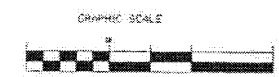
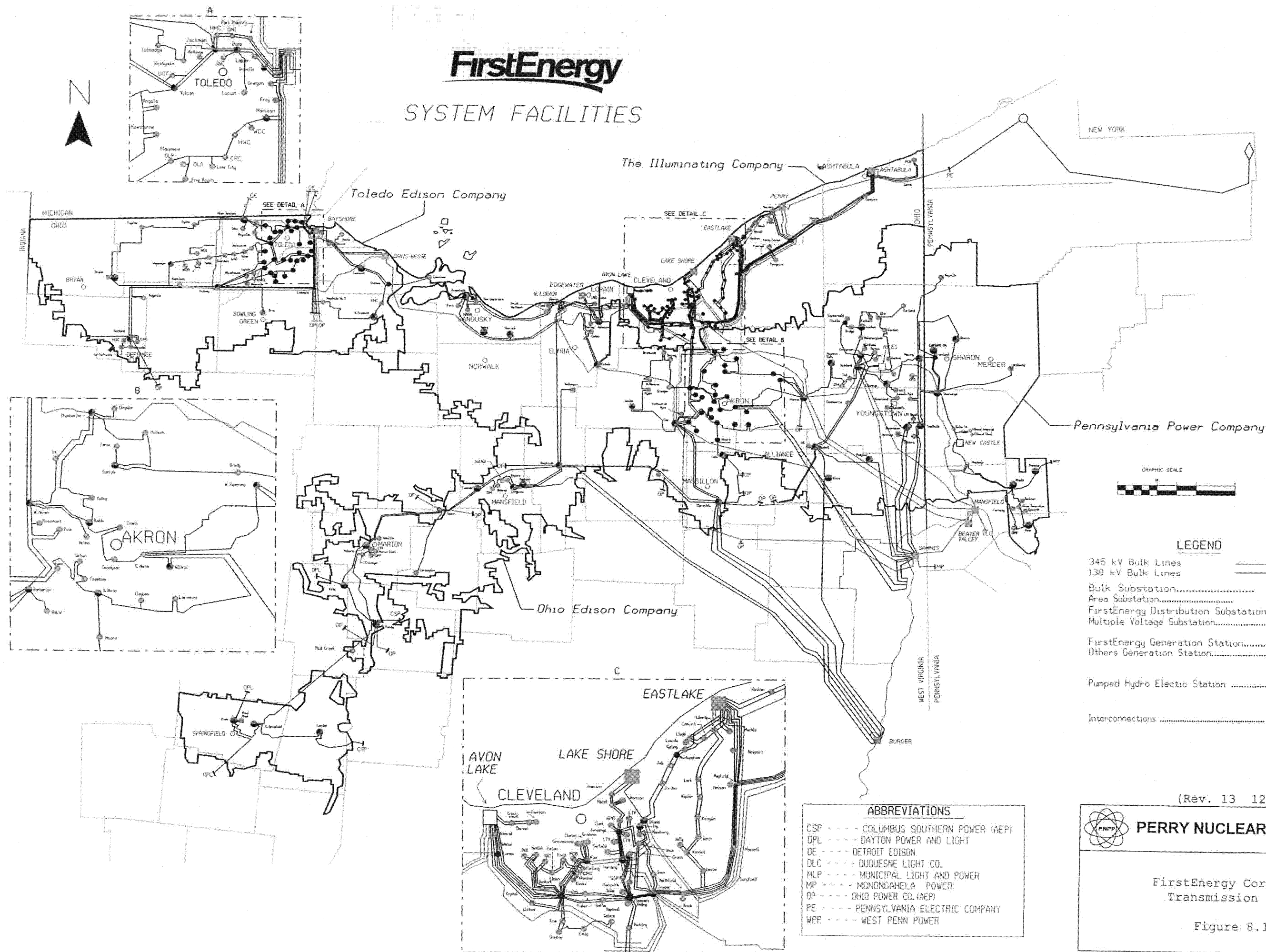


FirstEnergy

SYSTEM FACILITIES




LEGEND

- 345 kV Bulk Lines
- 138 kV Bulk Lines
- Bulk Substation
- Area Substation
- FirstEnergy Distribution Substation
- Multiple Voltage Substation
- FirstEnergy Generation Station
- Others Generation Station
- Pumped Hydro Electric Station
- Interconnections

ABBREVIATIONS

- CSP --- COLUMBUS SOUTHERN POWER (AEP)
- DPL --- DAYTON POWER AND LIGHT
- DE --- DETROIT EDISON
- DLC --- DUQUESNE LIGHT CO.
- MLP --- MUNICIPAL LIGHT AND POWER
- MP --- MONONGAHELA POWER
- OP --- OHIO POWER CO. (AEP)
- PE --- PENNSYLVANIA ELECTRIC COMPANY
- WPP --- WEST PENN POWER

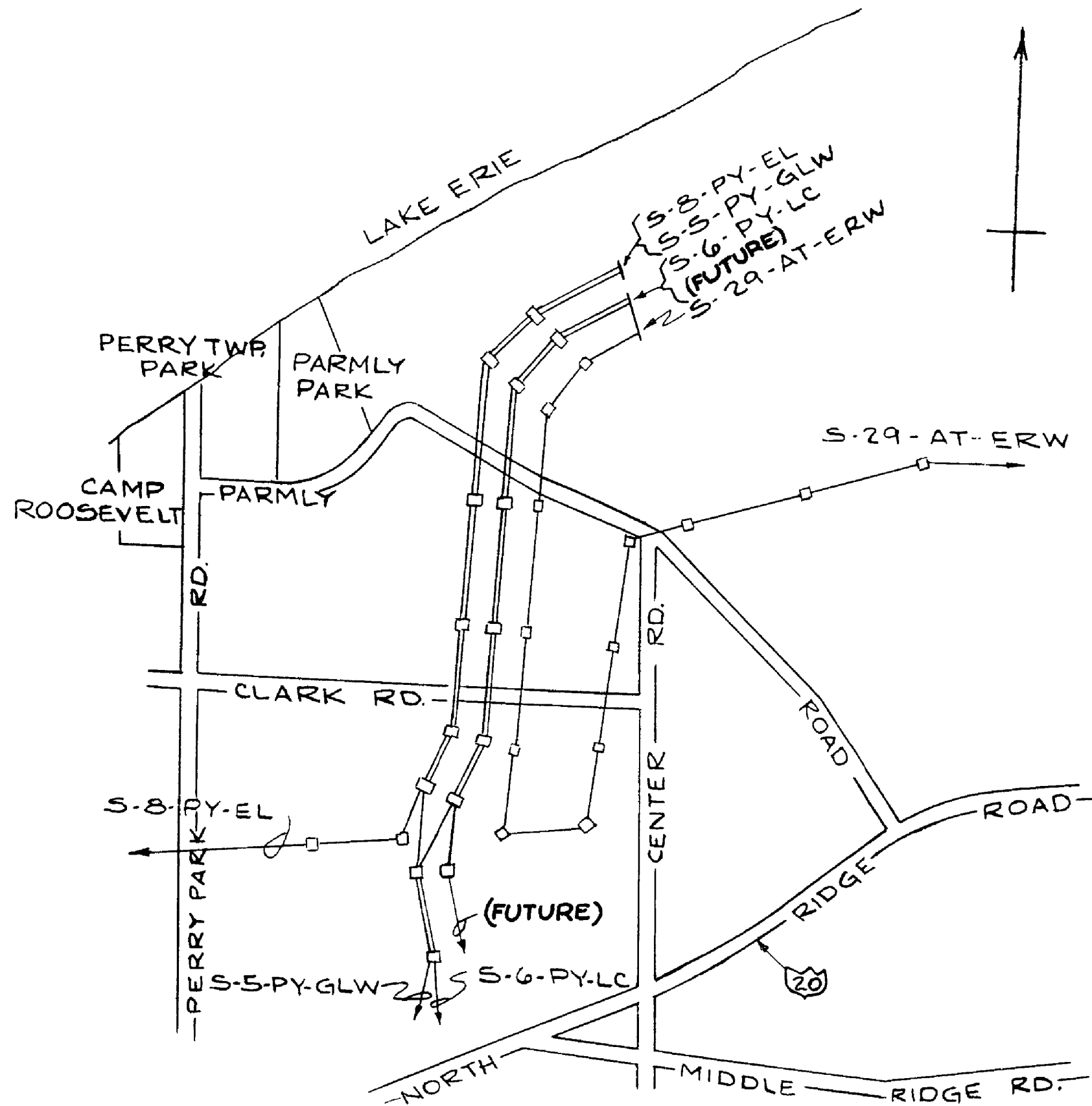
(Rev. 13 12/03)



