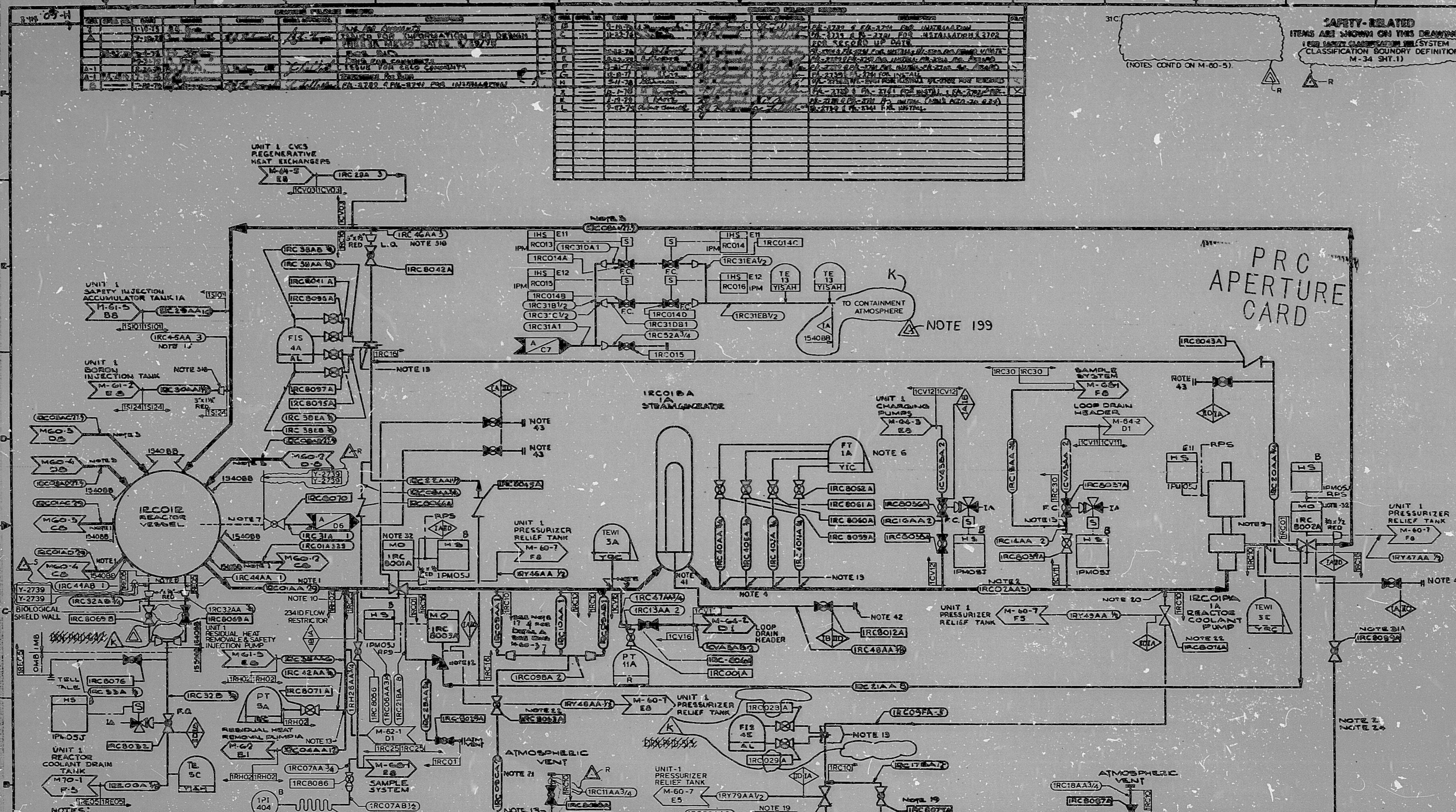

NOTES:

