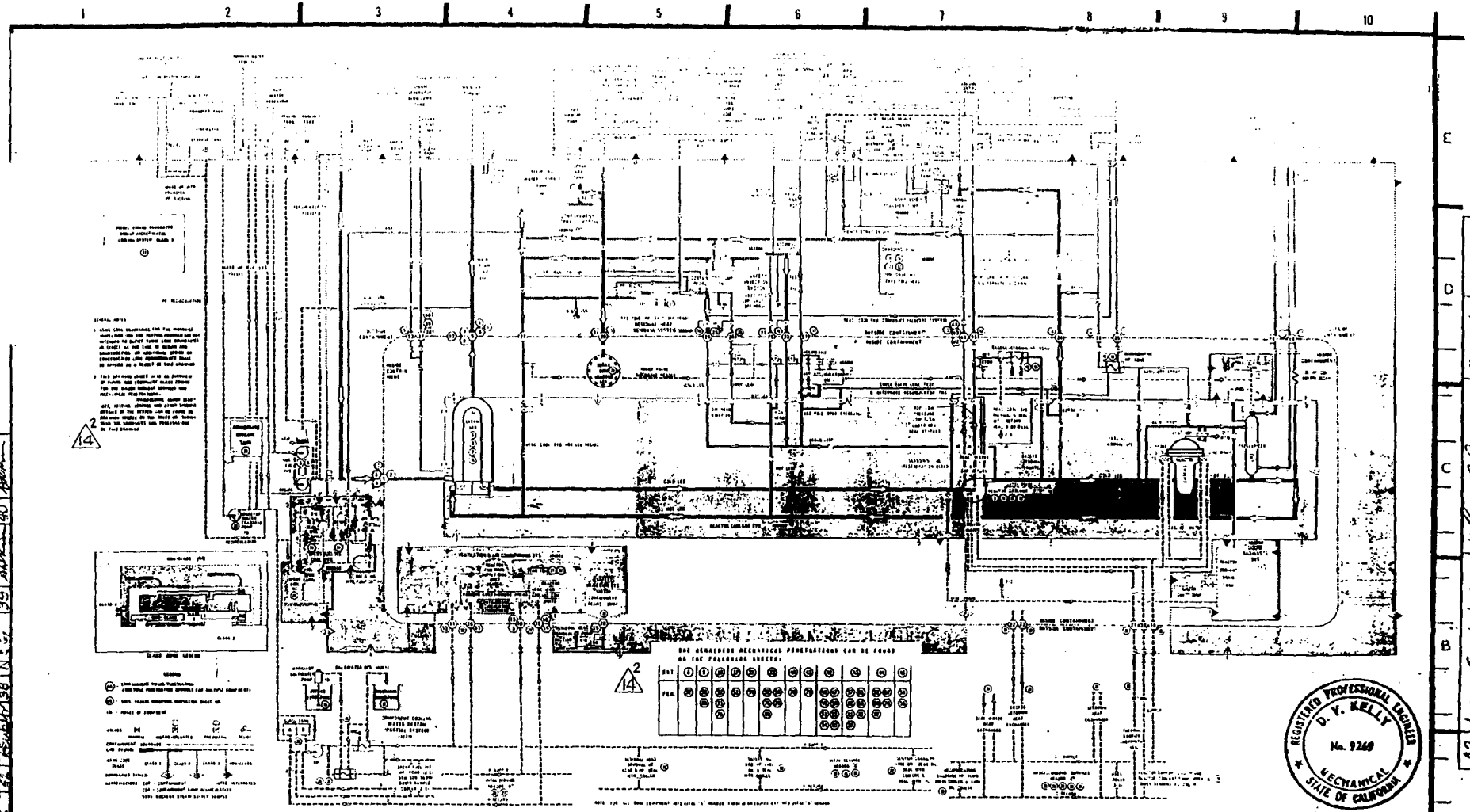


CHANGE NUMBER & ENGINEER													
APPROVED BY ENGR.	41	40	39	38	42	41	40	39	38	42	41	40	
PIPING													
INSTRUMENT													
SYSTEMS													

NO	DATE	DESCRIPTION	GM	CH.	APRD
41	3-29-96	REV'D PER FCT-20181, DETAILS ON SH. 52	—		
40	2-2-96	REV'D PER FCT-19999; DETAILS ON SH. 52	—		
39	1-11-96	REV'D PER FCT; DETAILS ON SH. 52	—		
38	10-19-95	REVISED PER FCT-19511, DETAILS ON SH. 52	—		
42	6-14-96	REVISED PER FCT5, DETAILS ON SH. 52	—		
1	9-10-79	APPROVED FOR CONSTRUCTION	169972	CMV	

TABLE OF CHANGES

APPROVED BY

GM 169972
SUPERV. W. F. BODSON
DSGN. H. G. GUZMAN
DR. RV/LH/EHV/EB
CH. CMV
O.K. WADI TEH
DATE 9-10-79
SCALE NONE

DWK

ASME CODE BOUNDARIES FOR INSERVICE INSPECTION AND TESTING PROGRAM-ISITP

DIABLO CANYON
DEPARTMENT OF ENGINEERING
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

UNIT 2

COAST VALLEYS DIVISION

REGISTERED PROFESSIONAL ENGINEER D. V. KELLY No. 9260 MECHANICAL STATE OF CALIFORNIA

BILL OF MATERIAL
DRAWING LIST
SUPERSEDES
SUPERSEDED BY
SHEET NO. 1 OF 52 SHEETS

104628 CHANGE 42

REV	REGISTERED ENGINEER	SIGNATURE	CA REG NO	EXP DATE
42	Lynn E. Walter		M22503	12-31-99

35 M/M NEG

TYPE	SUBJECT	DRAWING TITLE	UNIT NO	PROJECT LOCATION	INSTALLATION TYPE	DIVISION NAME	MISC	DO CODE	DWG HOURS	CARD	DRAWING SOURCE
M	B	ASME CODE FOR ISITP	2	DIABLO	L	B		MD			3

SCAN 42 IC 42

PARTIAL ISSUE

20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29

SYMBOL

LINE DESIGNATION	DESCRIPTION	BOUNDARY SYMBOL
	ASME CLASSIFICATION FOR INSERVICE INSPECTION AND TESTING PROGRAM (ISITP)	
———	CLASS 1	1
·····	CLASS 2	2
- - - -	CLASS 3	3
GHOSTED LINES	NON-ISI SYSTEMS/COMPONENTS	▲
GHOSTED LINES	NON-ISI INSTRUMENTATION	▲

LINE INTERFACE TO OTHER SHEET (THIS DWG.)
203-D — SHEET VERTICAL CO-ORDINATE (IN ALPHABET)
SHEET HORIZONTAL CO-ORDINATE (IN NUMBER)

GENERAL NOTES

1. THESE DRAWINGS ARE INTENDED FOR USE IN IMPLEMENTING ASME SECTION XI INSERVICE INSPECTION AND TESTING REQUIREMENTS ONLY. THEY HAVE NO RELEVANCE TO THE DESIGN AND CONSTRUCTION OF THE COMPONENTS.
2. PORTIONS SHOWN IN GHOSTED LINES ARE FOR INFORMATION ONLY. FOR SPECIFIC DETAILS IN THOSE SYSTEMS SEE CORRESPONDING REFERENCE SCHEMATIC DWG. & SHEET NO. ON THE RIGHT SIDE OF THIS DWG.
3. NDE EXEMPTION COLOR CODING IS ADDED AFTER DRAWING APPROVAL. THE LEGEND FOR COLOR CODING IS CONTAINED ON SHEET 46.
4. UNLESS IT IS INTEGRAL WITH THE PIPING SYSTEM, INSTRUMENT PIPING/TUBING BEYOND THE FIRST ROOT VALVE (FROM THE PROCESS CONNECTION) IS OUTSIDE THE ISI BOUNDARY, UNLESS SPECIFICALLY SHOWN OTHERWISE ON THESE DRAWINGS.

INDEX

SYSTEM DESCRIPTION	SHEET NO. (THIS DWG.)	PIPING SCHEMATIC REFERENCE DWG. NO.	PIPING SCHEMATIC REFERENCE SHEET NO.
FEEDWATER	3, 4	102003	4, 4A
TURBINE STEAM	5, 6, 7	102004	3, 5, 7
REACTOR COOLANT	8, 9, 10, 11	102007	3, 7, 4, 5
CHEM & VOLUME CONTROL	12, 13, 14, 15, 16	102008	3, 4, 4B, 5B, 8
SAFETY INJECTION	17, 18, 19	102009	3, 4, 5
RESIDUAL HEAT REMOVAL	20, 21	102010	3, 4
NUCLEAR STEAM SUPPLY SAMPLING	22	102011	2
CONTAINMENT SPRAY	23	102012	3
SPENT FUEL PIT COOLING	24	102013	2
COMPONENT COOL. WTR.	25, 26, 27, 28, 29, 30, 31, 32	102014	5, 5A, 6, 6A, 7, 8, 9, 10
MAKE-UP WATER	33, 34	102016	7, 8
SALTWATER (CIRC. WTR.)	35	102017	3
FIRE PROTECTION	36	102018	3
DIESEL ENGINE-GEN.	37	102021	8
MAKE-UP WATER	38, 39	102016	5A, 5B
AUXILIARY STEAM	40	102006	4
FIRE PROTECTION	41	102018	7
LIQUID RADWASTE	42	102019	3
VENTILATION & A/C	43, 44	102023	3, 4
COMPRESSED AIR	45	102025	4

