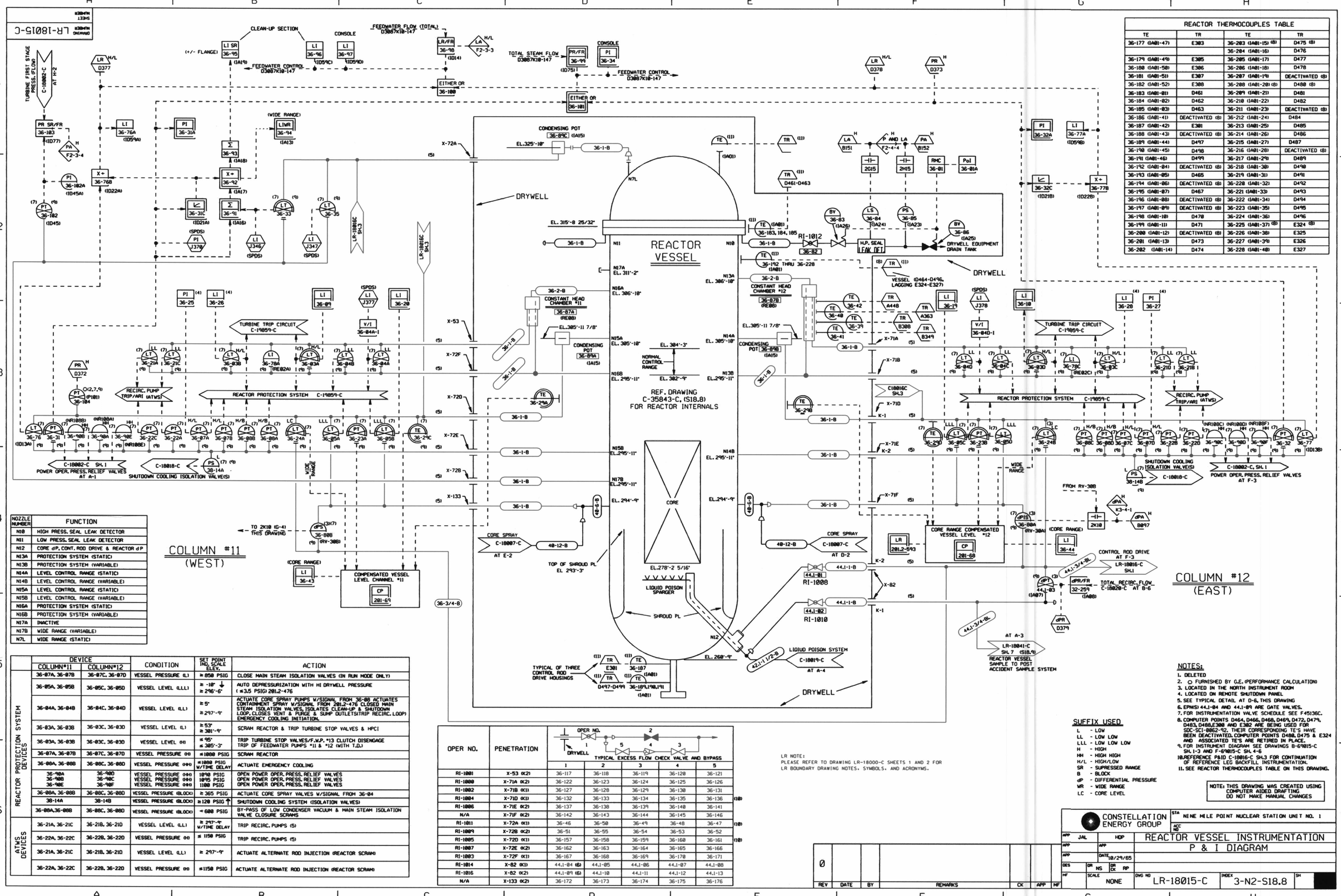
LR-18015-C

REACTOR VESSEL INSTRUMENTATION P & I DIAGRAM



REACTOR THERMOCOUPLES TABLE			
TE	TR	TE	TR
36-177 (IA01-47)	E303	36-203 (IA01-15) (B)	D475 (B)
		36-204 (IA01-16)	D476
36-179 (IA01-49)	E305	36-205 (IA01-17)	D477
36-180 (IA01-50)	E306	36-206 (IA01-18)	D478
36-181 (IA01-51)	E307	36-207 (IA01-19)	DEACTIVATED (B)
36-182 (IA01-52)	E308	36-208 (IA01-20) (B)	D480 (B)
36-183 (IA01-01)	D461	36-209 (IA01-21)	D481
36-184 (IA01-02)	D462	36-210 (IA01-22)	D482
36-185 (IA01-03)	D463	36-211 (IA01-23)	DEACTIVATED (B)
36-186 (IA01-41)	DEACTIVATED (B)	36-212 (IA01-24)	D484
36-187 (IA01-42)	E301	36-213 (IA01-25)	D485
36-188 (IA01-43)	DEACTIVATED (B)	36-214 (IA01-26)	D486
36-189 (IA01-44)	D497	36-215 (IA01-27)	D487
36-190 (IA01-45)	D498	36-216 (IA01-28)	DEACTIVATED (B)
36-191 (IA01-46)	D499	36-217 (IA01-29)	D489
36-192 (IA01-04)	DEACTIVATED (B)	36-218 (IA01-30)	D490
36-193 (IA01-05)	D465	36-219 (IA01-31)	D491
36-194 (IA01-06)	DEACTIVATED (B)	36-220 (IA01-32)	D492
36-195 (IA01-07)	D467	36-221 (IA01-33)	D493
36-196 (IA01-08)	DEACTIVATED (B)	36-222 (IA01-34)	D494
36-197 (IA01-09)	DEACTIVATED (B)	36-223 (IA01-35)	D495
36-198 (IA01-10)	D470	36-224 (IA01-36)	D496
36-199 (IA01-11)	D471	36-225 (IA01-37) (B)	E324 (B)
36-200 (IA01-12)	DEACTIVATED (B)	36-226 (IA01-38)	E325
36-201 (IA01-13)	D473	36-227 (IA01-39)	E326
36-202 (IA01-14)	D474	36-228 (IA01-40)	E327

NOZZLE NUMBER	FUNCTION
N10	HIGH PRESS. SEAL LEAK DETECTOR
N11	LOW PRESS. SEAL LEAK DETECTOR
N12	CORE dP, CONT. ROD DRIVE & REACTOR dP
N13A	PROTECTION SYSTEM (STATIC)
N13B	PROTECTION SYSTEM (VARIABLE)
N14A	LEVEL CONTROL RANGE (STATIC)
N14B	LEVEL CONTROL RANGE (VARIABLE)
N15A	LEVEL CONTROL RANGE (STATIC)
N15B	LEVEL CONTROL RANGE (VARIABLE)
N16A	PROTECTION SYSTEM (STATIC)
N16B	PROTECTION SYSTEM (VARIABLE)
N17A	INACTIVE
N17B	WIDE RANGE (VARIABLE)
N17L	WIDE RANGE (STATIC)

	DEVICE COLUMN#11	DEVICE COLUMN#12	CONDITION	SET POINT IND. SCALE ELEV.	ACTION
