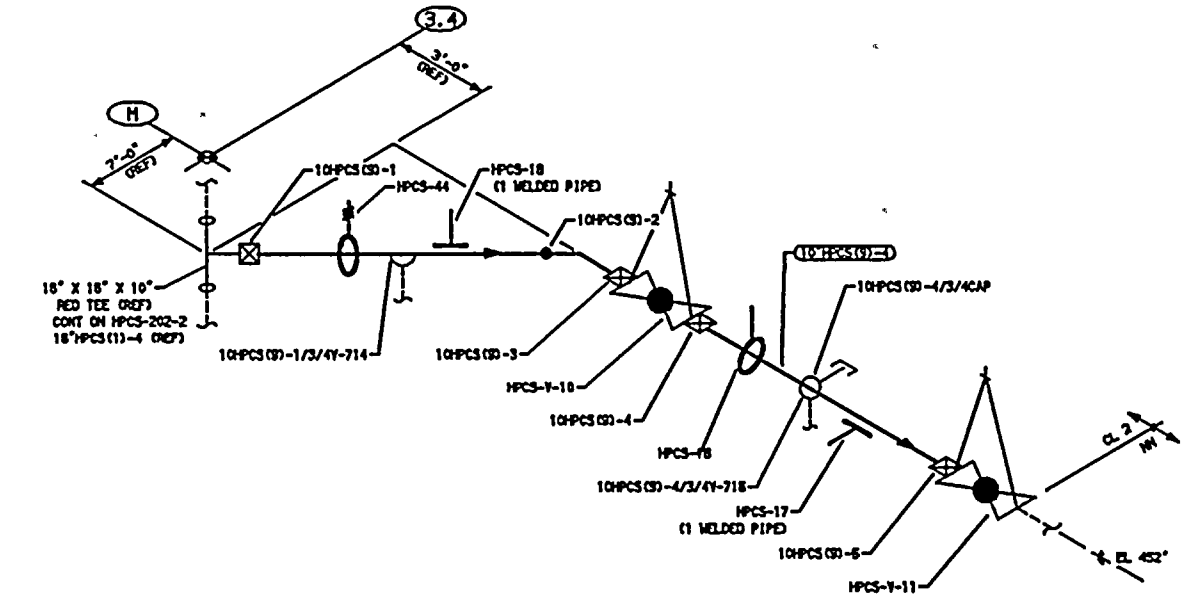
WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
HPCS-PUMP-1 DISCHARGE

DWG NO: HPCS-202-2 REV 4

NO	DATE	REVISION	BY	CHKD	APVD
4	11-13-92	ADDED NOTE 1. MODIFIED ACCORDINGLY.	K-McA	DPR	DRW
3	12-4-89	ADDED UT-49, UT-18 AND LEGO. MODIFIED KEYPLAN	K-McA	DPR	TFH
2	4-24-85	REVISED FOR ISI	K-McA	DPR	TFH
1	5-24-83	NUMBERED WELDS, ADDED RO-4, DELETED HPCS-19 & 14 ADDED HPCS-903N, RELOCATED HPCS-15 ENGRAVED	K-McA	DPR	TFH
0	12-22-78	ISSUED FOR USE	K-McA	TFH / DMP	LFB
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-McA	GAK	DMP

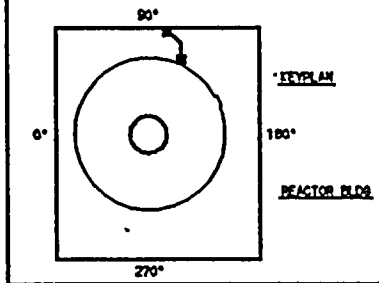
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
18"HPCS(1)-4	18	100	1.031	SA 106 GR B	CS	UT-49
12"HPCS(3)-4	12	100	0.844	SA 106 GR B	CS	UT-18



REFERENCES:

1SI - 220-1

BOYCE & CRAIL ISOMETRIC HPCS-833-1.2 REV 13



ZONE R-23

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

NO	DATE	REVISION	BY	CHKD	APVD
3	11-13-82	DEL 3/4"Y-712, MOD KEYPLAN, ADDED LOGO	K-HoA	DPR	DRW
2	1-23-86	ADDED CONT DWG, 3/4" CONN, UT-21, DELETED NOTES	K-HoA	DPR	TFH
1	5-24-83	NUMBERED WELDS, HPCS-17, 18 RIGID, CREDRAWG	K-HoA	DPR	TFH
0	12-22-78	ISSUED FOR USE	K-HoA	TFH / DMP	LFB
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-HoA	GAK	DMP

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
10"HPCS(3)-4	10	100	0.719	SA 106 GR B	CS	UT-21

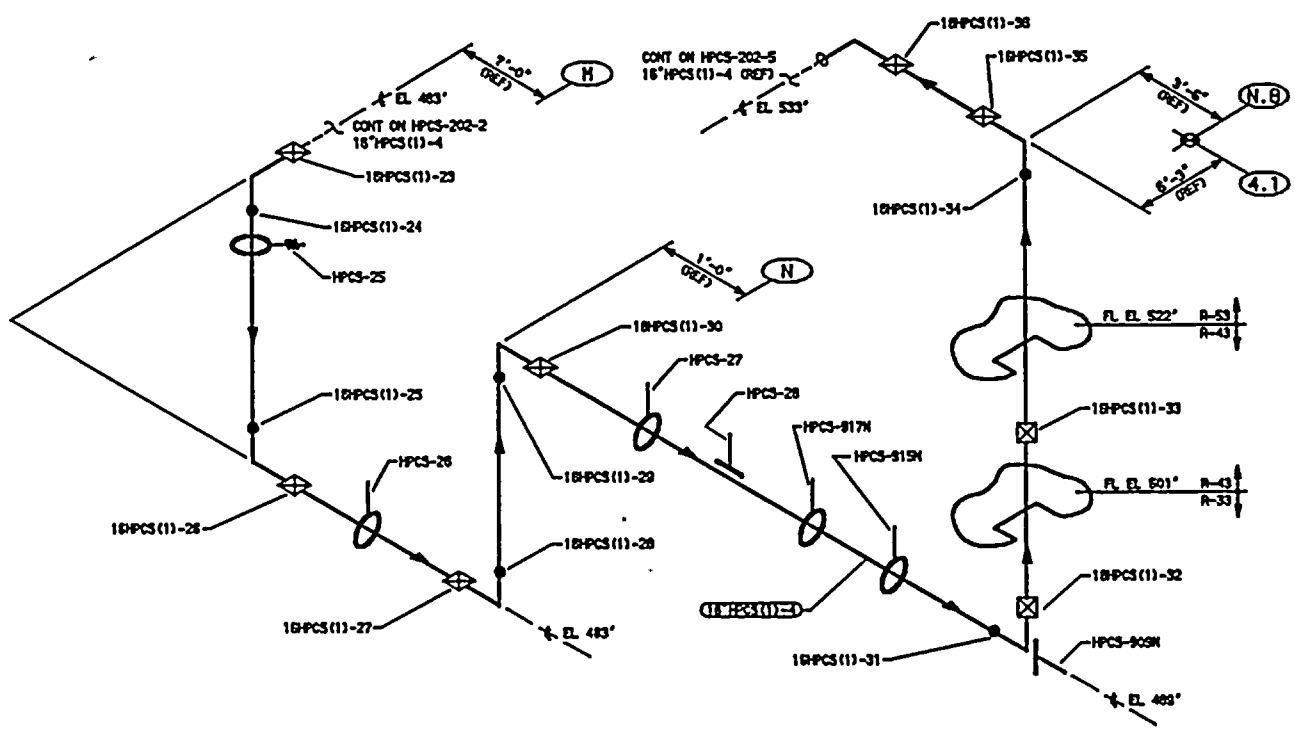
QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: GA KUGLER	DRAWN: K-HoA DATE: 8-11-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
HPCS SUPPLY TO COND STORAGE TANKS

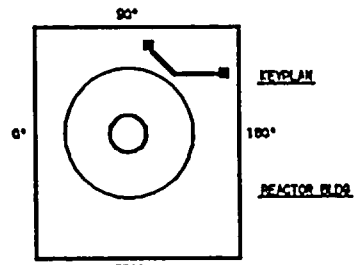
DWG NO. HPCS-202-3 REV 3



REFERENCES:

ISI - 220-1

BOYCE & CRAIL ISOMETRIC
HPCS-630-19.19 REV 8



ZONES R-33, R-43 & R-53

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

NO	DATE	REVISION	BY	CHKD	APVD
3	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-HcA	DPR	DRW
2	1-23-86	WELDS 28 & 30 ARE FIELD WELDS. HPCS-28 IS RIGID. CHANGED CAL BLOCK NO. TO UT-49, DELETED NOTES.	K-HcA	DPR	TFH
1	5-24-83	NUMBERED WELDS, ADDED HPCS-817N, 815, 909N, DELETED HPCS-29, 30 ADDED UT-19 ADDED NOTE 2 REDRAWN	K-HcA	DPR	TFH
0	12-22-78	ISSUED FOR USE	K-HcA	TFH / DMP	LFB
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-HcA	GAK	DMP

PIPING SYSTEM	NOM DIA (INS)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
16"HPCS(1)-4	16	100	1.031	SA 106 GR B	CS	UT-49

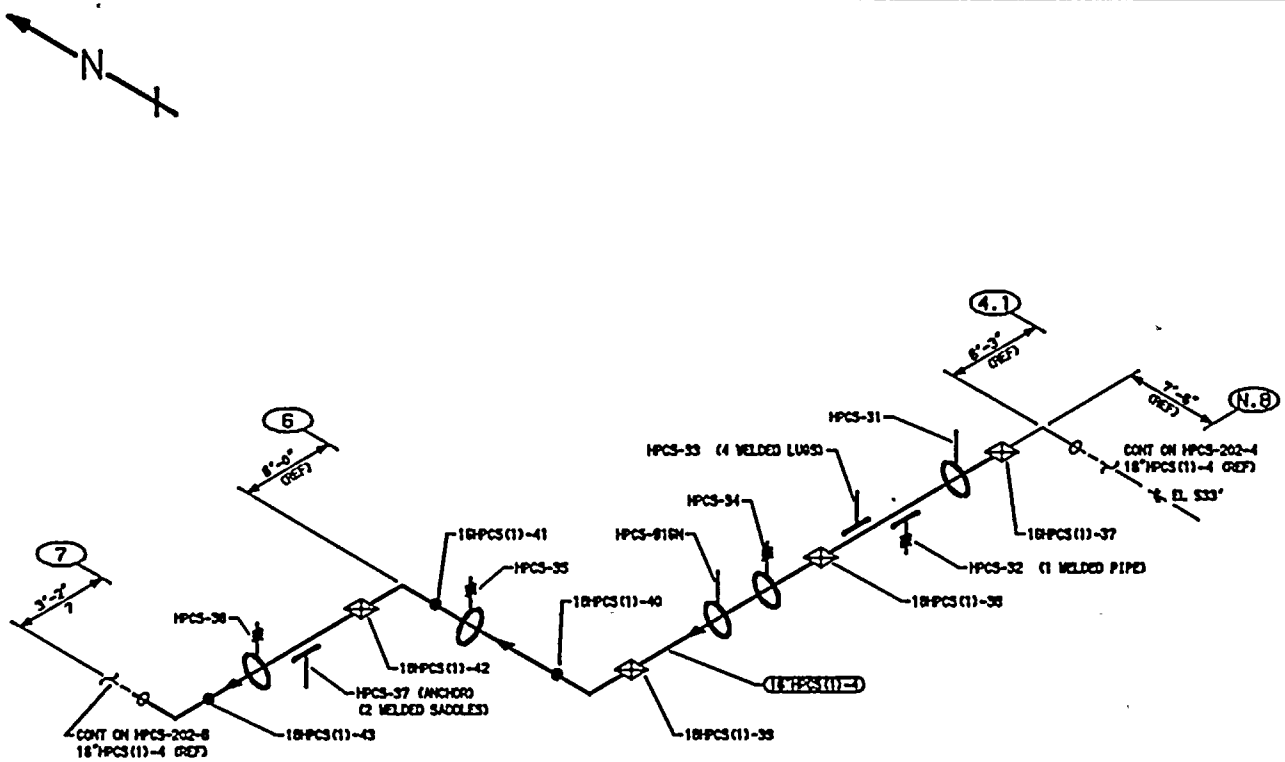
QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: GA KUGLER	DRAWN: K-HcA
DATE: 8-11-78	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
HPCS-PUMP-1 DISCHARGE

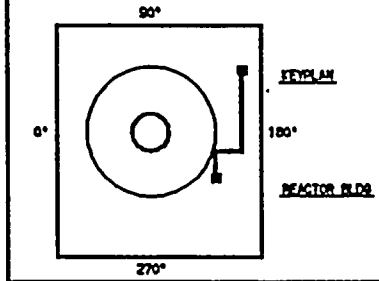
DWG NO: HPCS-202-4 REV 3



REFERENCES:

ISI - 220-1

BOYCE & CRAIL ISOMETRIC
HPCS-630-20.23 REV 6



ZONE B-53

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

NO	DATE	REVISION	BY	CHKD	APVD
3	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-HoA	DPR	DRW
2	1-23-86	CHANGED CAL BLOCK NO. TO UT-48, HPCS-81BN IS NON-WELDED, DELETED NOTES.	K-HoA	DPR	TFH
1	5-24-83	NUMBERED WELDS, HPCS-37, 33 MODIFIED, ADDED HPCS-81BN, DELETED HPCS-34, ADDED UT-15, ADDED NOTE 2 (RECEIVED)	K-HoA	DPR	TFH
0	12-22-78	ISSUED FOR USE	K-HoA	TFH / DWP	LFB
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-HoA	GAK	DMP

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
18"HPCS(1)-4	18	100	1.031	SA 106 GR B	CS	UT-49

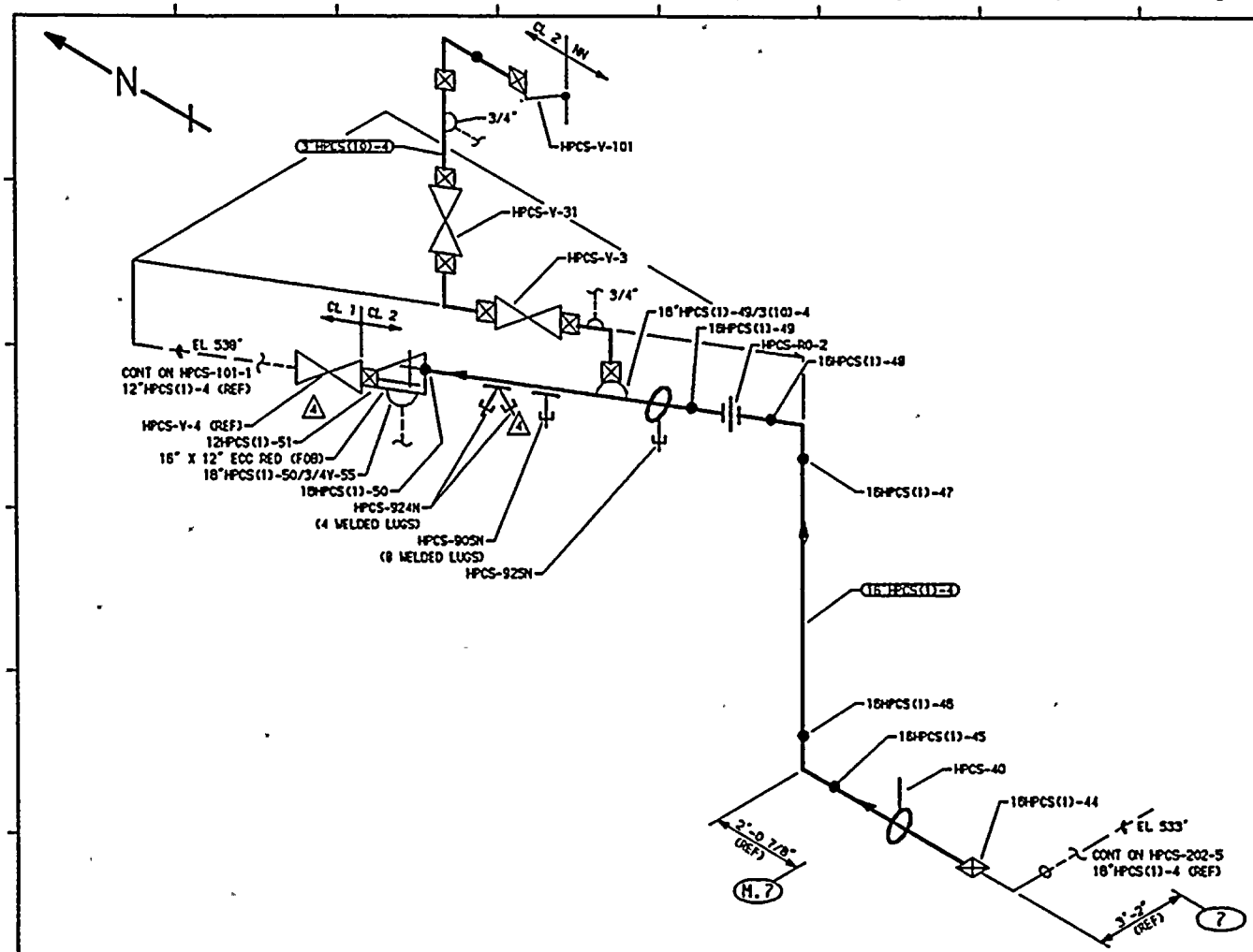
QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: GA KUGLER	DRAWN: K-HoA
DATE: 8-11-78	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
HPCS-PUMP-1 DISCHARGE

DWG NO. HPCS-202-5 REV 3



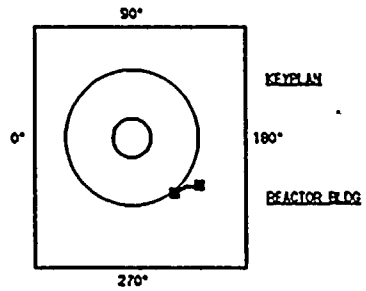
NOTES.

1. PORTIONS OF THIS DRAWING IDENTIFY PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAMINATION FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.

REFERENCES.

ISI - 220-1

BOYEE & CRAIL ISOMETRIC
HPCS-830-24.25 REV 8



ZONE R-53

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: GA KUGLER	DRAWN: K-McA
	DATE: 8-11-78

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

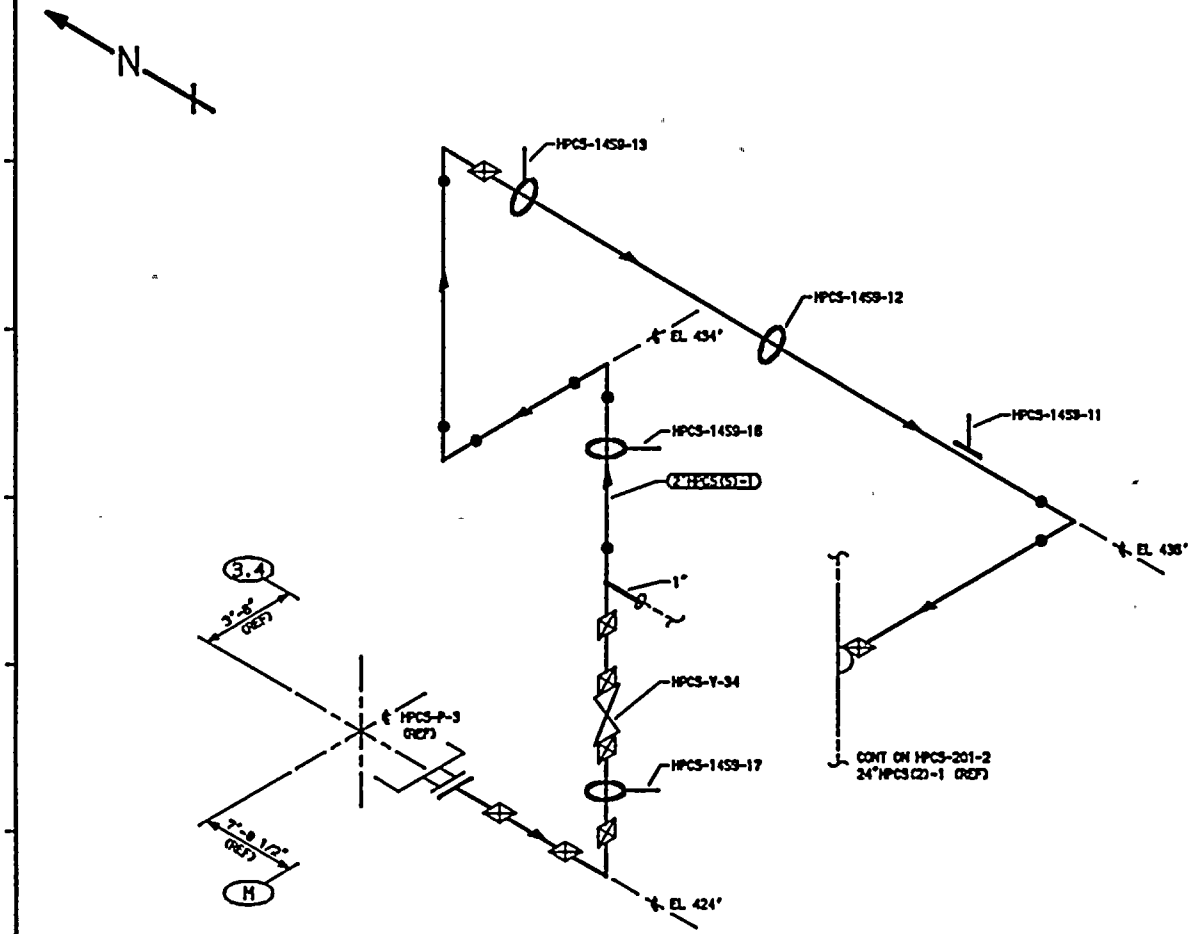
WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE: HPCS-PUMP-1 DISCHARGE