UNIT - 2

PG&E CO. SHEET 2 OF SHEETS 104628 REV. 14

MICROFILM 3 14

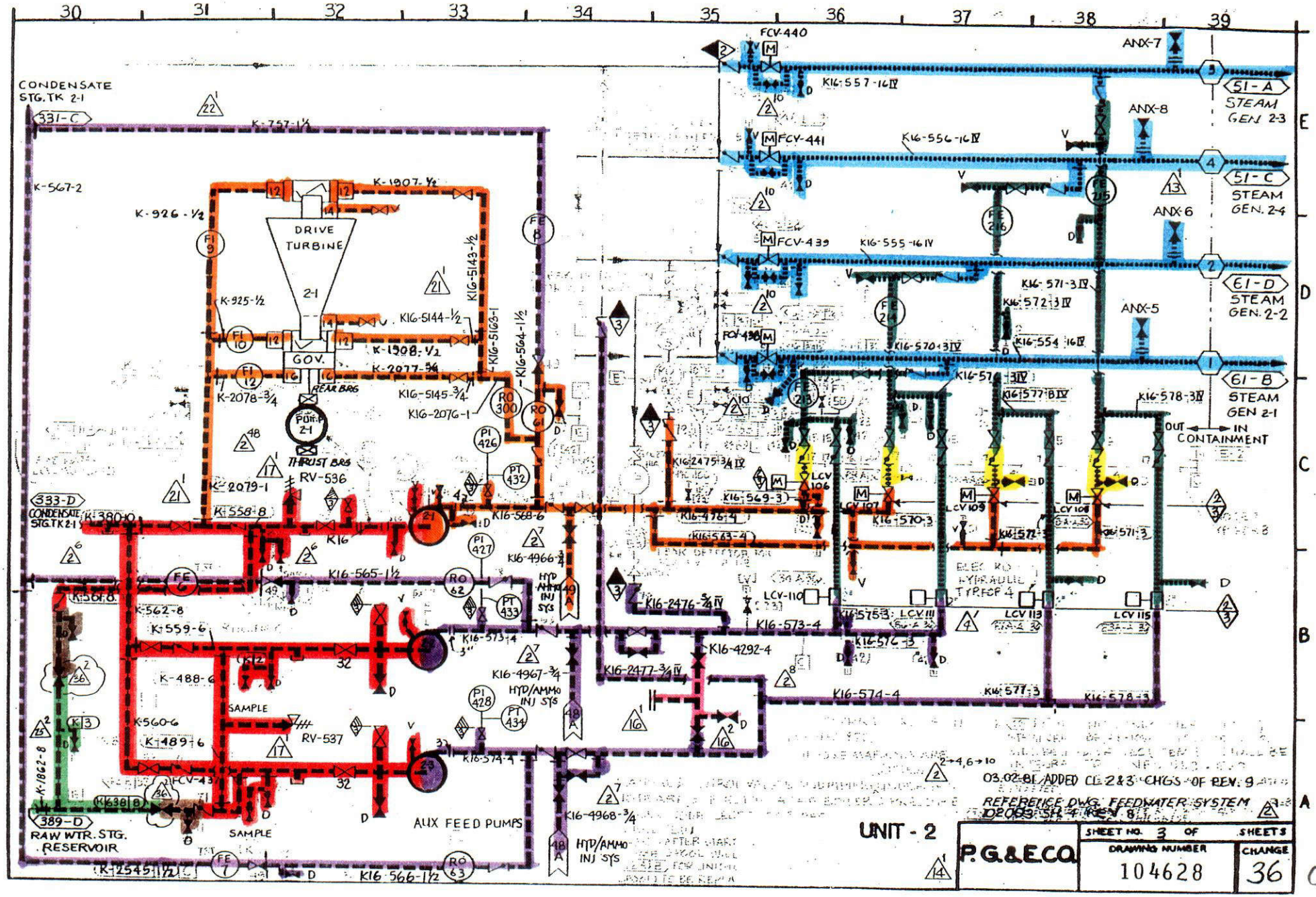
RM INDEXED REV 14

Class 2

#1 #2 #3

Class 3

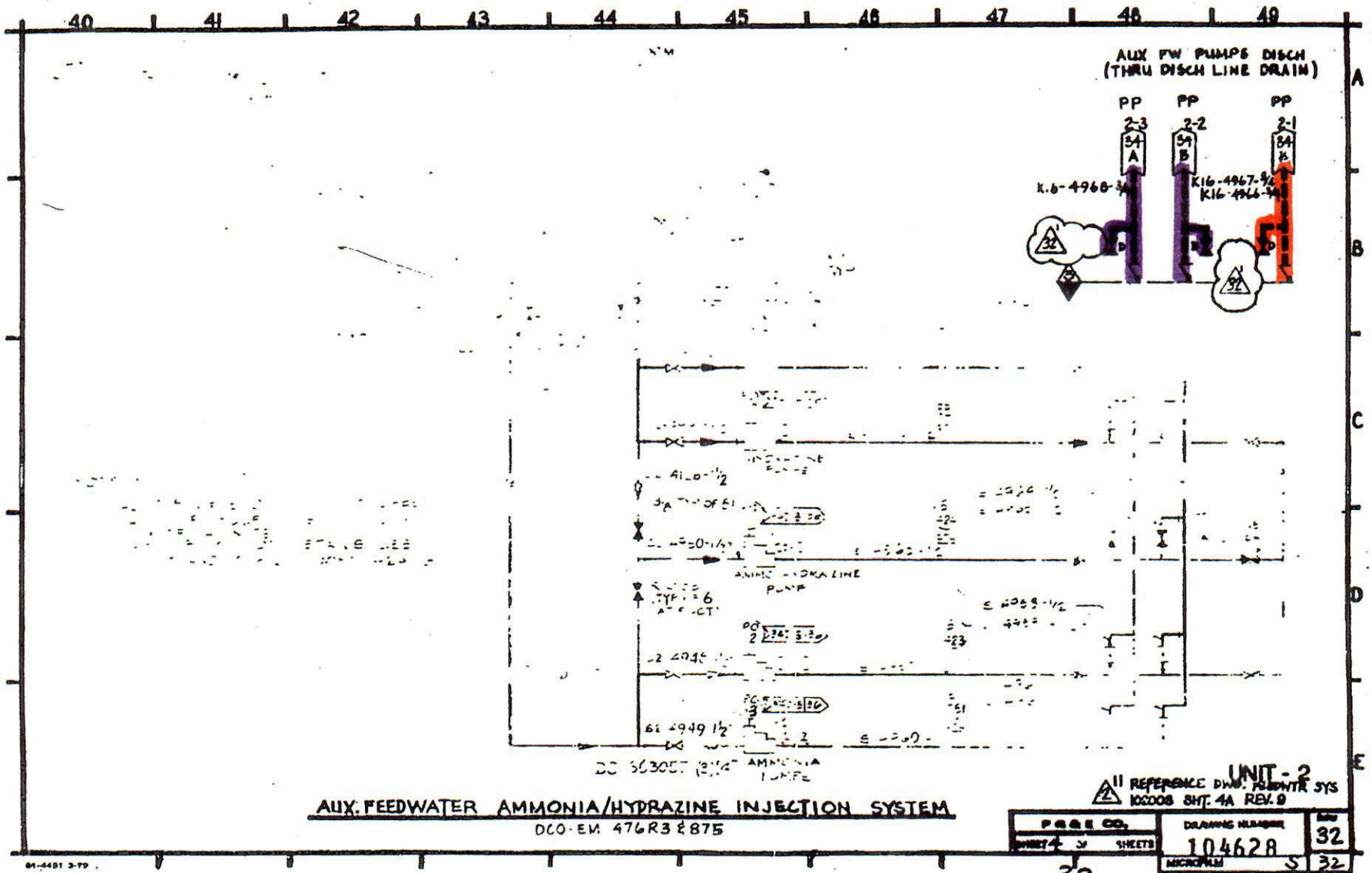
#1 #1A #2 #3 #12 #13



C01

Class 3

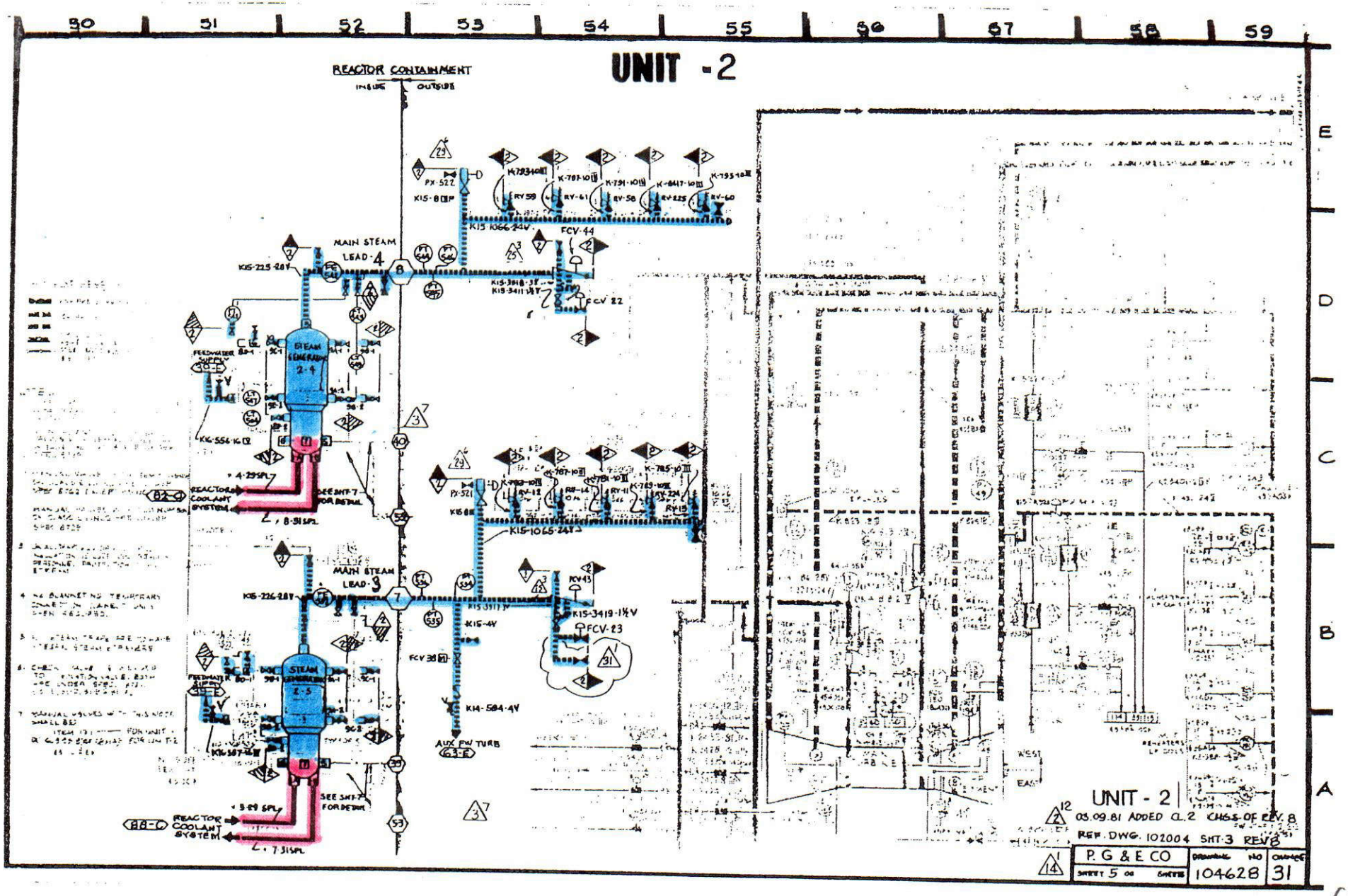
#1 #2



C02

Class 1 #1

Class 2 #1



RM INDEXED REV. 3/

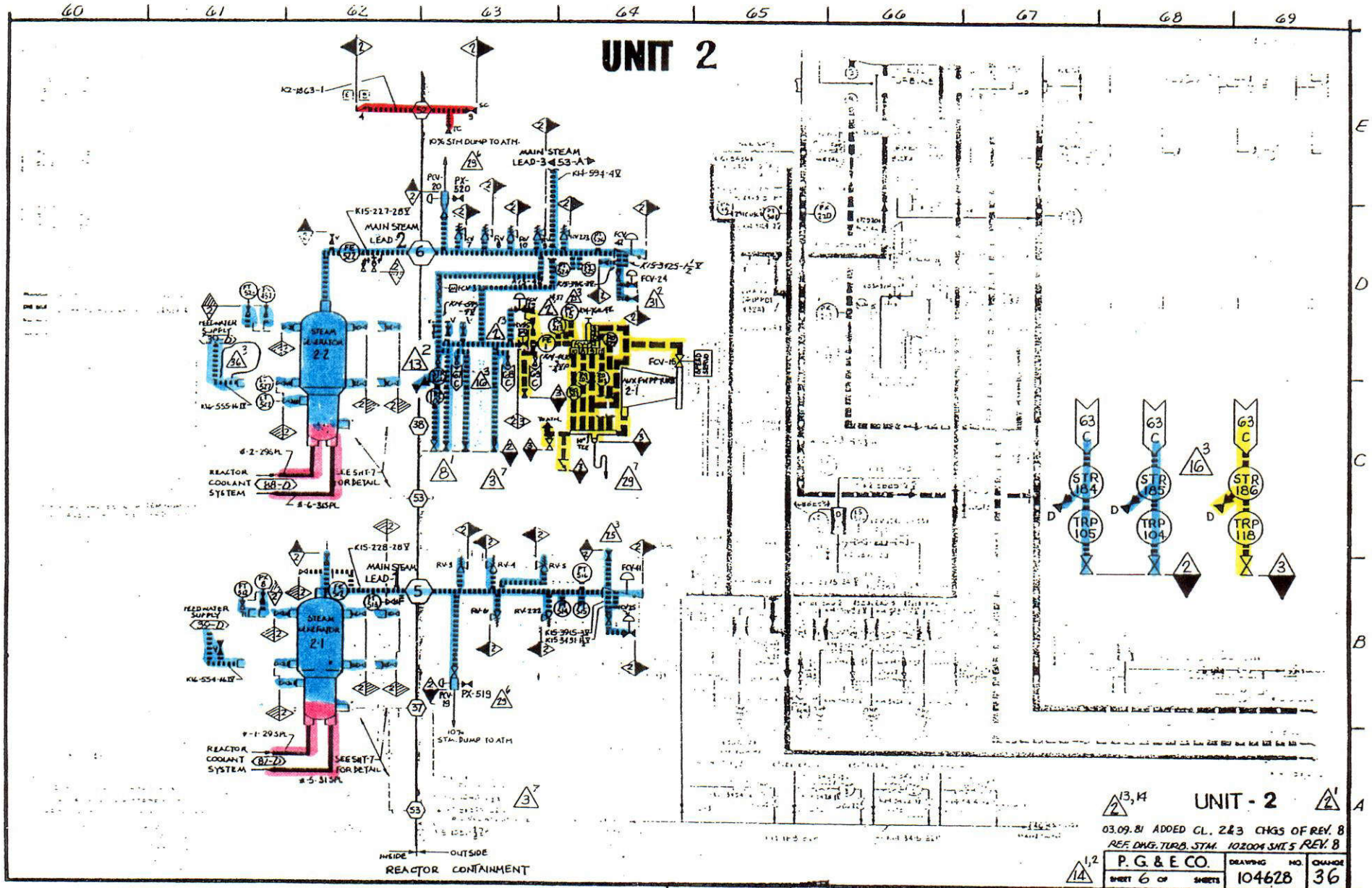
35 M/M NEG 3/

C03

Class 1 #1

Class 2 #1 #31

Class 3 #4

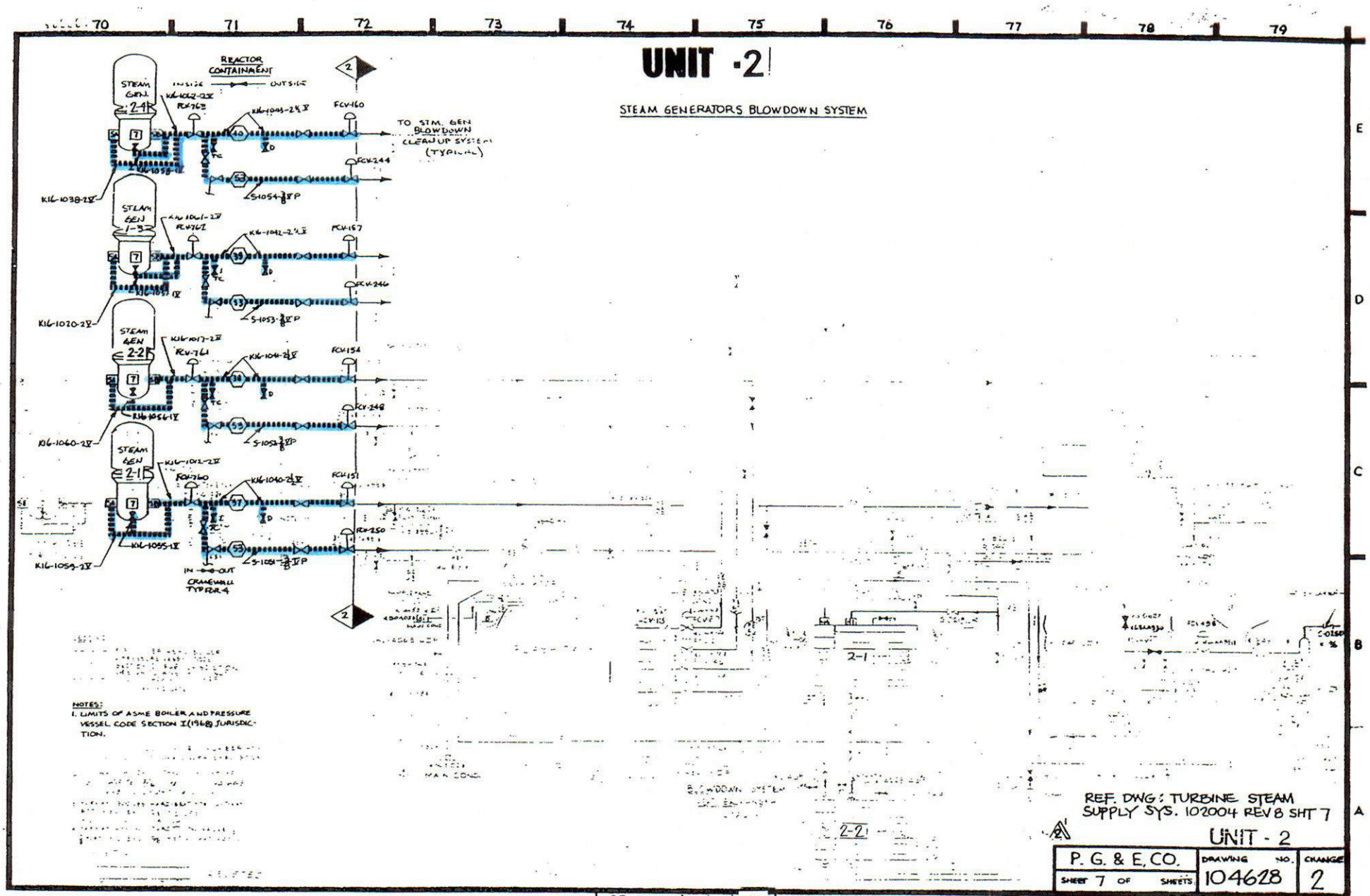


35 M/M NEG 36

C04

Class 2

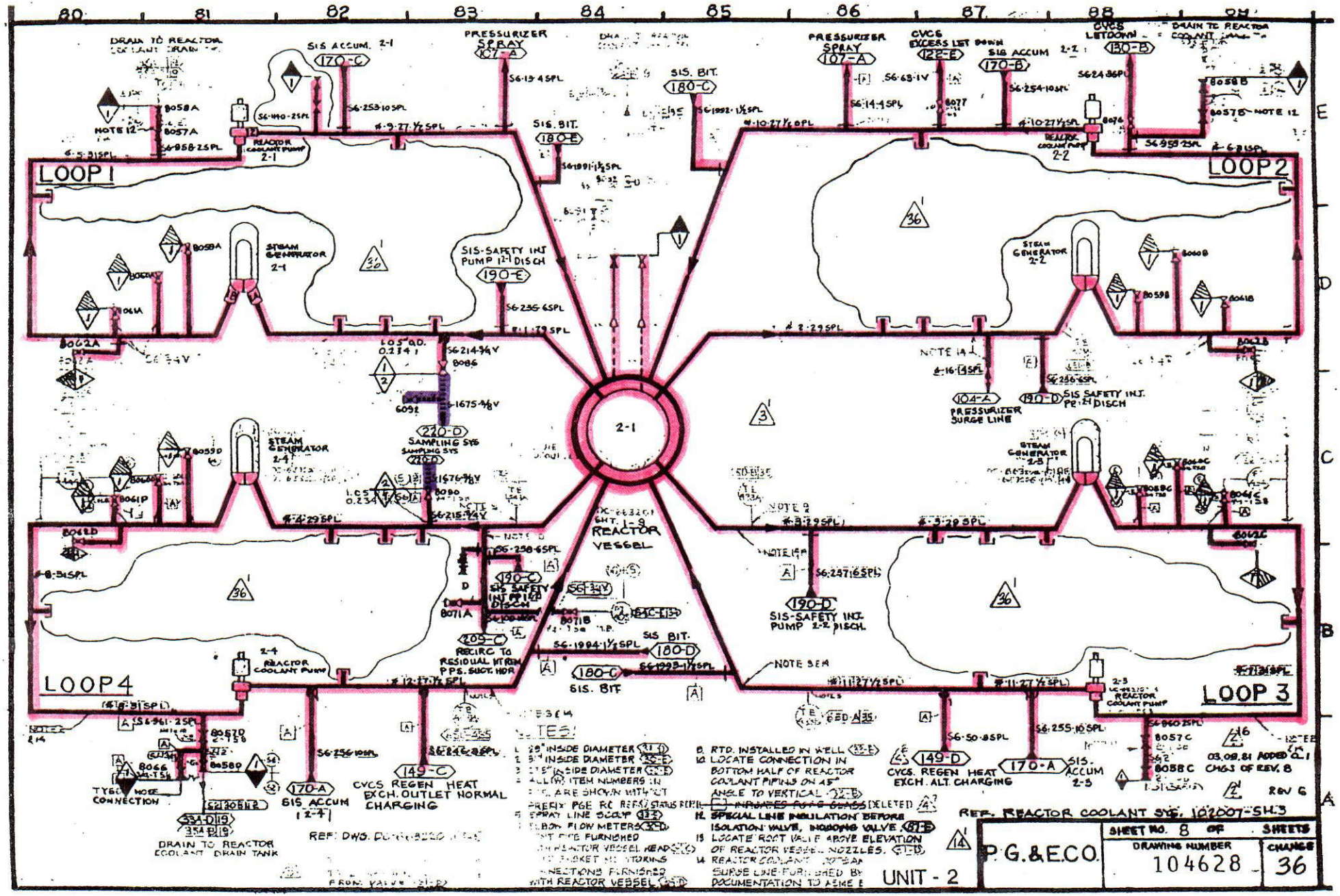
#1


UNIT -2
STEAM GENERATORS BLOWDOWN SYSTEM
REACTOR CONTAINMENT
INSIDE
OUTSIDE
STEAM GEN 2-4
STEAM GEN 1-3
STEAM GEN 2-2
STEAM GEN 2-1
TO STM. GEN BLOWDOWN CLEANUP SYSTEM (TYPICAL)
FCV-160
FCV-244
FCV-167
FCV-246
FCV-154
FCV-248
FCV-151
FCV-250
IN OUT
CRANEWALL TYPICAL
NOTES:
1. LIMITS OF ASME BOILER AND PRESSURE VESSEL CODE SECTION I (1968) JURISDICTION.
REF. DWG: TURBINE STEAM SUPPLY SYS. 102004 REV 8 SHT 7
UNIT - 2
P. G. & E. CO.
SHEET 7 OF SHEETS
DRAWING NO. 104628
CHANGE 2
35 M/M NL 2

