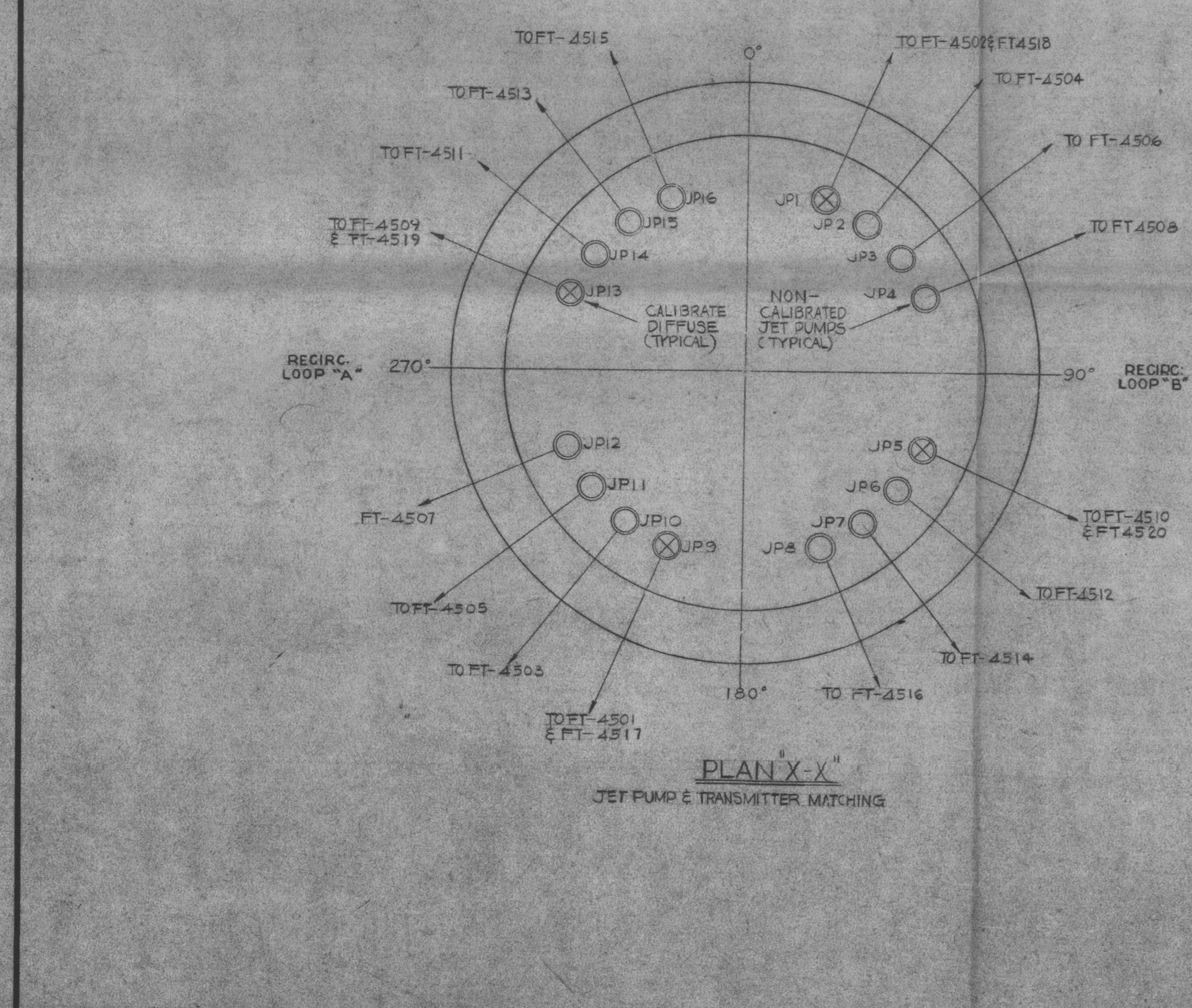


PRIMARY PROTECTION	COMPUTER POINT
MANUAL SCRAM TRIP SYSTEM "A"	C-D536
MANUAL SCRAM TRIP SYSTEM "B"	C-D537
REACTOR "A"	C-D538
REACTOR "B"	C-D539

