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COPY

PACIFIC GAS AND ELECTRIC COMPANY

PG&E

77 BEALE STREET, SAN FRANCISCO, CALIFORNIA 94106 TELEPHONE (415) 781-4211

RELATED CORRESPONDENCE

'84 JUL 26 A10:30

July 17, 1984

PGandE Letter No.: DCL-84-262

Mr. John B. Martin, Regional Administrator
U. S. Nuclear Regulatory Commission, Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596-5368

Attn: Mr. R. J. Pate, Chief
Operator Licensing Section

Re: Docket No. 50-323 / OL
Diablo Canyon Unit 2
License Examination Waiver Request

Dear Mr. Martin:

In accordance with 10 CFR 55.24, Operators' Licenses, PGandE requests that examination and test requirements for all presently licensed personnel (OL and SOL) for Diablo Canyon Unit 1 be waived for Unit 2, and combined operator licenses for Diablo Canyon Units 1 and 2 be issued. PGandE believes the waiver to be justified for the following reasons:

1. Diablo Canyon Units 1 and 2 are essentially identical units, both in design and operation.

2. The major physical differences are in reactor internals and control rod patterns.

3. Many of the shared systems between units (few of which are vital systems), have already been operating to support Unit 1 operations.

4. Most of the shared systems are operated from the Unit 1 control room or Unit 1 side of the plant.

5. Classroom training on the differences is scheduled to be completed on August 10, 1984. The training course is outlined in Enclosure 1. A comprehensive test will be administered to all license holders upon completion of their training.

6. Since the differences are minimal, many Unit 1 NRC license examinations have been held using the Unit 2 side of the control room.

7. The control rooms are essentially identical, and are NOT mirror image (i.e. the location of controls is in the same position from left to right). With the completion of the detailed Control Room Design Review (CRDR), dissimilarities will be reduced further.

D503

8. Licensed personnel have received operational training and experience during the startup testing of Unit 1, including natural circulation operation and simulated loss of off-site power. This training and experience is directly applicable to the safe operation of Unit 2.

9. All licensed personnel have had experience in operation of Unit 1 during pre-operational testing, hot functional testing, fuel loading, startup testing, and low power testing. In addition, licensed management personnel have been involved in procedure writing and testing, have successfully undergone requalification training, and have supported the operation of the plant both on and off shift.

10. All licensed personnel have successfully completed requalification for the 1983 annual cycle.

11. The success in licensing operators at Diablo Canyon has indicated a high degree of competency and efficiency in the training programs.

I certify that the personnel listed in Enclosure 2 have competently and safely discharged their duties and responsibilities in accordance with their licenses, and they are capable of continuing to do so in the future.

License applications for the 60 licensed individuals will be submitted by July 20, 1984.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Subscribed to in San Francisco, California this 17th day of July, 1984.

Respectfully submitted,

Pacific Gas and Electric Company

By ORIGINAL SIGNED BY
J. O. Schuyler
Vice President
Nuclear Power Generation

Robert Ohlbach
Philip A. Crane, Jr.
Richard F. Locke
Attorneys for Pacific
Gas and Electric Company

By ORIGINAL SIGNED BY
Philip A. Crane, Jr.

Subscribed and sworn to before me
this 17th day of July, 1984

ORIGINAL SIGNED BY
C. T. Neal-Madison, Notary Public in
and for the City and County of
San Francisco, State of California

My commission expires December 27, 1985.

C. T. NEAL MADISON
NOTARY PUBLIC – CALIFORNIA
CITY AND COUNTY OF
SAN FRANCISCO
My Commission Expires Dec. 27, 1985

SEAL

Enclosures

cc: G. W. Knighton
Service List

ENCLOSURE 1

UNIT DIFFERENCES TRAINING PROGRAM

Diablo Canyon Units 1 and 2 are essentially identical units, both in design and operation. The major physical differences are in reactor internals and control rod patterns. Many of the non-vital systems are shared between the units and have been operating for many years to support Unit 1 operations.

The information in this enclosure was prepared to familiarize the licensed operators with the differences between and the shared systems of Units 1 and 2. To enhance the presentation of this material, the contents are divided into four categories:

1. PLANT DESIGN - This section discusses major design differences between each unit.

2. CROSS-CONNECTED or SHARED SYSTEMS - This section discusses the systems that are cross-connected or shared and any operational concerns related to this configuration.

3. CONTROL ROOM - This section identifies annunciator and switch differences.

4. TECHNICAL SPECIFICATIONS - This section identifies differences between Units 1 and 2.

For completeness in coverage of the material contained in this enclosure, there is duplication of material from one section to the next.

CATEGORY: Plant Design

Item No.

1. Generator H_2 Cooling
2. Reactor Vessel Internals
3. Containment Electrical Penetration Overcurrent Protection
4. Rod Control System
5. Core Thermocouples

CATEGORY: Plant Design

Item 1: Generator H_2 Cooling

A. Reference

1. DCPP FSAR Chapter 10

B. Description

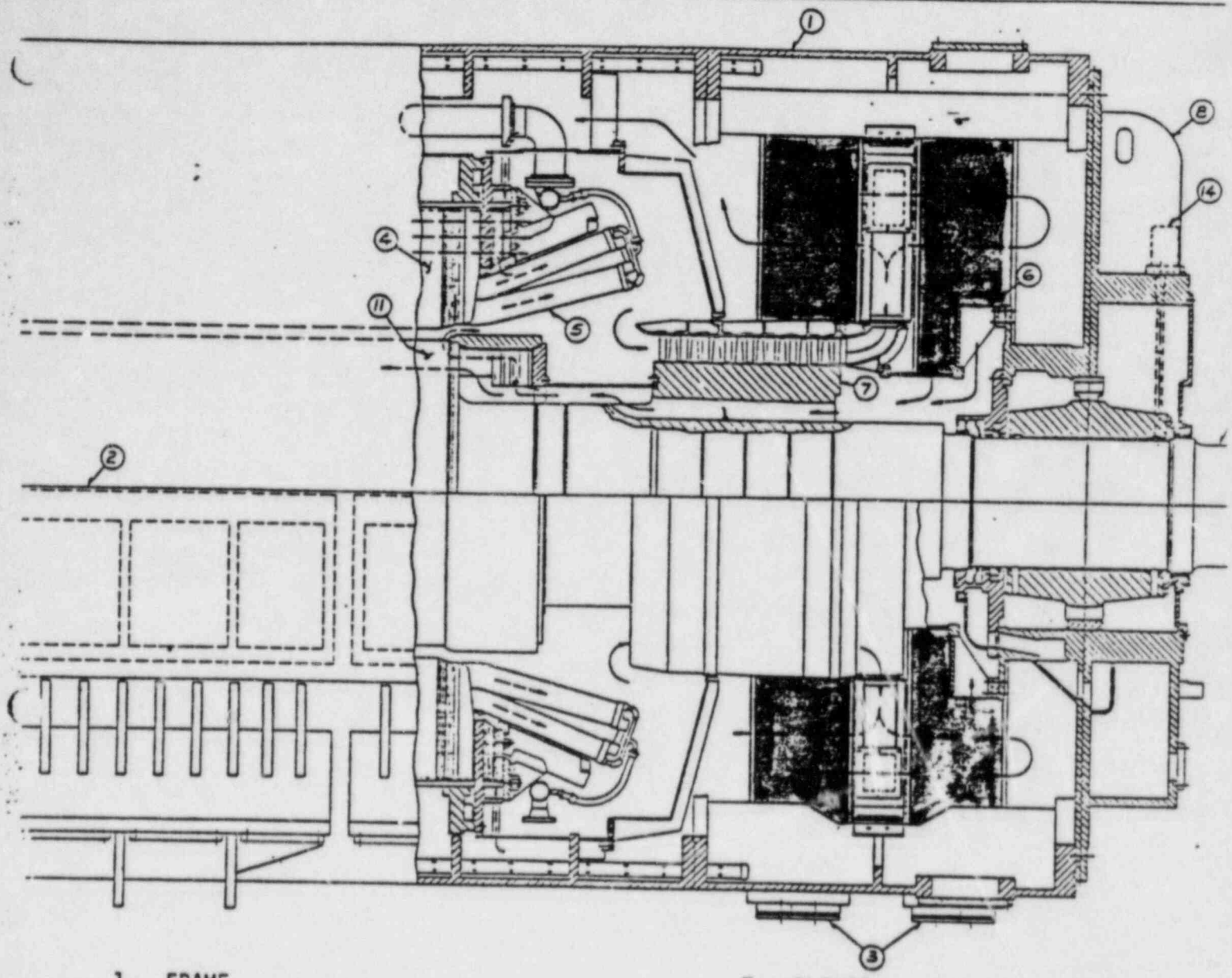
Unit 2 main generator has a horizontally-mounted H_2 heat exchanger vice the vertically-mounted heat exchanger as installed on Unit 1. (Drawing attached)

C. Reason

Since Unit 2 has a higher thermal power rating, (1170 MWe vice 1086 MWe for Unit 1), a higher electrical output is allowed and to support this, increased cooling was designed in.

D. Operational Considerations

Generator Capability Curve will be less limiting on Unit 2. Otherwise there will be no operational difference.

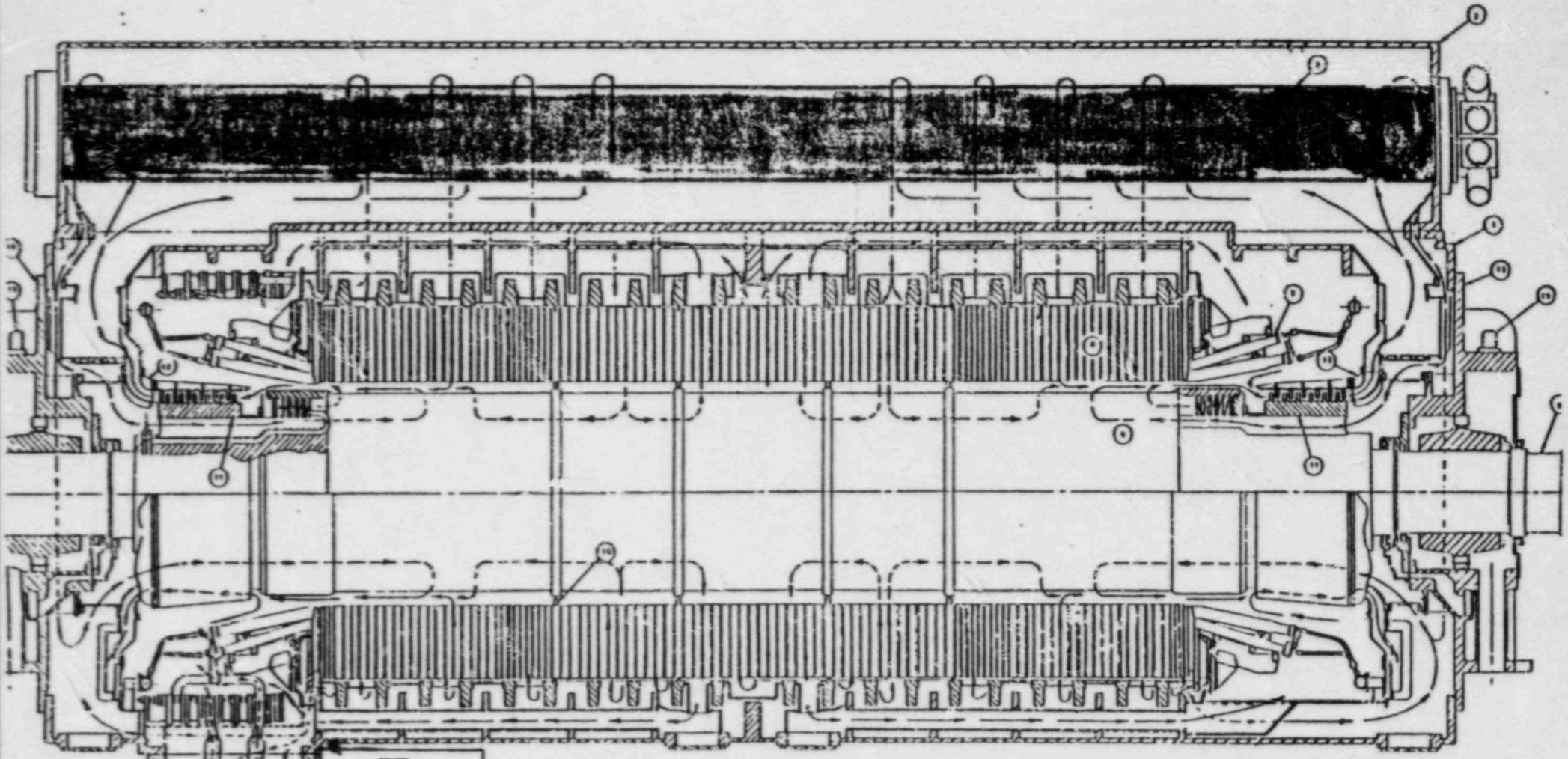


1. FRAME
2. FRAME COVER
3. [redacted] COOLERS
4. STATOR CORE
5. STATOR WINDING
6. BLOWER SHROUD SUPPORT ASSEMBLY
7. BLOWER
8. GLAND SEAL, BEARING & BRACKET T.E.
10. SHAFT
11. ROTOR WINDING
14. VIBRO METER PICKUP

DCPP FOR INFORMATION ONLY

FIGURE J - 4 - 3B [redacted] TURBINE END

Dwg



1. FRAME
2. COOLER HOUSING
3. [redacted]
4. STATOR CORE
5. STATOR WINDING
6. MAIN LEADS
7. MAIN LEAD BOX
8. SHAFT
9. ROTOR WINDING
10. AIR GAP BAFFLES
11. BLOWER
12. BLOWER SHROUD SUPPORT
13. GLAND SEAL, BEARING & BEARING BRACKET T.E.
14. GLAND SEAL, BEARING & BEARING BRACKET E.E.
15. VIBROMETER PICKUP

DCPP FOR INFORMATION ONLY

FIGURE J - 4 - 3C [redacted]

CATEGORY: Plant Design

ITEM 2: Reactor Vessel Internals

A. Reference

1. DCPP Equipment Description

2. DCPP FSAR Chapter 4

B. Description (Drawings Attached)

1. Unit 2 equipped with "neutron pads" at peak neutron flux areas vice the full "thermal shield" on Unit 1.

2. Unit 2 has no diffuser plate installed in lower internals (Unit 1 does).

3. Unit 2 upper support plate is flat. Unit 1's is of a top-hat configuration.

4. Difference in rod pattern and fuel grid.

C. Reason

1. Unit 2 allows greater coolant flow, thus higher Rated Thermal Power.

2. Unit 2 internals less expensive to fabricate.

D. Operational Considerations

Soak times on natural circulation cooldowns w/o CRDM fans will be more restrictive for unit 2 due to increased mass of water in plenum. It would also require a larger inventory of water in pressurizer to collapse a void in the plenum area.