1. 29" INSIDE DIAMETER.
2. 31" INSIDE DIAMETER.
3. 27.5" INSIDE DIAMETER.
4. LOCATE FLOWMETER IN 10° ELBOW DOWNSTREAM OF STM GENERATOR.
5. SPRAY LINE SCOOP.
6. ELBOW FLOW METERS.
7. VENT PIPE FURNISHED WITH REACTOR VESSEL HEAD.
8. HEAD GASKET MONITORING CONNECTIONS FURNISHED WITH REACTOR VESSEL.
9. RTD INSTALLED IN WELL.
10. LOCATE CONNECTION IN BOTTOM HALF OF REACTOR COOLANT PIPING ON 45° ANGLE TO VERTICAL.
11. HOLE PROVIDED.
12. 0.25" HOLE THROUGH VALVE PLUG.
13. PROVIDE 0.375" ID FLOW RESTRICTION PER DWG M-64-1 NOTE 11.
14. LOCATE BELOW LEVEL OF REACTOR VESSEL FLANGE.
15. PLACE AS CLOSE AS POSSIBLE TO REACTOR VESSEL NOZZLE.
17. HOT LEG BYPASS LINE SCOOPS. WHERE APPLICABLE, ROTATE CONNECTIONS 30° TO PREVENT ALIGNMENT WITH THE SURGE LINE CONNECTION.
18. RTD MANIFOLD-PIPE AND RTD'S SUPPLIED AS A PACKAGE MANIFOLD APPROX. 20 INCHES LONG.
19. LOCATE RTD MANIFOLD ISOLATION VALVE APPROX. 9 INCHES FROM MANIFOLD.
20. LOCATE CONNECTION ON UPPER 180° OF PIPE CIRCUMFERENCE.
21. ALL BYPASS LOOP PIPING AND THE RTD MANIFOLDS SHALL HAVE REMOVABLE INSULATION UP TO LOOP ROOT VALVES.
22. LOCATE ROOT VALVE ABOVE ELEVATION OF REACTOR VESSEL NOZZLES.
23. LENGTH OF HOT LEG 2 INCH PIPE UPSTREAM TO RTD A TO B TO BE A MAXIMUM OF 3 FEET.
24. LENGTH OF COLD LEG 2 INCH PIPE UPSTREAM TO RTD C TO D TO BE A MAXIMUM OF 6 FEET.
26. RTD MANIFOLD LOOP PIPING SHOULD HAVE ENOUGH FLEXIBILITY TO COOL DOWN TO 70°F WITH THE REACTOR COOLANT PIPING AT 560°F.
27. TEMPORARY READOUT FOR SELECTED PUMP MONITORING. CONNECT TO VIBRATION TRANSDUCER AS REQUIRED.
28. THESE DATA POINTS LOGGED BY COMPUTER ONLY.
29. VALVE INDEX NUMBER SUFFIX A FOR LOOP 1, SUFFIXES B, C, AND D
30. ACTUATED AUTOMATICALLY BY GAS ANALYZER CONTROLLER.
31A. LOCATE ROOT VALVE ABOVE ELEVATION OF REACTOR VESSEL NOZZLE AS CLOSE AS POSSIBLE TO THE LOOP STOP VALVE.
31B. LOCATE REDUCER AS CLOSE AS POSSIBLE TO REACTOR COOLANT LOOP PIPING.

(NOTES CONTINUED UPPER RIGHT THIS DRAWING).

DRAWING RELEASE RECORD

REV.	DATE REL'D	PREPARED	REVIEWED	APPROVED	PURPOSE	FILM
J	2-20-81	[signature]	[signature]	[signature]	INCORP. BYRON "S", 6-23-80, "T" 7-21-80, & "U" 11-12-80 --- ADD & DELETE UNIQUE FEATURES ---FOR FAB. PER Y-2741 & CONSTR. PER Y-2739.	
K	06-16-81	[signature]	[signature]	[signature]	INCORP. BYRON REV. "V" 1-7-81 & "W" 2-23-81 --- FOR FAB & CONSTR. PER Y-2739 FOR RECORD Y-2741.	

DRAWING RELEASE RECORD

REV.	DATE REL'D	PREP'D	REVIEWED	APPROVED	PURPOSE	FILM
F	4-14-80	[signature]	[signature]	[signature]	(PREVIOUSLY RELEASED FOR FAB. PER Y-2741 & CONSTR. Y-2739) INCORP. BYRON "L" 9-27-79, "M" 12-3-79, & "N" 1-28-80. ("L" NOT APPLICABLE) --- ADD FCR-1104 --- FOR FAB PER Y-2741 & CONSTR PER Y-2739.	
G	7-7-80	[signature]	[signature]	[signature]	INCORP. BYRON REV. "P" 4-24-80 --- ADD UNIQUE FEATURES --- DELETE FCR-1104 --- FOR FAB & CONSTR. Y-2739 FOR RECORD Y-2741	
H	8-19-80	[signature]	[signature]	[signature]	INCORP. BYRON "R" 5-22-80 --- ADD UNIQUE FEATURES --- FOR FAB Y-2741 & CONSTR. Y-2739.	

UNIQUE FEATURES TAG

THIS UN-NUMBERED TAG ATTACHED TO AN ENCIRCLED AREA OF THIS DRAWING INDICATES A UNIQUE FEATURE FOR MARBLE HILL STATION.

DENNIS M. FISCHER No 17864 STATE OF INDIANA PROFESSIONAL ENGINEER

PAUL L. WATTELET REGISTERED No. 17756 STATE OF INDIANA PROFESSIONAL ENGINEER

SCALE: NONE

PROJECT NUMBER: 4808-00

DIAGRAM OF REACTOR COOLANT LOOP 1

MARBLE HILL NUCLEAR GENERATING STATION UNIT-1
PUBLIC SERVICE INDIANA
PLAINFIELD, INDIANA

SARGENT & LUNDY ENGINEERS CHICAGO

DRAWING NO. M-60 REV. K

SHEET 1 OF —

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RIDS