Appendix 6B. Figures

Figure 6-1. Flow Diagram of Emergency Core Cooling System

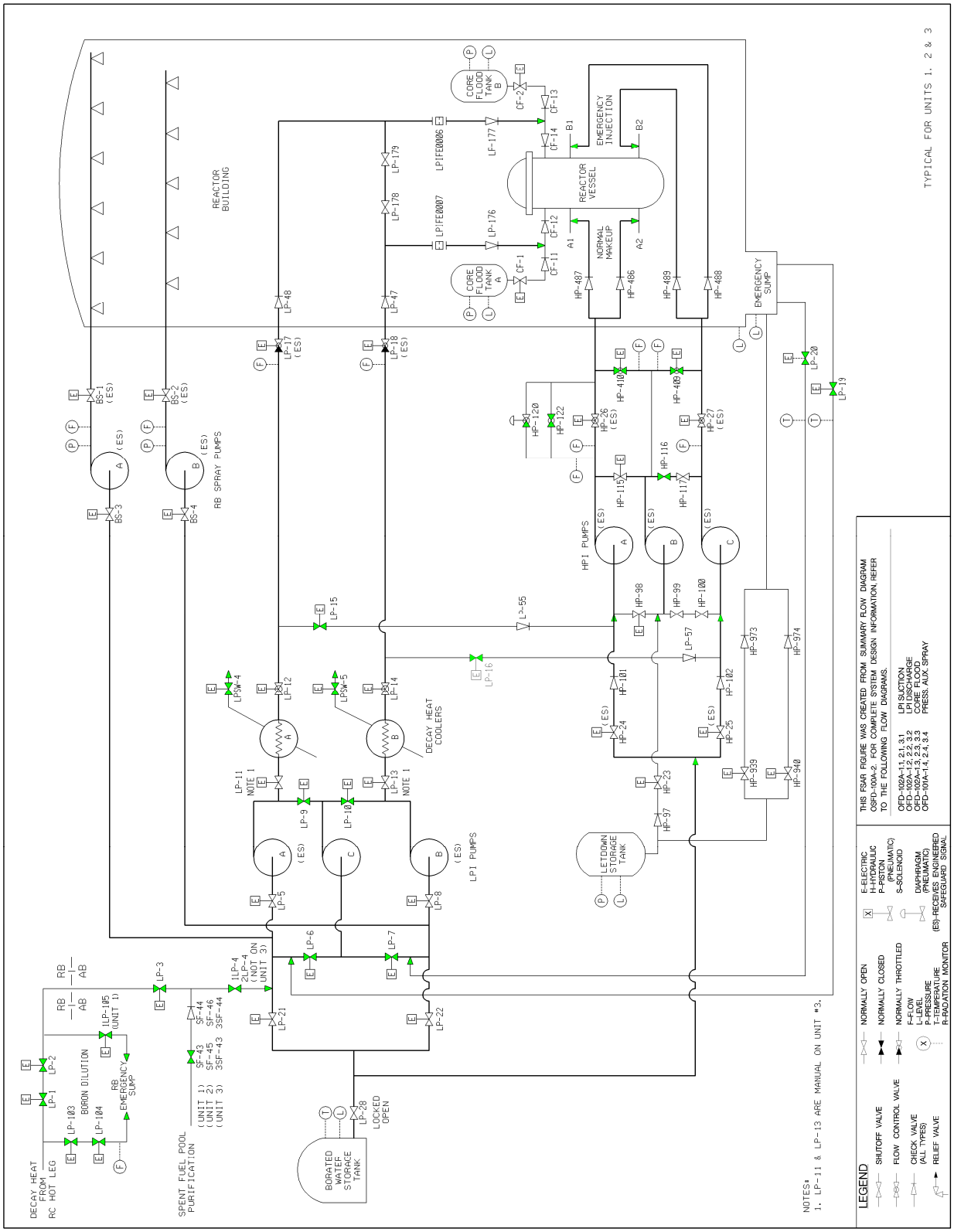


Figure 6-2. Flow Diagram of Reactor Building Spray System

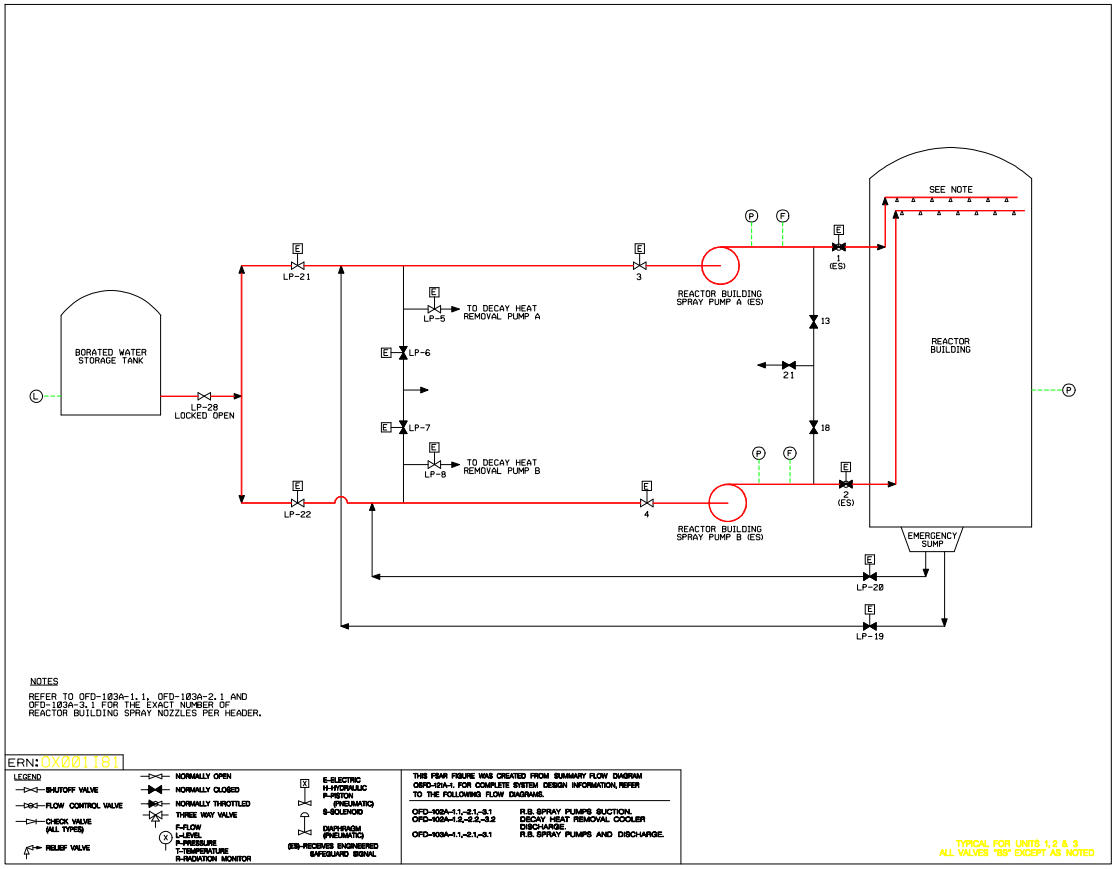


Figure 6-3. Reactor Building Cooling Schematic

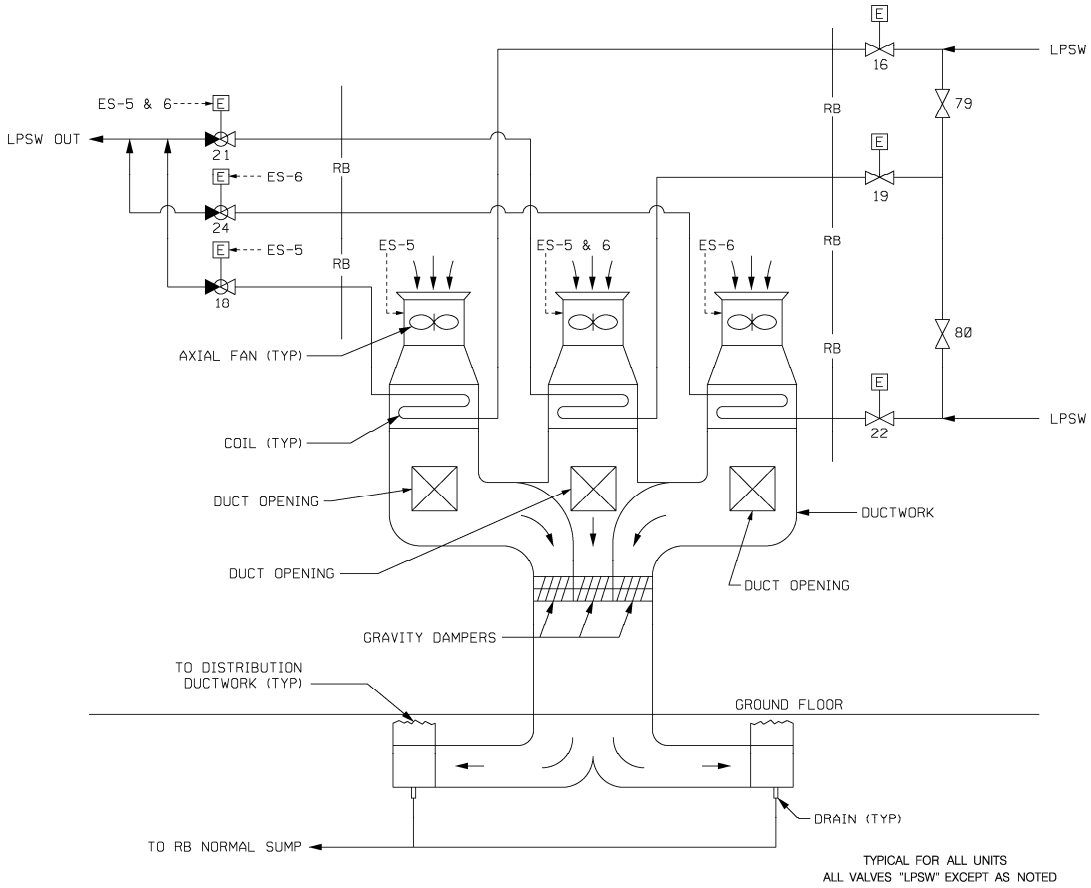


Figure 6-4. Reactor Building Purge and Penetration Ventilation System

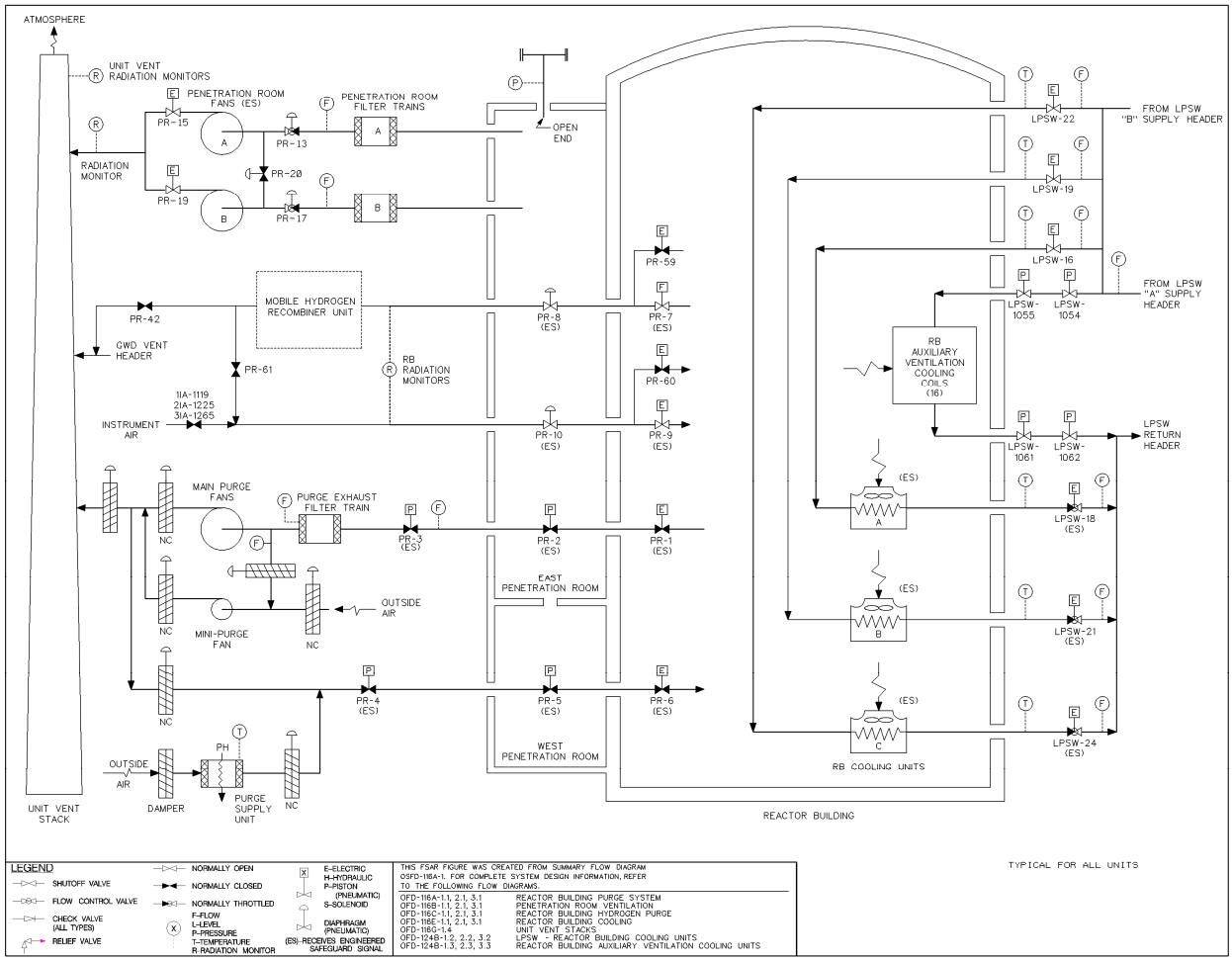
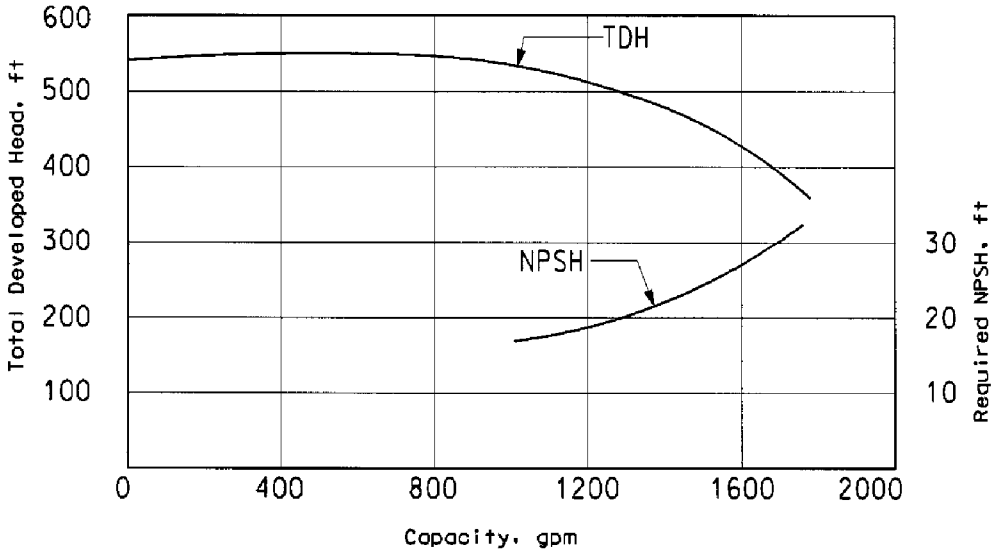


Figure 6-5. Reactor Building Spray Pump Characteristics



NOTE: THIS CURVE IS PROVIDED AS REPRESENTATIVE INFORMATION ONLY AND MAY NOT ACCURATELY REFLECT ACTUAL PERFORMANCE OF ANY SPECIFIC REACTOR BUILDING SPRAY PUMP. FOR DESIGN PURPOSES, ACTUAL PERFORMANCE DATA SHOULD BE OBTAINED FROM MANUFACTURER'S CERTIFIED PERFORMANCE TEST CURVES.