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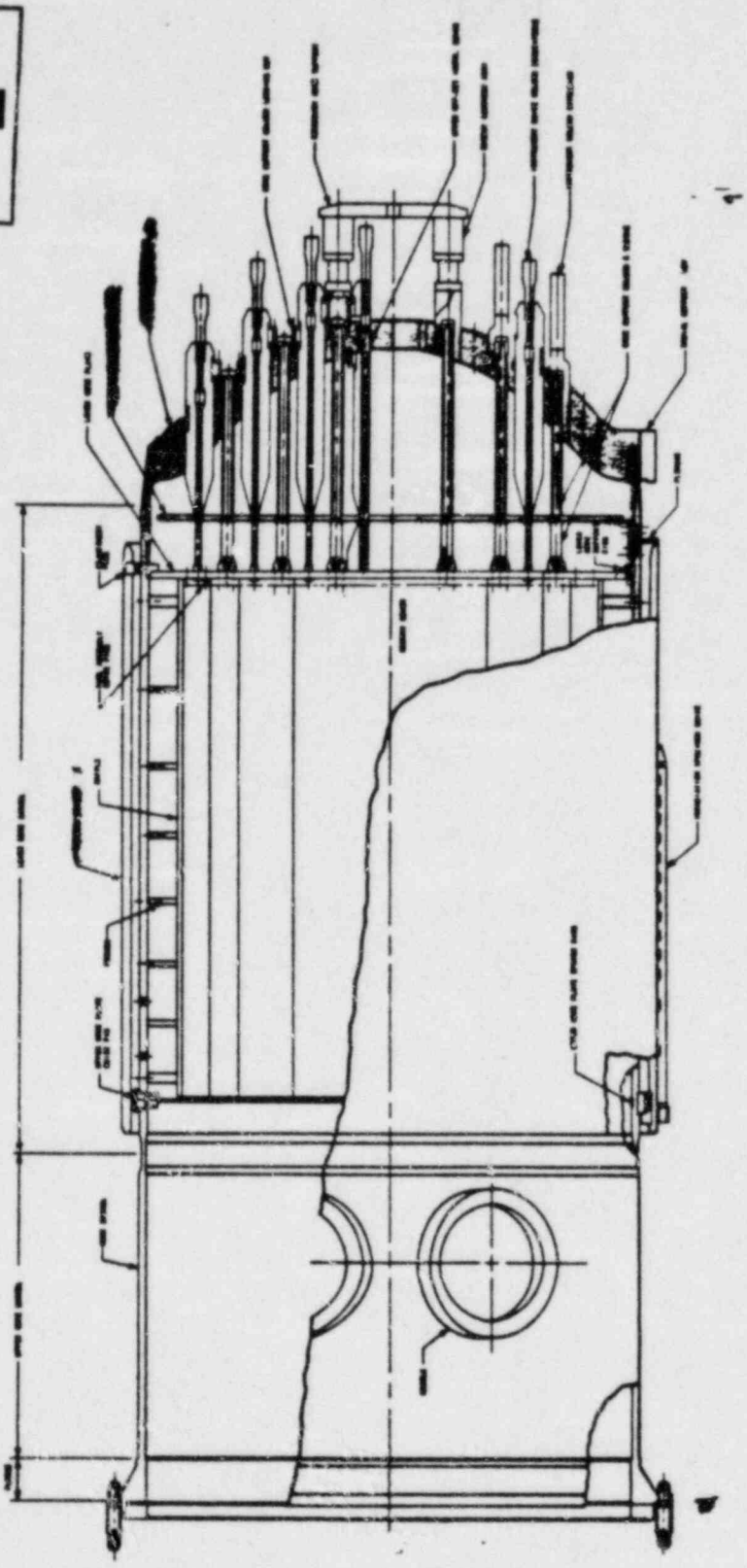

UNIT 1
DIABLO CANYON SITE

FIGURE 4.2-6A

[redacted] CORE SUPPORT ASSEMBLY
(UNIT 1)

UNIT 1/UNIT 2 SIGNIFICANT DIFFERENCES

1. Unit 2 has nuetron shield panels vice wrapped around thermal shield.
2. Unit 2 does not have a diffuser plate.
3. Core support on Unit 2 is flat not hemispherical.

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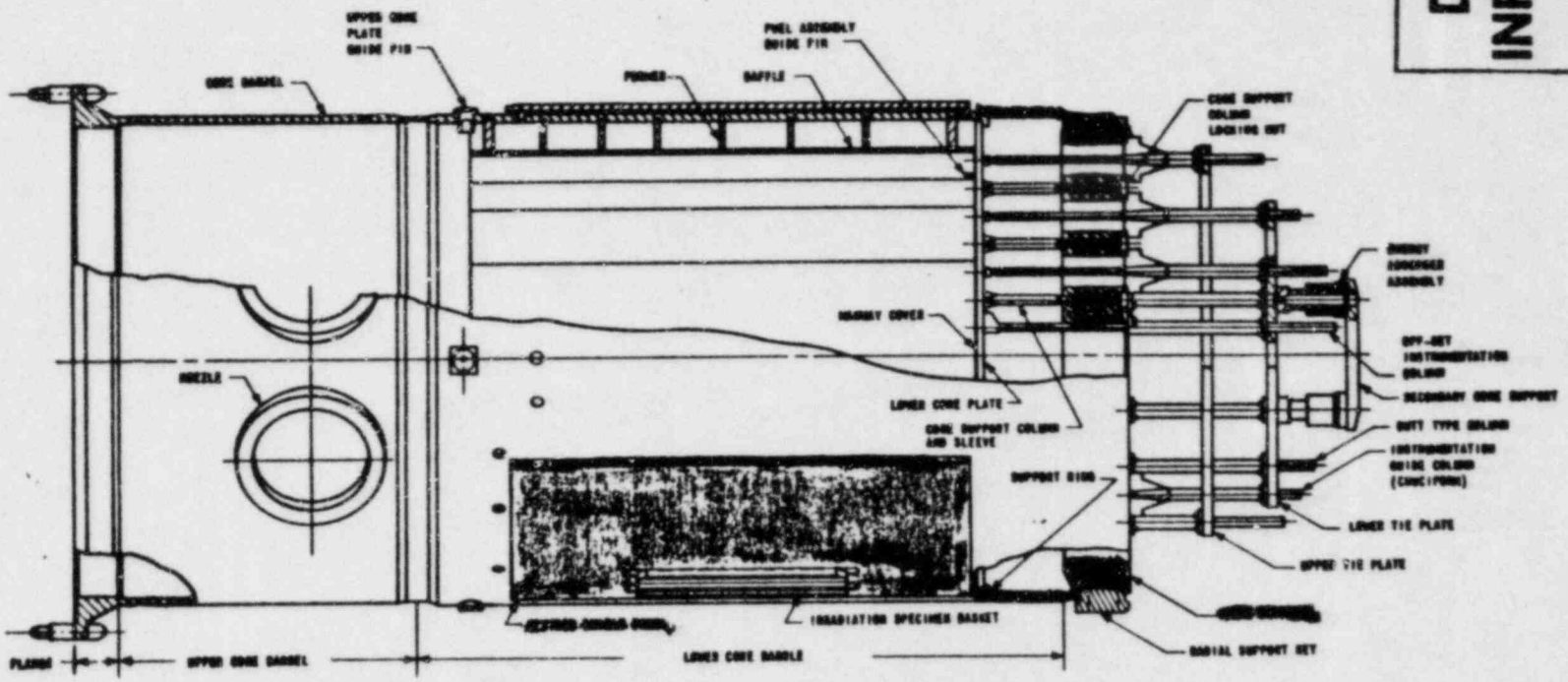

UNIT 2
DIABLO CANYON SITE

FIGURE 4.2-6B

[redacted] CORE SUPPORT ASSEMBLY

(UNIT 2)

March 1974

Amendment 5

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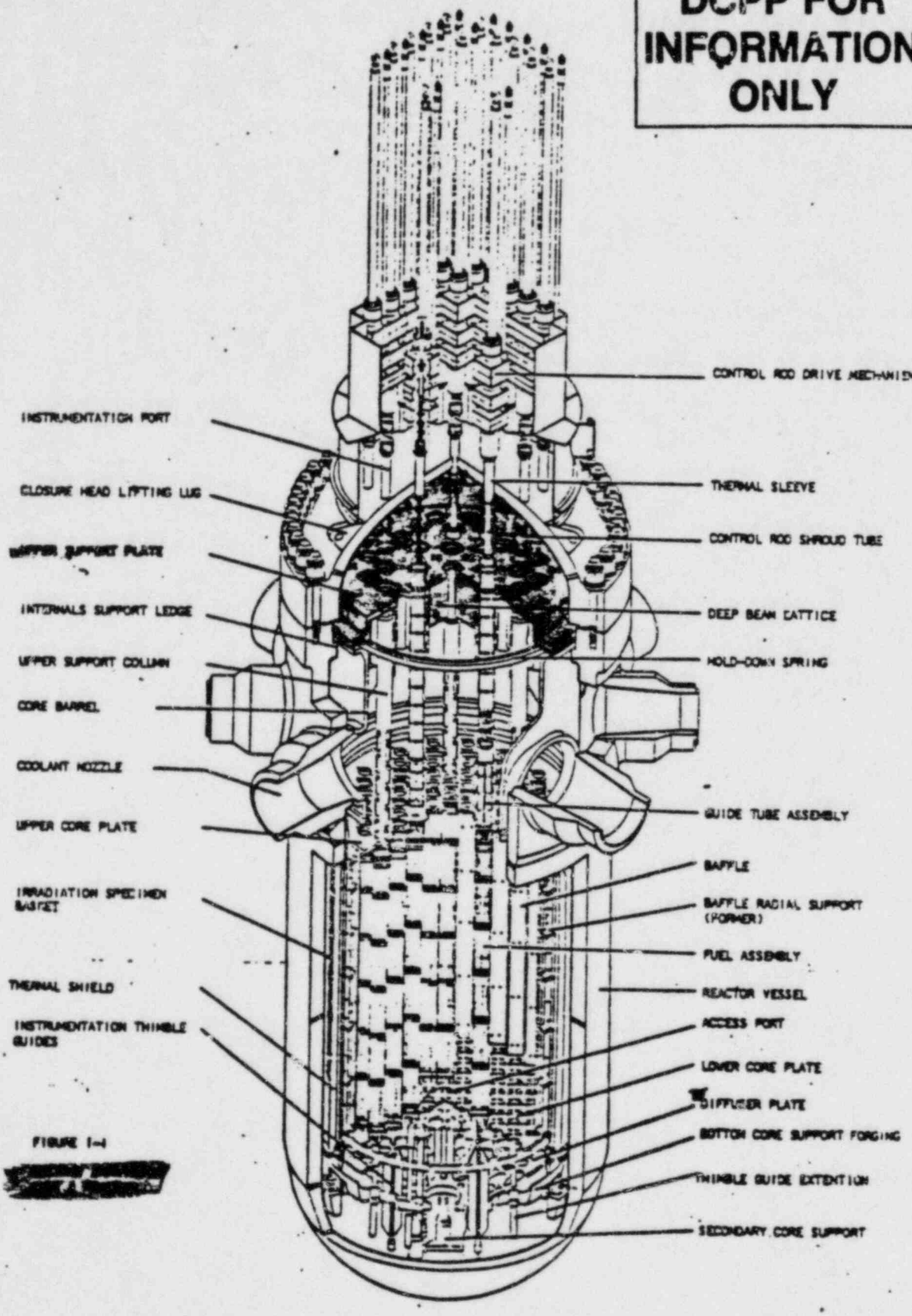


FIGURE I-4

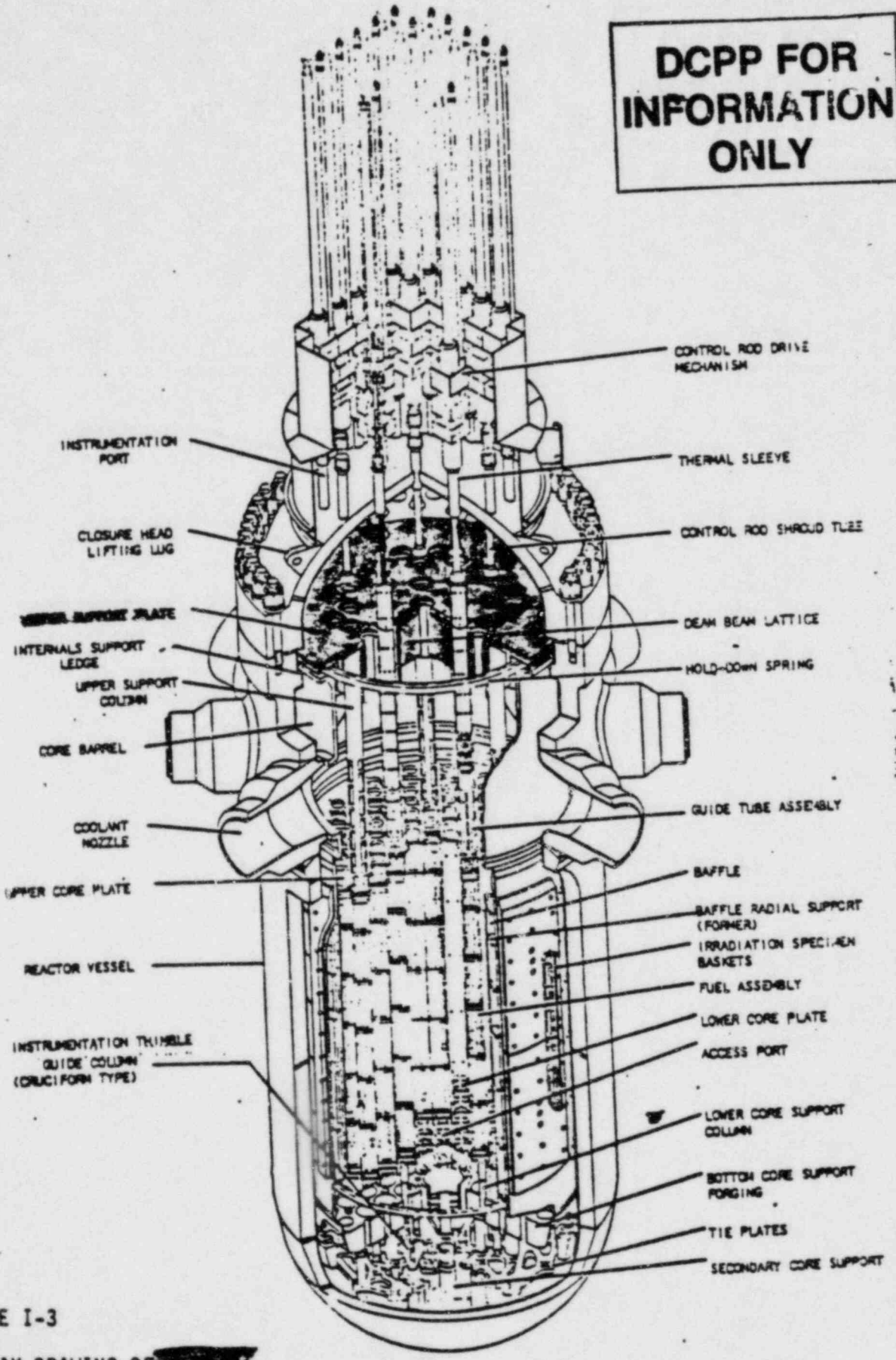


FIGURE I-3

CUTAWAY DRAWING OF [redacted] REACTOR

CATEGORY: Plant Design

Item 3: Containment Electrical Penetration Overcurrent Protection

A. Reference

1. (PGandE Engineering Group)

B. Description

All electrical circuits which penetrate containment are equipped with a redundant circuit breaker (in series). Fuses are used instead of circuit breakers for low voltage control circuit applications. PGandE committed to install this additional protection on Unit 2 by fuel load; on Unit 1 during first refueling outage.

C. Reason

To prevent overcurrent and subsequent melting of an electrical cable penetrating the containment, which would result in a breach of containment.

D. Operational Considerations

Normal practices. Operator must be aware of the added breakers and fuses (additional isolation points).

CATEGORY: Plant Design

Item 4: Rod Control System

A. Reference

1. DCPP Equipment Description

2. DCPP Main Control Board

B. Description

1. Unit 1 Control Bank A comprised of 8 CRDM's
   Unit 2 Control Bank A comprised of 4 CRDM's

2. Unit 1 Control Bank B comprised of 4 CRDM's
   Unit 2 Control Bank B comprised of 8 CRDM's

C. Reason

Unit 2 is designed for the plutonium recycle core and unit 1 is not.

D. Operational Considerations

Difference between units for Control Bank A and Control Bank B rod worths. This will be of minimal concern because these banks are always withdrawn for operation.

CATEGORY: Plant Design

Item 5: Core Thermocouples

A. Reference

DCPP P&ID 102035 (Unit 1 & 2)

B. Description:

1) The cores are indexed the same but the loops are mirror images, thus the thermocouples quadrants do not match the same loops on each unit.

2) Unit 1 has 4 of the 65 incore thermocouples terminated in the upper head area, 2 of which are used as an input to the subcooling margin monitor.

