## Appendix 9B. Figures

Figure 9-1. Fuel Building - General Arrangement

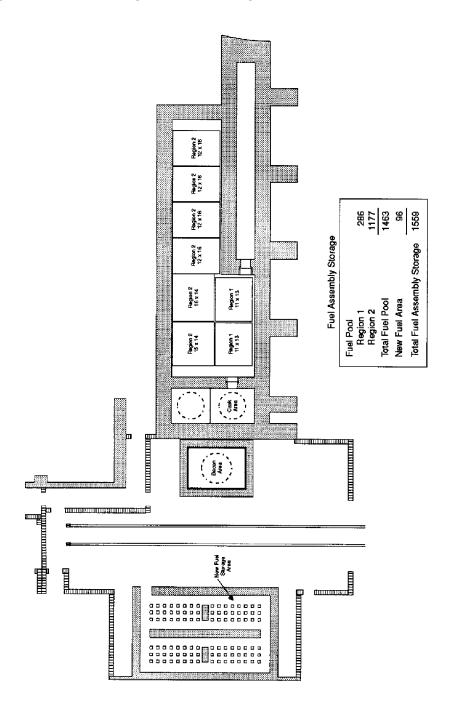
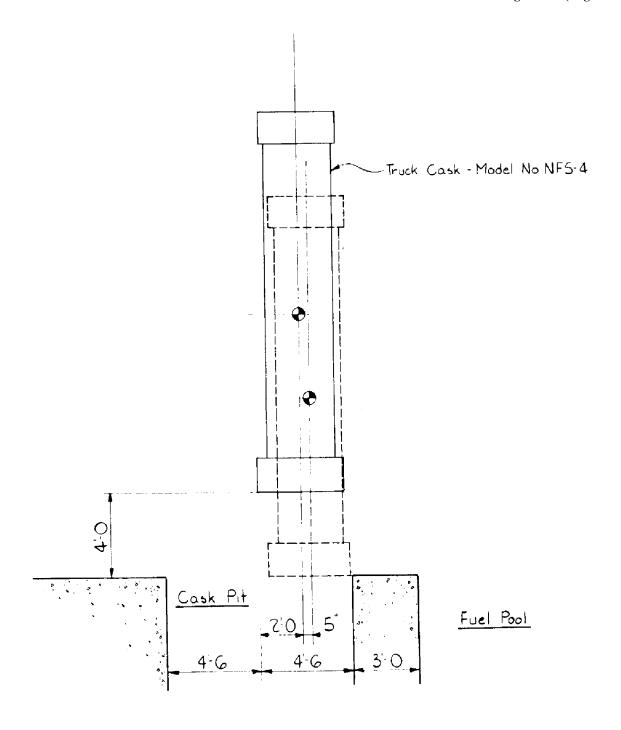


Figure 9-3. Cask Drop Evaluation

(14 OCT 2000)



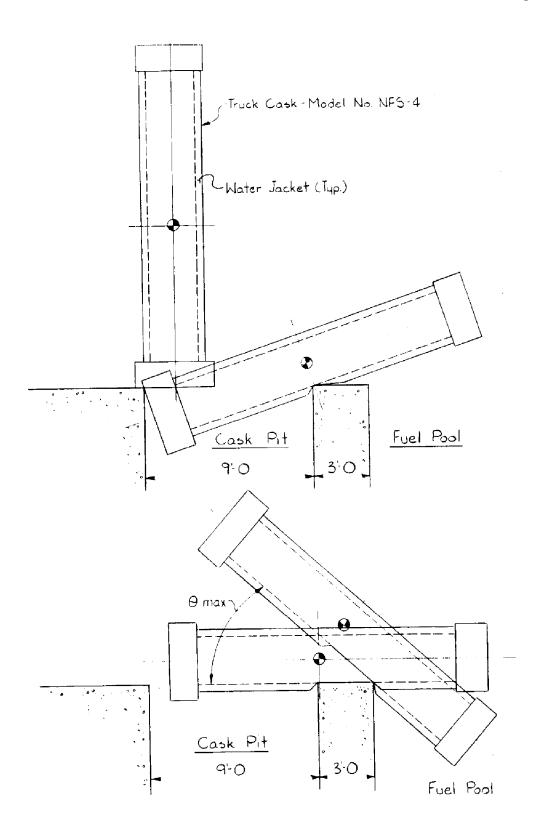


Figure 9-4. Cask Drop Evaluation

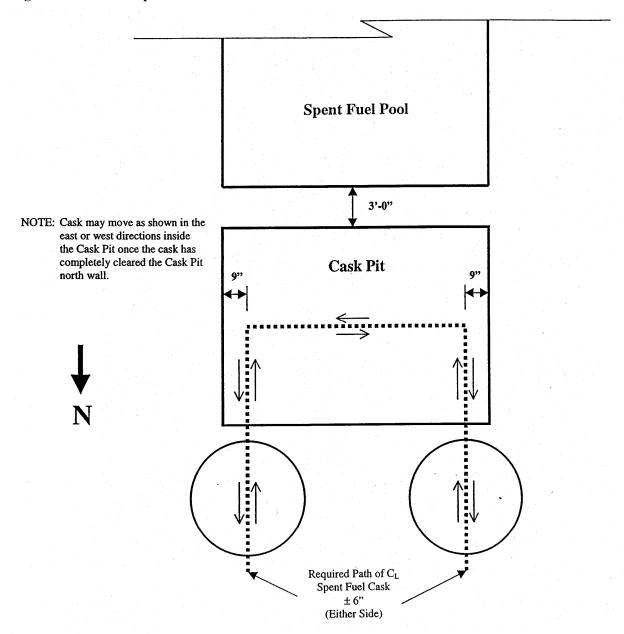


Figure 9-5. Tornado Missile Study

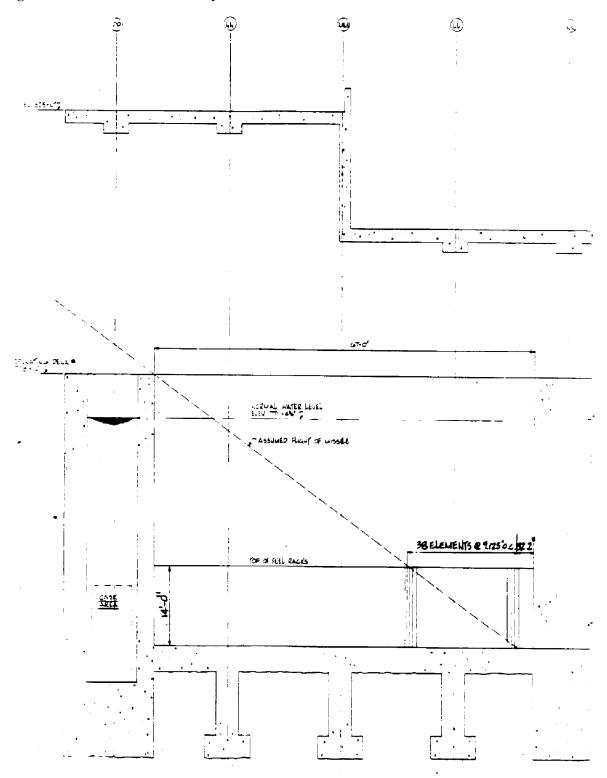


Figure 9-6. Spent Fuel Pool Arrangement Unit 1

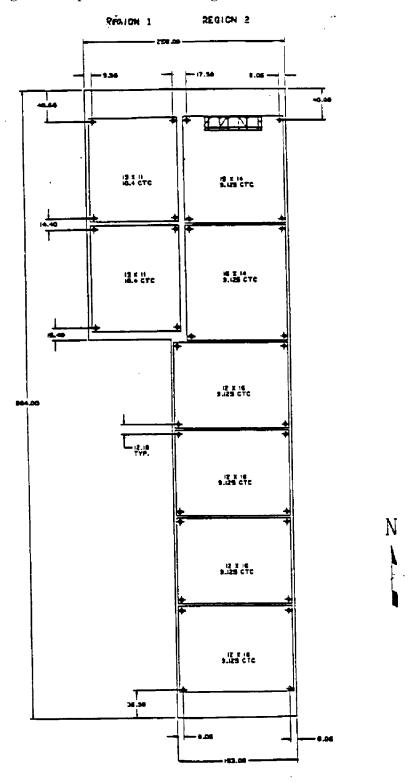


Figure 9-7. Spent Fuel Pool Arrangement Unit 2

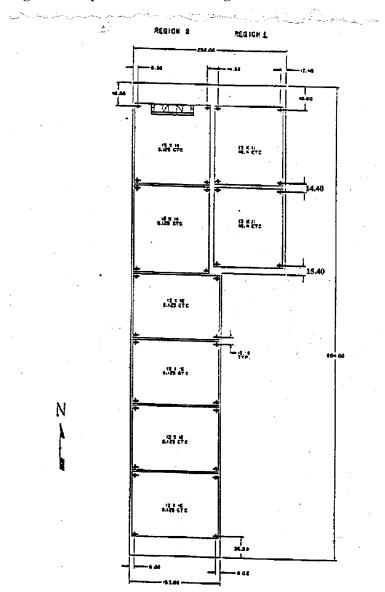


Figure 9-8. Deleted Per 1996 Update

Figure 9-9. Fuel Storage Rack Assembly (Region 1)

Figure 9-10. Fuel Storage Rack Module (Region 2)