Figure 6-6. Reactor Building Cooler Heat Removal Capacity

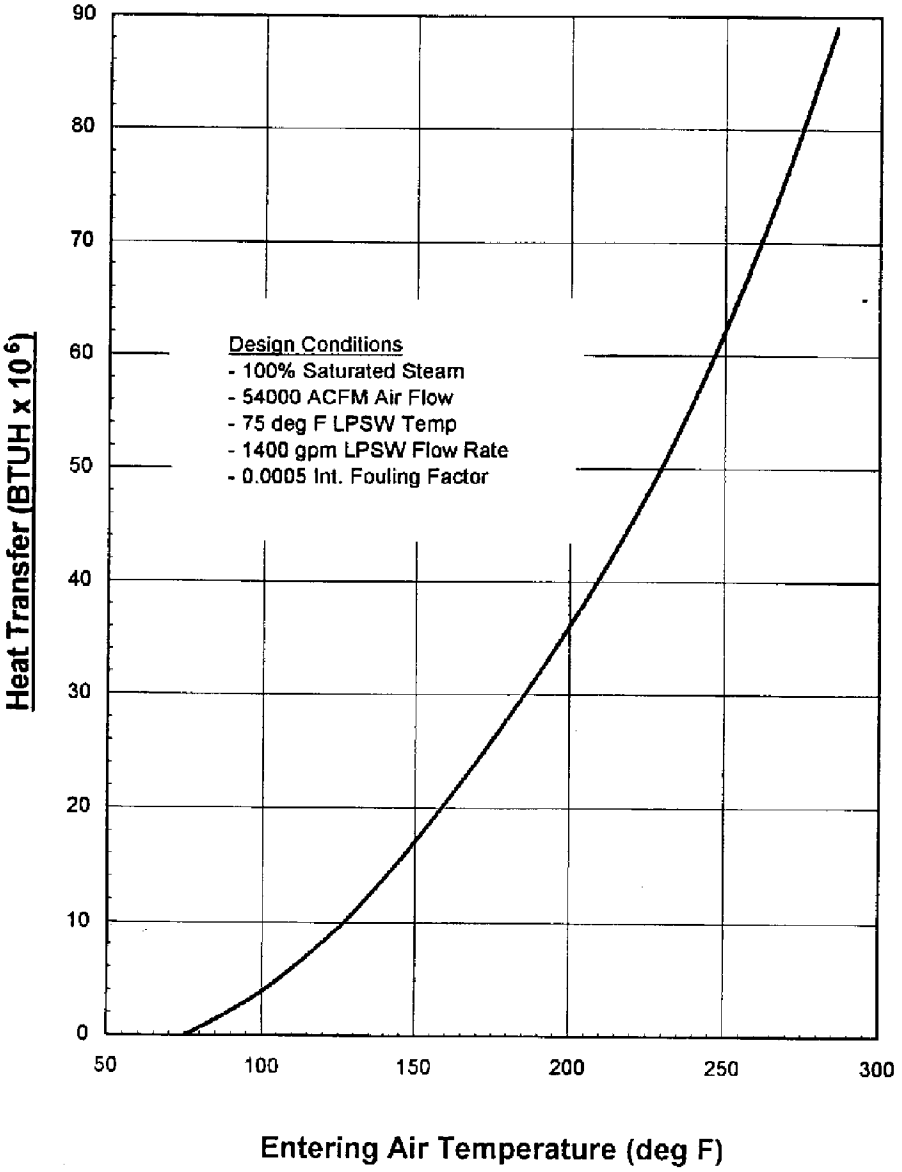


Figure 6-7. Reactor Building Cooler Heat Removal Capability as a Function of Air-Steam Mixture Flow

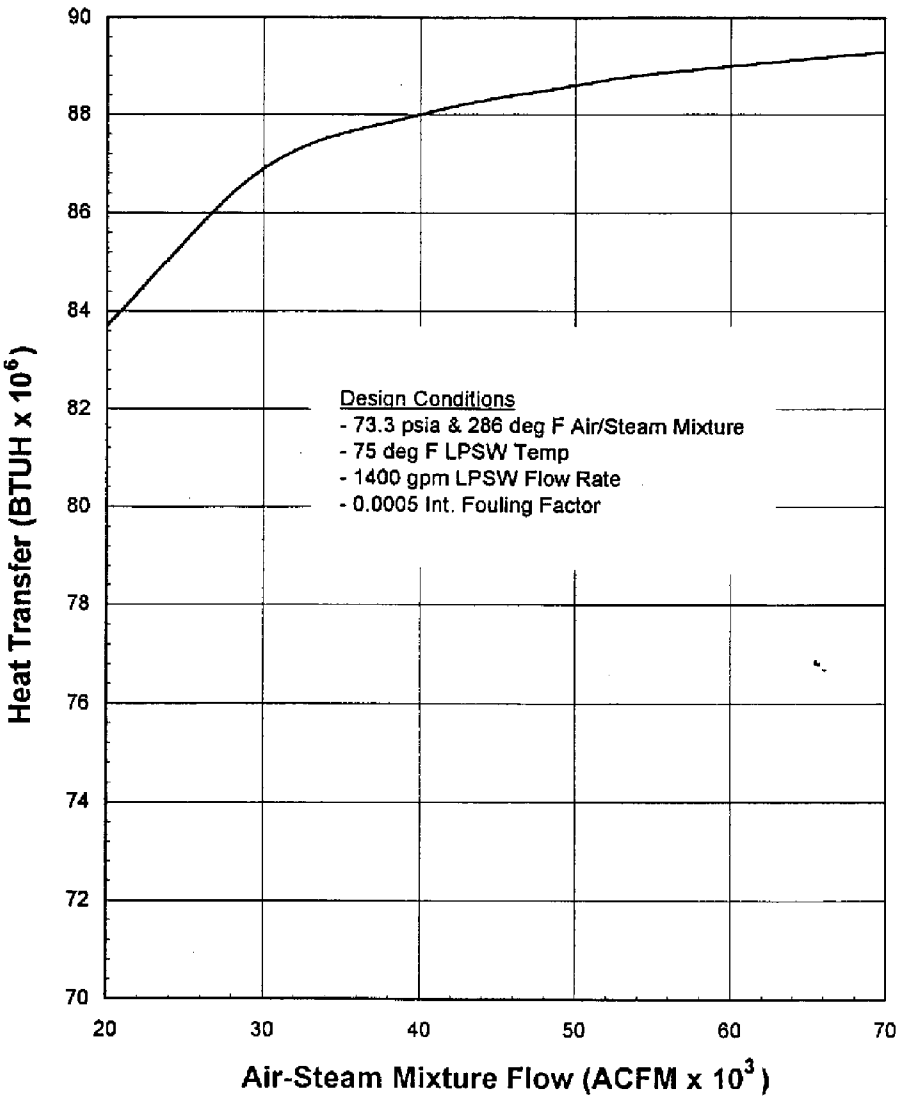
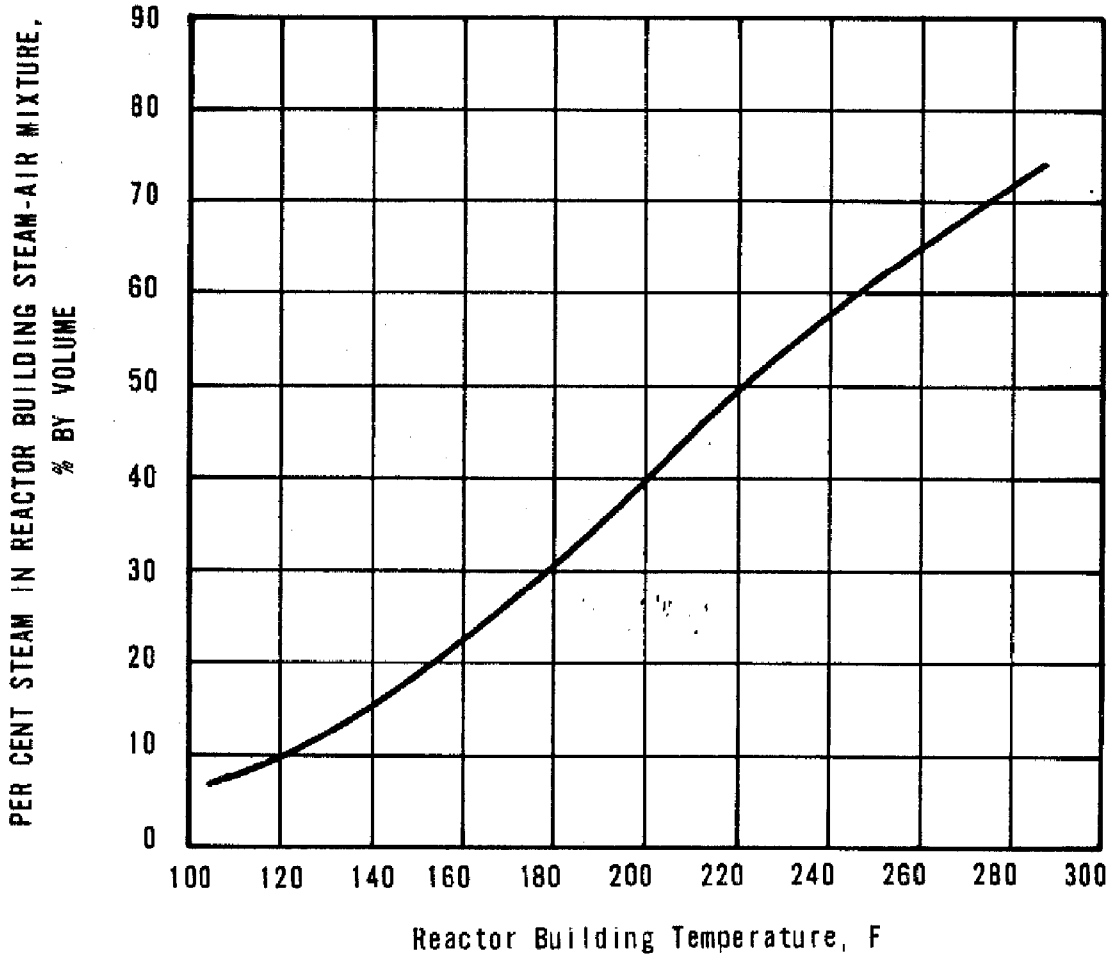
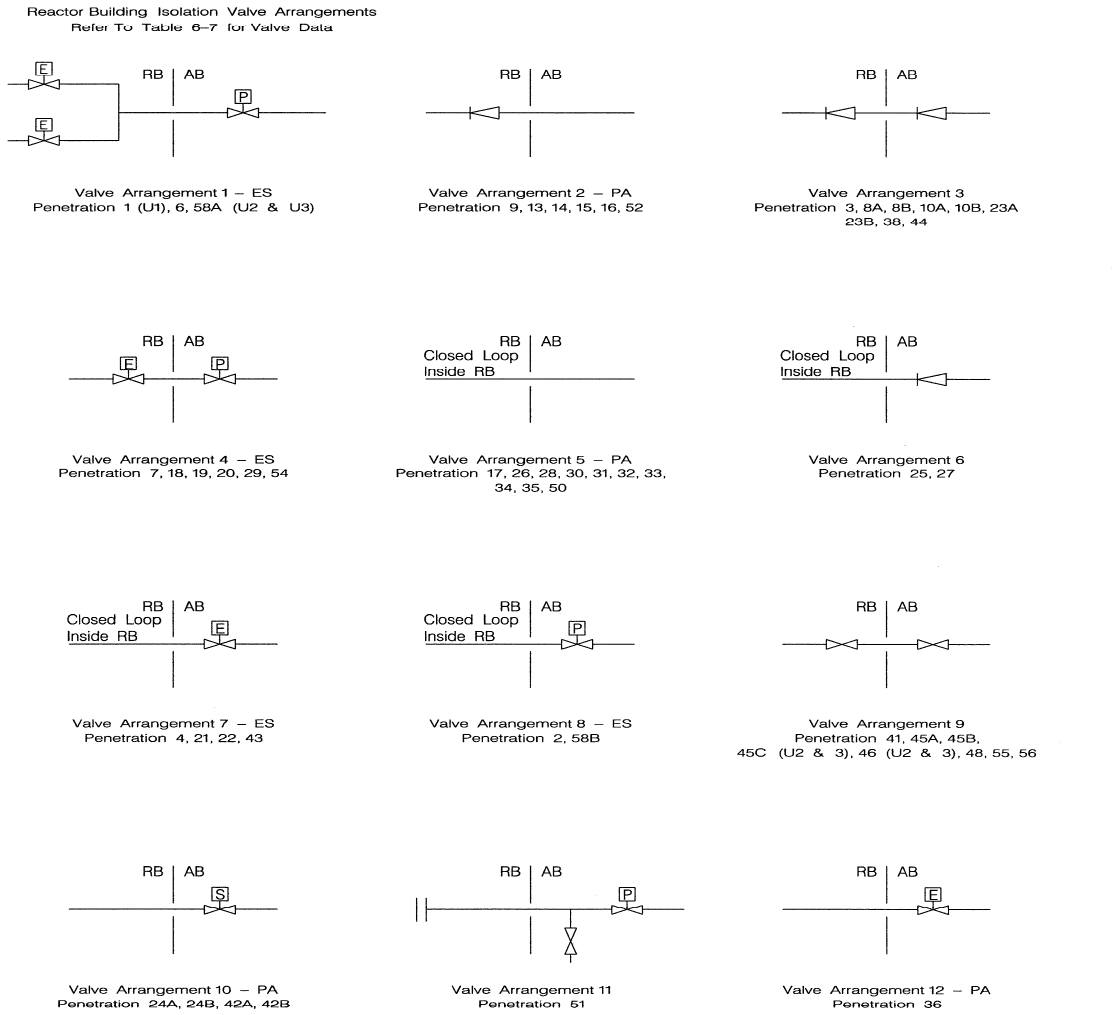


Figure 6-8. Reactor Building Post-Accident Steam-Air Mixture Composition



REACTOR BUILDING POST-ACCIDENT
STEAM-AIR MIXTURE COMPOSITION

Figure 6-9. Reactor Building Isolation Valve Arrangements



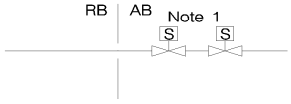
NOTES

Note 1: For Penetration 5B, the drawing shown represents Units 1 & 2. Unit 3 has double manual valves rather than double solenoid valves.
General Note: Branch lines are not shown to normally closed valves for vents, drains and miscellaneous services (including relief valves).

