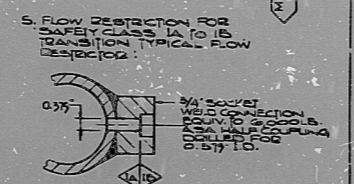


| DRAWING RELEASE RECORD |          |     |             | DRAWING RELEASE RECORD |          |     |             |
|------------------------|----------|-----|-------------|------------------------|----------|-----|-------------|
| REV                    | DATE     | BY  | DESCRIPTION | REV                    | DATE     | BY  | DESCRIPTION |
| 1                      | 10-10-82 | ... | ...         | 1                      | 10-10-82 | ... | ...         |
| 2                      | 11-15-82 | ... | ...         | 2                      | 11-15-82 | ... | ...         |
| 3                      | 12-28-82 | ... | ...         | 3                      | 12-28-82 | ... | ...         |

- NOTE:**
- RUN-OUT PROTECTION ORIFICE-HOLE DIAMETER TO BE DETERMINED DURING FIRE-OPS PIPING (Y-2739) CONTRACTOR TO PROVIDE FLANGED CONNECTION WITH TEMPORARY ORIFICE CUT TO INSIDE DIAMETER OF PROCESS LINE DURING CONSTRUCTION (C-16 IN STEEL) THESE TO BE REPLACED BY PERMANENT (STAINLESS STEEL) RUNOUT PROTECTION ORIFICES PRIOR TO PLANT START-UP BY (Y-2739)
  - FLOW METERING ORIFICE TO VERIFY FLOW DURING PREOPERATIONAL TESTING
  - SPOOL PIECE FOR INSTALLATION OF STRAINER DURING PREOPERATIONAL TESTING LOCATE AS CLOSE AS TO PUMP AS POSSIBLE TEMPORARY STRAINERS HAVE SPECIALTY ITEM NUMBERS (S-167) (S-168)
  - LOCATE FLOW INDICATOR OUTSIDE OF SAFETY INJECTION PUMP ROOMS



5. FLOW RESTRICTION FOR SAFETY CLASS 1A TO 1B TRANSITION TYPICAL FLOW RESTRICTION
6. PIPING SCHEDULE 140 MUST BE ADDED TO DUE TO SAFETY ANALYSIS FLOW RESTRICTION
7. LOCAL VALVES AS CLOSE TO SHUT OFF AS POSSIBLE
8. LOCATE CONNECTION CLOSE TO TANK
9. PIPE FRICTION TAPS FOR FLOW MEASUREMENT LOCATE TAPS @ 2" APART
10. HEAT TRACE LINE ALL THE WAY TO TANK
11. PIPE MUST BE ABOVE NORMAL WATER LEVEL
12. CONTAINMENT PENETRATION NOT REQUIRED GUARD PIPE BURIED IN CONCRETE AND WELDED AT EITHER END TO SUNUP LINER AND VALVE ENCLOSURE
13. VALVES INTERLOCKED TO PREVENT OPENING OF S10811 UNLESS S10812 IS CLOSED
14. AIR SUPPLY
15. LOOP TO EXTEND 12" BELOW AND ABOVE OVERFLOW NOZZLE TOTAL LINE LENGTH INCLUDING LOOP TO BE AS SHORT AS POSSIBLE
16. BACK PANEL MOUNTED
17. KIN FLOW ORIFICE SUPPLIED BY PUMP VENDOR
18. LOCATE CONNECTION CLOSE TO CORRESPONDING BORON INJECTION TANK ISOLATION VALVES
19. BEND FLANGES NORMALLY INSTALLED SPOOL PIECES TO BE INSTALLED DURING ACCUMULATOR DRAWINGS ONLY AFTER DEPRESSURIZATION
20. CLASS A DESIGN TABLE CHANGE TO BE MADE AT TANK NOZZLE
21. VALVE IS PER PIPING DESIGN TABLE 340 BB
22. SEE DRAWING M-82-2 FOR SAFETY INJECTION PUMP VENT PIPING
23. 3/4" SCH 80 PIPE
24. BORON INJECTION TANK S102 IS NO LONGER REQ'D

**SAFETY-RELATED ITEMS ARE SHOWN ON THIS DRAWING**  
(FOR SAFETY CLASSIFICATION SEE SYSTEM CLASSIFICATION SECONDARY DEFINITION M-34, SHT 1)

**DIAGRAM OF SAFETY INJECTION**  
BYRON BROS. ENGINEERING CO.  
COMMONWEALTH EDISON CO.  
CHICAGO, ILLINOIS

SCALE: NONE  
PROJECT: 4809-00  
DRAWING NO.: M-61  
SHEET 1 OF 6

**SARGENT & LUNDY**  
CHICAGO

| REV | DATE     | BY  | DESCRIPTION | REV | DATE     | BY  | DESCRIPTION |
|-----|----------|-----|-------------|-----|----------|-----|-------------|
| L   | 8-10-82  | ... | ...         | 1   | 10-10-82 | ... | ...         |
| N   | 11-15-82 | ... | ...         | 2   | 11-15-82 | ... | ...         |
| M   | 12-28-82 | ... | ...         | 3   | 12-28-82 | ... | ...         |

**DIAGRAM OF SAFETY INJECTION**  
MARBLE HILL NUCLEAR GENERATING STATION  
PUBLIC SERVICE INDIANA  
PLAINFIELD, INDIANA

DRAWING NO.: M-61  
SHEET 1 OF 6

**SARGENT & LUNDY**  
CHICAGO

RIDS

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