PERRY NUCLEAR POWER PLANT

FirstEnergy Corporation
Transmission System

Figure 8.1-1

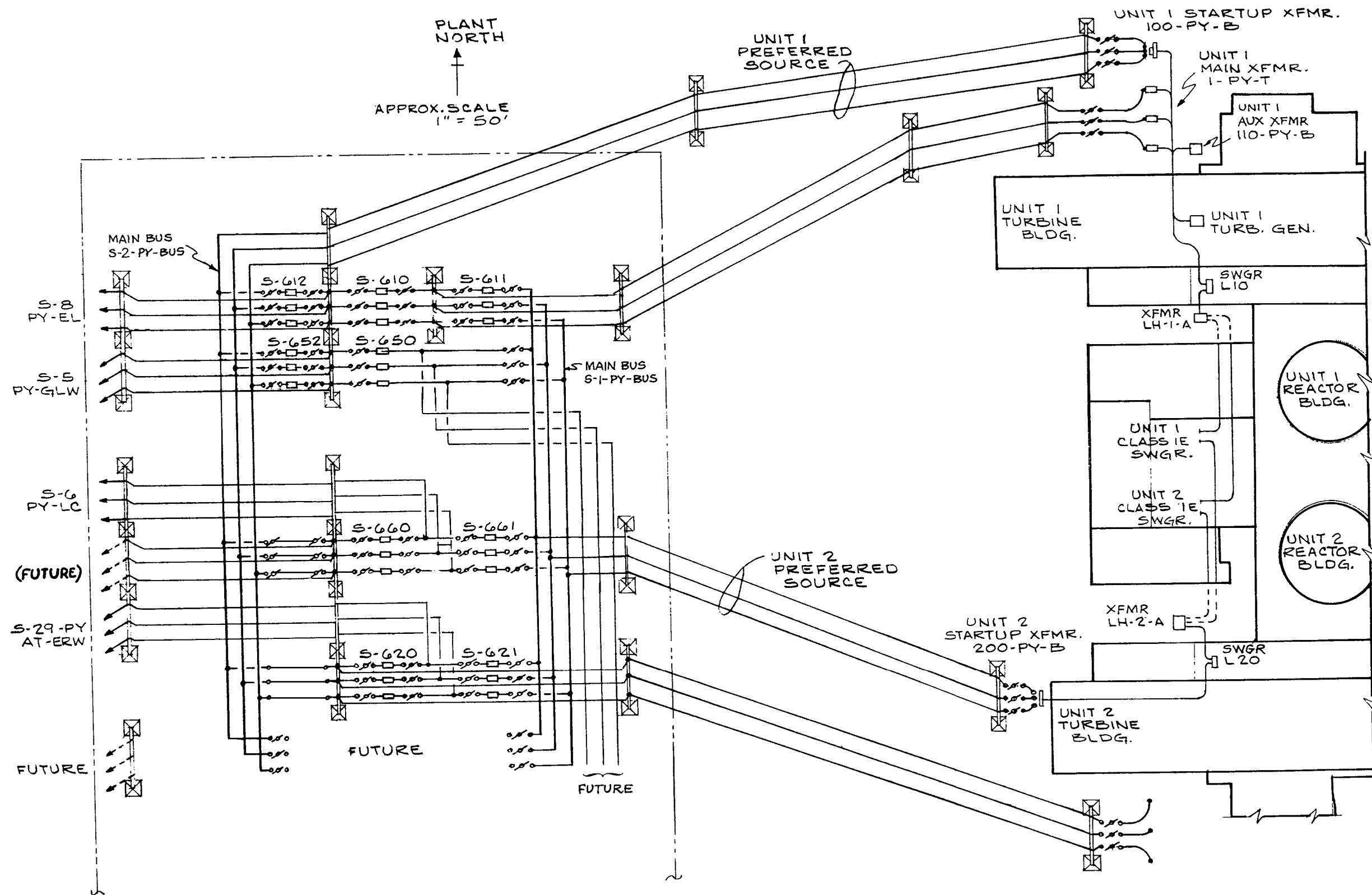


(REV. 20 10/2017)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

TRANSMISSION LINES
LAYOUT

FIGURE 8.2-1

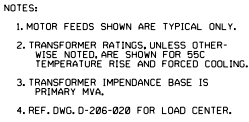


(REV. 20 10/2017)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

PREFERRED POWER
SYSTEM LAYOUT

FIGURE 8.2-3



PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

MAIN ONE LINE DIAGRAM,
13.8 KV AND 4.16 KV
FIGURE 8.3-1
(DWG. D-206-0010-00000)



MAIN ONE LINE DIAGRAM,
480V AND UNDER
FIGURE 8.3-2
(DWG. D-206-0020-00000)

Removed in Accordance with RIS 2015-17

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

CONTROL COMPLEX AND DIESEL GENERATOR
BUILDING EQUIPMENT LAYOUT ABOVE
ELEV. 620'-6", UNITS 1 AND 2
FIGURE 8.3-3
(DWG. E-001-0033-00000)

Removed in Accordance with RIS 2015-17

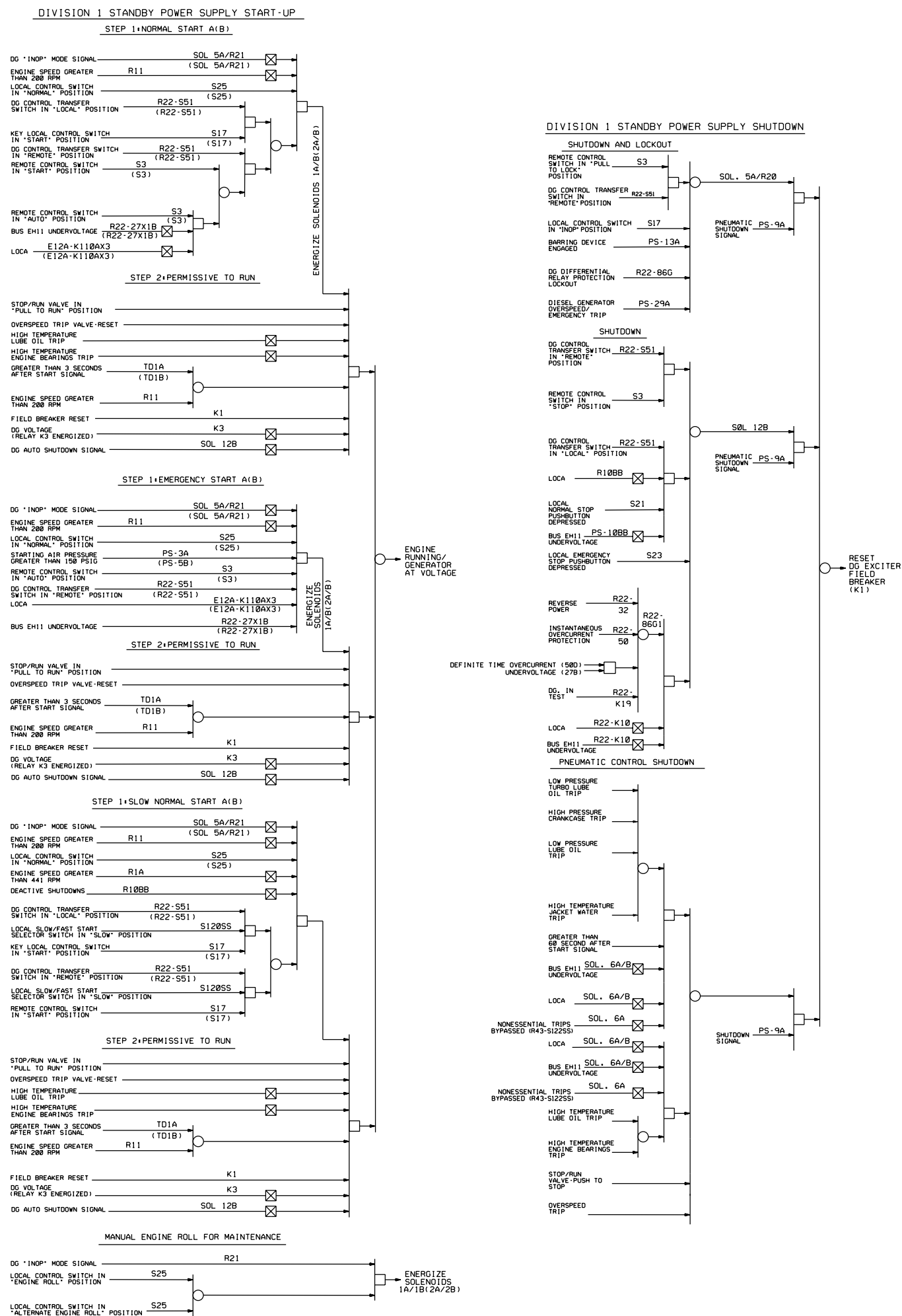
PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