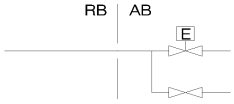
LEGEND

- Manual Valve
- E – Electric Valve
- P – Pneumatic Valve
- S – Solenoid Valve
- Check Valve
- Flange
- PA – Opened Post Accident
- ES – Closed by Engineered Safeguards

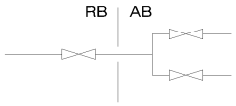
Reactor Building Isolation Valve Arrangements
Refer To Table 6–7 for Valve Data



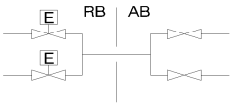
Valve Arrangement 13 – PA
Penetration 5B



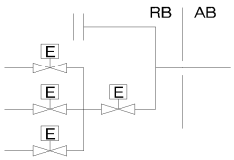
Valve Arrangement 15 – PA
Penetration 37



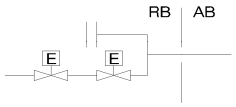
Valve Arrangement 16
Penetration 39A (U2 & 3)



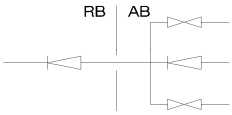
Valve Arrangement 17
Penetration 59



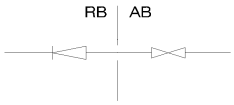
Valve Arrangement 18
Penetration 12



Valve Arrangement 19
Penetration 11



Valve Arrangement 20
Penetration 39B, 53A



Valve Arrangement 21
Penetration 53B (U2 & 3)

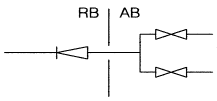
NOTES

General Note: Branch lines are not shown to normally closed valves for vents, drains and miscellaneous services (including relief valves).

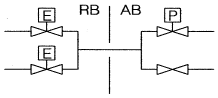
LEGEND

- Manual Valve
- E – Electric Valve
- P – Pneumatic Valve
- S – Solenoid Valve
- Check Valve
- Flange
- PA – Opened Post Accident
- ES – Closed by Engineered Safeguards

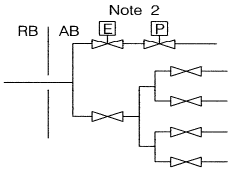
Reactor Building Isolation Valve Arrangements
Refer To Table 6–7 for Valve Data



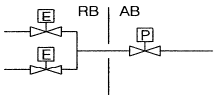
Valve Arrangement 22
Penetration 49 (U1)



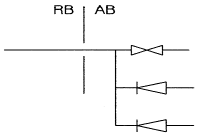
Valve Arrangement 23 – ES, PA
Penetration 60



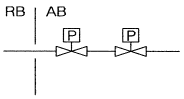
Valve Arrangement 24 – ES, PA
Penetration 5A



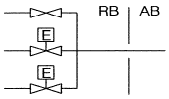
Valve Arrangement 25 – ES, PA
Penetration 61



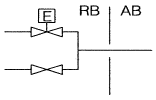
Valve Arrangement 26 – PA
Penetration 40



Valve Arrangement 27 – ES
Penetrations 63 & 64



Valve Arrangement 28 – PA
Penetration 57 (U1)



Valve Arrangement 29 – PA
Penetration 62 (U2 & U3)

NOTES

Note 2: For Penetration 5A, the drawing shown represents Units 2 & 3. For Unit 1, the electric and pneumatic valves are reversed.
General Note: Branch lines are not shown to normally closed valves for vents, drains and miscellaneous services (including relief valves).

LEGEND

- Manual Valve
- E – Electric Valve
- P – Pneumatic Valve
- S – Solenoid Valve
- Check Valve
- Flange
- PA – Opened Post Accident
- ES – Closed by Engineered Safeguards

Figure 6-10. Deleted Per 1993 Update

Figure 6-11. Deleted Per 1993 Update

Figure 6-12. Deleted Per 1993 Update

Figure 6-13. Deleted Per 1999 Update

Figure 6-14. Deleted Per 1999 Update

Figure 6-15. Deleted Per 1991 Update

Figure 6-16. High Pressure Injection Pump Characteristics

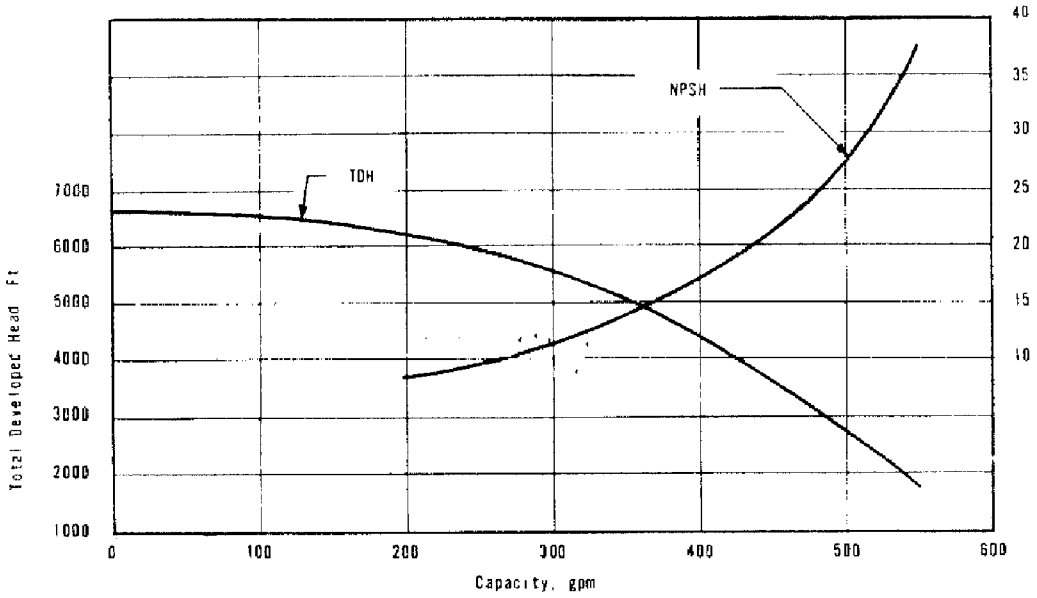


Figure 6-17. Low Pressure Injection Pump Characteristics

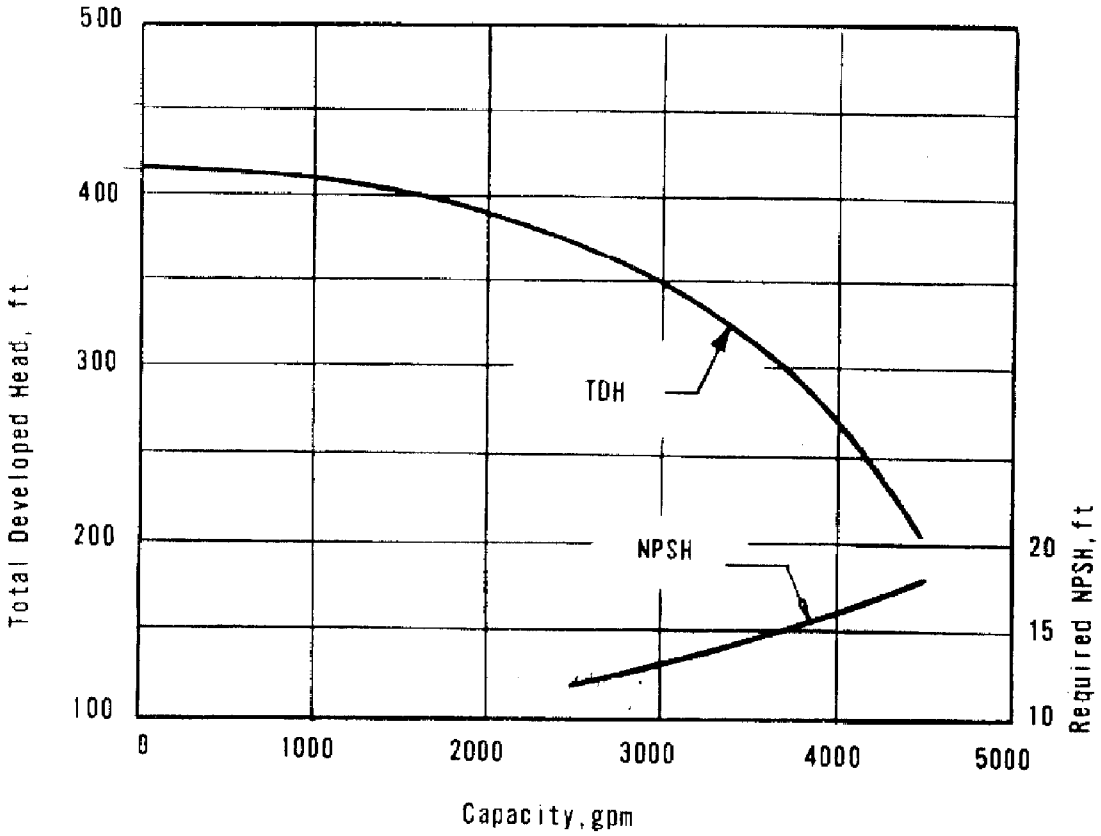


Figure 6-18. Low Pressure Injection Cooler Capacity

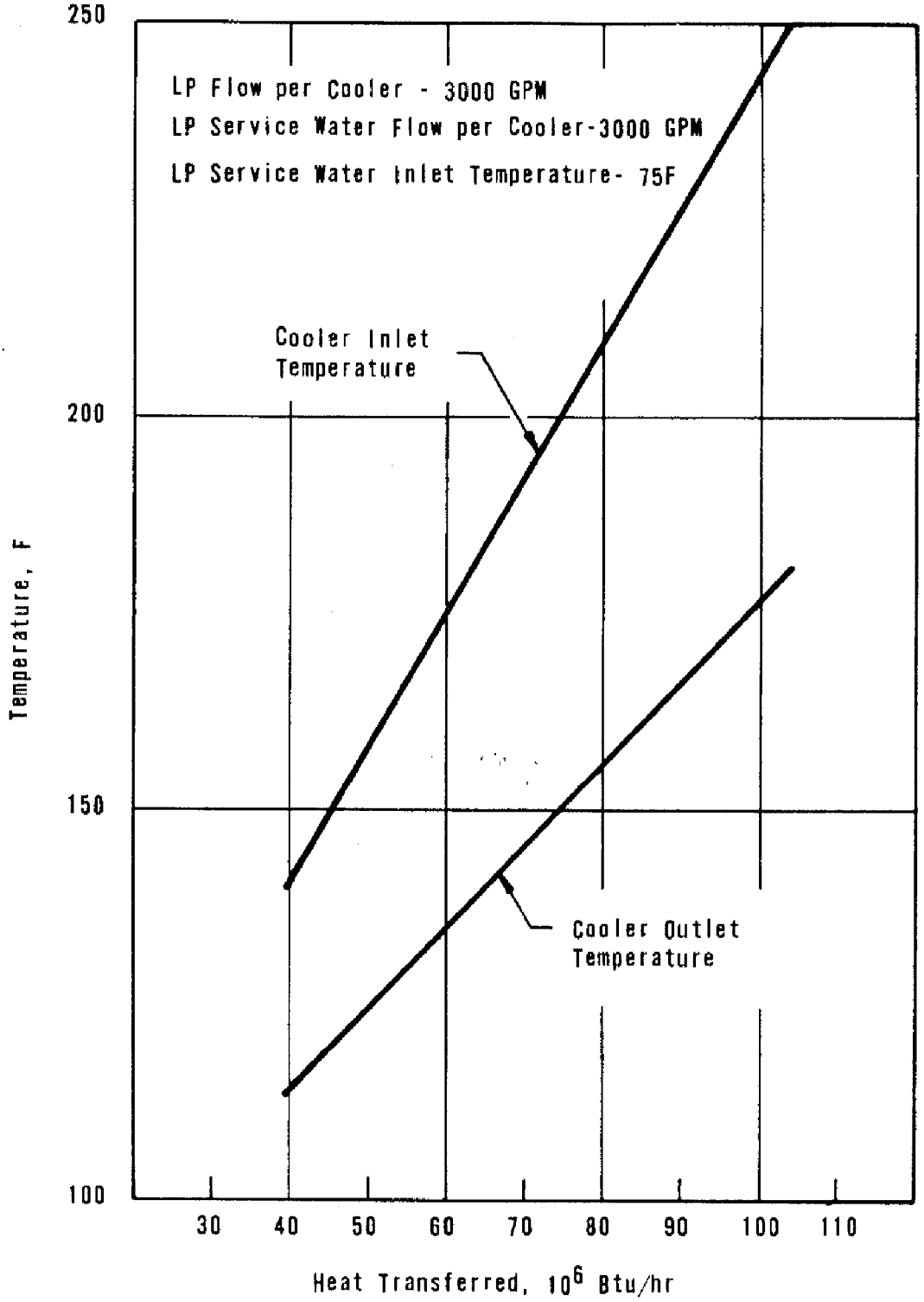


Figure 6-19. Control Rooms 1-2 And 3 Locations

Security Related Information withheld
Under 10 CFR 2.390

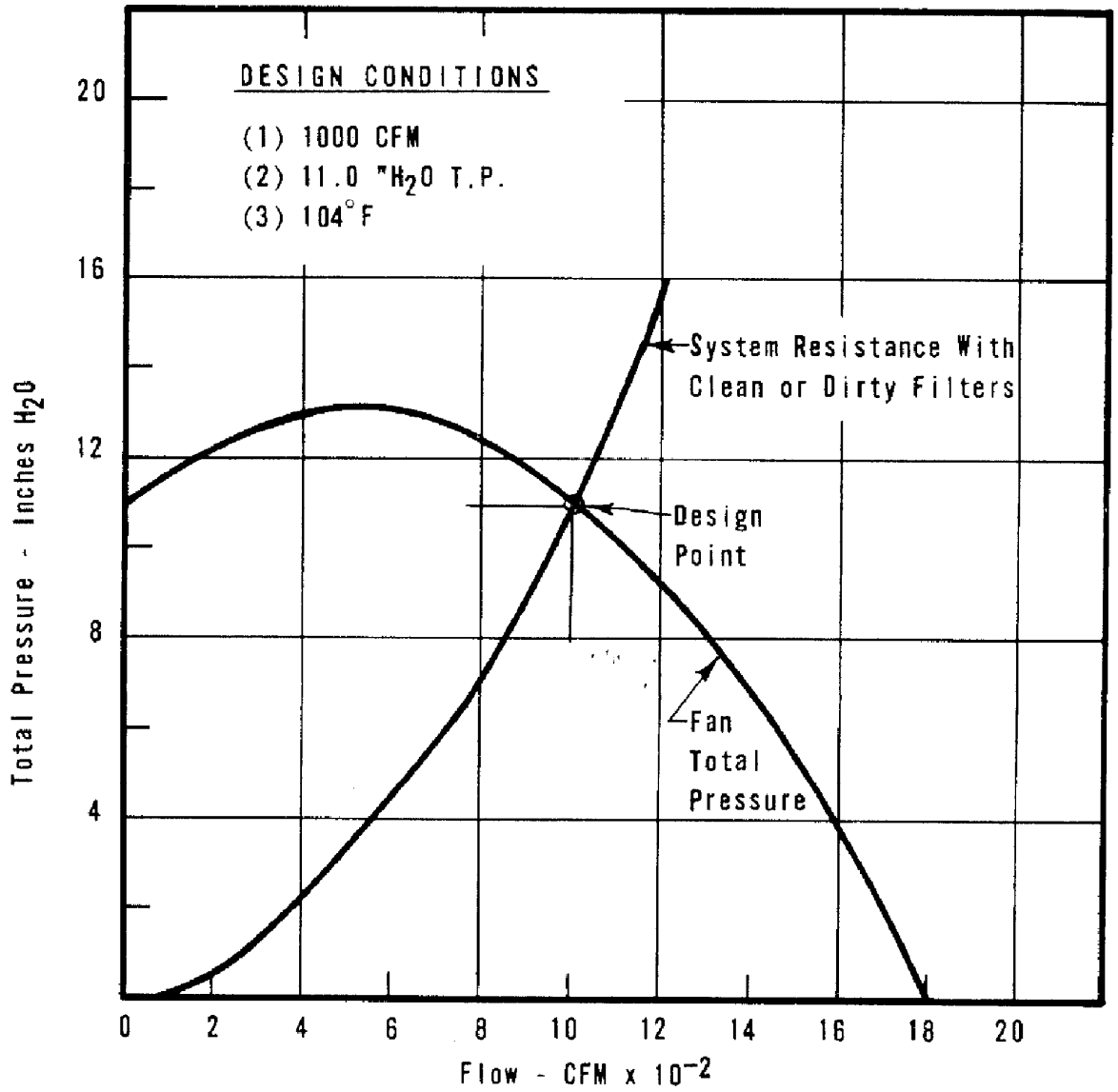
Figure 6-20. General Arrangement Control Room 1-2