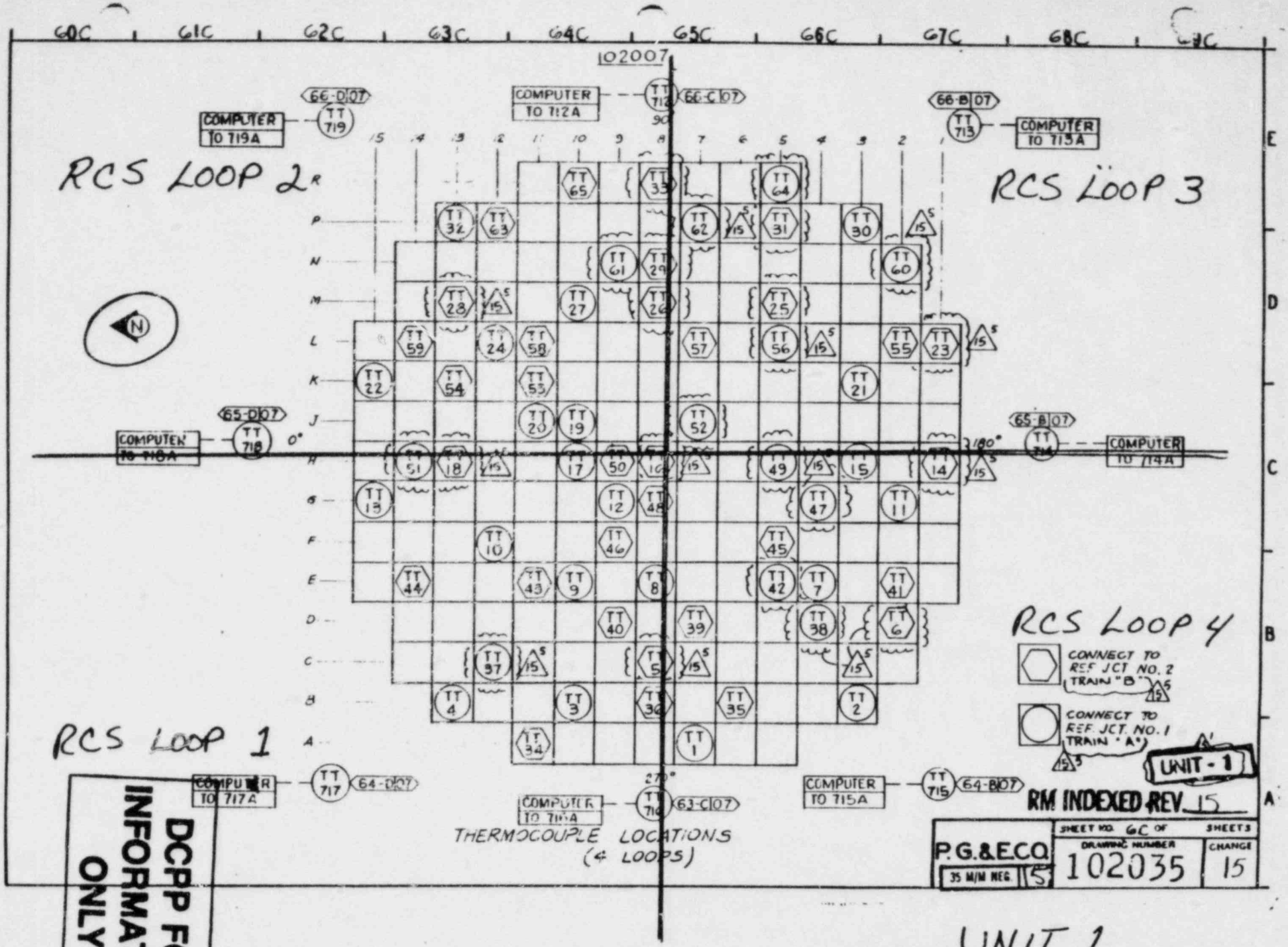
C. Reason

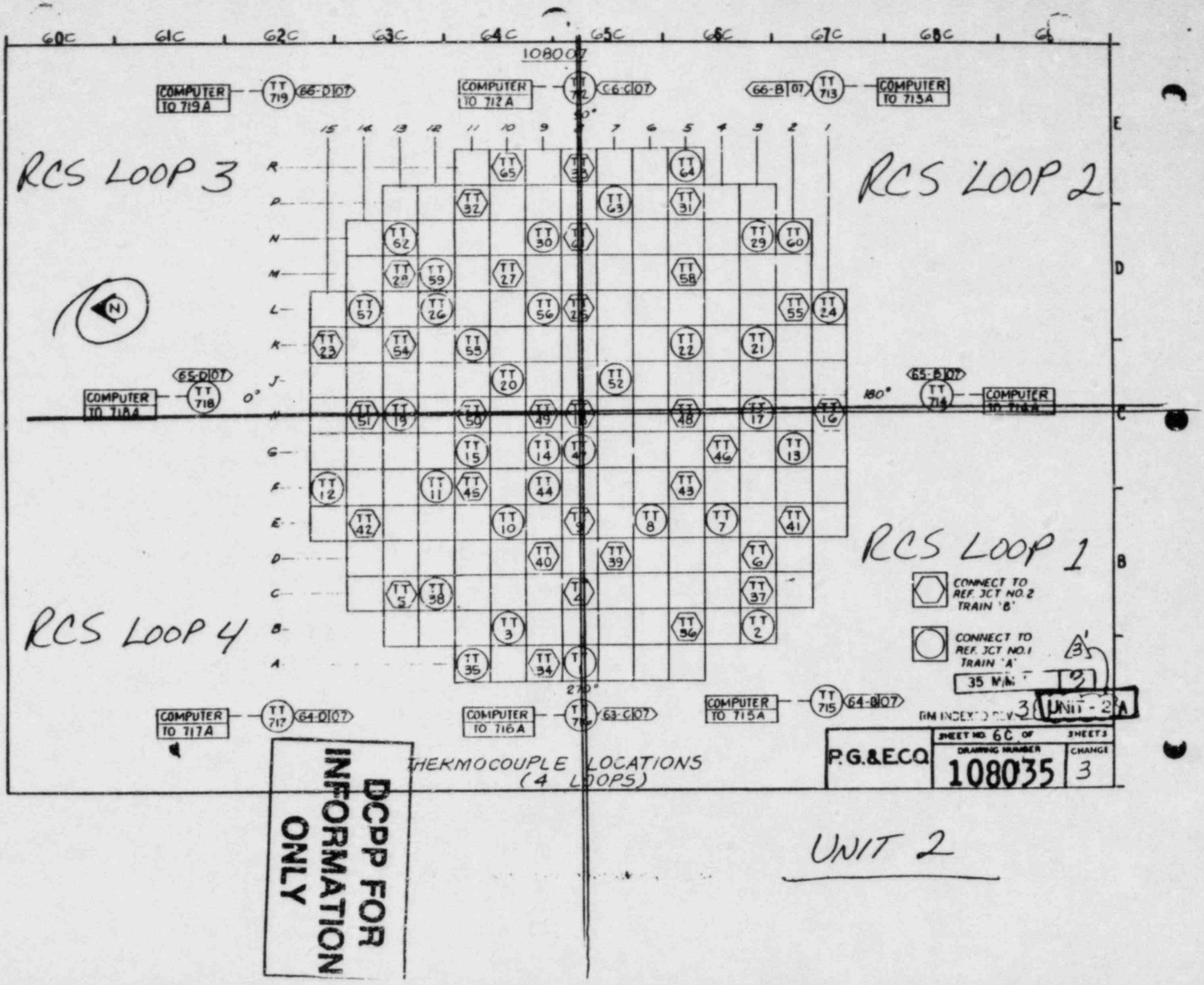
Westinghouse requested that 4 thermocouples be terminated in the plenum on Unit 1 to provide monitoring of plenum temperatures during natural circulation testing. This provision was not performed on Unit 2 since it will not be required to duplicate the natural circulation tests performed on Unit 1.

D. Operational Considerations

1) With no temperature monitoring of the plenum on Unit 2, soak times on natural circulation will have to be strictly adhered to.

2) The subcooling margin monitor on either unit, always reflects the lowest subcooling based on the hottest temperature, since Unit 1 has an input from the plenum area, natural circulation on unit 1 may indicate a lower than expected subcooling if CRDM fans are not running.


60C
61C
62C
63C
64C
65C
66C
67C
68C
69C
102007
RCS LOOP 2
RCS LOOP 3
RCS LOOP 4
RCS LOOP 1
COMPUTER TO 719A
66-D 07
TT 719
COMPUTER TO 712A
66-C 07
66-B 07
TT 713
COMPUTER TO 713A
COMPUTER TO 718A
65-D 07
TT 718
COMPUTER TO 714A
65-B 07
TT 714
COMPUTER TO 717A
64-D 07
TT 717
COMPUTER TO 716A
63-C 07
TT 716
COMPUTER TO 715A
64-B 07
TT 715
0°
90°
180°
270°
CONNECT TO REF JCT NO. 2 TRAIN "B"
CONNECT TO REF. JCT. NO. 1 TRAIN "A"
UNIT - 1
RM INDEXED REV. 15
THERMOCOUPLE LOCATIONS (4 LOOPS)
P.G.&E.CO.
SHEET NO. 6C OF SHEETS
DRAWING NUMBER 102035
CHANGE 15
35 M/M NEG 5
DCPP FOR INFORMATION ONLY
UNIT 1


RCS LOOP 3
RCS LOOP 2
RCS LOOP 4
RCS LOOP 1
108007
COMPUTER TO 719A
COMPUTER TO 712A
COMPUTER TO 713A
COMPUTER TO 718A
COMPUTER TO 714A
COMPUTER TO 717A
COMPUTER TO 716A
COMPUTER TO 715A
CONNECT TO REF. JCT NO.2 TRAIN 'B'
CONNECT TO REF. JCT NO.1 TRAIN 'A'
35 MIN.
UNIT - 2
P.G.&E.CO.
SHEET NO. 6C OF 3 SHEETS
DRAWING NUMBER 108035
CHANGE 3
THERMOCOUPLE LOCATIONS (4 LOOPS)
DCPP FOR INFORMATION ONLY
UNIT 2

CATEGORY: Cross-Connected or Shared Systems

Item No.

1. Electrical
   a. 12KV Startup Buses
   b. 230KV Offsite Power Supply
2. Auxiliary Steam
3. Main Steam (at Gland Steam Reducer)
4. Condenser Vacuum Pump
5. Primary Water Storage Tanks
6. Condensate Storage Tanks
7. Auxiliary Salt Water
8. Service Cooling Water
9. Component Cooling Water
10. Screen Wash System
11. Fire Protection
12. Boron Recycle
13. Liquid Radwaste
14. Gaseous Radwaste
15. Diesel Generator 1-3
16. Compressed Air
17. Oily Water Separator and Turbine Building Sump System

CATEGORY: Cross-Connected or Shared Systems

Item 1: Electrical Distribution System

I. 12KV Startup Buses

A. Reference

1. DCPP Equipment Description

B. Description

12KV Startup Buses can be cross-connected to supply both units from one 12KV Startup Transformer.

C. Reason

System flexibility, e.g. loss of Unit 1 Startup Transformer 1-1

D. Operational Considerations

Overload of on-line Startup Transformer when starting multiple RCP's or Circulating Water Pumps simultaneously while operating with Startup Buses cross-tied on one transformer. Transformer rating: 75 MVA w/pumps and fans; 45 MVA w/o pumps and fans.

If in this lineup the loading of the bus will be monitored closely to alleviate overloading. This lineup is undersirable and will not normally be done.

II. 230KV Offsite Power Supply

A. Reference

1. FSAR Chap. 8

B. Description

Unit 1/2 Startup Transformers are fed from the 230 KV switchyard through a common circuit breaker (OCB 212)

C. Reason

A single line is acceptable to provide the power requirements for startup of the units and the added back up reliability for loss of axuliary power during operation.

D. Operational Considerations

Loss of OCB 212 impacts OPERABILITY of offsite power supplies for both units. If available, however, the bypass around OCB 212 may be closed to provide 230 KV power to the plant. Both units would enter an ACTION statement for loss of an off-site power source and follow the appropriate time constraints until such time that the bypass was closed or OCB 212 was declared operable.

12. Check fuses installed close the startup bank grounding transformer.

SUT 1-1	SUT 2-1
"Grounding Trans Fuse Disc. Sw. for Startup Trans. 1-1".	"Grounding Trans Fuse Disc. Sw for Startup Trans. 2-1".

13. Check 12 & 4 KV busses being supplied by auxiliary power on both units. If busses need to be transferred to auxiliary, refer to OP J-5:II.

14. Start all diesel generators. Check normal speed and voltage. Return each diesel mode switch to AUTO.

15. Notify system dispatcher and Morro Bay switching center of intent to open and close PCB-212.

16. Station an operator in the 230 KV yard control building and at the 230 KV air switch to be closed; 211-1 for SUT 1-1 or 211-2 for SUT 2-1. Establish conference communication with the control room.

17. At the 230 KV switchyard, place the manual-auto transfer switch 243-1 for PCB-212 in MANUAL. Cut in the sync-scope and open PCB-212. Check open in yard.

18. The 230 KV yard operator will inform the operator at the air switch that PCB-212 is OPEN and that he may close the air switch for the transformer to be made available. (211-1 for SUT 1-1 or 211-2 for SUT 2-1)

19. The operator at the air switch will close and verify that all three phases of the air switch are closed. Inform the operator in the control room and in the 230KV yard that the air switch is closed.

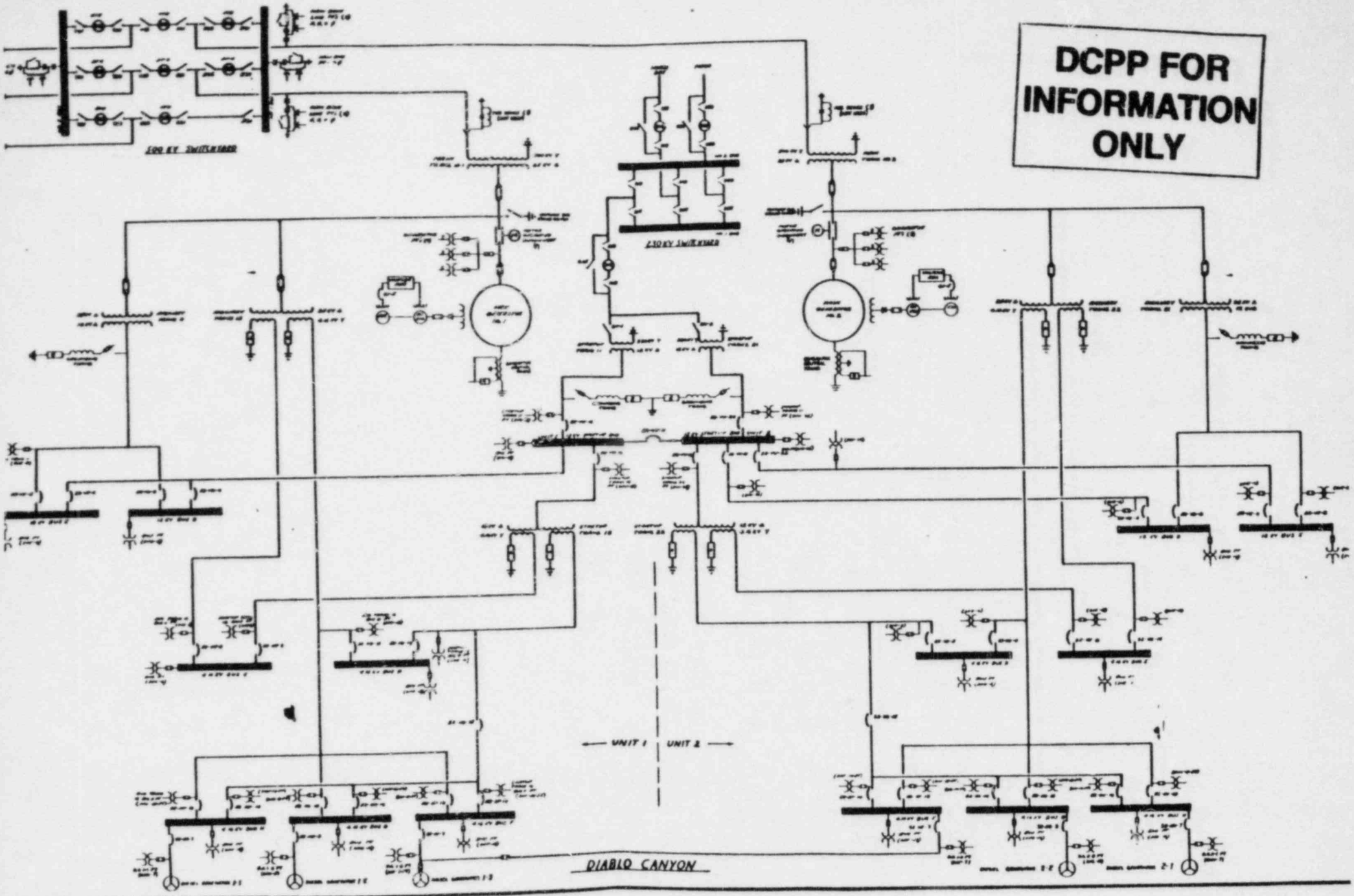
20. In the 230 KV yard, check sync and close PCB-212 to energize the startup transformers. Return the manual-auto transfer switch 243-1 for PCB-212 to AUTO.