REACTOR PROTECTION SYSTEM DEVICES	36-07A, 36-07B	36-07C, 36-07D	VESSEL PRESSURE (L)	≥ 850 PSIG	CLOSE MAIN STEAM ISOLATION VALVES (IN RUN MODE ONLY)
	36-05A, 36-05B	36-05C, 36-05D	VESSEL LEVEL (LLL)	≥ -18" ↓ ≥ 296'-6"	AUTO DEPRESSURIZATION WITH HI DRYWELL PRESSURE (≤3.5 PSIG) 201.2-476
	36-04A, 36-04B	36-04C, 36-04D	VESSEL LEVEL (LL)	≥ 5" ≥ 297'-9"	ACTUATE CORE SPRAY PUMPS W/SIGNAL FROM 36-08 ACTUATES CONTAINMENT SPRAY W/SIGNAL FROM 201.2-476 CLOSED MAIN STEAM ISOLATION VALVES, ISOLATES CLEAN-UP & SHUTDOWN LOOP, CLOSES VENT & PURGE & SUMP OUTLETS(TRIP RECIRC. LOOP) EMERGENCY COOLING INITIATION.
	36-03A, 36-03B	36-03C, 36-03D	VESSEL LEVEL (L)	≥ 53" ≥ 301'-9"	SCRAM REACTOR & TRIP TURBINE STOP VALVES & HPCI
	36-03A, 36-03B	36-03C, 36-03D	VESSEL LEVEL (H)	≤ 95" ≤ 305'-3"	TRIP TURBINE STOP VALVES/F.W.P. #13 CLUTCH DISENGAGE TRIP OF FEEDWATER PUMPS #11 & #12 (WITH T.D.)
	36-07A, 36-07B	36-07C, 36-07D	VESSEL PRESSURE (H)	≤ 1088 PSIG	SCRAM REACTOR
	36-08A, 36-08B	36-08C, 36-08D	VESSEL PRESSURE (HH)	≤ 1088 PSIG W/TIME DELAY	ACTUATE EMERGENCY COOLING
	36-09A 36-09B 36-09E	36-09D 36-09C 36-09F	VESSEL PRESSURE (HH) VESSEL PRESSURE (HH) VESSEL PRESSURE (HH)	1090 PSIG 1095 PSIG 1100 PSIG	OPEN POWER OPER. PRESS. RELIEF VALVES OPEN POWER OPER. PRESS. RELIEF VALVES OPEN POWER OPER. PRESS. RELIEF VALVES
	36-08A, 36-08B	36-08C, 36-08D	VESSEL PRESSURE (BLOCK)	≥ 365 PSIG	ACTUATE CORE SPRAY VALVES W/SIGNAL FROM 36-04
	38-14A	38-14B	VESSEL PRESSURE (BLOCK)	≥120 PSIG ↑	SHUTDOWN COOLING SYSTEM (ISOLATION VALVES)
	36-08A,36-08B	36-08C, 36-08D	VESSEL PRESSURE (BLOCK)	< 600 PSIG	BY-PASS OF LOW CONDENSER VACUUM & MAIN STEAM ISOLATION VALVE CLOSURE SCRAMS
ATWS DEVICES	36-21A, 36-21C	36-21B, 36-21D	VESSEL LEVEL (LL)	≥ 297'-9" W/TIME DELAY	TRIP RECIRC. PUMPS (5)
	36-22A, 36-22C	36-22B, 36-22D	VESSEL PRESSURE (H)	≤ 1150 PSIG	TRIP RECIRC. PUMPS (5)
	36-21A, 36-21C	36-21B, 36-21D	VESSEL LEVEL (LL)	≥ 297'-9"	ACTUATE ALTERNATE ROD INJECTION (REACTOR SCRAM)
	36-22A, 36-22C	36-22B, 36-22D	VESSEL PRESSURE (H)	≤1150 PSIG	ACTUATE ALTERNATE ROD INJECTION (REACTOR SCRAM)