Figure 9-11. Region 1 Cell Layout

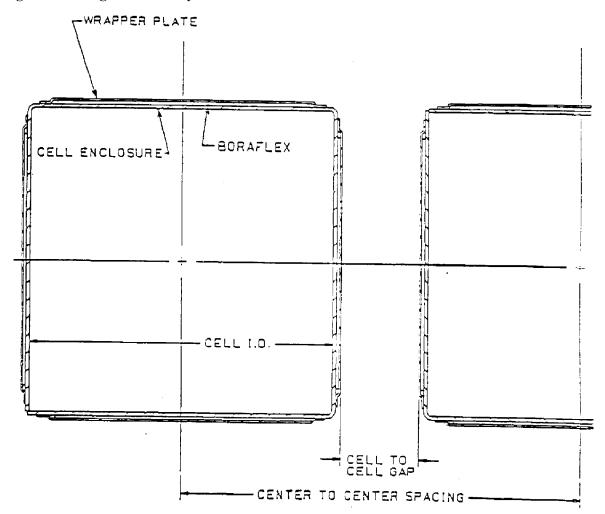


Figure 9-12. Region 2 Cell Layout

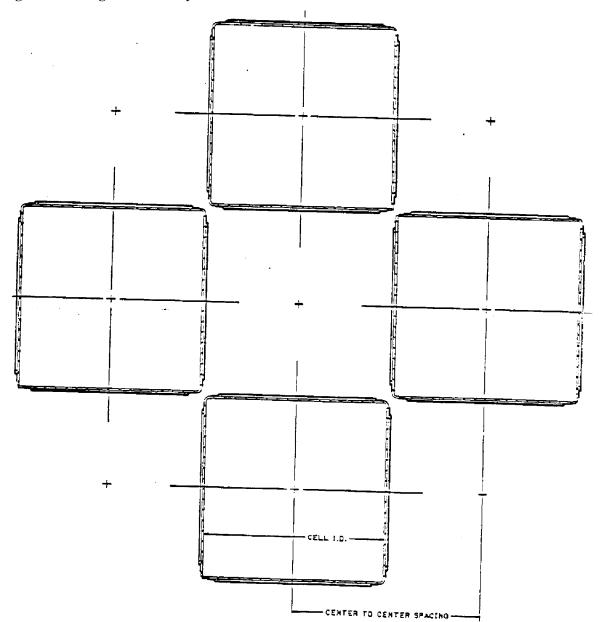


Figure 9-13. Summary Flow Diagram Spent Fuel Cooling System (KF)