Security Related Information withheld
Under 10 CFR 2.390

Figure 6-21. General Arrangement Control Room 3

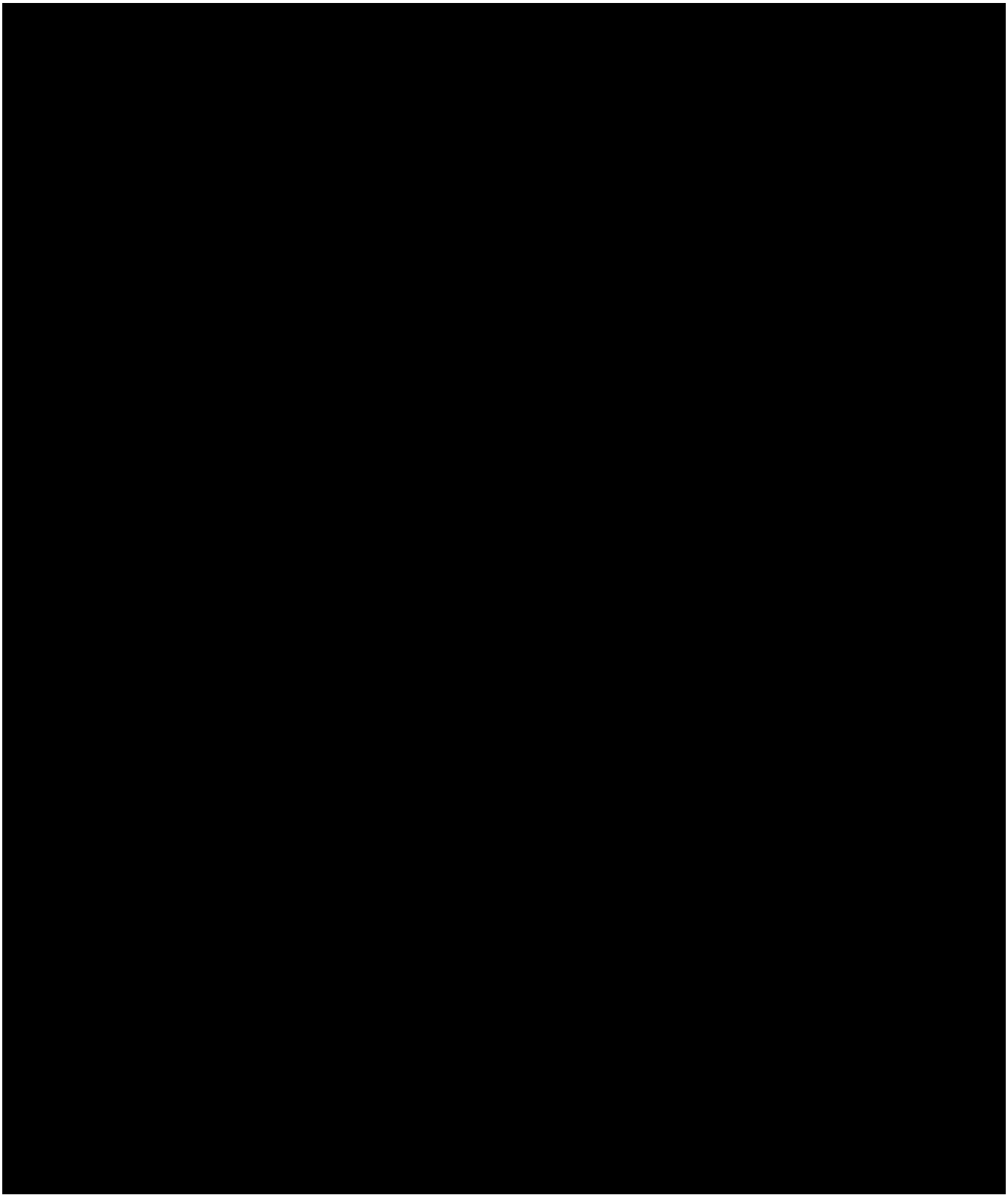
Security Related Information withheld Under 10 CFR 2.390

Figure 6-22. Penetration Room Ventilation Fan And System Characteristics



PENETRATION ROOM VENTILATION FAN AND SYSTEM CHARACTERISTICS

Figure 6-23. Penetrations In Penetration Room 809'3" Floor And Wall Areas



Security Related Information withheld
Under 10 CFR 2.390

Figure 6-24. Penetrations In Penetration Room 838'0" Floor

Security Related Information withheld
Under 10 CFR 2.390

Figure 6-25. Penetration Rooms Details, Mechanical Openings

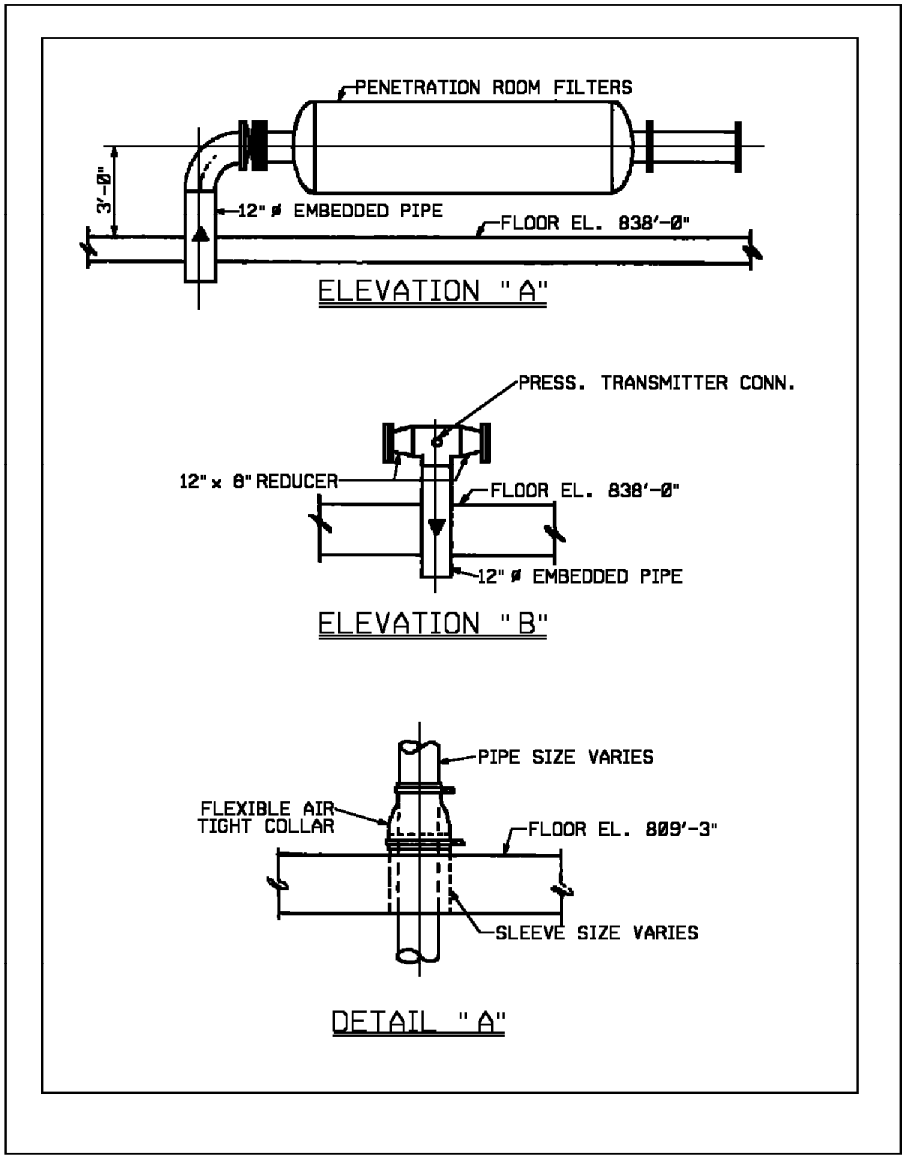


Figure 6-26. Penetration Rooms Details, Electrical Openings

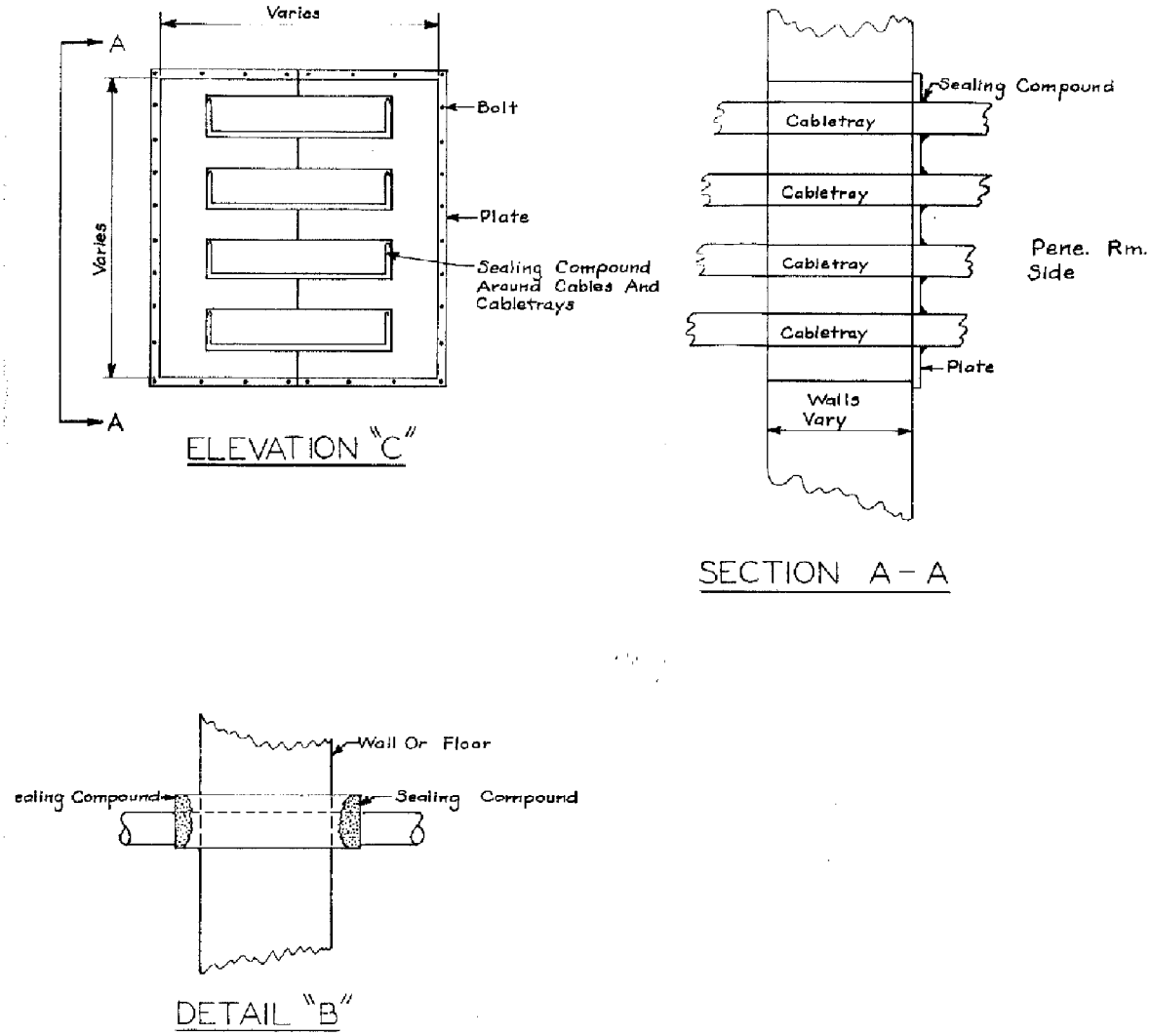


Figure 6-27. Penetration Rooms Details Construction Details

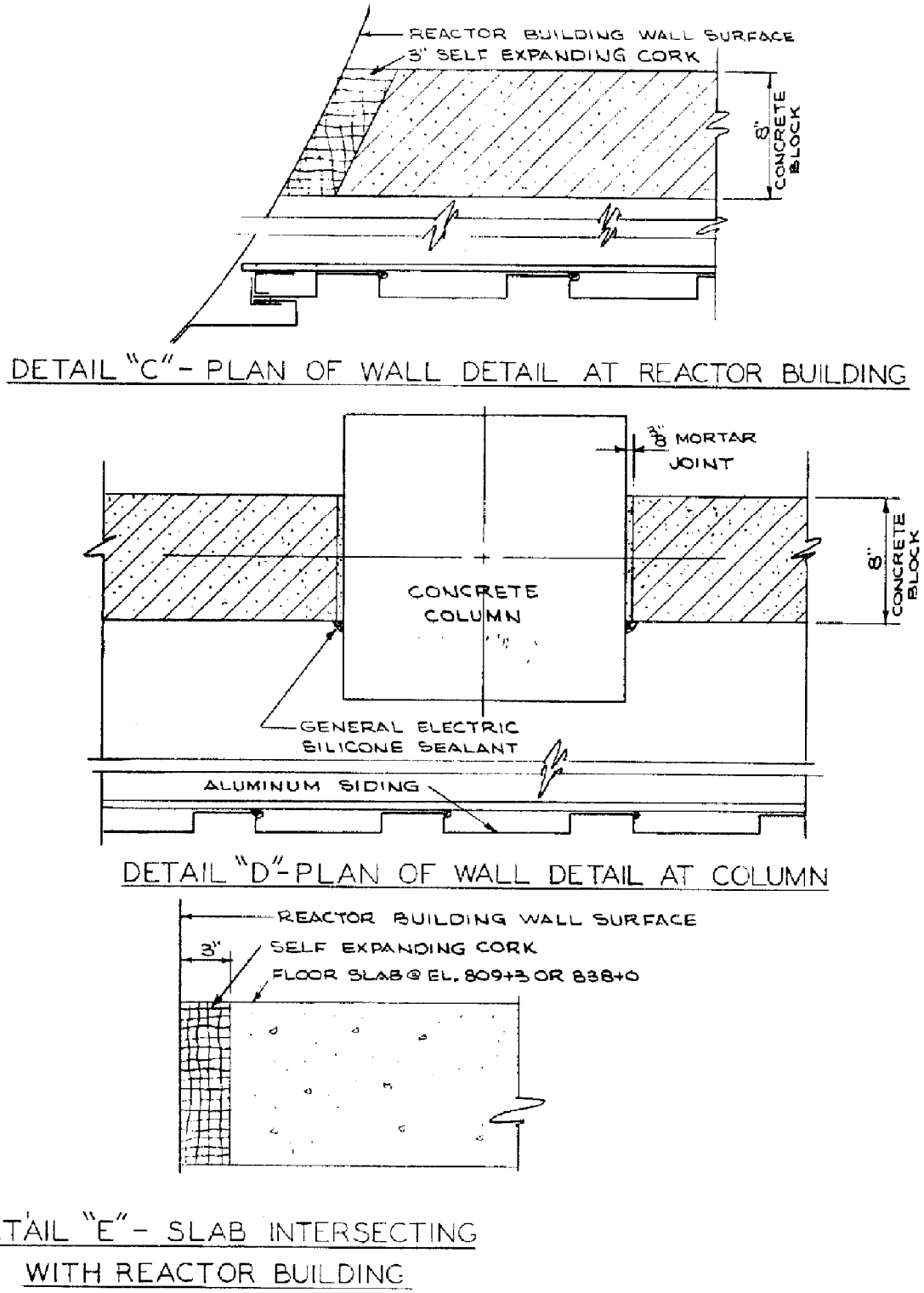


Figure 6-28. ONS ROTSG Peak Pressure Analysis. 14.1 ft^2 break – Rx Vessel Outlet