DWG NO. HPCS-202-8 REV 4

NO	DATE	REVISION	BY	CHKD	APVD
4	6-7-94	ADDED 3/4" CONNECTION PER DCP 84-0193-GA ZN 4-4 MODIFIED WELD 12HPCS(1)-51 & HANGER HPCS-924N ZN C-3	K-McA	DPR	DW
3	10-18-87	CHG HPCS-40 TO R161D, ADDED LOCO & NOTE 1. ROD KEYPLAN.	K-McA	DPR	TFH
2	1-23-86	ADDED 3"HPCS(10)-1, CHG CAL BLK TO UT-49, DEL NOTES.	K-McA	DPR	TFH
1	5-24-83	RUBBERED WELDS, ADDED HPCS-905N, UT-15, NOTE 3, DELETED HPCS-41, HPCS-39 ORIGINAL	K-McA	DPR	TFH
0	12-22-78	ISSUED FOR USE	K-McA	TFH/DWP	LFB
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-McA	GAK	DWP

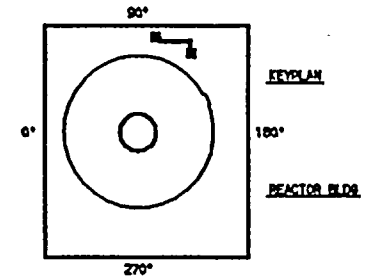
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
18"HPCS(1)-4	18	100	1.031	SA 106 GR B	CS	UT-49
3"HPCS(10)-1	3	160	0.438	SA 106 GR B	CS	NA
12"HPCS(1)-4	12	100	0.844	SA 106 GR B	CS	UT-18



REFERENCES:

ISI - 220-1

BOYCE & CRAIL ISOMETRICS
HPCS-1459-1 REV 8



QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 5-22-85	

ZONE R-13

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

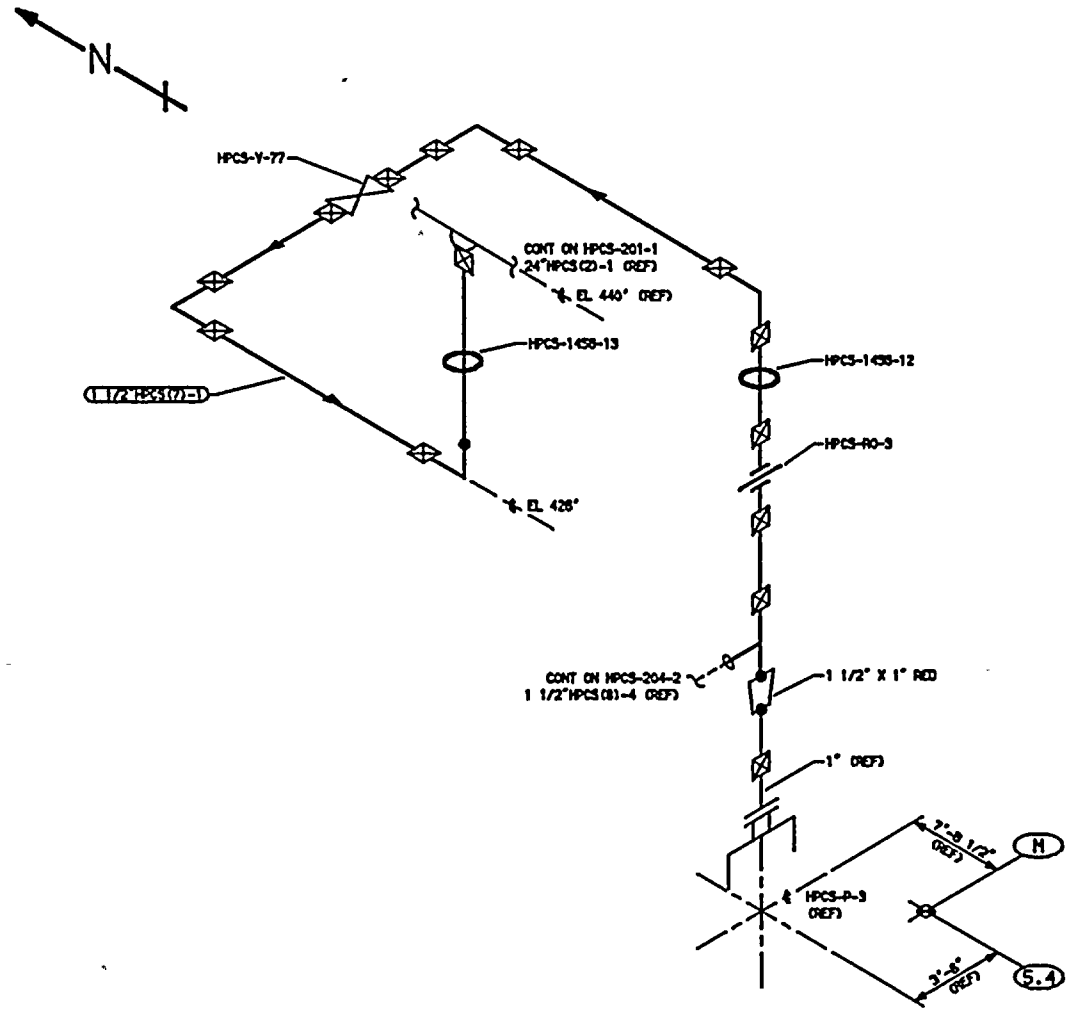
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
2"HPCS(S)-1	2	80	0.218	SA 106 GR B	CS	NA

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE: HPCS-P-1 SUCTION
TO WATER LEG PUMP HPCS-P-3

DWG NO. HPCS-203 REV 1

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
0	1-23-86	ISSUED FOR USE	K-McA	DPR	TPH



ZONE R-13

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

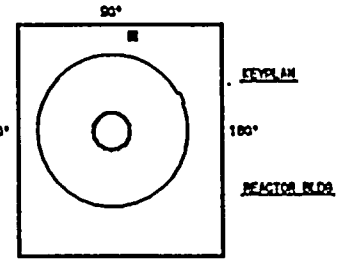
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
1 1/2"HPCS(7)-1	1 1/2	80	0.200	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-MoA	DPR	DRW
0	1-23-85	ISSUED FOR USE	K-MoA	DPR	TFH

REFERENCES:

ISI - 220-1

BOYCE & CRAIL ISOMETRICS
HPCS-1458-1 REV 8



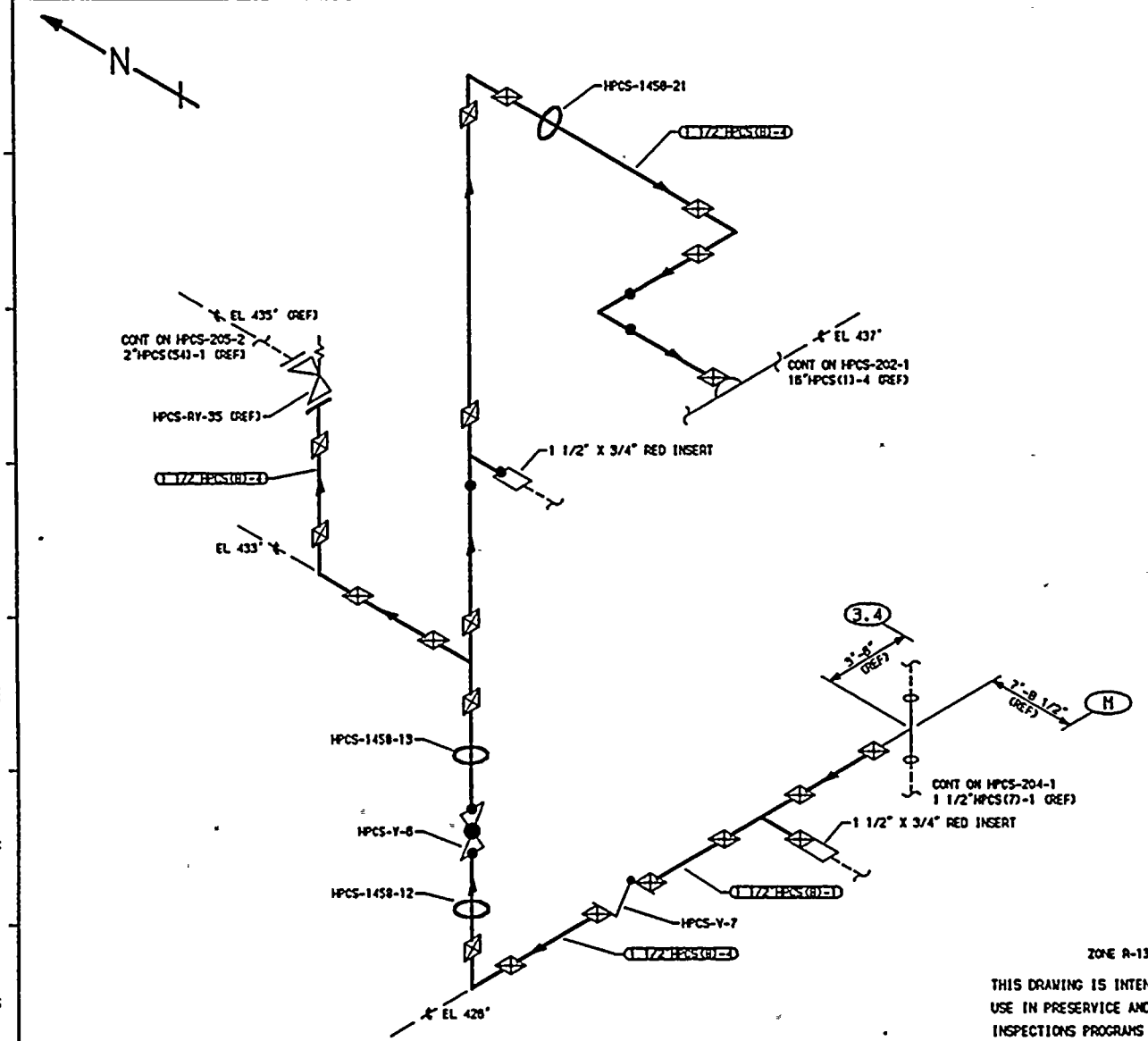
QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-MoA
	DATE: 5-22-85

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
WATER LEG PUMP HPCS-P-9
TO HPCS-P-1 SUCTION LINE

DWG NO: HPCS-204-1 REV 1



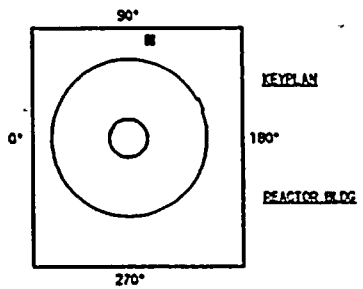
ZONE A-13

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-1

BOYEE & CRAIL ISOMETRICS
HPCS-1458-2 REV 9
HPCS-1458-3 REV 8



QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 5-23-85	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

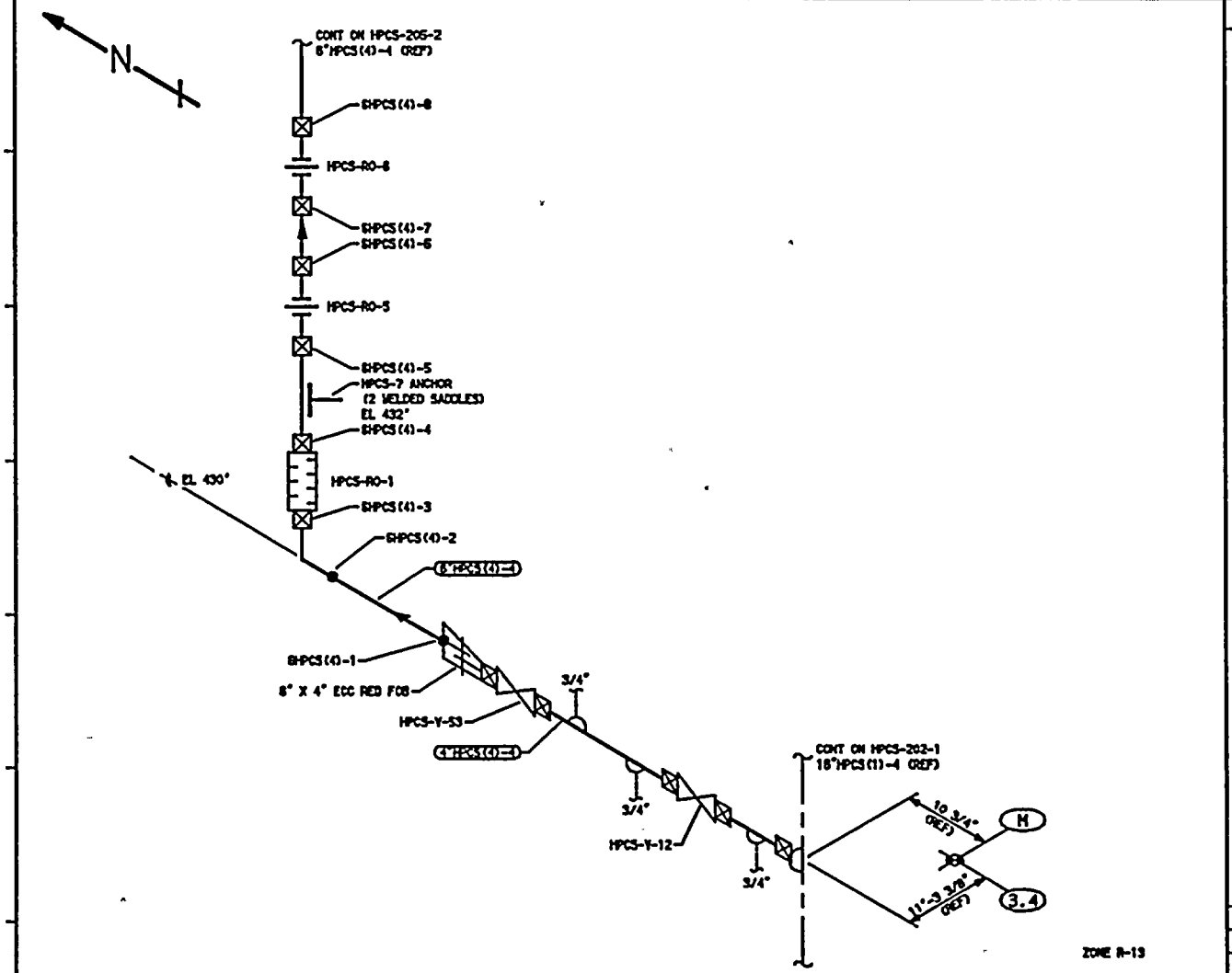
WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE: WATER LEG PUMP HPCS-P-3 DISCHARGE TO HPCS-P-1 DISCHARGE LINE

DWG NO: HPCS-204-2 REV 2

NO	DATE	REVISION	BY	CHKD	APVD
2	6-7-94	LINE NUMBER CHG PER BOC 55-1533-0A. ZN D-2	K-McA	DPR	DW
1	12-9-92	MODIFIED KEYPLAN ADDED LOCO	K-McA	DPR	DRW
0	1-23-86	ISSUED FOR USE	K-McA	DPR	TFH

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
1 1/2"HPCS(8)-1	1 1/2	80	0.200	SA 106 GR B	CS	NA
1 1/2"HPCS(8)-4	1 1/2	160	0.281	SA 106 GR B	CS	NA



ZONE B-13

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

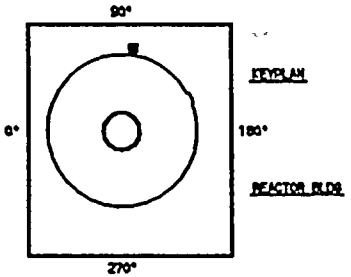
NOTES:

1. PORTIONS OF THIS DRAWING IDENTIFY PIPING AND COMPONENTS SUBJECT ONLY TO A VISUAL EXAMINATION FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.

REFERENCES:

ISI - 220-1

BOYCE & CRAIL ISOMETRICS
HPCS-630-1.4 REV 14
HPCS-630-5.8 REV 13
HPCS-632-1.3 REV 12



QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 2-27-85	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

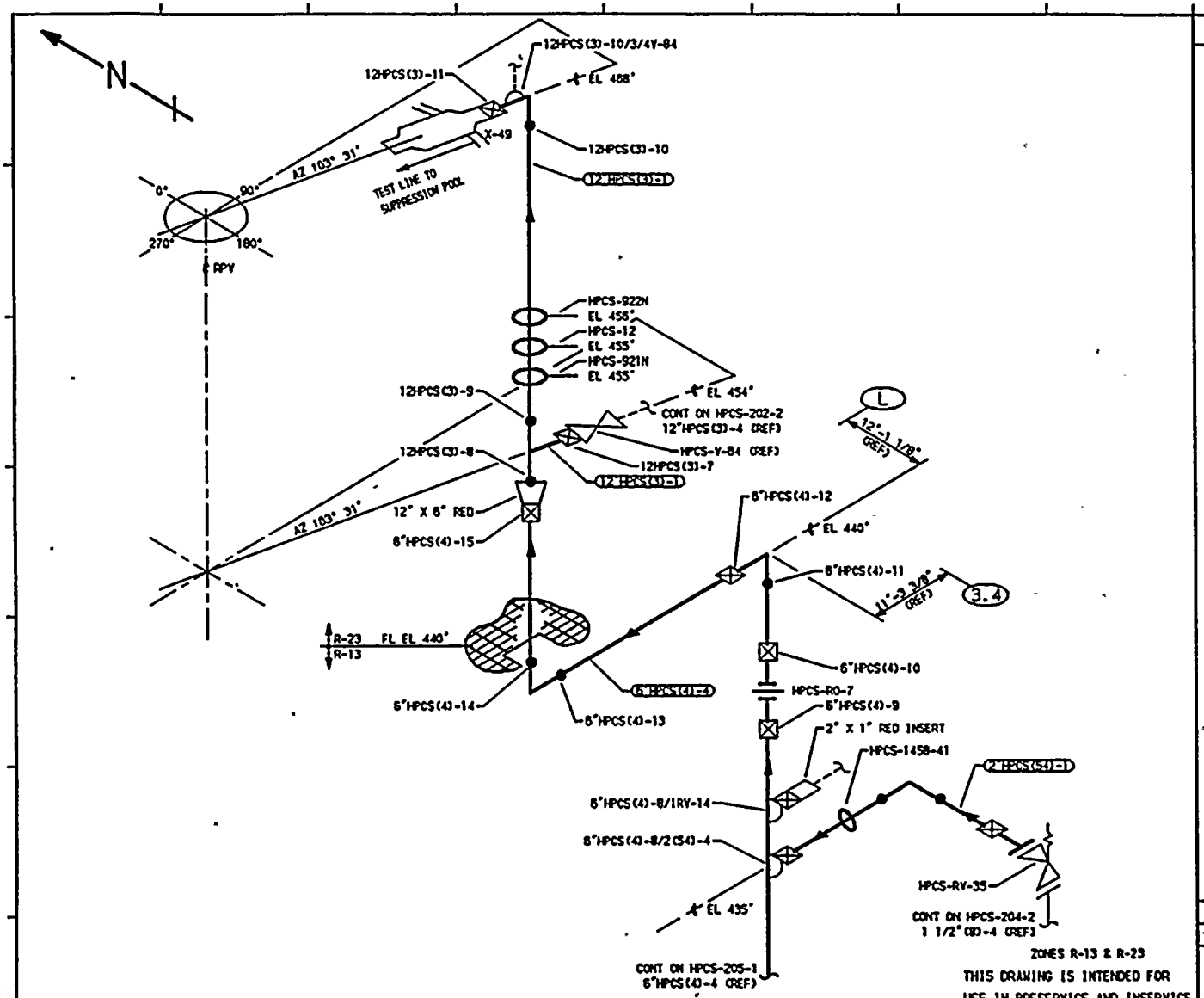
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
4"HPCS(4)-4	4	120	0.438	SA 106 GR B	CS	NA
8"HPCS(4)-4	8	120	0.582	SA 106 GR B	CS	UT-27

NO	DATE	REVISION	BY	CHKD	APVD
1	10-16-87	DELETED HPCS-43 & HPCS-5. ADDED LOGO & NOTE 1.	K-McA	DPR	TFH
0	4-24-85	REVISED FOR ISI	K-McA	DPR	TFH

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE: HPCS-P-1 MINIMUM FLOW TO SUPPRESSION POOL