C05

Class 1 Class 2

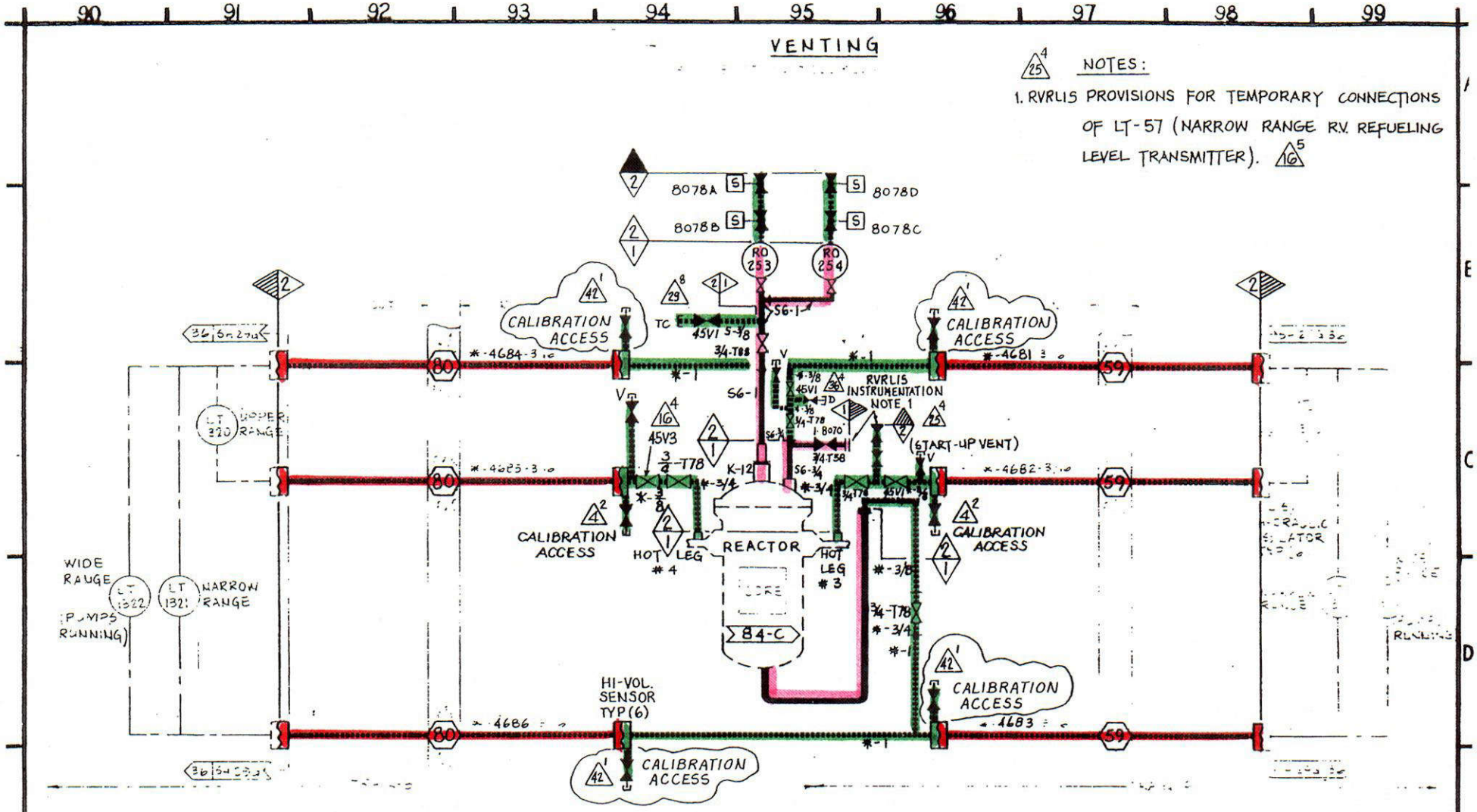
#1 #4



C06

Class 1 #1

Class 2 #32 exempt



REACTOR VESSEL LEVEL INSTRUMENTATION & VENT SYSTEMS

UNIT - 2

REF. DWG. - REACTOR COOLANT SYS. - 102007 SH. 2, REV. 9

P G & E CO. SHEET 9	104628	REV. 42
	MICROFILM	

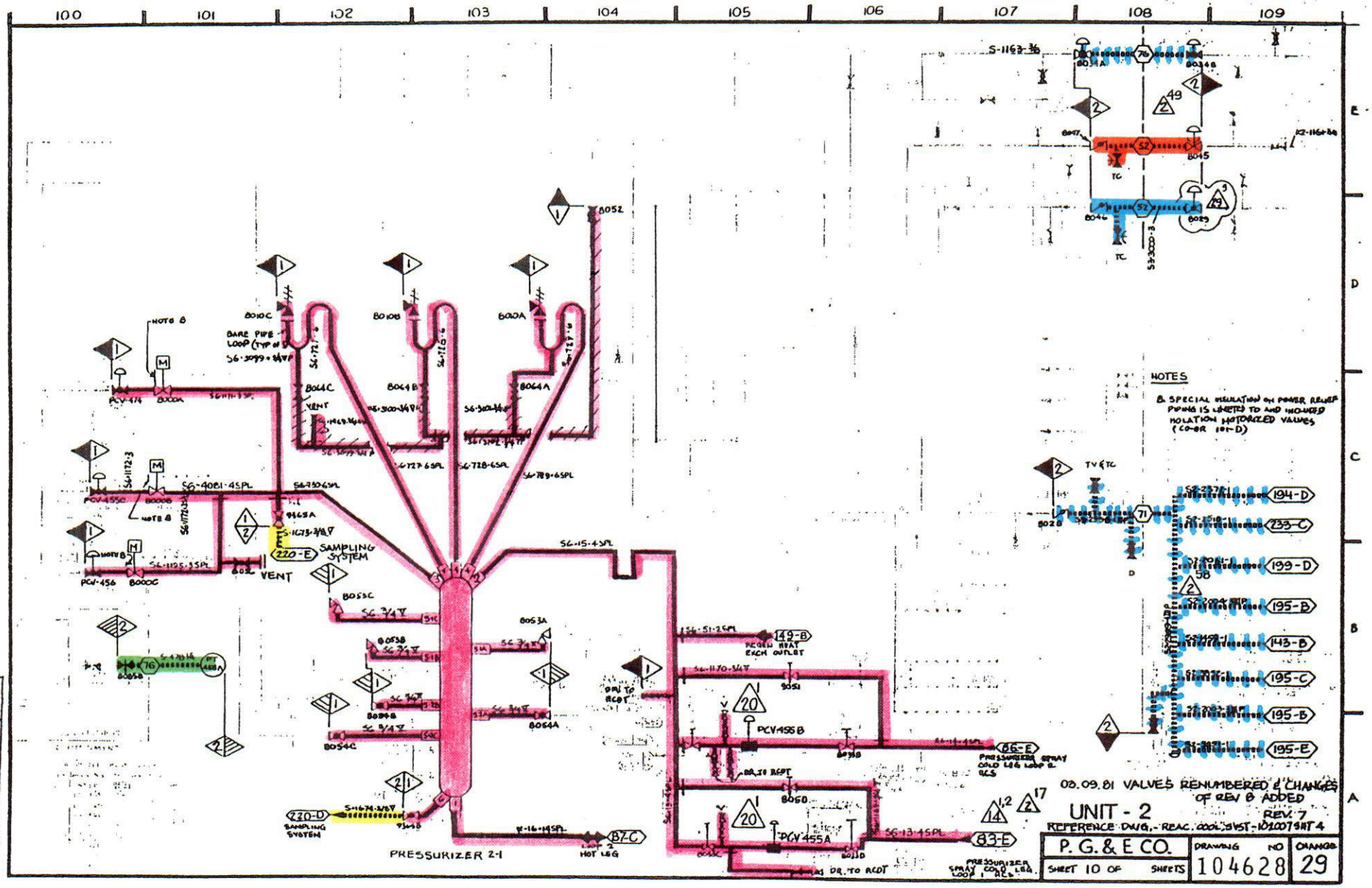
SCAN 42 IC 42

C07

Class 1 | Class 2

#1 #9 | #5 #33 #34 #35 | abandoned in place

REV. 1



110 111 112 113 114 115 116 117 118 119

E D C B A

5
36

INTENTIONALLY LEFT BLANK

P. G. & E CO.	DRAWING NO.	CHANGE
SHEET 11 OF SHEETS	104628	36

M/M NEG 36

Class 1

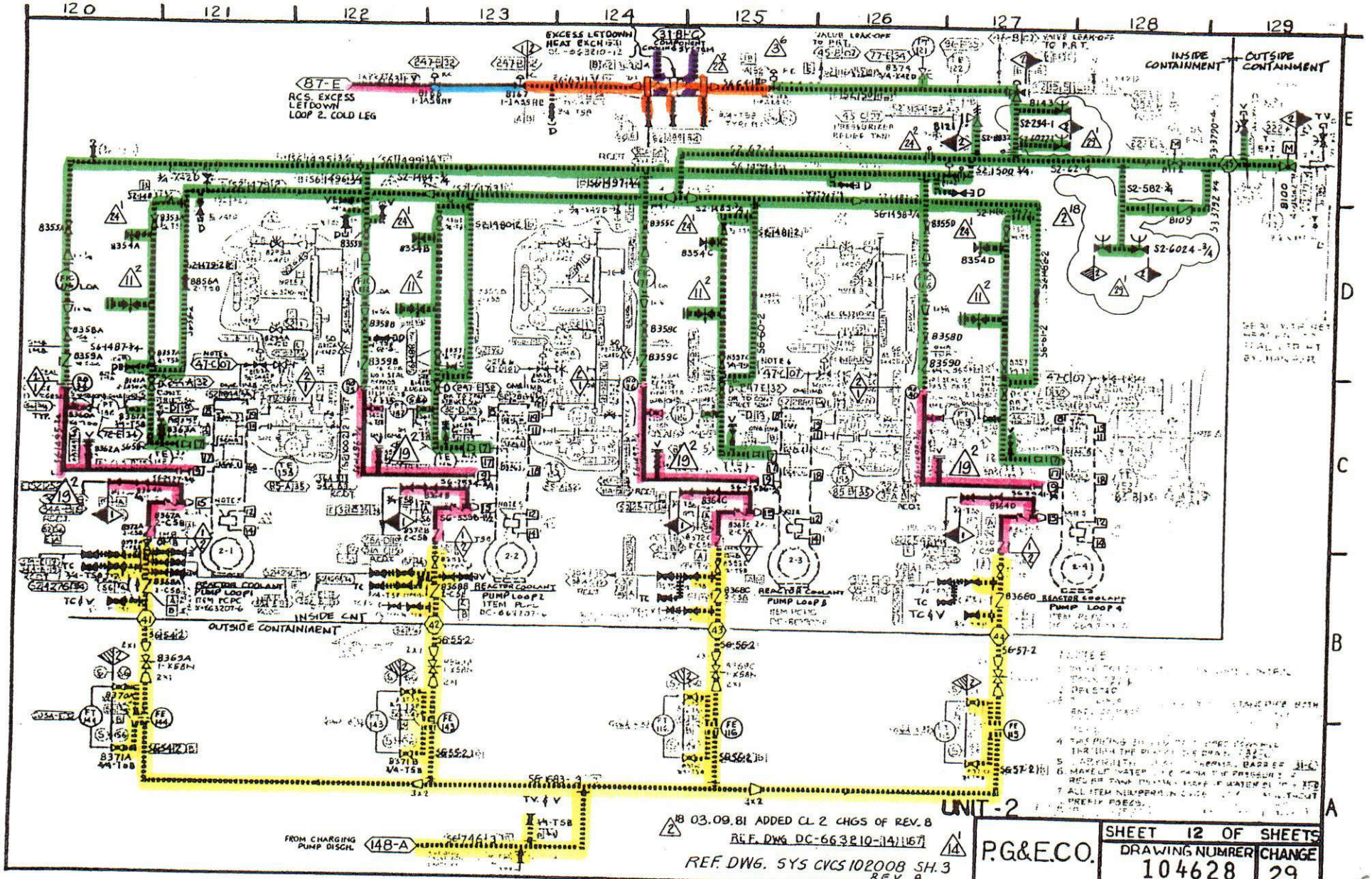
#1 #2

Class 2

#6 #7 #8

#30

REV. 1



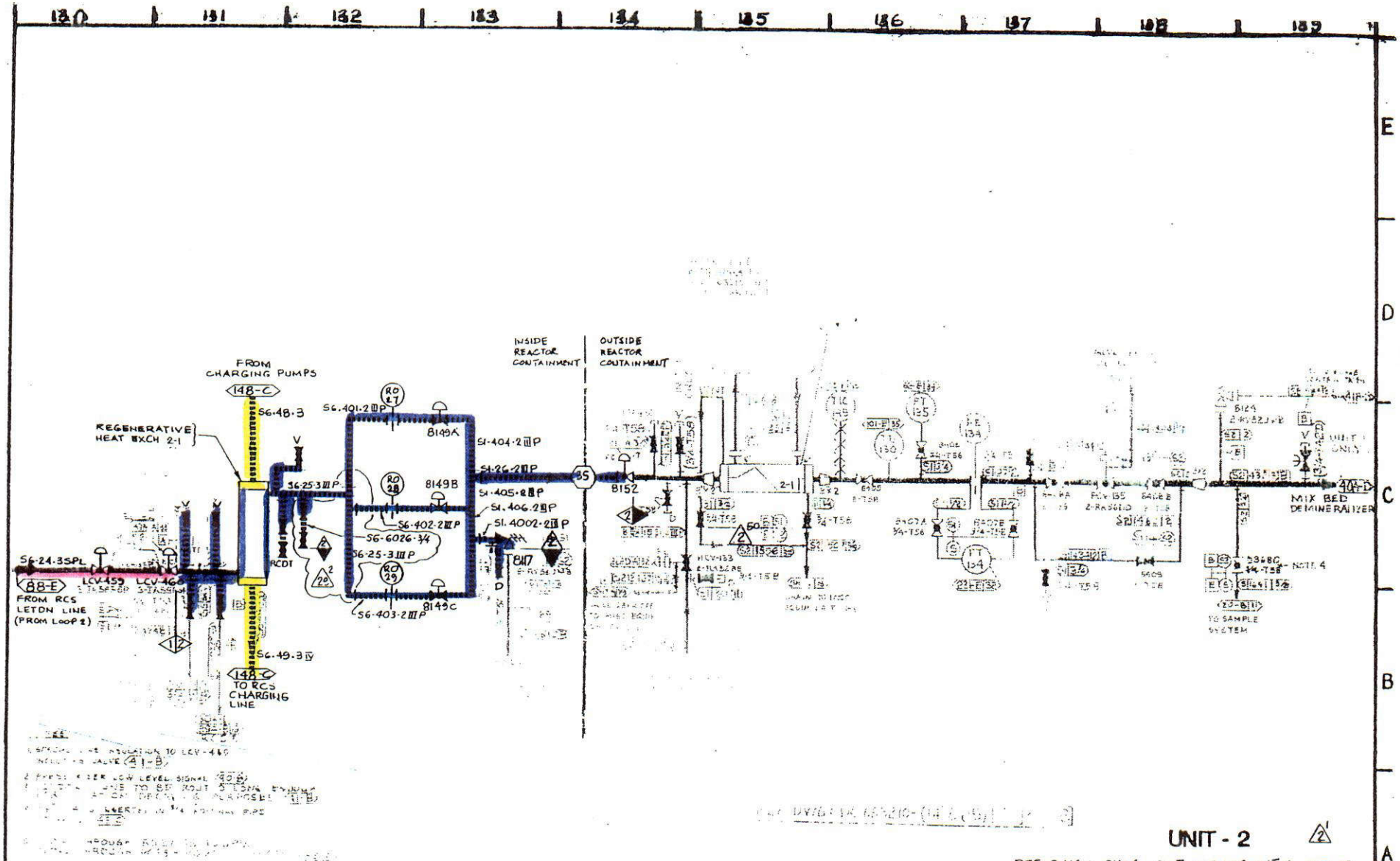
C09

Class 1

#1

Class 2

#8 #14



UNIT - 2

REF. DWG.: CVCS SHST 102008 SHT 4 REV 5

35 M/M NEG 29

RM INDEXED REV. 29

P.G & E.CO.	SHEET NO 13 OF SHEETS	
	DRAWING NUMBER 104628	CHANGE 29

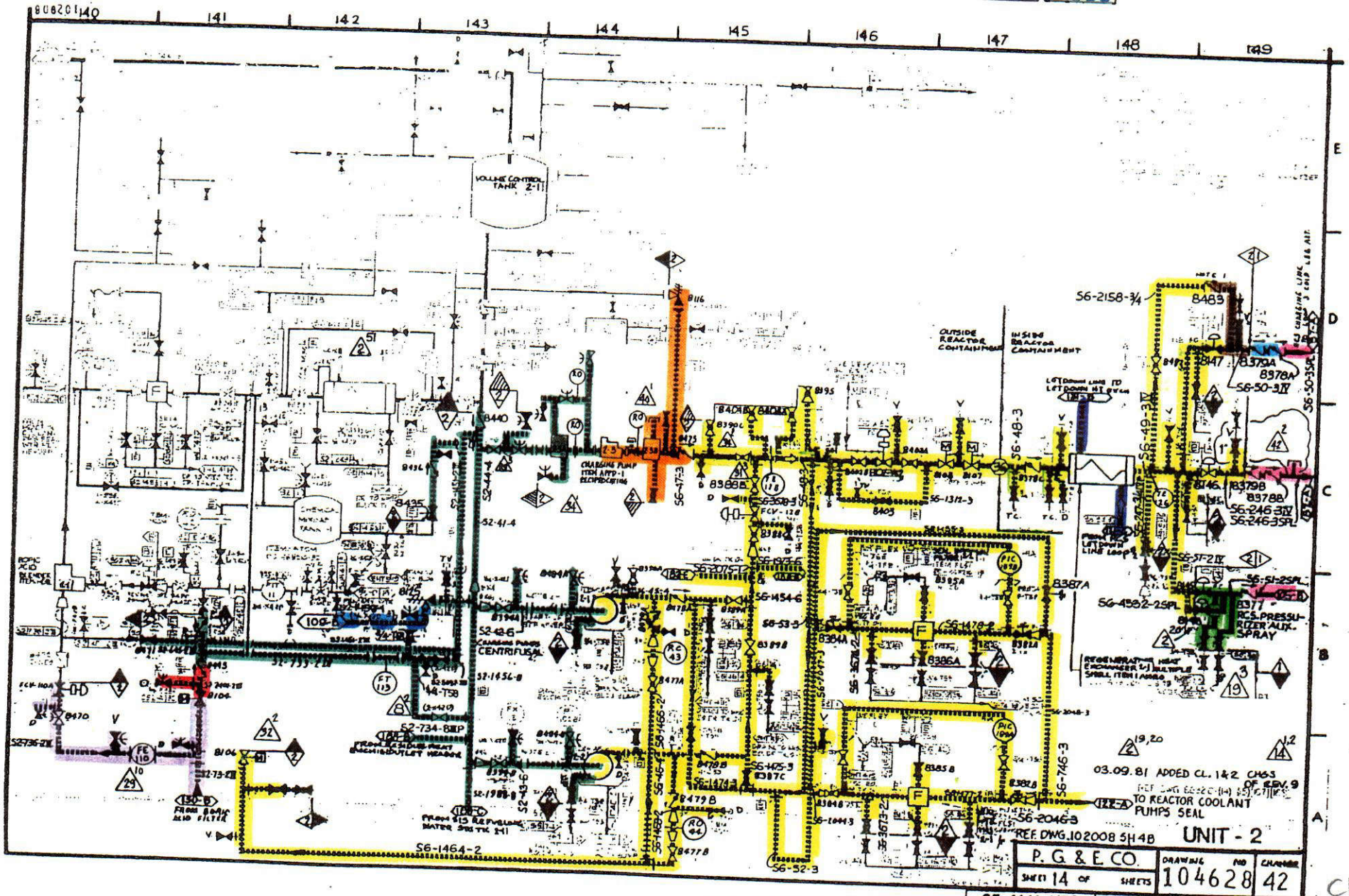
C10

Class 1

#1 #3 #4

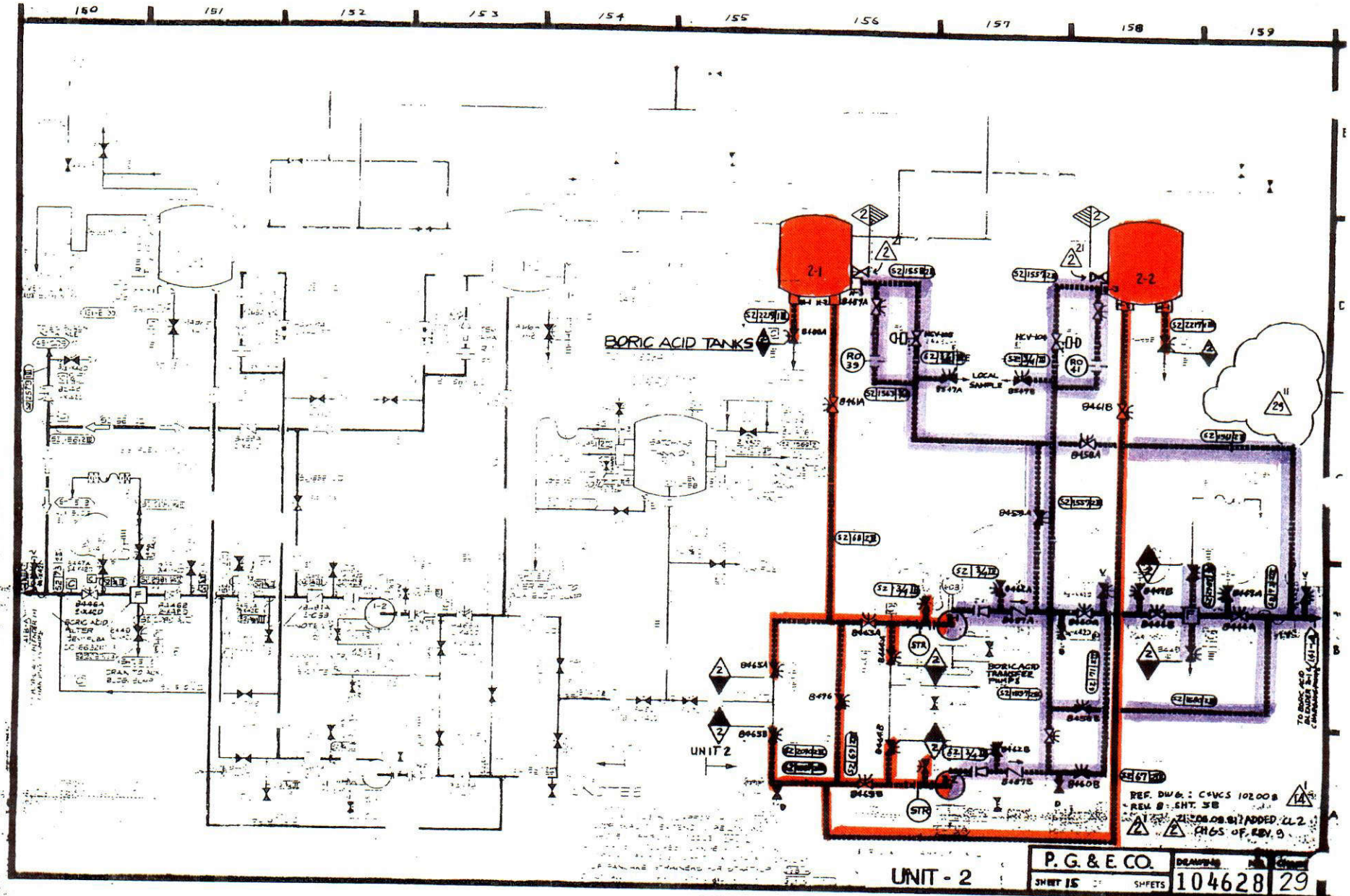
Class 2

#8 #9 #10 #13 #14 #15 #15A #33



Class 2

#15 #16

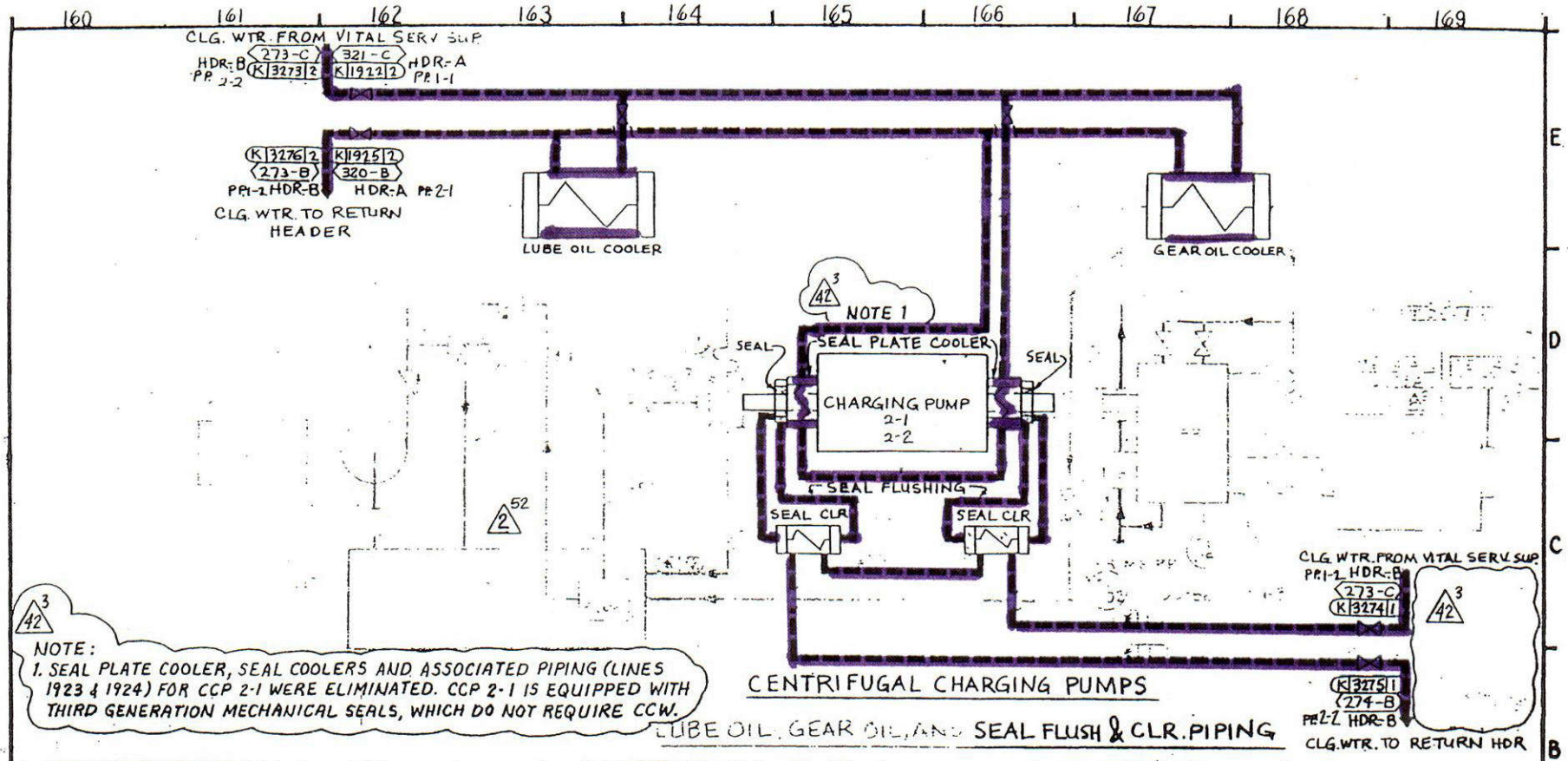


C12 X

Class 3

#5

[redacted]



NOTE:
1. SEAL PLATE COOLER, SEAL COOLERS AND ASSOCIATED PIPING (LINES 1923 & 1924) FOR CCP 2-1 WERE ELIMINATED. CCP 2-1 IS EQUIPPED WITH THIRD GENERATION MECHANICAL SEALS, WHICH DO NOT REQUIRE CCW.

CENTRIFUGAL CHARGING PUMPS

LUBE OIL, GEAR OIL, AND SEAL FLUSH & CLR. PIPING

CHARGING PUMP	INSTRUMENT ON LUBE OIL SYSTEM								INSTRUMENT ON GEAR OIL SYSTEM				CHARGING PP	MTR INTERLOCK	L.P. ALARM	
	OIL RESEV LEVEL	RELIEF VALVE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	LUBE OIL COOLER [illegible]	OIL RESEV LEVEL	[illegible]	OIL [illegible]	[illegible]	[illegible]	PS-295	PS-297	TO BE PURCHASED BY P.G.&E. & FIELD LOCATED
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2	PS-296	PS-298	
													SET POINTS	CLOSE [illegible] OPEN [illegible]	[illegible]	
1-1	227	278	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				
1-2	228	279	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				
[illegible]	INBD. MOTOR BRG.		OUTBD. MOTOR [illegible]						[illegible]							
1-1	TE 41A/107A		TE 41B		[illegible]				[illegible]							
1-2	TE 41C		TE 41D		[illegible]				[illegible]							