    NOTE: To make available and energize the 12KV Startup Busses, refer to J-5:I parts B and C. If both startup busses are energized from one transformer and it is desired to get back normal, proceed with the following steps:

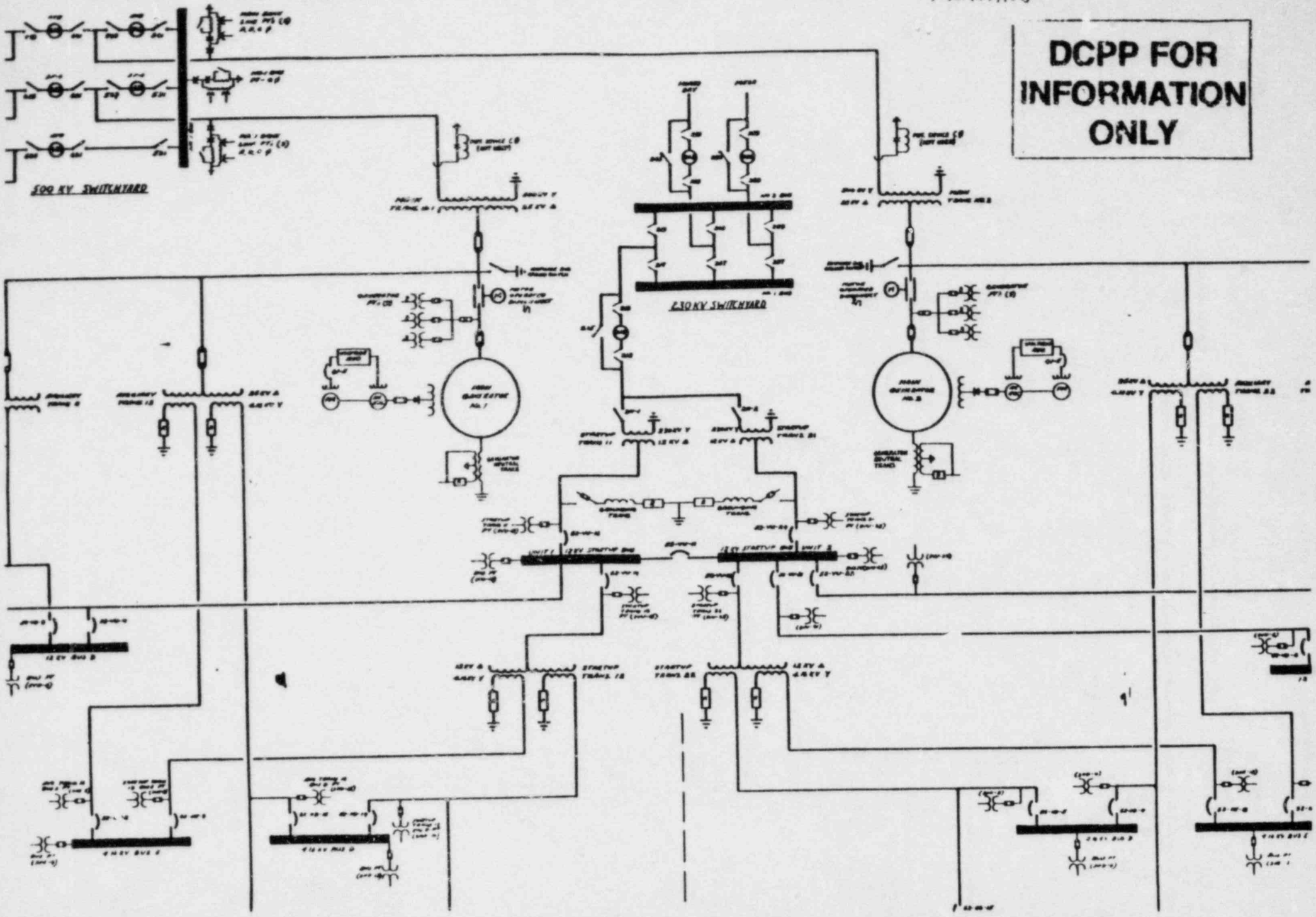
    a. Rack in the previously cleared startup bus feeder 52-VU-12 or 52-VU-24.

    b. Check sync and close the normal startup bus feeder 52-VU-12 or 52-VU-24, then open the 12 KV startup bus crosstie breaker 52-VU-11. It is not desirable to have the 12 KV startup busses and transformers crosstied for any appreciable length of time.

21. Notify Morro Bay switching center that switching is completed, PCB-212 is closed, 52VU-20 and associated circuits are energized.


DCPP FOR INFORMATION ONLY
UNIT 1
UNIT 2
DIABLO CANYON

BLOW UP OF PREVIOUS DRAWING



CATEGORY: Cross-Connected or Shared Systems

Item 2: Auxiliary Steam

A. Reference

1. DCPP P&ID 102006, 108006

B. Description

Auxiliary Steam Package Boilers 0-1 and 0-2 located on Unit 1 side. Boilers supply either Unit. Each Unit has its own reducer. Only one reboiler/drain receiver.

Manual pipe break isolation actuation on either Unit provides isolation on both Units.

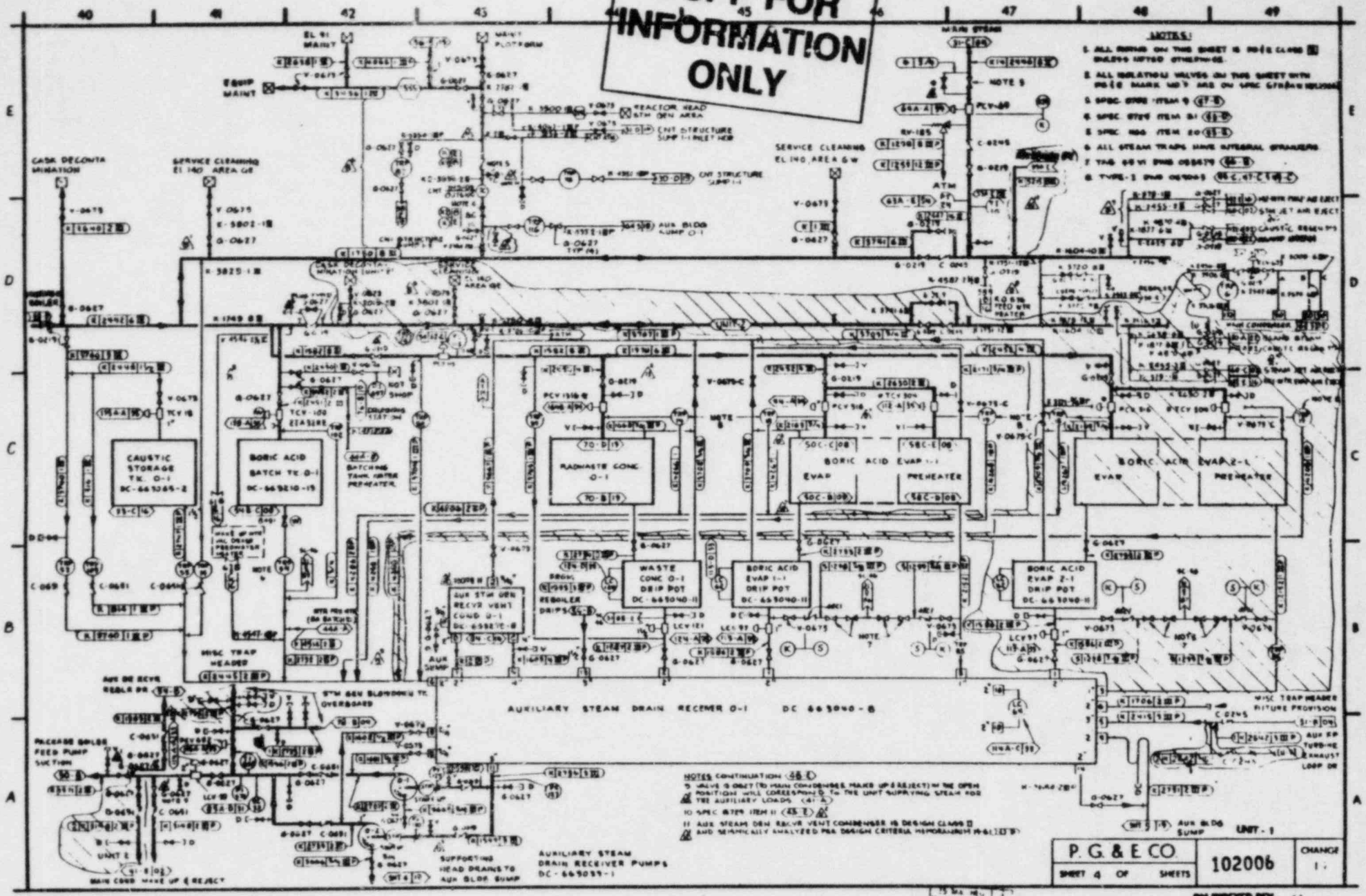
C. Reason

System flexibility, e.g. during S/U.

The Pipe Break Isolation feature precludes having to qualify certain Class I components for harsh environmental conditions; also prevents "overloading" the ventilation system.

D. Operational Considerations

If there is a pipe break, going to CLOSE on either unit's PCV-69 control switch which will isolate both units' PCV-69's. This will isolate Main Steam to Auxiliary Steam on both units, hence causing a turbine trip on both units due to a loss of sealing steam to both units. Also, both units can be supplied with startup steam from the package boilers.



ON DOCKET REV. 14

CATEGORY: Cross-Connected or Shared Systems

Item 3: Main Steam (At Gland Steam Reducer)

A. Reference

1. DCPP P&ID 102004, 108004

B. Description

Gland Steam Reducer for either Unit can be supplied by Main Steam from either Unit or by the Auxiliary Boiler System.

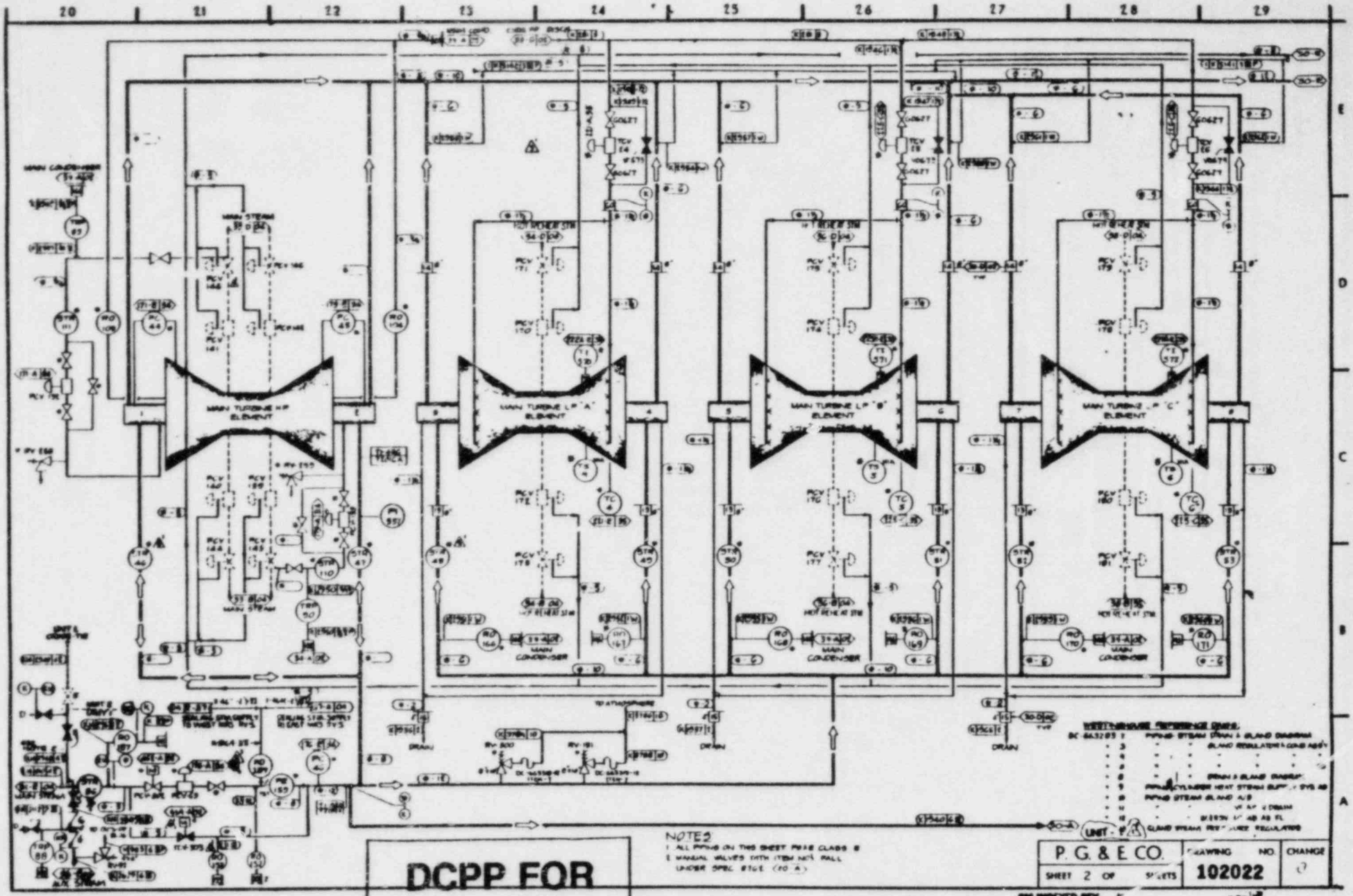
C. Reason

Provide sealing steam for drawing vacuum on a Main Turbine and Main Feedpumps even with Main Steam isolated on that Unit.

D. Operational Considerations

Main Steam from one unit should not be cut-in to the other unit's seal package unless operators of both units are aware. Due to: 1) reactivity and power effects on the unit supplying the main steam, 2) the possibility of loss of sealing steam on one unit due to Main Steam Isolation Valve closure on the other unit, and 3) loss of steam/water inventory from the supplying unit when cross-tied.

Once a unit is on line, its seals maybe supplied by its own Main Steam System.



CATEGORY: Cross-Connected or Shared Systems

Item 4: Condenser Vacuum Pump

A. Reference

1. DCPP P&ID 108002, 108015

B. Description

Can be lined up to pull vacuum on either main condensers. The vacuum pump is located on Unit 1 side and may receive its sealing water from either units Service Cooling Water System.