DWG NO. HPCS-205-1 REV 1



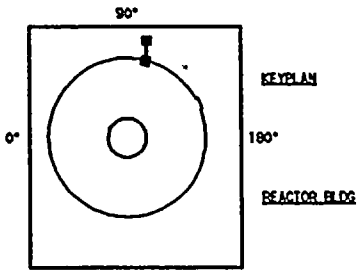
ZONES R-13 & R-29

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-1

BOYEE & CRAIL ISOMETRICS
HPCS-832-1.3 REV 15
HPCS-1458-4 REV 7



QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 2-27-85	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"HPCS(4)-4	8	120	0.582	SA 106 GR B	CS	UT-27
12"HPCS(3)-1	12	100	0.844	SA 106 GR B	CS	UT-18
2"HPCS(54)-1	2	80	0.218	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	6-7-94	LINE NUMBER CHG PER BOC 55-1533-0A. ZN G-7	K-McA	DPR	DW
1	12-4-89	ADDED UT-27, UT-18, LOGO & DWG LINE CONT ZN G-7.	K-McA	DPR	TFH
0	4-24-85	REVISED FOR ISI	K-McA	DPR	TFH

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
HPCS-P-1 MINIMUM FLOW TO SUPPRESSION POOL

DWG NO. HPCS-205-2 REV 2

9.6 LPCS Low Pressure Core Spray

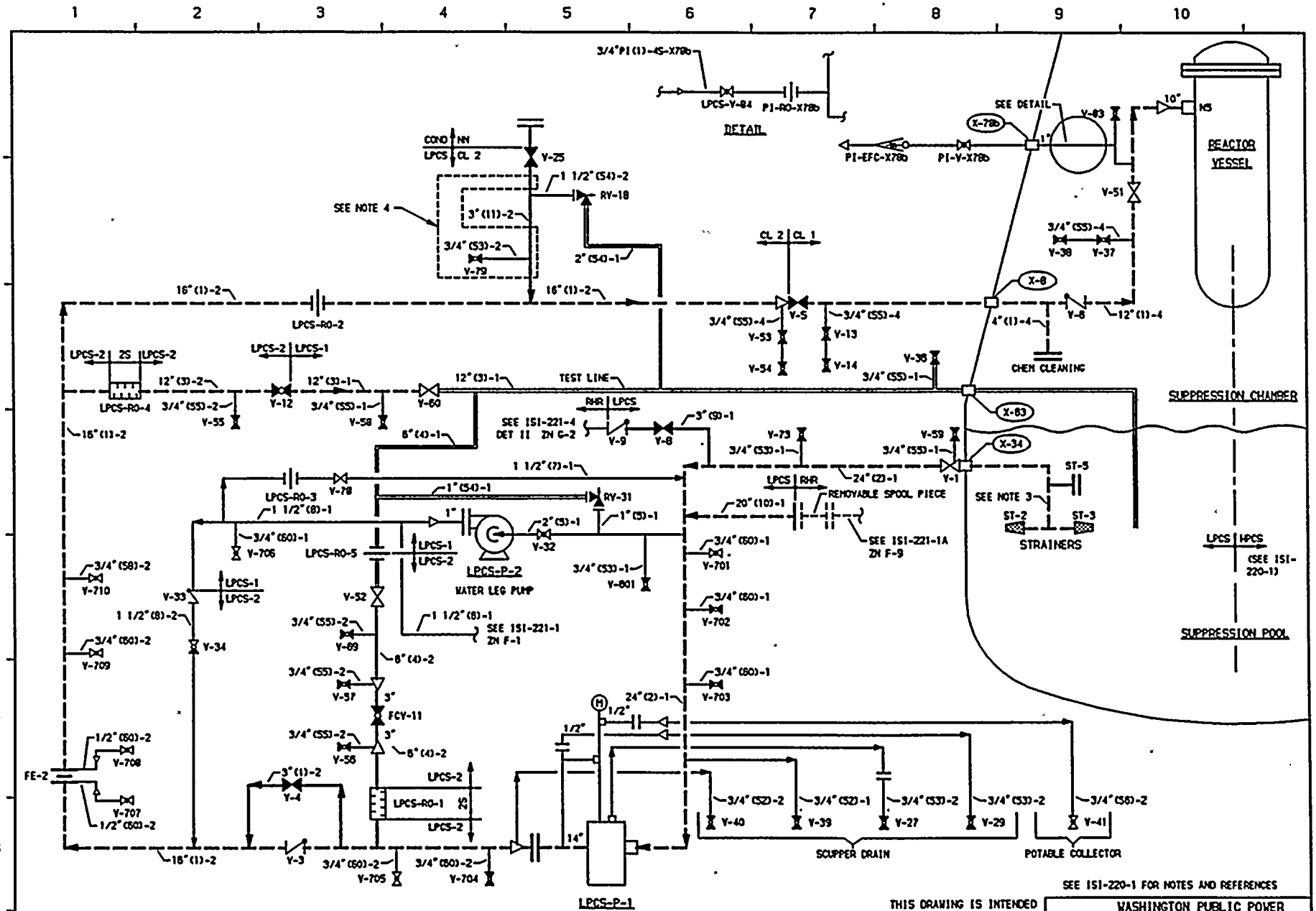
Boundary Diagram - ISI-220-2

Exemptions Applied:

IWB-1220		
(a)	No	
(b)(1)	Yes	All piping 1 NPS and smaller
(b)(2)	Yes	All components 1 NPS and smaller
(c)	No	
IWC-1221		
(a)	Yes	All piping 4 NPS and smaller
(b)	NA[1]	
(c)	Yes	All components 4 NPS and smaller
(d)	NA[1]	
(e)	NA[1]	
(f)	Yes	6" LPCS(4)-1-1, 12" LPCS(3)-1-1
IWC-1222	NA	
IWD-1220.1	NA	No Class 3 piping within LPCS system
IWD-1220.2	NA	No Class 3 piping within LPCS system
Code Case N-491		
-1230	Yes	6" LPCS(4)-1-1, 12" LPCS(3)-1-1

[1] WNP-2 is a BWR

9.6.2 Boundary Diagrams



SEE ISI-220-1 FOR NOTES AND REFERENCES

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
WNP-2 RICHLAND, WASHINGTON 99352

ENGINEER D PORTER
DRAWN K-McANDREW
DATE 11-16-77

INSERVICE INSPECTION BOUNDARY DIAGRAM
HIGH PRESSURE CORE SPRAY (HPCS)
LOW PRESSURE CORE SPRAY (LPCS)

DWG NO. ISI-220-2 REV 5

NO	DATE	REVISION	BY	CHKD	APVD
5	6-7-94	REVISED PER LATEST TOP TIER DRAWINGS.	K-McA	DPR	DW
4	12-1-92	PER ECC-20-1428-01-304 CHANGED FOUR (4) 3/4" SYSTEM DESIGNATIONS. CORRECTED X-67b & ASSOC. COMPONENTS.	K-McA	DPR	DRH
3	12-4-89	ADDED PENETRATION X-83 & ASSOCIATED CONNECTING LINES. CORRECTED V-53 TO V-52 & V-31 TO V-34. ADDED LOCA.	K-McA	DPR	TFH
2	1-24-85	REVISED FOR ISI	K-McA	DPR	TFH
NO	DATE	REVISION	BY	CHKD	APVD

9.6.3 Examination Schedule

WNP-2
Interval 2
LPCS - Low Pressure Core Spray

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-101												
	LPCS-PB-101(L)	LK PRES BNDRY	B-P	B15.50	VT-2	1	10	O	CE	3		
	LPCS-PB-101(H)	HYDRO PRES BNDR	B-P	B15.51	VT-2	3	19	E	CE	10		
01	LPCS-V-5-BDY	VALVE BODY	B-M-2	B12.50	VT-3			U	C	0		VELAN, GATE, CONTAINMENT ISOLATION
	LPCS-V-5-BDY(L)	LK PRES BNDRY	B-P	B15.70	VT-2	1	10	O	CE	1		
	LPCS-V-5-BDY(H)	HYDRO PRES BNDR	B-P	B15.71	VT-2	3	19	E	CE	10		
	LPCS-V-5-BLT	VALVE BOLTING	B-G-2	B7.70	VT-1	1	11	81	CE	10		
	12LPCS(1)-1	VLV TO PIPE	B-J	B9.11	SUR	3	17	>91	CE	10		
					VOL	3	17	>91	CE	10		
	LPCS-28	PSA-3 SNUBBER	F-A	F1.10D	VT-3			3	C	0		
	12LPCS(1)-2	PIPE TO ELL	B-J	B9.11	SUR	3	17	>91	CE	10		
					VOL	3	17	>91	CE	10		
	12LPCS(1)-3	ELL TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	LPCS-13(W)	4 WELDED LUGS	B-K-1	B10.10	SUR	3	17	81	CE	10		
	LPCS-13	SPRING	F-A	F1.10C	VT-3	3	17	31	CE	10		
	12LPCS(1)-4	PIPE TO ELL	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	12LPCS(1)-5	ELL TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	12LPCS(1)-6	PIPE TO PEN	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-101												
01	12LPCS(1)-7	PEN TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	12LPCS(1)-8	PIPE TO ELL	B-J	B9.11	SUR	2	14	>91	CE	10		
					VOL	2	14	>91	CE	10		
	12LPCS(1)-9	ELL TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	LPCS-904N	STRUT	F-A	F1.10A	VT-3			31	C	0		
	LPCS-908N	STRUT	F-A	F1.10A	VT-3			31	C	0		
	LPCS-907N	STRUT	F-A	F1.10A	VT-3			31	C	0		
	12LPCS(1)-10	PIPE TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	12LPCS(1)-11	PIPE TO ELL	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	12LPCS(1)-12	ELL TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	12LPCS(1)-13	PIPE TO ELL	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	12LPCS(1)-14	ELL TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	LPCS-906N	SPRING	F-A	F1.10C	VT-3			31	C	0		
	LPCS-64	SPRING	F-A	F1.10C	VT-3			31	C	0		

WNP-2
Interval 2
LPCS - Low Pressure Core Spray

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-101												
01	12LPCS(1)-15	PIPE TO ELL	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	12LPCS(1)-16	ELL TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	12LPCS(1)-17	PIPE TO ELL	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
02	12LPCS(1)-18	ELL TO PIPE	B-J	B9.11	SUR	2	14	>91	CE	10		
					VOL	2	14	>91	CE	10		
	LPCS-63	SPRING	F-A	F1.10B	VT-3			31	C	0		
	LPCS-57(W)	4 WELDED LUGS	B-K-1	B10.10	SUR	1	12	81	CE	10		3/4"W x 2"H x 3"L.
	LPCS-57	BOX	F-A	F1.10A	VT-3	1	12	31	CE	10		
	12LPCS(1)-18/4LPCS(1)-4	WOL TO PIPE	B-J	B9.31	SUR			>9	C	0		
					VOL			>9	C	0		
	4LPCS(1)-1BU	FLANGE BOLTING	B-G-2	B7.50	VT-1	2	16	81	CE	10		
	4LPCS(1)-1	FLANGE TO PIPE	B-J	B9.11	SUR			<9	C	0		
					VOL			<9	C	0		
	4LPCS(1)-2	PIPE TO WOL	B-J	B9.11	SUR	2	14	>91	CE	10		
					VOL	2	14	>91	CE	10		
	12LPCS(1)-19	PIPE TO VLV	B-J	B9.11	SUR	2	14	>91	CE	10		
					VOL	2	14	>91	CE	10		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-101												
02	LPCS-V-6-BDY	VALVE BODY	B-M-2	B12.50	VT-3			U	C	0		VELAN, CHECK, CONTAINMENT ISOLATION
	LPCS-V-6-BDY(L)	LK PRES BNDRY	B-P	B15.70	VT-2	1	10	O	CE	1		
	LPCS-V-6-BDY(H)	HYDRO PRES BNDR	B-P	B15.71	VT-2	3	19	E	CE	10		
	LPCS-V-6-BLT	VALVE BOLTING	B-G-2	B7.70	VT-1	2	14	81	CE	10		
	12LPCS(1)-20	VLV TO PIPE	B-J	B9.11	SUR	2	14	>91	CE	10		
					VOL	2	14	>91	CE	10		
	12LPCS(1)-21	PIPE TO VLV	B-J	B9.11	SUR	1	10	>91	CE	10		
					VOL	1	10	>91	CE	10		
	LPCS-V-51-BDY	VALVE BODY	B-M-2	B12.50	VT-3			U	C	0		VELAN, GATE, SYSTEM ISOLATION
	LPCS-V-51-BDY(L)	LK PRES BNDRY	B-P	B15.70	VT-2	1	10	O	CE	1		
	LPCS-V-51-BDY(H)	HYDRO PRES BNDR	B-P	B15.71	VT-2	3	19	E	CE	10		
	LPCS-V-51-BLT	VALVE BOLTING	B-G-2	B7.70	VT-1	2	16	81	CE	10		
	12LPCS(1)-22	VLV TO PIPE	B-J	B9.11	SUR	1	10	>91	CE	10		
					VOL	1	10	>91	CE	10		
	12LPCS(1)-23	PIPE TO ELL	B-J	B9.11	SUR	1	10	>91	CE	10		
					VOL	1	10	>91	CE	10		
	10LPCS(1)-1	ELL TO PIPE	B-J	B9.11	SUR	1	11	>91	CE	10		
					VOL	1	11	>91	CE	10		
	10LPCS(1)-2	PIPE TO SE EXT	B-J	B9.11	SUR	1	11	>91	CE	10		SEE RPV-105,NOZ N5
					VOL	1	11	>91	CE	10		SEE RPV-105,NOZ N5
	10LPCS(1)-3	SE EXT TO SE	B-F	B5.130	SUR	1	11	81	CE	10		SEE RPV-105,NOZ N5
					VOL	1	11	8A	CGE	10		SEE RPV-105,NOZ N5
	10LPCS(1)-4	SE TO NOZZLE	B-F	B5.10	SUR	3	17	81	CE	10		SEE RPV-105,NOZ N5
					VOL	1	12	8D	CGE	3		SEE RPV-105,NOZ N5

WNP-2
Interval 2
LPCS - Low Pressure Core Spray

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-201												
	LPCS-PB-201(L)	LK PRES BNDRY	C-H	C7.30	VT-2	1	13	P	CE	3		
	LPCS-PB-201(H)	HYDRO PRES BNDR	C-H	C7.40	VT-2	3	19	E	CE	10		
	LPCS-PB-PUMP(L)	LK PRES BNDRY	C-H	C7.50	VT-2	1	13	P	CE	3		
	LPCS-PB-PUMP(H)	HYDRO PRES BNDR	C-H	C7.60	VT-2	3	19	E	CE	10		
01	24LPCS(2)-1	PEN TO VALVE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24LPCS(2)-2	VALVE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24LPCS(2)-2/3(9)-1	BRANCH CONN	NA	NA	SUR			Z				
	LPCS-900N	BOX	F-A	F1.20A	VT-3			41	C	0		
	24LPCS(2)-3	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24LPCS(2)-4	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24LPCS(2)-5	PIPE TO TEE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	20LPCS(10)-1	TEE TO FLANGE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24LPCS(2)-6	TEE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24LPCS(2)-7	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
02	24LPCS(2)-8	PIPE TO ELL	C-F-2	C5.51	SUR	3	17	21	CE	10		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-201												
02	24LPCS(2)-8	PIPE TO ELL	C-F-2	C5.51	VOL	3	17	21	CE	10		
	LPCS-3	ANCHOR	F-A	F1.20A	VT-3	3	17	41	CE	10		
	24LPCS(2)-9	ELL TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24LPCS(2)-10	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24LPCS(2)-11	PIPE TO FLANGE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	LPCS-2	RIGID	F-A	F1.20A	VT-3			41	C	0		
	LPCS-902N	SPRING	F-A	F1.20C	VT-3			41	C	0		
	24LPCS(2)-12	FLANGE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24LPCS(2)-13	PIPE TO FLANGE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24LPCS(2)-14	FLANGE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	24LPCS(2)-15	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	LPCS-P-1(CS)	PUMP BASE	F-A	F1.40A	VT-3	1	10	61	CE	10		
	LPCS-1	RIGID	F-A	F1.20A	VT-3	3	17	41	CE	10		

WNP-2
Interval 2
LPCS - Low Pressure Core Spray

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Revision 0

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-201												
02	24LPCS(2)-16	PIPE TO NOZZLE	C-F-2	C5.51	SUR	3	17	21	CE	10		
					VOL	3	17	21	CE	10		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-202												
	LPCS-PB-202(L)	LK PRES BNDRY	C-H	C7.30	VT-2	1	21	P	CE	3		
	LPCS-PB-202(H)	HYDRO PRES BNDR	C-H	C7.40	VT-2	3	19	E	CE	10		
01	14LPCS(1)-1	FLANGE TO RED	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-1	RED TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	LPCS-9	SPRING	F-A	F1.20C	VT-3	2	14	41	CE	10		
	16LPCS(1)-2	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-2/6LPCS(4)-2	BRANCH CONN	C-F-2	C5.81	SUR	2	15	21	CE	10		
	16LPCS(1)-2/3(1)-2	BRANCH CONN	NA	NA	SUR			Z				
	16LPCS(1)-3	PIPE TO VALVE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-4	VLV TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-4/3(1)-2	BRANCH CONN	NA	NA	SUR			Z				
	16LPCS(1)-5	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		PSI PERFORMED
					THK	3	18	NP	T			UT THK-10YR
					VOL			2	C	0		
	16LPCS(1)-6	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-202												
01	LPCS-38	BOX	F-A	F1.20A	VT-3			41	C	0		
	LPCS-39	BOX	F-A	F1.20A	VT-3			41	C	0		
	16LPCS(1)-7	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-8	ELL TO PIPE	C-F-2	C5.51	SUR	2	15	21	CE	10		
					VOL	2	15	21	CE	10		
	LPCS-11	SPRING	F-A	F1.20C	VT-3			41	C	0		
02	LPCS-46	BOX	F-A	F1.20A	VT-3			41	C	0		
	LPCS-31	BOX	F-A	F1.20A	VT-3			41	C	0		
03	16LPCS(1)-9	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-10	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-10A	PIPE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	LPCS-12	BOX	F-A	F1.20A	VT-3			41	C	0		
	16LPCS(1)-10B	PIPE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-11	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per. Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-202											
03	16LPCS(1)-12	ELL TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	LPCS-14	ANCHOR	F-A	F1.20A	VT-3		41	C	0		
	16LPCS(1)-13	PIPE TO FLANGE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	16LPCS(1)-14	FLANGE TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	16LPCS(1)-15	PIPE TO ELL	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	16LPCS(1)-16	ELL TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	16LPCS(1)-17	PIPE TO TEE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	12LPCS(3)-1	TEE TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	12LPCS(3)-2	PIPE TO RO	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	12LPCS(3)-3	RO TO PIPE	C-F-2	C5.51	SUR		2	C	0		
					VOL		2	C	0		
	LPCS-17	BOX	F-A	F1.20A	VT-3		41	C	0		
	12LPCS(3)-4	PIPE TO VLV	C-F-2	C5.51	SUR		2	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
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Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-202												
03	12LPCS(3)-4	PIPE TO VLV	C-F-2	C5.51	VOL			2	C	0		
	12LPCS(3)-5	VLV TO PIPE	C-F-2	C5.51	SUR	2	15	21	CE	10		
					VOL	2	15	21	CE	10		
	12LPCS(3)-6	PIPE TO ELL	C-F-2	C5.51	SUR	2	15	21	CE	10		
					VOL	2	15	21	CE	10		
	12LPCS(3)-7	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	LPCS-901N	ANCHOR	F-A	F1.20A	VT-3			41	C	0		
	12LPCS(3)-8	PIPE TO VLV	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-18	TEE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
04	16LPCS(1)-19	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	LPCS-18	SPRING	F-A	F1.20C	VT-3			41	C	0		
	16LPCS(1)-20	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-21	ELL TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-22	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-202												
04	LPCS-19	ANCHOR	F-A	F1.20A	VT-3	2	15	41	CE	10		
	16LPCS(1)-23	PIPE TO PIPE	C-F-2	C5.51	SUR			2	C	10		
					VOL			2	C	10		
	LPCS-20	STRUT	F-A	F1.20A	VT-3			41	C	0		
	16LPCS(1)-24	PIPE TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	LPCS-41	STRUT	F-A	F1.20A	VT-3			41	C	0		
	16LPCS(1)-25	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-26	ELL TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-27	ELL TO PIPE	C-F-2	C5.51	SUR	2	15	21	CE	10		
					VOL	2	15	21	CE	10		
	LPCS-21	BOX	F-A	F1.20A	VT-3			41	C	0		
	LPCS-42	BOX	F-A	F1.20A	VT-3	2	15	41	CE	10		
	LPCS-22	RIGID	F-A	F1.20A	VT-3			41	C	0		
	LPCS-23	SPRING	F-A	F1.20C	VT-3			41	C	0		
	LPCS-24	BOX	F-A	F1.20A	VT-3			41	C	0		
05	16LPCS(1)-28	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