UNIT - 2

REF. DWG: CVCS SYST. 102008 REV. 8 SHT. 8

P.G.&E.CO.	SHEET NO. 16 OF SHEETS	
	DRAWING NUMBER 104628	CHANGE 42

C13

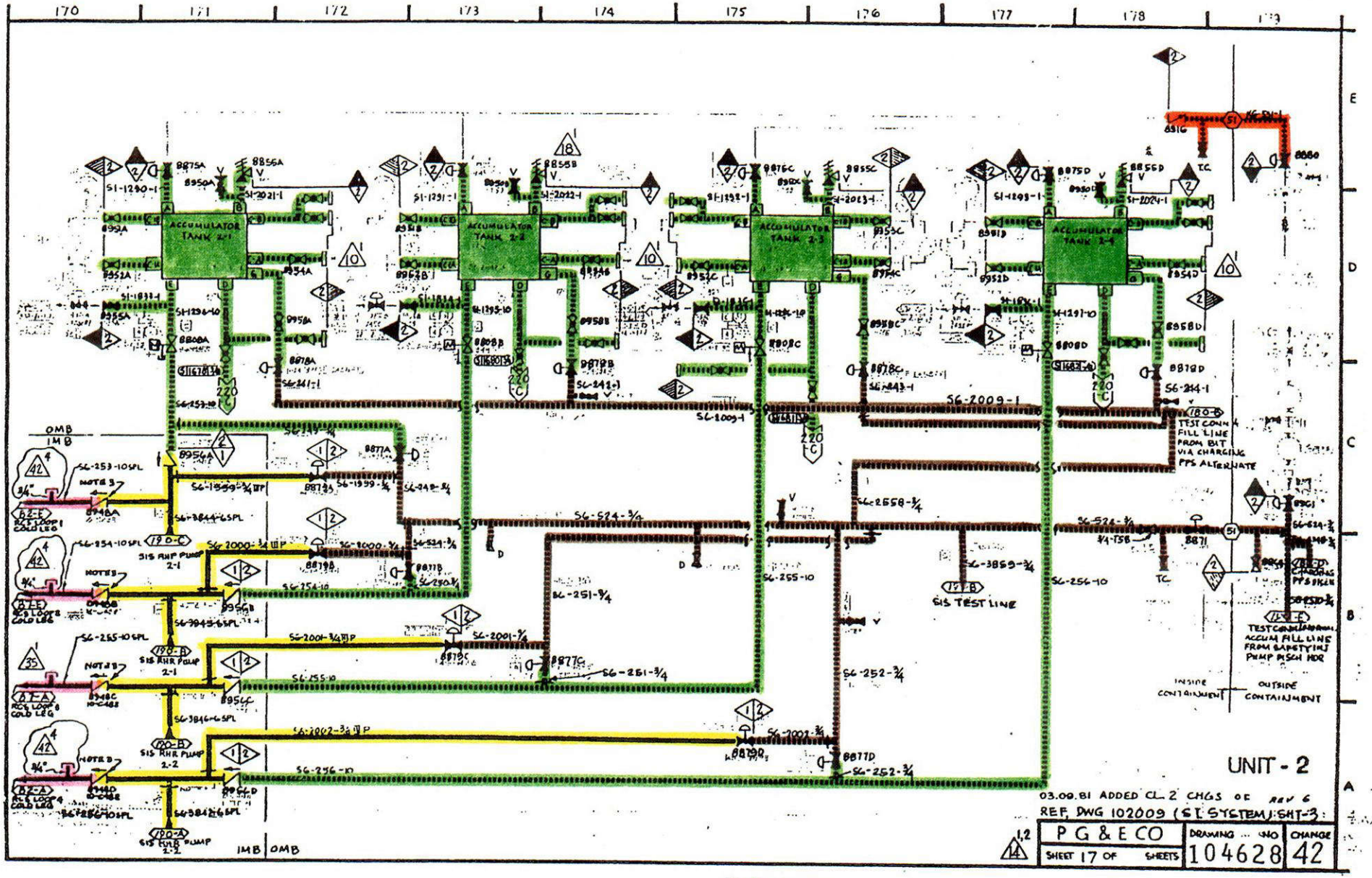
SCAN 42 IC 42

Class 1

#1 #5

Class 2

#17 #18 #36



SCAN 42 IC 42

35 M/M NEG

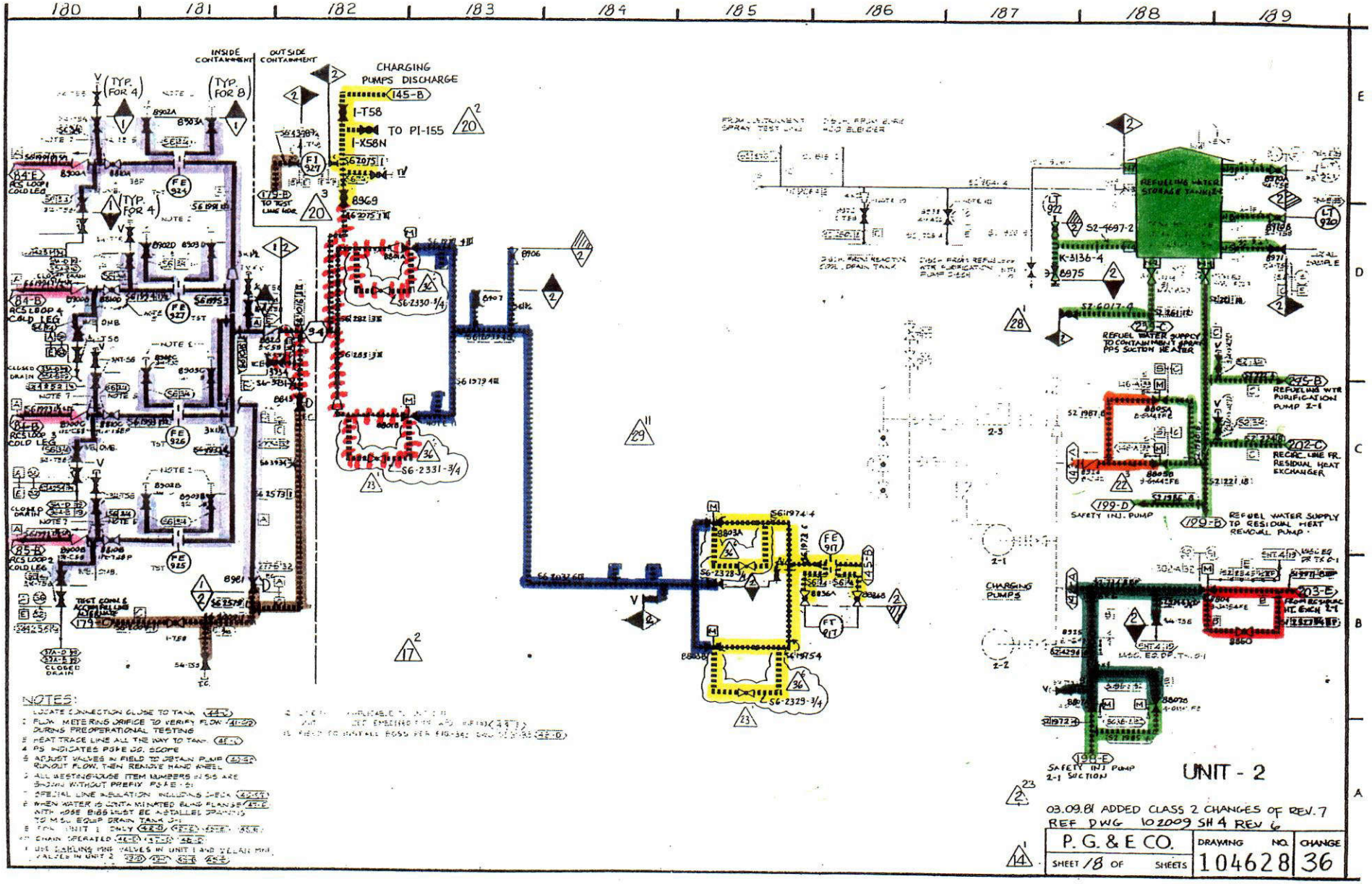
C14

Class 1

#1 #6

Class 2

#8 #11 #12 #13 #18 #19 #20 #23



C15

Class 1

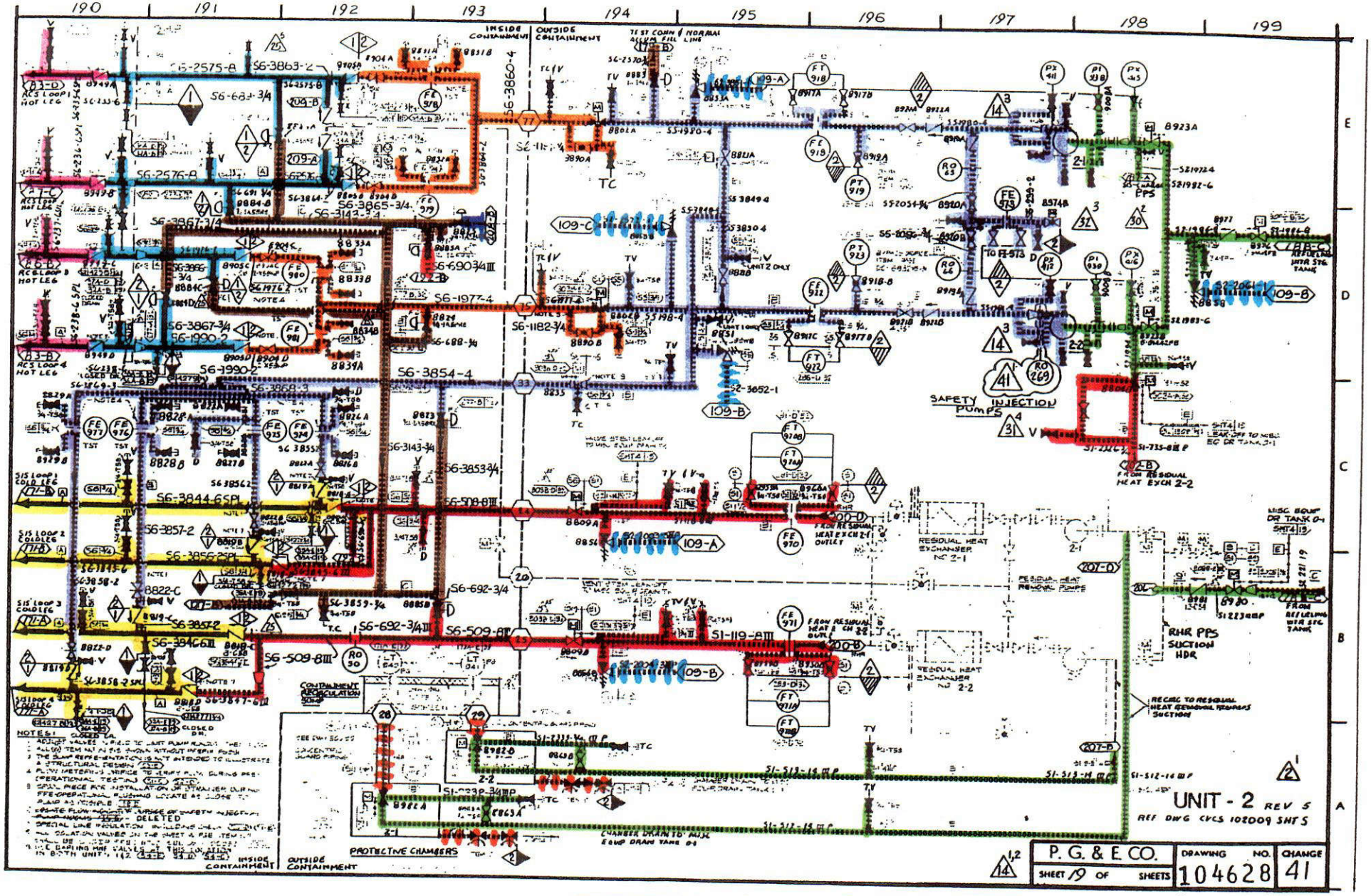
#1 #5 #7

Class 2

#18 #19 #21 #22 #23 #24 #33

exempt

REV. 1



SCAN 41 TC 41

35 M/M NEG

C16

Class 1

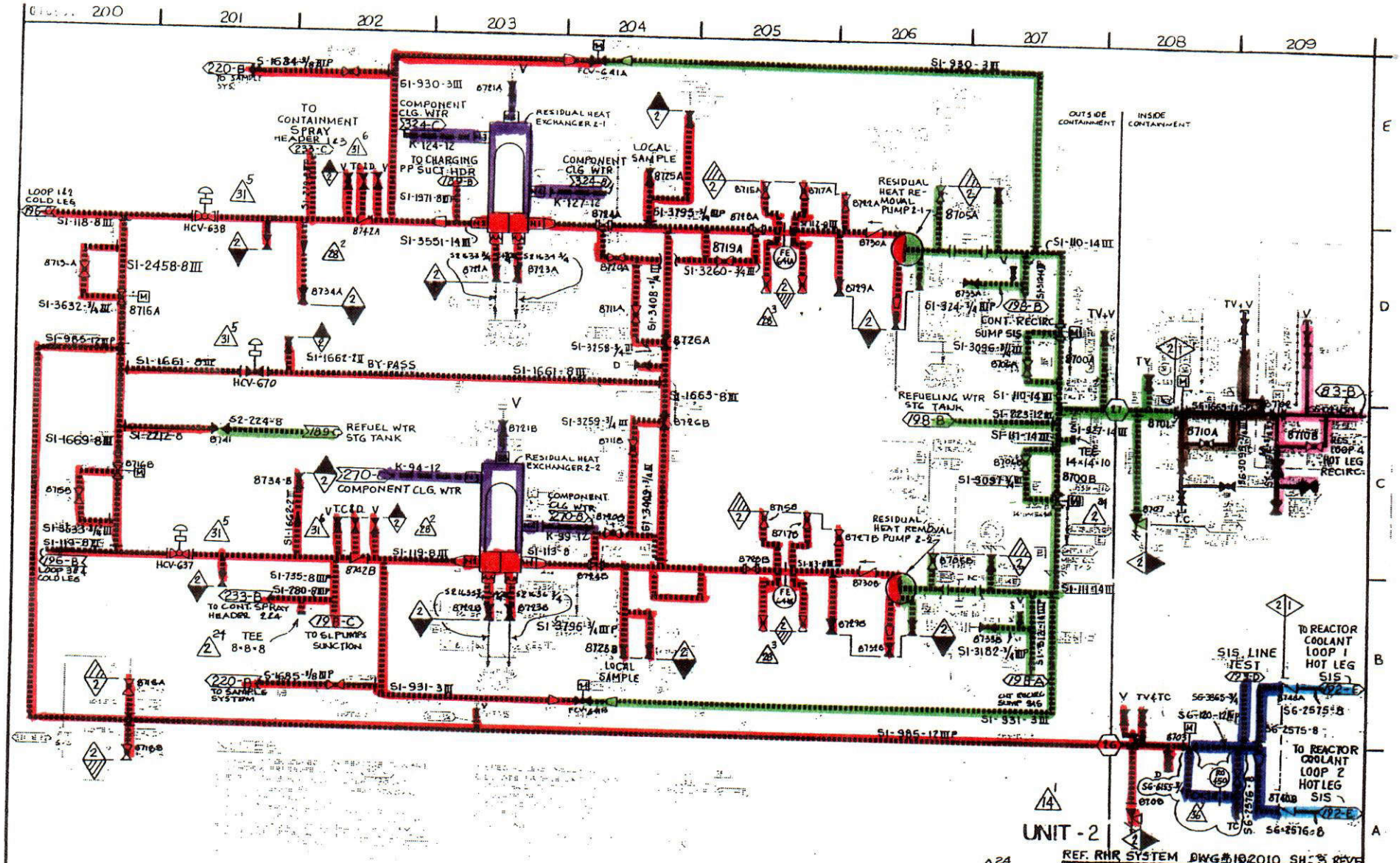
#1 #7 #8

Class 2

#19 #23 #24

Class 3

#5



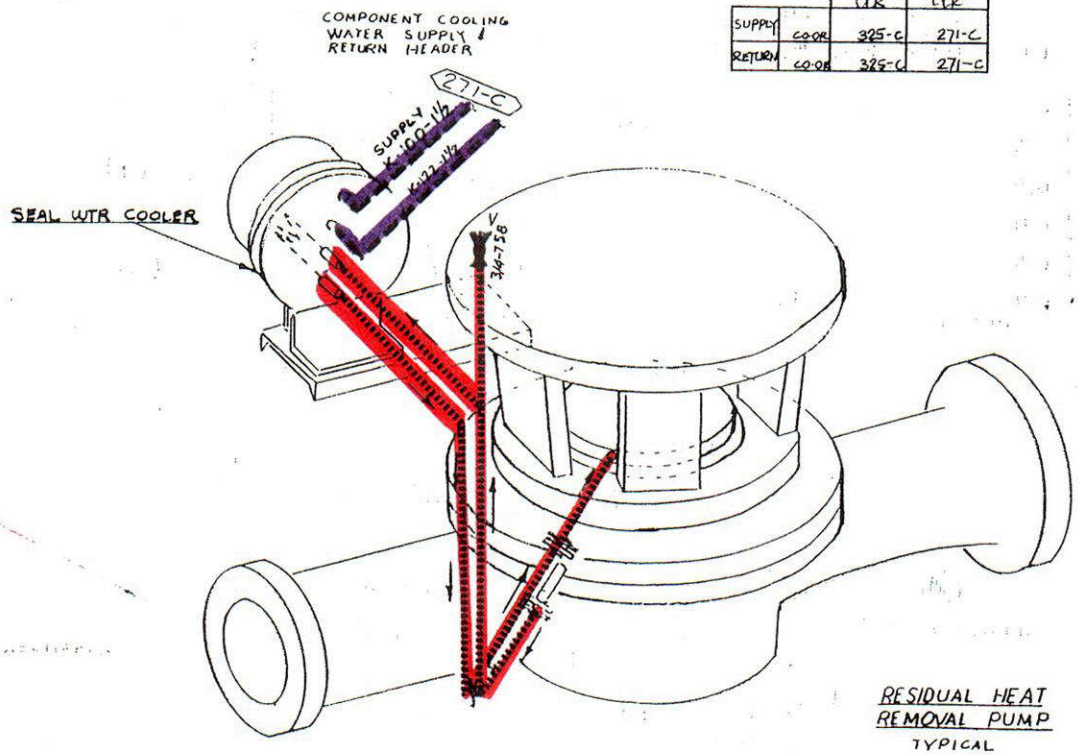
SCAN 36 TC 36

C17

Class 2 — **#23**

Class 3 — **#5**

		RHR PP 12-1 SEAL WTR CLR	RHR PP 2-2 SEAL WTR CLR
SUPPLY	CO-OR	325-C	271-C
RETURN	CO-OR	325-C	271-C



35 M/M NEG | 3 | REV 3

REF DWG: RHR. SYST. 102010 SHT. 4

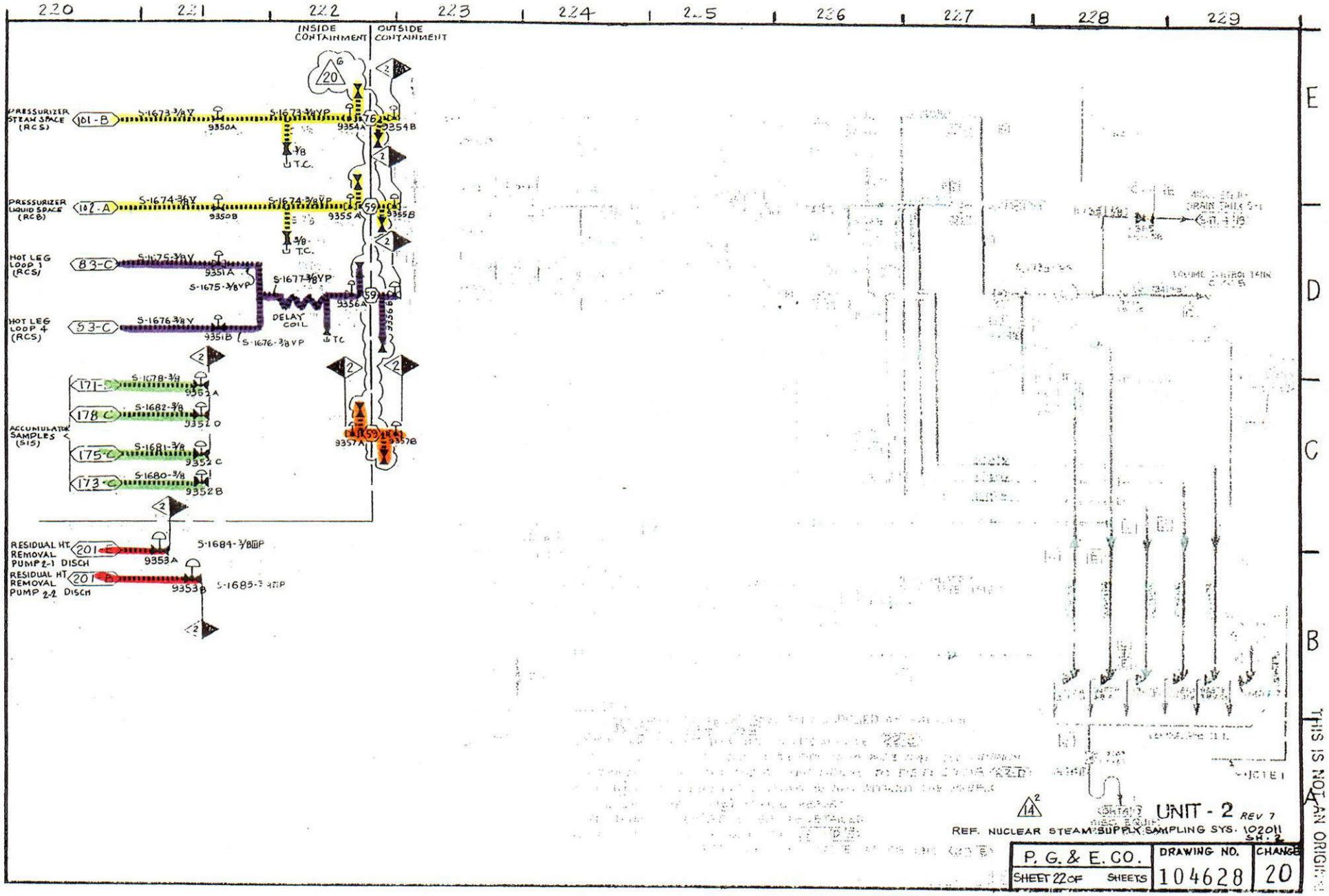
UNIT - 2
RM INDEXED REV 3

P G & E CO.	DRAWING NO	CHANGE
SHEET 21 OF SHEETS	104628	3

C18

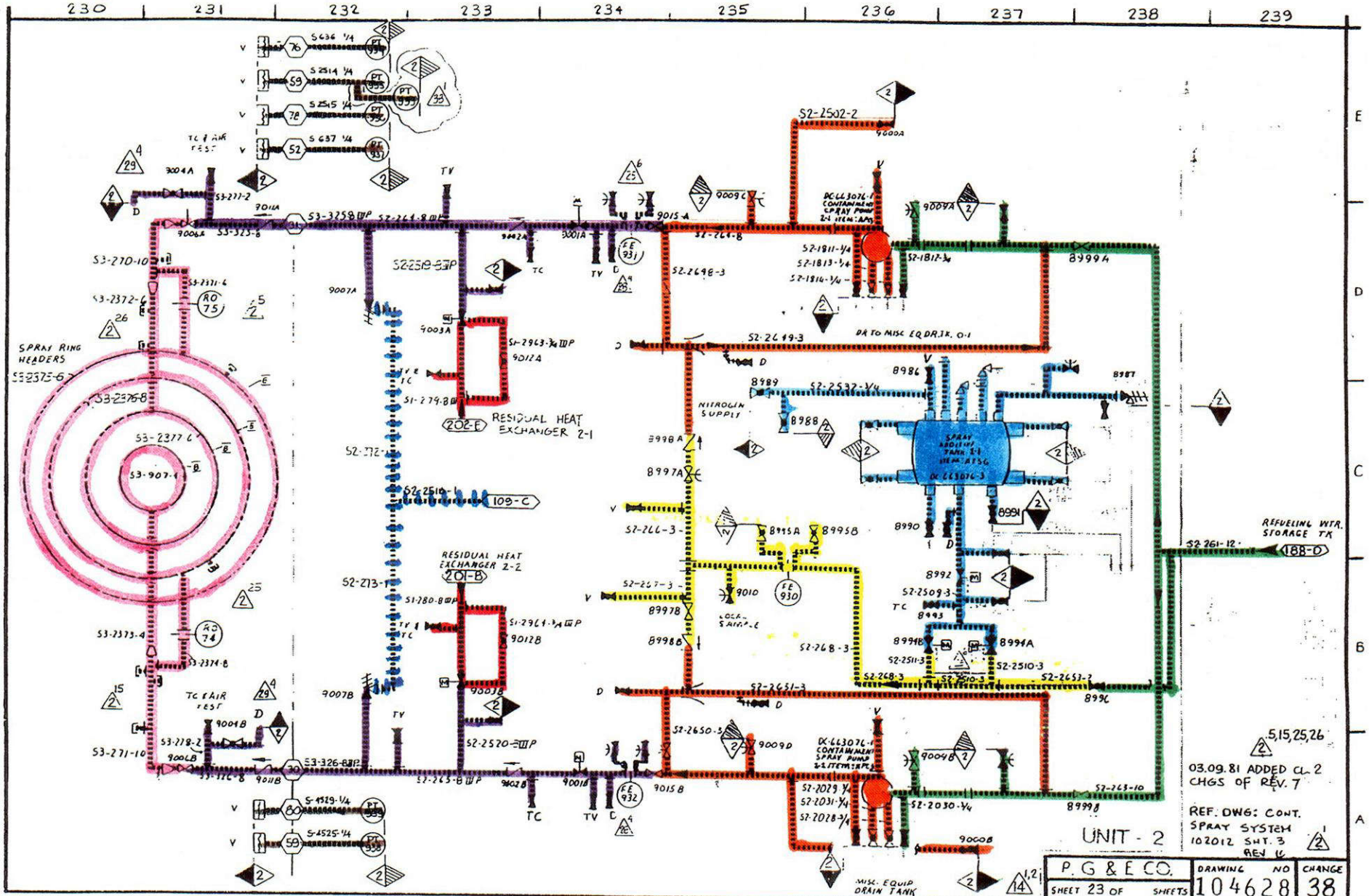
Class 2

#4 #5 #17 #23 #37



Class 2

#19 #23 #25 #26 #27 #28 #29 #33 exempt



35 M/M NEG

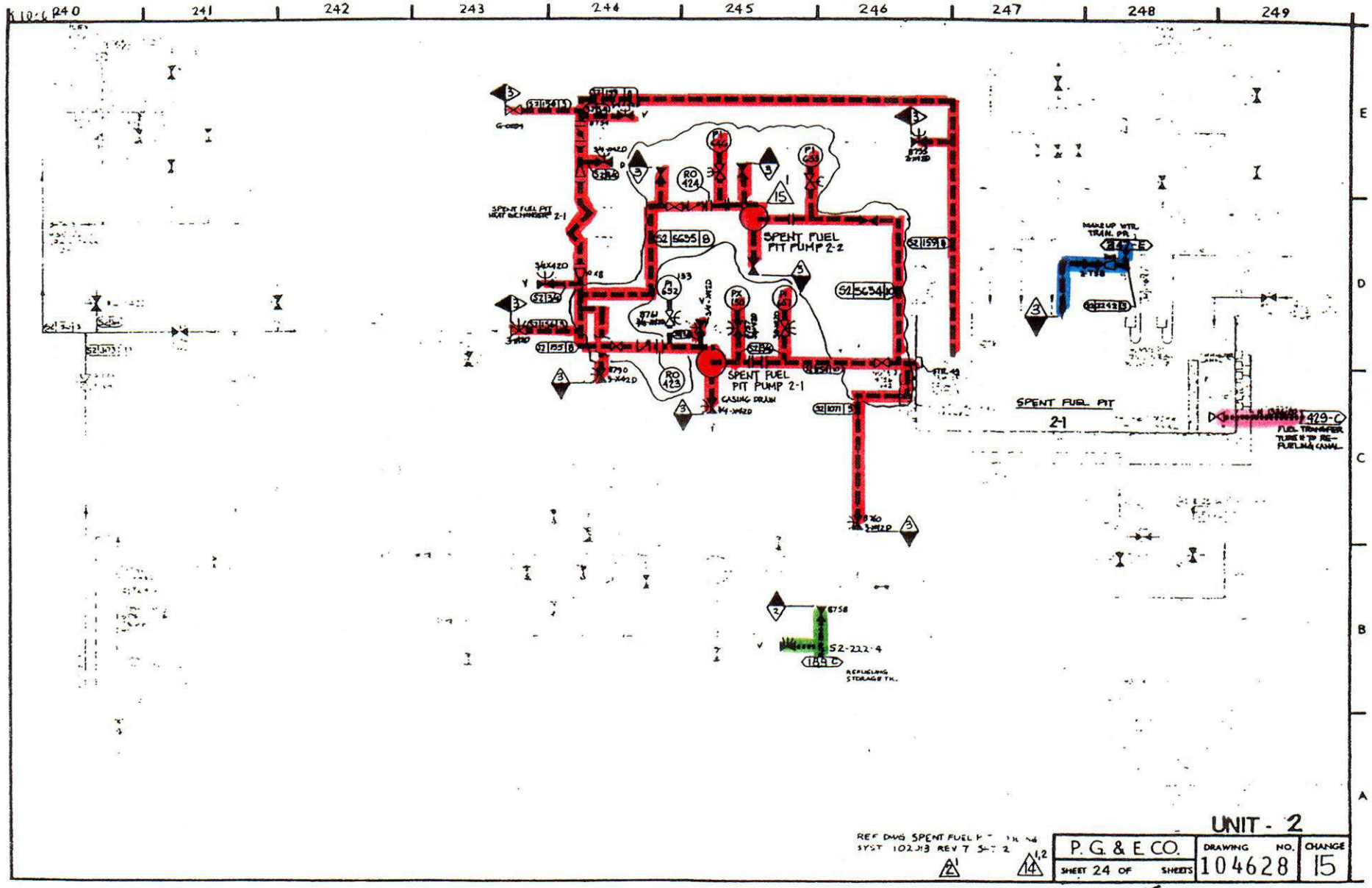
C20

Class 2

#19 RR #4

Class 3

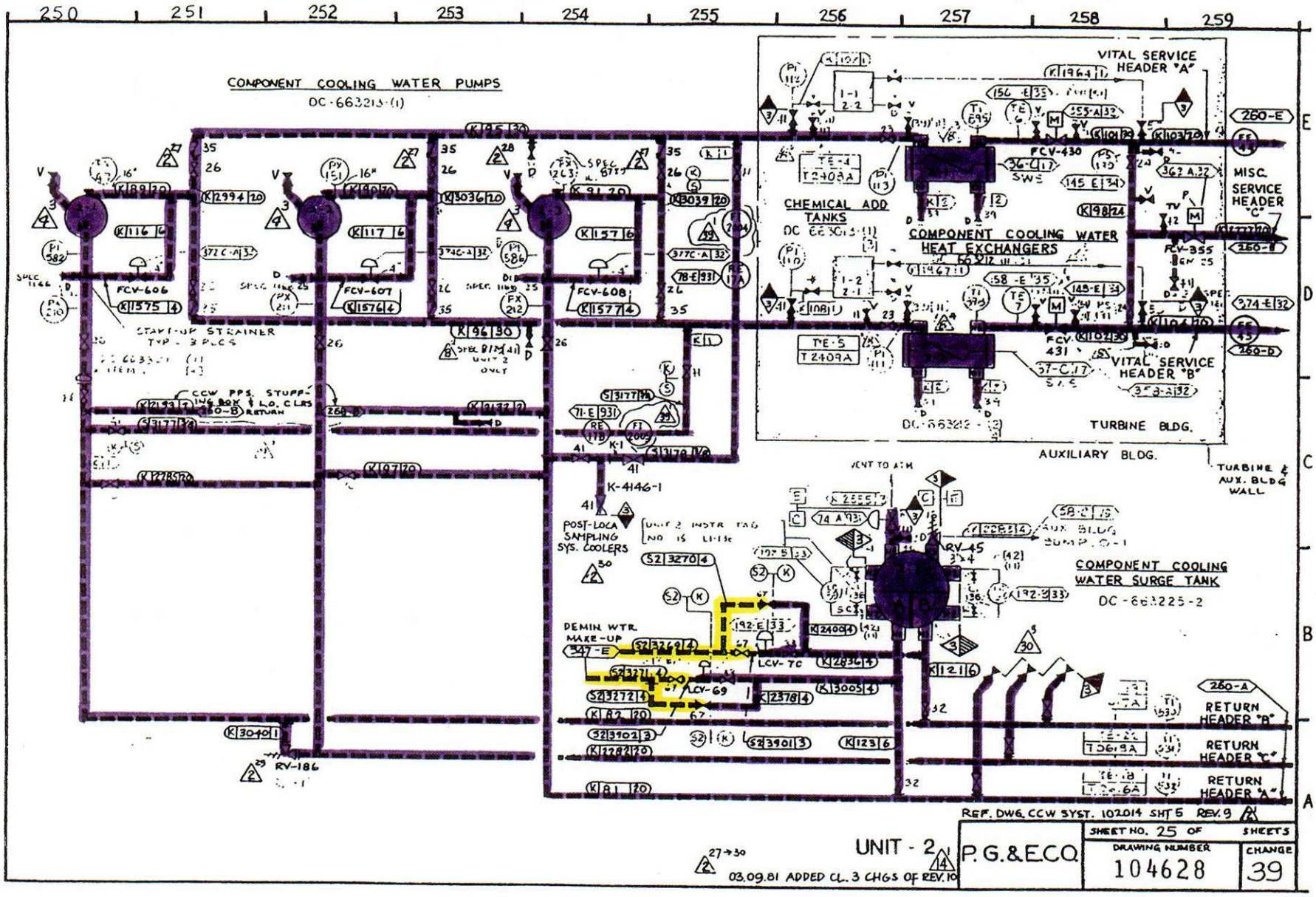
#8A #11



C21

Class 3

#5 #8



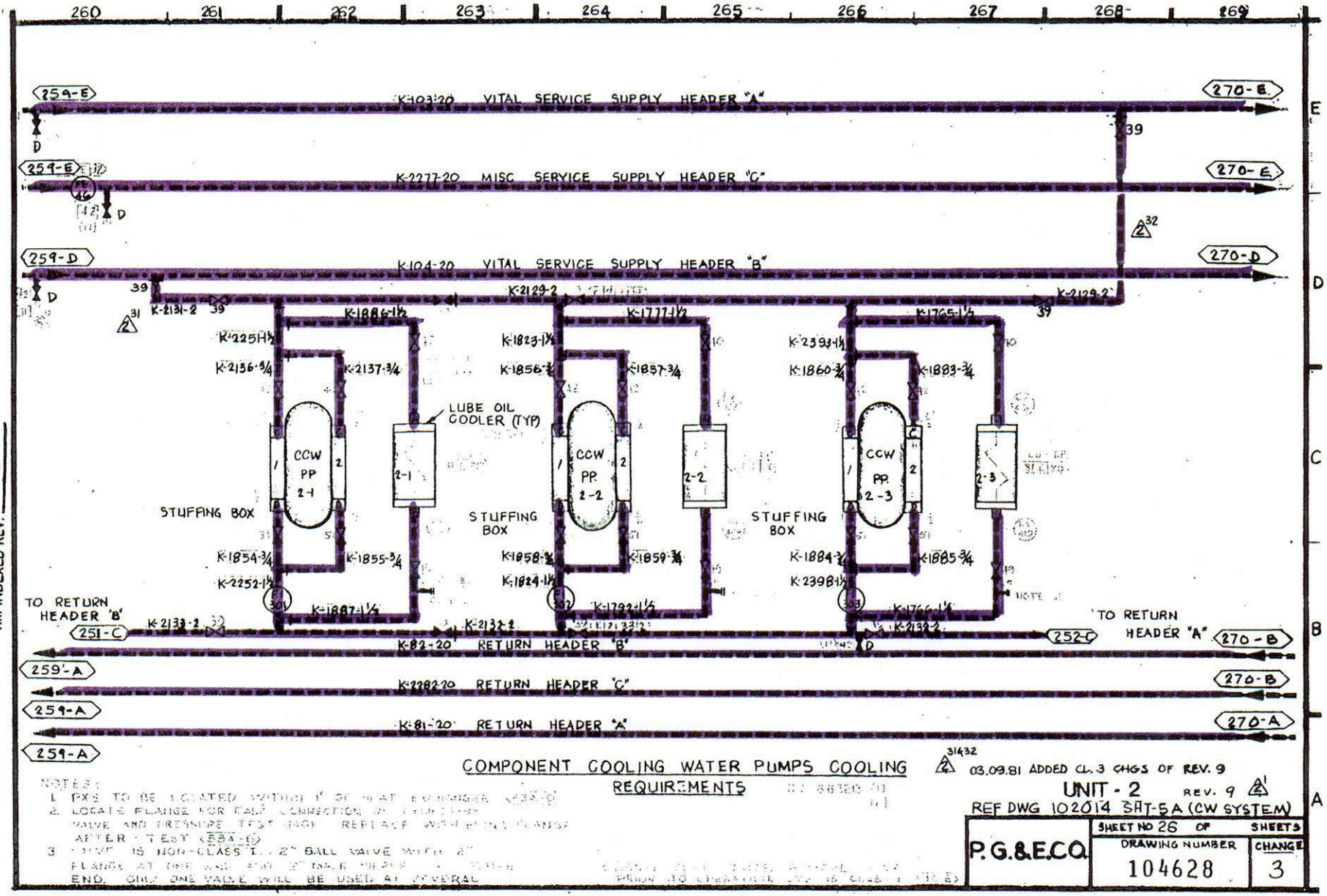
SCAN 34 IC 39

C22

Class 3

#5

[redacted]



COMPONENT COOLING WATER PUMPS COOLING REQUIREMENTS

NOTES:
1. PXS TO BE LOCATED WITHIN 1' OF HEAT EXCHANGER
2. LOCATE FLANGE FOR EASY CONNECTION OF TEST VALVE AND DRESSER TEST GAGE. REPLACE WITH BLIND FLANGE AFTER TEST
3. "VENT" IS NON-CLASS 1, 2" BALL VALVE WITH 2" FLANGE AT ONE END AND 2" TABLE FLANGE AT OTHER END. ONLY ONE VALVE WILL BE USED AT SEVERAL

31&32 03.09.81 ADDED CL. 3 CHGS OF REV. 9

UNIT - 2 REV. 9

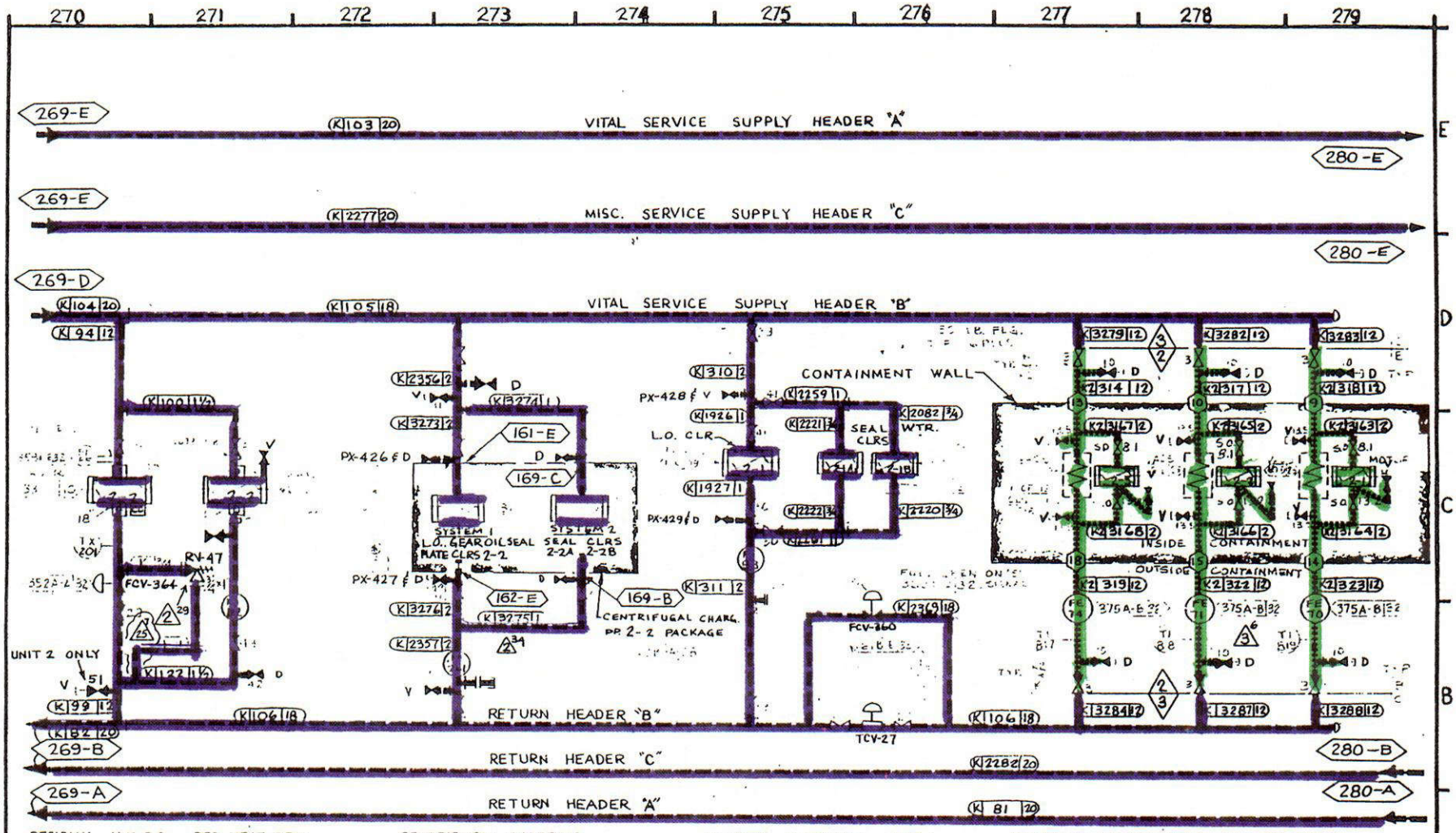
REF DWG 102014 SHT-5A (CW SYSTEM)

P.G.&E.CO.	SHEET NO 26 OF SHEETS	
	DRAWING NUMBER	CHANGE
	104628	3

C23

Class 2 #30 | Class 3 #5

REV. 1



RM INDEXED REV. 25

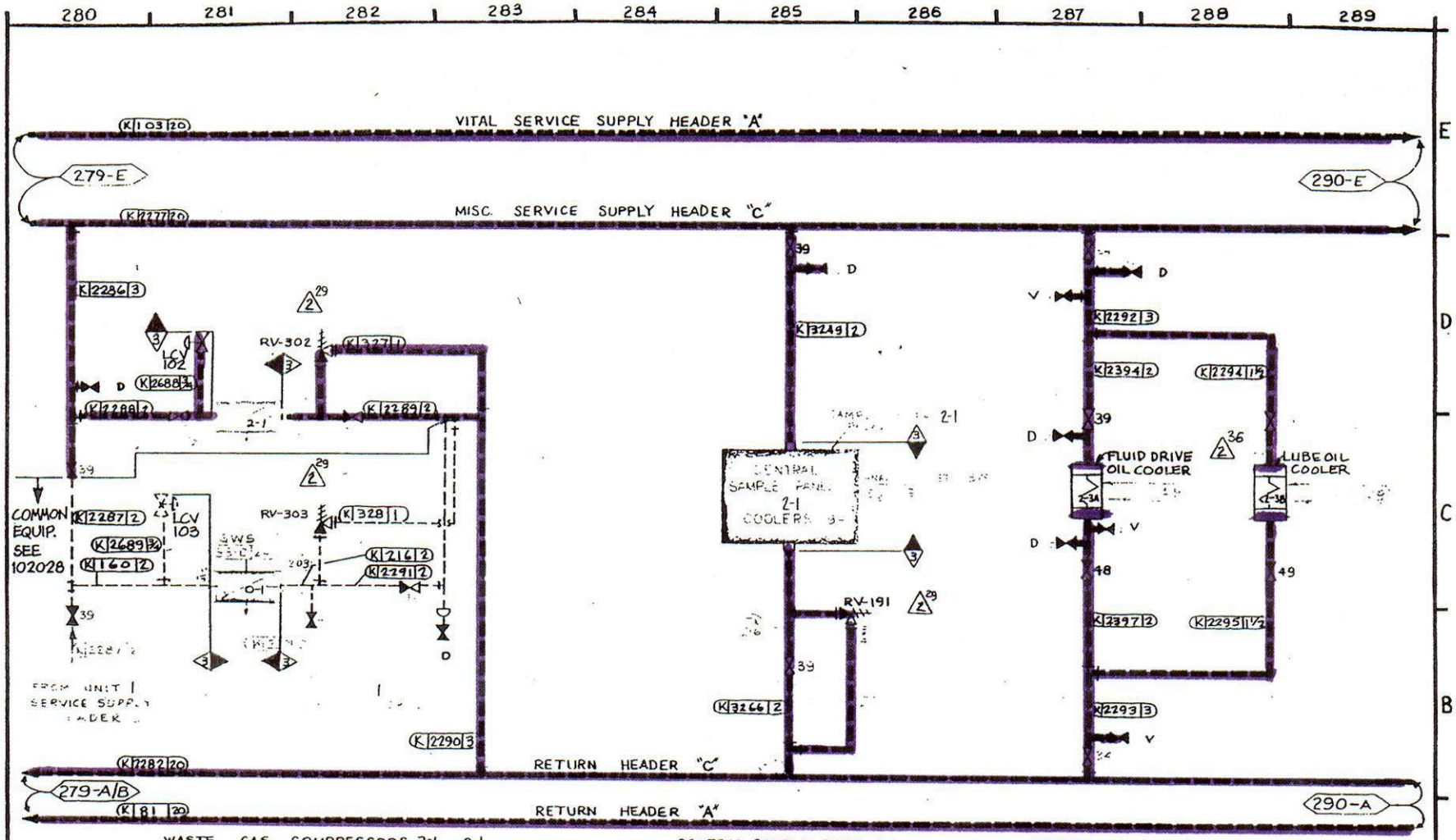
25

C24

Class 3

#5

[redacted]



WASTE GAS COMPRESSORS 2-1, 0-1
SEAL WATER COOLERS

CENTRAL SAMPLE PANEL 2-1
COOLERS

RECIPROCATING CHARGING
PUMP 2-3 COOLERS
03.09.81 ADDED CL 3 CHGS OF REV. 9 & 10
REF. DWG.: CWSYST. 102014 REV. 9 SHT. 6A

HEADER "C" COMPONENTS

UNIT - 2

P.G.&E.CO.