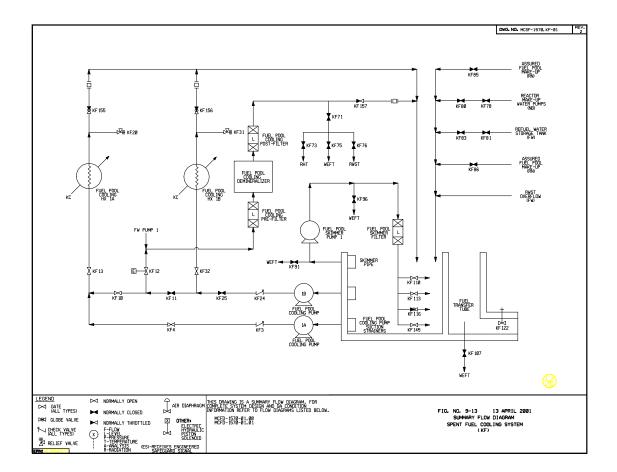


Figure 9-14. Reactor Manipulator Crane

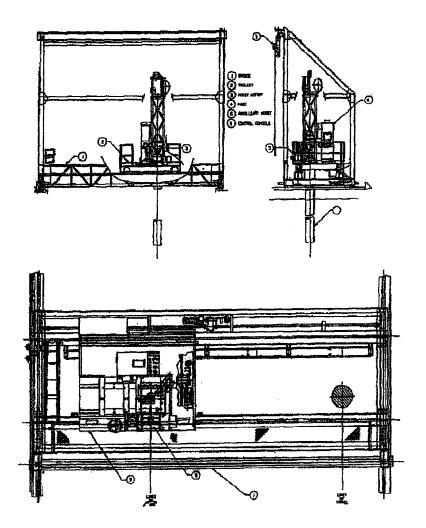


Figure 9-15. Deleted Per 2009 Update

Figure 9-16. Fuel Pool Manipulator Crane

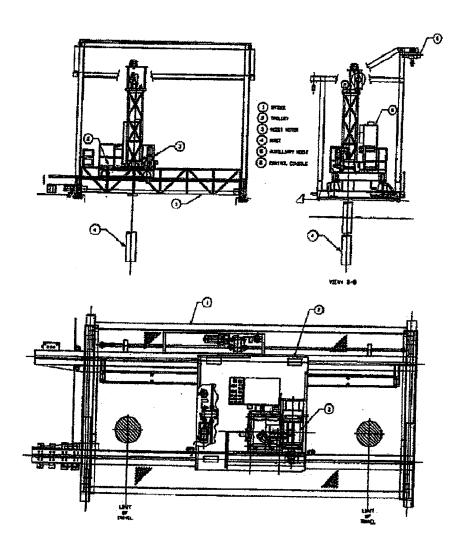


Figure 9-17. New Fuel Elevator

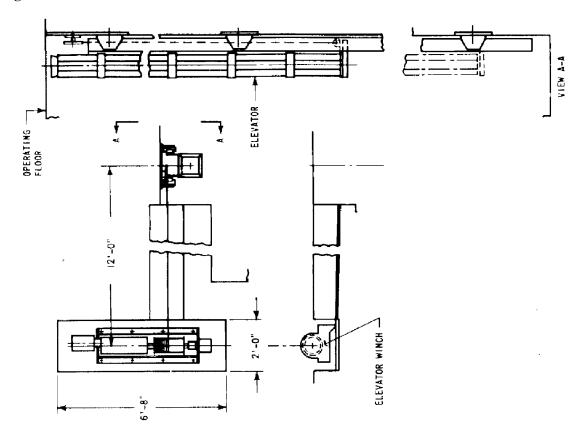


Figure 9-18. Fuel Transfer System

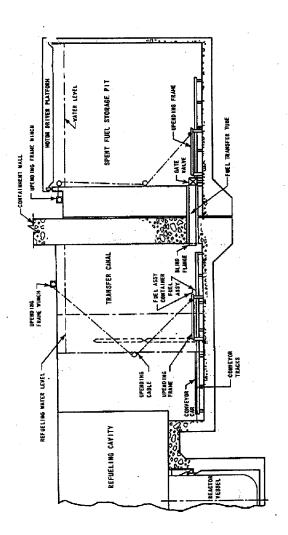


Figure 9-19. Rod Cluster Control Changing Fixture

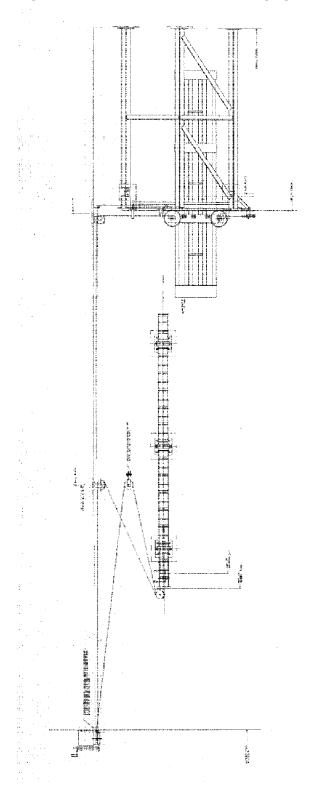


Figure 9-20. Spacer for Spent Fuel Storage

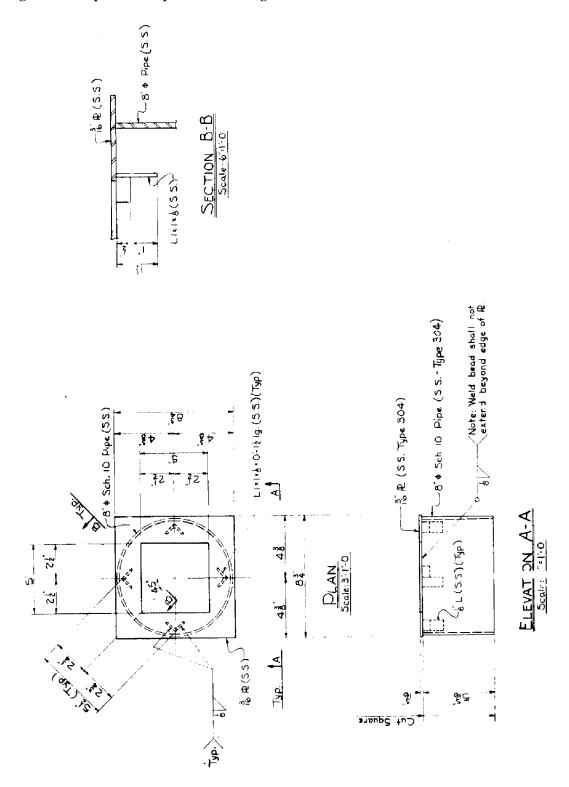


Figure 9-21. Reactor Vessel Head Lifting Device

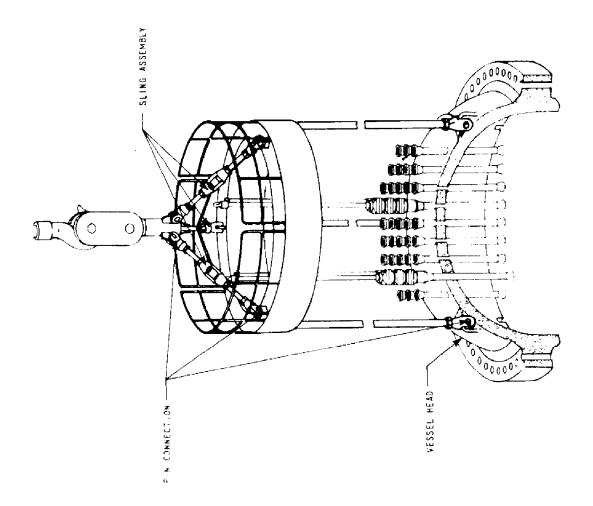


Figure 9-22. Reactor Internals Lifting Device

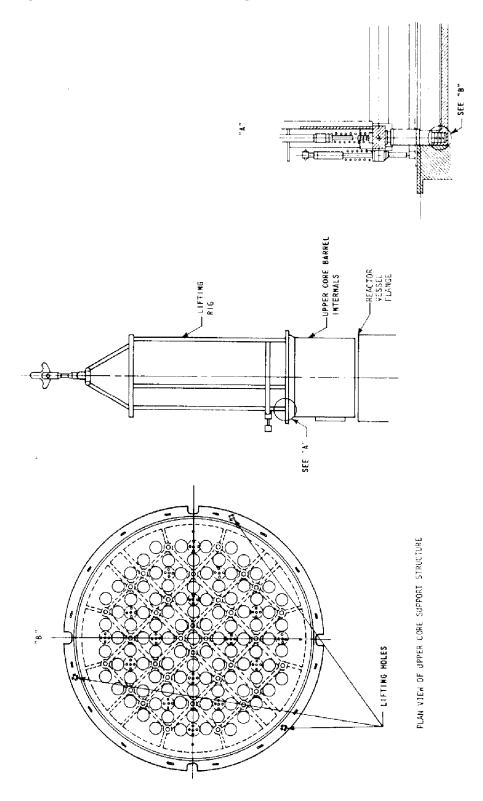
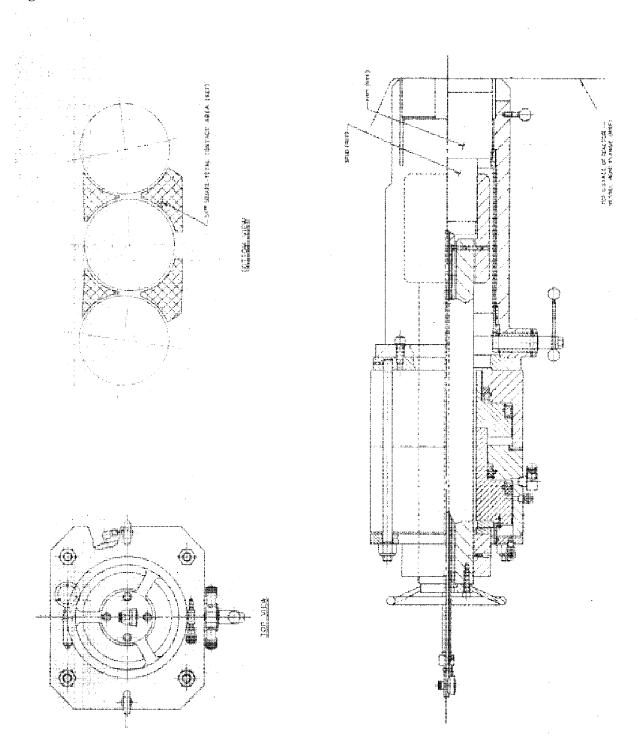


Figure 9-23. Reactor Vessel Stud Tensioner



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Figure 9-24. Auxiliary and Reactor Building Refueling Canal Layout/Longitudinal Section

Figure 9-25. Flow Diagram of Recirculated Cooling Water System

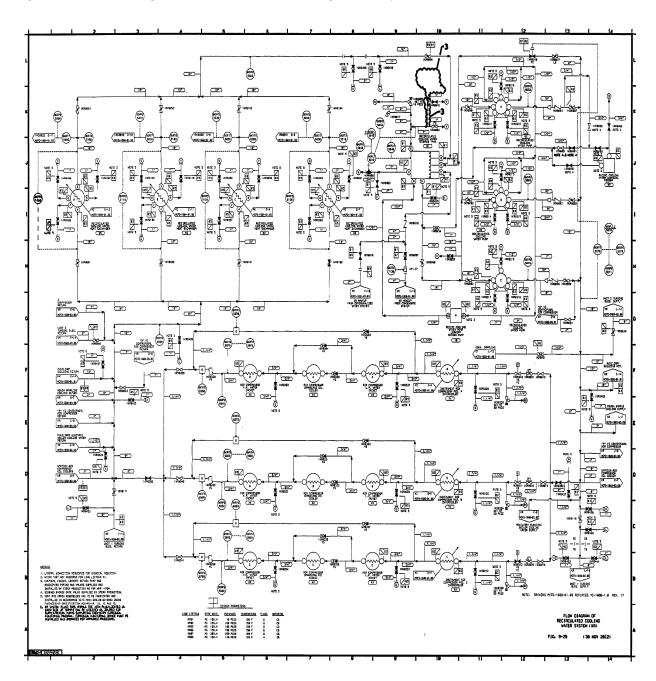


Figure 9-26. Flow Diagram of Recirculated Cooling Water System (KR)

Figure 9-27. Flow Diagram of Recirculated Cooling Water System (KR)

Figure 9-28. Flow Diagram of Recirculated Cooling Water System (KR)

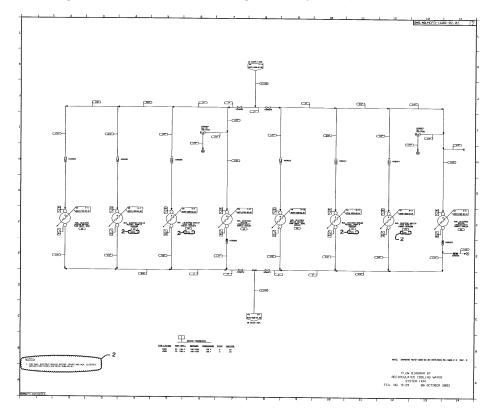


Figure 9-29. Flow Diagram of Recirculated Cooling Water System (KR)

Figure 9-30. Flow Diagram of Recirculated Cooling Water System (KR)

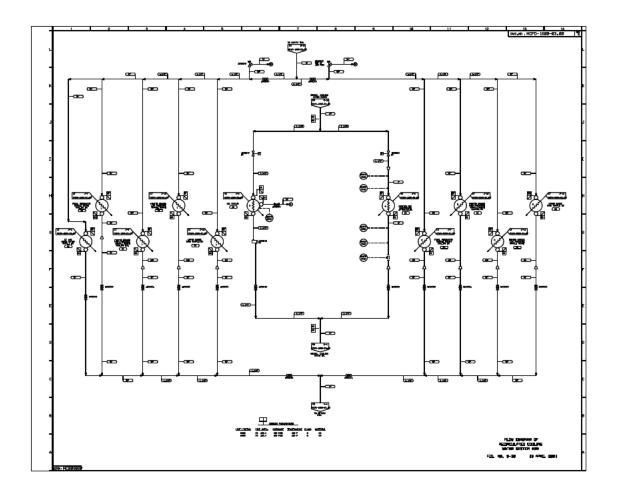


Figure 9-31. Nuclear Service Water System (RN)

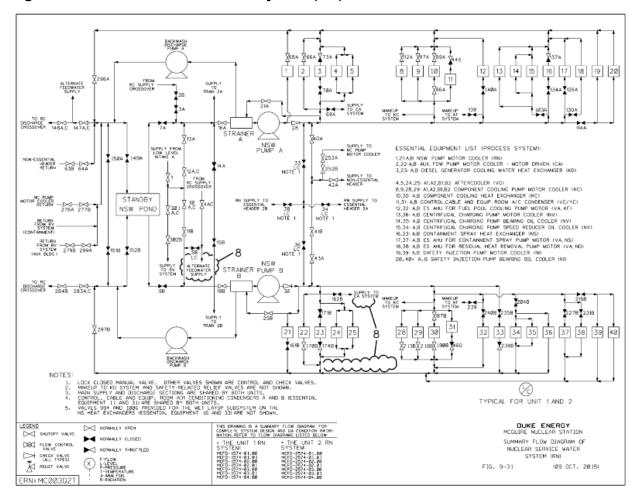


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Figure 9-33. Deleted Per 1993 Update

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Figure 9-37. Deleted Per 1993 Update

Figure 9-38. Deleted Per 1991 Update

Figure 9-39. Residual Decay Heat

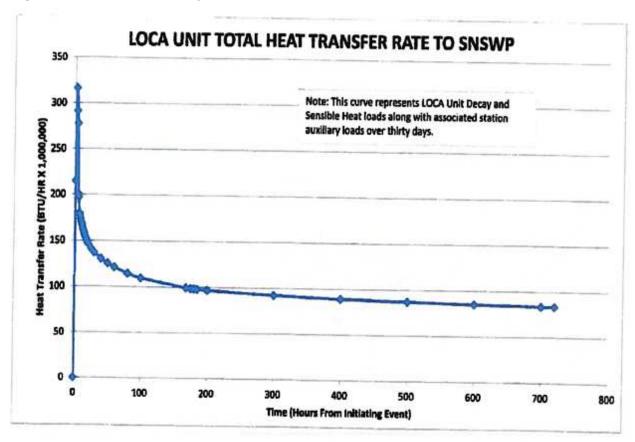


Figure 9-40. Residual Decay Heat

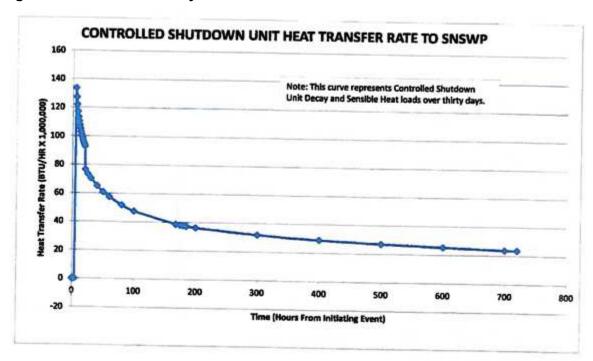


Figure 9-41. Total Heat Rejected

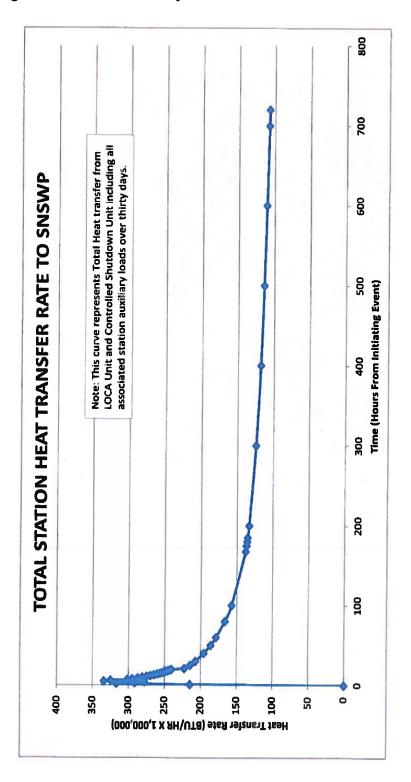


Figure 9-42. Standby Nuclear Service Water Pond Area/Volume Curve

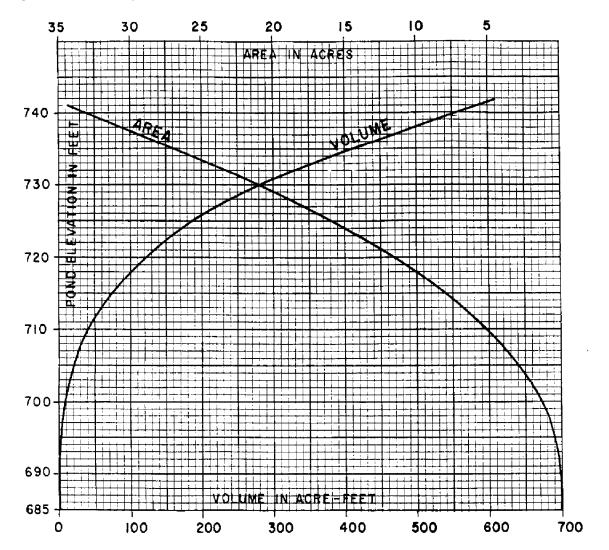


Figure 9-43. Low Level Nuclear Service Water Pipe and Standby Nuclear Service Water Pipe Routing Plan

