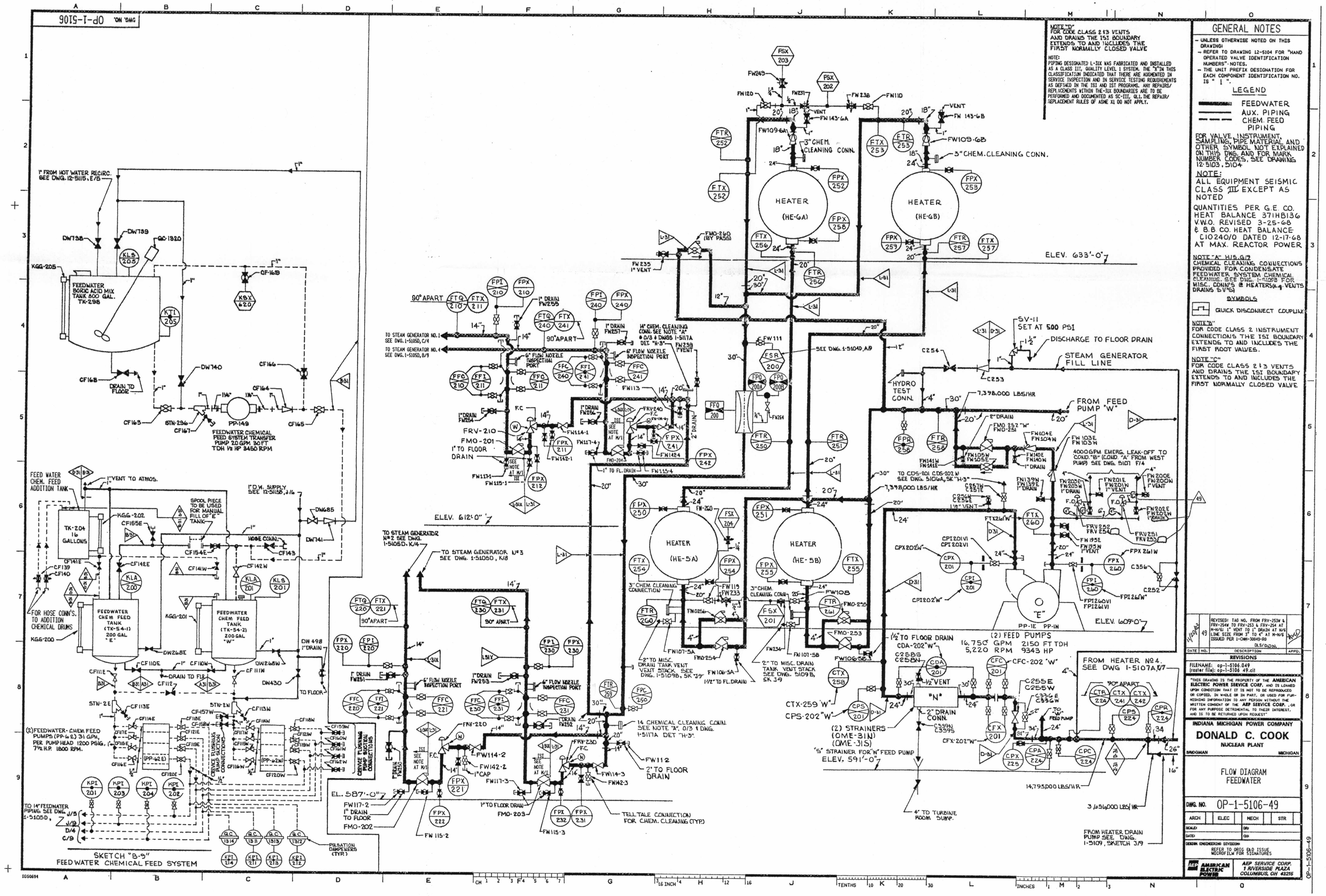
DWG. NO. OP-1-5106
NOTE "D"
FOR CODE CLASS 2 & 3 VENTS AND DRAINS THE ISI BOUNDARY EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE
NOTE:
PIPING DESIGNATED L-31X WAS FABRICATED AND INSTALLED AS A CLASS III, QUALITY LEVEL 1 SYSTEM. THE "X" IN THIS CLASSIFICATION INDICATED THAT THERE ARE AUGMENTED IN SERVICE INSPECTION AND IN SERVICE TESTING REQUIREMENTS AS DEFINED IN THE ISI AND IST PROGRAMS. ANY REPAIRS/ REPLACEMENTS WITHIN THE-31X BOUNDARIES ARE TO BE PERFORMED AND DOCUMENTED AS SC-III, QL1. THE REPAIR/ REPLACEMENT RULES OF ASME XI DO NOT APPLY.
GENERAL NOTES
- UNLESS OTHERWISE NOTED ON THIS DRAWING:
- REFER TO DRAWING 12-5104 FOR "HAND OPERATED VALVE IDENTIFICATION NUMBERS" NOTES.
- THE UNIT PREFIX DESIGNATION FOR EACH COMPONENT IDENTIFICATION NO. IS " 1 ".