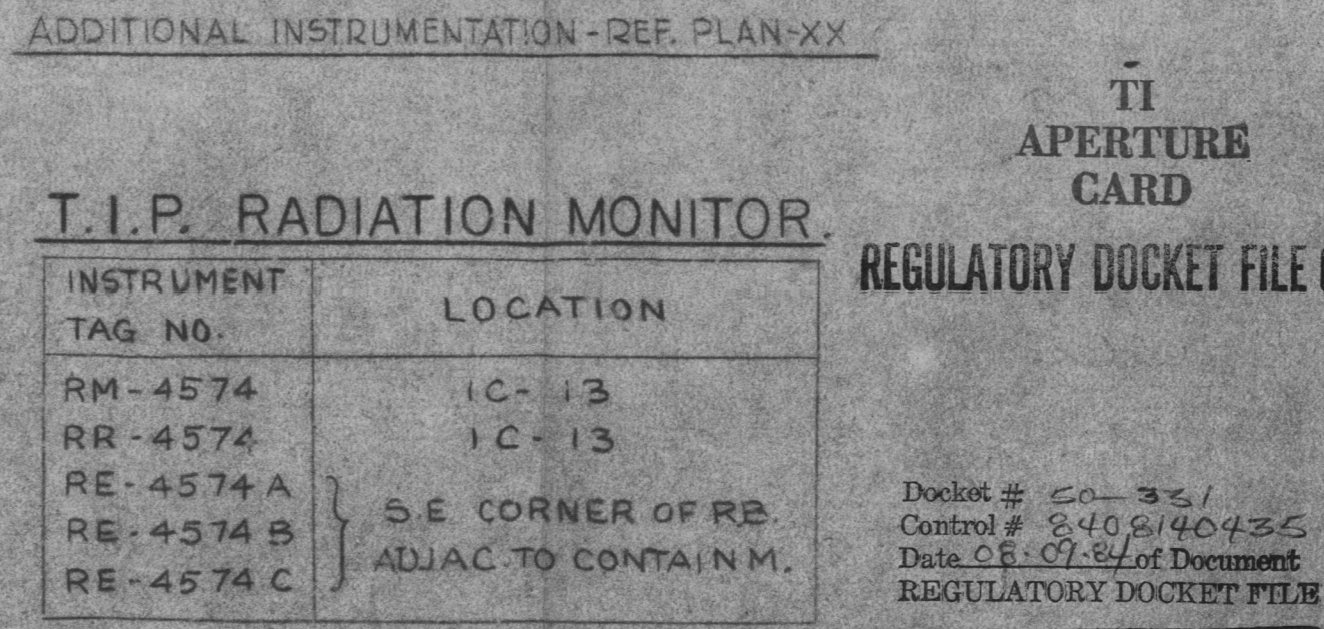


ELEVATION CORRELATION CHART

REFERENCE	(COLD VESSEL) INCHES ABOVE VESSEL ZERO	TRIPS DESCRIPTION	INSTRUMENT (S) PROVIDING TRIP	REACTOR VESSEL LEVELS (REF. 25) (E21-4020)	INDICATED LEVEL TRIP SETTINGS (NOTE 1)
NOZZLE N3 A,B,C	620.5			SAFE/UNSAFE	FEEDWATER LIR 604, 611, 608
NOZZLE N12 A,B	672				
FEEDWATER SYSTEM & REACTOR PROTECTION SYSTEM	962.5				
	555.5	TRIP REACTOR FEED PUMPS CLOSE MAIN TURBINE STOP VALVES TRIP RCIC & HPCI TURBINES	ALARM UNIT LS-4559, LS-4592, LS-4593, LS-4594	8	211, 211
	539.5	HIGH LEVEL ALARM NORMAL WATER LEVEL	LRS-4559 & 4560 FEEDWATER LEVEL CONTROL SYSTEM	7	195
	530.5	LOW LEVEL ALARM	LRS-4559 & 4560	4	186
	514.5	SCRAM & CLOSE PRIMARY SYS ISOLATION VALVES EXCEPT MAIN STEAM LINE AUTO DEPRESSURIZATION PERMISSIVE	LIS-4592, 4561	3	H10 IN. DEC., H21 IN. INC. 170
FEEDWATER SYSTEM & REACTOR PROTECTION SYSTEM	502.5				158, 158
INSTRUMENT ZERO TOP OF ACTIVE FUEL	493				
NOZZLE N11 A,B	464	INITIATE RCIC, HPCI & SELECT RHR LOOP FOR INJECTION & TRIP REGULATING PUMPS	LIS-4531, 4533, 4534 LIS-4535, 4537 LIS-4536, 4538	2	119.5 DEC.
	363	INITIATE RHR & CORE SPRAY SYSTEMS CONTRIBUTE TO AUTO DEPRESSURIZATION SYSTEM START STANDBY DIESEL CLOSE MAIN STEAM LINE ISOLATION VALVES	LIS-4531, 4532, 4534	1	18.5 DEC.
REACTOR PROTECTION SYSTEM	352.5		LIS-4535, 36, 37, 38		
NOZZLE N16 A,B TOP OF ACTIVE FUEL	348				
	344.5				
	308.5	CONTAINMENT SPRAY PERMISSIVE	LIS-4565 LIS-4566	0	
LOWER JET PUMP TAP	127				
NOZZLE N6 A,B	116.5				