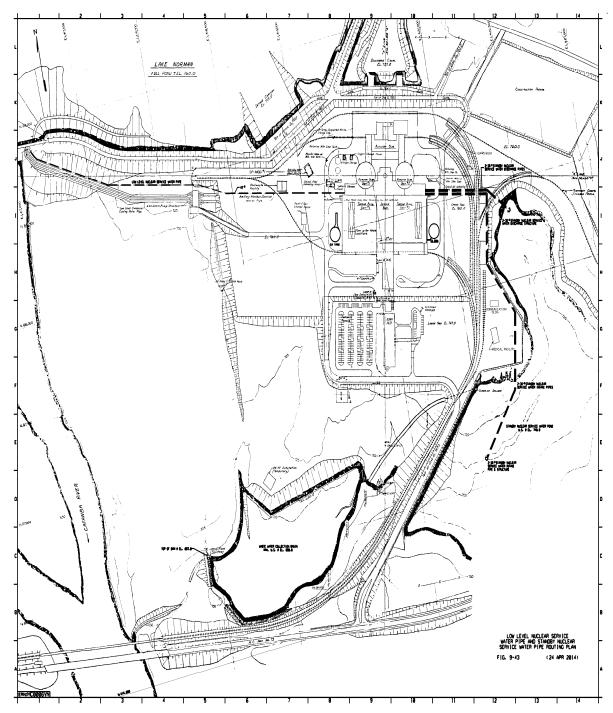


Figure 9-44. Profile of Standby Nuclear Service Water Pipes

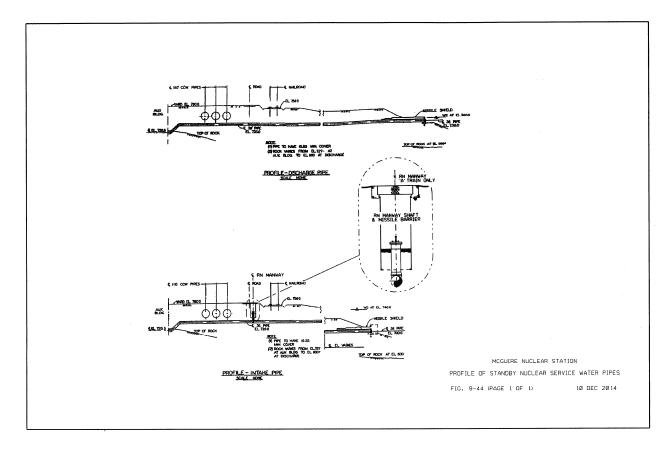


Figure 9-45. Profile of Low Level Nuclear Service Water Pipe

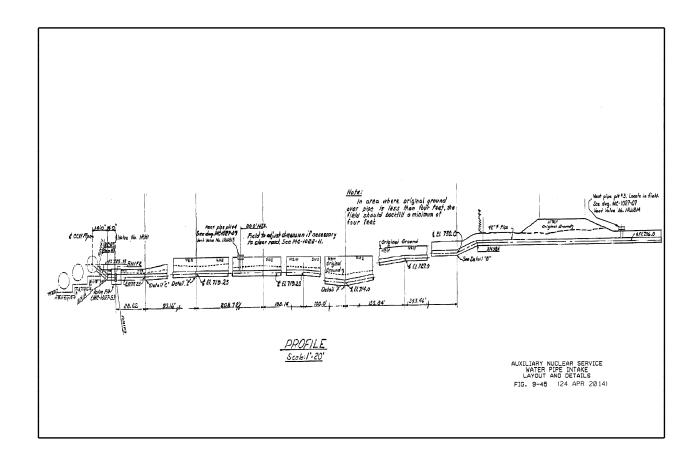


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Figure 9-50. Deleted Per 2012 Update

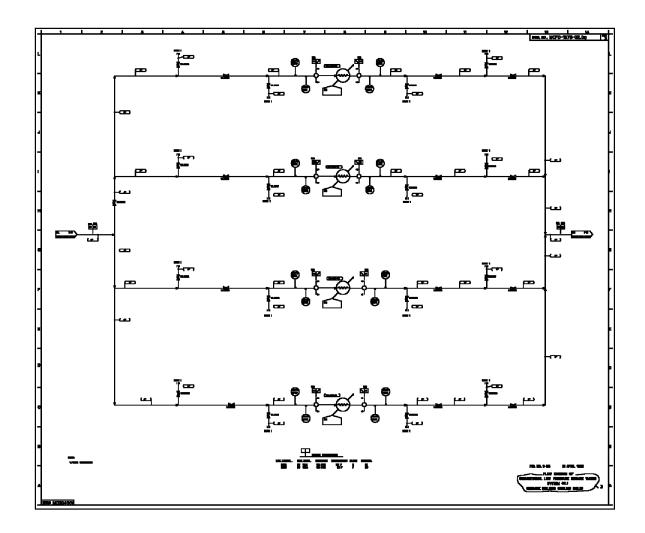
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Figure 9-54. Flow Diagram of Conventional Low Pressure Service Water System (RL)

Figure 9-55. Flow Diagram of Conventional Low Pressure Water System (RL) (Service Bldg. Cooling Coils)



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Figure 9-56. Flow Diagram of Conventional Low Pressure Service Water System (RL)

Figure 9-57. Component Cooling System

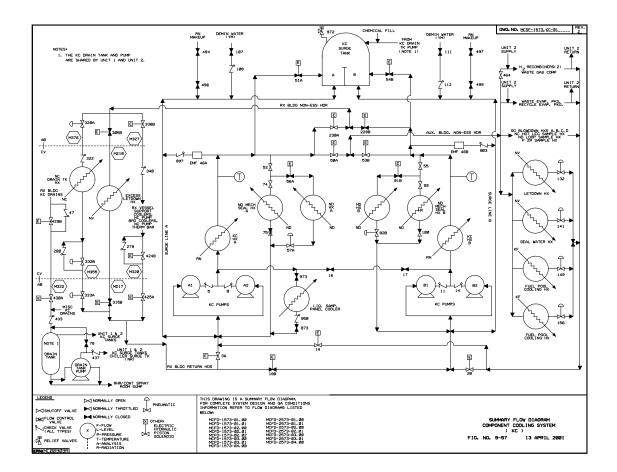


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Figure 9-61. Deleted Per 1996 Update

Figure 9-62. Deleted Per 1996 Update

Figure 9-63. Deleted Per 1996 Update

Figure 9-64. Deleted Per 1996 Update

Figure 9-65. Refueling Water System (FW)

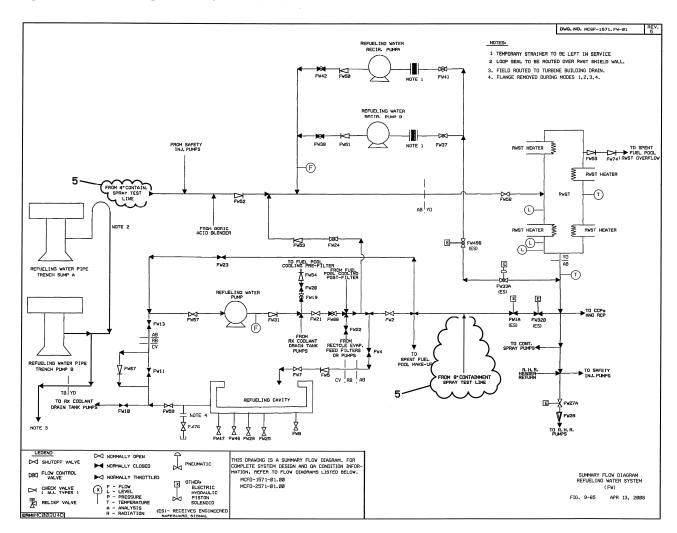


Figure 9-66. Flow Diagram of Filtered Water System

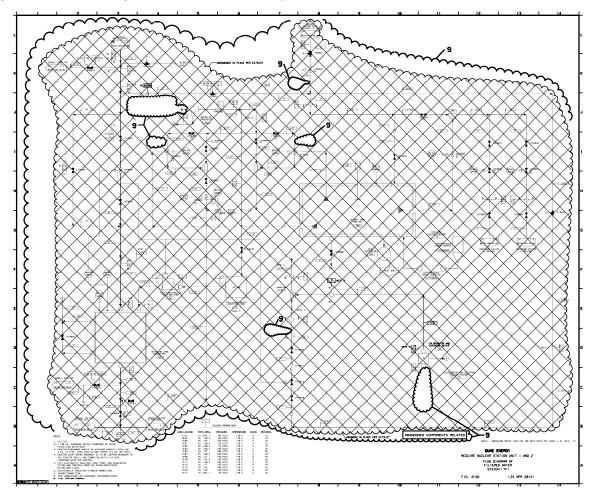


Figure 9-67. Flow Diagram of Filtered Water System (YF)

Figure 9-68. Filtered Water System (YF)