LEGEND
FEEDWATER
AUX. PIPING
CHEM. FEED PIPING
FOR VALVE, INSTRUMENT, SAMPLING, PIPE MATERIAL AND OTHER SYMBOL NOT EXPLAINED ON THIS DWG. AND FOR MARK NUMBER CODES, SEE DRAWING 12-5103, 5104
NOTE:
ALL EQUIPMENT SEISMIC CLASS III EXCEPT AS NOTED
QUANTITIES PER G.E. CO. HEAT BALANCE 371HB136 V.W.O. REVISED 3-25-68 & B.B. CO. HEAT BALANCE C10240/0 DATED 12-17-68 AT MAX. REACTOR POWER
NOTE "A" H/5, G/9
CHEMICAL CLEANING CONNECTIONS PROVIDED FOR CONDENSATE FEEDWATER SYSTEM CHEMICAL CLEANING. SEE DWG. 1-5109B FOR MISC. CONN'S @ HEATERS (e.g. VENTS DRAINS SV'S)
SYMBOLS
QUICK DISCONNECT COUPLING
NOTE "B"
FOR CODE CLASS 2 INSTRUMENT CONNECTIONS THE ISI BOUNDARY EXTENDS TO AND INCLUDES THE FIRST ROOT VALVES.
NOTE "C"
FOR CODE CLASS 2 & 3 VENTS AND DRAINS THE ISI BOUNDARY EXTENDS TO AND INCLUDES THE FIRST NORMALLY CLOSED VALVE
HEATER (HE-6A)
HEATER (HE-6B)
HEATER (HE-5A)
HEATER (HE-5B)
ELEV. 633'-0"
ELEV. 612'-0"
ELEV. 609'-0"
ELEV. 591'-0"
EL. 587'-0"
SV-11 SET AT 500 PSI
DISCHARGE TO FLOOR DRAIN
STEAM GENERATOR FILL LINE
HYDRO TEST CONN.
7,398,000 LBS/HR
FROM FEED PUMP "W"
4000 GPM EMERG. LEAK-OFF TO COND. "B" (COND. "A" FROM WEST PUMP) SEE DWG. 5107 F/4
TO STEAM GENERATOR NO. 1 SEE DWG. 1-5105D, C/4
TO STEAM GENERATOR NO. 4 SEE DWG. 1-5105D, B/9
TO STEAM GENERATOR Nº2 SEE DWG. 1-5105D, K/4
TO STEAM GENERATOR Nº3 SEE DWG. 1-5105D, K/8
14" CHEM. CLEANING CONN. SEE NOTE "A" & D/3 & DWGS 1-5117A DET. "H-3"
14 CHEMICAL CLEANING CONN. SEE NOTE "A", D/3 & DWG. 1-5117A DET "H-3".
TELL TALE CONNECTION FOR CHEM. CLEANING (TYP.)
SEE DWG. 1-5104D, A/9
TO CDS-201 CDS-202 W SEE DWG. 5106A, SK "H-3"
2" TO MISC. DRAIN TANK VENT VENT STACK SEE DWG. 1-5109B, SK "J-9"
2" TO MISC. DRAIN TANK VENT STACK SEE DWG. 5109B, SK J-9
(2) FEED PUMPS 16,750 GPM 2150 FT TDH 5,220 RPM 9343 HP
PP-1E PP-1W
(2) STRAINERS (OME-31N) (OME-31S)
"S" STRAINER FOR "W" FEED PUMP
4" TO TURBINE ROOM SUMP.
FROM HEATER Nº4. SEE DWG 1-5107A, E/7
14,795,000 LBS/HR
3,656,000 LBS/HR
FROM HEATER DRAIN PUMP SEE DWG. 1-5109, SKETCH 3/9
1" FROM HOT WATER RECIRC. SEE DWG. 12-5115, E/5
FEEDWATER BORIC ACID MIX TANK 800 GAL. TK-298
FEEDWATER CHEMICAL FEED SYSTEM TRANSFER PUMP 2.0 GPM 30 FT TDH 1/2 HP 3450 RPM
FEED WATER CHEM. FEED ADDITION TANK
TK-204 16 GALLONS
SPOOL PIECE TO BE USED FOR MANUAL FILL OF "E" TANK
1" D.W. SUPPLY SEE 12-5115B, J/6
FOR HOSE CONN'S. TO ADDITION CHEMICAL DRUMS
FEEDWATER CHEM FEED TANK (TK-54-1) 200 GAL "E"
FEEDWATER CHEM FEED TANK (TK-54-2) 200 GAL "W"
(2) FEEDWATER-CHEM FEED PUMPS (PP-62) 31 GPH, PER PUMP HEAD 1200 PSIG, 7 1/2 H.P. 1800 RPM.
CREVICE FLUSHING PUMP SUCTION CONNECTIONS
TO 14" FEEDWATER PIPING SEE DWG. 1-5105D, J/5 J/9 D/4 C/9
PULSATION DAMPENERS (TYP.)
SKETCH "B-9" FEED WATER CHEMICAL FEED SYSTEM
REVISED: TAG NO. FROM FRV-253W & FRV-254W TO FRV-253 & FRV-254 AT M-N/6; 1" VENT TO 1" DRAIN AT N/6 LINE SIZE FROM 3" TO 4" AT M-N/6 ISSUED PER 1-CHM-30049-R0
11/20/02 49 DLS/DDM
DATE NO. DESCRIPTION APPD.
REVISIONS
FILENAME: op-1-5106.049
(raster file): op-1-5106 49.cit
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INDIANA MICHIGAN POWER COMPANY
DONALD C. COOK
NUCLEAR PLANT
BRIDGMAN MICHIGAN
FLOW DIAGRAM
FEEDWATER
DWG. NO. OP-1-5106-49
ARCH ELEC MECH STR
SCALE: DR:
DATE: CH:
DESIGN ENGINEERING DIVISION:
REFER TO ORIG E&D ISSUE MICROFILM FOR SIGNATURES
AMERICAN ELECTRIC POWER
AEP SERVICE CORP. 1 RIVERSIDE PLAZA COLUMBUS, OH 43215
OP-1-5106-49
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