SHEET NO. 28 OF SHEETS

DRAWING NUMBER 104628

CHANGE 14

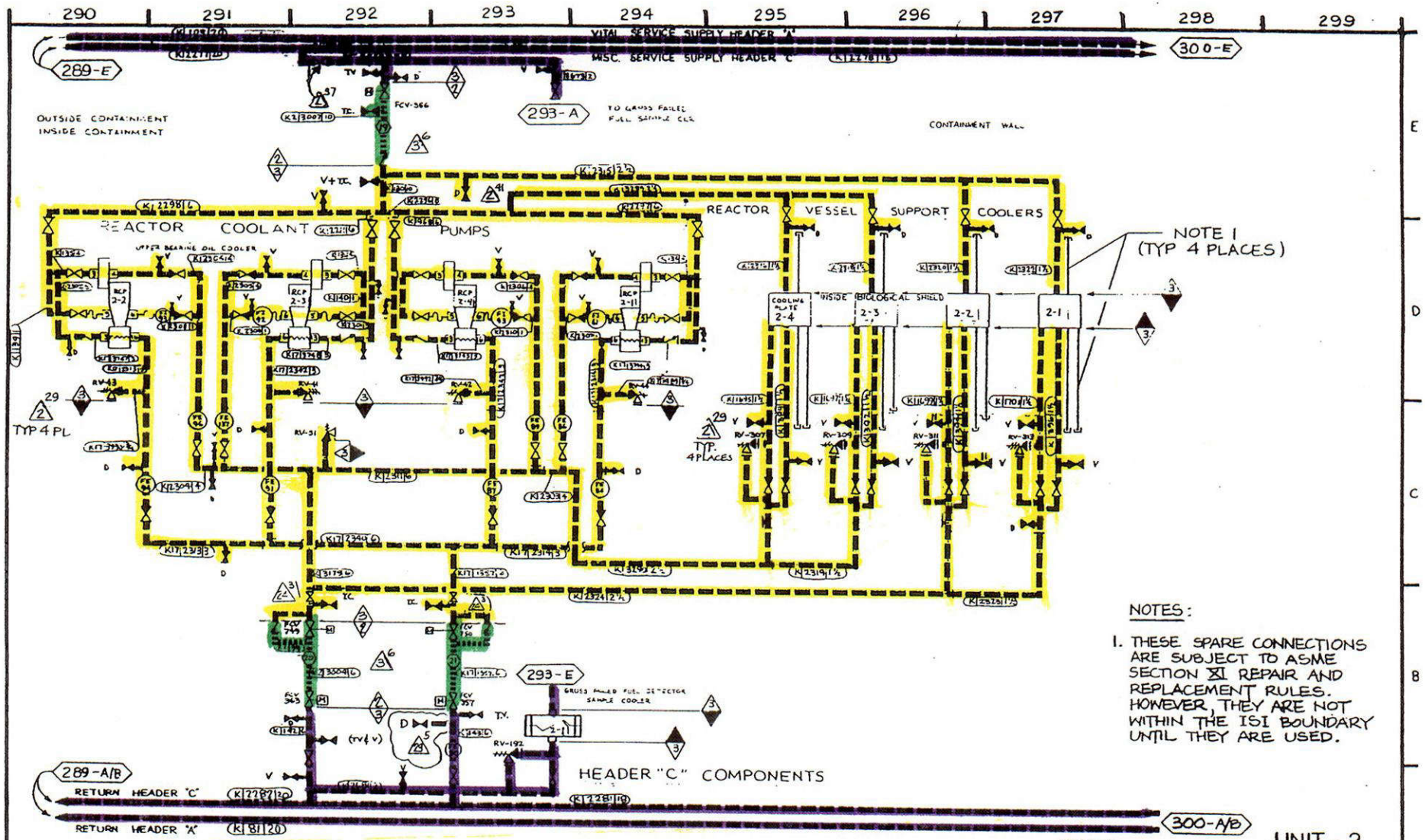
35 MM MEG | 14

RM INDEX REV. 14

C25

Class 2 #30

Class 3 #5 #6



NOTES:

1. THESE SPARE CONNECTIONS ARE SUBJECT TO ASME SECTION XI REPAIR AND REPLACEMENT RULES. HOWEVER, THEY ARE NOT WITHIN THE ISI BOUNDARY UNTIL THEY ARE USED.

UNIT - 2

29&37→41 03.09.81 ADDED CL.3 CHGS OF REV. 10
REF. DWG: CW SYS. 102014 SH.7 REV. 9

P. G. & E. CO.	DRAWING NO	CHANGE
SHEET 29 OF SHEETS	104628	29

35 M/M NEG 29

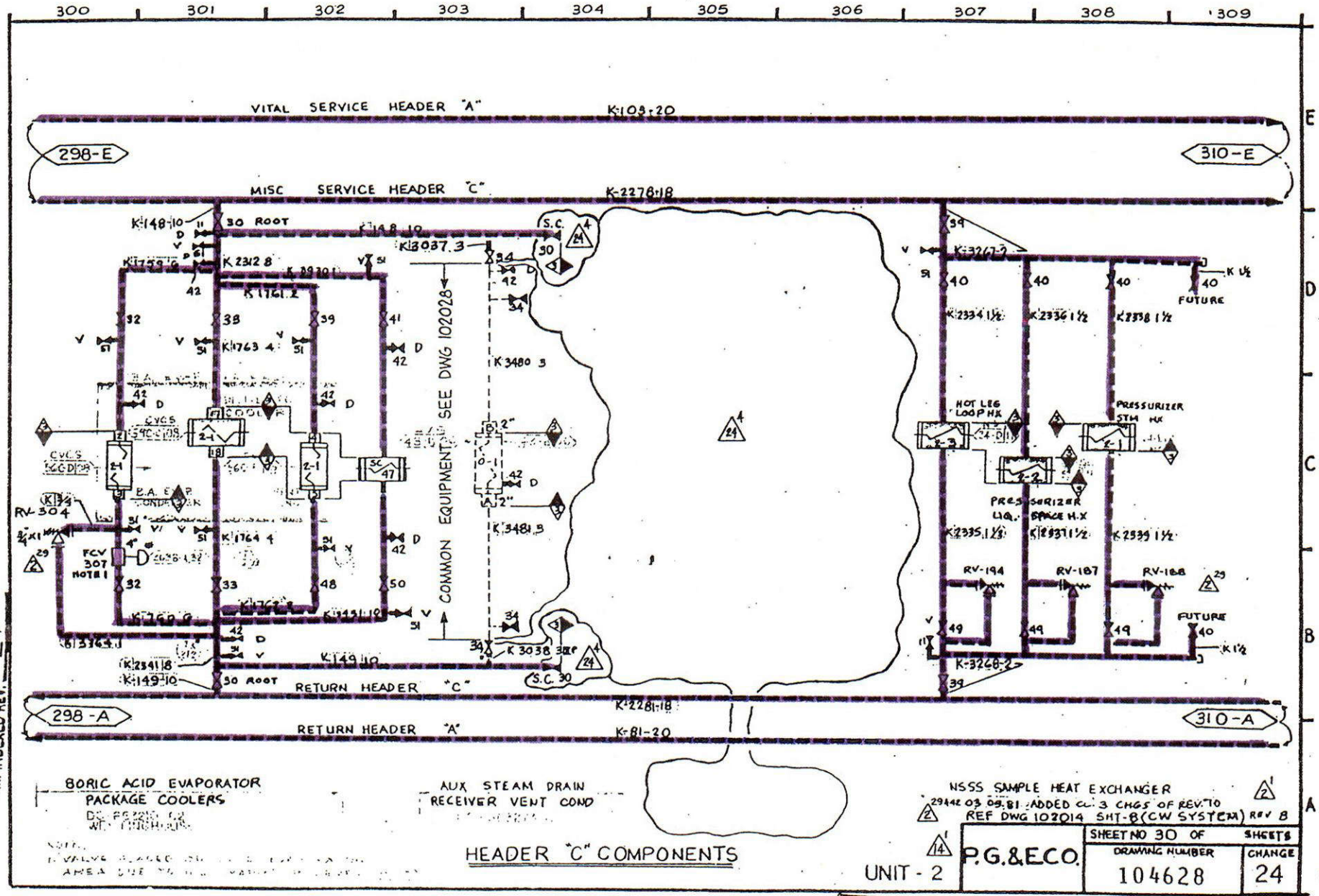
RM INDEXED REV. 29

C26

Class 3

#5

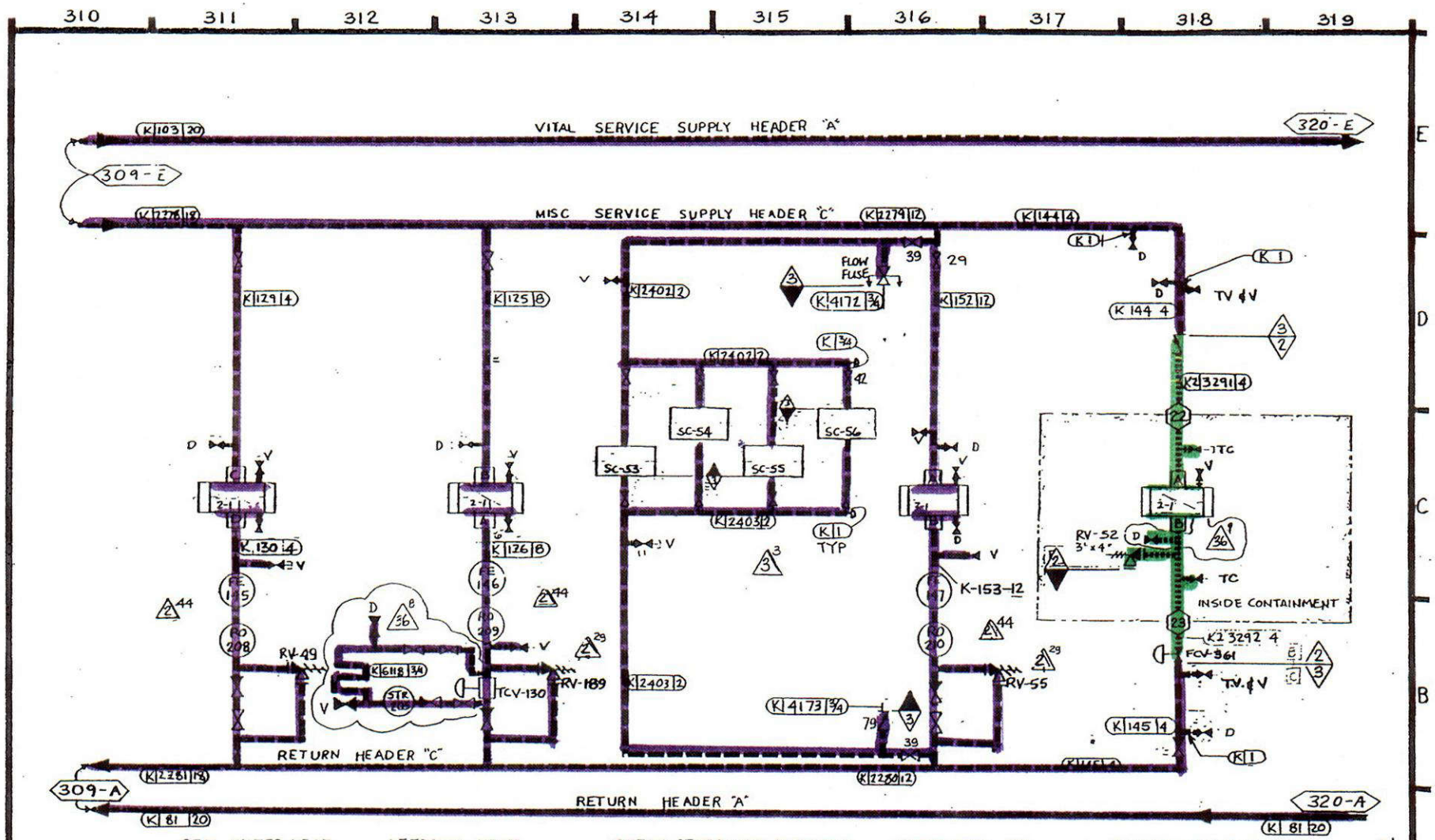
[redacted]



C27

Class 2 #30

Class 3 #5



SEAL WATER HEAT EXCHANGER

LETDOWN HEAT EXCHANGER

STEAM GENERATOR BLOWDOWN SAMPLE COOLERS FOR RADIATION MONITORS

SPENT FUEL PIT HEAT EXCHANGER DC 66321I

EXCESS LETDOWN HEAT EXCHANGER DC-66321C-12 REF. DRAWING 102014 REV. 9 & 9

03.09.81 ADDED CL. 2&3 CHGS OF REV. 9&10

HEADER "C" COMPONENTS.

UNIT - 2

P.G.&E.CO.

SHEET NO. 31 OF SHEETS

DRAWING NUMBER 104628

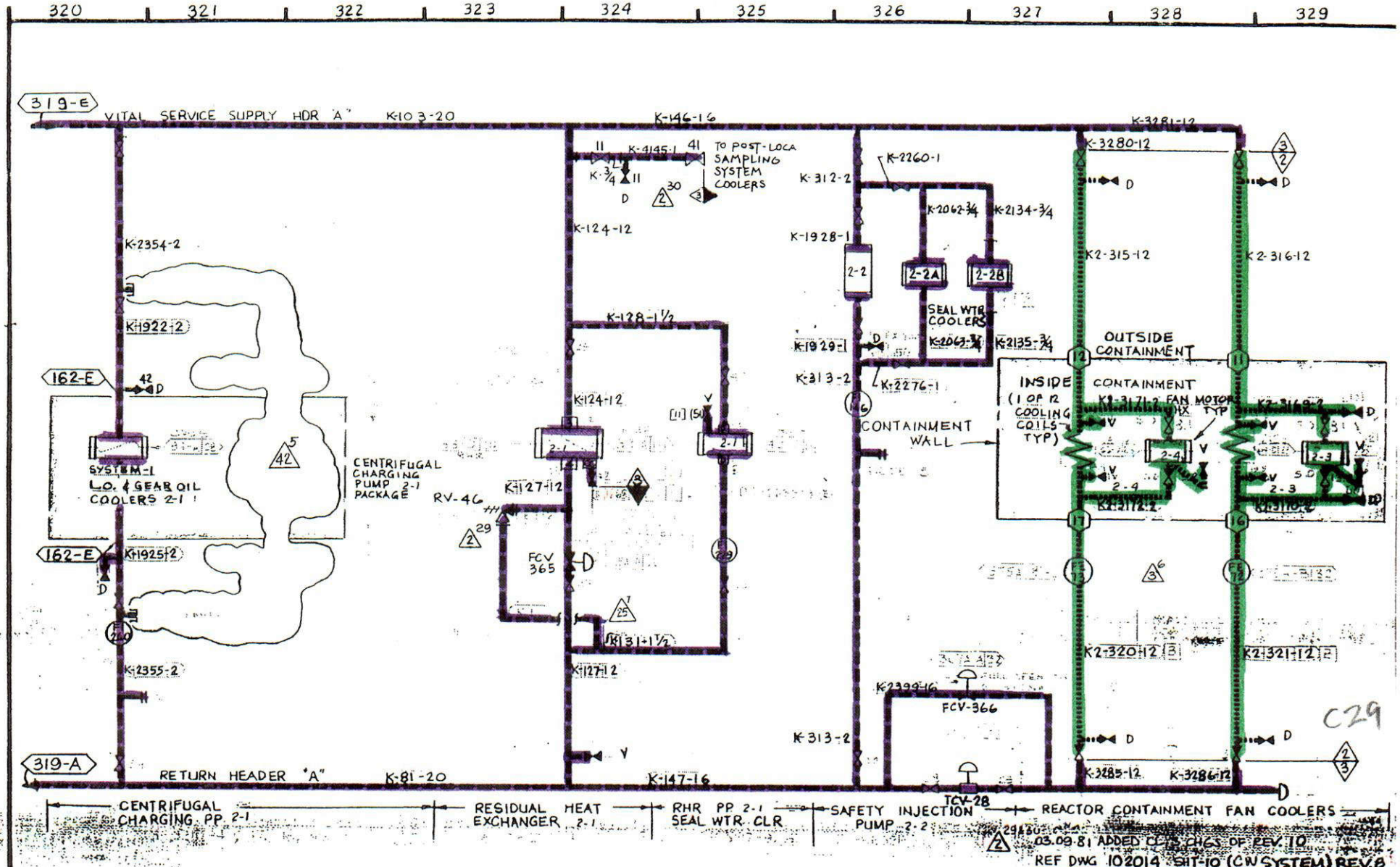
CHANGE 36

35 Mm. NEG 36

C28

Class 2 #30

Class 3 #5



HEADER "A" COMPONENTS UNIT - 2

P.G.&E.CO.

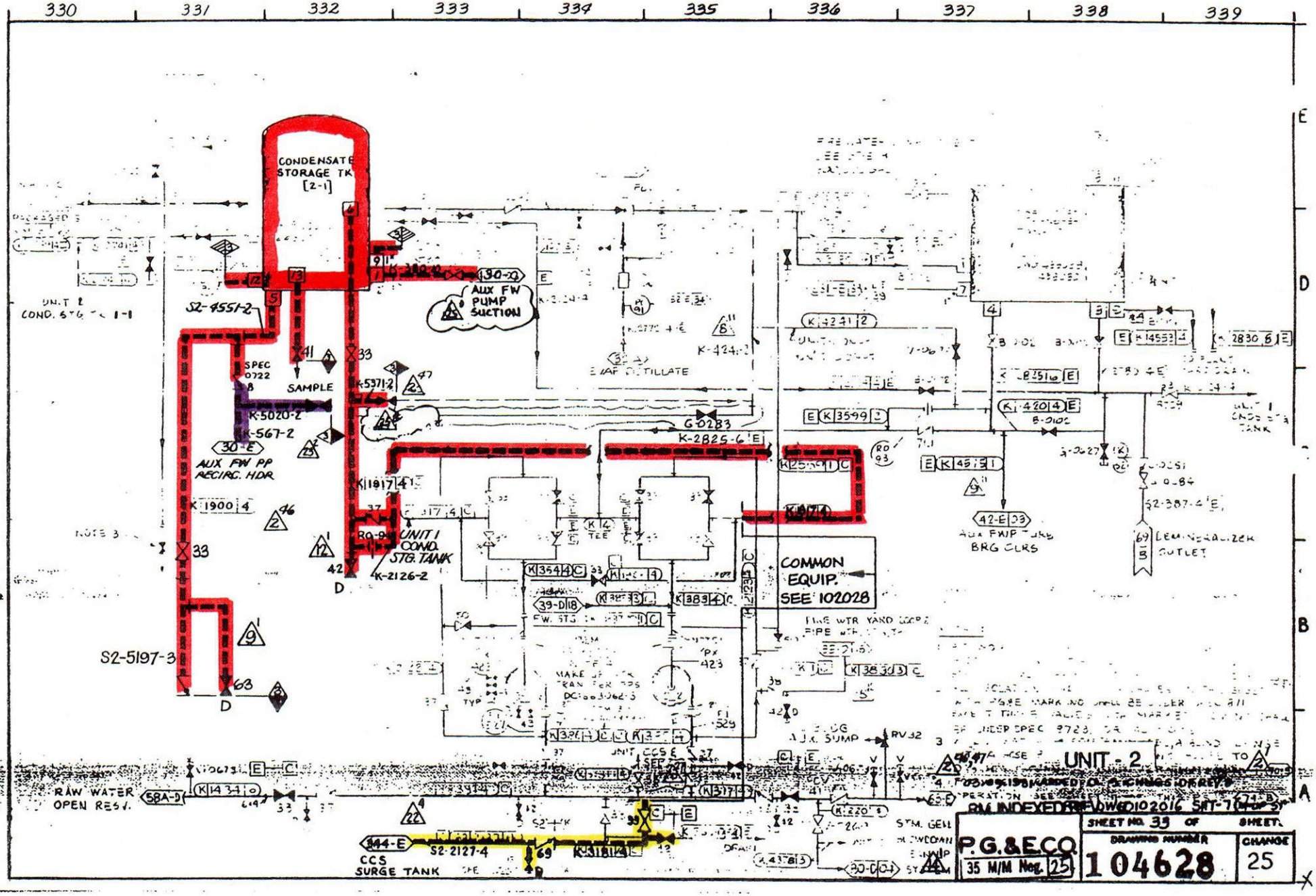
SHEET NO 32 OF SHEETS

DRAWING NUMBER 104628

CHANGE 42

Class 3

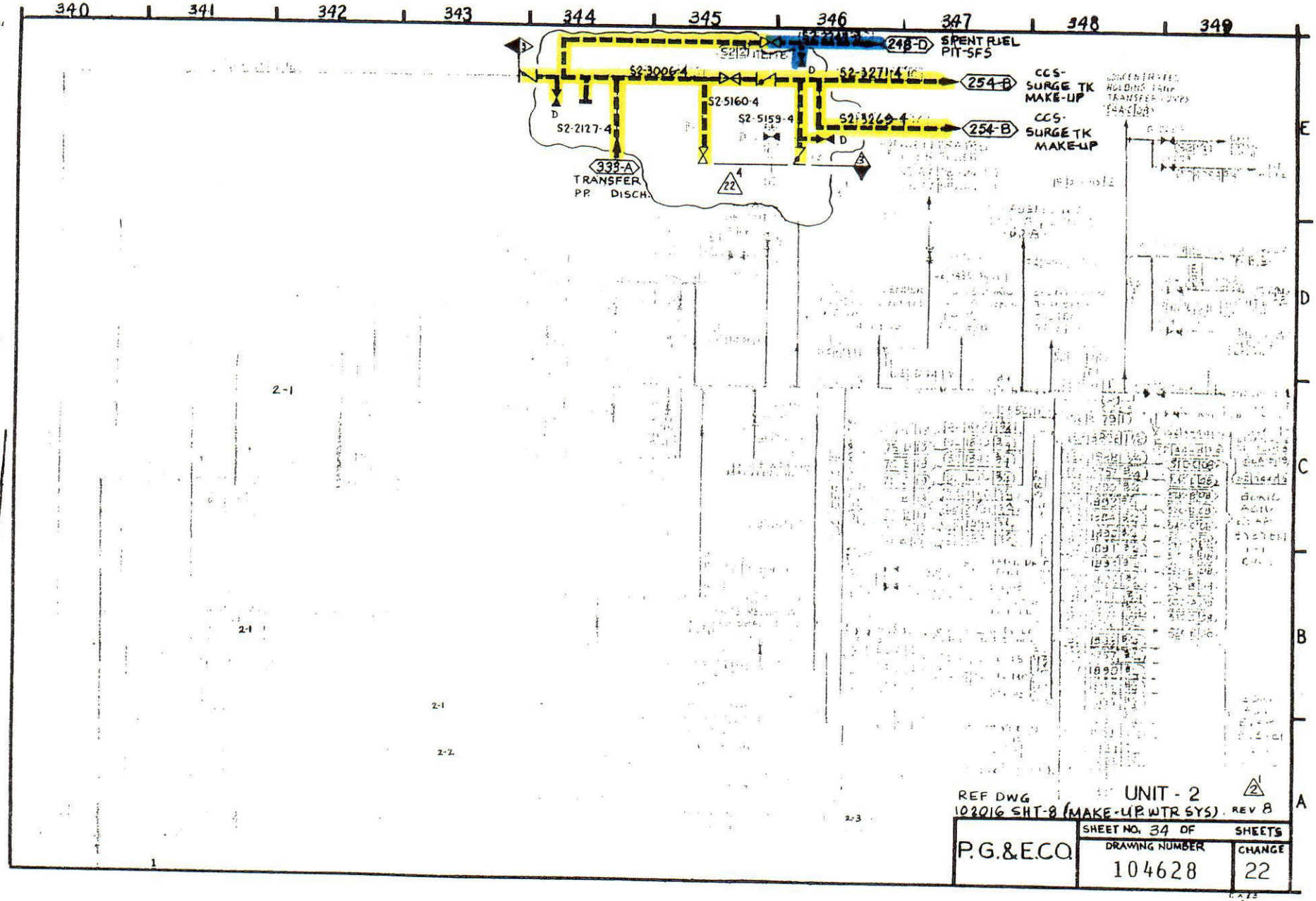
#1 #3 #8



C30

Class 3

#8 #8A



RM INDEXED REV. 22

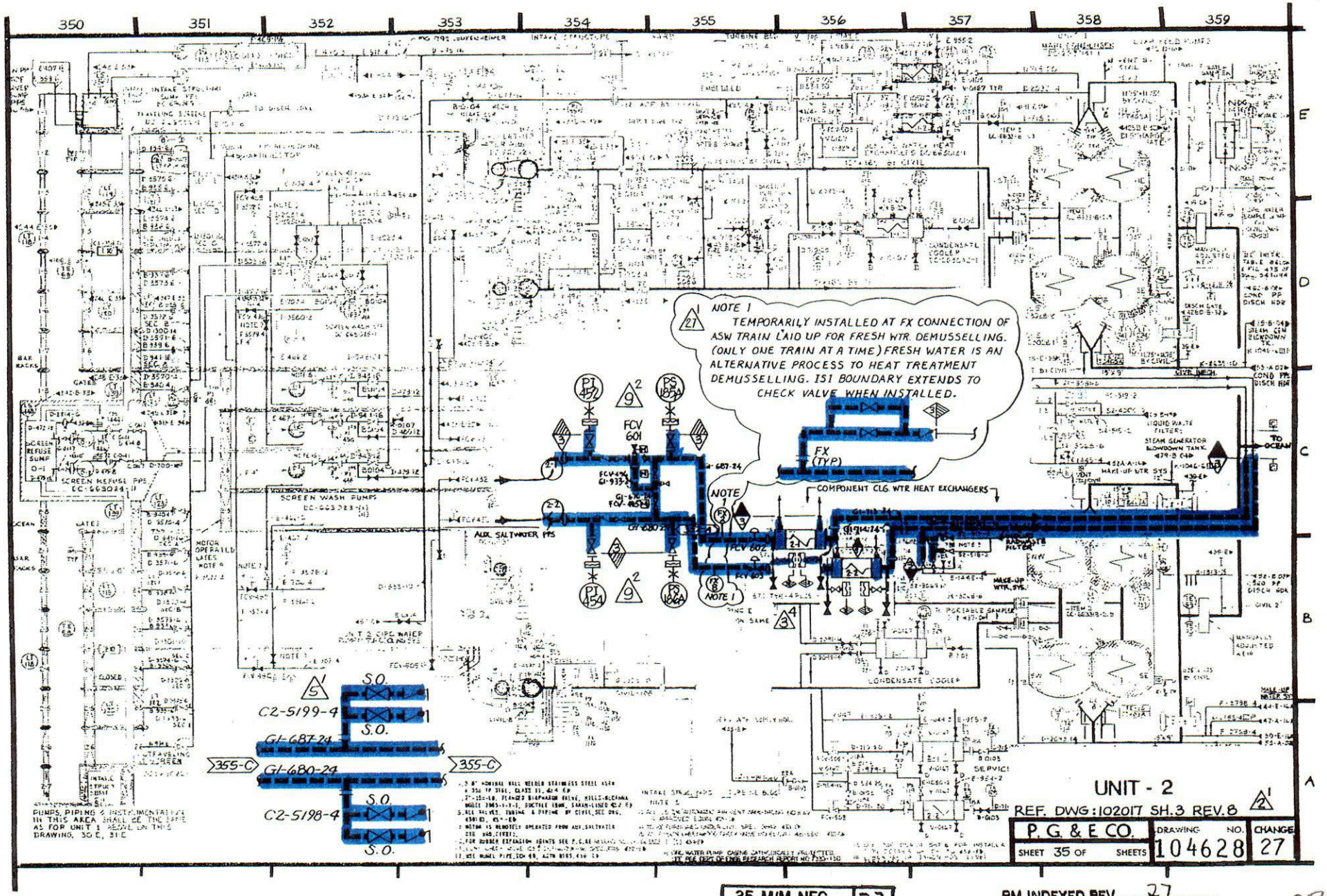
35 MM NEG 22

C31

Class 3

#9

[redacted]