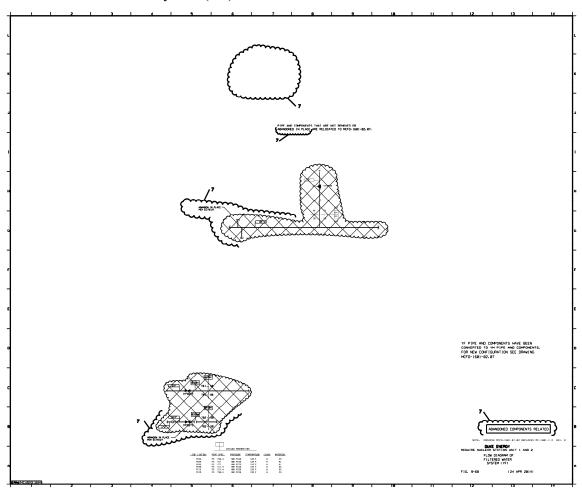


Figure 9-69. Flow Diagram of Makeup Demineralized Water System (YM)

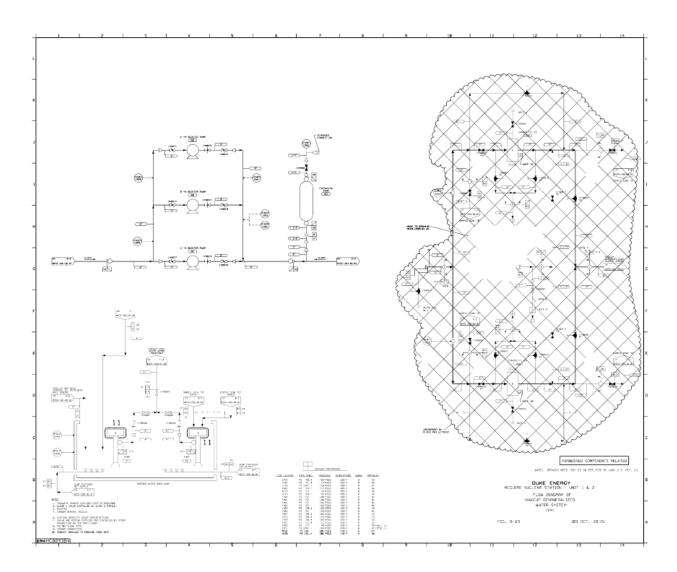


Figure 9-70. Flow Diagram of Makeup Demineralized Water System (YM)

Figure 9-71. Flow Diagram of Makeup Demineralized Water System (YM)

Figure 9-72. Flow Diagram of Makeup Demineralized Water System (YM)

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Figure 9-73. Makeup Demineralized Water System (YM)

Figure 9-74. Flow Diagram of Makeup Demineralized Water System (YM)

Figure 9-75. Flow Diagram of Makeup Demineralized Water System (YM)

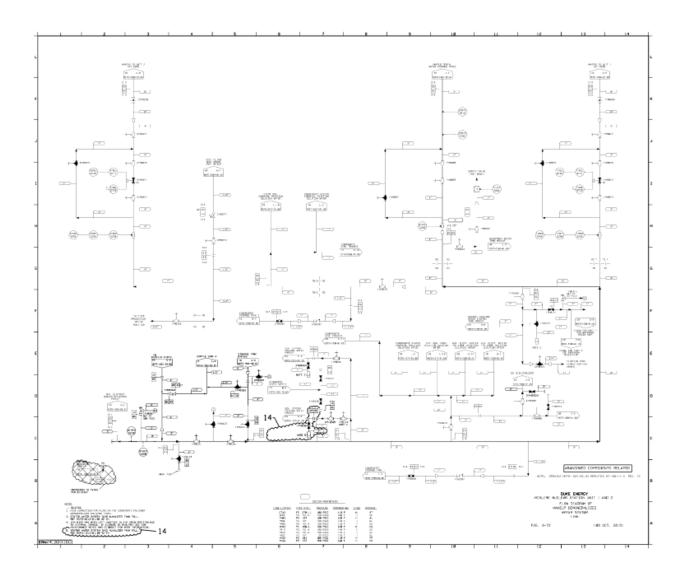


Figure 9-76. Flow Diagram of Drinking Water System (YD)

WALTE WATER COLLECTION ₽₽× NT SEE N. A. PH PACRES LCDG, POLIDER 100 Miles UNIT 1 TURKING NOW SUMP NAME DISCH. 2,580,800 (A) UNIT 1 UNMITERING PUMP SISSON AND SEC 788.发程。 DIESEL DEN ADDM **和新聞** HING PUP A MILE THRONG 0 UNIT I TURKING HOOM SUMP MINING POLISHER BROWNSH  $\blacksquare$ CATAMON TO OTH TOWN HOLD PROVO 78H348 2,500,000 P8143488 884EH988 6 TON BULK COZ 8845H88 98,643,88 ERN+MC883VC6 M NORMALLY THROTTLED THIS DRIWING IS A SUMMAY FLOW DIAGNAM FOR COMPLETE SYSTEM DESIGN AND OR CONDITION INFORMATION REFER TO FLOW DIAGNAMS LISTED BOLDS MINORMALLY OPEN MINORMALLY CLOSED M SHUTOFF VALVE = FLOV CONTROL VALVE PREUMATIC VALVE 0 THERS, ELECTRIC HOTERS TO FLOW 00 HOTERS, ELECTRIC HOTERS TO FLOW 00 HOTERS TO FLO N DECK VALVE (89 00%, 28(5) € RELIGE VALUE

Figure 9-77. Flow Diagram of Conventional Waste Water Treatment System (WC)

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Figure 9-79. Summary Flow Diagram of Instrument Air System (VI)

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Figure 9-81. Deleted Per 1993 Update

Figure 9-82. Deleted Per 1993 Update

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Figure	9-83.	Flow	Diagram	of Station	Air S	vstem

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Figure 9-89. Deleted Per 1993 Update

Figure 9-90. Summary Flow Diagram Of Nuclear Sampling System (NM)

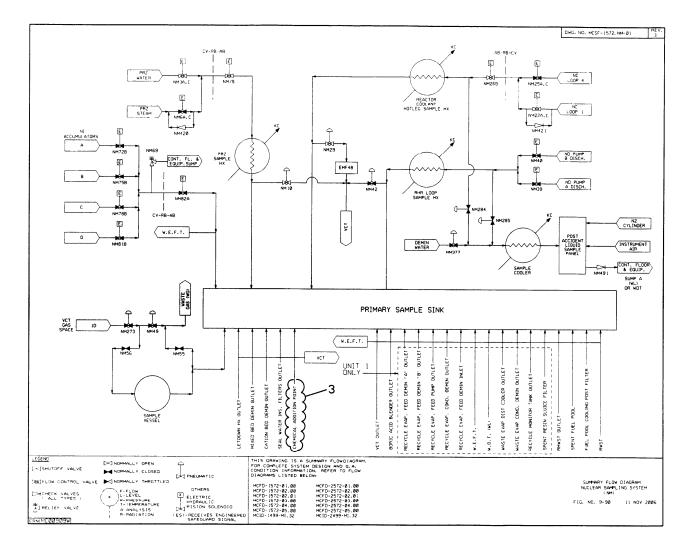
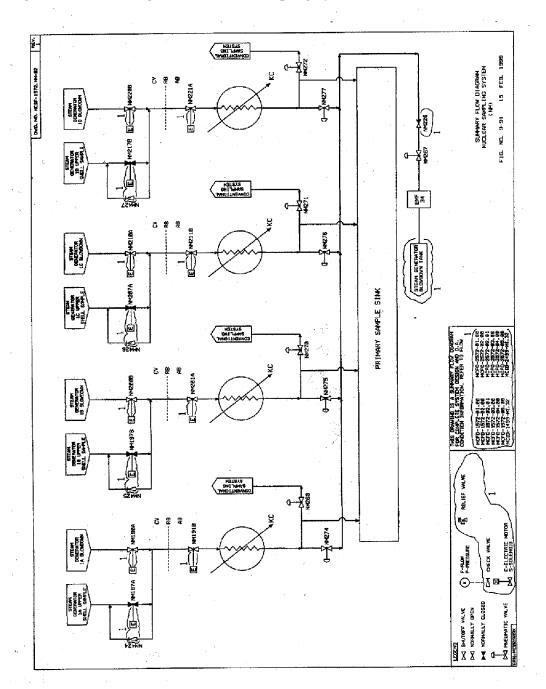


Figure 9-91. Flow Diagram of Nuclear Sampling System



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Figure 9-92. Flow Diagram of Nuclear Sampling System

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Figure 9-96. Flow Diagram of Chemical and Volume Control System

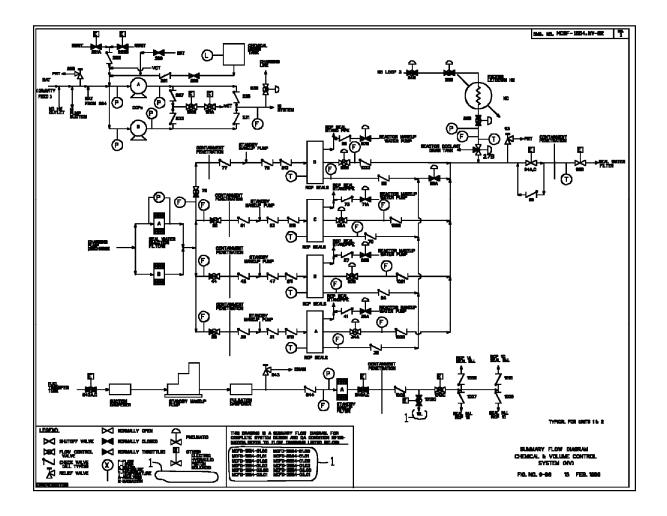


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T -P-REGEN. SEAL WATER FILTER BBB LETDOWN MIXED BED DEMINERALIZERS -E 359 SEAL WATER Ð REACTOR COOLANT CATION BED DEMINERALIZER SEAL WATER INJECTION FILTERS (F)-(T) NC PZR AUX SPRAY BORON METER CCPs SUCTION NB BORIC ACID CONCENTRATE PUMP (L) VOLUME CONTROL TANK BORIC ACID TANK TANK 138 (T) BAT A NOTE: 1. THERE IS ONLY ONE BORE ACID BATCHING TANK. P TYPICAL FOR UNITS 1 & 2 NORMALLY OPEN PHEUMATIC

