



- NOTES:
- ALL EQUIPMENT NUMBERS ON THIS DRAWING ARE PREFIXED BY 01E12 UNLESS OTHERWISE NOTED.
  - DELETED
  - THIS P&ID IS REDRAWN FROM G.E. P&ID NO. 762E4248A REVISION 2.
  - THIS LINE IS 3/8" O.D., 304 STAINLESS STEEL TUBING WITH 0.005" WALL THICKNESS.
  - ALL INSTRUMENT NUMBERS ON THIS DRAWING ARE PREFIXED BY 1E12 UNLESS OTHERWISE NOTED.
  - VALVES F027A/B AND F028A/B ARE 600 LB. CARBON STEEL, CLASS II VALVES (E8B).
  - VALVES F039A, B & C, F041A, B & C, F042A, B, AND C ARE 600 LB. CARBON STEEL CLASS I VALVES (E8A).
  - INTERCONNECTION OF 18"-GBB-52 AND 14"-GBB-20 SHOULD BE AS CLOSE AS POSSIBLE TO F042B AND INTERCONNECTION OF 18"-GBB-118 AND 14"-GBB-91 SHOULD BE AS CLOSE AS POSSIBLE TO F042B.
  - DISCHARGE LINE FROM RELIEF VALVE SHALL SLOPE DOWNWARD CONTINUOUSLY TO SUPPRESSION POOL.
  - THE LENGTH OF PIPE INVOLVED IN THE VACUUM BREAKER ARRANGEMENT, FROM THE ATMOSPHERE TO EITHER VALVE F035A OR B DISCHARGE LINE SHALL NOT EXCEED 100 FEET.
  - VALVES F037A & D SHOULD BE INSTALLED SUCH THAT THE FLOW INDICATOR IS POINTED AWAY FROM THE CONTAINMENT WALL.
  - ALL PIPING 2" & SMALLER ON DWG. M-1085A AND C IS CLASSIFIED AS 11"-C" R.L. ACCEPT AS NOTED. IF THE PIPE IS FLUSHED AFTER USE OF RHR, IT IS CLASSIFIED AS 111"-B" R.L..
  - THE FOLLOWING PIPING IS TO BE GALVANIZED IN THE FIELD BEFORE BEING INSTALLED: GBB-52 DOWNSTREAM OF VALVE F028A/B, GBB-55, GBB-54, GBB-53, GBB-118 DOWNSTREAM OF VALVE F028B, GBB-98, GBB-99 AND GBB-100.
  - ALL START-UP STRAINERS HAVE BEEN REPLACED IN ACCORDANCE WITH THE LATEST REVISION OF '645-MS-83 GENERAL NOTE 17.
  - FOR PENETRATION MATERIALS AND DETAILS SEE DWG. '645-C-1084.
  - VALVES PSY0707A, PSY0707B AND PSY0707C SHALL BE INSTALLED ABOVE THE SUPPRESSION POOL WATER LEVEL EL.111'-10".
  - PIPING CLASSIFICATION GBB EXTENDS UP TO THE SPRAY NOZZLES CONNECTING NIPPLES. ASME SECTION III CODE BOUNDARY DOES NOT EXTEND BEYOND THIS POINT.
  - ALL PIPING 2" & SMALLER ON DWG. M-1085B IS CLASSIFIED AS A 11"-C" OR 111"-B" RADIATION LEVEL.
  - ROUTE TO THE NEAREST PLATFORM AND LOCATE VALVES SUCH THAT AN OPERATOR CAN REACH THE VALVES FROM THE PLATFORM. LOCATE OPEN FUNNEL OR PIPE TERMINUS SUCH THAT THE OPERATOR CAN SEE EVIDENCE OF FLOW FROM THE VALVE LOCATION.
  - TESTABLE FLANGES WITH DOUBLE O-RINGS SHALL BE PROVIDED. INSTRUMENT TAPS SHALL BE IN ACCORDANCE WITH M-1332E.
  - SEE MWR 93-0018
  - DELETED PER ER GG-2000-0063-000-02.
  - FI WITH  $\sqrt{\quad}$  SYMBOL DENOTES SQUARE ROOT SCALE ONLY.
  - FIRE HOSE CONNECTION INSTALLED FOR USE AS REACTOR VESSEL MAKEUP FROM P64 SYSTEM DURING ACCIDENT CONDITION.
  - 1/2" DIAMETER HOLES DRILLED IN PIPE FOR OVER PRESSURIZATION PROTECTION.

- COMPONENTS SUBJECT TO AMR
- REACTOR COOLANT SYSTEM PRESSURE BOUNDARY AMM03
  - RESIDUAL HEAT REMOVAL SYSTEM AMM06
  - SUPPRESSION POOL MAKEUP SYSTEM AMM11
  - NON-SAFETY RELATED SYSTEMS & COMPONENTS AFFECTING SAFETY RELATED SYSTEMS AMM20
  - FUEL POOL COOLING AND CLEANUP SYSTEM AMM21
  - CONDENSATE & REFUELING WATER STORAGE & TRANSFER SYSTEM AMM23

017	AS-BUILT PER DRN 05-1064	W	N/A	N/A	SIP	2-9-06
016	AS-BUILT PER ER GG-2000-0118-000-00				SIGN-OFF ON RECORD	
REVISIONS						
NO.	DATE	DESCRIPTION	BY	ENG	CHK	APP

GRAND GULF NUCLEAR STATION  
 UNIT 1  
 NUCLEAR PLANT ENGINEERING  
**UPDATED FINAL SAFETY ANALYSIS REPORT**  
 FIGURE NUMBER - 5.4-016-02  
 P & I DIAGRAM  
 RESIDUAL HEAT REMOVAL SYSTEM  
 UNIT I

MPL No. 1E12 1015M	SCALE NONE	DRAWING No. M-1085C	REV. 017
			DFN: m1085c.dgn

NO.	DATE	DESCRIPTION	BY	ENG	CHK	APP
REVISIONS						
LRA-M-1085C						
DRAWING FILE: m1085c.dgn						
PLOT FILE:						

2008