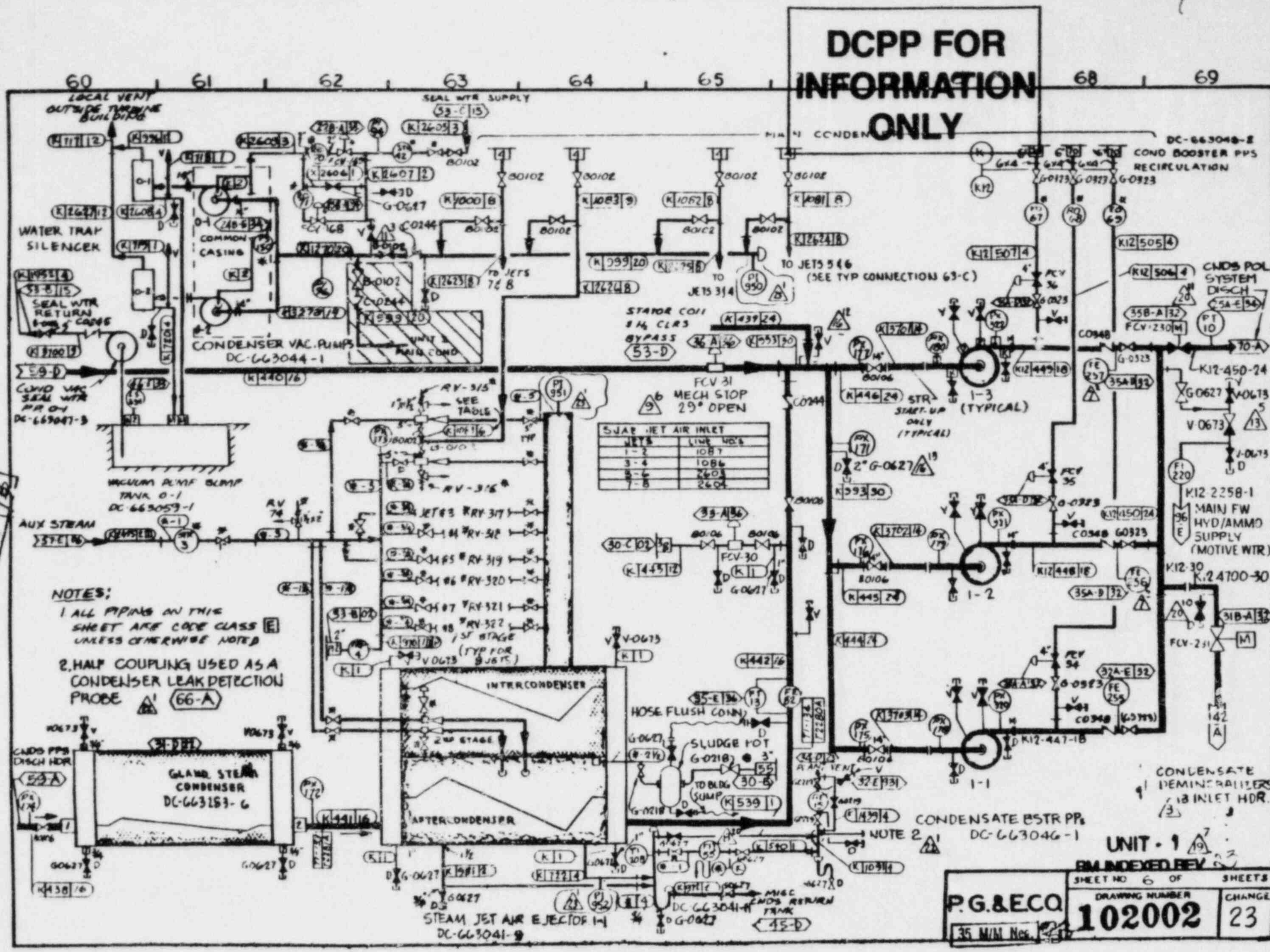
C. Reason

One vacuum pump is sufficient for both units' needs.

D. Operational Considerations

Can usually pull approximately 24 in. Hg. vacuum using the vacuum pump. Opening the cross-connect on a non-operating unit may result in a reduction in vacuum of the operating unit.

The vacuum pump cannot be operated unless Unit 1 SCW is operating or SCW is cross-connected and the Unit 1 header is being supplied from Unit 2 SCW.


DCPP FOR INFORMATION ONLY
60
61
62
63
64
65
68
69
E
D
C
B
A
LOCAL VENT OUTSIDE TURBINE BUILDING
SEAL WTR SUPPLY
WATER TRAP SILENCER
COMMON CASING
CONDENSER VAC. PUMPS DC-663044-1
SEAL WTR RETURN
COND VAC SEAL WTR
VACUUM PUMP SUMP TANK 0-1 DC-663059-1
AUX STEAM
TO JETS 7 & 8
TO JETS 3 & 4
TO JETS 5 & 6 (SEE TYP CONNECTION 63-C)
DC-663048-2 COND BOOSTER PPS RECIRCULATION
CNDS POL SYSTEM DISCH
STATOR COIL & H2 CLRS BYPASS
FCV 31 MECH STOP 29° OPEN
STR START-UP ONLY (TYPICAL)
1-3 (TYPICAL)
1-2
1-1
SJAE JET AIR INLET
JETS | LINE NO'S
1-2 | 1087
3-4 | 1086
5-6 | 2603
7-8 | 2604
FCV-30
MAIN FW HYD/AMMO SUPPLY (MOTIVE WTR)
FCV-231
NOTES:
1. ALL PIPING ON THIS SHEET ARE CODE CLASS E UNLESS OTHERWISE NOTED
2. HALF COUPLING USED AS A CONDENSER LEAK DETECTION PROBE 66-A
CNDS PPS DISCH HDR
GLAND STEAM CONDENSER DC-663253-6
INTERCONDENSER
AFTERCONDENSER
2ND STAGE
1ST STAGE (TYP FOR 8 JETS)
HOSE FLUSH CONN
SLUDGE POT
TO BLDG SUMP
CONDENSATE DEMINERALIZERS INLET HDR.
CONDENSATE BSTR PPS DC-663046-1
NOTE 2
MISC CNDS RETURN TANK
STEAM JET AIR EJECTOR 1-1 DC-663041-9
UNIT - 1
RM INDEXED REV
SHEET NO 6 OF SHEETS
P.G.&E.CO.
DRAWING NUMBER 102002
CHANGE 23
35 M/M Neg.

CATEGORY: Cross-Connected or Shared Systems

Item 5: Primary Water Storage Tanks

A. Reference

1. DCPP P&ID 102016

B. Description

Tank and transfer pumps on either Unit can be aligned to supply the other Unit.

C. Reason

System flexibility.

D. Operational Considerations

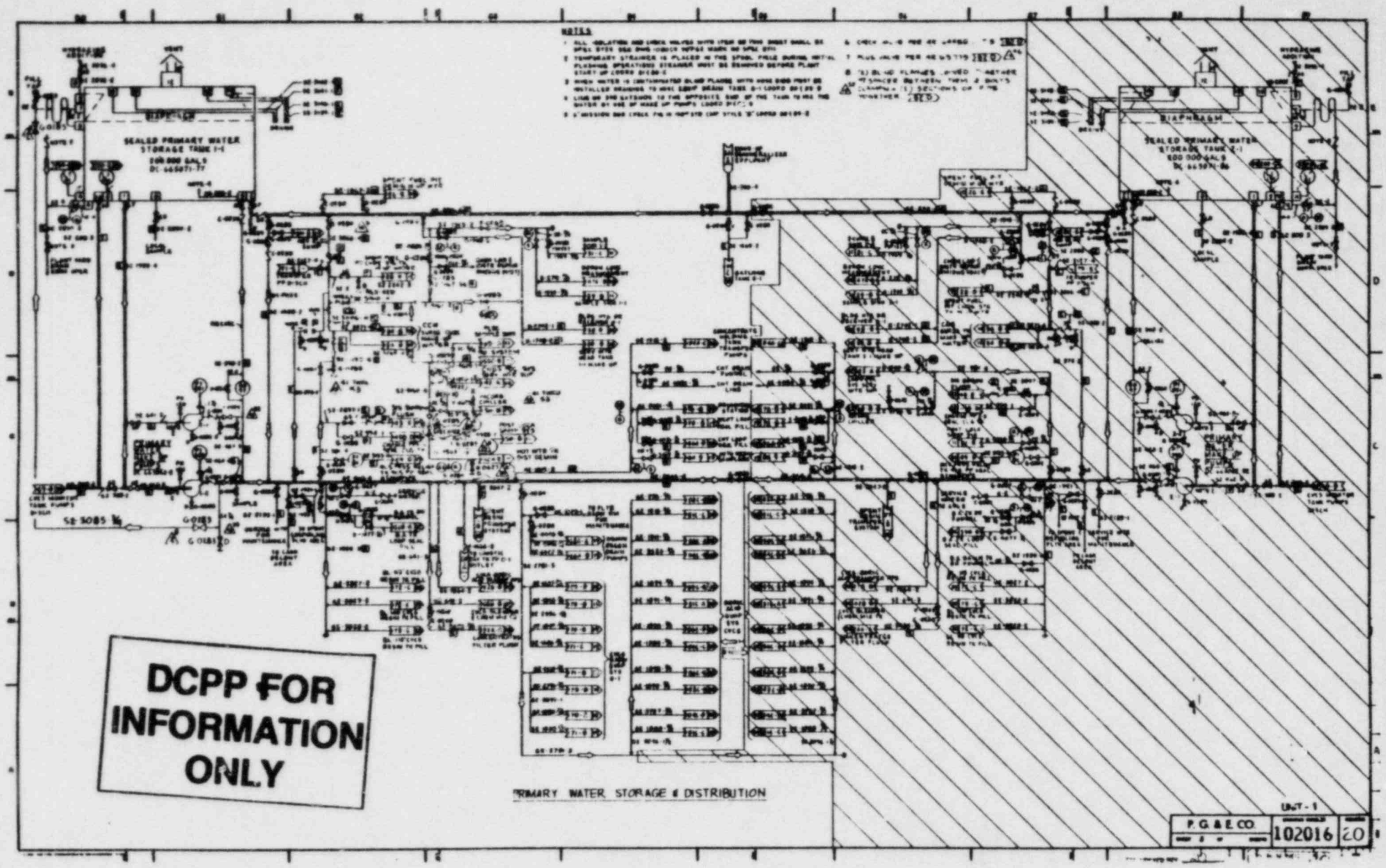
Although there are no Tech. Specs. on Primary Water Storage Tank level, the combined levels should be enough to allow cooldown of both units.

Once Unit 1 is operating, if there is tritium in the Unit 1 tank, the tanks should not be cross-connected until Unit 2 has built up to the same radioactivity level through operation of Unit 2 at power.

Following any cross-connected operations, C&RP should be notified of the likelihood of a change in activity level.

Also, if the tanks are cross-connected then an auto-start on the unit without both pumps will not start the other units' pump that is selected to AUTO. This may runout the other (running) pump.

This system will be connected only if opposite pumps or a tank is inoperable. In this line up special consideration should be given to pump runout. Pumps are 200 gpm/pump.


SEALED PRIMARY WATER STORAGE TANK 1-1
SEALED PRIMARY WATER STORAGE TANK 1-2
DIAPHRAGM
DCPP FOR INFORMATION ONLY
PRIMARY WATER STORAGE & DISTRIBUTION
UNIT - 1
P.G.&E.CO.
102016
20

CATEGORY: Cross-Connected or Shared Systems

Item 6: Condensate Storage Tanks

A. Reference

1. DCPP P&ID 107031, 102016

B. Description

Water can be transferred between Units 1 & 2 Condensate Storage Tanks and the Fire Water Storage Tank as desired using the shared Make-Up Water Transfer Pumps 0-1 and 0-2, or gravity flow.

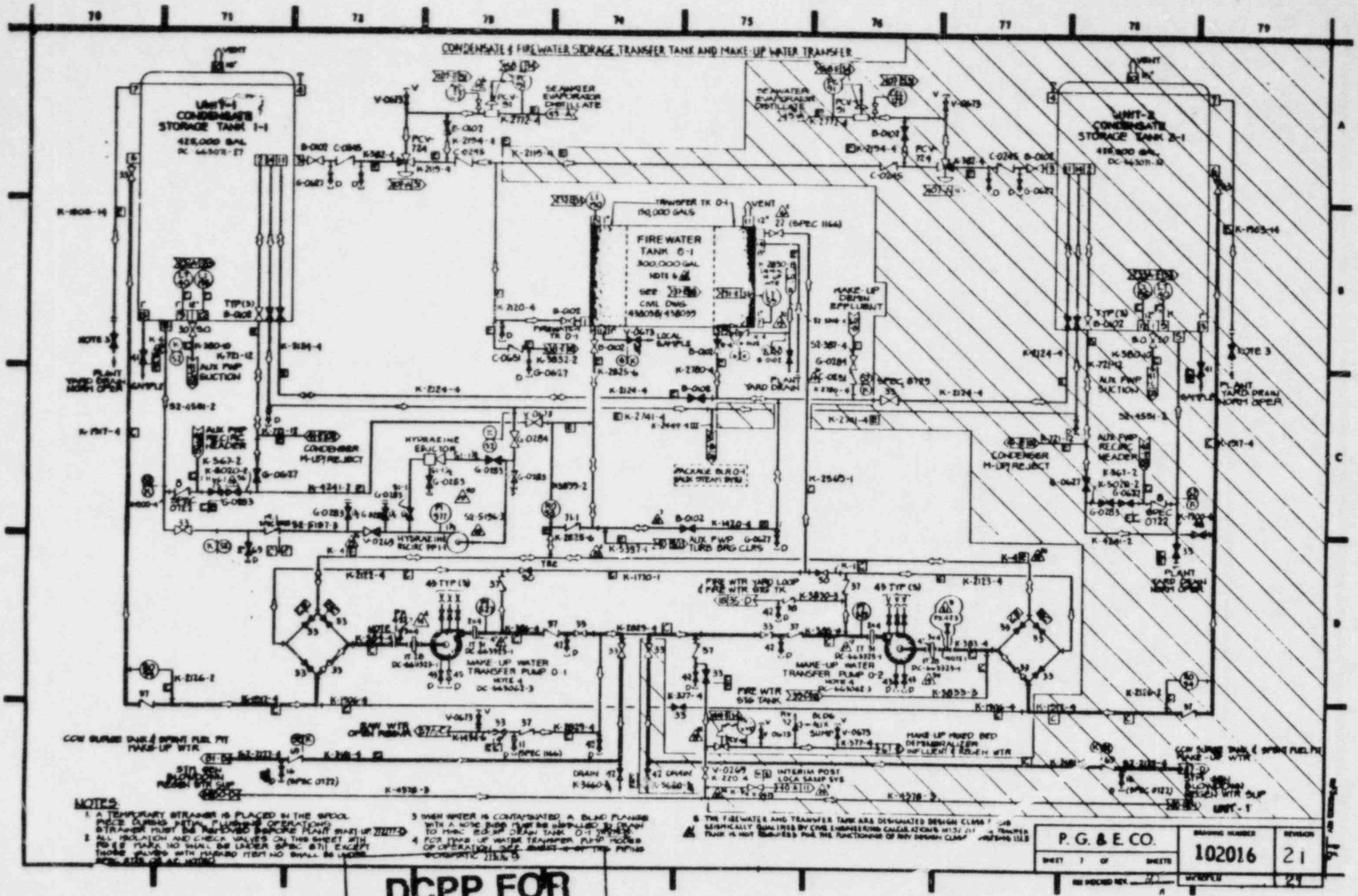
C. Reason

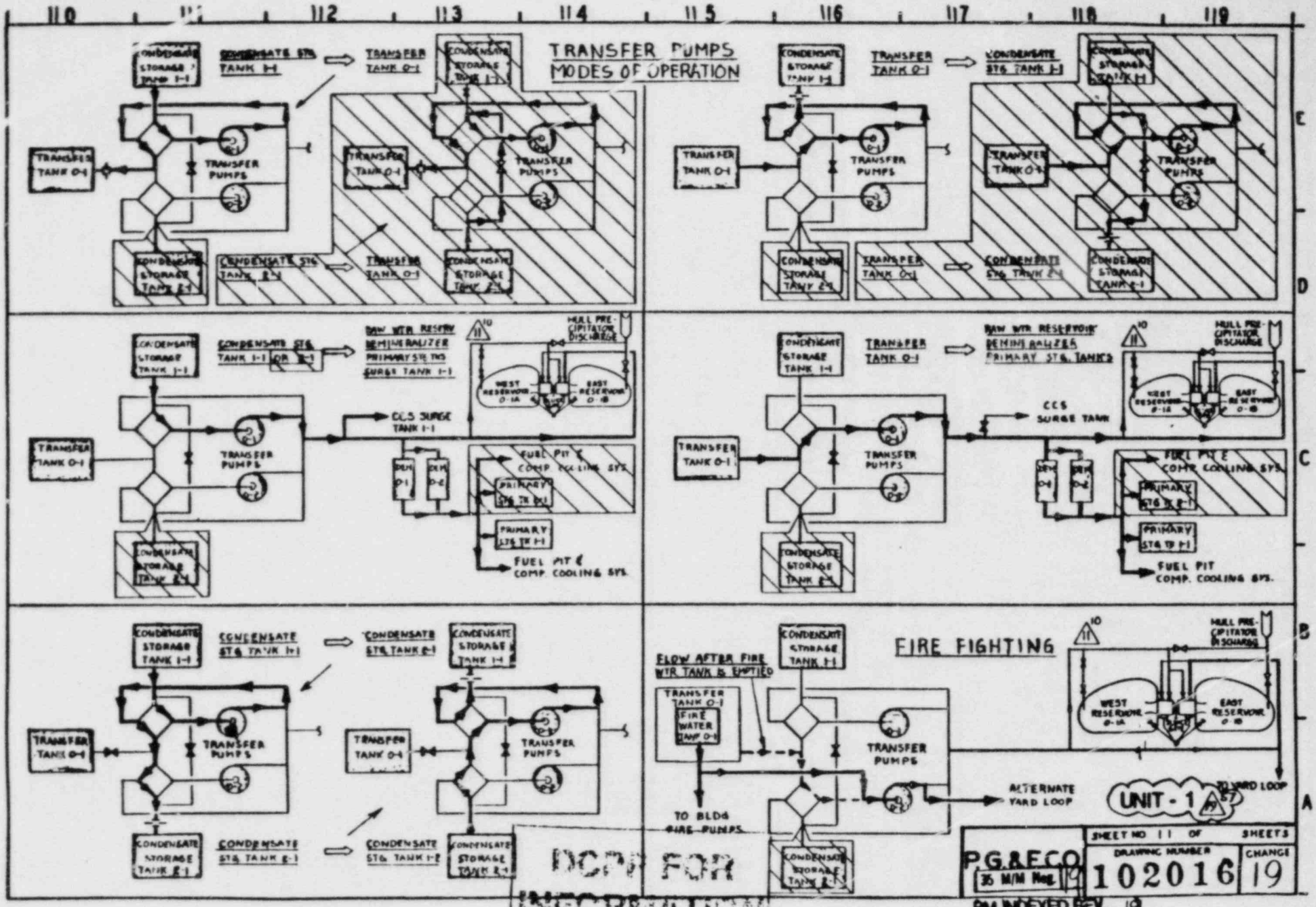
System flexibility.