TABLE - A

FT. (+)	PENETRATION	RACK NO.	E/S	PDI	FY	H5	Z5	SV	XFY	F0
4506	X-40B	(121)	4505 +							
4506	-40A	-122	4506 +							
4507	-40B	-121	4507 +							
4508	-40A	-122	4508 +							
4511	-40D	-121	4511 +							
4512	-40C	-122	4512 +							
4513	-40D	-121	4513 +							
4514	-40C	-122	4514 +							
4515	-40D	-121	4515 +							
4516	-40C	-122	4516 +							



- NOTES:
- REACTOR PROTECTION SYSTEM SHOWS ON SEE DOCUMENT 7258 WHICH IS THE SYSTEM I.E.D. A P&ID DWS 7258 616CA SH 2. ZERO VESSEL ZERO IS AN EXPANSION LEG SHALL BE PROVIDED IN INSTRUMENT SIGNAL LINE BETWEEN CC-441 AND THE WATER-TIGHT PENETRATION SEAL THROUGH BOTTOM OF REACTOR WELL. THE EXPANSION LEG & PIPING INSTALLATION SHALL BE DESIGNED TO ALLOW FOR MAXIMUM CHANGE OF VESSEL LENGTH WITH TEMPERATURE TO AVOID OVER-STRESSING THE PIPING. THE SEAL OR DAMAGE TO THE INSULATION AROUND THE VESSEL.
 - SCRAM AND INITIATE PRIMARY CONTAINMENT ISOLATION EXCEPT MAIN STEAM LINE ISOLATION VALVES AND TRIP HPCI TURBINE AND RCIC TURBINE ON HIGH LEVEL.
 - SUMMER FY-4527A & FY-4527B INPUTS AND OUTPUTS SHALL BE INTERLOCKED WITH REACTOR PUMP MOTOR AND DISCHARGE VALVE SUCH THAT THE INPUTS ARE ADDED WHEN BOTH PUMPS ARE RUNNING AND THEIR DISCHARGE VALVES ARE OPEN OR BOTH LOGIC ARE SHUTDOWN. THE SIGNALS ARE TO BE SUBTRACTED WHEN ONE JET PUMP LOOP IS IN OPERATION.

REV.	DATE	DESCRIPTION	BY	CHKD	APPD
1	REV. PER DDC-494 (E-7)				
2	REVISED PER DCR 886				
3	REV. PER DCR 871				
4	REV. PER DCR-295				
5	REV. PER DCR-440				
6	AS BUILT PER DCR-159 & FOR P&ID				
7	REVISED PER DDC-75				
8	REVISED AS NOTED ON REV. SHEET				
9	REVISED AS NOTED ON REV. SHEET				
10	FINAL DESIGN REVIEW ADDED VALVE AND SYSTEM UP TO 100 PSI AND REVISED AS INDICATED				
11	REVISED AS INDICATED ON REV. SHEET & ISSUED FOR CONSTRUCTION				
12	REVISED PER DCR 932A				
13	REV. PER DCR-104B				
14	REVISED PER DCR 1178				
15	REVISED PER DCR #1182				

BECHTEL
SAN FRANCISCO

DUANE ARNOLD ENERGY CENTER - UNIT NO 1
IOWA ELECTRIC LIGHT AND POWER COMPANY
CEDAR RAPIDS, IOWA

P. B. I. D.
REACTOR VESSEL INSTRUMENTATION

FOR INFORMATION ONLY

7884 M-115 15