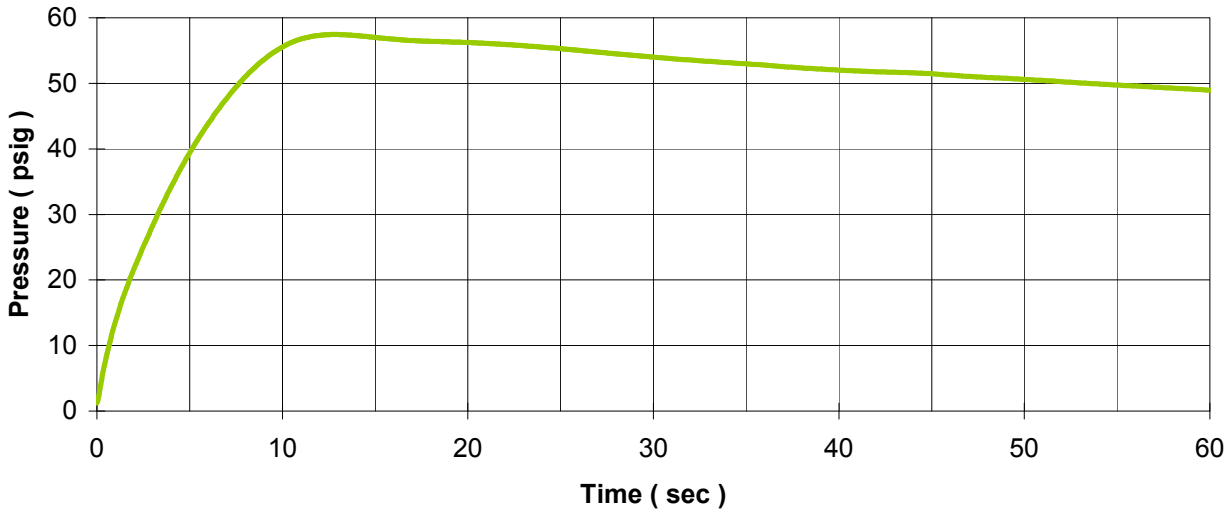


Figure 6-29. ONS ROTSG Peak Pressure Analysis. 14.1 ft^2 break – S/G Inlet

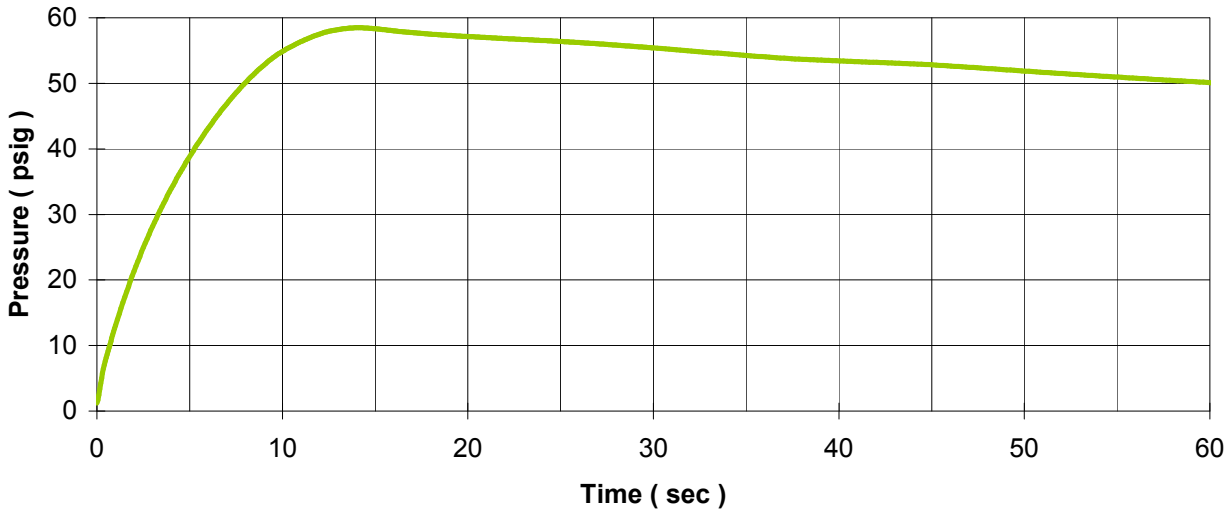


Figure 6-30. ONS ROTSG Peak Pressure Analysis. 8.55 ft^2 break – Cold Leg Pump Discharge

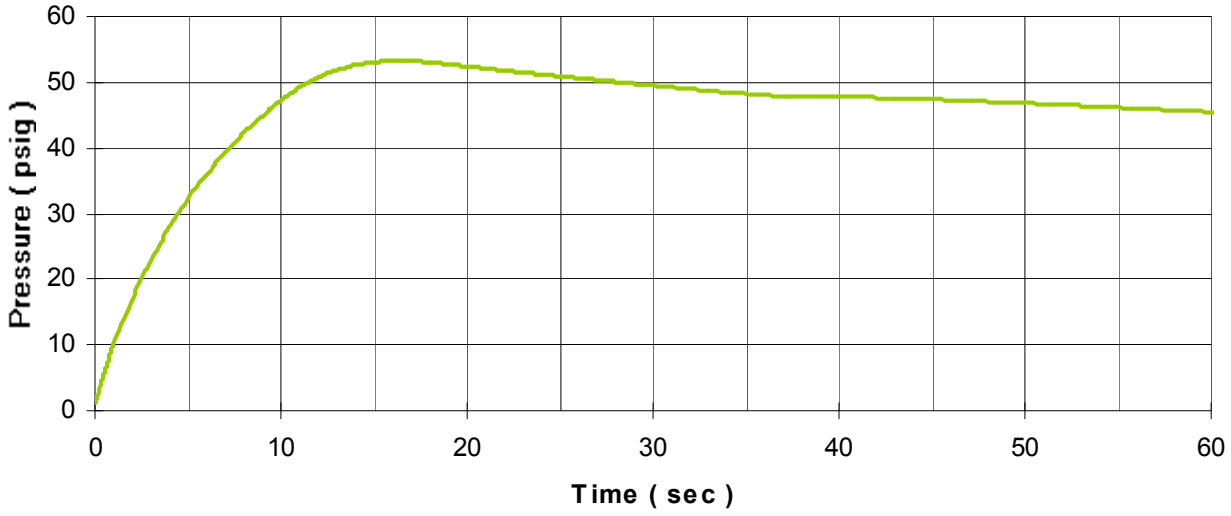


Figure 6-31. ONS ROTSG Peak Pressure Analysis. 8.55 ft^2 break – Cold Leg Pump Suction

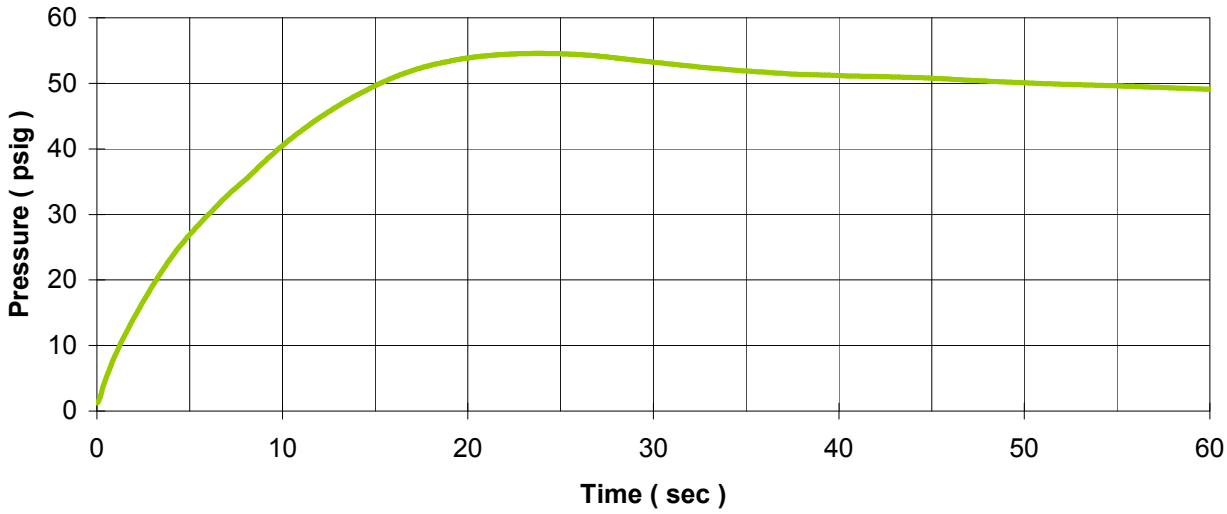


Figure 6-32. ONS ROTSG Peak Pressure Analysis. 14.1 ft^2 break – Rx Vessel Outlet

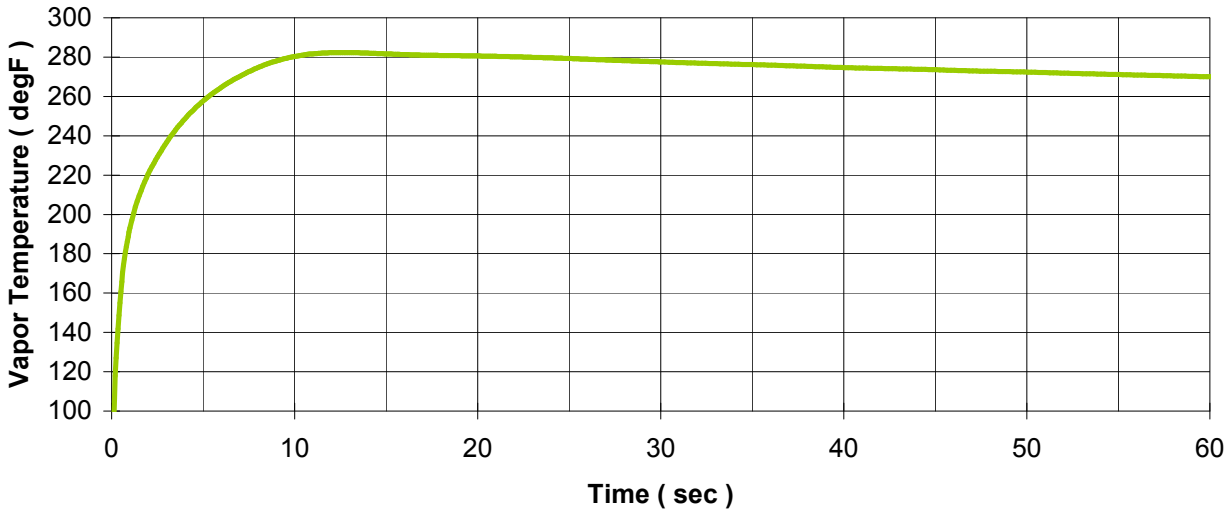


Figure 6-33. ONS ROTSG Peak Pressure Analysis. 14.1 ft^2 break – S/G Inlet

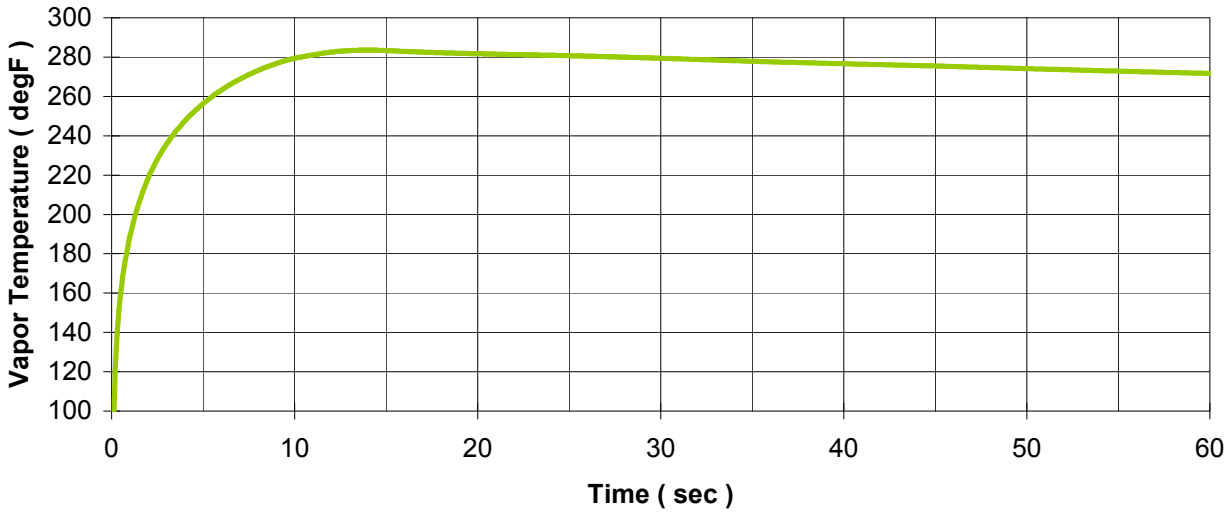


Figure 6-34. ONS ROTSG Peak Pressure Analysis. 8.55 ft^2 break – Cold Leg Pump Discharge