D. Operational Considerations

Condensate Storage Tank level (178,000 gal.) and Fire Water Tank (270,000 gal.) minimum levels are addressed in Tech. Specs. Use caution when transferring between tanks. Be aware of chemistry conditions when transferring between tanks.

Level should not be allowed to go below approx. 50% in the CST to prevent air in leakage into the hotwell if the makeup valve is opened (LS-463 should prevent this) or to prevent condensate reject water from getting oxygenated and the water cover from getting damaged.




TRANSFER PUMPS
MODES OF OPERATION
CONDENSATE STG TANK 1-1
TRANSFER TANK 0-1
TRANSFER PUMPS
CONDENSATE STG TANK 2-1
RAW WTR RESERV
DEMINERALIZER
PRIMARY STG TKS
SURGE TANK 1-1
CCS SURGE TANK 1-1
HULL PRECIPITATOR DISCHARGE
WEST RESERVOIR 0-1A
EAST RESERVOIR 0-1B
FUEL PIT & COMP COOLING SYS
PRIMARY STG TK 1-1
FIRE FIGHTING
FLOW AFTER FIRE WTR TANK IS EMPTIED
FIRE WATER TANK 0-1
TO BLDG FIRE PUMPS
ALTERNATE YARD LOOP
TO YARD LOOP
UNIT - 1
P.G.&E.CO.
35 M/M Req.
SHEET NO 11 OF SHEETS
DRAWING NUMBER
102016
CHANGE
19
P&M INDEXED REV. 19
NOT FOR
INFORMATION
ONLY

CATEGORY: Cross-Connected or Shared Systems

Item 7: Auxiliary Salt Water

A. Reference

1. DCPP P&ID 102017

B. Description

ASW Pump Discharge Headers can be cross-connected between Units using FCV-601.

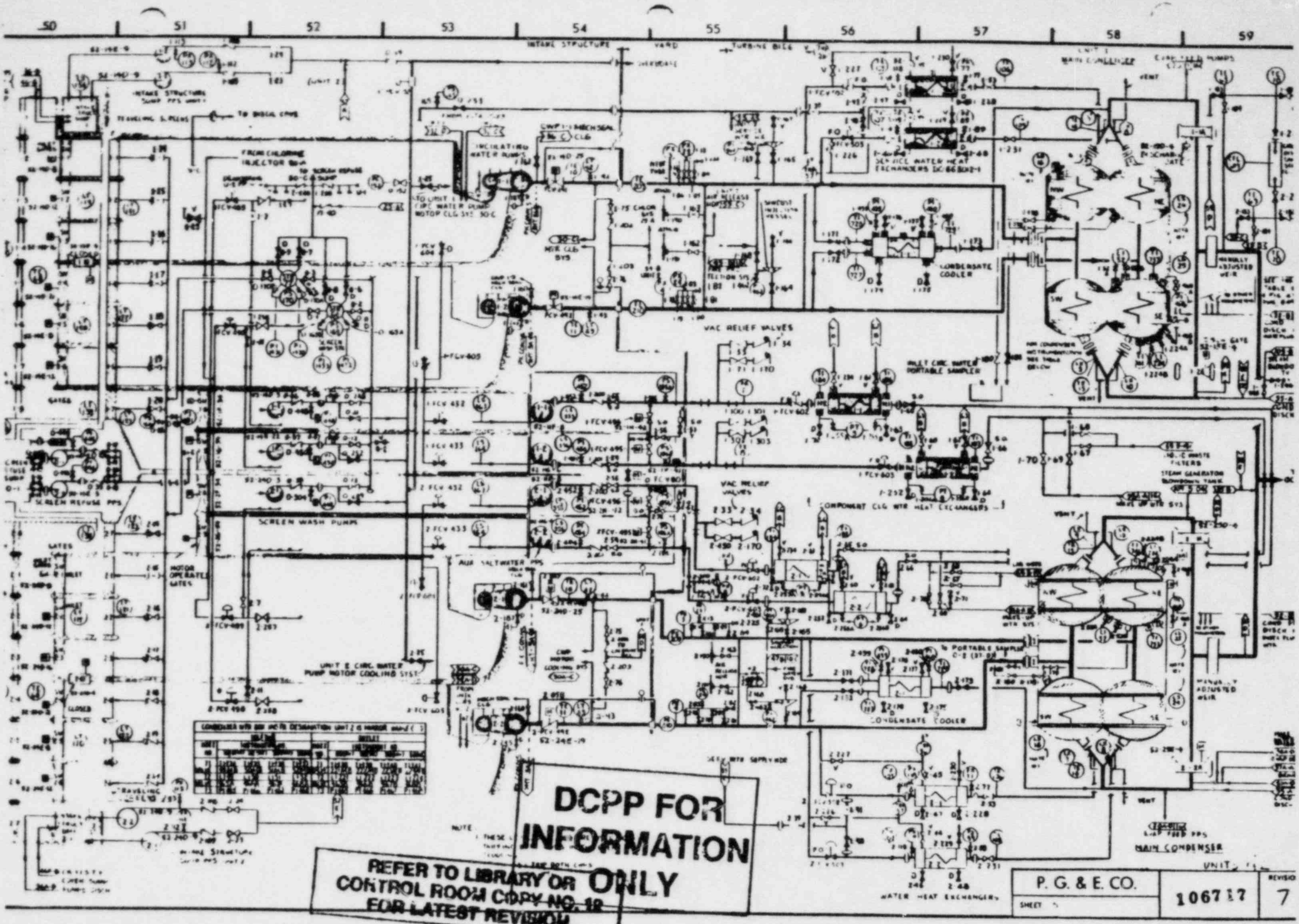
C. Reason

System flexibility. Assurance of long-term cooling.

D. Operational Considerations

Operability of the ASW system is addressed in Tech. Specs. Operating with only 1 set of pumps to supply both units places both units in an ACTION statement.

The use of the cross-tie is specified in the Abnormal Procedure on loss of ASW to one unit. It is a viable source of ASW (on a temporary basis) that is available from the Control Room.


50
51
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58
59
INTAKE STRUCTURE
YARD
TURBINE BLDG
UNIT 1
MAIN CONDENSER
SERVICE WATER HEAT EXCHANGERS
CONDENSATE COOLER
VAC RELIEF VALVES
SCREEN WASH PUMPS
AUX SALTWATER PPS
COMPONENT CLG WTR HEAT EXCHANGERS
UNIT 2 CIRC WATER PUMP MOTOR COOLING SYST
MAIN CONDENSER
WATER HEAT EXCHANGERS
DCPP FOR INFORMATION ONLY
REFER TO LIBRARY OR CONTROL ROOM COPY NO. 12 FOR LATEST REVISION
P. G. & E. CO.
SHEET
106717
REVISIO
7

CATEGORY: Cross-Connected or Shared Systems

Item 8: Service Cooling Water

A. Reference

1. DCPP P&ID 102015, 108015

B. Description

SCW can be cross-connected and supplied by the other units SCW header, however this should not normally be done especially with SCW pumps operating in both units due to a transfer of water which would occur from the higher head pump.

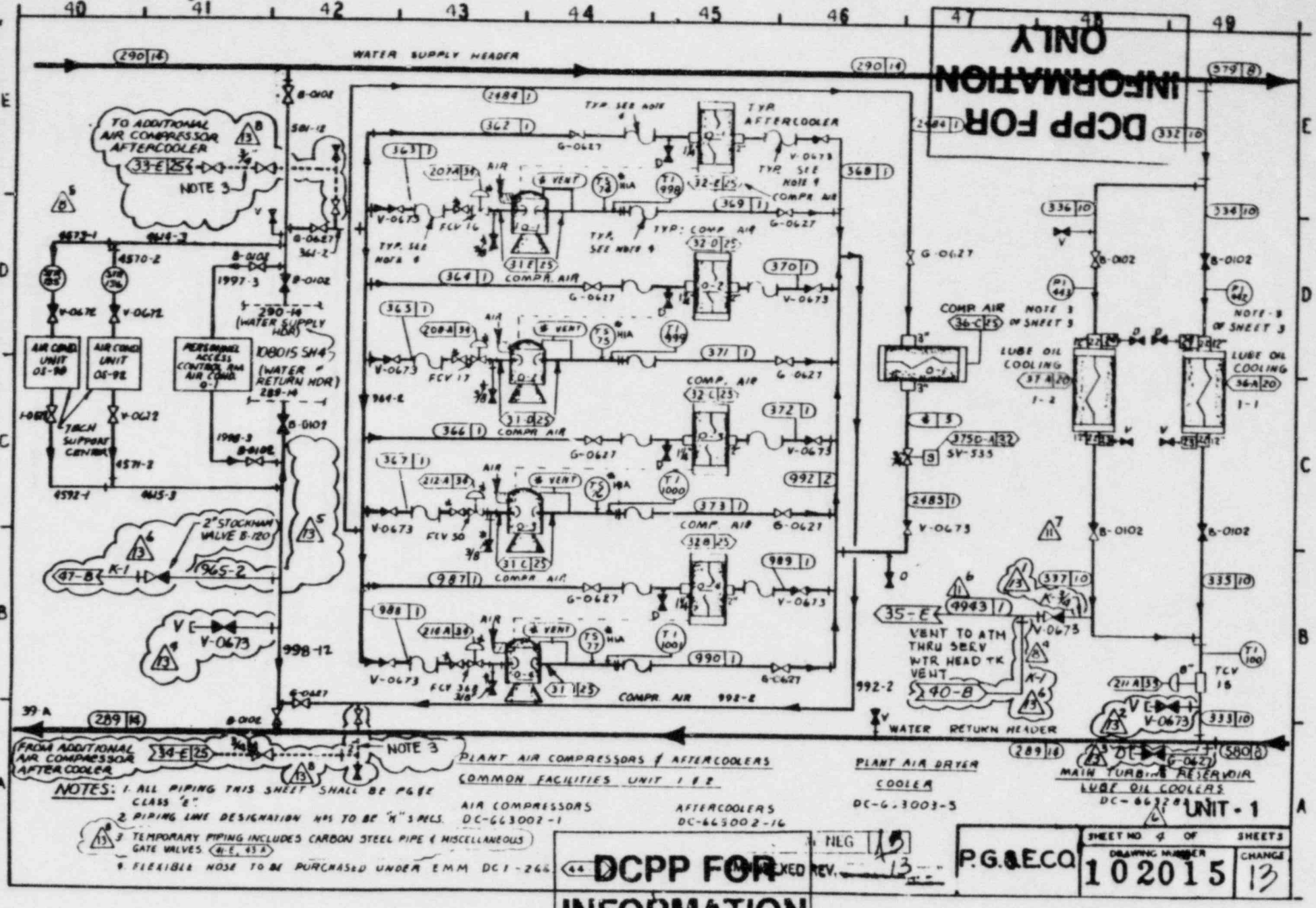
C. Reason

Provide cooling for operation of the shared air conditioning systems, vacuum pump, and/or compressed air systems with the SCW system of one Unit inoperable.

D. Operational Considerations

When supplying the shared loads of SCW, ensure that the SCW supply and return flowpaths are both aligned to the same Unit to prevent overfilling the SCW head tank. Also, unnecessary continuous heat loads, such as air conditioning units for personnel comfort, should be minimized when only one unit is supplying both SCW headers.

Service Cooling Water



DCPP FOR INFORMATION ONLY

DCPP FOR INFORMATION ONLY

CATEGORY: Cross-Connected or Shared Systems

Item 9: Component Cooling Water

A. Reference

1. DCPP P&ID 102014

B. Description

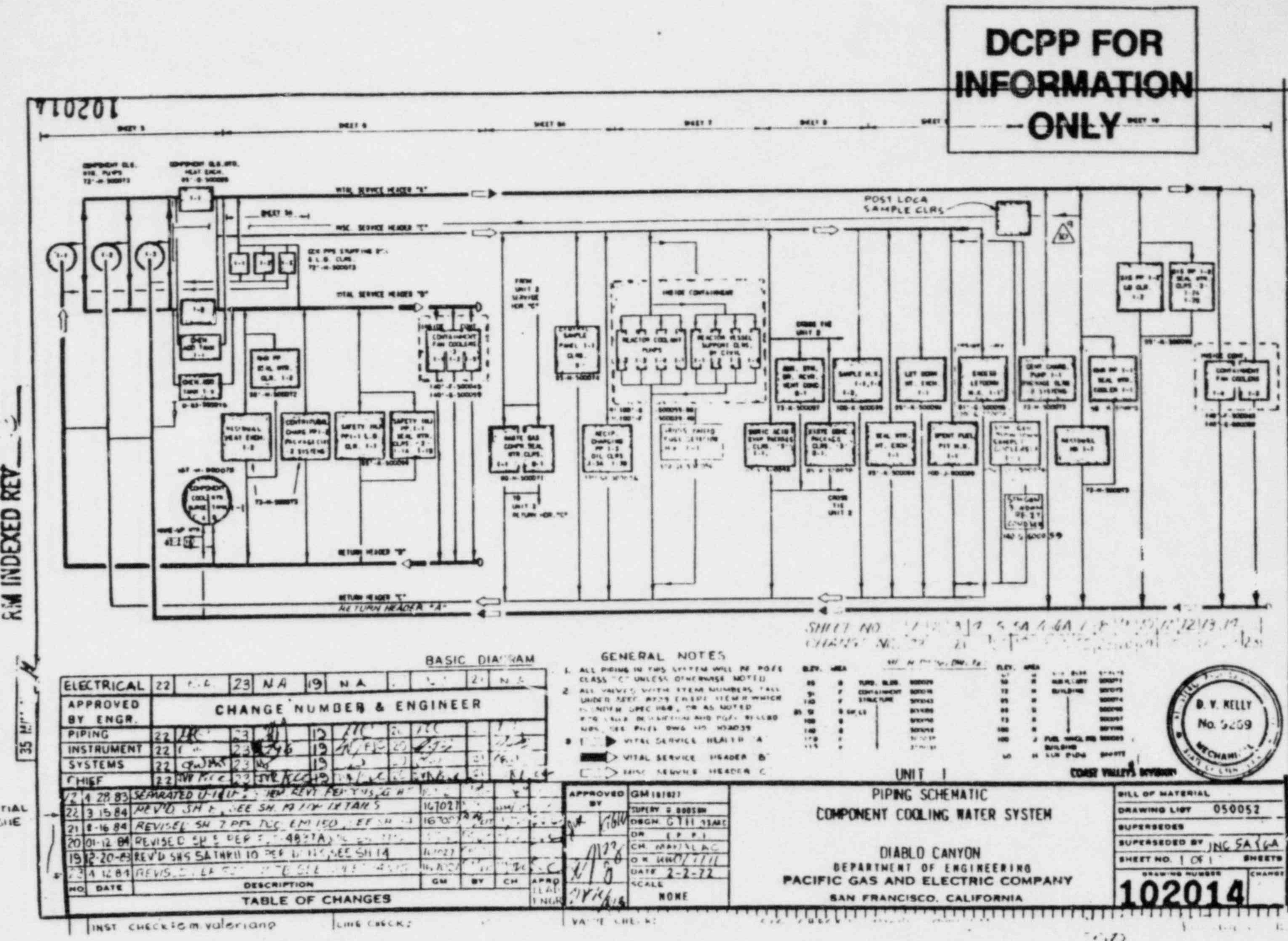
The CCW system can be used to supply misc. equipment. Waste gas compressor 0-1 seal water can be supplied with CCW from either Unit. Waste Concentrator package can be supplied with CCW from either Unit. Aux. Steam Drain Receiver can be supplied with CCW from either unit. Through a cross-tie, CCW from one unit can be aligned to supply the opposite unit's B.A. Evaporator, through a cross-tie. This cross-tie can be used for either unit.