NORMALLY CLOSED OTHER
ELECTRIC
FILOW
PIEWSTRIP
THEREFERINE
THEREFERINE DURE ENERGY
MCGUIRE NUCLEAR STATION
SUMMARY FLOW DIAGRAM
CHEMICAL & VOLUME CONTROL
SYSTEM (NY)
, 9-98 (24 APR 2014) □ PLANKE FLOW CONTROL CHECK VALVE (ALL TYPES) RELIEF VALVE

Figure 9-98. Summary Flow Diagram of Chemical and Volume Control System (NV)

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Figure 9-100. Deleted Per 1993 Update

Figure 9-101. Deleted Per 1993 Update

Figure 9-102. Deleted Per 1993 Update

Figure 9-103. Deleted Per 1993 Update

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Figure 9-105. Deleted Per 1993 Update

Figure 9-106. Deleted Per 1993 Update

Figure 9-107. Flow Diagram of Boron Thermal Regeneration System (NR)

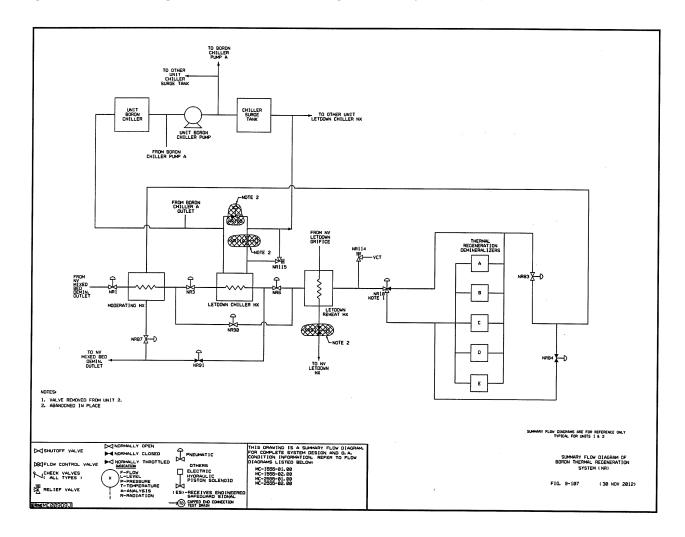


Figure 9-108. Flow Diagram of Boron Thermal Regeneration System

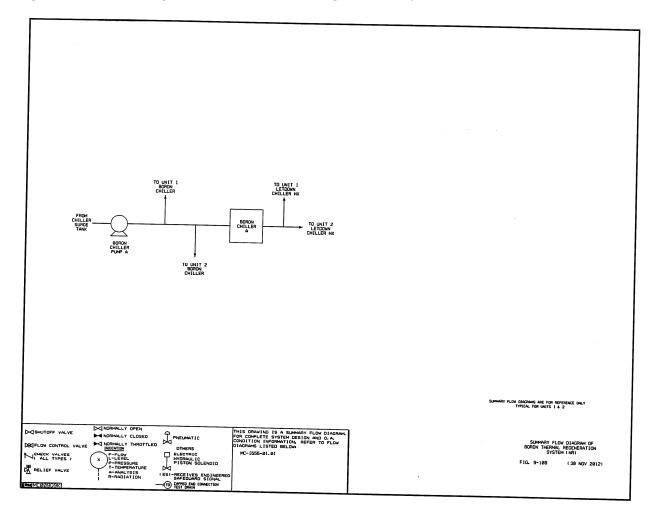


Figure 9-109. Deleted Per 2012 Update

Figure 9-110. Flow Diagram of Boron Recycle System (NB)

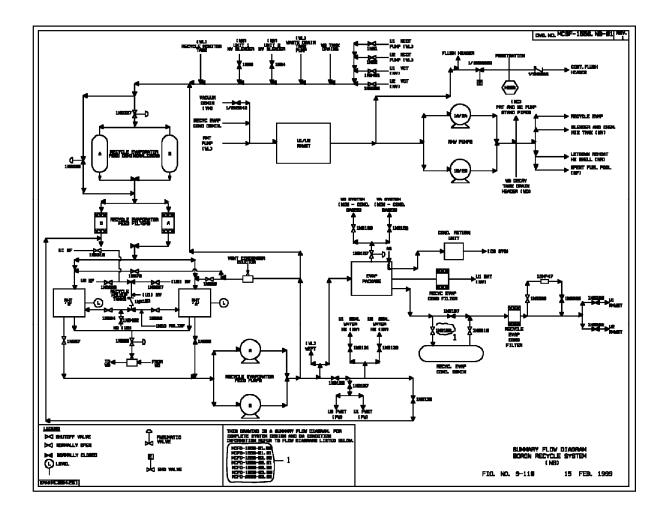


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Figure 9-114. Deleted Per 1994 Update

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Figure 9-116. Deleted Per 2002 Update

Figure 9-117. Flow Diagram of Auxiliary Building Ventilation System

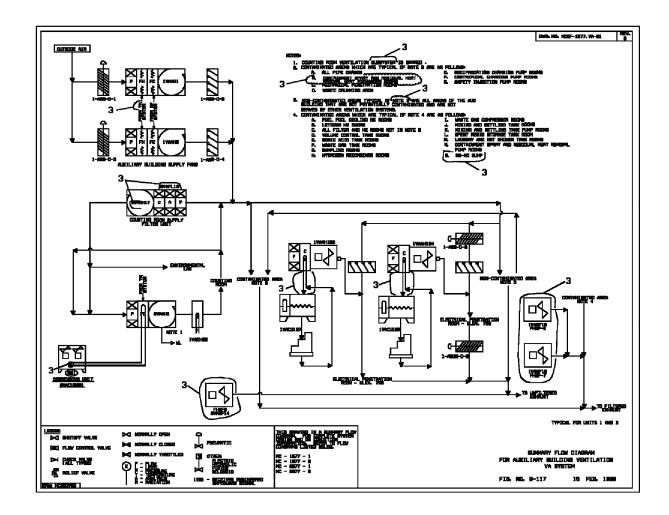


Figure 9-118. Flow Diagram of Auxiliary Building Ventilation System

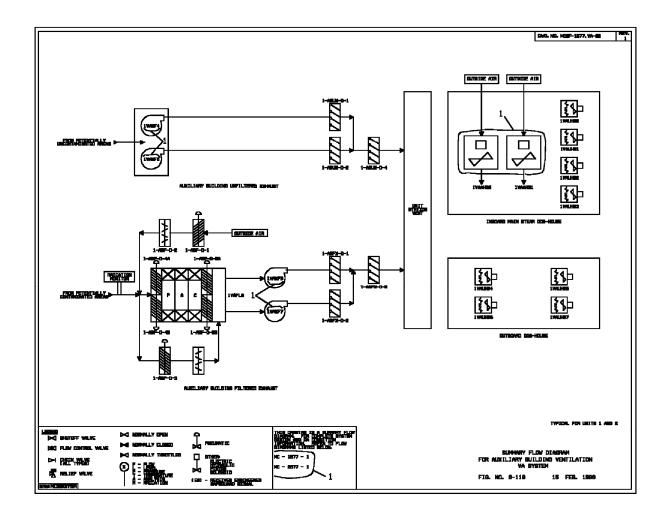
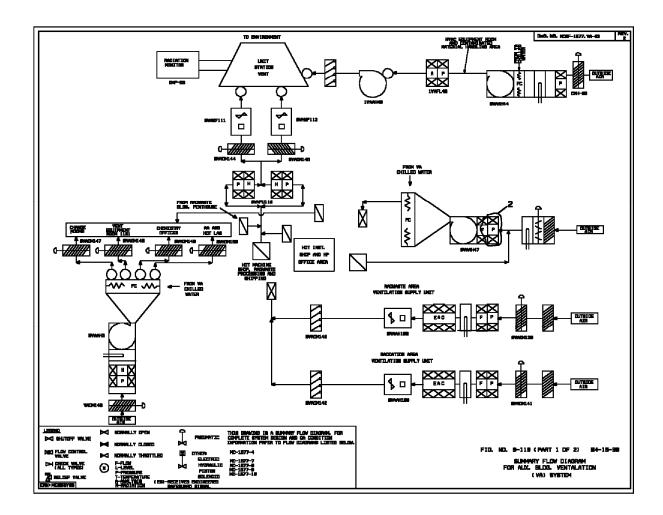
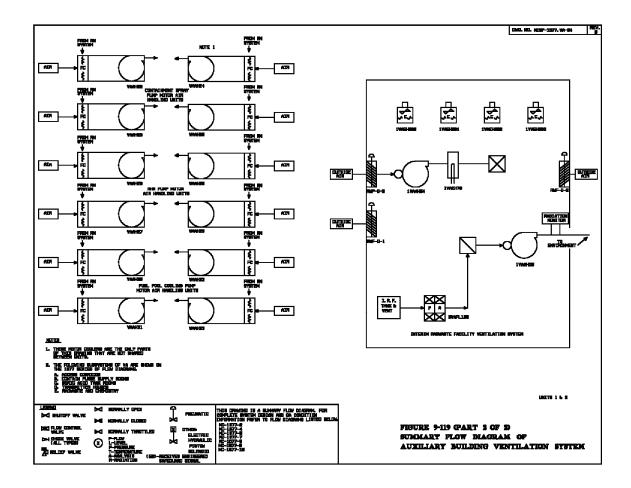


Figure 9-119. Summary Flow Diagram of Auxiliary Building Ventilation (VA) System





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Figure 9-120. Flow Diagram of Turbine Building Ventilation System

Figure 9-121. Flow Diagram of Containment Purge and Ventilation System (VP)

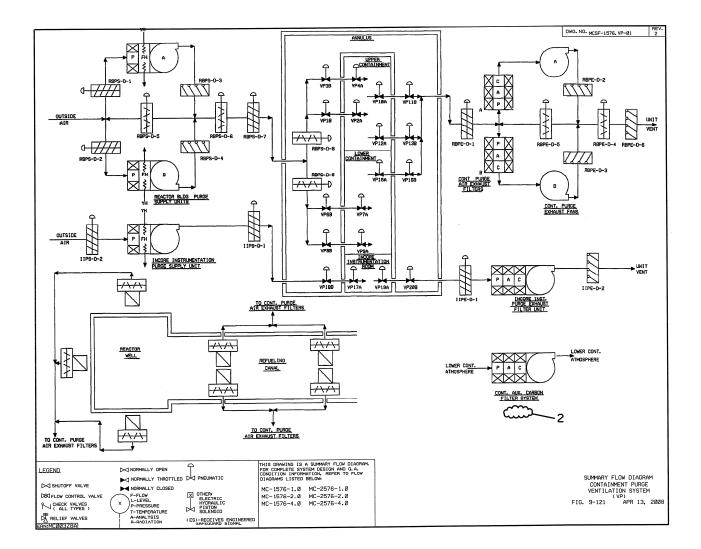


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Figure 9-123. Flow Diagram of Diesel Building Ventilation System