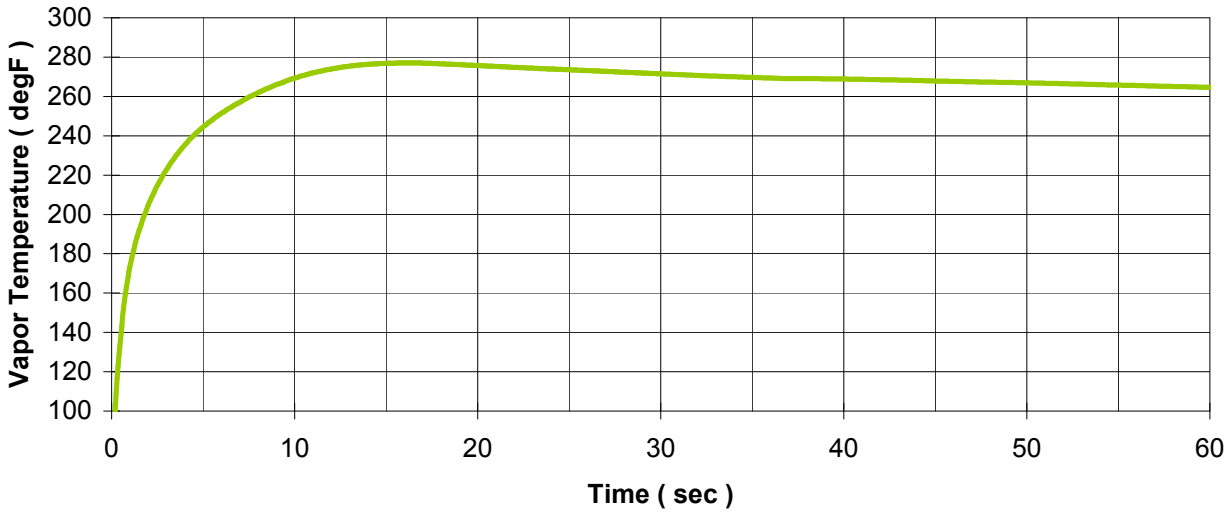


Figure 6-35. ONS ROTSG Peak Pressure Analysis. 8.55 ft^2 break – Cold Leg Pump Suction

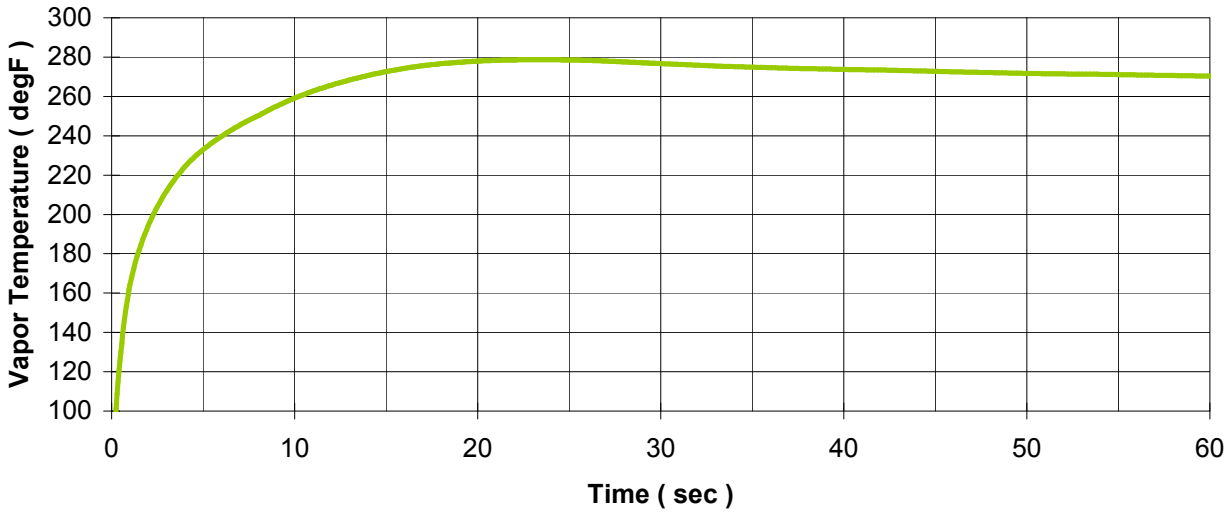


Figure 6-36. Oconee Large Break LOCA Long-term Containment Response. Limiting Reactor Building Pressure Profile

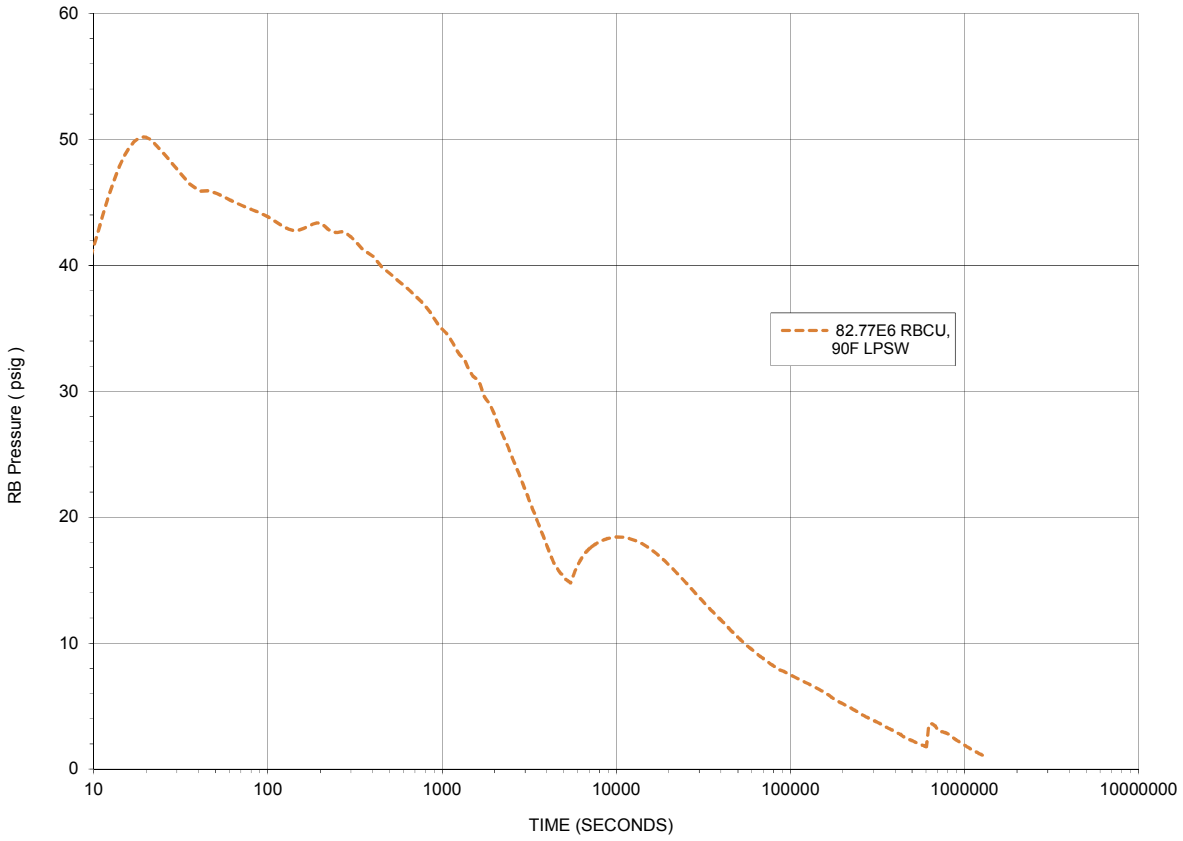


Figure 6-37. Oconee Large Break LOCA Long-term Containment Response. Limiting Vapor Temperature Profile

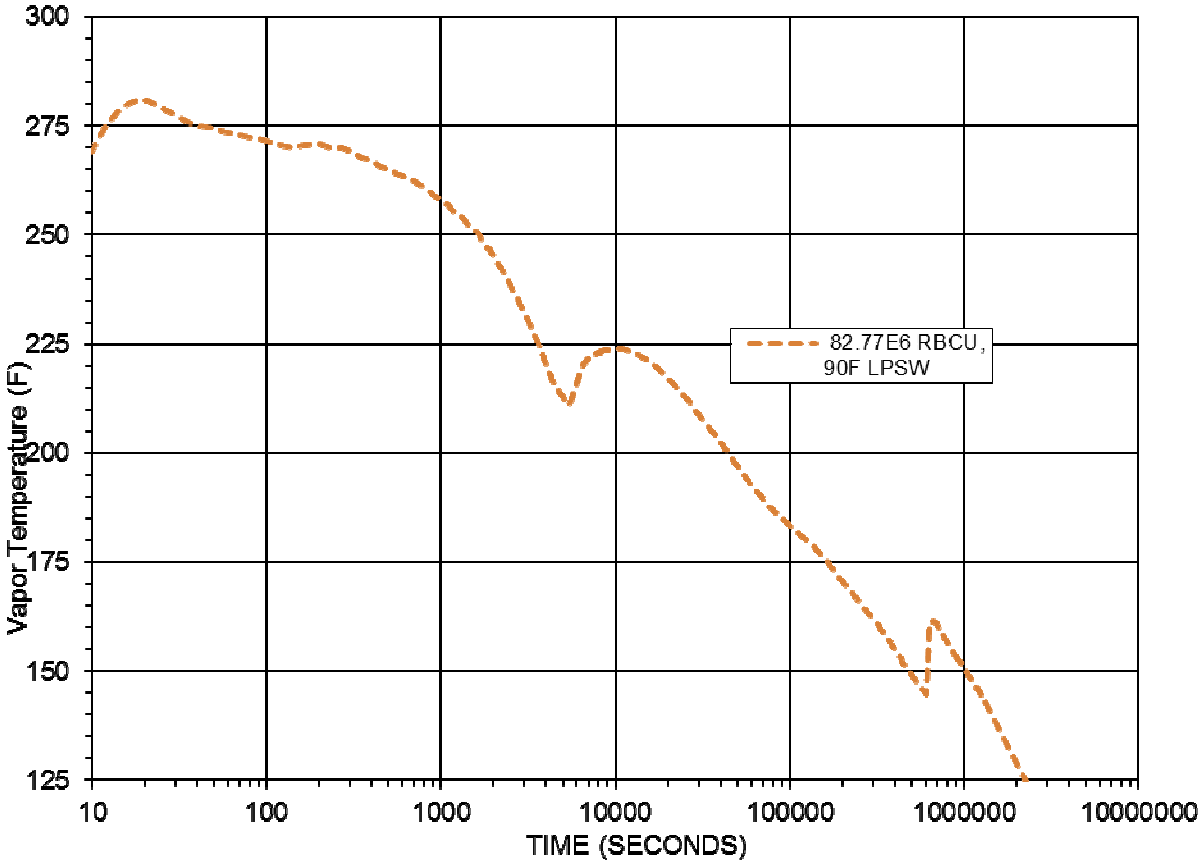


Figure 6-38. Deleted Per 2003 Update

Figure 6-39. Deleted Per 2003 Update

Figure 6-40. Deleted Per 2003 Update

Figure 6-41. Deleted Per 2003 Update

Figure 6-42. Oconee Steam Line Break:Containment Pressure. With Automatic MFW Isolation

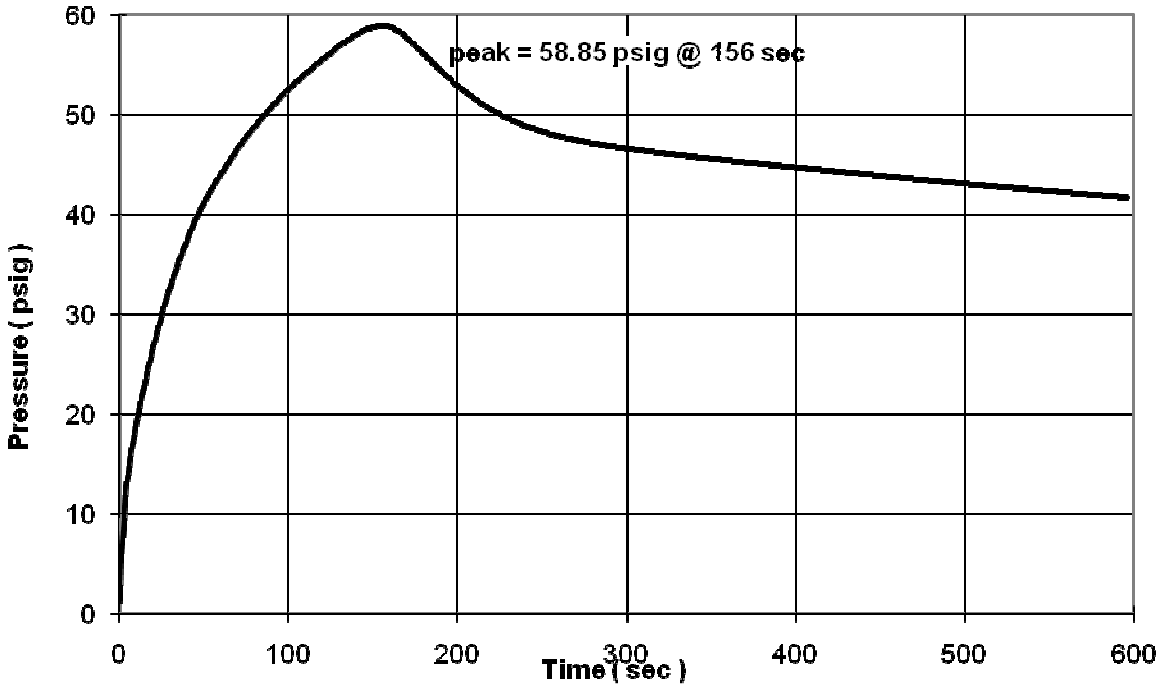


Figure 6-43. Oconee Steam Line Break:Containment Temperature. With Automatic MFW Isolation