35 M/M NEG 27

RM INDEXED REV. 27

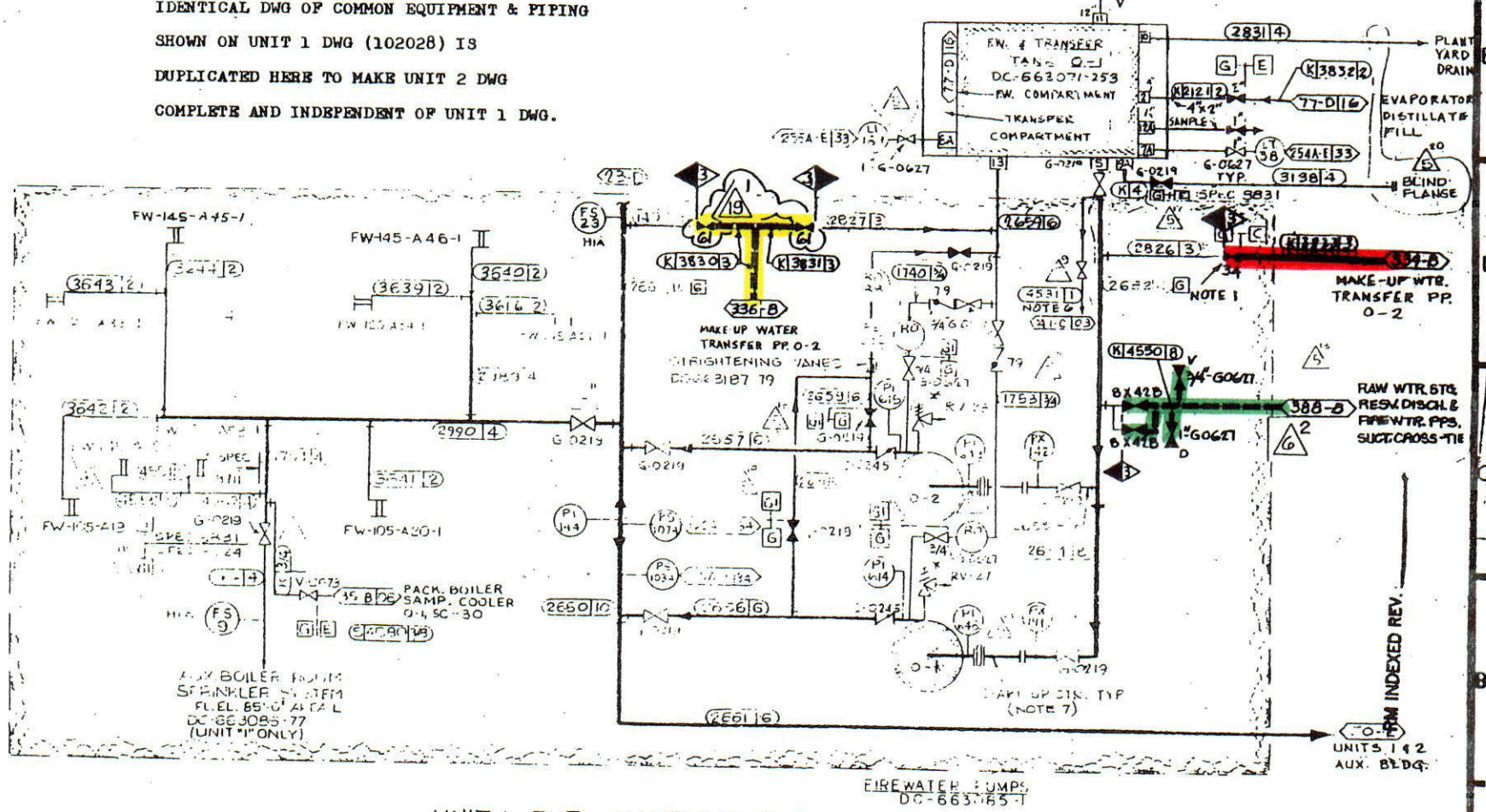
C32

Class 3

#3 #8 #12

380 381 382 383 384 385 386 387 388 389

IDENTICAL DWG OF COMMON EQUIPMENT & PIPING SHOWN ON UNIT 1 DWG (102028) IS DUPLICATED HERE TO MAKE UNIT 2 DWG COMPLETE AND INDEPENDENT OF UNIT 1 DWG.



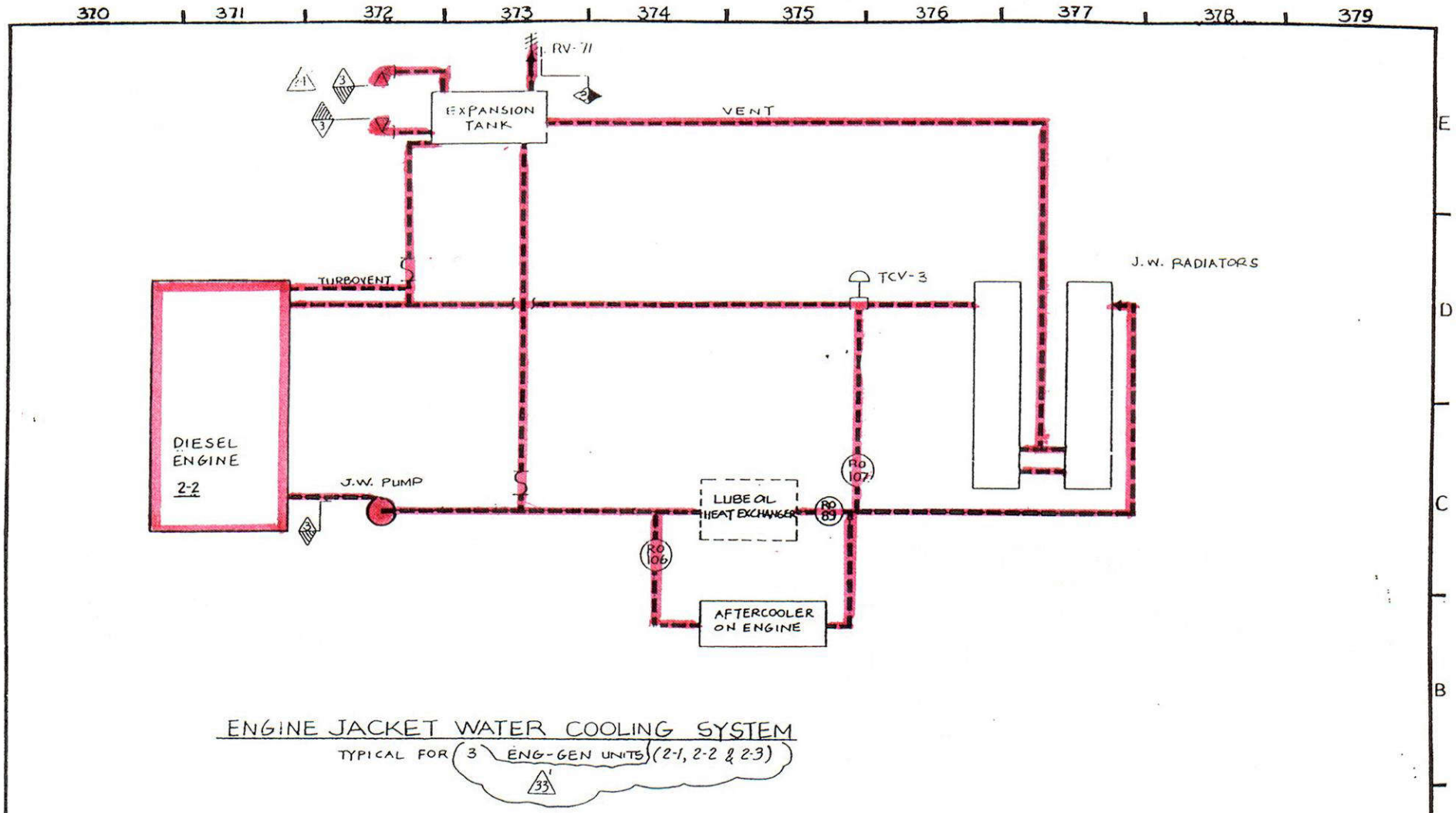
NOTES:

1. VALVE ITEM NO. 3447 ARE UNDER SPEC. 8721 AND INSTALLED UNDER SPEC. 8731 (38-D)
2. ALL PIPING WITH PIPE CLASS "C" & "E" ARE UNDER 8711 EXCEPT AS NOTED
3. ALL PIPING WITH PIPE CLASS "A" & "B" CLASS 1, ARE UNDER SPEC. 8831, AND WITH XX INDICATE UNDER SPEC. 8724.
4. ALL PIPING ON THIS SHEET IS UNDER SPEC. "K", EXCEPT AS NOTED
5. DELETED
6. UNIT NO. 1 ONLY
7. THIS SPOOL SHALL BE REPLACED BY EXPANSION JOINT (BELLOWS)

C33

Class 3

#10



ENGINE JACKET WATER COOLING SYSTEM

TYPICAL FOR (3 ENG-GEN UNITS) (2-1, 2-2 & 2-3)

33

UNIT - 2

REF. DWG 102021 SHT 8 REV. 11

RM INDEXED REV. 33

35 M/M NEG 33

64

P.G.&E.C.O.

SHEET NO. 37

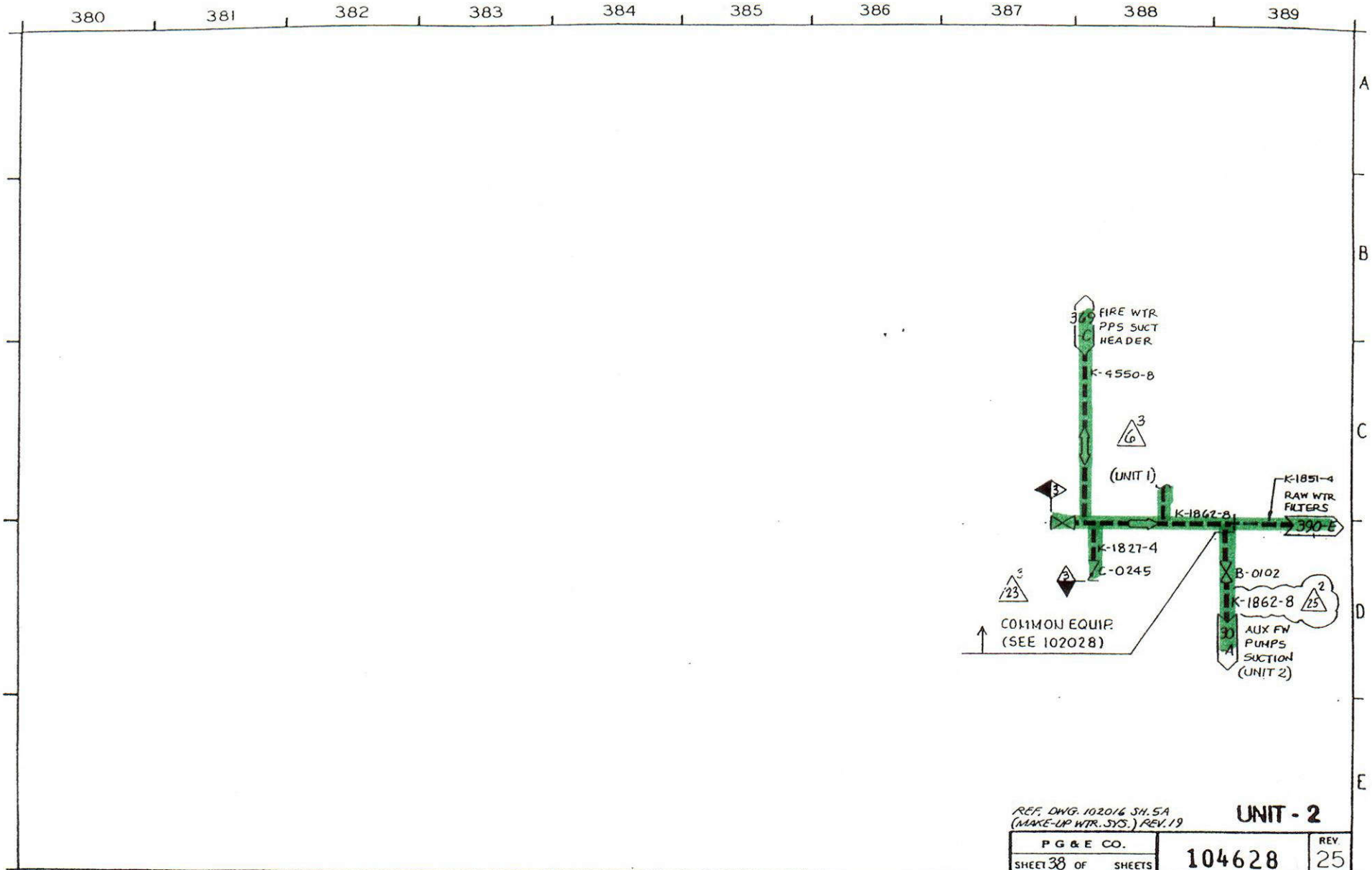
DRAWING NUMBER 104628

CHANGE 33

C34

Class 3

#12



REF. DWG. 102016 SH. 5A
(MAKE-UP WTR. SYS.) REV. 19

UNIT - 2

P G & E CO.	104628	REV. 25
SHEET 38 OF SHEETS	MICROFILM	25

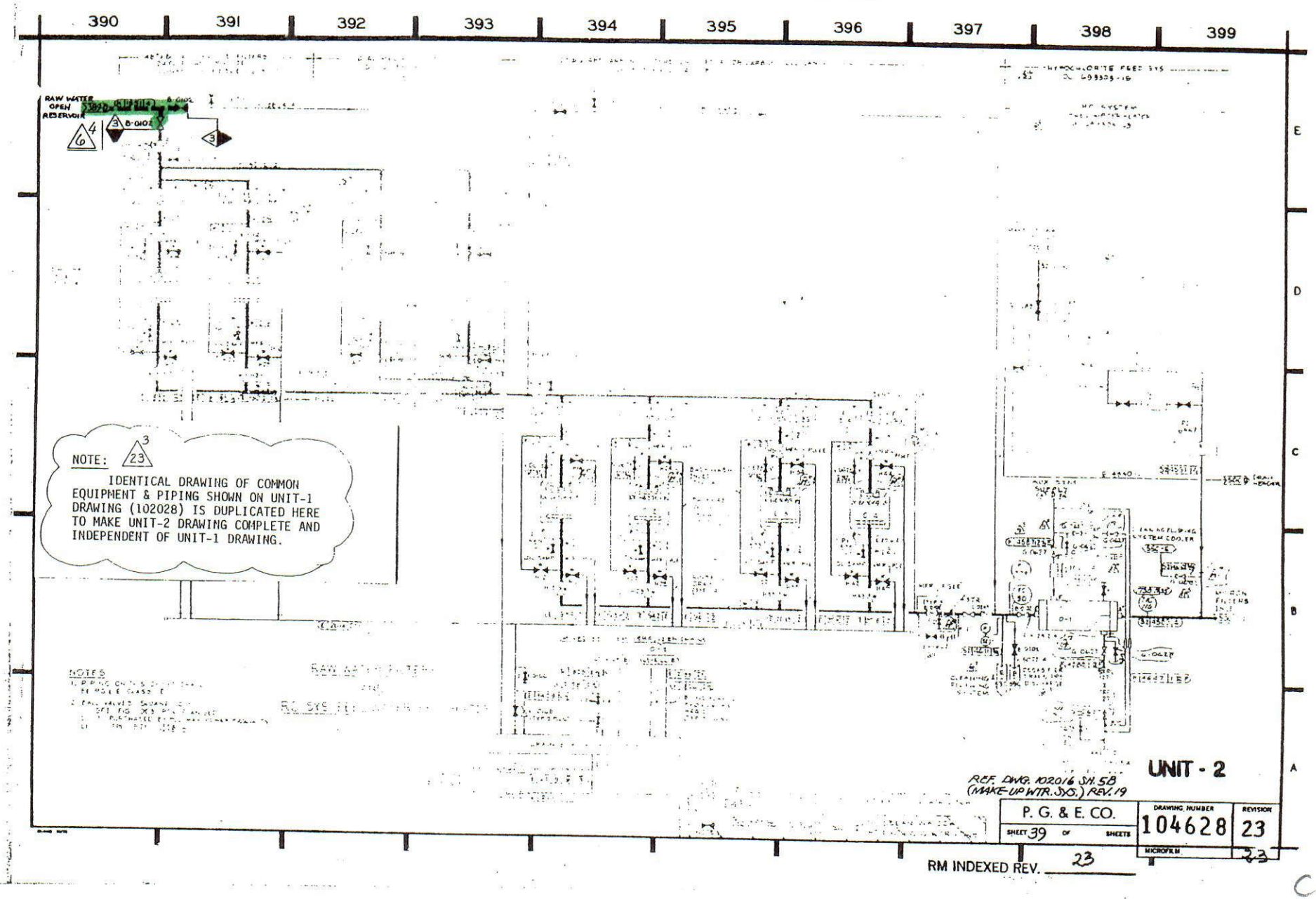
RM-INDEXED REV. 25

100

C35

Class 3

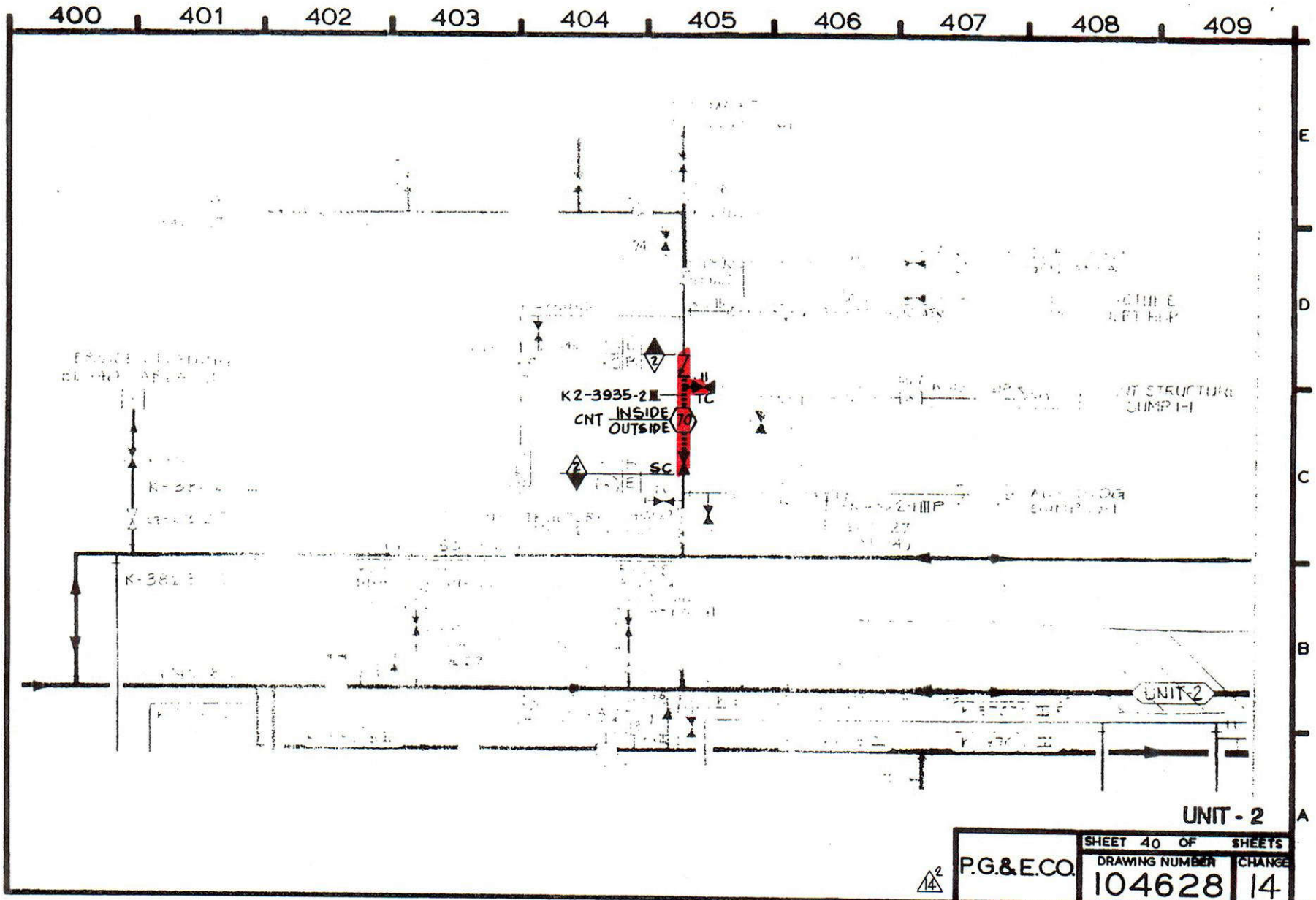
#12



C36

Class 2

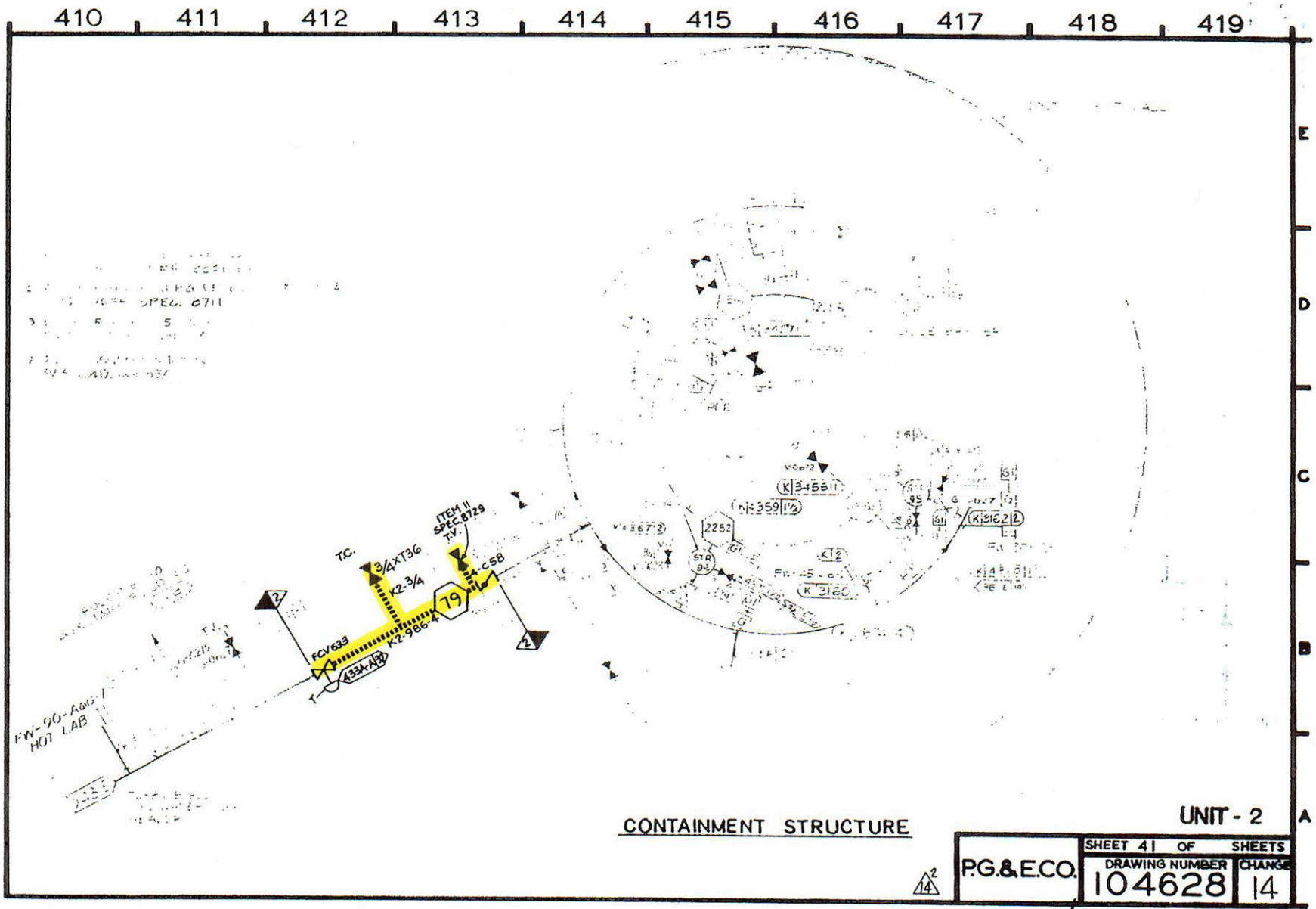
#39



C37

Class 2

#40



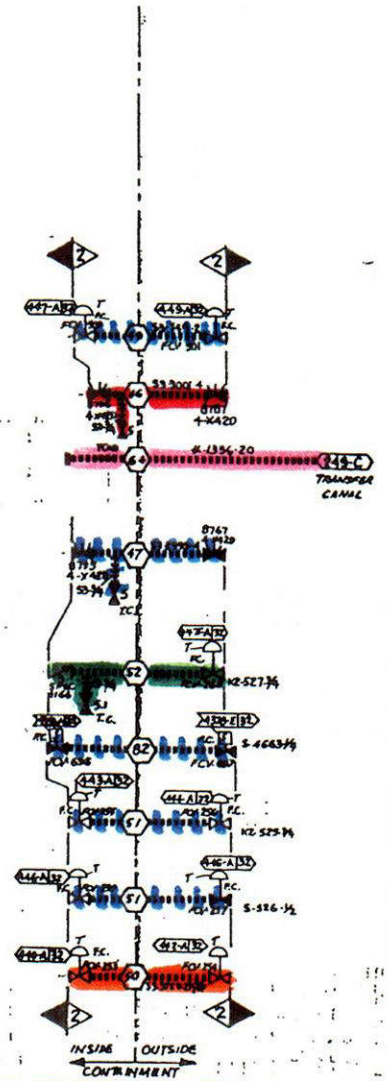
C38

Class 2

#33 #41 #42 #43 RR #4

420 421 422 423 424 425 426 427 428 429

E D C B A



UNIT - 2

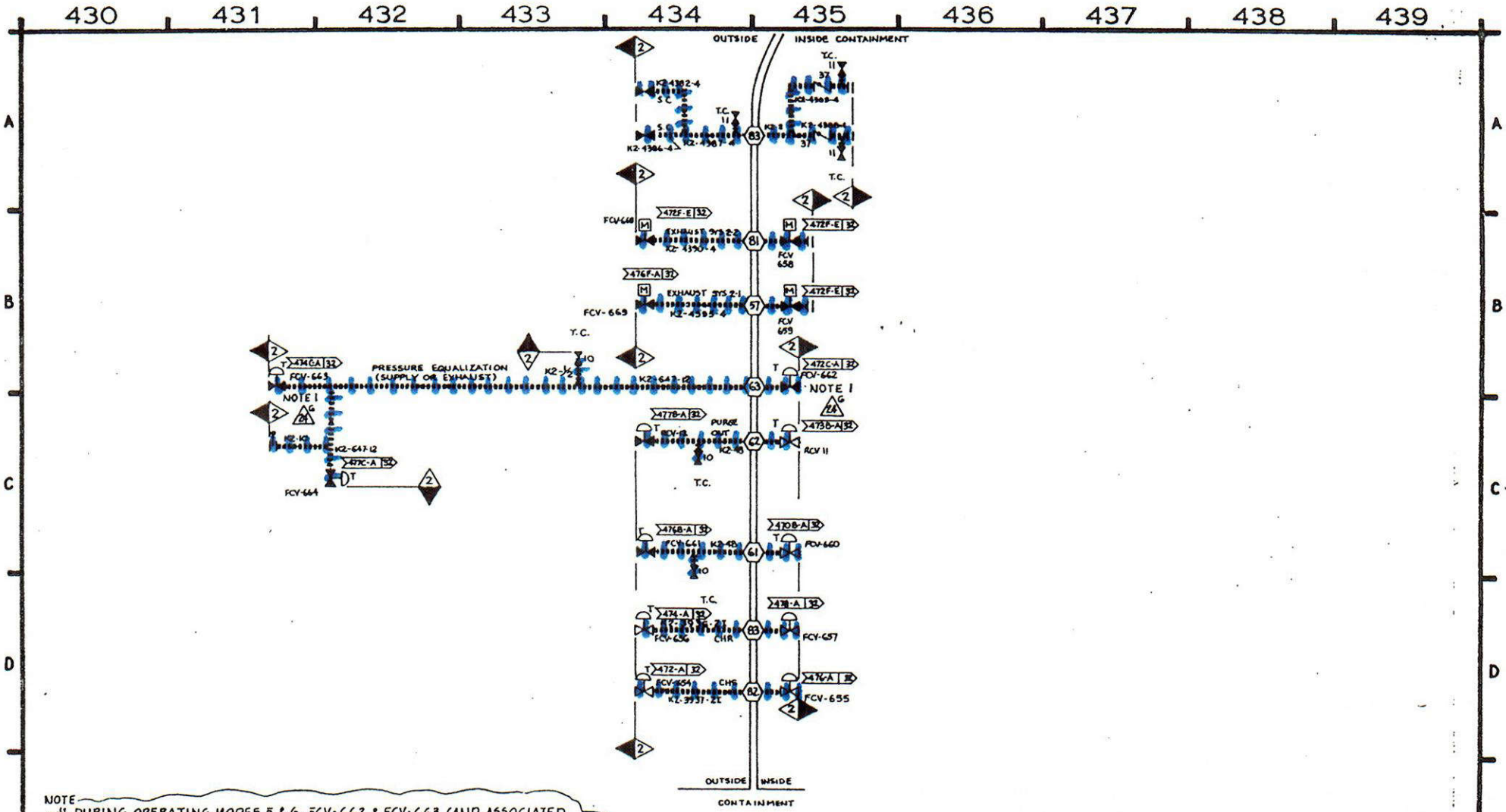
P. G. & E. CO.	DRAWING NO.	CHANGE
SHEET 42 OF . . SHEETS	104628	14

PN INDEX REV 14

C39

Class 2

#33



NOTE
14 DURING OPERATING MODES 5 & 6, FCV-662 & FCV-663 (AND ASSOCIATED PIPING) CAN BE REMOVED FROM SERVICE TO ALLOW USE OF PENETRATION NO. 63 FOR PLANT OUTAGE MAINTENANCE ACTIVITIES.
31 REF. 663173-158 FOR FABRICATION/INSTALLATION DETAILS AND REQUIREMENTS.