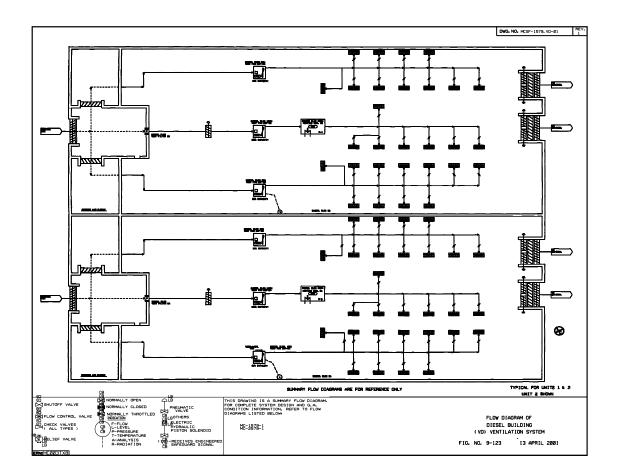


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Figure 9-131. Deleted Per 1993 Update

Figure 9-132. Communication Systems

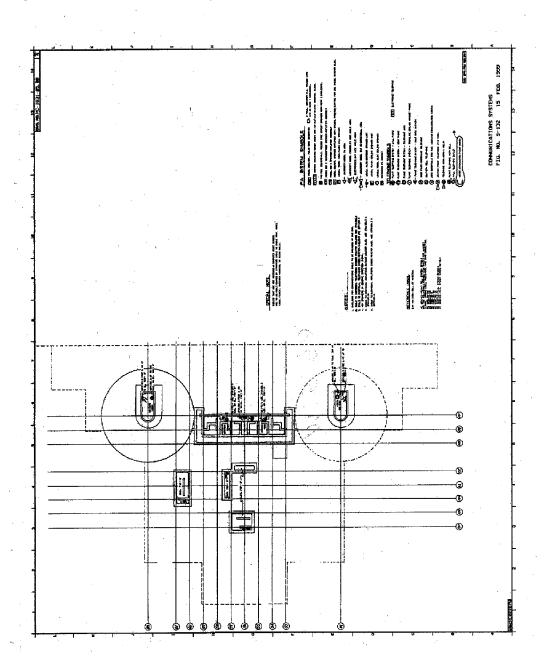


Figure 9-133. Communication Systems

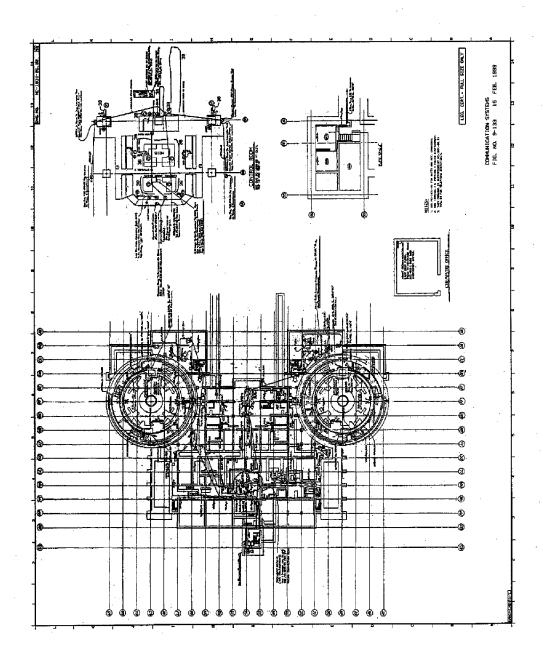


Figure 9-134. Communication Systems

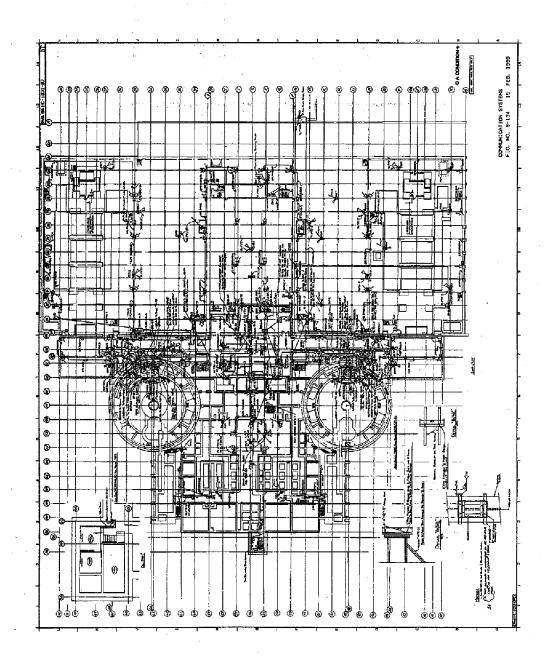


Figure 9-135. Communication Systems

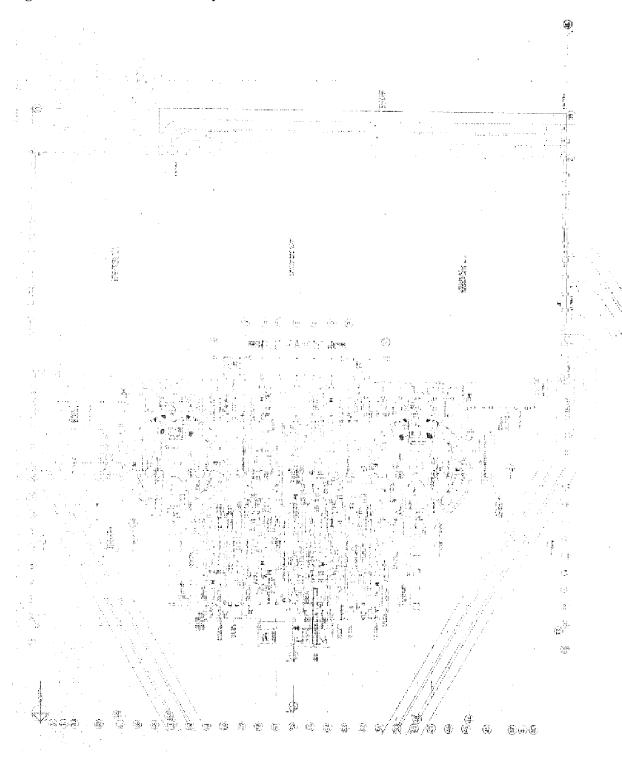


Figure 9-136. Communication Systems

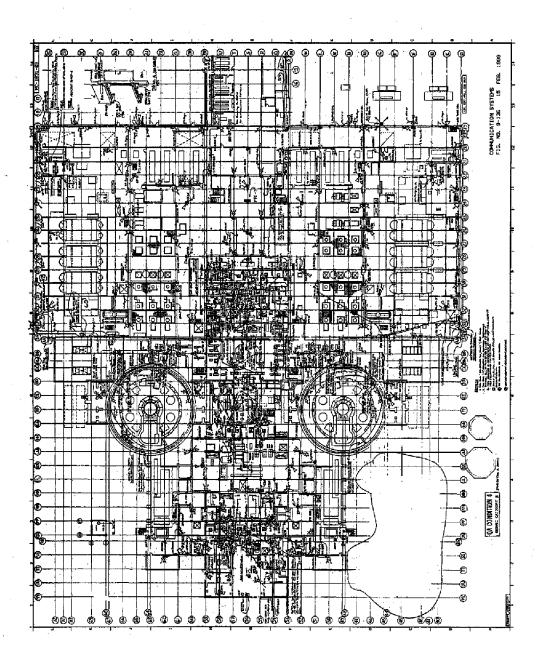


Figure 9-137. Communication Systems

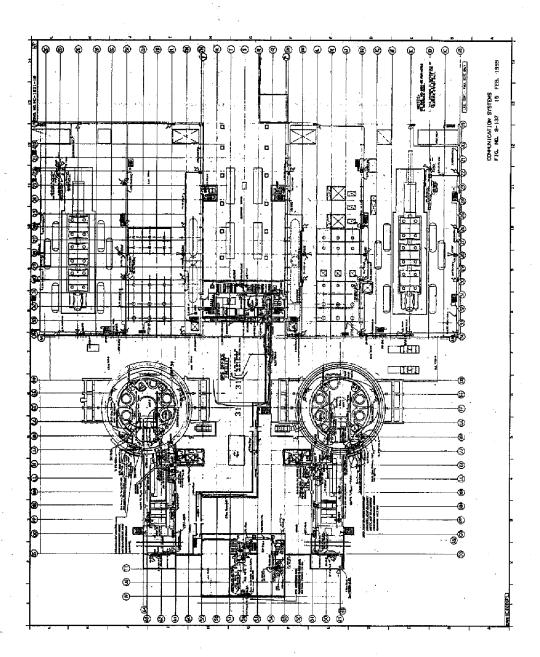
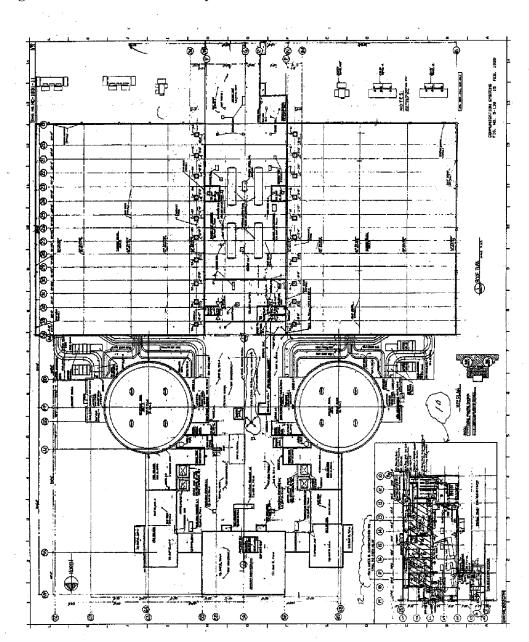