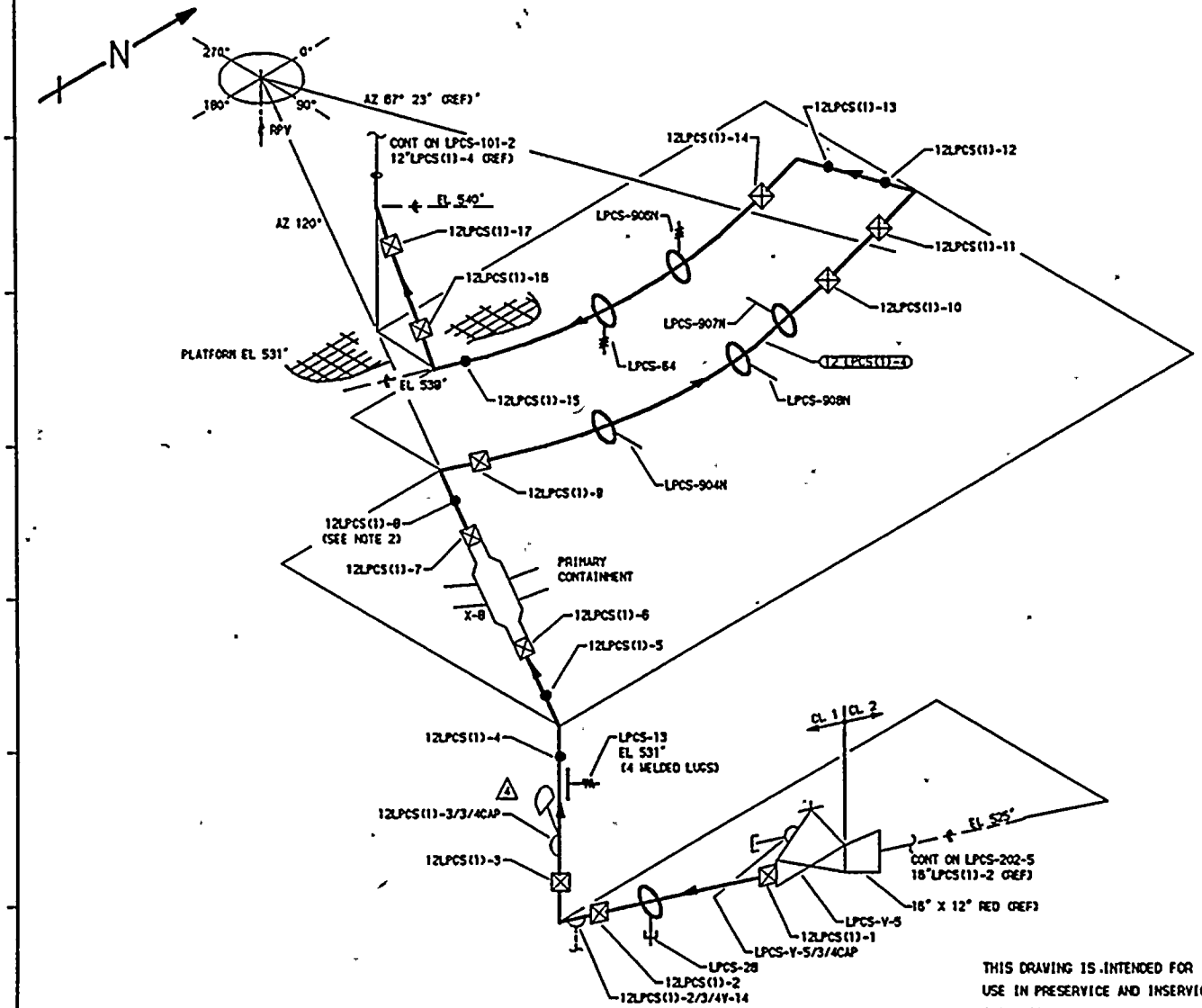
Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per.	Out.	Requmt.	Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-202												
05	16LPCS(1)-29	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	LPCS-25	SPRING	F-A	F1.20C	VT-3			41	C	0		
	16LPCS(1)-30	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-31	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	LPCS-903N	ANCHOR	F-A	F1.20A	VT-3			41	C	0		
	16LPCS(1)-32	PIPE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-33	ELL TO PIPE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-34	PIPE TO FLANGE	C-F-2	C5.51	SUR	3	19	21	CE	10		
					VOL	3	19	21	CE	10		
	16LPCS(1)-35	FLANGE TO ELL	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	16LPCS(1)-35/3(11)-2	BRANCH CONN	NA	NA	SUR			Z				
	16LPCS(1)-36	ELL TO RED	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		
	12LPCS(1)-1A	RED TO VALVE	C-F-2	C5.51	SUR			2	C	0		
					VOL			2	C	0		

Table 9.1.4
Washington Public Power Supply System
ISI Program Plan and Schedule
(Grouped by Drawing No. and Walkdown Order)

Pg	Identification No.	Description	Category	Item No.	Method	Per. Out.	Requmt. Code	Out. Freq.	Rel. Req.	Remarks
Diagram No. LPCS-206										
01	LPCS-32	RIGID	NA	NA	NA		Z	0		
	LPCS-45	RIGID	NA	NA	NA		Z	0		
	LPCS-33	RIGID	NA	NA	NA		Z	0		
	LPCS-35	SPRING	NA	NA	NA		Z	0		
	LPCS-34	RIGID	NA	NA	NA		Z	0		
02	LPCS-36	ANCHOR	NA	NA	NA		Z	0		
	LPCS-911N	SPRING	NA	NA	NA		Z	0		

9.6.4 Weld and Component Diagrams



THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

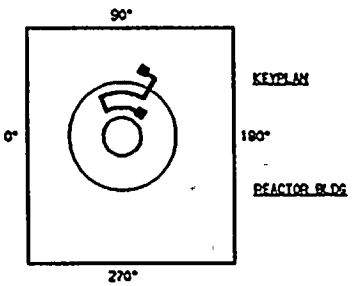
NOTES:

1. DELETED.
2. PIPING SYSTEM 12"LPCS(1)-4 IS CONSTRUCTED OF SEAMLESS SCH 80 PIPE & FITTINGS EXCEPT FOR THE S R ELL ASSOCIATED WITH WELDS 12LPCS(1)-8 & 12LPCS(1)-9 WHICH IS SEAMLESS SCH 100. USE CAL BLOCKS SHOWN BELOW ACCORDINGLY.
3. ACCESS TO WELDS 12LPCS(1)-5 & 12LPCS(1)-6 REQUIRES USE OF A LADDER.
4. ACCESS TO WELD 12LPCS(1)-1 REQUIRES REMOVAL OF LPCS-28.
5. LPCS-908N CHANGED FROM SNUBBER TO STRUT PER BDC-88-0525-SC-022.
6. LPCS-905N & LPCS-909N WERE DELETED PER BDC-88-0525-SC-022.

REFERENCES:

ISI - 220-2

BOVEE & CRAIL ISOMETRICS
LPCS-756-19.21 REV 12
LPCS-756-22.24 REV 12



4	6-7-94	DELETED NOTE 1. CAPPED CONN PER 85-0631-0A.	K-McA	DPR	DW	PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3	12-9-92	ADDED ISI DWG REF, DWG LINE CONT, NOTE 5 & NOTE 6. MODIFIED KEYPLAN & LOGO. DELETED UT-48. REDRAW	K-McA	DPR	DRM							
2	9-26-83	ADDED SUPPORTS. NOTES 3 & 4, LUGS. DELETED 3/4 LOC.	K-McA	DPR	TFH	12"LPCS(1)-4	12	80	0.688	SA 106 GR B	CS	UT-17
1	7-17-79	ELBOW CHANGED TO SEAMLESS DOWNSTREAM OF 12LPCS(1)-8 PER AS-BUILT. ZH 0-4.	K-McA	TFH / DMP	LFB	12"LPCS(1)-4	12	100	0.844	SA 106 GR B	CS	UT-18
0	11-27-78	ISSUED FOR USE (REDRAWN)	K-McA	DMP	LFB							
A	11-28-77	ISSUED FOR INFORMATION ONLY	K-McA	DMP / GMC	DMP							
NO	DATE	REVISION	BY	CHKD	APVD							

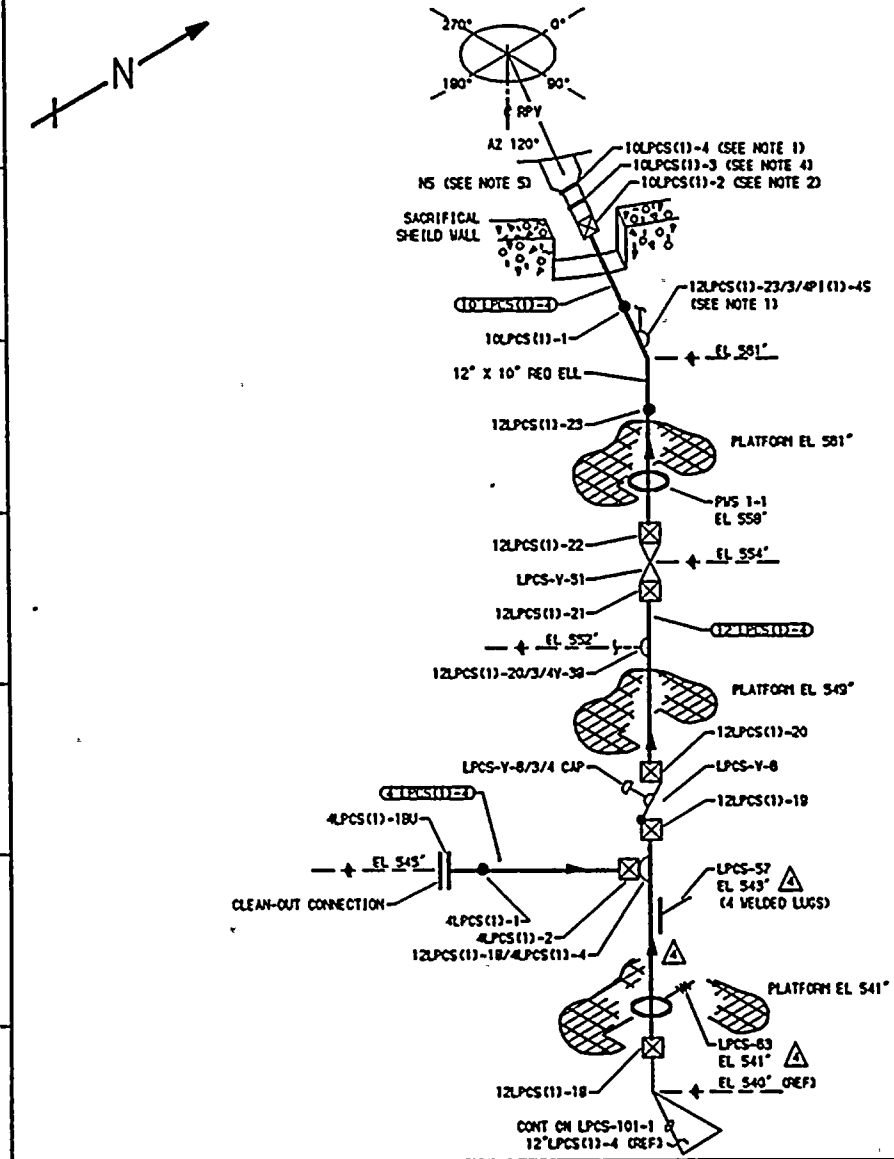
QUALITY CLASS: 1	ASME CODE CLASS: 1
ENGR: GA KUGLER	DRAWN: K-McA DATE: 10-28-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
LPCS DISCHARGE TO VESSEL

DWG NO. LPCS-101-1 REV 4



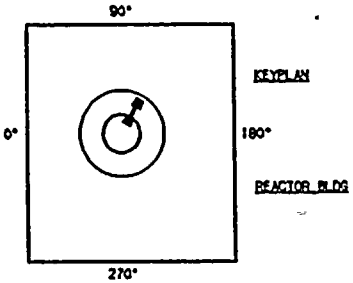
NOTES:

1. EXTEND VISUAL LEAKAGE EXAM THROUGH CONTAINMENT PENETRATION(X-78b) THROUGH EXCESS FLOW CHECK VALVE TO INSTRUMENT TUBING CONNECTION.
2. DISTANCE BETWEEN WELDS 10LPCS(1)-2 & 10LPCS(1)-3 IS LESS THAN 6".
3. DISSIMILAR METAL WELD, CS TO INCO, USE CAL BLOCK UT-102.
4. DISSIMILAR METAL WELD, INCO TO CS, USE CAL BLOCK UT-106.
5. FOR NOZZLE ASSEMBLY DETAILS SEE RPV-109.
6. LPCS-81 WAS DELETED PER BOC-88-0525-SC-022.

REFERENCES:

ISI - 220-2

BOVEE & CRAIL ISOMETRICS
LPCS-758-22.24 REV 12
LPCS-758-25.26 REV 8



THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

NO	DATE	REVISION	BY	CHKD	APVD
5	6-7-94	MODIFIED NOTES 1 & 2.	K-McA	DPR	DW
4	11-13-92	ADDED ISI DWG REF., DWG LINE CONT., NOTE 6, ELEV & KEYPLAN, MODIFIED LOGO. DELETED UT-48. REDRAWN	K-McA	DPR	DRW
3	9-26-83	ADDED SUPPORTS, LUGS. 3/4LOC CAPPED.	K-McA	DPR	TFH
2	11-5-80	ADDED NOTE 5 & AS NOTED.	K-McA	TFH / DMP	DMP
1	1-10-79	REVISED REFERENCE TO NOTES 3 & 4.	K-McA	TFH / DMP	DMP / LFB
0	11-27-78	ISSUED FOR USE CREDRAWN	K-McA	DMP	LFB
A	11-28-77	ISSUED FOR INFORMATION ONLY	K-McA	DMP / GAK	DMP

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
12"LPCS(1)-4	12	80	0.688	SA 106 GR B	CS	UT-17
4"LPCS(1)-4	4	80	0.337	SA 106 GR B	CS	UT-30
10"LPCS(1)-4	10	80	0.594	SA 106 GR B	CS	UT-22

QUALITY CLASS: 1 | ASME CODE CLASS: 1

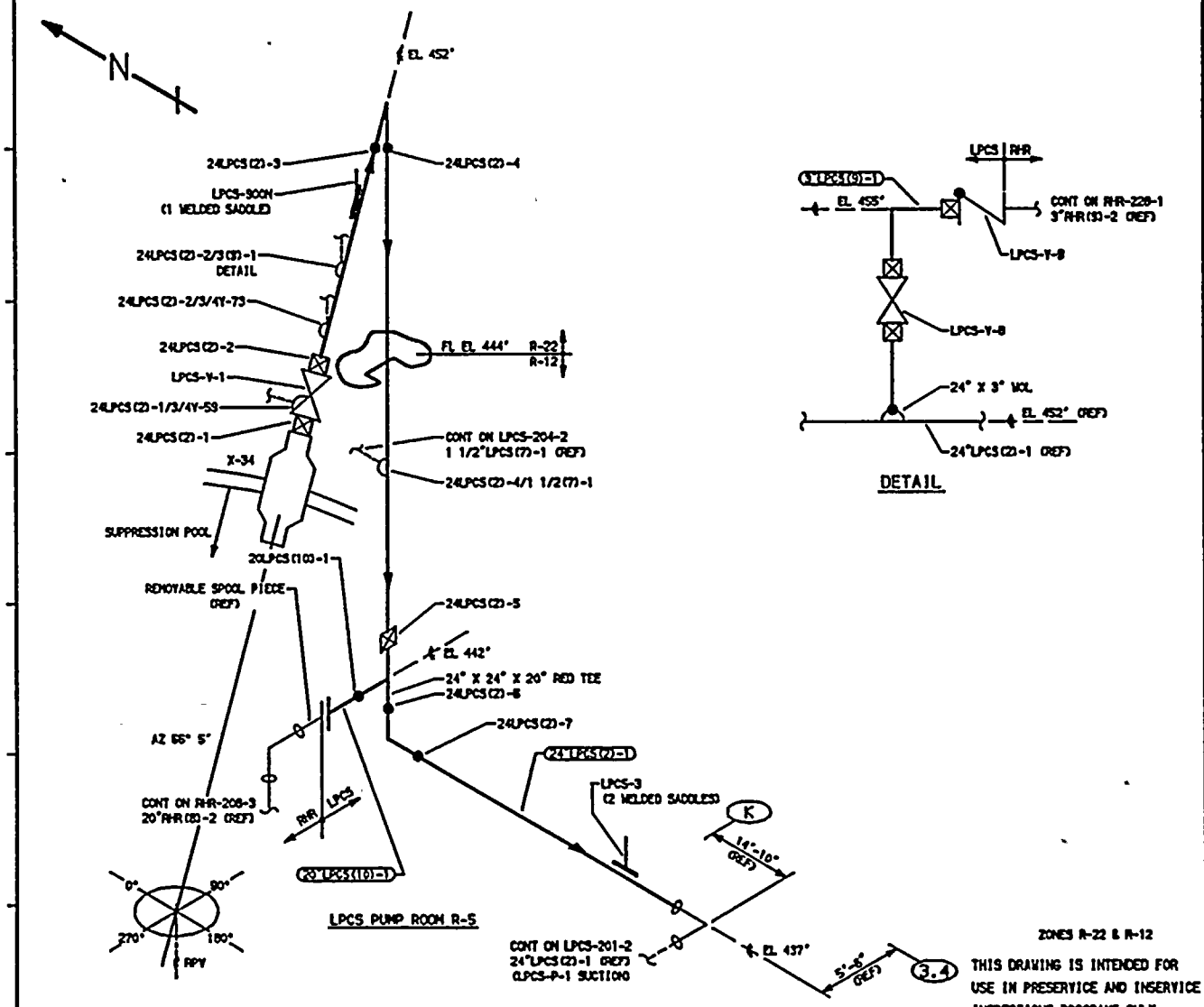
ENGR: GA KUGLER | DRAWN: K-McA | DATE: 10-31-77

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
LPCS DISCHARGE TO VESSEL

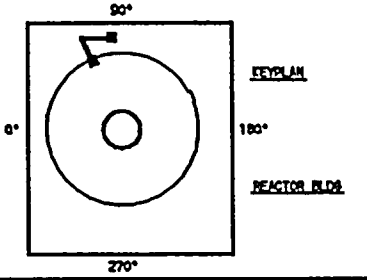
DWG NO. LPCS-101-2 | REV 5



REFERENCES:

ISI - 220-2

BOYEE & CRAIL ISOMETRIC
LPCS-758-1.2 REV 15



						PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3	11-13-92	MODIFIED KEYPLAN ADDED LOCO	K-McA	DPR	DRM							
2	1-23-86	NUMBERED WELDS, ADDED CONT DWG, CAL BLOCK NUMBERS, 3"LPCS(9)-1, DELETED NOTES, RENUMB	K-McA	DPR	TFH	24"LPCS(2)-1	24	STD	0.375	SA 106 GR B	CS	UT-50
1	10-13-83	ADDED 3/4 CONN, LPCS-900N, DELETED LPCS-4,5,6,7	K-McA	DPR	TFH	20"LPCS(10)-1	20	STD	0.375	SA 106 GR B	CS	UT-45
0	12-22-78	ISSUED FOR USE	K-McA	TFH / DMP	LFB	3"LPCS(9)-1	3	40	0.216	SA 106 GR B	CS	NA
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-McA	GAK	DMP							
NO	DATE	REVISION	BY	CHKD	APVD							

QUALITY CLASS: 1 | ASME CODE CLASS: 2

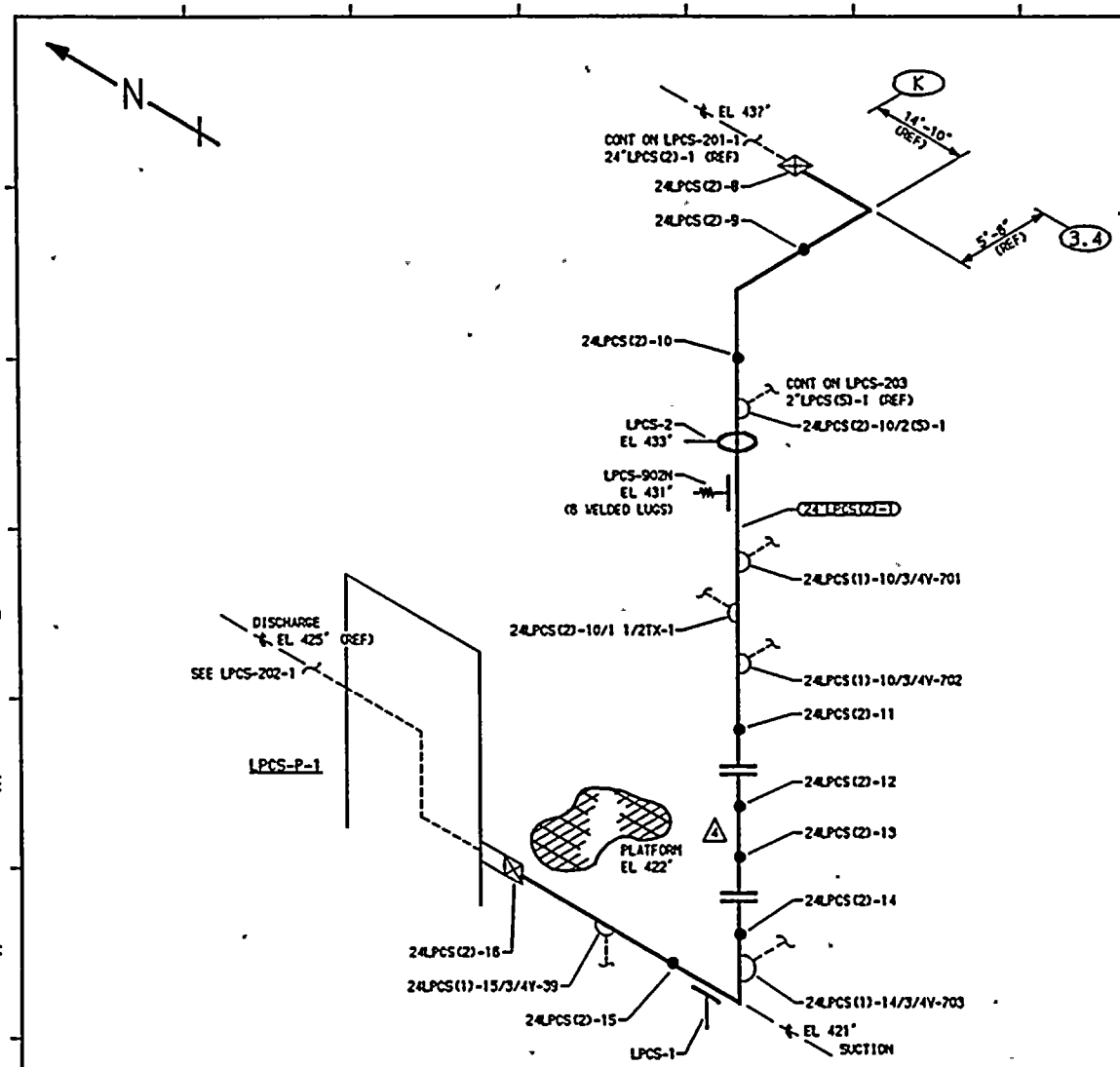
ENGR: GA KUGLER | DRAWN: K-McA | DATE: 8-16-78