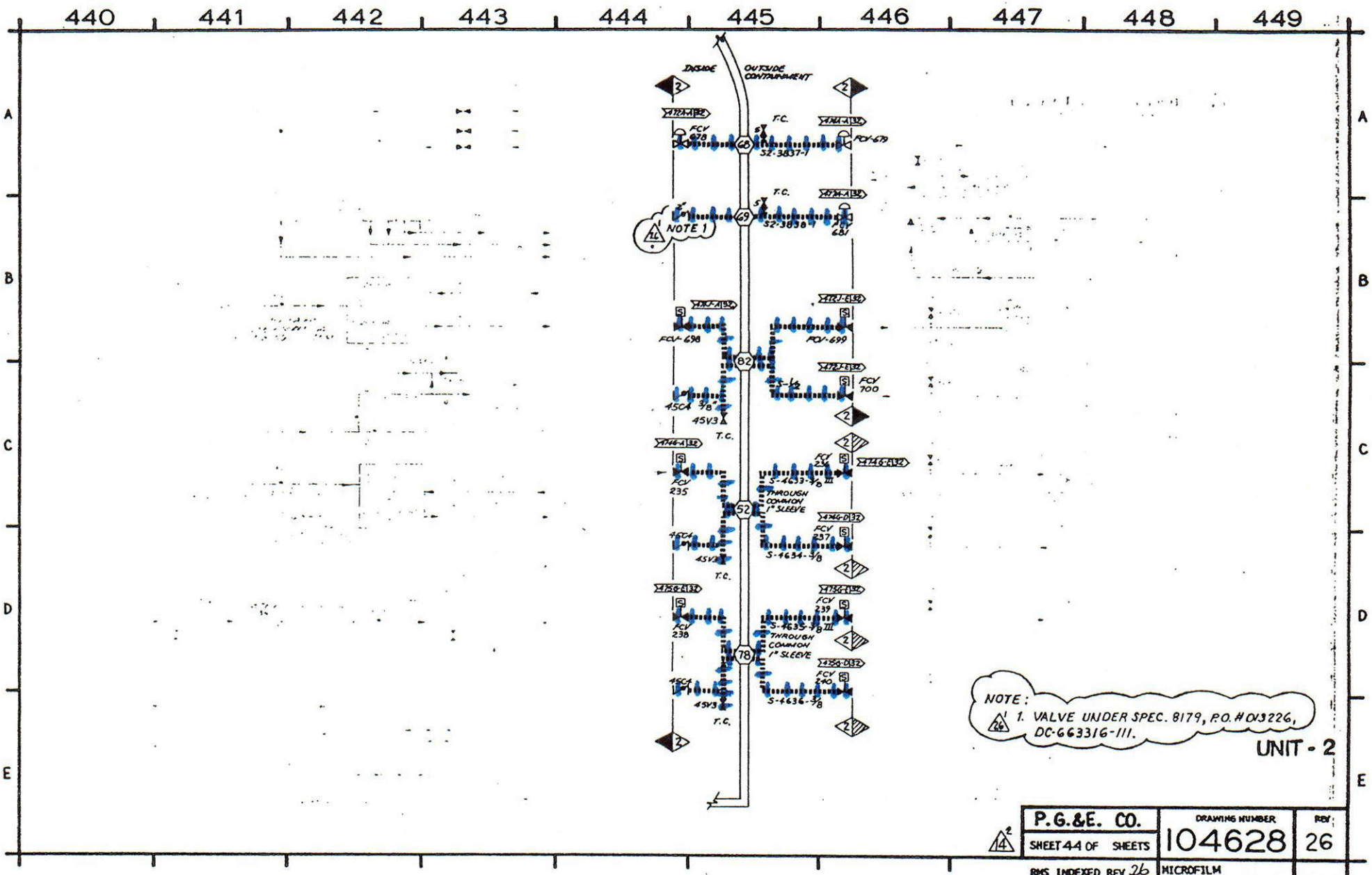
UNIT - 2

P.G.&E. CO.	DRAWING NUMBER 104628	REV 31
SHEET 43 OF SHEETS	MICROFILM	
RMS INDEXED REV 31		

C40

Class 2

#33



CLH

Class 2

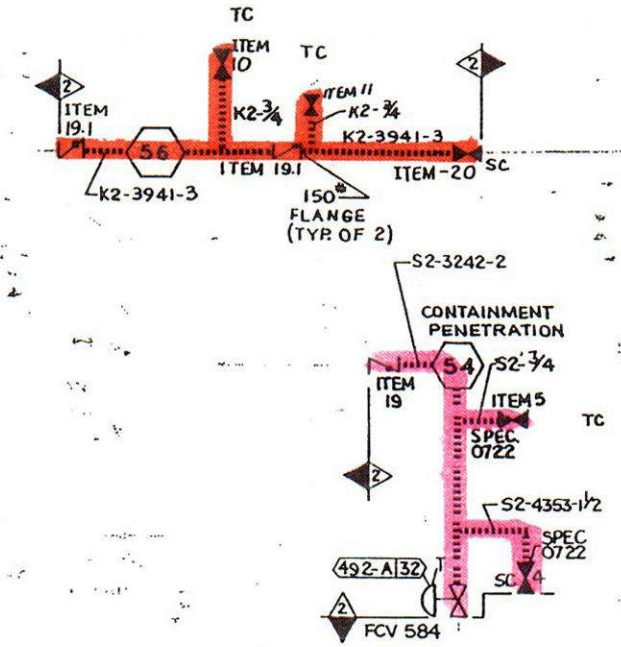
REV. 1

#45 #44

450 451 452 453 454 455 456 457 458 459

E D C B A

CONTAINMENT STRUCTURE



UNIT - 2

P.G.&E.CO.

SHEET NO. 45 OF SHEETS

DRAWING NUMBER 104628

CHANGE 14

RM INDEX REV. 14

35 M/M NEG 14

C42

460 461 462 463 464 465 466 467 468 469

LEGEND FOR NDE EXEMPTION COLOR CODING

1. COLOR CODING USED IN IDENTIFYING COMPONENTS EXEMPT FROM NDE

   A. CLASS 1 EXEMPTION CRITERIA:

      (BLUE) COMPONENT CONNECTIONS, PIPING, AND ASSOCIATED VALVES (AND THEIR SUPPORTS) ARE ONE-INCH NOMINAL PIPE SIZE AND SMALLER.

   B. CLASS 2 EXEMPTION CRITERIA:

      (GREEN) [1] COMPONENTS OF SYSTEMS OR PORTIONS OF SYSTEMS THAT DURING NORMAL PLANT OPERATING CONDITIONS (1) ARE NOT REQUIRED TO OPERATE OR PERFORM A SYSTEM FUNCTION BUT REMAIN FLOODED UNDER STATIC CONDITIONS AT A PRESSURE OF AT LEAST 80% OF THE PRESSURE THAT THE COMPONENT OR SYSTEM WILL BE SUBJECTED TO WHEN REQUIRED TO OPERATE; OR

      (RED) [2] COMPONENTS OF SYSTEMS OR PORTIONS OF SYSTEMS, OTHER THAN RESIDUAL HEAT REMOVAL SYSTEMS AND EMERGENCY CORE COOLING SYSTEMS, THAT ARE NOT REQUIRED TO OPERATE ABOVE A PRESSURE OF 275 PSIG (1900kPa) OR ABOVE A TEMPERATURE OF 200°F (93C) ; OR

      (YELLOW) [3] COMPONENT CONNECTIONS (INCLUDING NOZZLES IN VESSELS AND PUMPS), PIPING AND ASSOCIATED VALVES, AND VESSELS (AND THEIR SUPPORTS) THAT ARE FOUR INCH NOMINAL PIPE SIZE AND SMALLER.

   C. CLASS 3 EXEMPTION CRITERIA:

      (MAGENTA) COMPONENT CONNECTIONS, PIPING AND ASSOCIATED VALVES (AND THEIR SUPPORTS) THAT ARE FOUR INCH NOMINAL PIPE SIZE AND SMALLER.

(1) NORMAL CONDITIONS INCLUDE OPERATING CONDITIONS DURING REACTOR STARTUP, OPERATION AT POWER, HOT STANDBY, AND REACTOR COOLDOWN TO COLD SHUTDOWN CONDITIONS. TEST CONDITIONS ARE EXCLUDED.

14 4 5 6 68 2 UNIT - 2

14 1

P.G.&E.CO.	SHEET NO. 46 OF SHEETS	
	DRAWING NUMBER 104628	CHANGE 14

35 M/M NEG 14

RM INDEXED REV. 14

CHANGE 1 SEPTEMBER 1979

BY L. THOMPSON/M. GUZMAN/J. RAGGIO

APPROVED FOR CONSTRUCTION

CHANGE 2 MAY 12, 1981

BY: J.Z BYCZYNSKI/L.V. MANALAC/R.S. BREED

REVISION NUMBERS OF "PARENT" PIPING SCHEMATICS ADDED TO ALL INSERVICE INSPECTION SCHEMATICS. ALL CHANGES "CLOUDED" AND "TRIANGLED". [1]

CHANGES LISTED BELOW ARE THE RESULT OF "PARENT" PIPING SCHEMATICS CHANGES: [2] THRU [31]

"PARENT" PIPING SCHEMATIC			INSERV INSPECT #104628		"PARENT" PIPING SCHEMATIC			INSERV INSPECT #104628	
DWG NO.	SHEET	CHG #	CHG #	SHEET	DWG NO.	SHEET	CHG #	CHG #	SHEET
102003	4	[4]	[2]	3	102014	5	[5]	[28]	27
		[6]	[4]			6			29
		[10]	[7]			6A			30
		[12]	[28]			7			31
		[14]	[30]			8			32
	4A	[17]	[11]	4		9			33
102004	3	[1]	[12]	5		10			34
	5	[37]	[13]	6		5	[9]	[30]	27
		[38]	[14]			10			34
102007	3	[1]	[16]	9		5A	[14]	[31]	28
	4	[3]	[17]	10			[1]	[32]	
102008	3	[1]	[18]	12		6	[4]	[33]	29
	4B	[9]	[19]	14		6A	[14]	[34]	30
		[8]	[20]			7	[15]	[37]	31
	5B	[16]	[21]	15			[16]	[38]	
102009	3	[1]	[22]	19			[17]	[39]	
	4	[2]	[23]	20			[18]	[40]	
102010	3	[6]	[24]	22			[19]	[41]	
102012	3	[1]	[25]	25		8	[6]	[42]	32
		[2]	[5]			9	[21]	[43]	33
		[3]	[26]				[22]	[44]	
		[4]	[15]				[3]	[45]	
102014	5	[22]	[23]	27	102016	7	[10]	[46]	35
		[23]	[28]				[11]	[47]	

NOTE. [2], [3], [9], [13], [27] NOT USED

EQUIPMENT OR SYSTEM	DESCRIPTION	CO-ORDINATES
AUX. FEDWTR PUMP 2-1	DELETED-K-3/4 PIPE FROM TCV-8 & TCV-9 FOR THE PUMP THRUST AND REAR BEARING COOLING (PER DCO-EM-940 OF 3-18-81)	SHT. 3 [48]
PRESSURE RELIEF TANK 2-1	DELETED-TANK GAS ANALYZER PIPING AT PENETRATION 16. NITROGEN SUPPLY LINE AT PENETRATION 52 AND PRIMARY WATER SUPPLY AT PENETRATION 52. (PER DCO-EM-942 REV. 1 OF 3-26-81)	SHT. 10 [49]
LETDOWN HEAT EXCHANGER 2-1	DELETED-COMPONENT COOLING WATER DUPLICATION. SHOWN ON SHEET 33. (PER DCO-EM-942 REV. 1 OF 3-26-81)	SHT. 13 [50]
SEAL WATER HEAT EXCHANGER 2-1	DELETED-COMPONENT COOLING WATER DUPLICATION SHOWN ON SHEET 33. (PER DCO-EM-942 REV. 1 OF 3-26-81)	SHT. 14 [51]
CENTRIFUGAL CHARGING PUMPS	DELETED-LUBE AND GEAR OIL PORTIONS (NOT IN CODE) (PER DCO-EM-942 REV. 1 OF 3-26-81)	SHT. 17 [52]
ACCUMULATOR TANKS	DELETED-NITROGEN SUPPLY LINES AT PENETRATION 61 (PER DCO-EM-942 REV. 1 OF 3-26-18)	SHT. 19 [53]
	DELETED-ACCUMULATOR SAMPLE LINE BETWEEN VALVES 9357A AND 9357B THRU PENETRATION 59. (PER DCO-EM-942 REV. 1 OF 3-26-81)	SHT. 24 [54]
SPENT FUEL PIT HEAT EXCHANGER	DELETED-COMPONENT COOLING WATER DUPLICATION SHOWN ON SHEET 33. (PER DCO-EM-942 REV. 1 OF 3-26-81)	SHT. 26 [55]
STEAM GENERATOR	DELETED-CONTAINMENT NITROGEN SUPPLY HEADER THRU PENETRATION 52. (PER DCO-EM-942 REV. 2 OF 4-17-81)	SHT. 6 [56]
MAIN STEAM TO AUX. FW PP TURB.	REVISED-ABANDONED IN PLACE FCV-95 BYPASS LINE (FCV-129 AND THROTTLE VALVE) [5] (PER DC2-EM-980 OF 4-15-81)	SHT. 6 [57]
PRESSURIZER RELIEF TANK	DELETED-RV OUTLET HEADER TO PRESS. RELIEF TANK THRU PENETRATION 71. (NOT IN CODE) (PER DCO-EM-942 REV. 2 OF 4-17-81)	SHT. 10 [58]
CHARGING PUMPS	DELETED-CHARGING PUMPS SUCTION HEADER RELIEF VALVE OUTLET (LINE 1459)(NOT IN CODE) (PER DCO-EM-942 REV. 2 OF 4-17-81)	SHT. 14 [59]
SIS PUMPS AND RESIDUAL HEAT EXCHANGER	DELETED-SIS PUMP SUCTION HEADER RV OUTLET (LINE 2061). SIS PUMP DISCH. RV OUTLET (LINES 2572,3851,3852) AND RESIDUAL HEAT EXCHANGER OUTLET RV DISCH. (LINES 2003,2004) (NOT IN CODE) (PER DCO-EM-942 REV. 2 OF 4-17-81)	SHT. 21 [60]
CONT. SPRAY PPS	DELETED CONTAINMENT SPRAY PUMP DISCH RV OUTLET HEADER (LINES 272,273,2518) (NOT IN CODE) (PER DCO-EM-942 REV. 2 OF 4-17-81)	SHT. 25 [61]
SPENT FUEL PIT	DELETED-FUEL TRANSFER TUBE TO REFUELING CANAL (NOT IN CODE) (PER DCO-EM-942 REV. 2 OF 4-17-81)	SHT. 26 [62]
SHEETS 8,16 & 18	REVISED-NO LONGER APPLICABLE TO INSERVICE INSPECTION CODES, BUT REMAIN IN AS BLANKS TO AVOID SHEET RENUMBERING CROSS REF. COMPLICATIONS. (PER DCO-EM-942 REV. 1 OF 3-26-81)	[63]
SHEET 39	DELETED-SHEET 39 REV. 3 REF. 102018 SHT. 7 ADDED -SHEET 39 REV. 4 REF. 102021 SHT. 8	[64]
SHEETS 40 THRU 51	DELETED-FROM END OF THE DWG AS NO LONGER APPLICABLE TO INSERVICE INSPECTION CODES. (PER DCO-EM-942 REV. 2 OF 4-17-81)	[65]
SHEET 2	REVISED-PER DESCRIPTIONS IN ITEMS 63 THRU 65 ABOVE.	[66]
TABLE OF CHANGES SHEET	ADDED TO DRAWING	[67]
COLOR CODING LEGEND	ADDED BY DEPT OF ENGR RESEARCH SHEET 40.	[68]

CHANGE 3

BY: J.Z. BYCZYNSKI/L.V. MANALAC/R.S. BREED

SHEETS 8,16,18	DELETED-BLANK SHEETS. (PER DCO-EM-1075 REV. 1 OF 8-26-81)	
SHEET NUMBERING, CROSS REFERENCE	REVISED-AS RESULT OF ITEM ABOVE (PER DCO-EM-1075 REV. 1 OF 8-26-81)	

SHEET NUMBERS COMPARISION:

| | | | |

EQUIPMENT OR SYSTEM	DESCRIPTION	COORDINATES
CHANGE 7 - MAY 10, 1985		
BY: J. BYCZYNSKI / T. ORTUA / J. ZEUS		
SPENT FUEL PIT COOLING SYSTEM	ADDED - SPENT FUEL PIT COOLING LOOP TO INCLUDE LINES: 154, 155, 159, 1071, 1070, 2885, 1068, 156, 1069, 158 & 1067 TO THE ISI PROGRAM (PER DC2-EM-14210 OF 8-25-83)	SHEET 24 7¹
TABLE OF CHANGES	ADDED - NEW SHEET 42	7²
CHANGE 8 - JULY 5, 1985		
BY: J. BYCZYNSKI / T. ORTUA / W. ELLIS		
AUX. FW PP 2-1 TURB MAIN STEAM SUPPLY	DELETED - ISOLATION VALVES DOWNSTREAM OF TRAPS TRP-104, 105 & 106. REVISED - ASME CLASS 2 CODE BOUNDARY TO STEAM TRAPS TRP-104, 105 & 106. (PER DC2-SP-24467 REV. 1 OF 8-10-84, FCT-H-4559 OF 3-5-85 AND FCT-5503 OF 9-24-84)	63-C 8¹
EMERGENCY BORATE PIPING	ADDED - NEW LINE 5092, ISOLATING VALVES ON LINES 733 AND 5092, VENT AND DRAIN VALVES. (PER DC2-EM-16477 OF 10-7-83)	143-B 8²
CHANGE 9 - AUG. 15, 1985		
BY: J. BYCZYNSKI / T. ORTUA / W. ELLIS		
CONDENSATE STORAGE TK 2-1	ADDED - NEW CLASS 3 LINE S2-5197-3 WITH CHECK VALVE AND ITEM 63 DRAIN VALVE TO THE ISI PROGRAM. (PER DC2-EM-12184 R1 OF 7-12-83)	331-B 9¹
AUX. SALT WTR. PP's. DISCHARGE	REVISED - ASME CODE BOUNDARIES ON ROOT VALVES OF PI-452, PI-454, AS-185A & AS-186A. (PER DC2-EJ-14733 OF 8-13-83)	354/355-B/C 9²

EQUIPMENT OR SYSTEM	DESCRIPTION	COORDINATES
CHANGE 10 - JAN. 29, 1986		
BY: J. BYCZYNSKI / T. ORTUA / W. ELLIS		
ACCUMULATOR TANKS	ADDED - WIDE RANGE LEVEL INDICATION LOOP PIPING TO THE ISI PROGRAM (PER DC2-EJ-18998 R6 OF 3-10-85)	172/179-D 10¹
CHANGE 11 - APRIL 11, 1986		
BY: J. BYCZYNSKI / T. ORTUA / W. ELLIS		
AUX. FEEDWTR TURBINE	REVISED - VARIOUS LEAKOFF CONNECTIONS (PER DC2-SM-28427 R1 OF 3-20-85)	64-C/D 11¹
RCP SEAL LEAKOFF	DELETED - FLOW INDICATING TRANSMITTERS, ADDED - TEST CONNECTIONS AND VALVES FOR FLOW ELEMENTS CALIBRATION. (PER DC2-EM-32956 R2 OF 12-3-85)	120-D 122-D 125-D 127-D 11²
CHANGE 12 - MAY 15, 1986		
BY: J. BYCZYNSKI / T. ORTUA / W. ELLIS		
CNDS. STOR. TK 2-1 OUTLET TO XFER PP's	ADDED - ITEM 42 DRAIN VALVE TO LINE K-2126-2. (PER DC2-EM-18328 OF 1-10-84)	332-B 12¹
CHANGE 13 - JUNE 4, 1986		
BY: J. BYCZYNSKI / T. ORTUA / W. ELLIS		
STEAM GENERATORS FEEDWATER LINES	ADDED - SODIUM TRACER PROBES ANX-5,6,7 & 8 (PER DC2-EJ-10928 OF 7-21-84)	38/39-E/D 13¹
AUX. FEEDWATER PUMP TURBINE STEAM SUPPLY	ADDED - STRAINER STR-164 WITH BLOW-OFF VALVE UPSTREAM OF TRP-106 (PER DC2-EM-34485 R1 OF 12-16-85)	63-C 13²

UNIT - 2 7² 14⁴

RM INDEXED REV. 14

P.G.&E.CO.

SHEET NO 48 OF SHEETS

DRAWING NUMBER 104628

CHANGE 14

35 MM 1 14

EQUIPMENT OR SYSTEM	DESCRIPTION	COORDINATES
CHANGE 7 - MAY 10, 1985		
BY: J. BYCZYNSKI / T. ORTUA / J. ZEISS		
SPENT FUEL PIT COOLING SYSTEM	ADDED - SPENT FUEL PIT COOLING LOOP TO INCLUDE LINES: 154, 155, 159, 1071, 1070, 2885, 1068, 156, 1069, 158 & 1067 TO THE ISI PROGRAM (PER DC2-EM-14210 OF 8-25-83)	SHEET 24 △7 1
TABLE OF CHANGES	ADDED - NEW SHEET 42	△7 2
CHANGE 8 - JULY 5, 1985		
BY: J. BYCZYNSKI / T. ORTUA / W. ELLIS		
AUX. FW PP 2-1 TURB MAIN STEAM SUPPLY	DELETED - ISOLATION VALVES DOWNSTREAM OF TRAPS TRP-104, 105 & 106. REVISED - ASME CLASS 2 CODE BOUNDARY TO STEAM TRAPS TRP-104, 105 & 106. (PER DC2-SP-24467 REV. 1 OF 8-10-84, FCT-H-4559 OF 3-5-85 AND FCT-5503 OF 9-24-84)	63-C △8 1
EMERGENCY BORATE PIPING	ADDED - NEW LINE 5092, ISOLATING VALVES ON LINES 733 AND 5092, VENT AND DRAIN VALVES. (PER DC2-EM-16477 OF 10-7-83)	143-B △8 2
CHANGE 9 - AUG. 15, 1985		
BY: J. BYCZYNSKI / T. ORTUA / W. ELLIS		
CONDENSATE STORAGE TK 2-1	ADDED - NEW CLASS 3 LINE S2-5197-3 WITH CHECK VALVE AND ITEM 63 DRAIN VALVE TO THE ISI PROGRAM. (PER DC2-EM-12184 R1 OF 7-12-83)	331-B △9 1
AUX. SALT WTR. PP's. DISCHARGE	REVISED - ASME CODE BOUNDARIES ON ROOT VALVES OF PI-452, PI-454, PS-185A & PS-186A. (PER DC2-EJ-14733 OF 8-13-83)	354/355-B/C △9 2
CHANGE 10 - JAN. 29, 1986		
BY: J. BYCZYNSKI / T. ORTUA / W. ELLIS		
ACCUMULATOR TANKS	ADDED - WIDE RANGE LEVEL INDICATION LOOP PIPING TO THE ISI PROGRAM (PER DC2-EJ-18998 R6 OF 3-10-85)	172/179-D △10 1
CHANGE 11 - APRIL 11, 1986		
BY: J. BYCZYNSKI / T. ORTUA / W. ELLIS		
AUX. FEEDWTR TURBINE	REVISED - VARIOUS LEAKOFF CONNECTIONS (PER DC2-SM-28427 R1 OF 3-20-85)	64-C/D △11 1
RCP SEAL LEAKOFF	DELETED - FLOW INDICATING TRANSMITTERS, ADDED - TEST CONNECTIONS AND VALVES FOR FLOW ELEMENTS CALIBRATION. (PER DC2-EM-32956 R2 OF 12-3-85)	120-D, 122-D, 125-D, 127-D △11 2
CHANGE 12 - MAY 15, 1986		
BY: J. BYCZYNSKI / T. ORTUA / W. ELLIS		
CNDS. STOR. TK 2-1 OUTLET TO XFER PP's	ADDED - ITEM 42 DRAIN VALVE TO LINE K-2126-2. (PER DC2-EM-18328 OF 1-10-84)	332-B △12 1
CHANGE 13 - JUNE 4, 1986		
BY: J. BYCZYNSKI / T. ORTUA / W. ELLIS		
STEAM GENERATORS FEEDWATER LINES	ADDED - SODIUM TRACER PROBES ANX-5,6,7 & 8 (PER DC2-EJ-10928 OF 7-21-84)	38/39-E/D △13 1
AUX. FEEDWATER PUMP TURBINE STEAM SUPPLY	ADDED - STRAINER STR-164 WITH BLOW-OFF VALVE UPSTREAM OF TRP-106 (PER DC2-EM-34485 R1 OF 12-16-85)	63-C △13 2

UNIT - 2 △7 2 △14 4

RM INDEXED REV. 14

P.G.&E.CO.