CONTROL COMPLEX EQUIPMENT LAYOUT
ABOVE ELEV. 628'-6", UNITS 1 AND 2
FIGURE 8.3-4
(DWG. E-001-0042-00000)

Removed in Accordance with RIS 2015-17

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

EMERGENCY SERVICE WATER PUMPHOUSE
EQUIPMENT LAYOUT ABOVE ELEV. 586'-6"
FIGURE 8.3-5
(DWG. E-015-0002-00000)



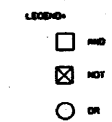
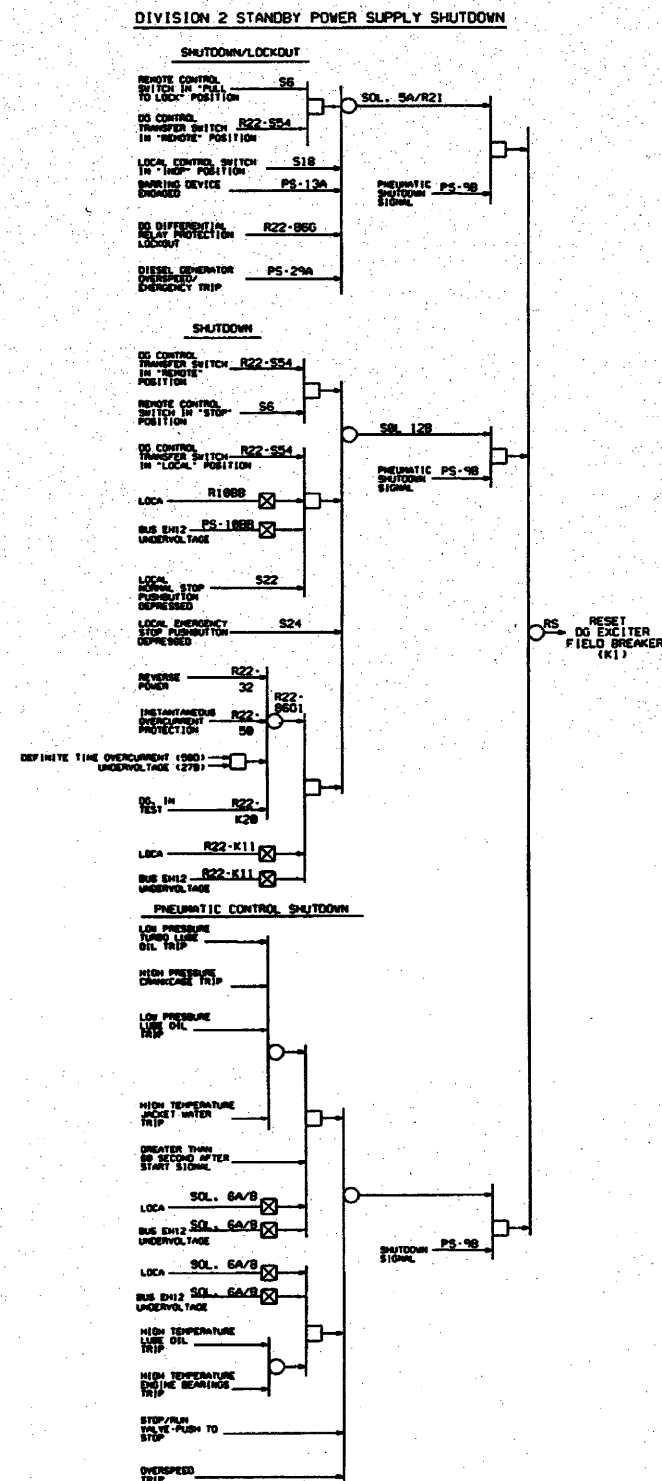
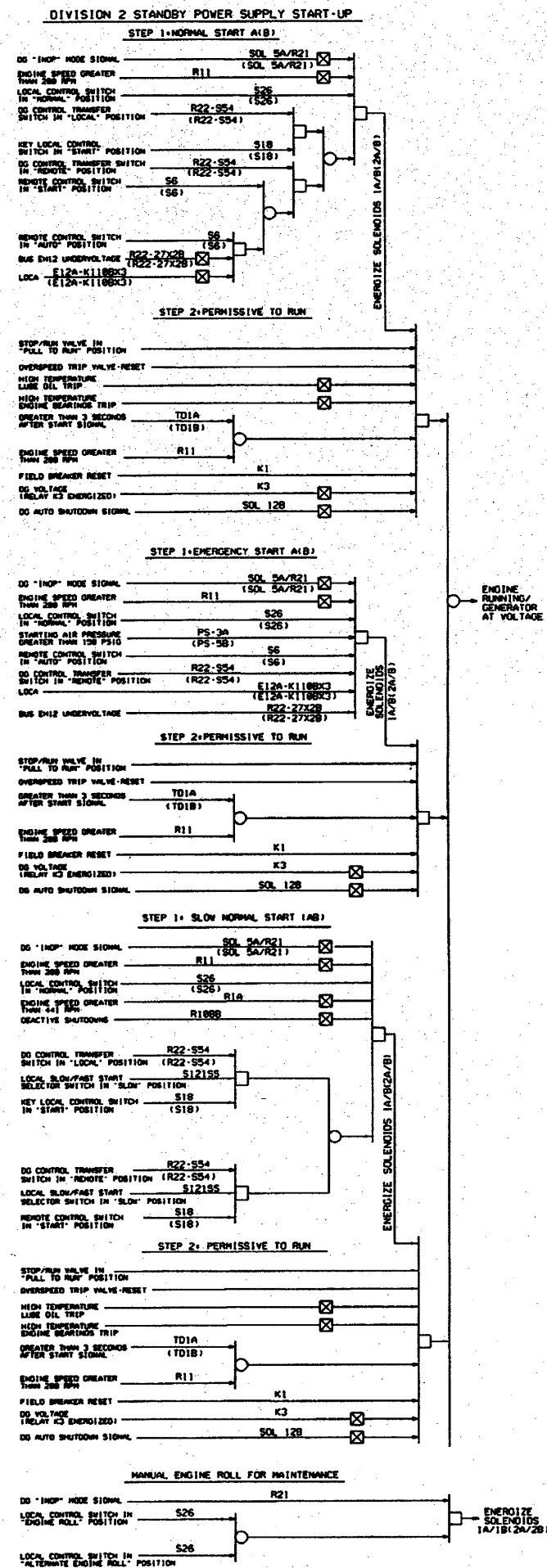
NUCLEAR SAFETY RELATED

(Rev.17 10/11)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

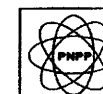
Diesel Logic Diagrams
Division 1

Figure 8.3-6 (Sheet 1 of 2)
(DWG. D-808-0317-00001)



NUCLEAR SAFETY RELATED

(Rev. 16 10/09)

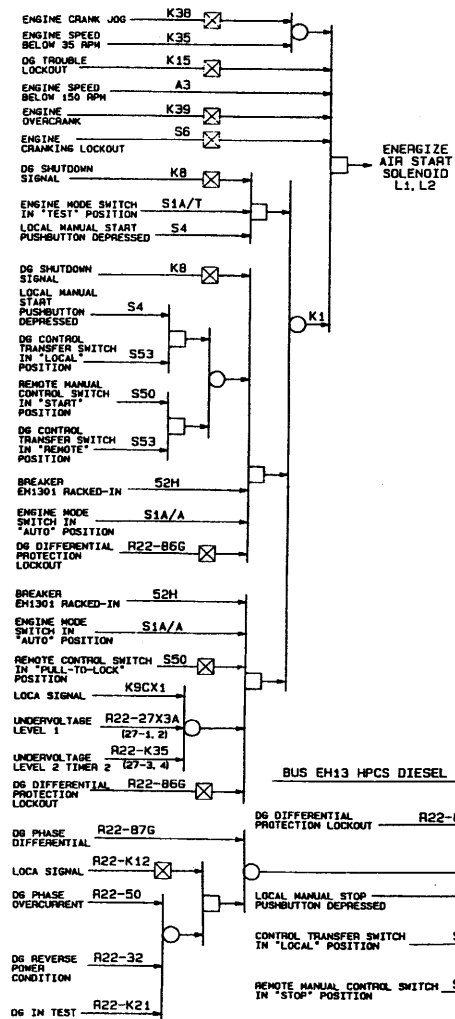


PERRY NUCLEAR POWER PLANT

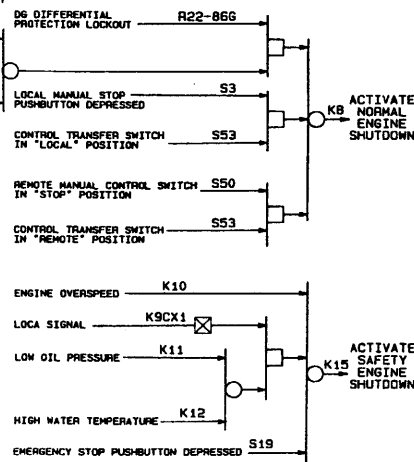
Diesel Logic Diagrams,
Division 2

Figure 8.3-6 (Sheet 2 of 2)
[Dwg. D-808-317(2)]