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
LPCS SUPPRESSION POOL SUCTION

DWG NO. LPCS-201-1 REV 3



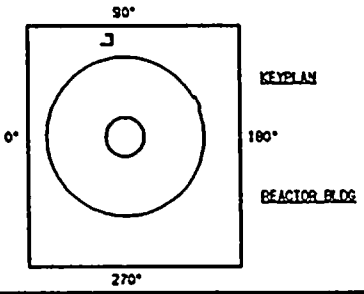
ZONE R-12

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES

ISI - Z20-2

BOYEE & CRAIL ISOMETRIC
LPCS-758-3.5 REV 11



QUALITY CLASS: 1		ASME CODE CLASS: 2			
ENGR: GA KUGLER		DRAWN: K-McA		DATE: 8-17-78	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

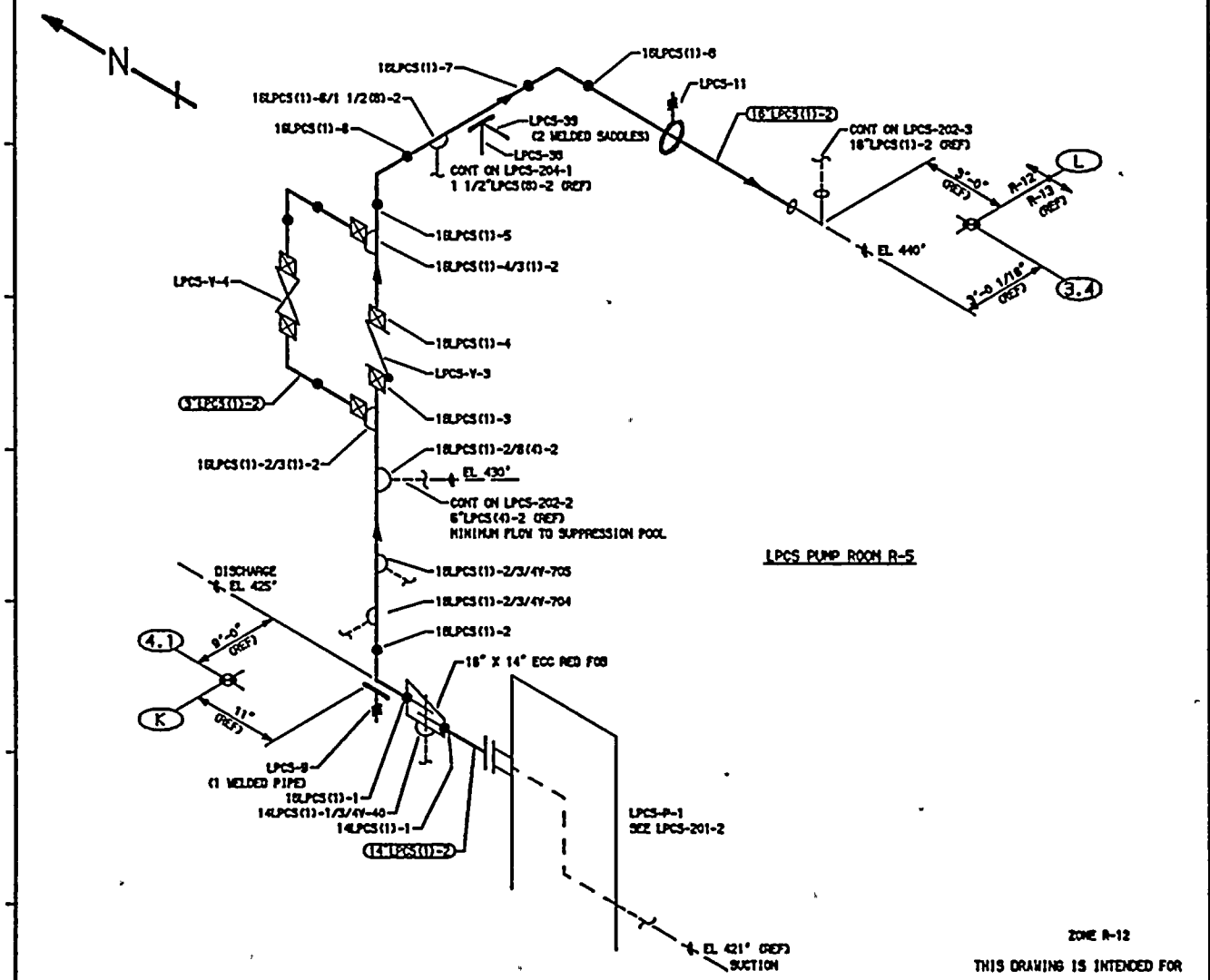
WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
LPCS-P-1 SUCTION

DWG NO. LPCS-201-2 REV 4

NO	DATE	REVISION	BY	CHKD	APVD
4	10-19-94	REMOVED LPCS-ST-1 PER BDC 85-0052-0A.	K-McA	DPR	DW
3	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRV
2	1-23-86	NUMBERED WELDS, ADDED CONT DWG, CAL BLOCK NUMBER, 3"LPCS(5)-1, DELETED NOTES, REDRAWN	K-McA	DPR	TFH
1	9-26-83	ADDED LPCS-1, 2, 902N & KEYPLAN	K-McA	DPR	TFH
0	12-22-78	ISSUED FOR USE	K-McA	TFH / DMP	LFB
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-McA	GAK	DMP

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
24"LPCS(2)-1	24	STD	0.375	SA 106 GR B	CS	UT-50



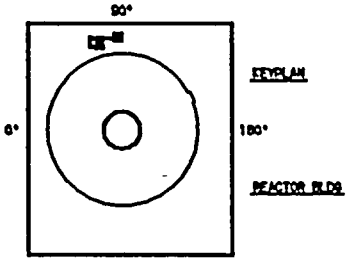
ZONE R-12

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-2

BOYCE & CRAIL ISOMETRIC
LPCS-758-1.4 REV 13



QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: GA KUGLER	DRAWN: K-McA
	DATE: 8-17-78

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

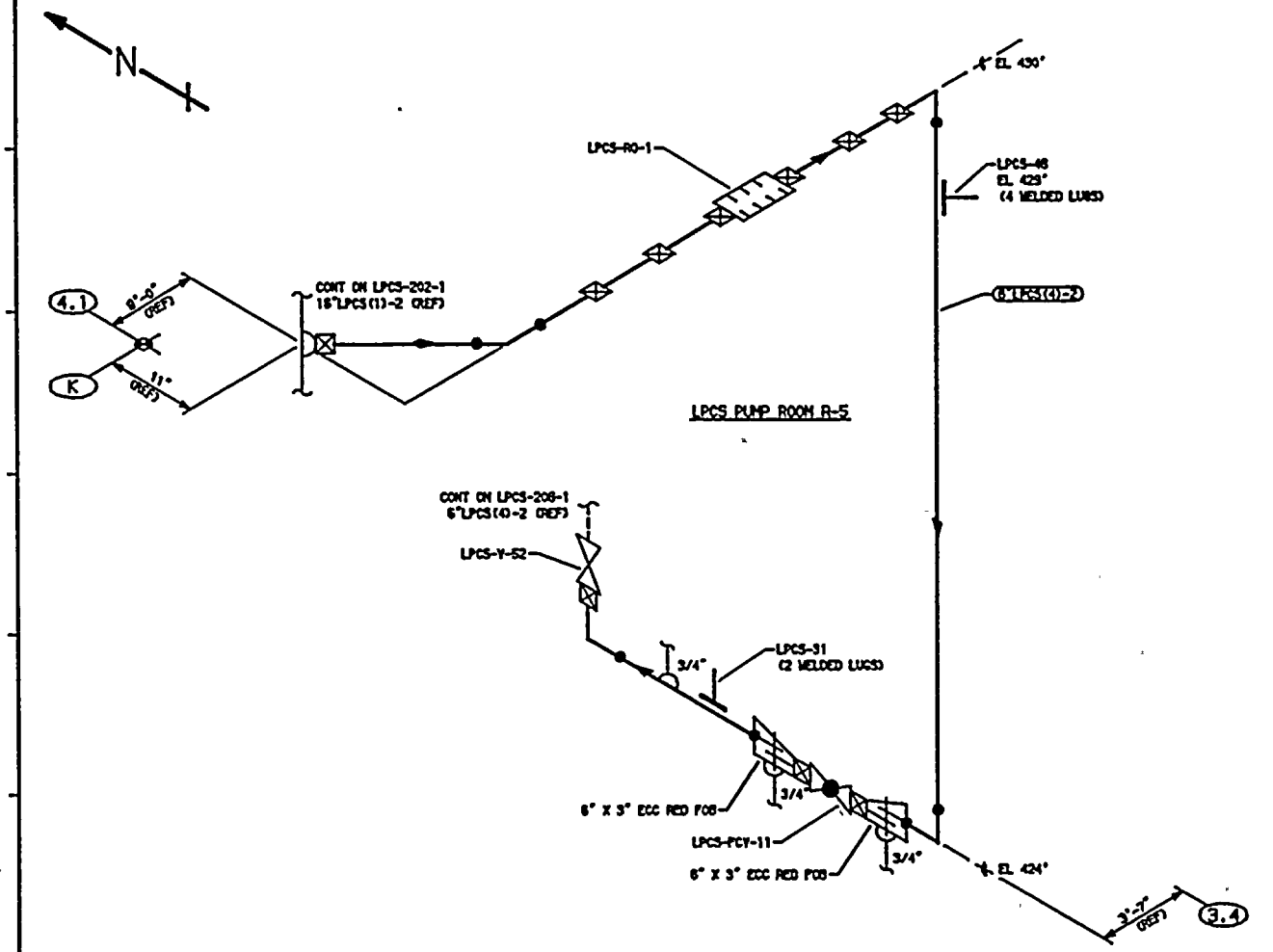
WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
LPCS-P-1 DISCHARGE

DWG NO: LPCS-202-1 REV 3

NO	DATE	REVISION	BY	CHKD	APVD
3	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
2	1-23-86	ADDED 3"LPCS(1)-3, CONT DWG, CAL BLOCK NUMBERS, DELETED NOTES, REDRAWN.	K-McA	DPR	TFH
1	9-26-83	NUMBERED WELDS, ADDED NOTE 3, 14"LPCS(1)-2, DEL LPCS-10	K-McA	DPR	TFH
0	12-22-78	ISSUED FOR USE	K-McA	TFH / DMP	LFB
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-McA	GAK	DMP

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
16"LPCS(1)-2	16	STD	0.375	SA 106 GR B	CS	UT-39
14"LPCS(1)-1	14	STD	0.375	SA 106 GR B	CS	UT-38
3"LPCS(1)-2	3	40	0.216	SA 106 GR B	CS	NA



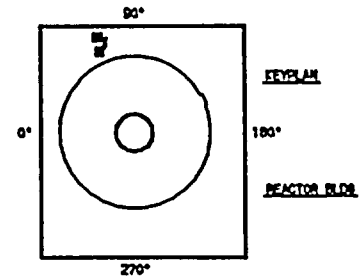
NOTES:

1. THIS DRAWING IDENTIFIES PIPING AND COMPONENTS SUBJECT TO A VISUAL EXAM FOR EVIDENCE OF LEAKAGE DURING SYSTEM HYDRO OR OPERABILITY TESTS. TESTS ARE TO BE CONDUCTED PER THE REQUIREMENTS OF ASME SECTION XI, PARAGRAPH IWA-5000.
2. FOR BRANCH PIPING 4" NOM. OR LESS (CONNECTION SHOWN IN DASHED LINES) EXTEND VISUAL LEAKAGE EXAM THROUGH THE OUTERMOST NORMALLY CLOSED NUCLEAR CLASS VALVE, OR UNTIL TRANSITION TO INSTRUMENT TUBING, UNLESS OTHERWISE NOTED.

REFERENCES:

ISI - 220-2

BOVEE & CRAIL ISOMETRIC
LPCS-758-5.7 REV 14



THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: GA KUGLER	DRAWN: K-McA
DATE: 8-17-78	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

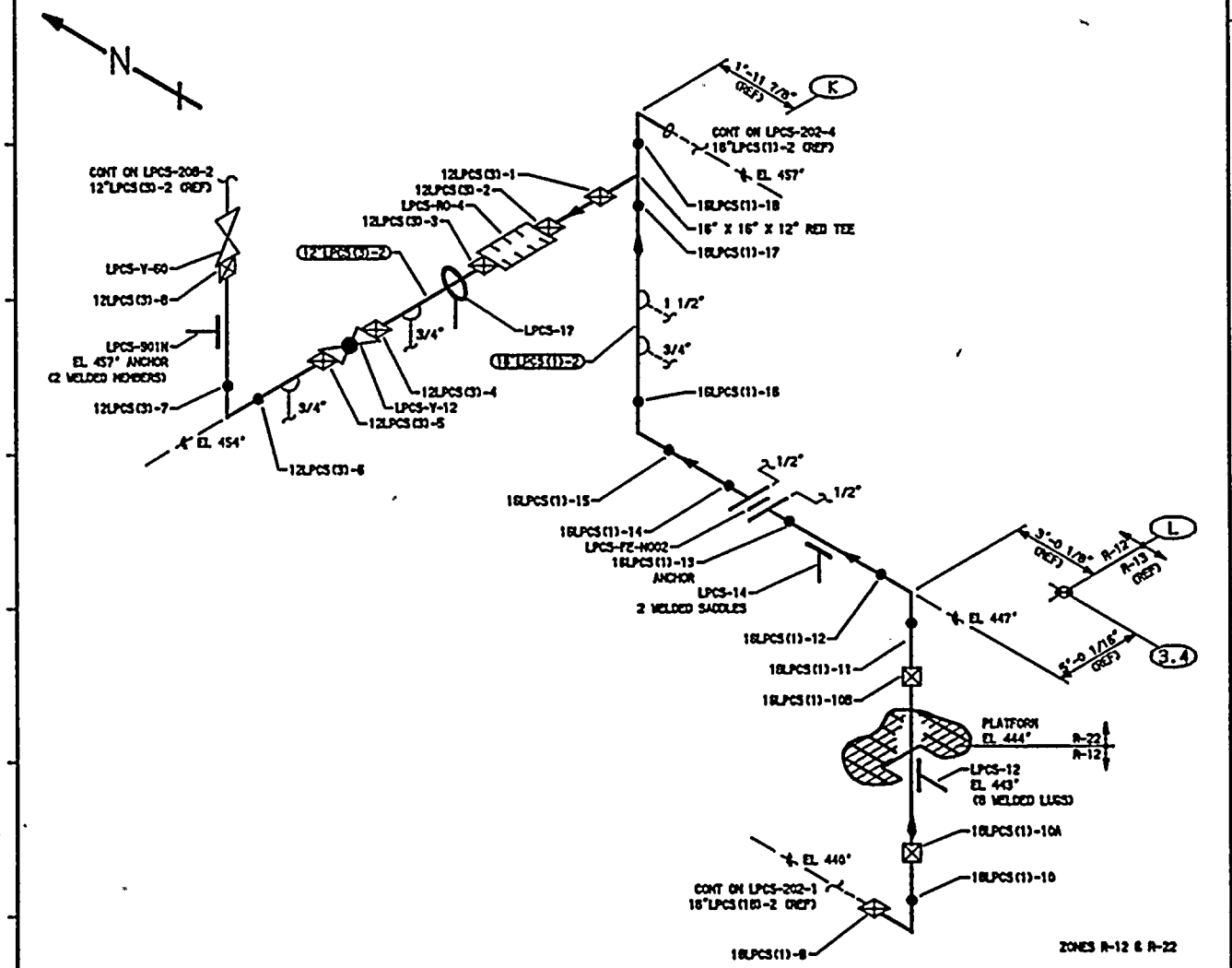
WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
LPCS MINIMUM FLOW LINE TO SUPPRESSION POOL

DWG NO. LPCS-202-2 REV 3

NO	DATE	REVISION	BY	CHKD	APVD
3	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
2	1-23-86	ADDED LPCS-RO-1, 3/4" CONN IN E-5, CONT DWG, REDRAWN	K-McA	DPR	TFH
1	9-26-83	ADDED LPCS-31 ADDED KEYPLAN	K-McA	DPR	TFH
0	12-22-78	ISSUED FOR USE	K-McA	TFH / DMP	LFB
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-McA	GAK	DMP

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
6"LPCS(4)-2	6	STD	0.280	SA 106 GR B	CS	NA



LPCS PUMP ROOM R-5

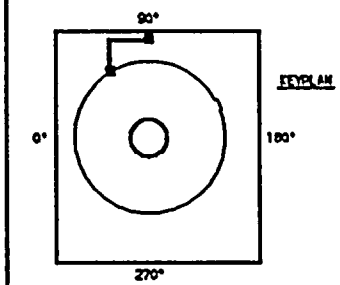
ZONES R-12 & R-22

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-2

BOYEE & CRAIL ISOMETRICS
LPCS-758-8.10 REV 9
LPCS-759-1 REV 12



KEYPLAN

QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: GA KUGLER	DRAWN: K-McA
DATE: 8-18-78	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

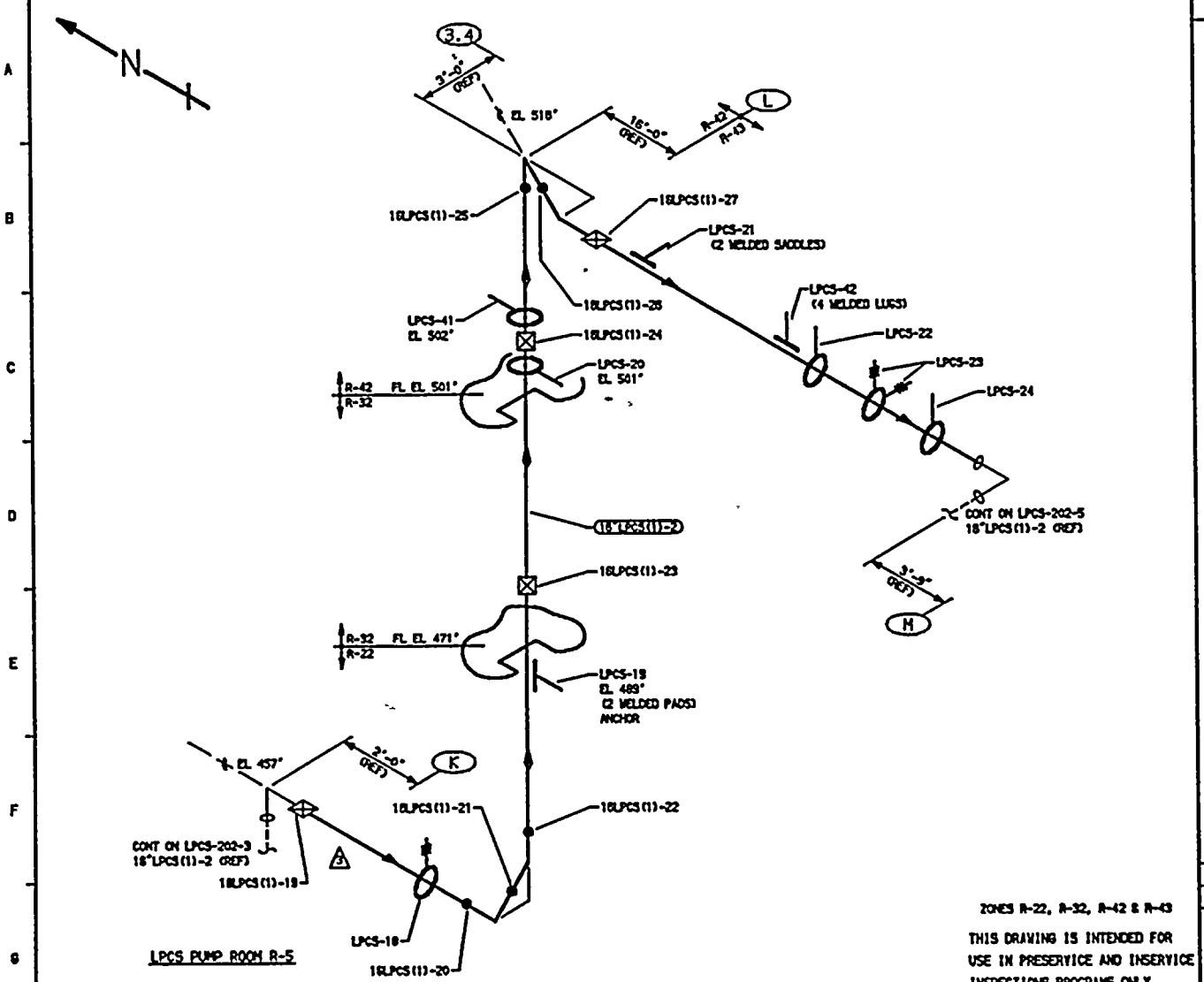
WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
LPCS-PUMP-1 DISCHARGE & TEST LINES