SHEET NO 48 OF SHEETS

DRAWING NUMBER 104628

CHANGE 14

35 M/M 14

EQUIPMENT OR SYSTEM	DESCRIPTION	COORDINATES
	CHANGE 14 - MARCH 3, 1987 **BY: J.BYCZYNSKI, T.ORTUA, W.ELLIS**	
MISCELLANEOUS	REVISED - SHEETS 1,2,3,5,6,8,9,10,11,12,14, 15,17,18,19,20,23,24,25,27,28,29, 30,31,32,33 AND FORMER SHEET 40 (NOW 46) TO CORRECT, UPDATE AND IMPROVE ISI PROGRAM DESCRIPTION. (PER DC2-EM-34779 OF 2-13-86)	14 (1)
	REVISED - SHEETS 1,6,9,10,14,17,19,22,23,24, 27,29,31,32 AND ADDED - NEW SHEETS 40,41,42,43,44,45 TO INCLUDE ALL MECHANICAL PENETRATIONS IN ISI PROGRAM. (PER DC2-EM-36271 OF 4-23-86)	14 (2)
SAFETY INJECTION PUMPS	REVISED - PI-938, PI-939, PX-411 AND PX-412 CONNECTIONS FROM PROCESS LINES (PUMP SUCTION AND DISCHARGE) TO DRAIN LINES. (PER AS-BUILT DWG. 108009, SH.5 REV. 9)	197-D/E 14 (3)
LEGEND FOR NDE EXEMPTION COLOR CODING AND TABLE OF CHANGES	REVISED - SHEET NUMBERING AS FOLLOWS: OLD 40 41 42 NEW 46 47 48	14 (4)
	ADDED - NEW TABLE OF CHANGES SHEET 49.	14 (5)
	CHANGE 15 - AUGUST 28, 1987 **BY: J.BYCZYNSKI, L.TIONGSON, W.ELLIS**	
SPENT FUEL PIT	DELETED - LINES S2-1069-4 & S2-1070-4 ADDED - NEW PUMP 2-2, PIPING, VALVES AND ASSOCIATED INSTRUMENTS. REVISED - LINE S2-1068-3 TO DOWNSTREAM OF LINE S2-156-3, - LINE S2-156-3 TO DOWNSTREAM OF VALVE 8762 AND - LINE S2-1071-3 TO UPSTREAM OF NEW LINE S2-5634-10. ADDED - RO-423 AND CHECK VALVE UPSTREAM OF RELOCATED VALVE 8762. (PER DC2-EM-34785 OF 9-26-86, FCT-H-7905 OF 2-27-87 AND FCT-H-7906 OF 3-03-87)	244/246-C/E 15 (1)
	(19)	

EQUIPMENT OR SYSTEM	DESCRIPTION	COORDINATES
	CHANGE 16 - OCT. 20, 1987 **BY: J.BYCZYNSKI, T. ORTUA, W. ELLIS**	
AUX FEED PUMPS 2 & 3 DISCH LINE CROSS TIE	ADDED - BLIND FLANGED CONNECTION FOR S.G. RAPID DRAIN IN LINE K16-4292-4. (PER DC2-EM-36027 OF 7-16-86)	35-B 16 (1)
	ADDED - DRAIN VALVE OFF LINE K16-4292-4. (REF. FCT-5772 OF 12-7-84)	35-A 16 (2)
AFW PUMP TURBINE MAIN STEAM SUPPLY	ADDED - STRAINERS AND DRAIN CONNECTIONS TO STEAM TRAPS TRP-104,105 & 118. (PER DC2-EM-36029 OF 12-24-86 AND FCT-0-1213 OF 6-29-87)	63-C 67/69-C 16 (3)
R.V. LEVEL INSTR & VENT SYSTEMS	ADDED - SECOND ISOL. VALVES (45V3 ON HOT LEG NO. 4 AND 45V1 ON HOT LEG NO.3) IN UPPER RANGE LEVEL TRANSMITTER SENSING LINES. (PER FCT-0-1130A OF 5-19-87)	94-C 96-C 16 (4)
	ADDED - NOTE 1 (PER DC2-SM-38841 OF 4-29-87 AND DC2-SJ-38841 OF 4-30-87)	97-A 96-C 16 (5)
	CHANGE 17 - DEC. 15, 1987 **BY: J. BYCZYNSKI, L.TIONGSON, W.ELLIS**	
AUX FEED WTR PUMPS	ADDED - PRESSURE RELIEF VALVES RV-536 & RV-537 TO THE SUCTION PIPING. (PER DC2-EM-4037 OF 10-30-85)	31/32 - A/C 17 (1)
BORON INJECTION TANK	ADDED - PRESSURE RELIEF VALVE RV-596, ASSOCIATED VALVES AND PIPING TO TANK DRAIN LINE S6-3/4. (PER DC2-EM-40247 OF 10-7-87 AND FCT-0-1360 OF 10-12-87)	183/184 - B 17 (2)
	CHANGE 18 - JANUARY 29, 1988 **BY: J. BYCZYNSKI, L.I.TIONGSON, W.ELLIS**	
ACCUMULATOR TANK 2-2	REVISED - RELIEF VALVE ID NO. TO 8855B (WAS 8853B) (PER DC2-EM-34620 OF 1-13-86) NOTE: OTHER REVISIONS REQUESTED BY ABOVE DCN WERE INCORPORATED PREVIOUSLY PER DC2-EM-34779 (SEE 14 (1))	174-E 18 (1)

UNIT - 2

RM INDEX REV. 19 (14 (5))

P G & E CO.	104628	REV. 19
SHEET 49 OF SHEETS	MICROFILM	19

41-4491 12-82

MAKE-UP WTR

REVISED - TRANSFER PUMPS

CHANGE 20 - JANUARY 4, 1989

SYSTEM OR EQUIPMENT		DESCRIPTION	COORDINATES	
		CHANGE 24, MAY 10, 1990 **BY: E.O.BROAS/J.Z.BYCZYNSKI/W.ELLIS**		
RCP SEAL #1 WATER OUTLETS	REVISED -	ISI CLASS 2 BOUNDARIES. NOW AT VALVES 8354A,B,C & D; WERE AT BLIND FLANGES DOWNSTREAM OF THESE VALVES. (PER DC2-SM-42667 OF 5/27/89)	120/122/ 124/127- D	24 (1)
SEAL WATER RETURN LINES	ADDED -	SPECTACLE PLATES & FLANGES ON LINES 62,234 & 1500. (PER DC2-SM-42615 OF 5/27/89)	126/127-E	24 (2)
RCP CCW RETURN HEADERS	ADDED -	NEW BOUNDARY VALVES UPSTREAM OF FCV-749 IN LINE 3179 & UPSTREAM OF FCV-750 IN LINE 1357. (PER DC2-SM-42583 OF 6/12/89)	292/293-B	24 (3)
HEADER "C" COMPONENTS	DELETED -	WASTE CONCENTRATOR PACKAGE COOLERS WITH ASSOCIATED PIPING AND VALVES,	304/306-B/D	24 (4)
	ADDED -	ISI CLASS BOUNDARIES AT NOW S.C. ISOL. VALVES ON LINES 148 & 149. (PER DCO-EM-31188 R5 OF 7/28/88)	304-B 304-D	
DIESEL ENGINE JACKET EXPANSION TANK	ADDED -	LEVEL INDICATOR GAUGE GLASS VALVES AND PIPING TO TANK. (PER DC2-SJ-42555 R1 OF 6/1/89)	372-E	24 (5)
CONTAINMENT PRESSURE EQUALIZATION	ADDED -	NOTE 1 TO FCV-662 AND FCV-663. (PER DC2-SM-42670 OF 5/30/89)	431 & 435-C 430-E	24 (6)
TABLE OF CHANGES	ADDED -	NEW SHEET 51		24 (7)
		CHANGE 25, JUNE 29, 1990 **BY: E.O.BROAS/J.Z.BYCZYNSKI/W.ELLIS**		25 (1) (NOT USED)
AFW PUMPS RAW WATER SUCT HDR	REVISED -	LOCATION OF BOUNDARY BETWEEN LINE K-1862-8 AND LINE K-638-8;WAS ON SHEET 38. (PER FCT-10823 OF 1-4-90)	30-A 389-D	25 (2)
MAIN STEAM ISOL. VALVES	ADDED -	INSPECTION PORTS TO FCV-41,FCV-42, FCV-43 AND FCV-44. (PER DC2-EP-44028 OF 6-26-89)	54-D,B 64-D,B	25 (3)
REACT VESSEL LEVEL INSTR.	REVISED - REVISED -	PROVISIONS FOR RVRLIS INSTRUMENTATION, NOTE 1. (PER DC2-SM-44962 OF 2-8-90)	95/96-C 97-A	25 (4)

SYSTEM OR EQUIPMENT		DESCRIPTION	COORDINATES	
SI & RHR PPS DISCH LINES INSIDE CONT.	REVISED -	GRAPHIC REPRESENTATION OF LINES, VALVE AND LINE NUMBERS TO CORRECT MINOR DRAWING DISCREPANCIES. (PER FCT-10590 OF 11-19-89)	191-E,D,B	25 (5)
SPRAY ADDITIVE TANK 2-1	REVISED - ADDED -	LINES 2510 & 2511 ORIENTATION TO REFLECT ACTUAL CONDITIONS, VALVE 9015A ON LINE 264 (PER FCT-10590 OF 11-19-89)	237-B 234-D	25 (6)
RESIDUAL HEAT EXCHS 2-2 & 2-1	REVISED -	RV-47 DISCHARGE LINE CONNECTION TO LINE 122 (WAS TO LINE 99) AND RV-46 DISCHARGE LINE CONNECTION TO LINE 131 (WAS TO LINE 127) (PER FCT-11348 OF 4-29-90)	270-B 324-B	25 (7)
CONDENSATE STORAGE TANK 2-1	REVISED -	"AUX FW PUMP SUCTION" WORDING LOCATION TO LINE 380 (WAS AT LINE 5371) (PER FCT-10590 OF 11-19-89)	333-C/D	25 (8)
		CHANGE 26, SEPT. 14, 1990 **BY: E.O.BROAS/J.Z.BYCZYNSKI/W.ELLIS**		
CONTAINMENT AIR SAMPLE (INSIDE CONTAINMENT)	REVISED -	CHECK VALVE ITEM NO. 19 TO NOTE 1 (PER FCT-11713 OF 4-23-90)	444-B	26 (1)
		CHANGE 27, AUG. 05, 1991 **BY: E.O. BROAS/J.Z. BYCZYNSKI/W. ELLIS**		
AUX. SALTWATER PPS 1 & 2 DISCH.	ADDED -	DETAIL AND NOTE 1 RE: TEMPORARY INSTALLATIONS TO FX-2 & FX-8. (PER DCO-EM-43429 OF 11-27-89)	355/357-D/B	27 (1)

28 (5)

UNIT-2 24 (7)

PG&E CO.	104628	REV. 28
SHEET 51 OF SHEETS		

SYSTEM OR EQUIPMENT	DESCRIPTION	COORDINATES
CHANGE 28 - NOV. 05, 1991 BY: E.O.BROAS, J.Z.BYCZYNSKI, W.ELLIS		
REFUELING WTR STORAGE TANK	ADDED- LINE 52-6017-4 WITH ISOL. VALVE TO LINE 52-261-12. (PER DC2-SN-46266 OF 9-5-90)	187/188-D
RHR HEAT EXCHANGERS	ADDED- CHECK VALVES 8742A AND 8742B WITH VENTS & TEST CONNECTIONS/ DRAINS ON LINES 118 & 119, RESPECTIVELY. (PER DC2-EM-44172 OF 6-30-90)	202-D/E 202-B/C
RESIDUAL HEAT REMOVAL PUMP DISCH.	ADDED- NEW FLOW SWITCH INSTR. PIPING WITH ISOLATION VALVES TO FLOW ELEMENTS FE-641A AND FE-641B. (PER DC2-EM-44666 OF 5-23-90)	205-D 205-B
CONTMNT SPRAY PUMP DISCHARGE	ADDED- DRAIN LINES WITH DRAIN VALVES TO LINES 264 AND 265 DOWNSTREAM OF FLOW ELEMENTS FE-931 AND FE-932, RESPECTIVELY. (PER DC2-SM-44921 R2 OF 7-23-91 AND DC2-SM-44922 R2 OF 7-23-91)	234-D 234-A
TABLE OF CHANGES	ADDED- NEW SHEET 52	
CHANGE 29 - NOV. 22, 1991 BY: E.O.BROAS, J.Z.BYCZYNSKI, W.ELLIS		
EXCESS LETDOWN HX	ADDED- PORTIONS OF SEALWATER LETDOWN DRAIN LINE 6022 AND CNTMNT. STRUCTURE SUMP DRAIN LINE 6024 (WITH TEST CONNECTION) (PER DC2-SN-46113 OF 09-07-90)	127-E 128-D
REGENERATIVE HEAT EXCHGR	ADDED- PORTION OF CNTMNT. STRUCTURE SUMP DRAIN LINE 6026 TO LINE 25. (PER DC2-SN-46113 OF 09-07-90)	132-B/C
RECIPROCATING CHARGING PP	ADDED- NEW ISOLATION VALVE ON LINE 44. (PER DC2-SN-46786 OF 05-17-91)	143-C
CONTAINMENT SPRAY HEADER	ADDED- NEW DRAIN LINES INSIDE CNTMNT. OFF LINES 277 & 278. (PER DC2-SN-46319 OF 9-7-90)	230-E 231-A
CCW SUPPLY TO RCPS	ADDED- DRAIN ON COMPONENT COOLING WTR THERMAL BARRIER RETURN LINE 143 UPSTREAM OF FE-90. (PER DC2-SM-44838 OF 02-16-90)	293-B
STM GENERATOR 10% ATM DUMP	ADDED- TEST CONNECTIONS PX-519, PX-520, PX-521 & PX-522 TO 10% ATM DUMP VALVES. (PER DC2-EN-44913 OF 8-6-90)	53-E/C 63-E/B
AUX FEEDWATER PUMP TURBINE	ADDED- PORTION OF TRAP 118 DISCHARGE LINE INCLUDING NEW CHECK VALVE TO LINE 1045.	64-C
	REVISED- AFW PP SCUPPER DRAIN LINE 151 BOUNDARY LOCATION TO 10" TEE. (PER DC2-SM-44836 OF 9-7-90)	
REACTOR VESSEL HEAD VENT	ADDED- TRAIN A & B ISOLATION VALVES UPSTREAM OF RO-253 & RO-254 AND TEST CONNECTION WITH 45V1 VALVE. (PER DC2-EN-44994 R1 OF 6-5-91)	94/95-B
PRIMARY WTR SUPPLY TO PRT	REVISED- VALVE 8029 IN LINE 3000 TO BALL VALVE. (WAS DIAPHRAGM VALVE) (PER DC2-EJ-44330 R1 OF 7-1-91)	108-D
BORIC ACID BLENDER INLET	REVISED- ELECTROMAGNETIC FLOW TRANSMITTER FT-110 TO FLOW MEASURING ORIFICE FE-110. (PER DC2-SM-42733 R2 OF 6-27-91)	140-A
BORON INJECTION SYSTEM	DELETED- BORON INJECTION TANK CONNECTION TO LINE 1561	159-C/D
	DELETED- BORON INJECTION TANK WITH RELATED PIPING, HEAT TRACING AND INSTRUMENTS. (PER FCT-13141 OF 9-27-91)	183/186-B/D

SYSTEM OR EQUIPMENT	DESCRIPTION	COORDINATES
CHANGE 30 - APRIL 21, 1993 BY: E.O.BROAS, J.Z.BYCZYNSKI, W.ELLIS		
CHEMICAL & VOLUME CONTROL SYS	REVISED- ISI BOUNDARY ON CVCS MINIFLOW LINE TO INCLUDE SECOND MOTOR OPERATED VALVE 8105 AND PIPING AS CLASS 2. (PER FCT-15255 OF 3-31-93)	141-A
SAFETY INJECTION PUMPS TEST	REVISED- ISI BOUNDARY ON SAFETY INJECTION MINIFLOW LINE TO INCLUDE SECOND MOTOR OPERATED VALVE 8974A AND PIPING AS CLASS 2. (PER FCT-15255 OF 3-31-93)	198-D
COMPONENT COOLING WTR RETURN HEADERS	REVISED- ISI BOUNDARY TO INCLUDE SAMPLE LINES UP TO LOCAL SAMPLE STATION ISOLATION VALVES. (PER DC2-EP-48596 OF 9-10-92)	257/258-B/A
CHANGE 31 - MAY 12, 1993 BY: E.O.BROAS, J.Z.BYCZYNSKI, W.ELLIS		
MAIN STEAM LEAD-3 FCV-43 BYPASS	ADDED- MANUAL BYPASS VALVE ON PIPING AROUND FCV-23 OFF LINE 3917. (PER DC2-EN-48146 OF 1-7-92)	54-B
MAIN STEAM LEAD-2 FCV-42 BYPASS	ADDED- MANUAL BYPASS VALVE ON PIPING AROUND FCV-24 OFF LINE 3916. (PER DC2-EN-48146 OF 1-7-92)	64-D
RECIPROCATING CHARG PUMP 3 DISCHARGE	ADDED- A NEW GLOBE VALVE ON LINE 47 DOWNSTREAM OF THE ISOLATION VALVE 8388A. (PER DC2-EP-48290 R1 OF 7-31-92)	145-C
SAFETY INJ. PPS	ADDED- VENT VALVE TO LINE 2326 (PER DC2-EP-48316 OF 4-17-92)	197-C
RESIDUAL HT XCHG 1 & 2 OUTLET & BYPASS HDR	REVISED- HCV-637,-638 & -670 TO BALL VALVES (WERE BUTTERFLY VALVES) ON LINES 119, 118 & 1661, RESPECTIVELY. (PER DC2-EM-44100 R3 OF 1-29-93)	201-D/C/B
	ADDED- VENT VALVES DOWNSTREAM OF CHECK VALVE 8742A OFF LINE 118 & CHECK VALVE 8742B OFF LINE 119. (PER DC2-EM-44100 R3 OF 1-29-93)	202-E/C
CONTAINMENT PRESSURE EQUALIZATION	REVISED- NOTE 1, RE: FCV'S 662 & 663 (PER DC2-SN-48494 R1 OF 12-4-92)	430-E
CHANGE 32 - AUGUST 10, 1993 BY: E.O.BROAS, J.Z.BYCZYNSKI, W.ELLIS		
AUX FW AMMONIA/ HYDRAZINE INJECTION	DELETED- VALVE DESIGNATORS (PER FCT-15706 OF 4-30-92)	47/48/49-B
CHEMICAL & VOLUME CONTROL SYS	REVISED- ISI BOUNDARY ON CVCS MINIFLOW LINE TO INCLUDE ONLY FIRST MOTOR OPERATED VALVE 8106 AND REMOVE VALVE 8105 AND PIPING FROM CLASS 2 DESIGNATION. (PER FCT-15784 OF 7-7-93)	141-A
SAFETY INJECTION SYS	REVISED- ISI BOUNDARY ON SAFETY INJECTION MINIFLOW LINE TO INCLUDE ONLY FIRST MOTOR OPERATED VALVE 8974B AND REMOVE VALVE 8974A AND PIPING FROM CLASS 2 DESIGNATION. (PER FCT-15784 OF 7-7-93)	198-D
CHANGE 33 - AUGUST 31, 1993 BY: E.O.BROAS, J.Z.BYCZYNSKI, W.ELLIS		
ENGINE JACKET WTR COOLING SYS	REVISED- DRAWING SUB-TITLE TO INCLUDE 3 DIESEL ENGINE-GENERATOR UNITS. (PER FCT-15152 OF 3-24-93)	373/375-B

SYSTEM OR EQUIPMENT	DESCRIPTION	COORDINATES
CHANGE 34 - DECEMBER 21, 1993 BY: E.O.BROAS, J.Z.BYCZYNSKI, W.ELLIS		
RECIPROCATING CHARG PUMP 2-3 SUCTION AND DISCHARGE	REVISED- POSITIVE DISPLACEMENT CHARGING PUMP SUCTION STABILIZER AND DISCHARGE PULSATION DAMPER TO HELMHOLTZ DESIGN "ALL LIQUID FILTERS".	144-C
	DELETED- ISOLATION VALVE 8388A FROM LINE 47. (PER DC2-SN-48303 OF 10-15-92)	145-C
CHANGE 35 - MAY 12, 1994 BY: E.O.BROAS, J.Z.BYCZYNSKI, W.ELLIS		
RCS LOOP 3 COLD LEG	DELETED- VENT VALVES OFF LINE 255 DOWNSTREAM OF CHECK VALVE 8948C. (VENT LINE CAPPED) (PER DC2-EP-50081 OF 4-8-94)	130-B
CHANGE 36 - APRIL 20, 1995 BY: E.O.BROAS, J.Z.BYCZYNSKI, N.GOWRISH		
REACTOR COOLANT SYSTEM	DELETED- RTD BYPASS PIPING WITH ASSOCIATED INSTRUMENTATION.	SHTS. 1 & 8
	ADDED- LINE 1140 WITH TWO ISOLATION VALVES TO LINE 9. (PER DC2-EM-44425 R2 OF 7-29-94)	82-E
RAW WATER STG RESERVOIR	REVISED- MOTOR OPERATED VALVES ON LINES 638 & 561 TO MANUAL VALVES (PER FCT-18274 OF 10-22-94)	30/31-B/A
STM GEN 2-2 FW SUPPLY	DELETED- VENT VALVE OFF LINE 555. (PER FCT-18253 OF 10-21-94)	61-C
RVLIS	ADDED- 45V1 ISOLATION & DRAIN VALVES IN WIDE RANGE LT UPPER ⅝" SENSING LINE. (PER DC2-SJ-50090 OF 11-2-94)	95-C
REACTOR COOLANT SYSTEM	DELETED- RTD BYPASS PIPING WITH ASSOCIATED INSTRUMENTATION. SHT.11 IS NOW LEFT INTENTIONALLY BLANK. (PER DC2-EM-44425 R2 OF 7-29-94)	SHT.11
CHARGING PUMPS DISCHARGE	ADDED- PRESSURE EQUALIZING LINES 2328,2329,2330 & 2331 WITH ISOLATION VALVES TO MOTOR OPERATED VALVES 8803A, 8803B, 8801A & 8801B RESPECTIVELY. (PER DC2-EN-50112 R1 OF 11-3-94)	182/183-D/C 185-C/B
RHR INJECTION TO HOT LEGS 1 & 2	ADDED- PRESSURE EQUALIZING LINE 6155 WITH TWO ISOLATION VALVES & RO-450 TO RHR VALVE 8703. (PER DC2-EN-48960 OF 11-3-94)	208/209-B/A
LETDOWN HEAT EXCHANGER	ADDED- CORROSION MONITOR TEST LOOP WITH ASSOCIATED VALVES & STRAINER 205 AROUND VALVE TCV-130. (PER DC2-EM-48029 OF 10-13-93)	312-B
EXCESS LETDOWN HEAT EXCHANGER CCW RETURN	DELETED- DRAIN VALVE OFF EXCESS LETDOWN HX 2-1.	318-C
	ADDED- DRAIN VALVE IN LINE 3292 UPSTREAM OF RV-52. (PER FCT-18047 OF 10-3-94)	
CHANGE 37 - JUNE 27, 1995 BY: E.O.BROAS, J.Z.BYCZYNSKI, N.GOWRISH		
SAFETY INJECTION PP 2-2	DELETED- RESTRICTING ORIFICE RO 269 FROM LINE 1981. (PER FCT-18899 OF 3-30-95)	197-C/D

SYSTEM OR EQUIPMENT	DESCRIPTION	COORDINATES
CHANGE 38 - OCTOBER 19, 1995 BY: E.O.BROAS, J.Z.BYCZYNSKI, N.GOWRISH		
CNT SPRAY ACTUATION	ADDED- PRESSURE TRANSMITTER PT-933 ON LINE 2514. (PER FCT-19511 OF 9-22-95)	232/233-C
CHANGE 39 - JANUARY 11, 1996 BY: E.O.BROAS, J.Z.BYCZYNSKI, D.KIM		
COMPONENT COOLING WATER PUMPS	ADDED- FLOW INDICATORS FI-2004 ON LINE 3178 AND FI-2005 ON LINE 3177. (PER FCT-18385 OF 12-2-94)	254/255-C/D
CHANGE 40 - FEBRUARY 2, 1996 BY: E.O.BROAS, J.Z.BYCZYNSKI, D.KIM		
RECIPROCATING CHARGING PUMP 2-3 DISCH	DELETED- PRESSURE TRANSMITTER ROOT VALVE FROM PULSATION DAMPENER 2-3B. (PER FCT-19999 OF 12-28-95)	144-C
CHANGE 41 - MARCH 29, 1996 BY: E.O.BROAS, J.Z.BYCZYNSKI, D.KIM		
SAFETY INJECTION PP 2-2	ADDED- RESTRICTING ORIFICE RO 269 TO LINE 1981. (PER FCT-20181 OF 2-23-96)	197-C/D
CHANGE 42 - JUNE 14, 1996 BY: E.O.BROAS, J.Z.BYCZYNSKI, L.WALTER		
REACTOR VESSEL LEVEL INSTR & VENT SYSTEMS	ADDED- FOUR (4) CALIBRATION ACCESS VALVES TO HIGH-VOLUME SENSORS ON LINES 4684,4681,4686 AND 4683. (PER FCT-20626 OF 5-9-96)	93/96-B/E
RCS CHARGING LINE LOOP 4	DELETED- DOUBLE VENT VALVES OFF LINE 246.	149-C
	ADDED- 1" DESIGNATION TO FIRST VENT VALVE ON LINE 246. (PER FCT-20483 OF 4-26-96)	
CENTRIFUGAL CHARGING PUMPS	ADDED- NOTE 1 TO CHARGING PUMP 2-1.	160/165-B/D
	DELETED- LINES 1923 & 1924 AND ASSOCIATED COORDINATES AND HEADER "A" PP 2-1. (PER FCT-20550 OF 5-2-96)	169-B/C
RCS LOOPS 1,2 & 4 COLD LEG	DELETED- DOUBLE VENT VALVES OFF LINES 253, 254 & 256. (PER FCT-20483 OF 4-26-96)	170-A/B/C
CENTRIFUGAL CHARGING PUMP 2-1	DELETED- SYSTEM 2 SEAL COOLERS 2-1A & 2-1B AND SEAL PLATE COOLERS 2-1 WITH ASSOCIATED DRAIN VALVES & PIPES. (PER FCT-20550 OF 5-2-96)	321-B/C/D

PRINTING INSTRUCTIONS

FRONT	1	2	4	6	8	9	10	11	12	14	16	18	19	21	22	23	24	26
BACK	-	3	5	-	7	-	-	-	13	15	17	-	20	-	-	-	25	27

FRONT	29	30	32	34	35	36	37	39	40	42	44	46	47	49	51	52
BACK	28	31	33	-	-	-	38	-	41	43	45	-	48	50	-	-

TOTAL NUMBER OF SHEETS: 52

UNIT 2

P.G.&E. CO.	DRAWING NUMBER	REV
SHEET 52 OF 52 SHEETS	104628	42

MICROFILM

SCAN 42 IC 42