C. Reason

System flexibility.

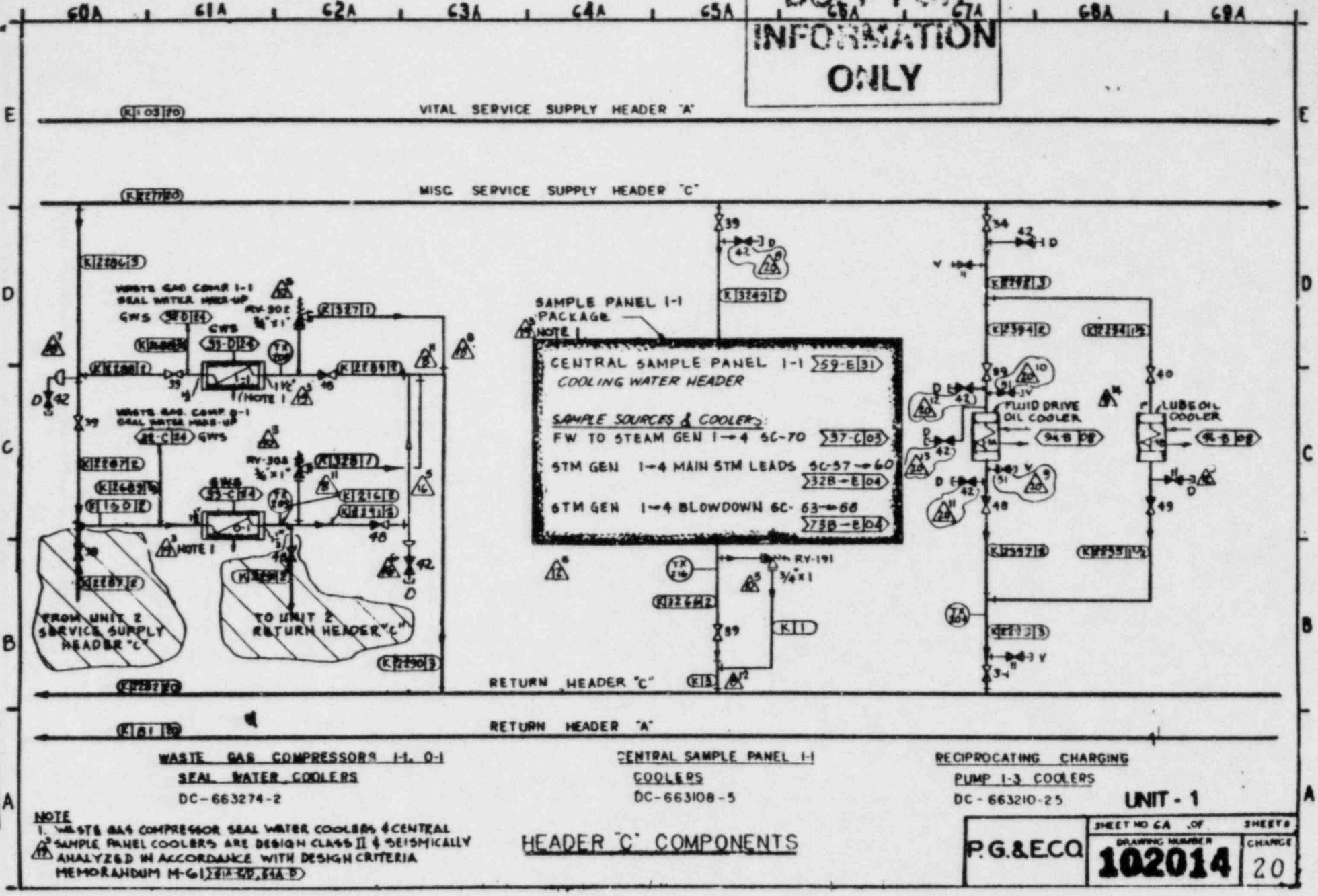
D. Operational Considerations

Ensure that supply and return are both aligned to the same Unit to prevent a change in unit inventory.



DCPP FOR INFORMATION ONLY
RM INDEXED REV
102014
VITAL SERVICE HEADER "A"
MISC. SERVICE HEADER "C"
VITAL SERVICE HEADER "B"
RETURN HEADER "B"
RETURN HEADER "C"
RETURN HEADER "A"
POST LOCA SAMPLE CLRS
INSIDE CONTAINMENT
BASIC DIAGRAM
GENERAL NOTES
1. ALL PIPING IN THIS SYSTEM WILL BE POZE CLASS "C" UNLESS OTHERWISE NOTED.
VITAL SERVICE HEADER A
VITAL SERVICE HEADER B
MISC SERVICE HEADER C
UNIT 1
ELECTRICAL
APPROVED BY ENGR.
CHANGE NUMBER & ENGINEER
PIPING
INSTRUMENT
SYSTEMS
CHIEF
22 4 28 83 SEPARATED U-1
22 3 15 84 REV'D SH 6 SEE SH. 19 FOR DETAILS
21 8-16 84 REVISED SH 7 PER DCC
20 01-12 84 REVISED SH 5 PER
19 12-20-83 REV'D SHS 5 THRU 10 PER
NO. DATE DESCRIPTION GM BY CH
TABLE OF CHANGES
APPROVED BY
DATE 2-2-72
SCALE NONE
PIPING SCHEMATIC
COMPONENT COOLING WATER SYSTEM
DIABLO CANYON
DEPARTMENT OF ENGINEERING
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA
BILL OF MATERIAL
DRAWING LIST 050052
SUPERSEDES
SUPERSEDED BY
SHEET NO. 1 OF 1 SHEETS
102014
D. V. KELLY
No. 5259
MECHANICAL
INST. CHECK
LINE CHECK
VALVE CHECK

DCPP FOR INFORMATION ONLY



WASTE GAS COMPRESSORS 1-1, 0-1
SEAL WATER COOLERS
DC-663274-2

CENTRAL SAMPLE PANEL 1-1
COOLERS
DC-663108-5

RECIPROCATING CHARGING
PUMP 1-3 COOLERS
DC-663210-25

UNIT - 1

NOTE
1. WASTE GAS COMPRESSOR SEAL WATER COOLERS & CENTRAL SAMPLE PANEL COOLERS ARE DESIGN CLASS II & SEISMICALLY ANALYZED IN ACCORDANCE WITH DESIGN CRITERIA MEMORANDUM M-61 (61A-6D, 64A-D)

HEADER "C" COMPONENTS

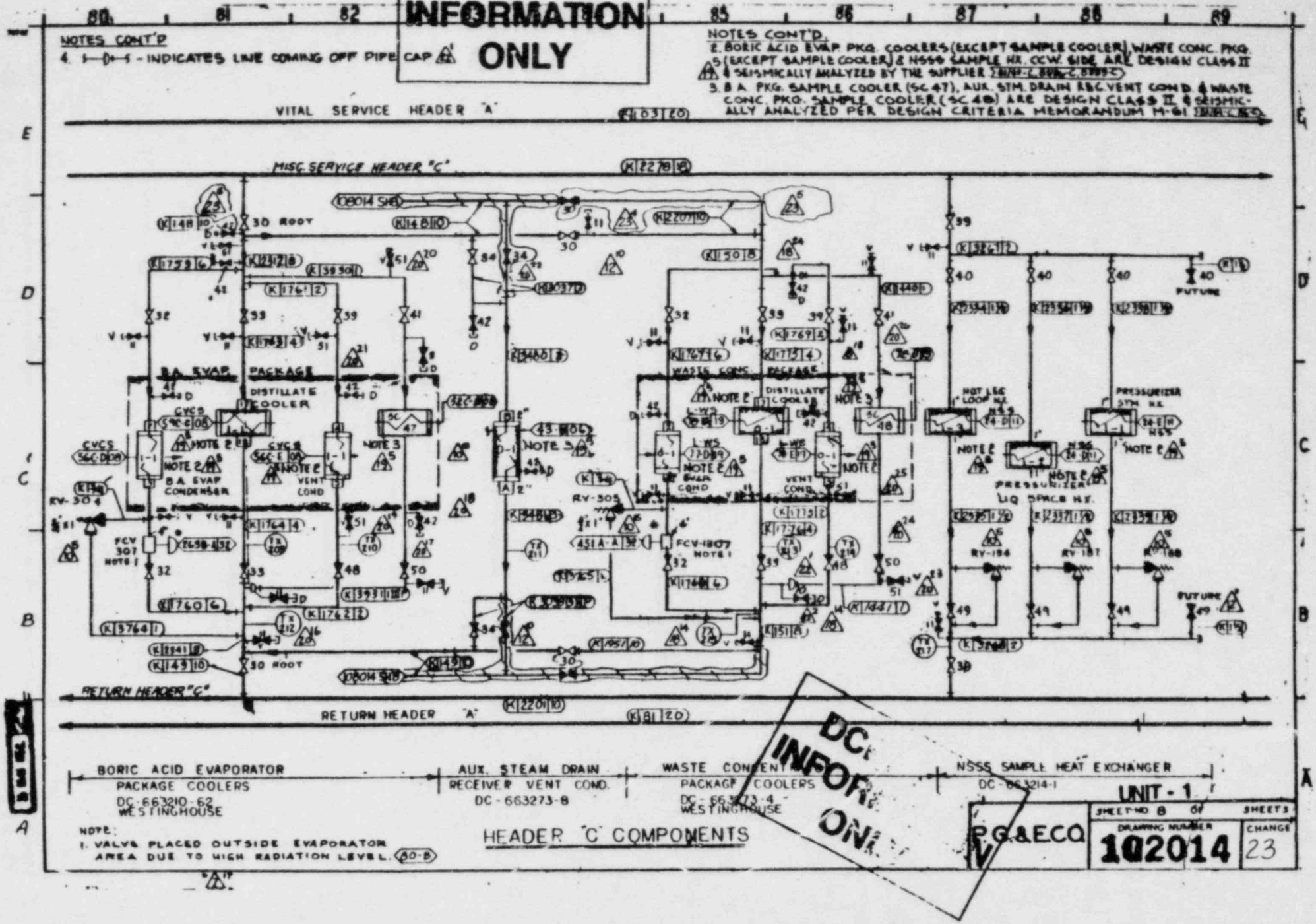
P.G.&E.CO.

SHEET NO 6A OF SHEETS

DRAWING NUMBER 102014

CHANGE 20

DCPP FOR INFORMATION ONLY



DCPP FOR INFORMATION ONLY

CATEGORY: Cross-Connected or Shared Systems

Item 10: Screen Wash System

A. Reference

1. DCPP P&ID 102017

B. Description

System is shared by both Units. Any of the 3 pumps can supply both units. Two pumps are required for 2 unit operation.

C. Reason

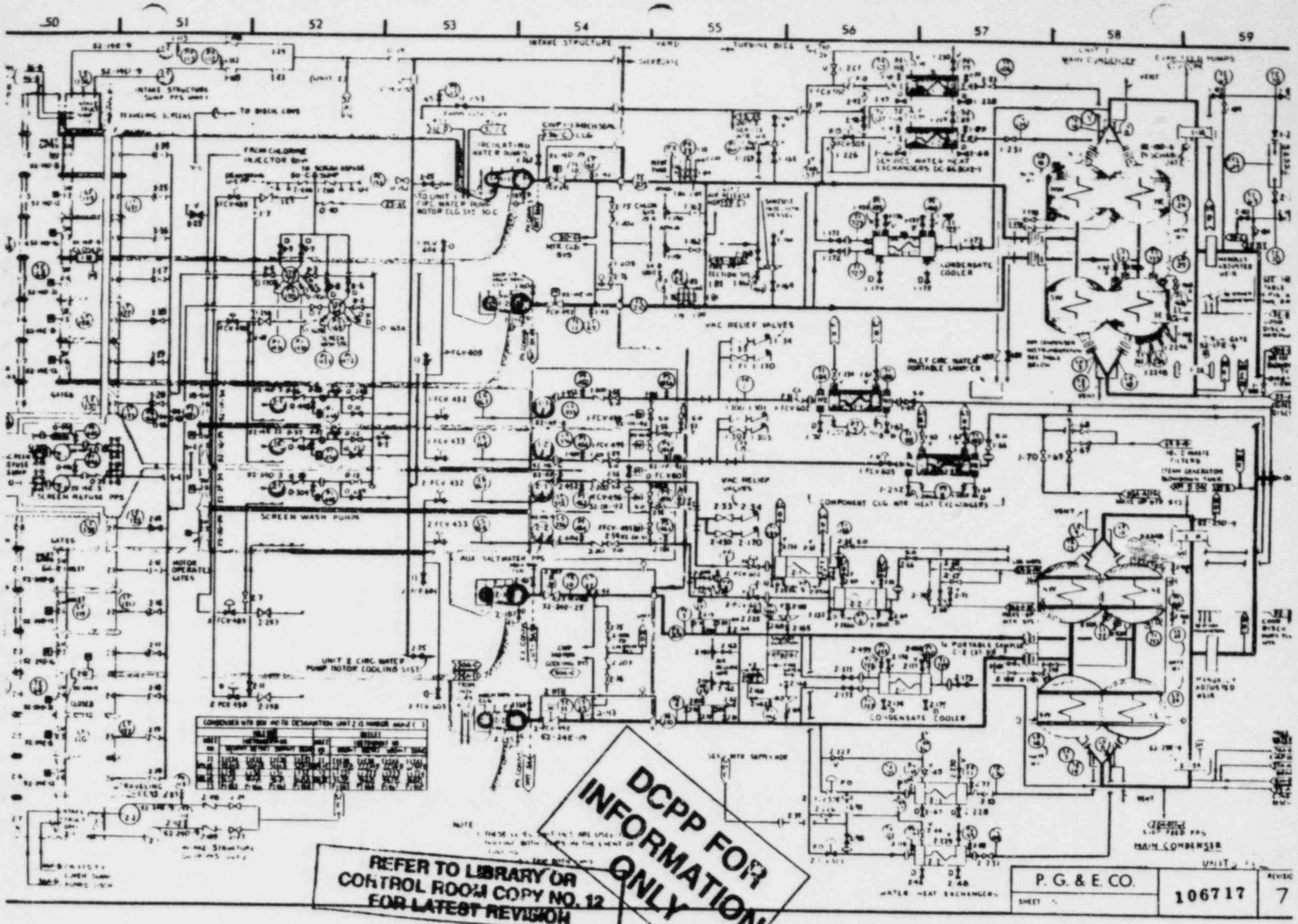
System flexibility

D. Operational Considerations

1. Must have ASW bays unisolated to provide suction to SW Pumps (2 on Unit 1, 1 on Unit 2) (Maintenance on Unit 1 requiring de-watering of the ASW bay will isolate suction of 2 pumps).