DWG NO. LPCS-202-3 REV 3

NO	DATE	REVISION	BY	CHKD	APVD
3	11-13-92	ADDED LOGO, CORRECTED CONT, ALL REF DIM & MOD KEYPLAN.	K-McA	DPR	DRM
2	1-23-86	ADDED UT-39, UT-18, CONT DWG. DELETED NOTES, REDRAWN	K-McA	DPR	TFH
1	9-26-83	RUMBERED WELDS, ADDED LPCS-901N, DELETED LPCS-15, 45, 15 & 40. CHANGED LPCS-12 & 17	K-McA	DPR	TFH
0	12-22-78	ISSUED FOR USE	K-McA	TFH / DMP	LFB
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-McA	GAK	DMP

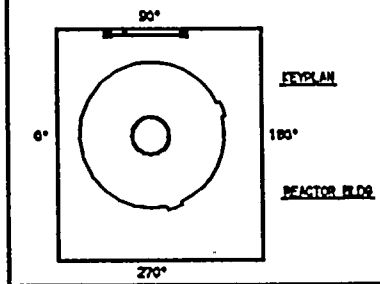
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
16"LPCS(1)-2	16	STD	0.375	SA 106 GR B	CS	UT-39
12"LPCS(3)-2	12	STD	0.375	SA 106 GR B	CS	UT-18



ZONES R-22, R-32, R-42 & R-43

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:
1SI - 220-2
BOYEE & CRAIL ISOMETRIC
LPCS-758-11.15 REV 7



NO	DATE	REVISION	BY	CHKD	APVD
3	2-20-82	DELETED WELD 18LPCS(1)-19A. ADDED LOGO.	K-McA	OJ	DPR
2	1-23-80	CONFIG MOD ZN G-4, DEL NOTES, ADD UT-39, REDRAWN	K-McA	DPR	TFH
1	9-26-63	NUMBERED WELDS, LPCS-20, 22, & 24 NOW RIGID	K-McA	DPR	TFH
0	12-22-78	ISSUED FOR USE	K-McA	TFH / DMP	LFB
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-McA	GAK	DMP

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
18"LPCS(1)-2	18	STD	0.375	SA 106 GR B	CS	UT-39

QUALITY CLASS: 1 | ASME CODE CLASS: 2

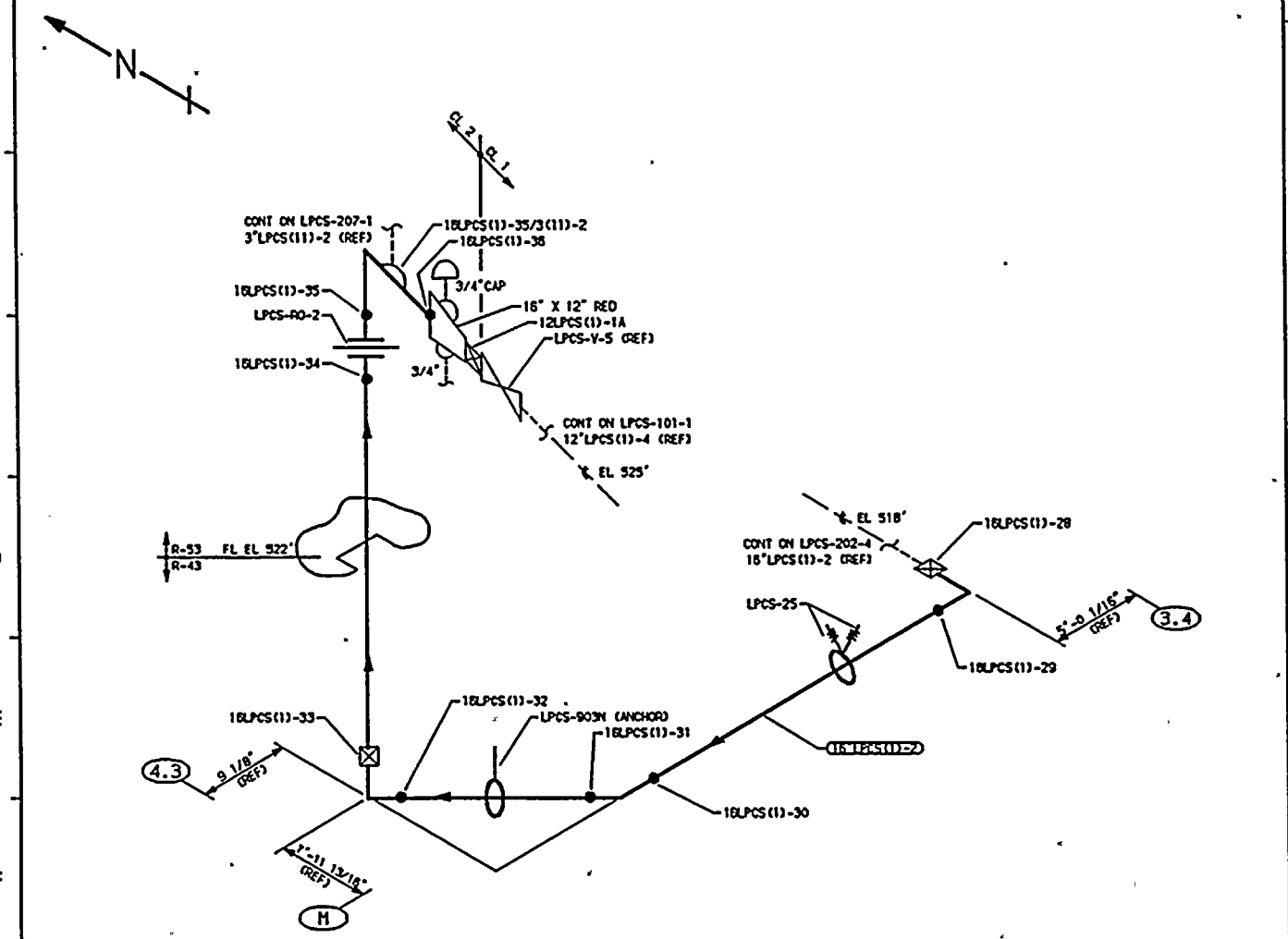
ENGR: GA KUGLER | DRAWN: K-McA | DATE: 8-21-78

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE: LPCS-PUMP-1 DISCHARGE

DWG NO: LPCS-202-4 | REV 3



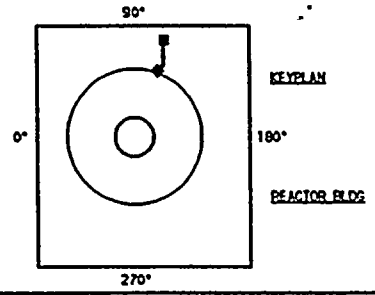
ZONES R-43 & R-53

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-2

BOYEE & CRAIL ISOMETRICS
LPCS-756-11.15 REV 7
LPCS-758-18.18 REV 14



4	10-19-94	LINE CAPPED PER 85-0631-0A ZN 8-3.	K-McA	DPR	DW	PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW							
2	1-23-86	ADDED CONT DWG, UT-39, UT-18, DELETED NOTES, REDRAWN	K-McA	DPR	TFH	16"LPCS(1)-2	16	STD	0.375	SA 106 GR B	CS	UT-39
1	9-26-83	NUMBERED WELDS, ADDED NOTE 3, LPCS-903N, DELETED LPCS-17, 43, 47 & 78. ADDED 12"LPCS(1)-2	K-McA	DPR	TFH	12"LPCS(1)-2	12	STD	0.375	SA 106 GR B	CS	UT-18
0	12-22-78	ISSUED FOR USE	K-McA	TFH / DMP	LFB							
A	10-3-78	ISSUED FOR INFORMATION ONLY	K-McA	GAK	DMP							
NO	DATE	REVISION	BY	CHKD	APVD							

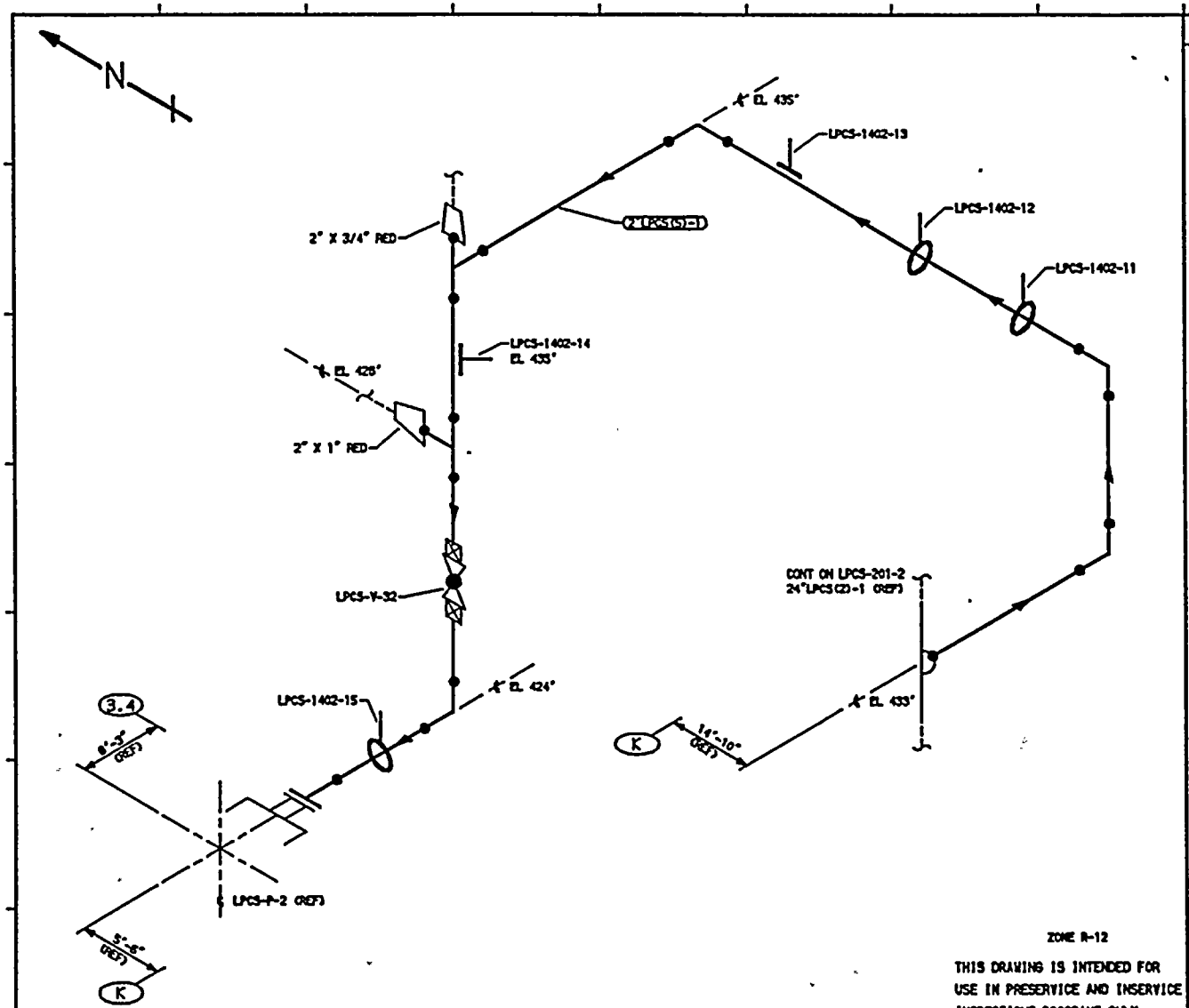
QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: GA KUGLER	DRAWN: K-McA
DATE: 8-21-78	

WASHINGTON PUBLIC POWER SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
LPCS-PUMP-1 DISCHARGE

DWG NO. LPCS-202-5 REV 4



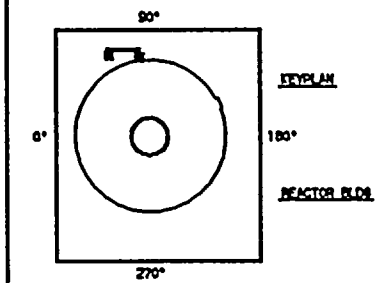
ZONE B-12

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-2

BOYEE & CRAIL ISOMETRIC
LPCS-1402-1 REV 12



QUALITY CLASS: 1	ASME CODE CLASS: 2	
ENGR: K-McANDREW	DRAWN: K-McA	DATE: 5-28-85

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

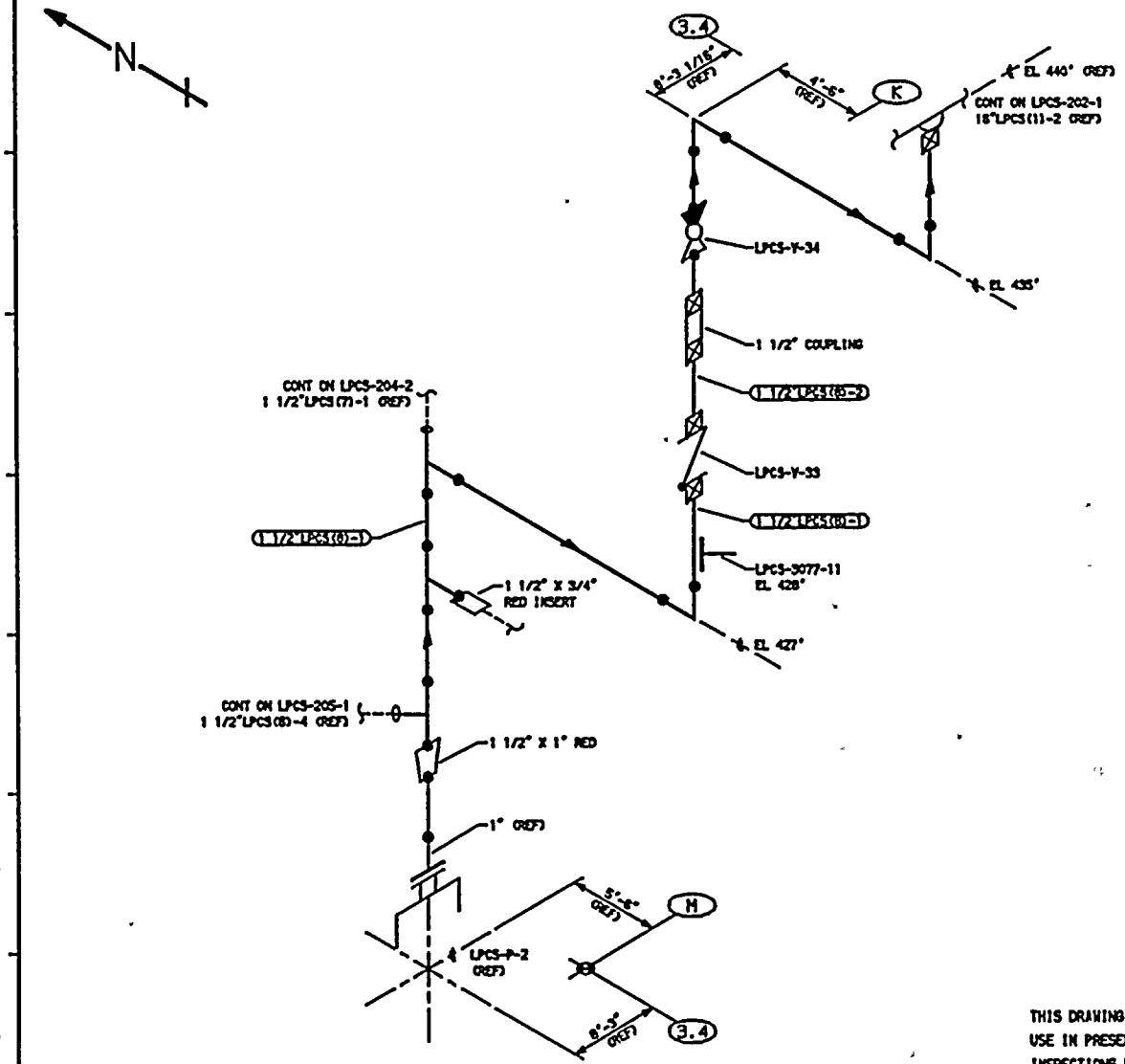
WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
WATER LEG PUMP LPCS-P-2 SUCTION
FROM LPCS-P-1 SUCTION LINE

DWG NO. LPCS-203 REV 1

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
2"LPCS(S)-1	2	80	0.218	SA 106 GR B	CS	NA

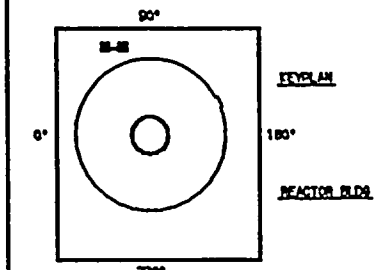
NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRM
0	1-23-86	ISSUED FOR USE	K-McA	DPR	TPH



REFERENCES:

ISI - 220-2

BOYEE & CRAIL ISOMETRICS
LPCS-3077-1 REV 10
LPCS-4472-1 REV 12



ZONE R-12

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
1 1/2"LPCS(8)-1	1 1/2	80	0.200	SA 106 GR B	CS	NA
1 1/2"LPCS(8)-2	1 1/2	160	0.218	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
0	1-23-85	ISSUED FOR USE	K-McA	DPR	TFN

QUALITY CLASS: 1 | ASME CODE CLASS: 2

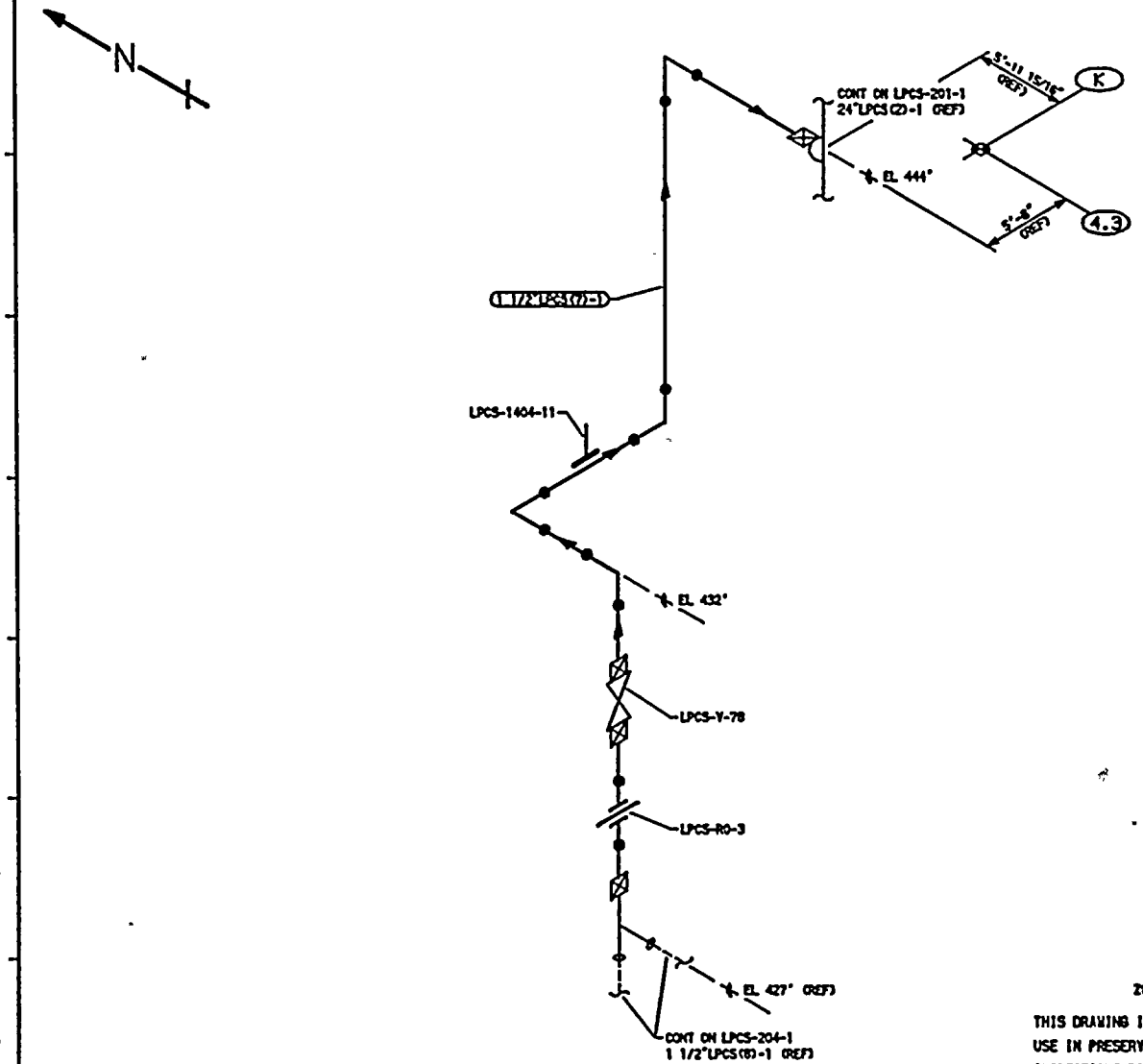
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 8-4-85