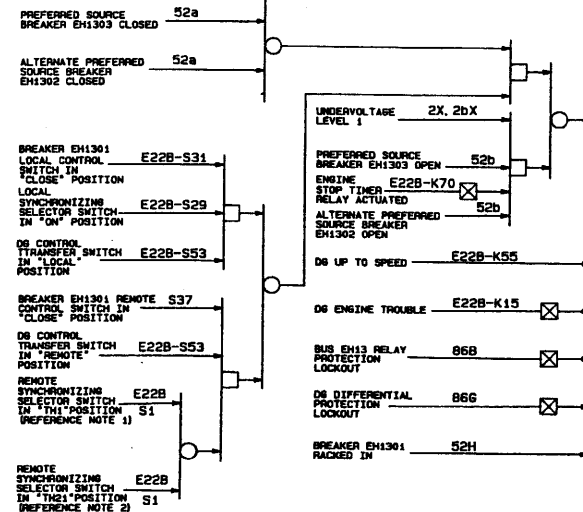
BUS EH13 HPCS DIESEL GENERATOR START LOGIC



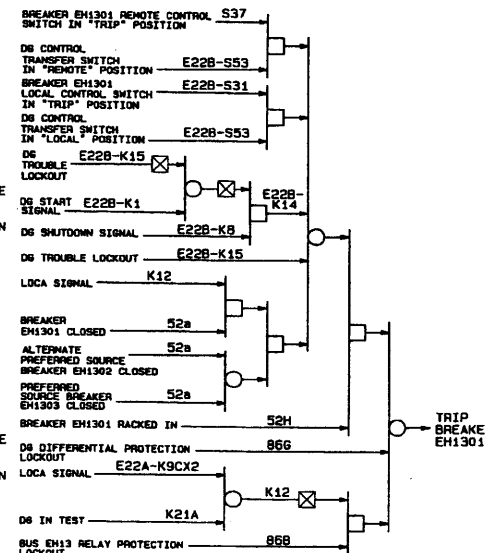
BUS EH13 HPCS DIESEL GENERATOR STOP LOGIC



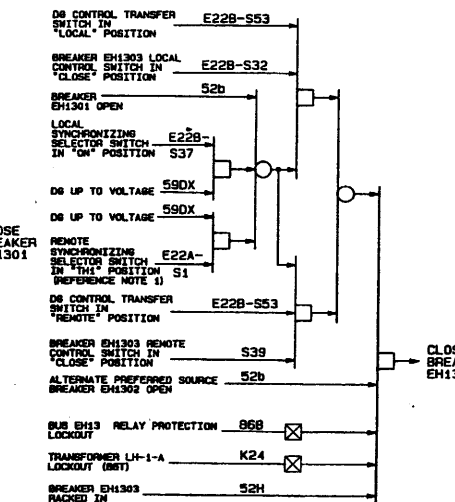
BUS EH13 DIESEL GENERATOR BREAKER EH1301 CLOSE LOGIC



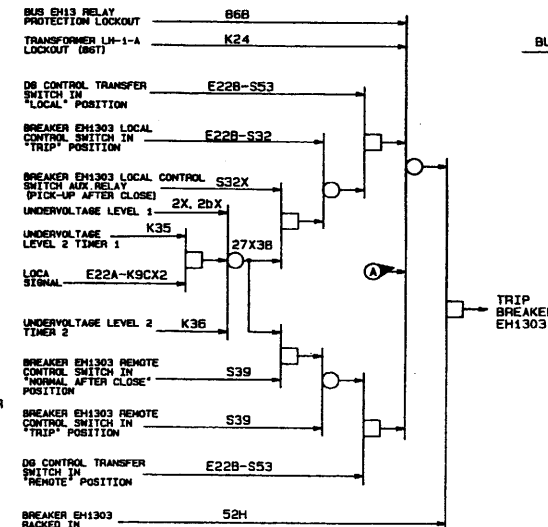
BUS EH13 DIESEL GENERATOR BREAKER EH1301 TRIP LOGIC



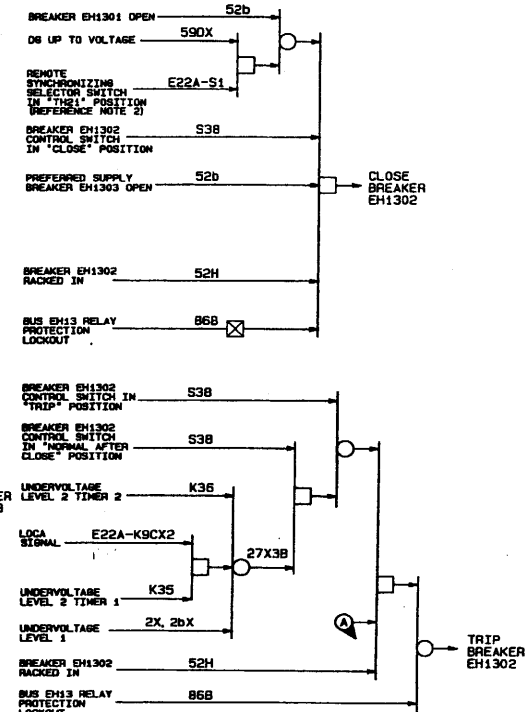
BUS EH13 PREFERRED SUPPLY BREAKER EH1303 CLOSE LOGIC



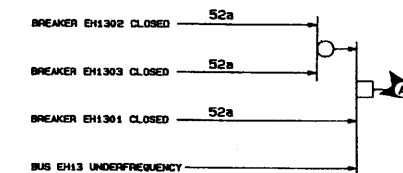
BUS EH13 PREFERRED SUPPLY BREAKER EH1303 TRIP LOGIC



BUS EH13 ALTERNATE PREFERRED SUPPLY BREAKER EH1302 CLOSE AND TRIP LOGIC



BUS EH13 DIESEL GENERATOR LOAD TEST OVERLOAD PROTECTION



NOTES:
 1. TH1 IS THE CABLE BUS CONNECTING THE UNIT 1 CLASS 1E HW BUSES TO NORMAL OFF-SITE POWER VIA UNIT 1 INTERBUS TRANSFORMER LH-1-A.
 2. TH21 IS THE CABLE BUS CONNECTING THE UNIT 1 CLASS 1E HW BUSES TO OFF-SITE POWER VIA UNIT 2 INTERBUS TRANSFORMER LH-2-A.