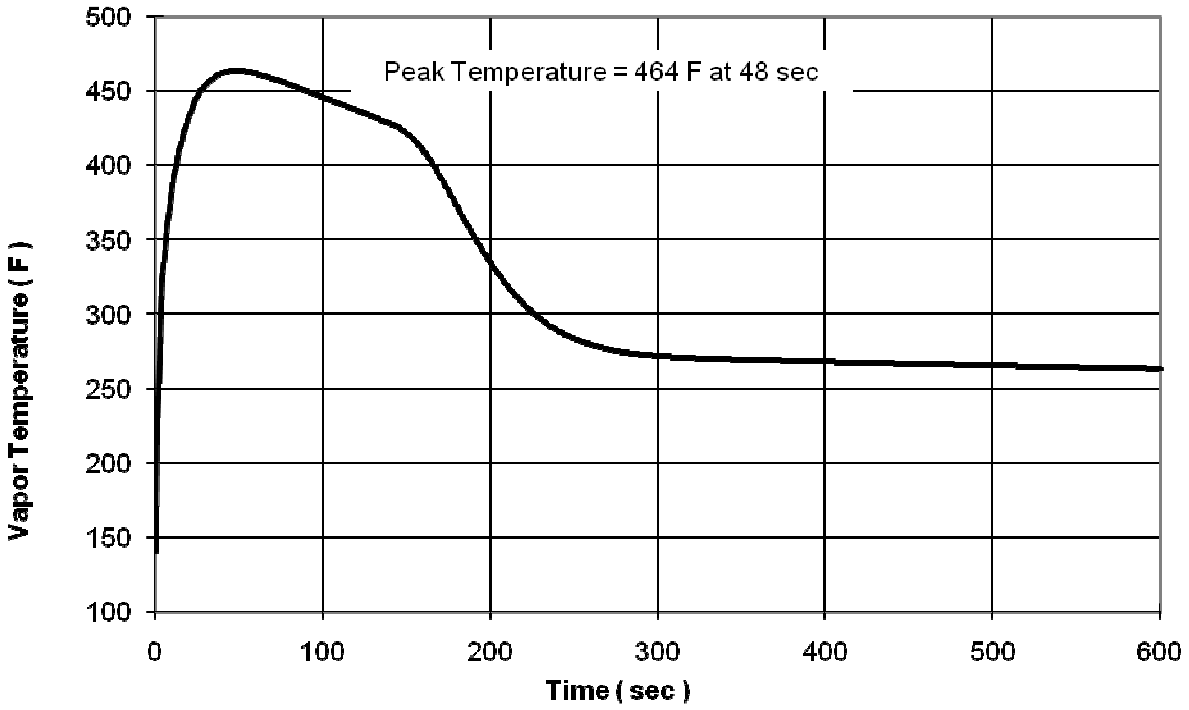
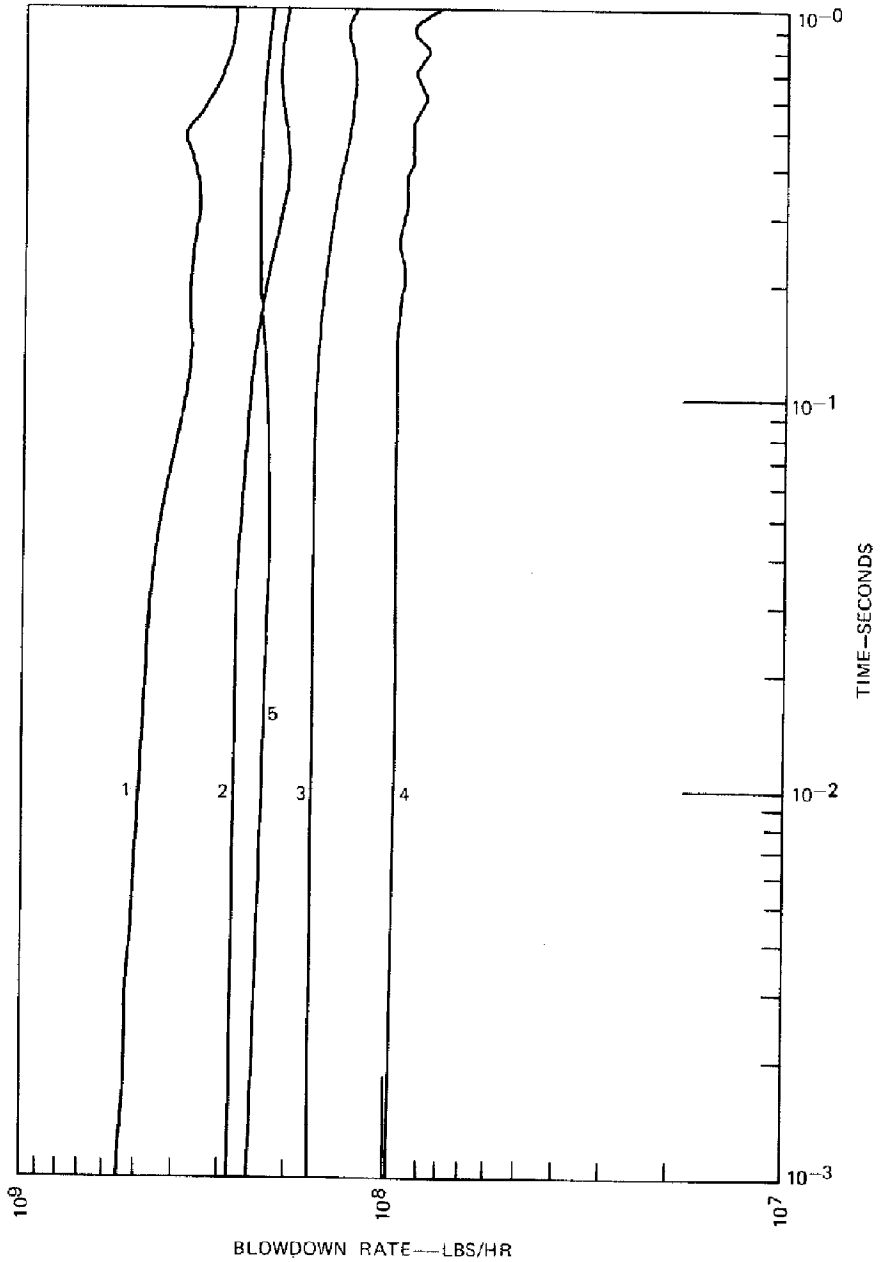
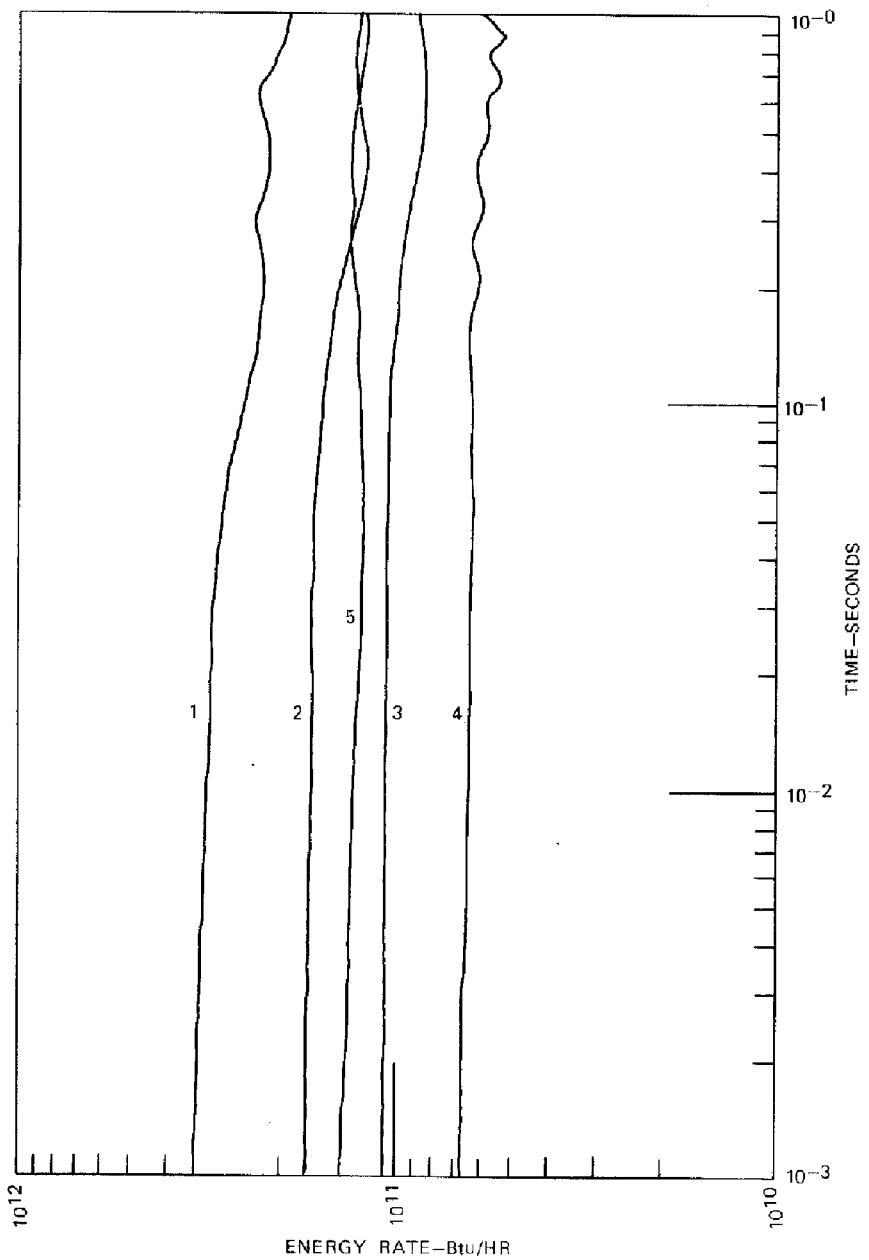


Figure 6-44. LOCA-Mass Release for the Subcompartment Pressure Response Analysis



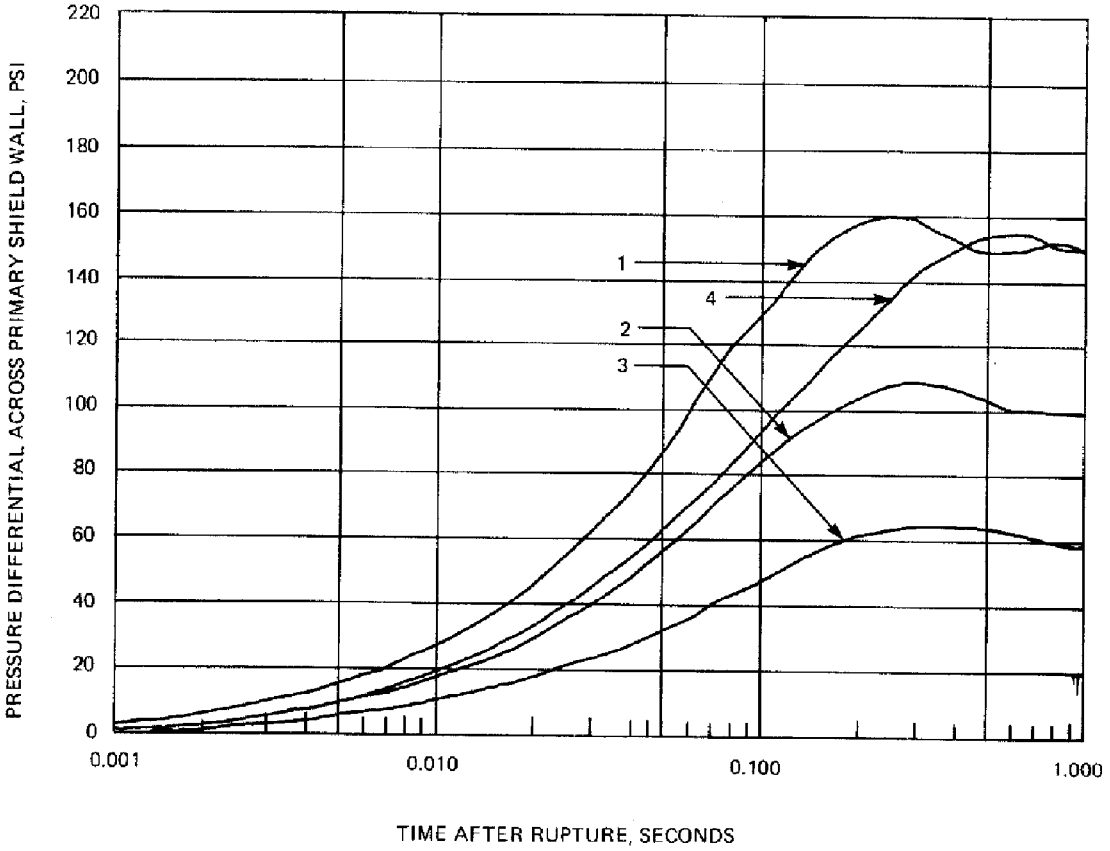
CASE	EXPLANATION
1	14.1 FT^2 RUPTURE IN 36–INCH HOT LEG
2	8 FT^2 RUPTURE IN 36–INCH HOT LEG
3	5 FT^2 RUPTURE IN 36–INCH HOT LEG
4	3 FT^2 RUPTURE IN 36–INCH HOT LEG
5	8.55 FT^2 RUPTURE IN 28–INCH COLD LEG

Figure 6-45. LOCA-Energy Release Rate for the Subcompartment Pressure Response Analysis



CASE	EXPLANATION
1	14.1 FT^2 RUPTURE IN 36–INCH HOT LEG
2	8 FT^2 RUPTURE IN 36–INCH HOT LEG
3	5 FT^2 RUPTURE IN 36–INCH HOT LEG
4	3 FT^2 RUPTURE IN 36–INCH HOT LEG
5	8.55 FT^2 RUPTURE IN 28–INCH COLD LEG

Figure 6-46. LOCA-Reactor Compartment Pressure Response



CURVE	BREAK SIZE	DESCRIPTION
1*	8 FT^2 H.L	ROUGHLY CORRESPONDS TO MAXIMUM BREAK SIZE PREVIOUSLY REPORTED REACTOR CAVITY COULD WITHSTAND
2*	5 FT^2 H.L.	INTERMEDIATE SIZE BREAK
3	3 FT^2 H.L.	CORRESPONDS TO MAXIMUM HOT LEG BREAK WHICH CAN OCCUR WITHIN THE REACTOR CAVITY
4	8.55 FT^2 C.L.	CORRESPONDS TO LARGEST PREVIOUSLY REPORTED BREAK OF HOT LEG

* ALTHOUGH THE 3 FT^2 BREAK SIZE IS THE LARGEST POSSIBLE WITHIN THE REACTOR CAVITY, IT WAS CONSERVATIVELY ASSUMED ALL OF THE BREAK IS WITHIN THE CAVITY.