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
WATER LEG PUMP LPCS-P-2 DISCHARGE
TO LPCS-P-1 DISCHARGE LINE

DWG NO. LPCS-204-1 | REV 1



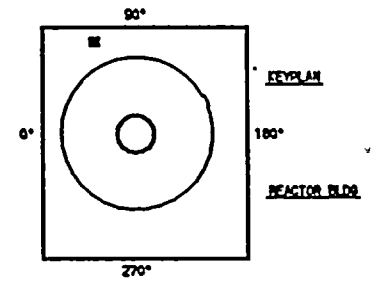
ZONE R-12

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
1 1/2"LPCS(7)-1	1 1/2	80	0.200	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
0	1-23-86	ISSUED FOR USE	K-McA	DPR	TPH

REFERENCES:
ISI - 220-2
BOYEE & CRAIL ISOMETRICS
LPCS-1404-1 REV 7



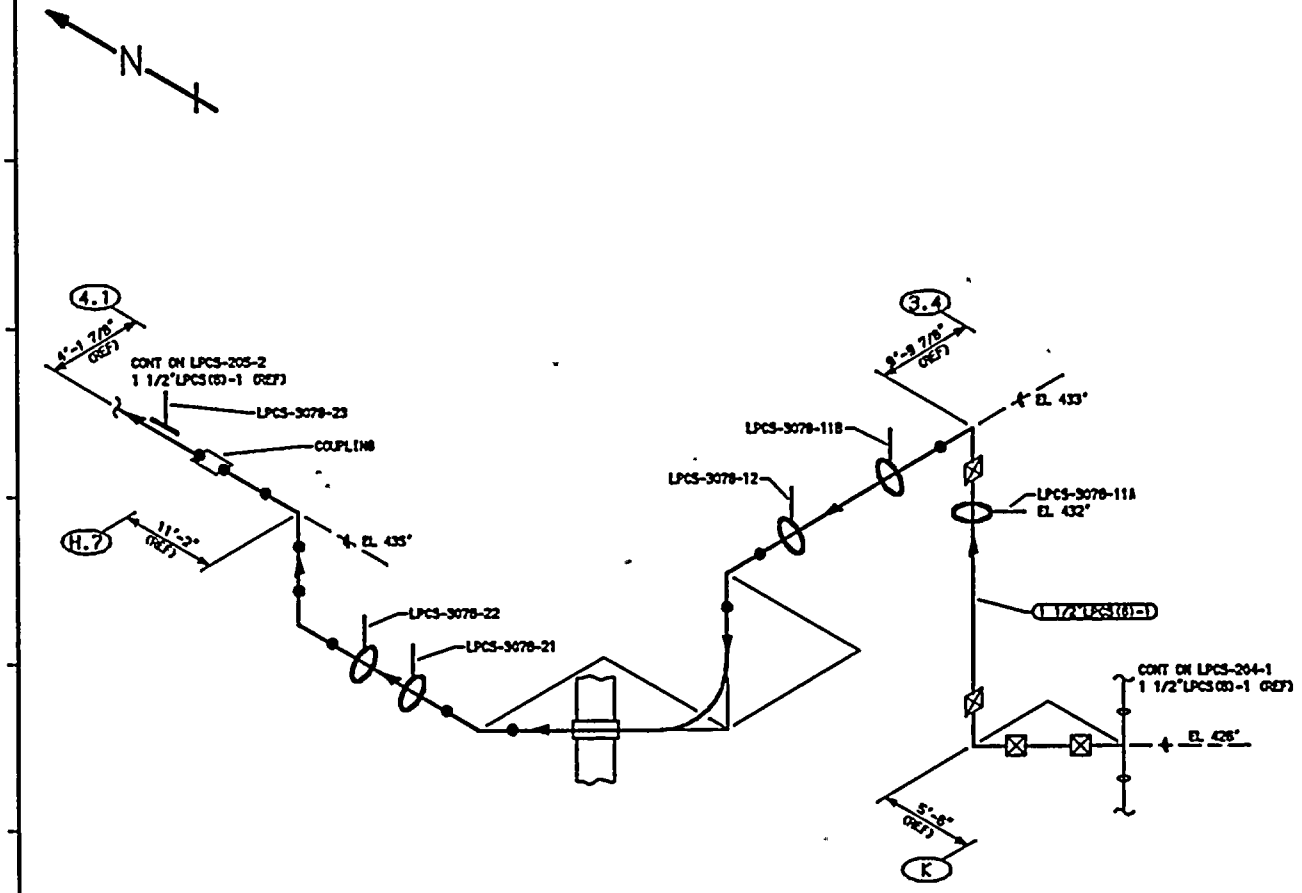
QUALITY CLASS: 1 | ASME CODE CLASS: 2
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 8-5-85

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
WATER LEG PUMP LPCS-P-2 DISCHARGE
TO LPCS-P-1 SUCTION LINE

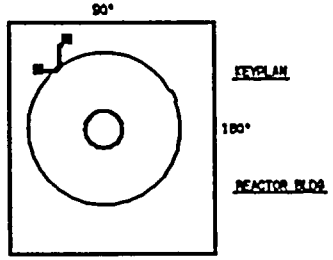
DWG NO. LPCS-204-2 | REV 1



REFERENCES:

ISI - 220-2

BOYEE & CRAIL ISOMETRICS
LPCS-3078-1 REV 9
LPCS-3078-2 REV 10



ZONE R-12

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
1 1/2"LPCS(6)-1	1 1/2	80	0.200	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRM
0	1-23-68	ISSUED FOR USE	K-McA	DPR	TFH

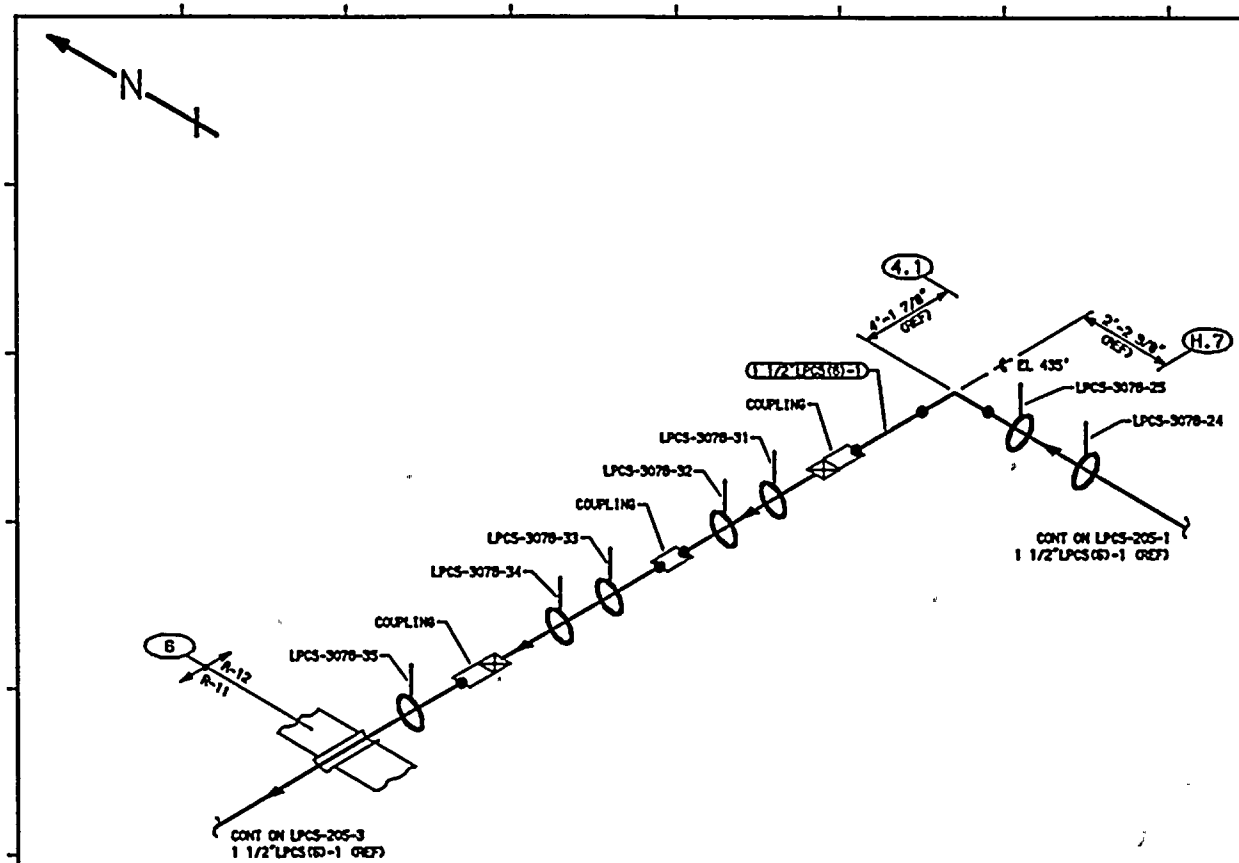
QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 6-6-65	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
WATER LEG PUMP LPCS-P-2
DISCHARGE TO RHR SYSTEM

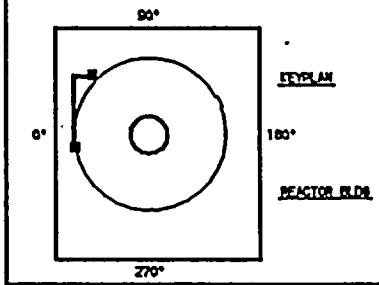
DWG NO. LPCS-205-1 REV 1



REFERENCES:

ISI - 220-2

BOYEE & CRAIL ISOMETRICS
LPCS-3078-2 REV 10
LPCS-3078-3 REV 11



ZONES R-12 & R-11

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 6-6-85	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

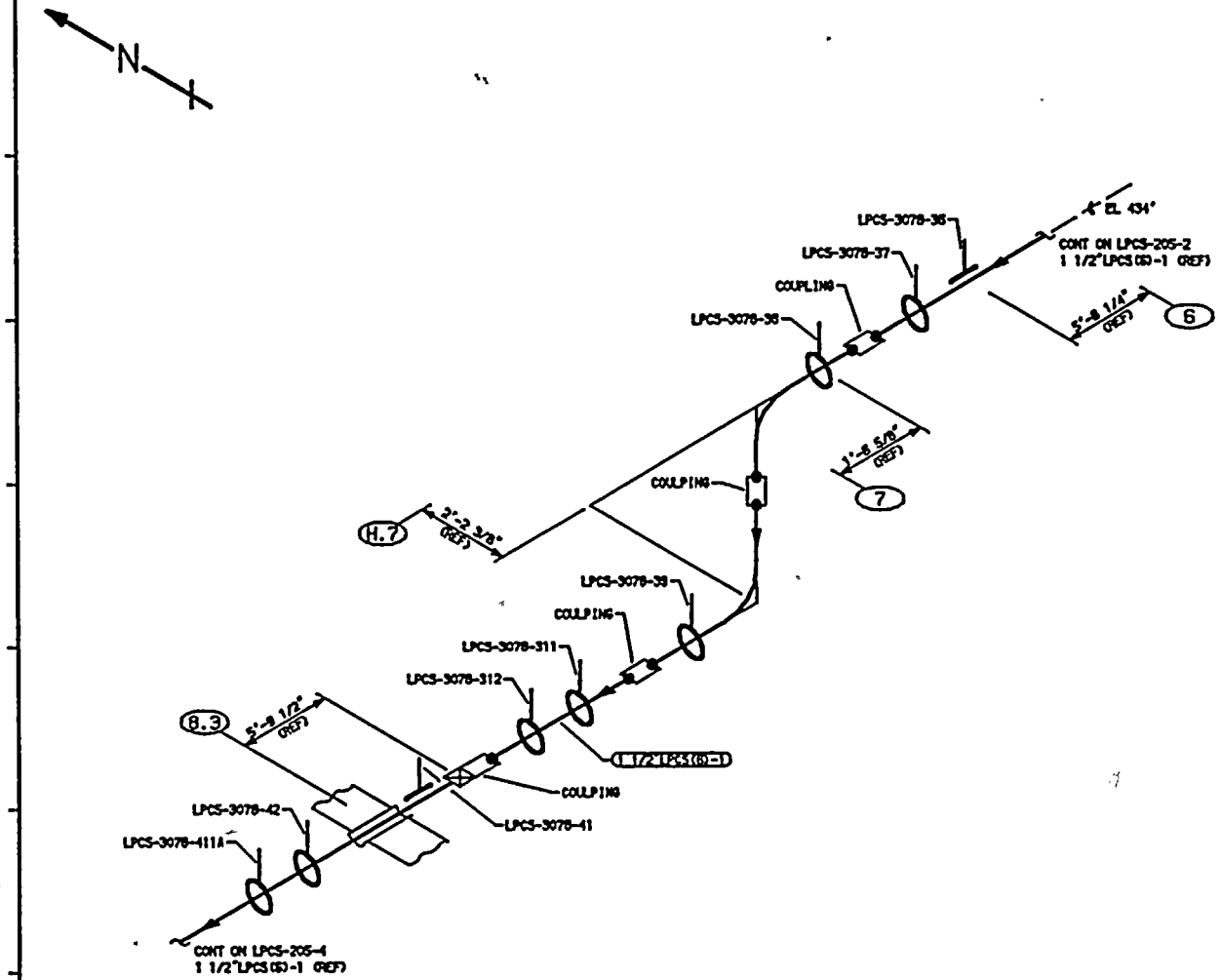
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
1 1/2"LPCS(6)-1	1 1/2	80	0.200	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
0	1-23-86	ISSUED FOR USE	K-McA	DPR	TPH

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
WATER LEG PUMP LPCS-P-2
DISCHARGE TO RHR SYSTEM

DWG NO. LPCS-205-2 REV 1



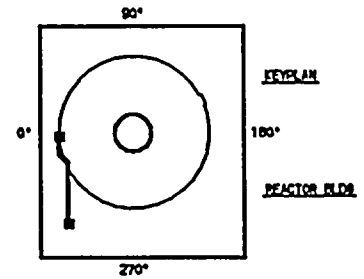
ZONE B-11

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
1 1/2"LPCS(B)-1	1 1/2	80	0.200	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-15-82	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
0	1-23-80	ISSUED FOR USE	K-McA	DPR	TPM

REFERENCES:
ISI - 220-2
BOYEE & CRAIL ISOMETRICS
LPCS-3078-3 REV 11
LPCS-3078-4 REV 11



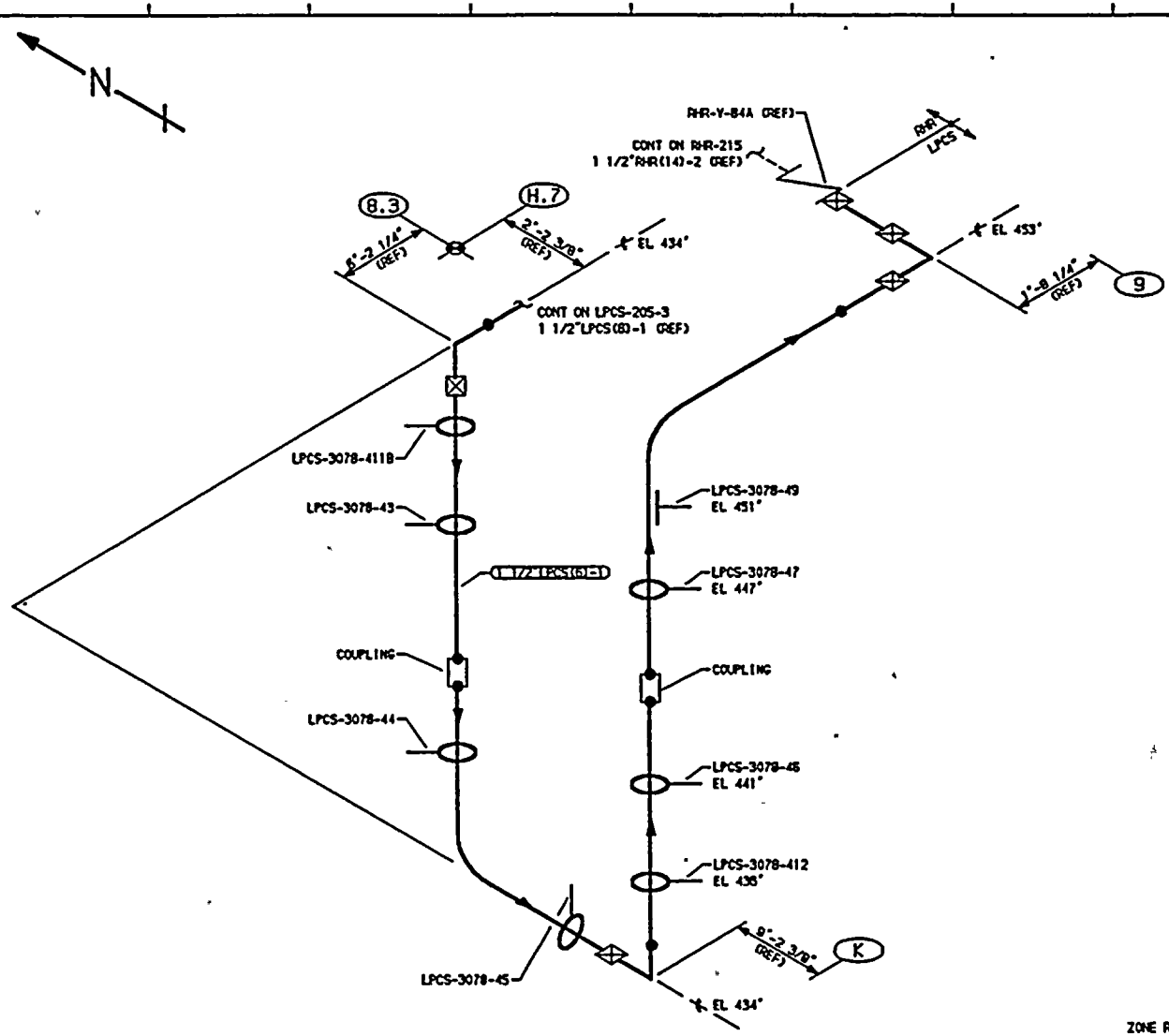
QUALITY CLASS: 1 | ASME CODE CLASS: 2
ENGR: K-McANDREW | DRAWN: K-McA | DATE: 6-11-85

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
WATER LEG PUMP LPCS-P-2
DISCHARGE TO RHR SYSTEM

DWG NO. LPCS-205-3 REV 1



ZONE R-11

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

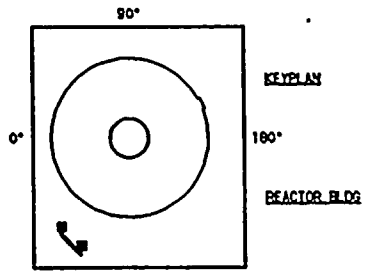
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
1 1/2"LPCS(8)-1	1 1/2	80	0.200	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	0-27-94	ADDED SYSTEM LINE NUMBER ZN D-4.	K-McA	DPR	DW
1	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
0	1-23-86	ISSUED FOR USE	K-McA	DPR	TFH

REFERENCES:

ISI - 220-2

BOYEE & CRAIL ISOMETRICS
LPCS-3078-4 REV 11



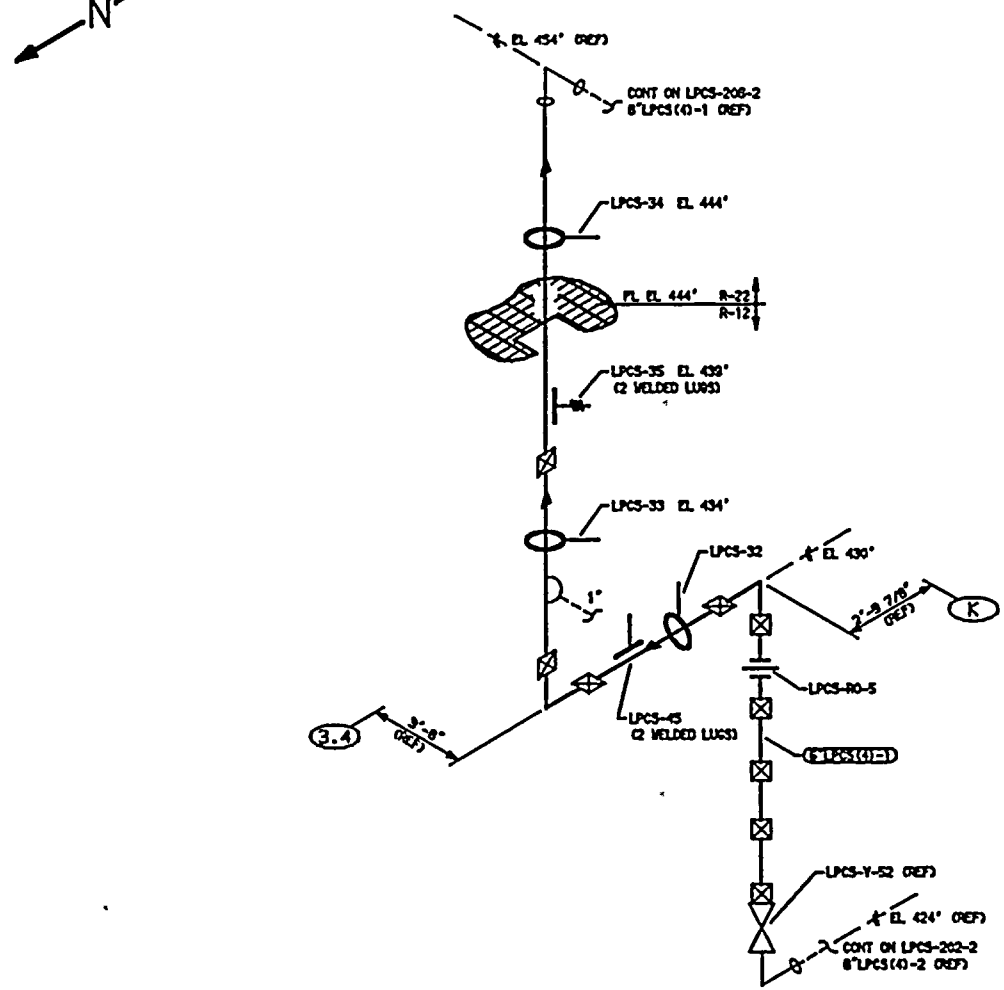
QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA	DATE: 6-11-85