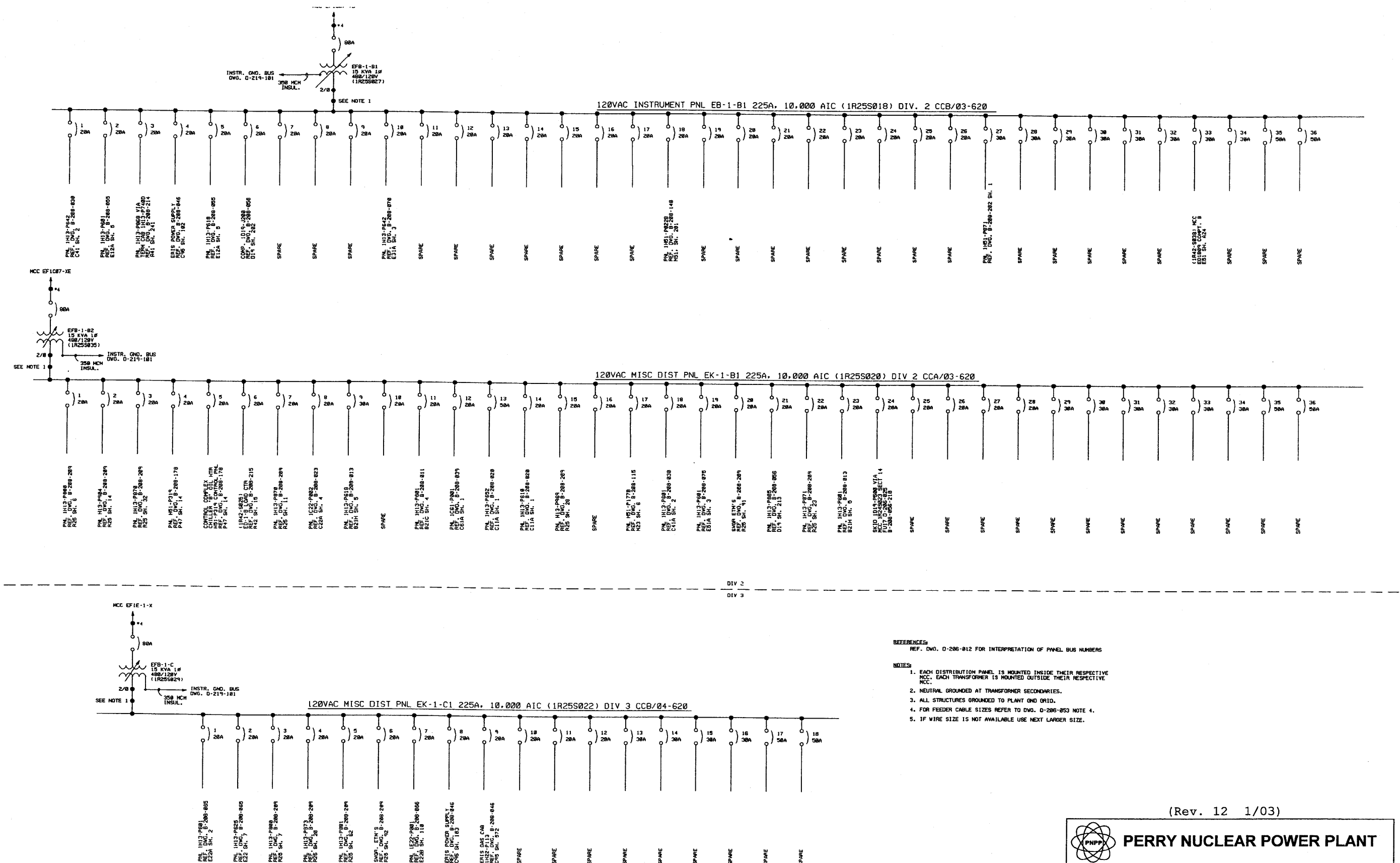
LEGEND:
 AND
 NOT
 OR

(Rev. 12 1/03)


NUCLEAR SAFETY RELATED

PERRY NUCLEAR POWER PLANT

HPCS Diesel, Diesel Breakers,
 Alternate Preferred Supply
 Breakers Logic Diagram,
 (Division 3)
 Figure 8.3-8
 [Dwg. D-808-311(4)]



(Rev. 12 1/03)


PERRY NUCLEAR POWER PLANT

One Line Diagram, Class 1E,
 120 Volt AC, Divisions 2 and 3

Figure 8.3-13
 (Dwg. D-206-054)

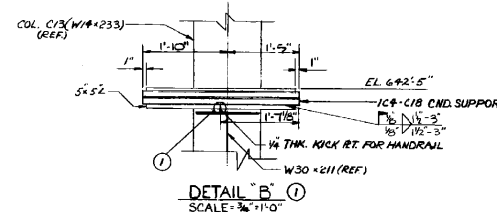
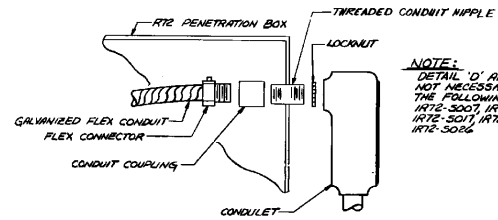
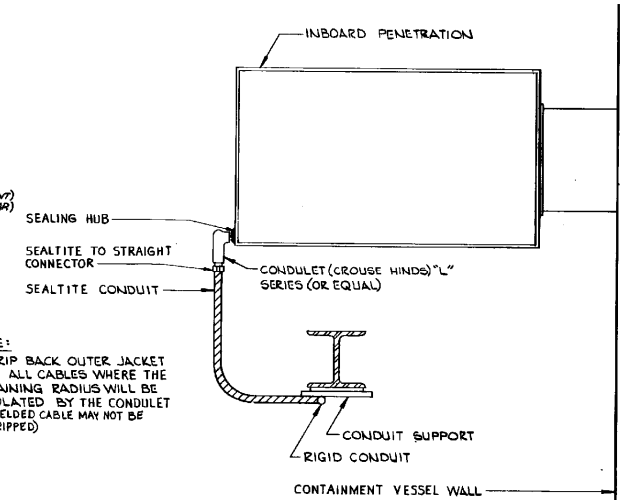
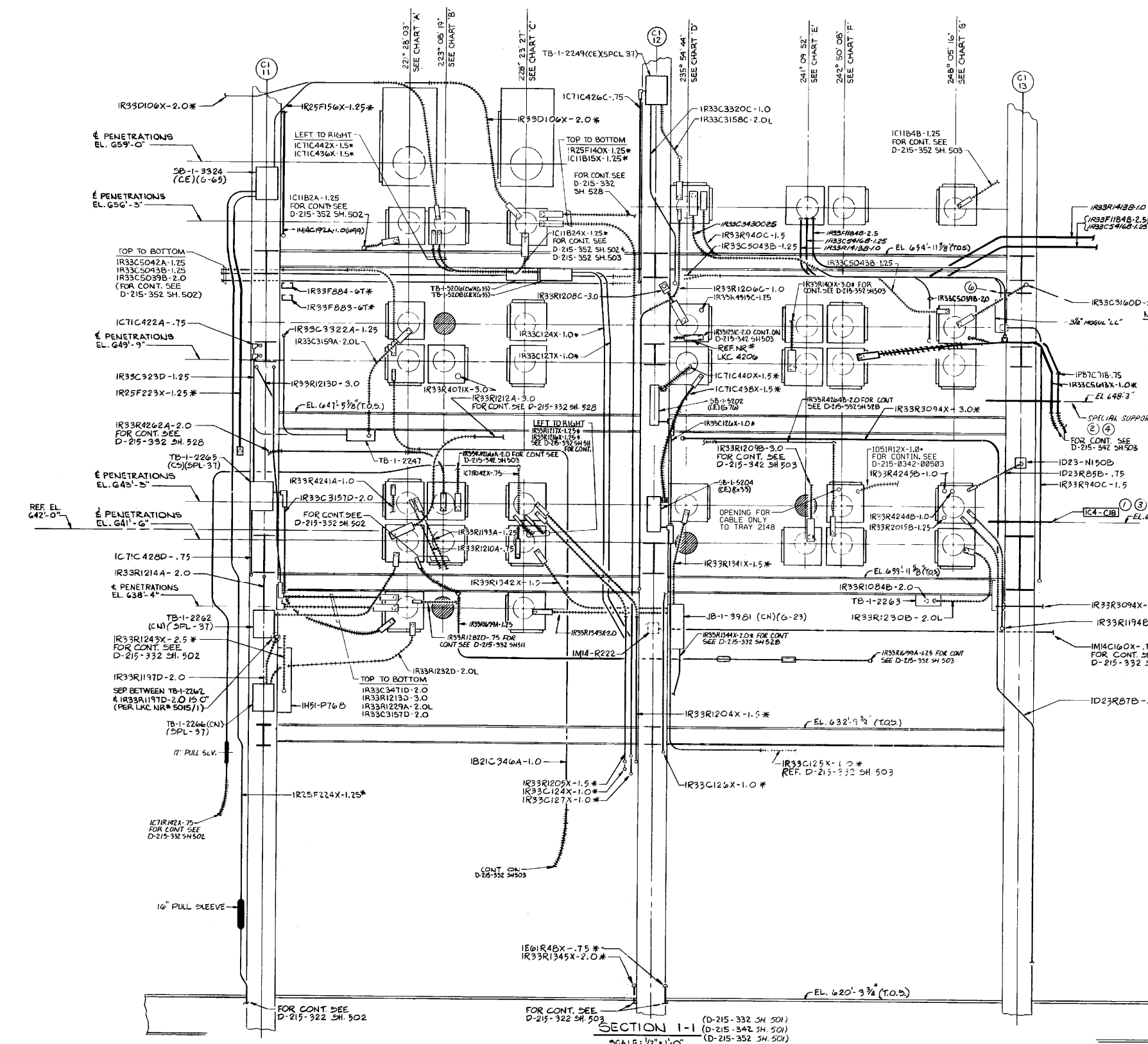


