



DRYWELL PENETRATIONS

J.P. PUMP	PNFT	LINE #	BLK VA	LVV	RD	J.P. PUMP	PNFT	LINE #	BLK VA	LVV	RD
J.P. 1 (UPPER)	X-400-c	83	NR-22A	23A	83	J.P. 11 (UPPER)	X-400-c	73	NR-22C	23C	73
J.P. 1 (LOWER)	X-400-a	83	NR-20A	21A	83	J.P. 11 (LOWER)	X-400-c	85	NR-20C	21C	85
J.P. 2	X-400-c	67	NR-30A	31A	67	J.P. 12	X-400-c	74	NR-30J	31J	74
J.P. 3	X-400-b	65	NR-30B	31B	65	J.P. 13	X-400-b	75	NR-30K	31K	75
J.P. 4	X-400-e	85	NR-30E	31E	85	J.P. 14	X-400-e	76	NR-30L	31L	76
J.P. 5	X-400-c	67	NR-32B	33B	67	J.P. 15	X-400-c	77	NR-30M	31M	77
J.P. 6 (UPPER)	X-400-a	66	NR-22B	23B	66	J.P. 16 (UPPER)	X-400-b	76	NR-22D	23D	76
J.P. 6 (LOWER)	X-400-b	84	NR-20B	21B	84	J.P. 16 (LOWER)	X-400-b	86	NR-20D	21D	86
J.P. 7	X-400-c	65	NR-30G	31G	65	J.P. 17	X-400-c	78	NR-30N	31N	78
J.P. 8	X-400-b	70	NR-30T	31T	70	J.P. 18	X-400-b	80	NR-30P	31P	80
J.P. 9	X-400-c	71	NR-30E	31E	71	J.P. 18	X-400-c	81	NR-30R	31R	81
J.P. 10	X-400-c	72	NR-30H	31H	72	J.P. 20	X-400-c	82	NR-30V	31V	82

- NOTES**
- ALL COMPONENT MARK NUMBERS PREFIXED 02-3 UNLESS OTHERWISE NOTED.
 - ALL MANUAL VALVES PREFIXED NBI UNLESS OTHERWISE NOTED.
 - ALL EQUIPMENT INSIDE RX VESSEL IS SYSTEM 02.1.
 - INITIATES: RHC (REF. 11 & 14), HPCI (REF. 9 & 12).
 - SELECTS: RHR LOOP (REF. 13).
 - VALVE OPENING PERMISSIVE: RHR, CORESPRAY (REF. 1, 10, 13, 16).
 - SCRAM (REF. 17).
 - INITIATES: RMI & ARL.
 - INITIATES: MSIV CLOSURES (REF. 15).
 - CONTRIBUTES TO: AUTO BLOW DOWN (REF. 2 & 15).
 - STARTS: EDG'S (REF. 16).
 - TRIP: HPCI (REF. 12 & 13).
 - PERMISSIVE: AUTO BLOWDOWN LOW LEVEL (REF. 2 & 15).
 - INTERLOCK: RHR (REF. 13).
 - POIS ISOLATION EXCEPT MSIV'S (REF. 15 & 17).
 - FEEDWATER CONTROL (REF. 5).
 - TRIP: RHC HIGH LEVEL.
 - AHS TRANSMITTER (REF. 20).
 - INITIATES SRV ELECTRIC LIFT (REF. 21)

REFERENCE DWGS.

SYSTEM	DWG. NO.	S & W FILE NO.
1. CORE SPRAY P & ID	1487976BD	-15.14-11
2. NUCLEAR BOILER P & ID	719E415BA	-16.02-41
3. FLOW DIAGRAM SYMBOLS	FM 14A	
4. REACTOR VESSEL (HE-MAK) (REF. 14)	9190598B311	-5.01-15
5. FEED WATER CONTROL IED	719E592BA	-16.06-13
6. NEUTRON MONITORING IED	729E233DA	-16.07-30 & 32
7. STANDBY LIQUID CONTROL P & ID	718C834DG	-16.11-21
8. REACTOR ASSEMBLY DRAWING	1978584P1	-5.01-15 & 136
9. HPCI P & ID	729E261BB	-16.23-41 & 43
10. RHR P & ID	729E1283A	-16.10-36
11. RHC P & ID	718E961BB	-16.13-29 & 33
12. HPCI FCD	729E589BA	16.23 38,39 & 40
13. RHR FCD	730E1408A	16.10 24,25 & 37
14. RHC FCD	729E517BA	-15.13-19,20,21 & 21
15. NUCLEAR BOILER MISC. FCD	730E149BA	-16.04-20 & 21
16. CORE SPRAY FCD	729E402	-16.14-4
17. REACTOR PROTECTION IED	729E222BA	-16.05-1,2 & 3
18. R CONCLUSION LOW CONTROL IED	729E221BA	-16.02-4 & 47
19. JET PUMP INST. SYS.	781E450	-1.76-16
20. ANALOG TRANSMITTER TRIP SYS.	885E365	-1.60-25, 26
21. SRV ELECTRIC LIFT	ESK-11AQ THRU 11AX	
22. ARI DIAG.	ESK 7FA	

- SYSTEM INTENDED FUNCTION BOUNDARY**
- COMPONENTS SUBJECT TO AMR**
- PRIMARY CONTAINMENT PENETRATIONS AM-17
 - REACTOR COOLANT SYSTEM PRESSURE BOUNDARY AM-33
 - REACTOR VESSEL AM-51

QA CAT. I, M, II, III

NUCLEAR SAFETY RELATED

James A. Fitzpatrick
NUCLEAR POWER PLANT

DESIGNER

DISCIPLINE ENG

DISCIPLINE MGR

PROJ. APPROVAL

DATE

Flow Diagram
NUCLEAR BOILER VESSEL
INSTRUMENTS
SYSTEM 02-3

SCAF NONE

DWG NO: FM-47A

REV: 46

Entergy
Nuclear Northeast

REF: ISI-FM-47A

REV NO	DATE	DESCRIPTION	OWN	CHK	RE	VFY	APP
46	12/16/02	AS BUILT PER DCR-02-290	KMB	JE		KM	JA
45	11/03/02	AS BUILT PER MOD NO. N1-97-070	PJD	KMB		MM	SKK
44	09/10/02	AS BUILT PER MOD NO. JD-99-087	RVD	FJD		MM	SKK
43	4/2/99	AS BUILT PER DCR 98 510	KMB	TRD		FJD	SKK
42	6/18/98	AS BUILT PER DCR-98-194	KMB	TRD		KJ	SKK
41	3/22/98	AS BUILT PER DCR-98-175	RVB	JE		KF	SKK
40	1/16/98	AS BUILT PER DCR-97-681	KMB	RVR		KF	SKK

0 4-02-06

NO. DATE DESCRIPTION BY ENG CHK APP

REVISIONS

LRA-FM-47A-0

FILE: LRA-FM-47A_46.DGN

FILE: FM-47A_46.CAL