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
WATER LEG PUMP LPCS-P-2
DISCHARGE TO RHR SYSTEM

DWG NO. LPCS-205-4 REV 2



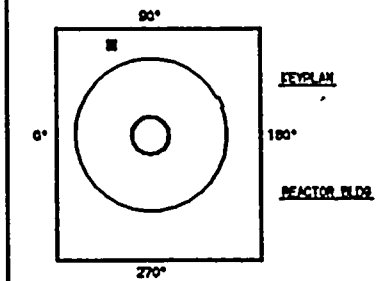
ZONES R-22 & R-12

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-2

BOYEE & CRAIL ISOMETRICS
LPCS-758-5.7 REV 14
LPCS-757-1.3 REV 12



QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 2-27-85	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

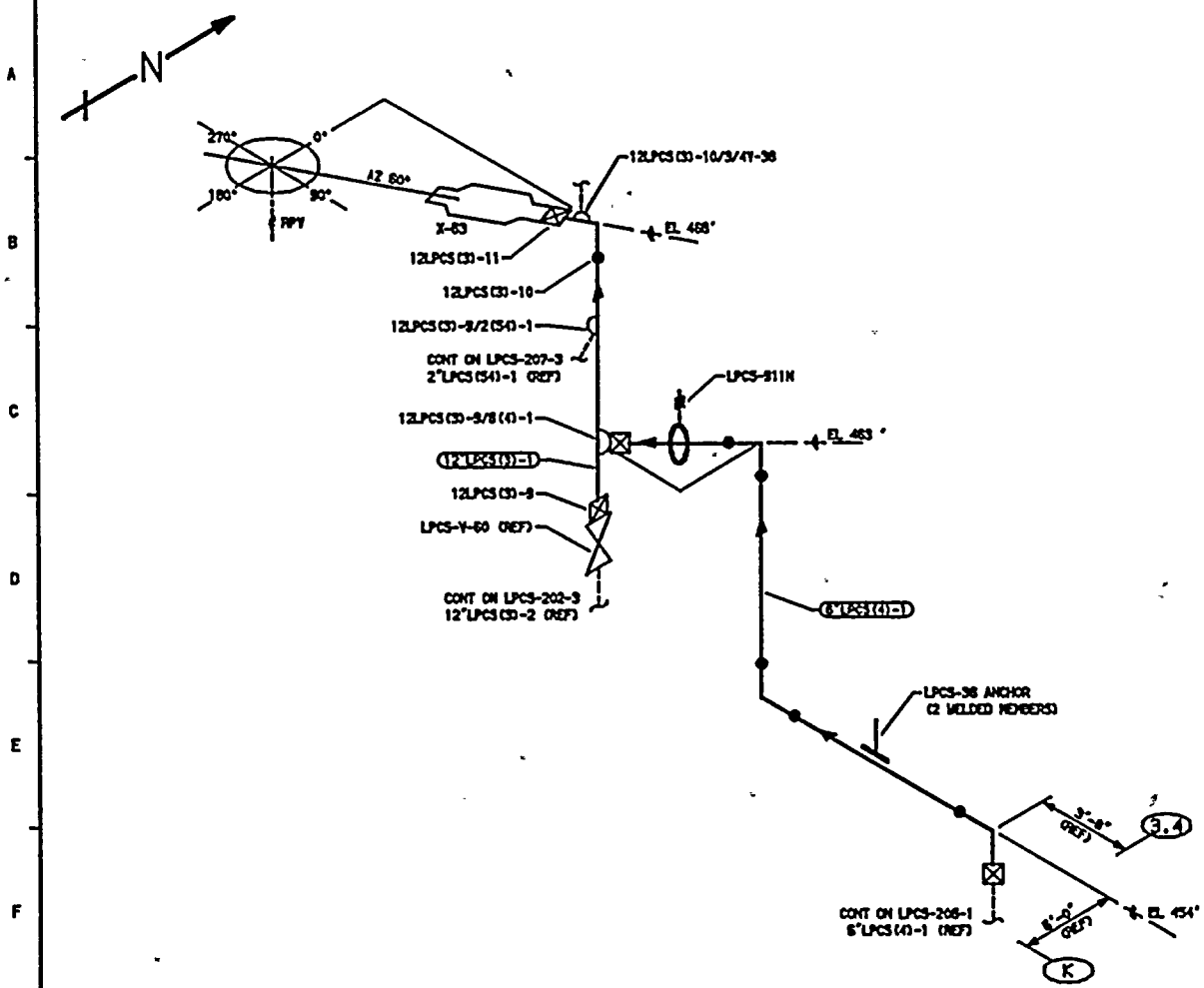
WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
LPCS-P-1 MINIMUM FLOW
TO SUPPRESSION POOL

DWG NO: LPCS-206-1 REV 2

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
8"LPCS(4)-2	8	STD	0.280	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
1	1-23-86	CHANGED DWG CONT IN 6-8	K-McA	DPR	TFH
0	4-24-85	ISSUED FOR USE	K-McA	DPR	TFH



ZONE A-22

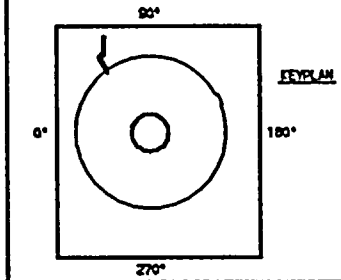
THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-2

BOYEE & CRAIL ISOMETRICS
LPCS-757-1.3 REV 12
LPCS-759-1 REV 13

KEYPLAN



QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 2-28-85	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

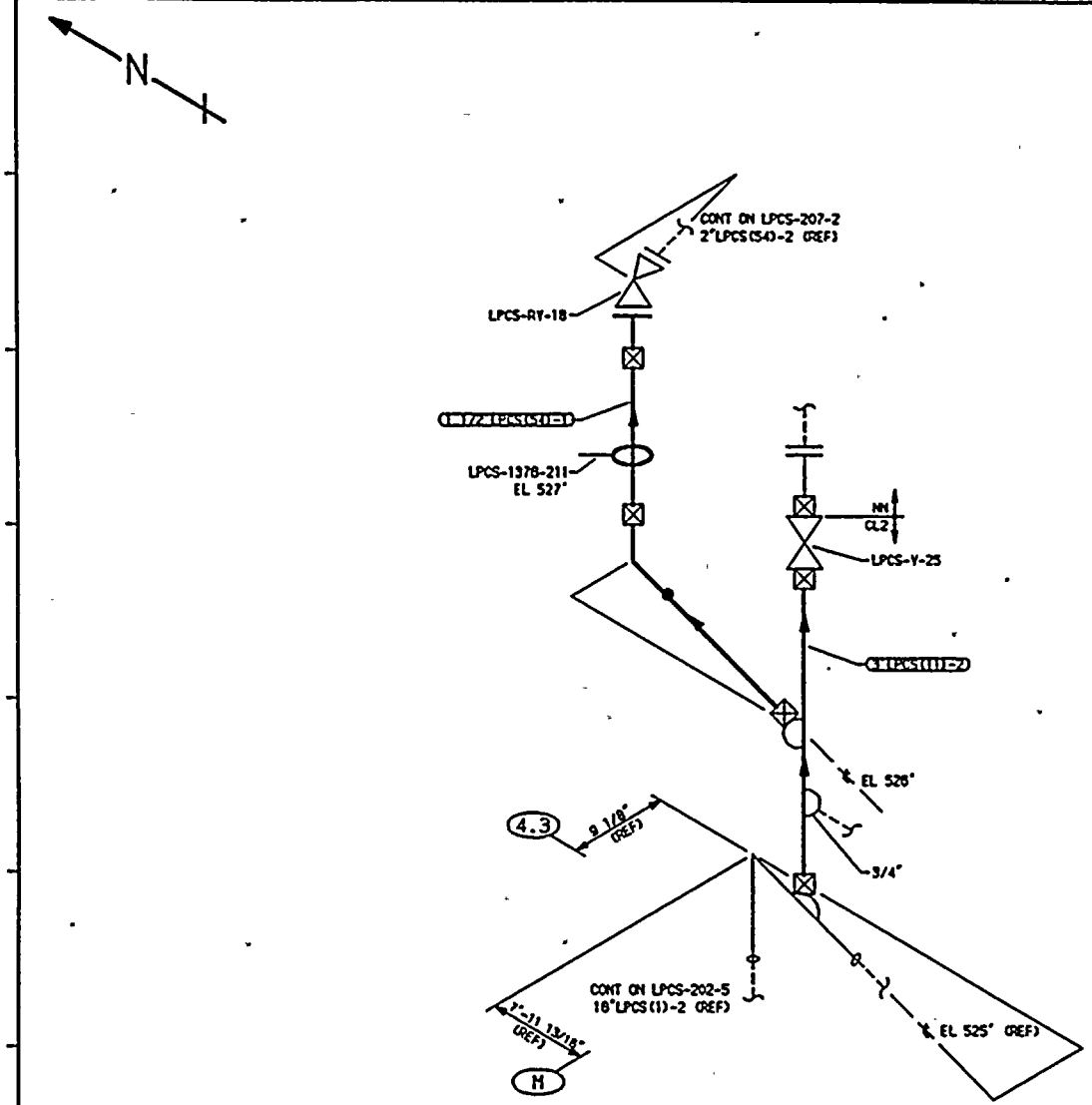
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
6"LPCS(4)-2	6	STD	0.280	SA 106 GR B	CS	NA
12"LPCS(3)-1	12	STD	0.375	SA 106 GR B	CS	UT-1B

NO	DATE	REVISION	BY	CHKD	APVD
1	12-9-82	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRN
0	4-24-85	ISSUED FOR USE	K-McA	DPR	TFH

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
LPCS-P-1 MINIMUM FLOW
TO SUPPRESSION POOL

DWG NO. LPCS-206-2 REV 1



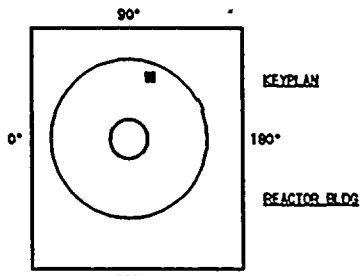
ZONE R-53

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-2

BOVEE & CRAIL ISOMETRICS
LPCS-758-18.18 REV 14
LPCS-1378-1 REV 9



QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
	DATE: 8-14-85

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

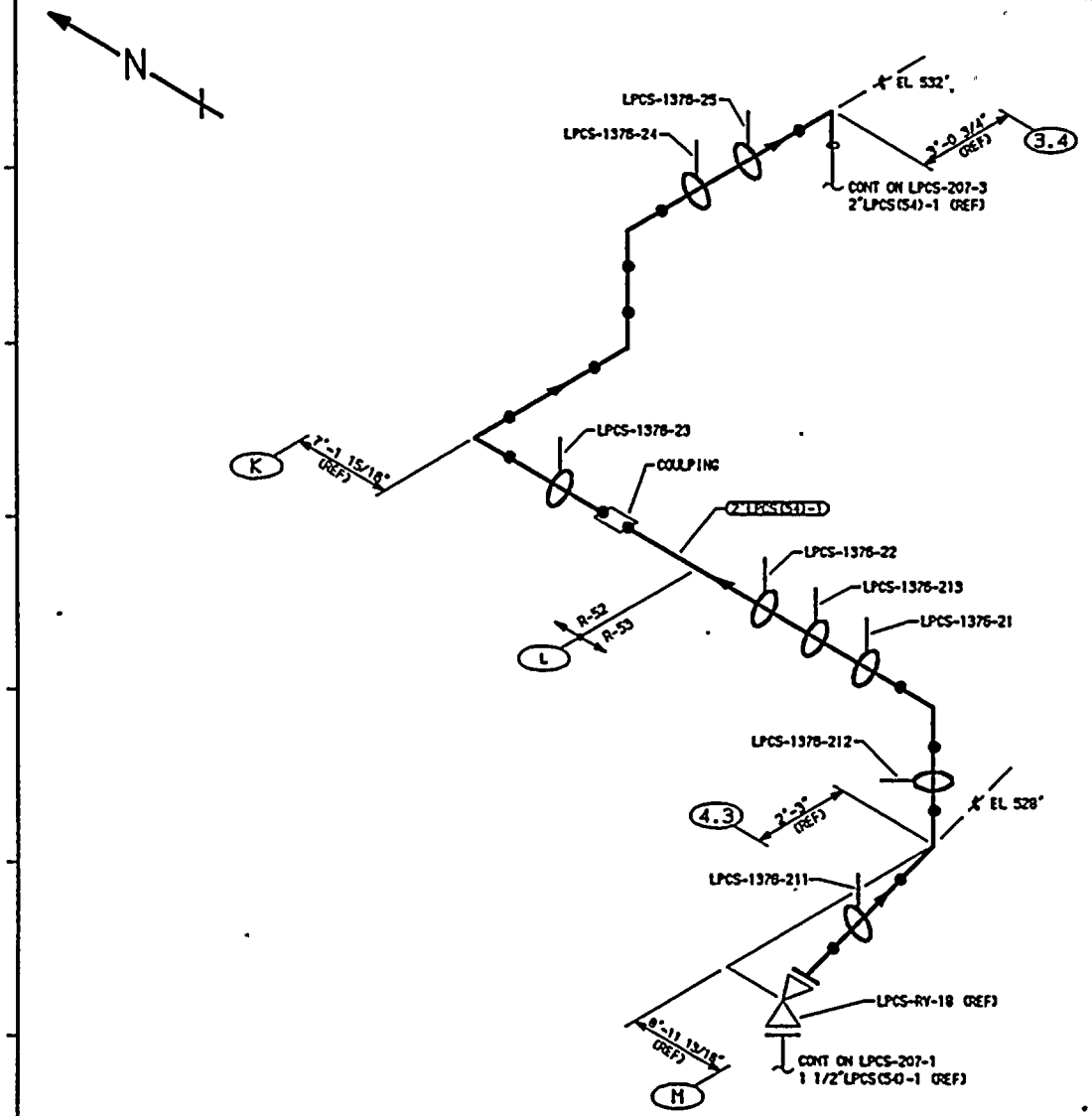
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
3"LPCS(11)-4	3	160	0.438	SA 106 GR B	CS	NA
1 1/2"LPCS(54)-2	1 1/2	160	0.218	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
2	10-19-94	CLASS BREAK CHG PER BDC 55-0509-0A ZN C-5.	K-McA	DPR	DW
1	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
0	1-29-86	ISSUED FOR USE	K-McA	DPR	TFH

WNP-2
WELD & COMPONENT IDENTIFICATION DIAGRAM

TITLE:
COND FLUSHING TO LPCS-P-1 DISCHARGE LINE & RELIEF TO TEST LINE

DWG NO. LPCS-207-1 REV 2



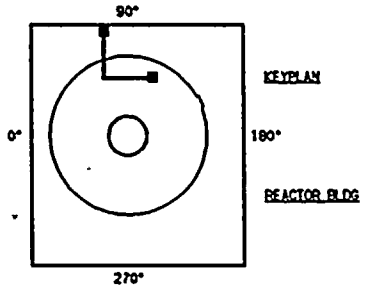
ZONES R-53 & R-52

- THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

REFERENCES:

ISI - 220-2

BOYEE & CRAIL ISOMETRICS
LPCS-1378-2 REV 11



QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
	DATE: 8-18-85

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

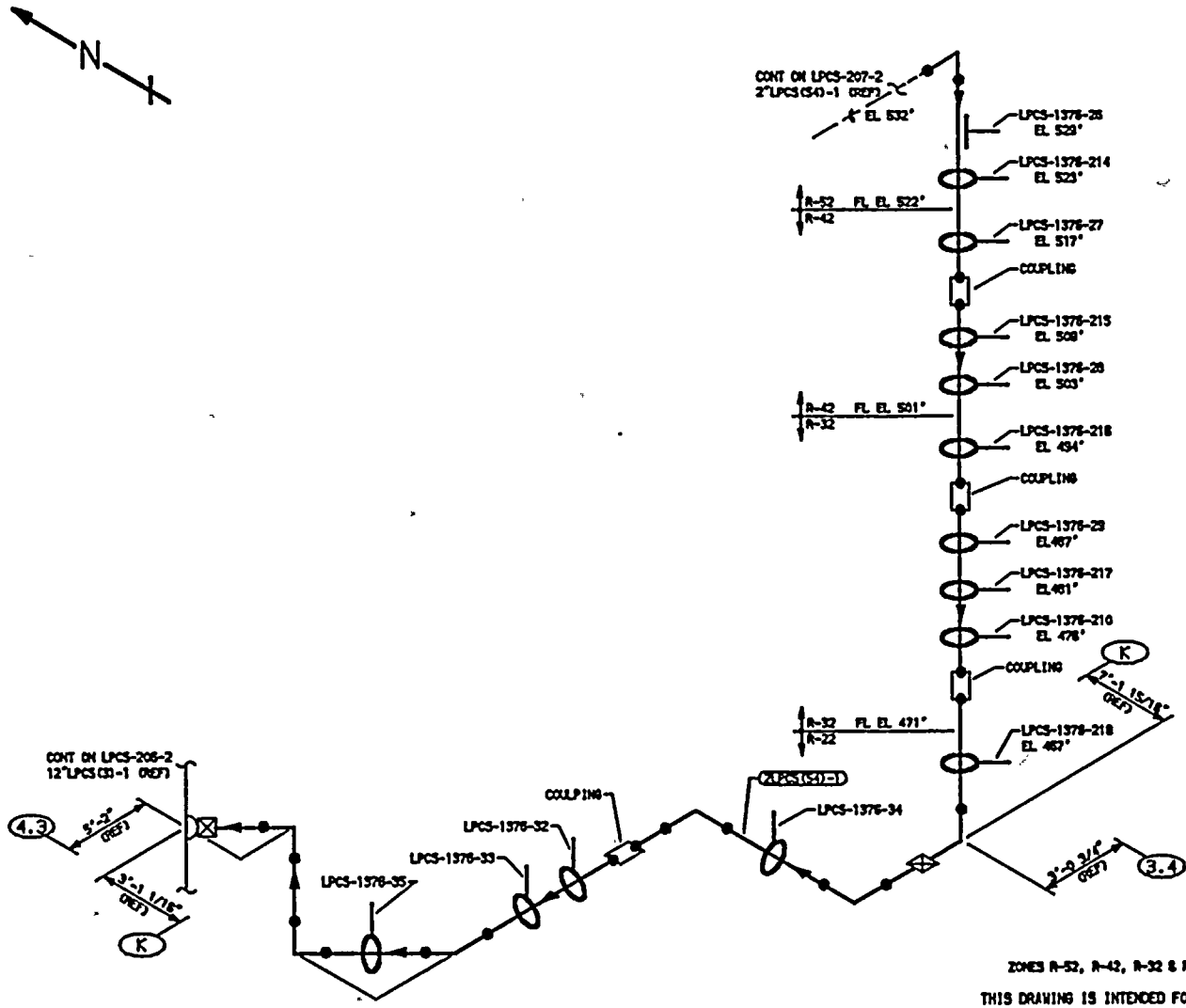
PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
2"LPCS(54)-1	2	80	0.218	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
0	1-23-86	ISSUED FOR USE	K-McA	DPR	TFH

MNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
CORE FLUSHING TO TEST LINE

DWG NO: LPCS-207-2 REV 1



ZONES R-52, R-42, R-32 & R-22

THIS DRAWING IS INTENDED FOR USE IN PRESERVICE AND INSERVICE INSPECTIONS PROGRAMS ONLY.

PIPING SYSTEM	NOM DIA (IN)	SCH	NOM WALL THK	MATERIAL SPECIFICATION	MATL TYPE	CAL BLOCK NO
2"LPCS(54)-1	2	80	0.218	SA 106 GR B	CS	NA

NO	DATE	REVISION	BY	CHKD	APVD
1	11-13-92	MODIFIED KEYPLAN ADDED LOGO	K-McA	DPR	DRW
0	1-23-86	ISSUED FOR USE	K-McA	DPR	TFM

QUALITY CLASS: 1	ASME CODE CLASS: 2
ENGR: K-McANDREW	DRAWN: K-McA
DATE: 8-18-85	

WASHINGTON PUBLIC POWER
SUPPLY SYSTEM
RICHLAND, WASHINGTON 99352

WNP-2
WELD & COMPONENT
IDENTIFICATION DIAGRAM

TITLE:
COND FLUSHING TO TEST LINE

DWG NO. LPCS-207-3 REV 1