CHART 'A' TOP TO BOT.	CHART 'B' TOP TO BOT.	CHART 'C' TOP TO BOT.	CHART 'D' TOP TO BOT.	CHART 'E' TOP TO BOT.	CHART 'F' TOP TO BOT.	CHART 'G' TOP TO BOT.
ERB5008 IR72-5001	ERB5002 IR72-5029	ERB5010 IR72-5002	ERB5004 IR72-5011	ERB5005 IR72-5032	ERB5006 IR72-5006	ERB5007 IR72-5004
ERB5001 IR72-5003	ERB4019 SPARE	ERB5003 IR72-5005	ERB5002 IR72-5012	ERB4022 IR72-5038	ERB4023 IR72-5014	ERB5009 IR72-5009
ERB4018 IR72-5007	ERB4010 IR72-5031	ERB4020 IR72-5012	ERB4021 IR72-5025	ERB4013 IR72-5036	ERB4014 IR72-5015	ERB4024 IR72-5014
ERB4009 IR72-5008	ERB4002 IR72-5030	ERB4011 IR72-5018	ERB4012 IR72-5033	ERB4005 SPARE	ERB4006 IR72-5022	ERB4015 IR72-5010
ERB4001 IR72-5016	ERB3004 IR72-5028	ERB4003 IR72-5018	ERB4004 IR72-5024	ERB3007 IR72-5021	ERB3008 IR72-5035	ERB4007 IR72-5020
ERB3003 IR72-5017	ERB3002 SPARE	ERB3005 IR72-5019	ERB3006 SPARE			ERB3009 IR72-5023
ERB3001 IR72-5026		ERB3000 IR72-5027				