Figure 9-138. Communication Systems



Figure~9-139.~Flow~Diagram~of~Diesel~Generator~Engine~"1A"~Fuel~Oil~System

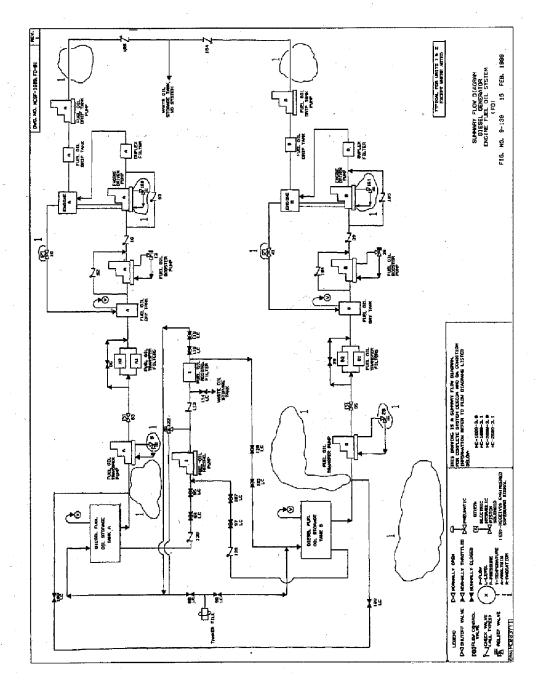


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Figure 9-141. Flow Diagram of Diesel Generator Engine Cooling Water System

Figure 9-142. Deleted Per 1993 Update

33/35 S P **4** 21/23 LINE PURIFIER A1/B1 61/65 § AIR INLET FILTER A1/B1 ATMOSPHERE 115/117 RN AFTERCOOLER A1/B1 MEMBRANE DRYER A1/B1 STARTING AIR TANK A1/B1 AIR COMPRESSOR A1/B1 **∤**89/91 83/84 DIESEL ENGINE A/B VI BLACKOUT HEADER CONTROL AIR FILTER A/B 79/80 ৗ → ₫ 18/20 **↑90/92** NOTE 4 120/122 NOTE 3 34/36 🌡 → 63/67 ⑤ AIR INLET FILTER A2/B2 ATMOSPHERE 116/118 LINE PURIFIER A2/B2 RN AFTERCOOLER AZ/BZ MEMBRANE DRYER A2/B2 STARTING AIR TANK A2/B2 AIR COMPRESSOR A2/B2 NOTES: SOLENDID VALVES VGSV5160/5170 AND 5161/5171, ARE LOCATED ON THE CONTROL AIR HEADER. SEE 1&C DETAILS MCID-1499-VG.03 (UNIT 1) AND MCID-2499-VG.03 (UNIT 2). 8 3. UNIT 2 VALVE NUMBERS 4. VALVE INTERNALS REMOVED. TYPICAL FOR UNITS 1 AND 2 LEGEND DUKE ENERGY MCGUIRE NUCLEAR STATION NORMALLY CLOSED

NORMALLY THROTTLED

F-FLOW

X

L-EVEL

P-PRESSURE

T-TEMPERATURE

A-ANALYSIS

R-RADIATION MCFD-1609-04.00 VG SYSTEM (UNIT 1) E-ELECTRIC H-HYDRAULIC P-PISTON S-SOLENGID DRIFLOW CONTROL VALVE MCFD-2609-04.00 VG SYSTEM (UNIT 2) CHECK VALVES, RELIEF VALVES (ES)-RECEIVES ENGINEERE SAFEGUARD SIGNAL FIG. NO. 9-143 13 OCTOBER 2018

Figure 9-143. Flow Diagram of Diesel Generator Engine Starting Air System (VG)

Figure 9-144. Flow Diagram of Diesel Generator Engine Lube Oil System

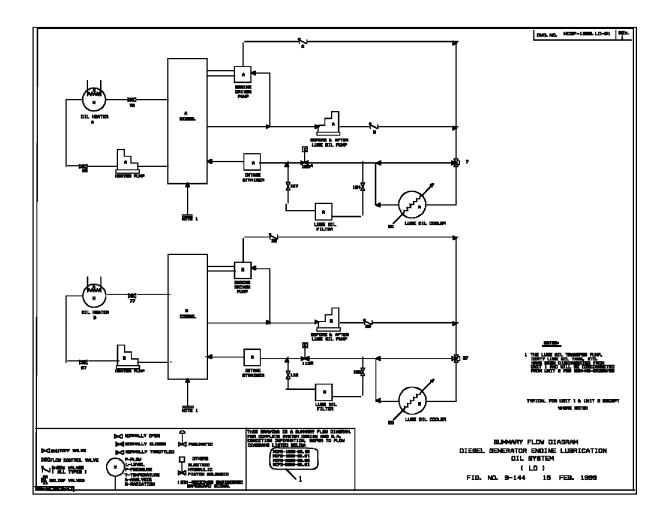


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Figure 9-146. Groundwater Drainage System

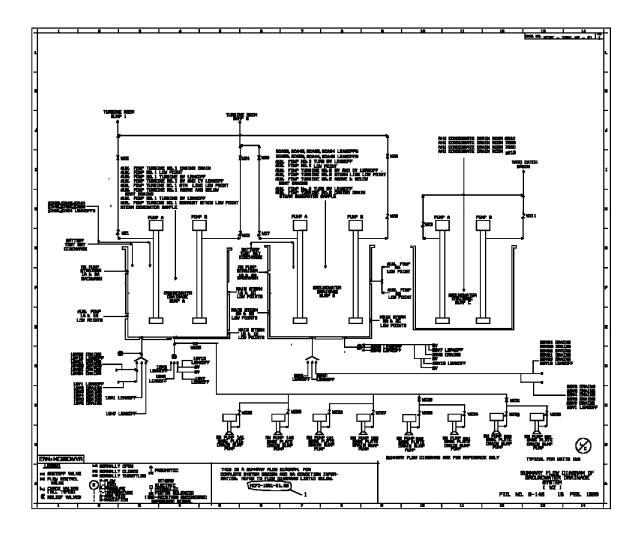


Figure 9-147. Flow Diagram of Diesel Generator Engine Crankcase Vacuum System

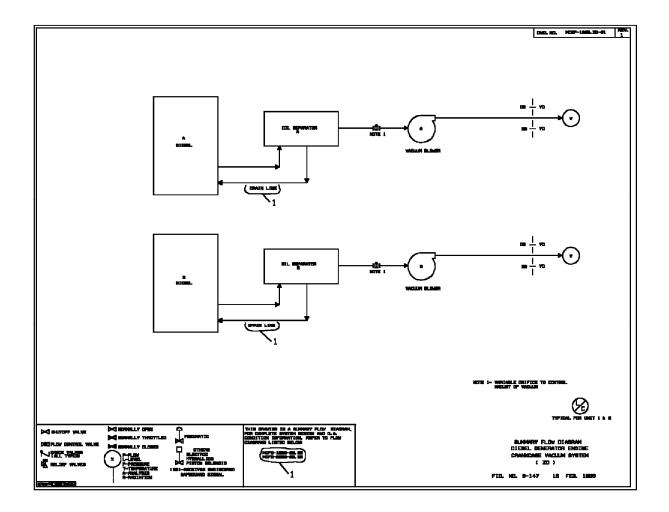


Figure 9-148. Flow Diagram of Diesel Generator Room Sump Pump System

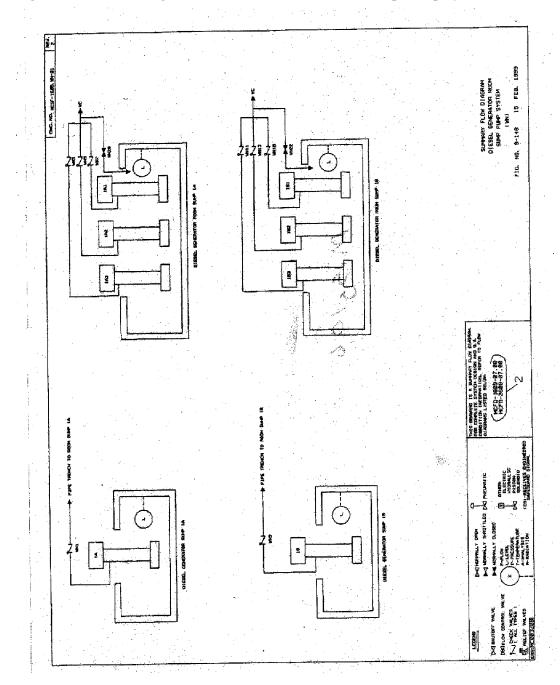


Figure 9-149. Flow Diagram of Diesel Generator Engine Air Intake & Exhaust System

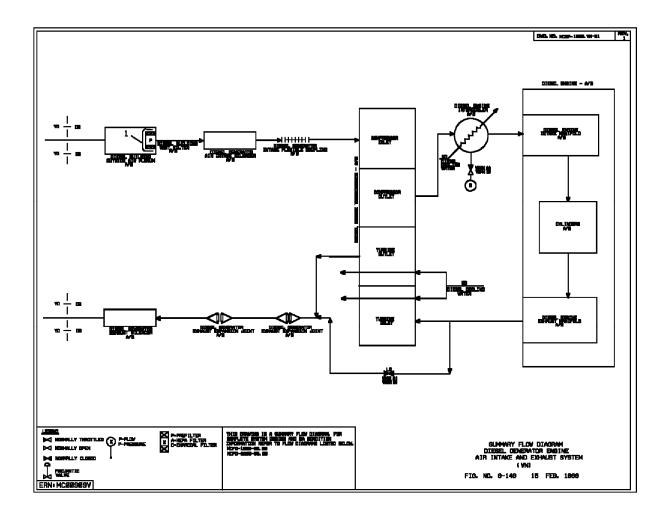


Figure 9-150. Containment Air Release and Addition System