Figure 6-47. LOCA-Steam Generator Compartment Vent Discharge Coefficient

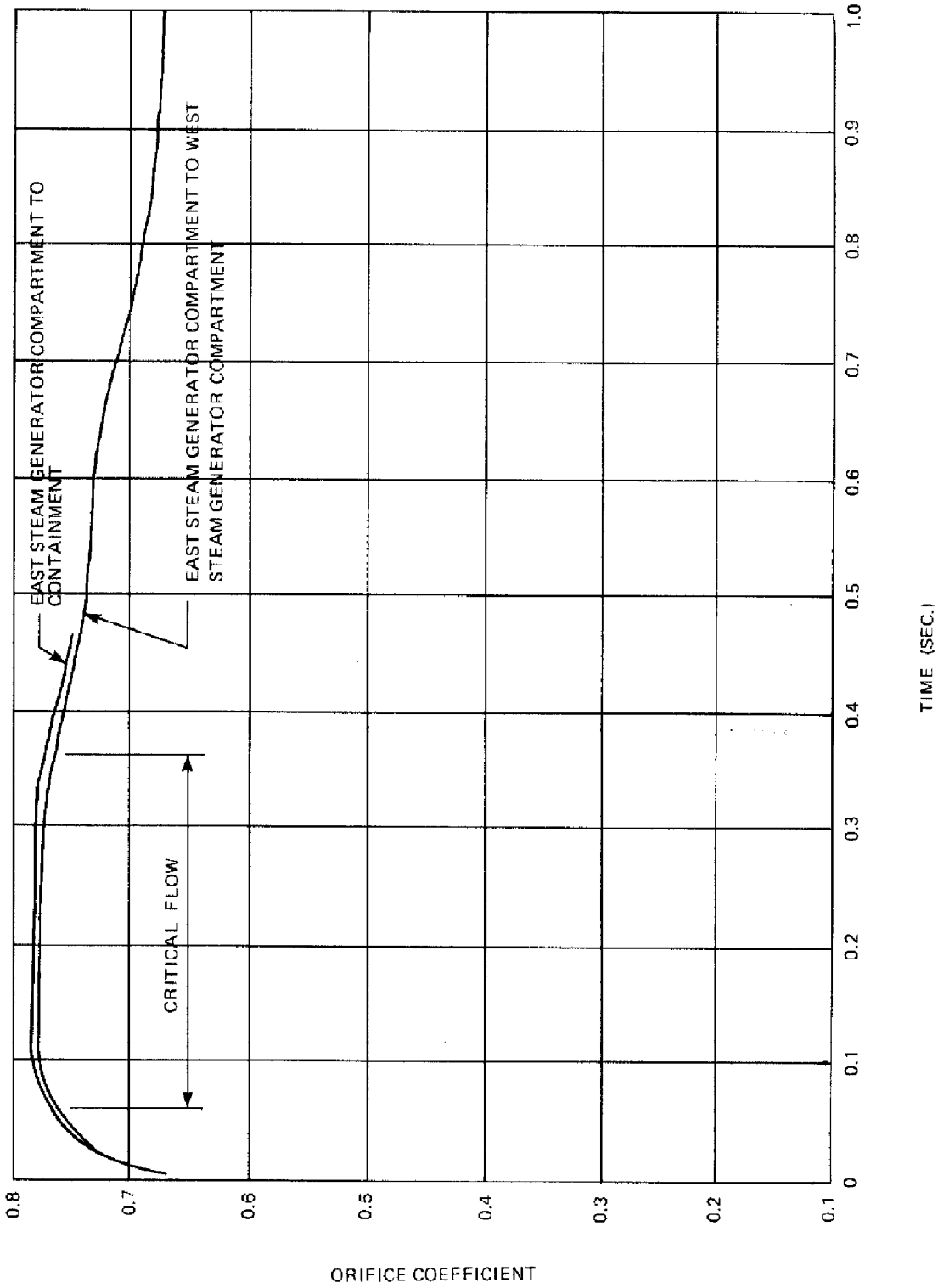
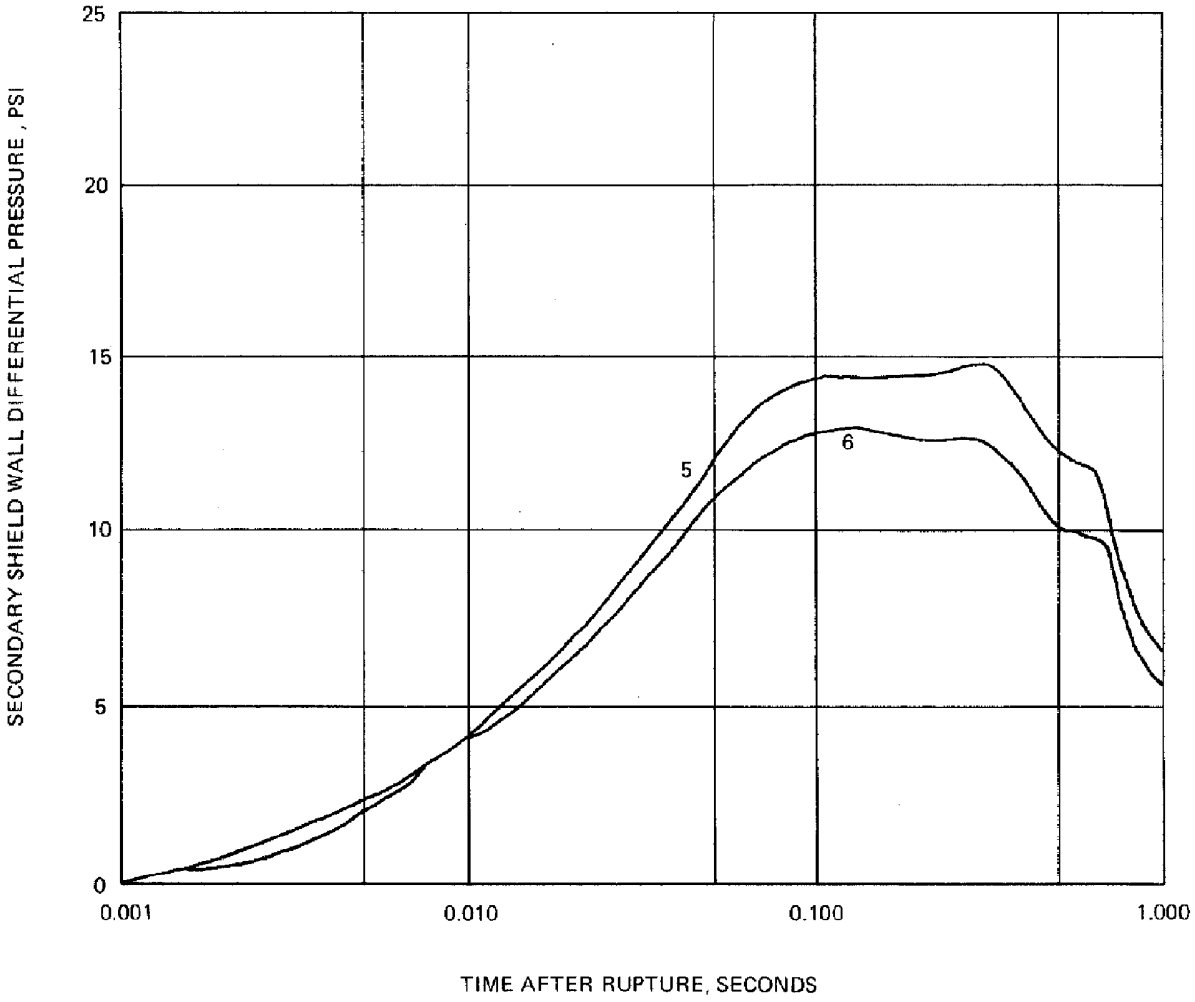


Figure 6-48. LOCA-Steam Generator Compartment Pressure Response



CURVE	BREAK SIZE	DESCRIPTION
5	14.1 FT^2 HOT LEG	RUPTURE OF 36 INCH HOT LEG IN EAST STEAM GENERATOR COMPARTMENT
6	14.1 FT^2 HOT LEG	RUPTURE OF 36 INCH HOT LEG IN WEST STEAM GENERATOR COMPARTMENT

Figure 6-49. Deleted Per 2003 Update

Figure 6-50. LOCA-Mass Released to the Reactor Building. For the 8.55 ft^2 Cold Leg Pump Discharge Break

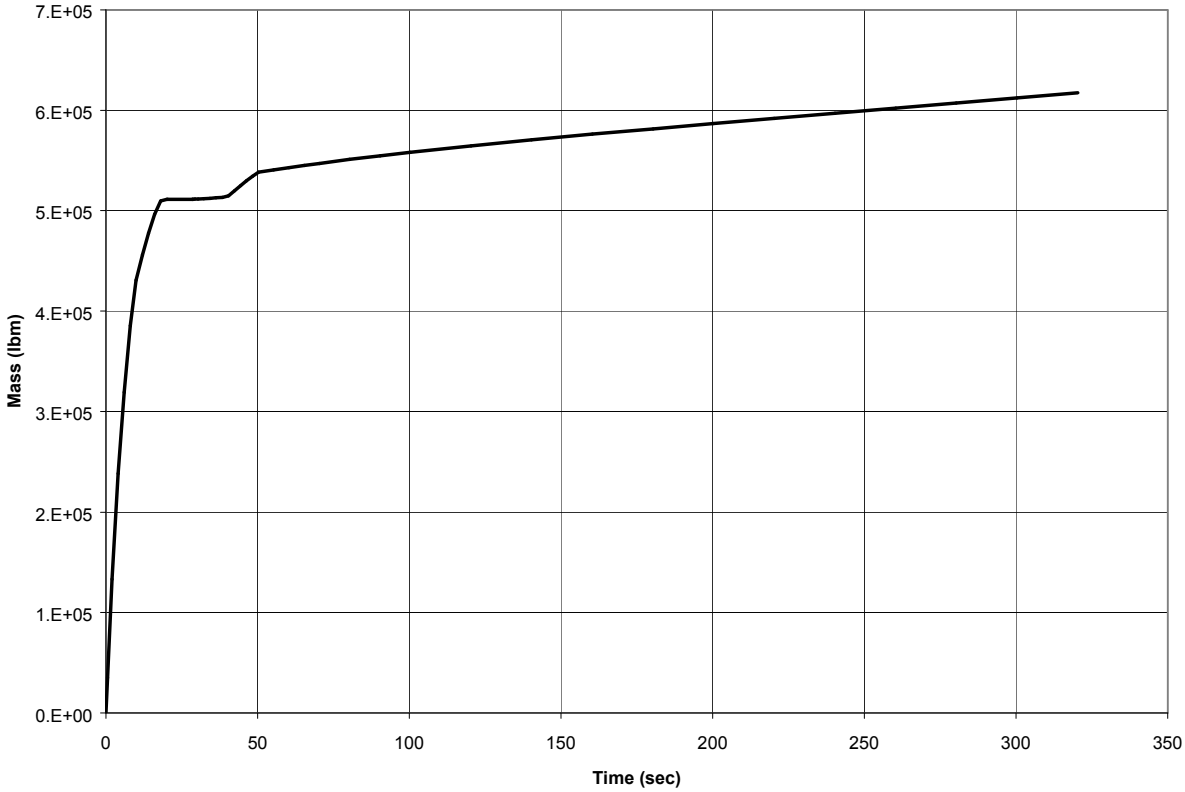


Figure 6-51. LOCA-Energy Released to the Reactor Building. For the 8.55 ft^2 Cold Leg Pump Discharge Break

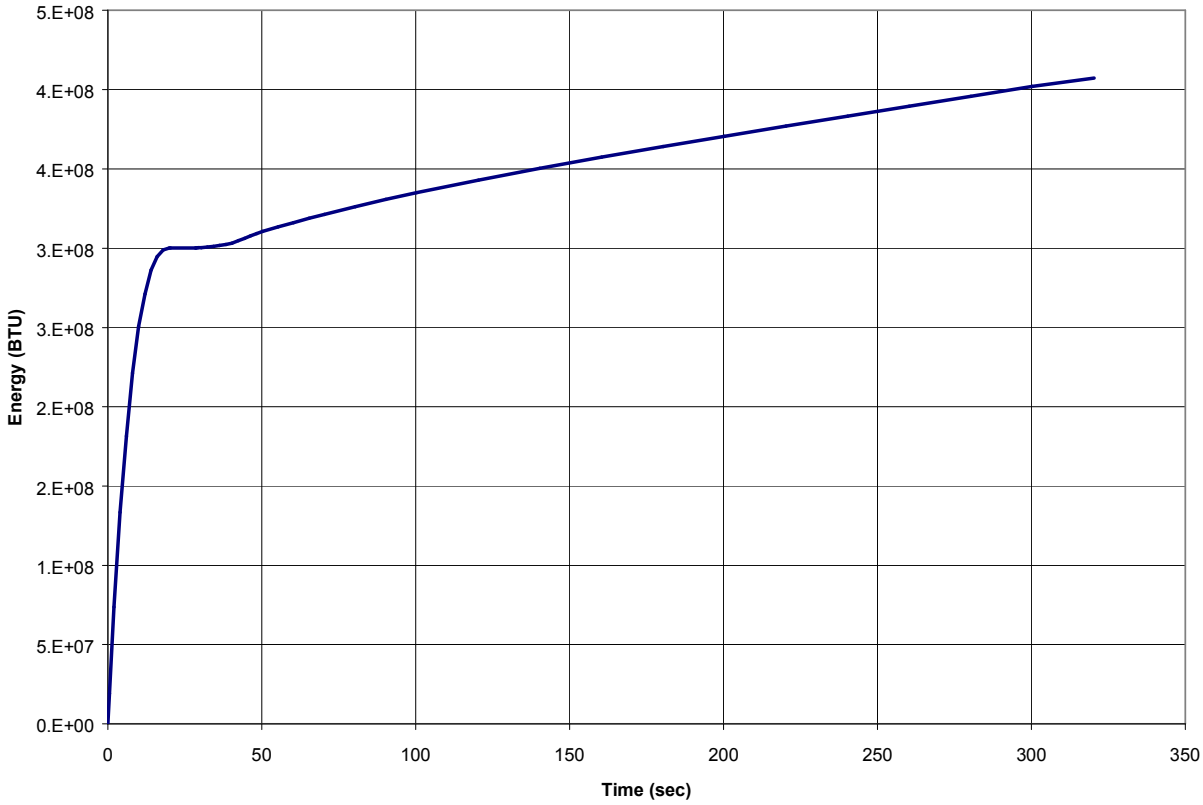


Figure 6-52. LOCA-Reactor Building Pressure. For the 8,55 ft^2 Cold Leg Pump Discharge Break

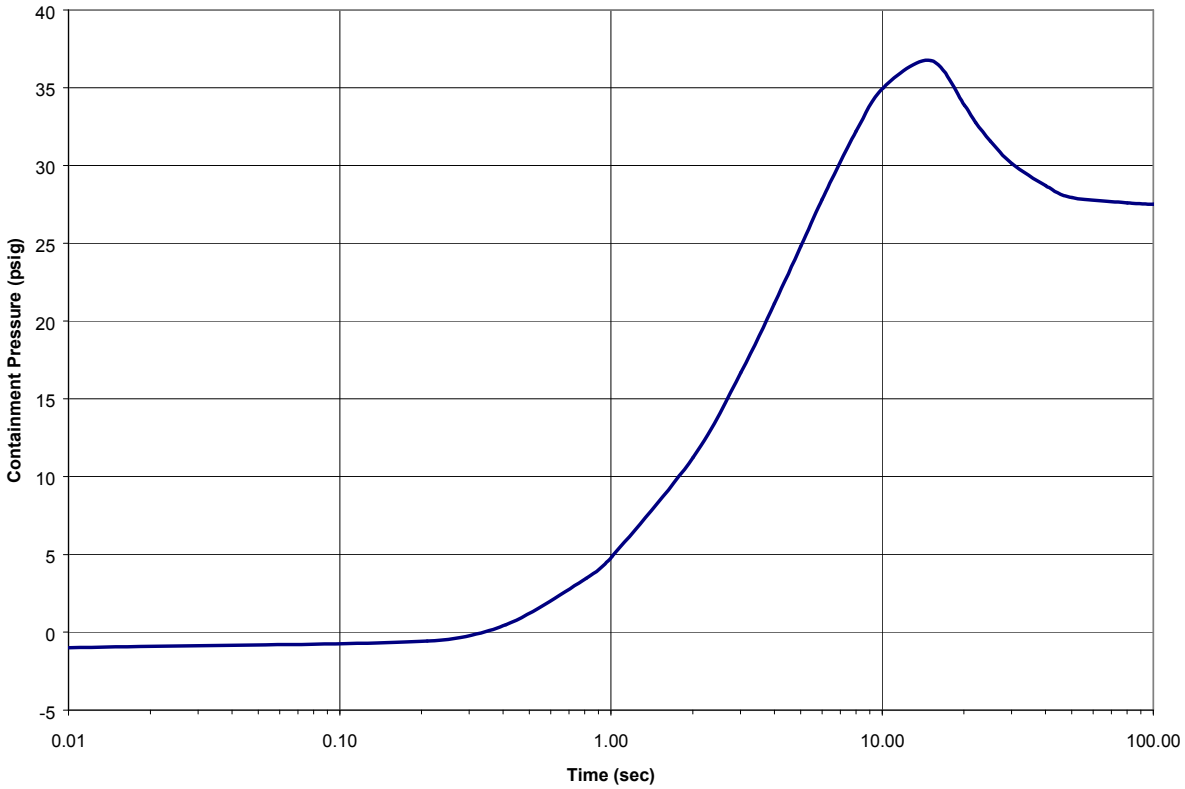


Figure 6-53. Deleted Per 1997 Update