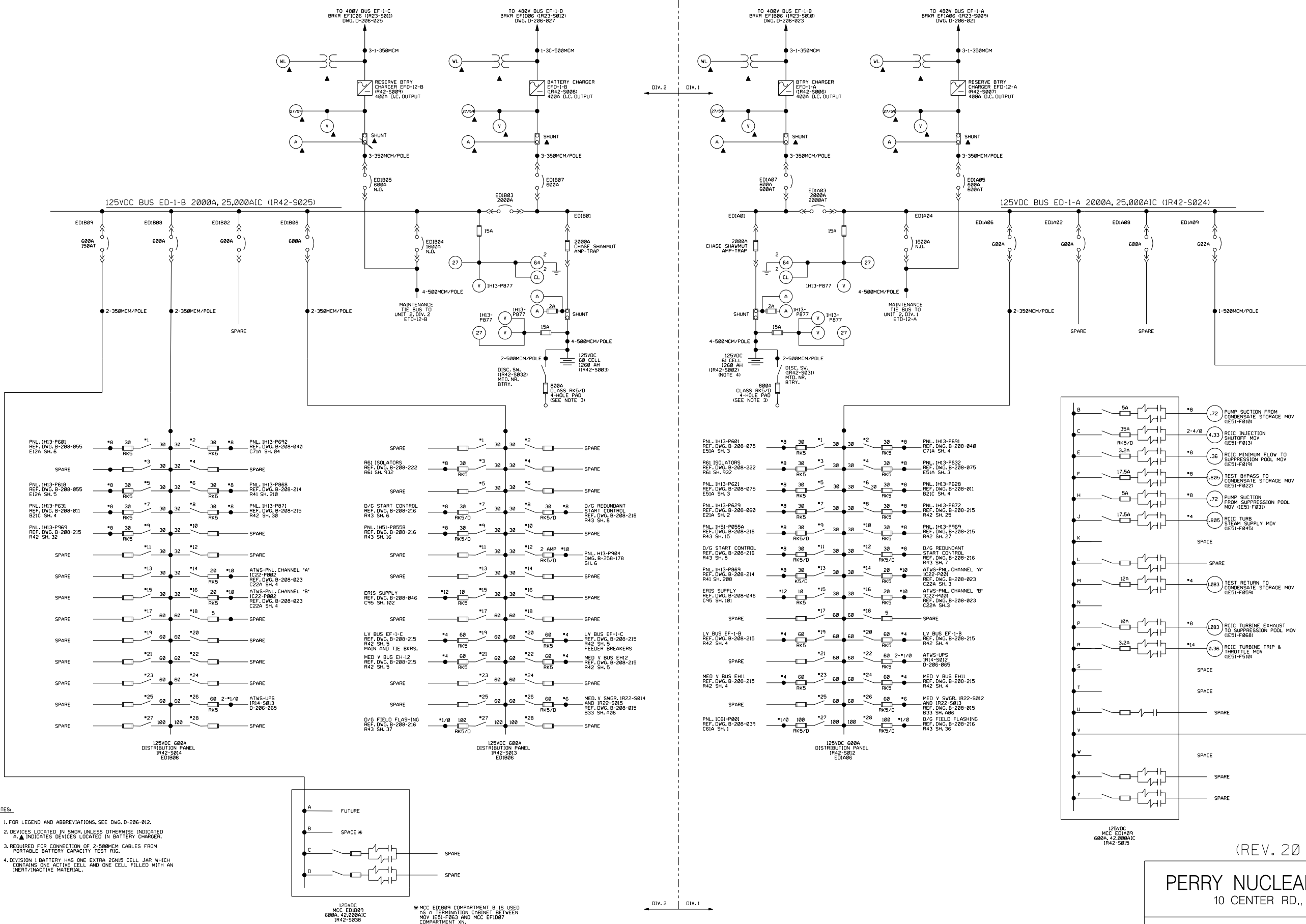
- VARIANCES**
- ATTACH B52B STRUT TO CONDUIT SUPPORT IC4-C18 PER DETAIL 'B'. STRUT IS TO EXTEND 1" MAX. PAST THE EDGE OF IC4-C18 ON BOTH SIDES
 - ATTACH AN ELECTRICAL CONDUIT SUPPORT IDENTICAL TO IC4-C18 TO COLUMN C1-13 (W/4-213) AND ATTACH B52B STRUT THE ENTIRE LENGTH OF SUPPORT PLUS 1" MAX. PAST BOTH ENDS
 - ALLOW CND. IR33R940C-1.5 AND IR33R3094X-3.0 TO ATTACH TO IC4-C18
 - ALLOW CND. N/5 IR33R940C-1.5, IPB7C71B-7.5 & IR33C5613X-1.0 TO ATTACH TO SUPPORT (REF. VARIANCE 2)
 - SPARE
 - ALLOW DETAIL 'D' THAT SUPPORTS CND. IR33R940C-1.5 TO ATTACH TO COLUMN
- 7 ALLOW IR33R940C-1.5 TO BE MOUNTED ON STRUT TO SEC. 1-11, 11A, 11B, 11C, 11D, 11E, 11F, 11G, 11H, 11I, 11J, 11K, 11L, 11M, 11N, 11O, 11P, 11Q, 11R, 11S, 11T, 11U, 11V, 11W, 11X, 11Y, 11Z, 11AA, 11AB, 11AC, 11AD, 11AE, 11AF, 11AG, 11AH, 11AI, 11AJ, 11AK, 11AL, 11AM, 11AN, 11AO, 11AP, 11AQ, 11AR, 11AS, 11AT, 11AU, 11AV, 11AW, 11AX, 11AY, 11AZ, 11BA, 11BB, 11BC, 11BD, 11BE, 11BF, 11BG, 11BH, 11BI, 11BJ, 11BK, 11BL, 11BM, 11BN, 11BO, 11BP, 11BQ, 11BR, 11BS, 11BT, 11BU, 11BV, 11BW, 11BX, 11BY, 11BZ, 11CA, 11CB, 11CC, 11CD, 11CE, 11CF, 11CG, 11CH, 11CI, 11CJ, 11CK, 11CL, 11CM, 11CN, 11CO, 11CP, 11CQ, 11CR, 11CS, 11CT, 11CU, 11CV, 11CW, 11CX, 11CY, 11CZ, 11DA, 11DB, 11DC, 11DD, 11DE, 11DF, 11DG, 11DH, 11DI, 11DJ, 11DK, 11DL, 11DM, 11DN, 11DO, 11DP, 11DQ, 11DR, 11DS, 11DT, 11DU, 11DV, 11DW, 11DX, 11DY, 11DZ, 11EA, 11EB, 11EC, 11ED, 11EE, 11EF, 11EG, 11EH, 11EI, 11EJ, 11EK, 11EL, 11EM, 11EN, 11EO, 11EP, 11EQ, 11ER, 11ES, 11ET, 11EU, 11EV, 11EW, 11EX, 11EY, 11EZ, 11FA, 11FB, 11FC, 11FD, 11FE, 11FF, 11FG, 11FH, 11FI, 11FJ, 11FK, 11FL, 11FM, 11FN, 11FO, 11FP, 11FQ, 11FR, 11FS, 11FT, 11FU, 11FV, 11FW, 11FX, 11FY, 11FZ, 11GA, 11GB, 11GC, 11GD, 11GE, 11GF, 11GG, 11GH, 11GI, 11GJ, 11GK, 11GL, 11GM, 11GN, 11GO, 11GP, 11GQ, 11GR, 11GS, 11GT, 11GU, 11GV, 11GW, 11GX, 11GY, 11GZ, 11HA, 11HB, 11HC, 11HD, 11HE, 11HF, 11HG, 11HH, 11HI, 11HJ, 11HK, 11HL, 11HM, 11HN, 11HO, 11HP, 11HQ, 11HR, 11HS, 11HT, 11HU, 11HV, 11HW, 11HX, 11HY, 11HZ, 11IA, 11IB, 11IC, 11ID, 11IE, 11IF, 11IG, 11IH, 11II, 11IJ, 11IK, 11IL, 11IM, 11IN, 11IO, 11IP, 11IQ, 11IR, 11IS, 11IT, 11IU, 11IV, 11IW, 11IX, 11IY, 11IZ, 11JA, 11JB, 11JC, 11JD, 11JE, 11JF, 11JG, 11JH, 11JI, 11JJ, 11JK, 11JL, 11JM, 11JN, 11JO, 11JP, 11JQ, 11JR, 11JS, 11JT, 11JU, 11JV, 11JW, 11JX, 11JY, 11JZ, 11KA, 11KB, 11KC, 11KD, 11KE, 11KF, 11KG, 11KH, 11KI, 11KJ, 11KK, 11KL, 11KM, 11KN, 11KO, 11KP, 11KQ, 11KR, 11KS, 11KT, 11KU, 11KV, 11KW, 11KX, 11KY, 11KZ, 11LA, 11LB, 11LC, 11LD, 11LE, 11LF, 11LG, 11LH, 11LI, 11LJ, 11LK, 11LL, 11LM, 11LN, 11LO, 11LP, 11LQ, 11LR, 11LS, 11LT, 11LU, 11LV, 11LW, 11LX, 11LY, 11LZ, 11MA, 11MB, 11MC, 11MD, 11ME, 11MF, 11MG, 11MH, 11MI, 11MJ, 11MK, 11ML, 11MM, 11MN, 11MO, 11MP, 11MQ, 11MR, 11MS, 11MT, 11MU, 11MV, 11MW, 11MX, 11MY, 11MZ, 11NA, 11NB, 11NC, 11ND, 11NE, 11NF, 11NG, 11NH, 11NI, 11NJ, 11NK, 11NL, 11NM, 11NN, 11NO, 11NP, 11NQ, 11NR, 11NS, 11NT, 11NU, 11NV, 11NW, 11NX, 11NY, 11NZ, 11OA, 11OB, 11OC, 11OD, 11OE, 11OF, 11OG, 11OH, 11OI, 11OJ, 11OK, 11OL, 11OM, 11ON, 11OO, 11OP, 11OQ, 11OR, 11OS, 11OT, 11OU, 11OV, 11OW, 11OX, 11OY, 11OZ, 11PA, 11PB, 11PC, 11PD, 11PE, 11PF, 11PG, 11PH, 11PI, 11PJ, 11PK, 11PL, 11PM, 11PN, 11PO, 11PP, 11PQ, 11PR, 11PS, 11PT, 11PU, 11PV, 11PW, 11PX, 11PY, 11PZ, 11QA, 11QB, 11QC, 11QD, 11QE, 11QF, 11QG, 11QH, 11QI, 11QJ, 11QK, 11QL, 11QM, 11QN, 11QO, 11QP, 11QQ, 11QR, 11QS, 11QT, 11QU, 11QV, 11QW, 11QX, 11QY, 11QZ, 11RA, 11RB, 11RC, 11RD, 11RE, 11RF, 11RG, 11RH, 11RI, 11RJ, 11RK, 11RL, 11RM, 11RN, 11RO, 11RP, 11RQ, 11RR, 11RS, 11RT, 11RU, 11RV, 11RW, 11RX, 11RY, 11RZ, 11SA, 11SB, 11SC, 11SD, 11SE, 11SF, 11SG, 11SH, 11SI, 11SJ, 11SK, 11SL, 11SM, 11SN, 11SO, 11SP, 11SQ, 11SR, 11SS, 11ST, 11SU, 11SV, 11SW, 11SX, 11SY, 11SZ, 11TA, 11TB, 11TC, 11TD, 11TE, 11TF, 11TG, 11TH, 11TI, 11TJ, 11TK, 11TL, 11TM, 11TN, 11TO, 11TP, 11TQ, 11TR, 11TS, 11TT, 11TU, 11TV, 11TW, 11TX, 11TY, 11TZ, 11UA, 11UB, 11UC, 11UD, 11UE, 11UF, 11UG, 11UH, 11UI, 11UJ, 11UK, 11UL, 11UM, 11UN, 11UO, 11UP, 11UQ, 11UR, 11US, 11UT, 11UU, 11UV, 11UW, 11UX, 11UY, 11UZ, 11VA, 11VB, 11VC, 11VD, 11VE, 11VF, 11VG, 11VH, 11VI, 11VJ, 11VK, 11VL, 11VM, 11VN, 11VO, 11VP, 11VQ, 11VR, 11VS, 11VT, 11VU, 11VV, 11VW, 11VX, 11VY, 11VZ, 11WA, 11WB, 11WC, 11WD, 11WE, 11WF, 11WG, 11WH, 11WI, 11WJ, 11WK, 11WL, 11WM, 11WN, 11WO, 11WP, 11WQ, 11WR, 11WS, 11WT, 11WU, 11WV, 11WW, 11WX, 11WY, 11WZ, 11XA, 11XB, 11XC, 11XD, 11XE, 11XF, 11XG, 11XH, 11XI, 11XJ, 11XK, 11XL, 11XM, 11XN, 11XO, 11XP, 11XQ, 11XR, 11XS, 11XT, 11XU, 11XV, 11XW, 11XX, 11XY, 11XZ, 11YA, 11YB, 11YC, 11YD, 11YE, 11YF, 11YG, 11YH, 11YI, 11YJ, 11YK, 11YL, 11YM, 11YN, 11YO, 11YP, 11YQ, 11YR, 11YS, 11YT, 11YU, 11YV, 11YW, 11YX, 11YY, 11YZ, 11ZA, 11ZB, 11ZC, 11ZD, 11ZE, 11ZF, 11ZG, 11ZH, 11ZI, 11ZJ, 11ZK, 11ZL, 11ZM, 11ZN, 11ZO, 11ZP, 11ZQ, 11ZR, 11ZS, 11ZT, 11ZU, 11ZV, 11ZW, 11ZX, 11ZY, 11ZZ

(REV. 20 10/2017)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

CONTAINMENT VESSEL PENETRATION
LOCATIONS PROTECTIVE ENCLOSURE
SPATIAL LAYOUT VIEWED FROM INSIDE
UNIT 1 CONTAINMENT VESSEL
FIGURE 8.3-19
(DWG. D-215-0667-00501)

- NOTES:
- FOR LEGEND, NOTES, REFERENCES AND STANDARD DETAILS, SEE D-215-001.
 - DWG. D-215-667 SH. 501 PER GAI DWG. D-215-667 REV. H.
 - THIS DWG. TO BE WORKED WITH DWGS. D-215-332 SH. 502, 503, D-215-342 SH. 502, 503, D-215-352 SH. 502 AND 503.