OPER NO.	PENETRATION	OPER NO. 1 (DRYWELL)	2	3	4	5
		TYPICAL EXCESS FLOW CHECK VALVE AND BYPASS				
		1	2	3	4	5
RI-1001	X-53 (K2)	36-117	36-118	36-119	36-120	36-121
RI-1009	X-71A (K2)	36-122	36-123	36-124	36-125	36-126
RI-1002	X-71B (K1)	36-127	36-128	36-129	36-130	36-131
RI-1004	X-71D (K1)	36-132	36-133	36-134	36-135	36-136 (10)
RI-1006	X-71E (K2)	36-137	36-138	36-139	36-140	36-141
N/A	X-71F (K2)	36-142	36-143	36-144	36-145	36-146
RI-1011	X-72A (K1)	36-46	36-50	36-49	36-48	36-47 (10)
RI-1009	X-72B (K2)	36-51	36-55	36-54	36-53	36-52
RI-1005	X-72D (K1)	36-157	36-158	36-159	36-160	36-161 (10)
RI-1007	X-72E (K2)	36-162	36-163	36-164	36-165	36-166
RI-1003	X-72F (K1)	36-167	36-168	36-169	36-170	36-171
RI-1014	X-82 (K1)	44.1-84 (6)	44.1-85	44.1-86	44.1-87	44.1-88
RI-1016	X-82 (K2)	44.1-89 (6)	44.1-10	44.1-11	44.1-12	44.1-13
N/A	X-133 (K2)	36-172	36-173	36-174	36-175	36-176

LR NOTE:
PLEASE REFER TO DRAWING LR-18000-C SHEETS 1 AND 2 FOR LR BOUNDARY DRAWING NOTES, SYMBOLS, AND ACRONYMS.

SUFFIX USED
- L - LOW
- LL - LOW LOW
- LLL - LOW LOW LOW
- H - HIGH
- HH - HIGH HIGH
- H/L - HIGH/LOW
- SR - SUPRESSED RANGE
- B - BLOCK
- dP - DIFFERENTIAL PRESSURE
- WR - WIDE RANGE
- LC - CORE LEVEL

NOTES:
1. DELETED
2. ○ FURNISHED BY G.E. (PERFORMANCE CALCULATION)
3. LOCATED IN THE NORTH INSTRUMENT ROOM
4. LOCATED ON REMOTE SHUTDOWN PANEL
5. SEE TYPICAL DETAIL AT D-6, THIS DRAWING
6. EPN(S) 44.1-84 AND 44.1-89 ARE GATE VALVES.
7. FOR INSTRUMENTATION VALVE SCHEDULE SEE F45136C.
8. COMPUTER POINTS D464, D466, D468, D469, D472, D479, D483, D488, E308 AND E302 ARE BEING USED FOR SDC-SCI-0862-92. THEIR CORRESPONDING TE'S HAVE BEEN DEACTIVATED. COMPUTER POINTS D488, D475 & E324 AND ASSOCIATED TE'S ARE RETIRED IN PLACE.
9. FOR INSTRUMENT DIAGRAM SEE DRAWINGS B-69015-C SH.1-3 AND F-69015-C SH. 4-6
10. REFERENCE P&ID C-18016-C SH.3 FOR CONTINUATION OF REFERENCE LEG BACKFILL INSTRUMENTATION.
11. SEE REACTOR THERMOCOUPLES TABLE ON THIS DRAWING.

NOTE: THIS DRAWING WAS CREATED USING COMPUTER AIDED DRAFTING DO NOT MAKE MANUAL CHANGES

REV	DATE	BY	REMARKS	CK	APP	MF
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CONSTELLATION ENERGY GROUP
STA NINE MILE POINT NUCLEAR STATION UNIT NO. 1
ACC NO

APP	JAL	HDP	REACTOR VESSEL INSTRUMENTATION
APP		APP	P & I DIAGRAM
APP		DATE 10/29/65	
DES	DR NS	DR CK RP	
MF	SCALE NONE	DWG NO LR-18015-C	INDEX 3-N2-S18.8 SH

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