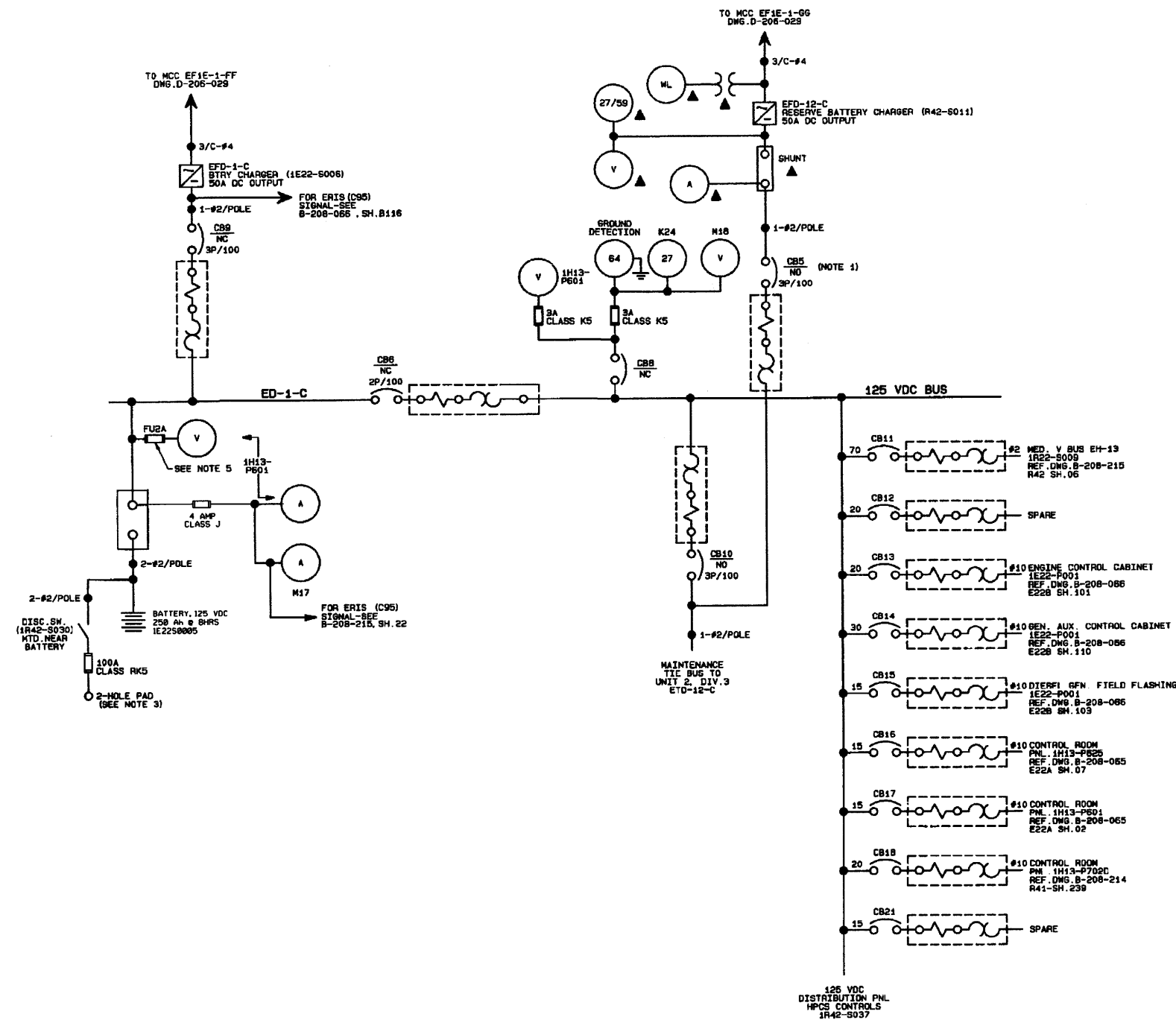


(REV. 20 10/2017)

PERRY NUCLEAR POWER PLANT

10 CENTER RD., PERRY, OHIO 44081

ONE LINE METER AND RELAY DIAGRAM,
CLASS 1E, 125 VOLT DC, DIVISION 1 & 2
FIGURE 8.3-21
(DWG. D-206-0051-00000)



- NOTES:
1. CB5 BREAKER IS SUPPLIED ON GENERATOR UNIT NO. 1 ONLY.
 2. FOR LEGEND AND ABBREVIATIONS, SEE DWG. D-206-012.
 3. REQUIRED FOR CONNECTION OF 500MCM CABLE FROM PORTABLE BATTERY CAPACITY TEST RIG.
 4. DEVICES LOCATED IN SWGR UNLESS OTHERWISE INDICATED
A. INDICATES DEVICES LOCATED IN BATTERY CHARGER
 5. GOULD SHAWMUT-FUSE MODEL OTM-2 OR EQUIVALENT.

REFERENCES:

B-211-208 SH. 1	BLOCK DIAGRAM
B-211-065 SH. 2 & 13	BLOCK DIAGRAM
B-211-066 SH. 6 & 13	BLOCK DIAGRAM

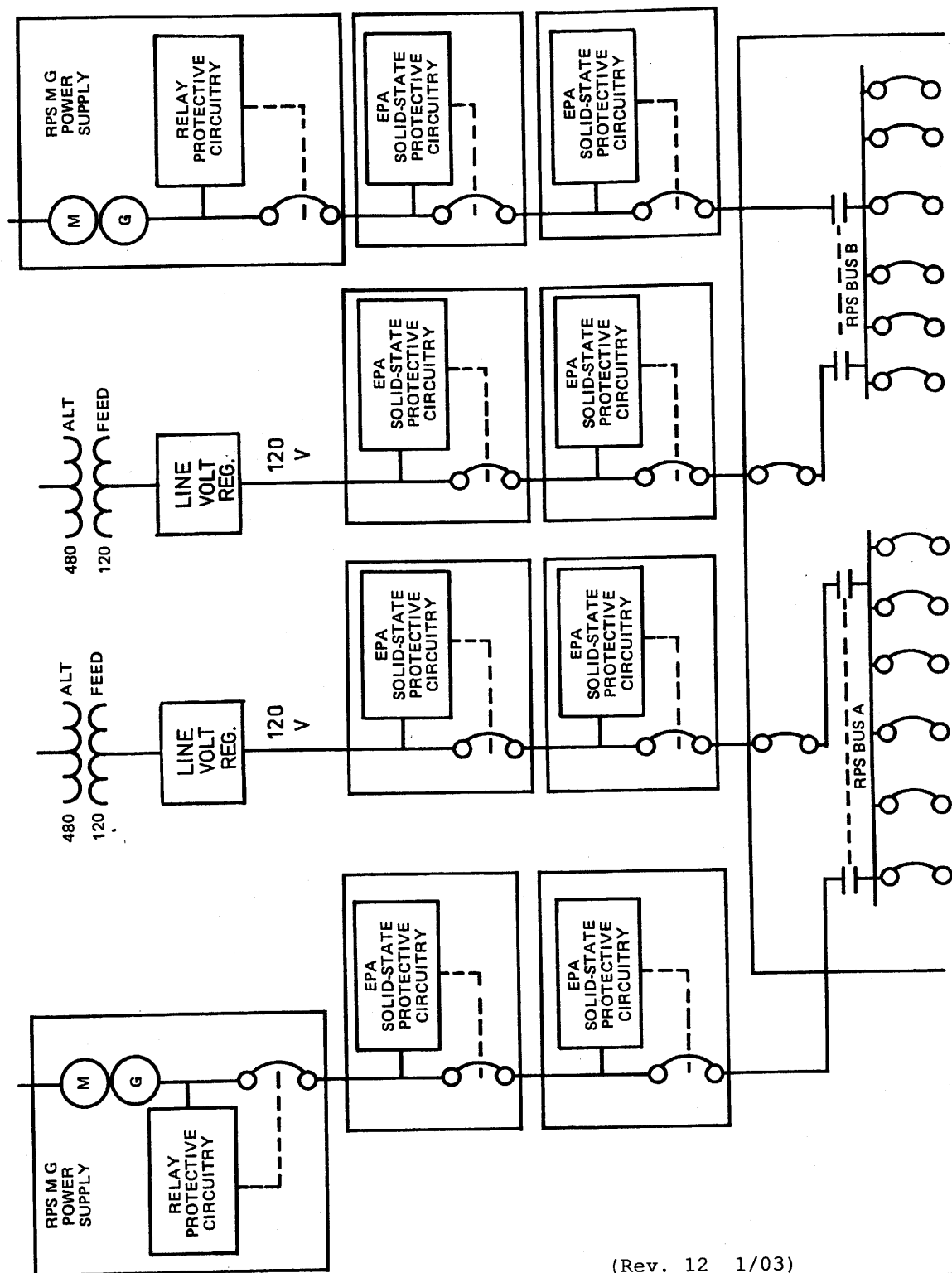
REFERENCES:

D-81381-22711CE STEWART & STEVENSON SERVICES

(REV. 19 10/2015)

PERRY NUCLEAR POWER PLANT
10 CENTER RD., PERRY, OHIO 44081

ONE LINE METER AND RELAY DIAGRAM,
CLASS 1E, 125 VOLT DC, DIVISION 3
FIGURE 8.3-22
(DWG. D-206-0050-00000)



(Rev. 12 1/03)



PERRY NUCLEAR POWER PLANT

Block Diagram - RPS Protective
Circuit Showing EPA Assemblies

Figure 8.3-23