2. Common pressure switch between units' spray header (PS-166) is used to control screen drive motion on both units.

3. Can cross-tie ASW to Circ Water via demusseling for suction to ASW and SW pumps.


50
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INTAKE STRUCTURE
YARD
TURBINE BLDG
SCREEN WASH PUMPS
VAC RELIEF VALVES
CONDENSATE COOLER
MAIN CONDENSER
DCPP FOR INFORMATION ONLY
REFER TO LIBRARY OR CONTROL ROOM COPY NO. 12 FOR LATEST REVISION
P. G. & E. CO.
106717
7

CATEGORY: Cross-Connected or Shared Systems

Item 11: Fire Protection

A. Reference

1. DCPP P&ID 102018
2. EP M-4

B. Description

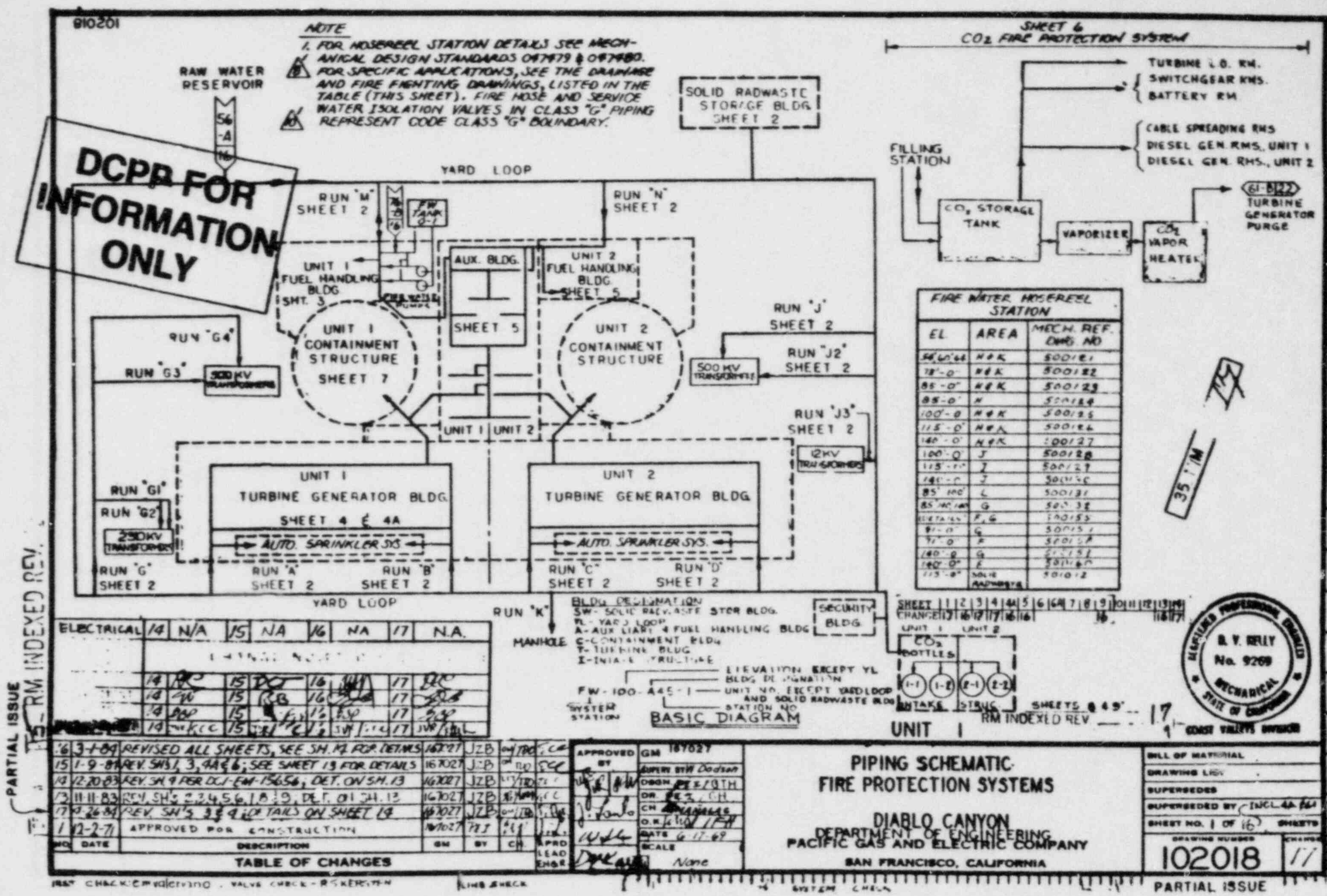
Both the water and CO_2 systems are shared by both Units.

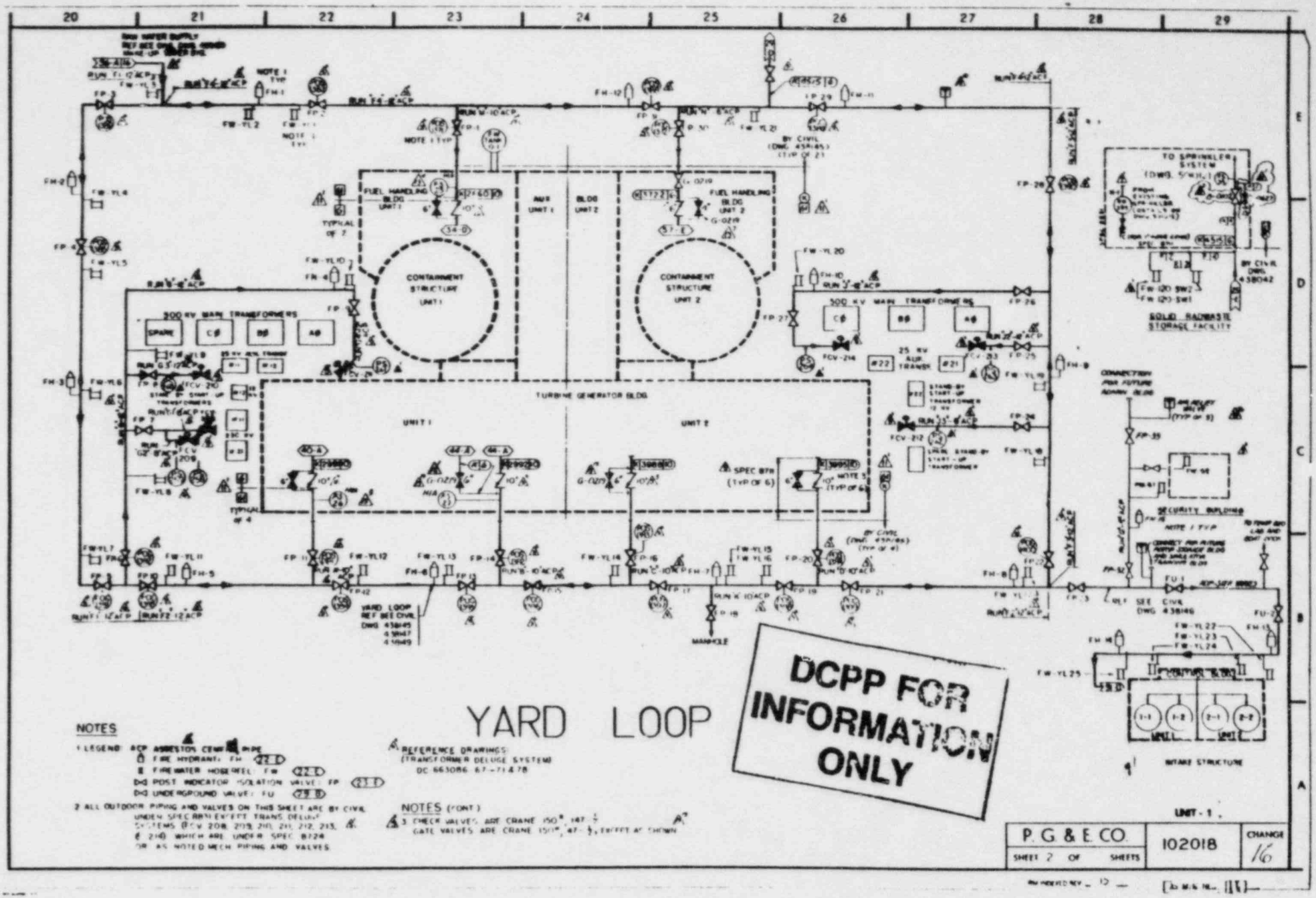
C. Reason

One water and CO_2 system can handle the needs of both units.

D. Operational Considerations

Raw water reservoir provides a redundant water source for fire protection.


810201
NOTE
1. FOR HOSEREEL STATION DETAILS SEE MECHANICAL DESIGN STANDARDS 047479 & 047480.
FOR SPECIFIC APPLICATIONS, SEE THE DRAINAGE AND FIRE FIGHTING DRAWINGS, LISTED IN THE TABLE (THIS SHEET). FIRE HOSE AND SERVICE WATER ISOLATION VALVES IN CLASS "G" PIPING REPRESENT CODE CLASS "G" BOUNDARY.
RAW WATER RESERVOIR
DCPP FOR INFORMATION ONLY
YARD LOOP
SOLID RADWASTE STORAGE BLDG SHEET 2
RUN "M" SHEET 2
RUN "N" SHEET 2
UNIT 1 FUEL HANDLING BLDG SHT. 3
AUX. BLDG.
SHEET 5
UNIT 2 FUEL HANDLING BLDG SHEET 5
UNIT 1 CONTAINMENT STRUCTURE SHEET 7
UNIT 2 CONTAINMENT STRUCTURE
RUN "G4"
RUN "G3"
500 KV TRANSFORMERS
RUN "J" SHEET 2
RUN "J2" SHEET 2
RUN "J3" SHEET 2
12KV TRANSFORMERS
UNIT 1 | UNIT 2
UNIT 1 TURBINE GENERATOR BLDG. SHEET 4 & 4A
UNIT 2 TURBINE GENERATOR BLDG.
AUTO. SPRINKLER SYS.
RUN "G1"
RUN "G2"
230KV TRANSFORMER
RUN "G" SHEET 2
RUN "A" SHEET 2
RUN "B" SHEET 2
RUN "C" SHEET 2
RUN "D" SHEET 2
RUN "K"
MANHOLE
SECURITY BLDG.
SHEET 6
CO2 FIRE PROTECTION SYSTEM
TURBINE L.O. RM.
SWITCHGEAR RMS.
BATTERY RM.
CABLE SPREADING RMS
DIESEL GEN. RMS., UNIT 1
DIESEL GEN. RMS., UNIT 2
FILLING STATION
CO2 STORAGE TANK
VAPORIZER
CO2 VAPOR HEATER
61-B122
TURBINE GENERATOR PURGE
FIRE WATER HOSEREEL STATION
EL. | AREA | MECH. REF. DWG. NO.
BLDG. DESIGNATION
SW- SOLID RADWASTE STOR BLDG.
YL- YARD LOOP
A- AUX BLDG. & FUEL HANDLING BLDG.
C- CONTAINMENT BLDG.
T- TURBINE BLDG.
I- INTAKE STRUCTURE
FW-100-A45-1
SYSTEM STATION
ELEVATION EXCEPT YL
BLDG. DESIGNATION
UNIT NO. EXCEPT YARD LOOP AND SOLID RADWASTE BLDG
STATION NO.
BASIC DIAGRAM
CO2 BOTTLES
UNIT 1 UNIT 2
INTAKE STRUC.
SHEETS 8 & 9
UNIT 1
RM INDEXED REV. 17
REGISTERED PROFESSIONAL ENGINEER R. V. KELLY No. 9269 MECHANICAL STATE OF CALIFORNIA
COAST VALLEY DIVISION
PARTIAL ISSUE
RM INDEXED REV.
TABLE OF CHANGES
16 3-1-84 REVISED ALL SHEETS, SEE SH. 14 FOR DETAILS 167027 JZB
15 1-9-84 REV. SHS 1, 3, 4A & 6; SEE SHEET 13 FOR DETAILS 167027 JZB
14 12-20-83 REV. SH 9 PER DCI-EM-15656, DET. ON SH. 13 167027 JZB
13 11-11-83 REV. SH'S 2,3,4,5,6,1,8,9, DET. ON SH. 13 167027 JZB
12 -26-83 REV. SH'S 3 & 4; DETAILS ON SHEET 13 167027 JZB
1 12-2-71 APPROVED FOR CONSTRUCTION 167027
NO. DATE DESCRIPTION GM BY CH.
PIPING SCHEMATIC FIRE PROTECTION SYSTEMS
DIABLO CANYON
DEPARTMENT OF ENGINEERING
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA
SCALE None
DATE 6-17-69
SHEET NO. 1 OF 16
102018 17
PARTIAL ISSUE



YARD LOOP

DCPP FOR INFORMATION ONLY

NOTES

1 LEGEND: ACP ASBESTOS CEMENT PIPE
FIRE HYDRANT: FH (22-D)
FIREWATER HOSEREEL: FW (22-D)
POST INDICATOR ISOLATION VALVE: FP (21-D)
UNDERGROUND VALVE: FU (23-B)

2 ALL OUTDOOR PIPING AND VALVES ON THIS SHEET ARE BY CIVIL UNDER SPEC A81 EXCEPT TRANS DELUGE SYSTEMS (FCV 208, 209, 210, 211, 212, 213, & 214) WHICH ARE UNDER SPEC B72A OR AS NOTED MECH PIPING AND VALVES

3 REFERENCE DRAWINGS (TRANSFORMER DELUGE SYSTEMS) DC 663086 67-71478

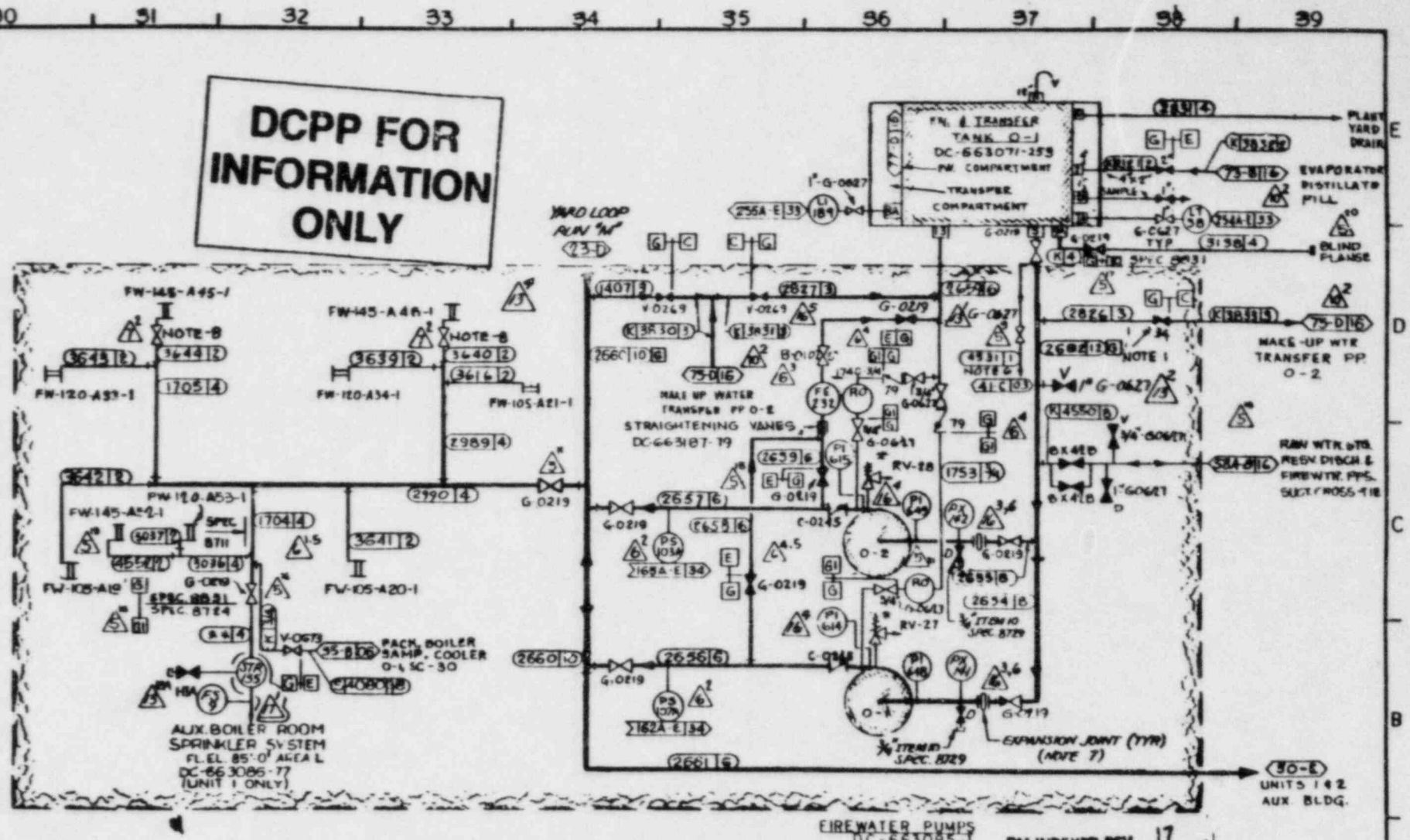
NOTES (CONT.)

4 CHECK VALVES ARE CRANE 150#, 147-½ GATE VALVES ARE CRANE 151#, 47-½, EXCEPT AS SHOWN

UNIT - 1

P. G. & E. CO.	102018	CHANGE 16
SHEET 2 OF SHEETS		

DCPP FOR INFORMATION ONLY



RM INDEXED REV. 15

35 M/M NEG

UNIT 1 FUEL HANDLING BLDG.

UNIT - 1

NOTES:

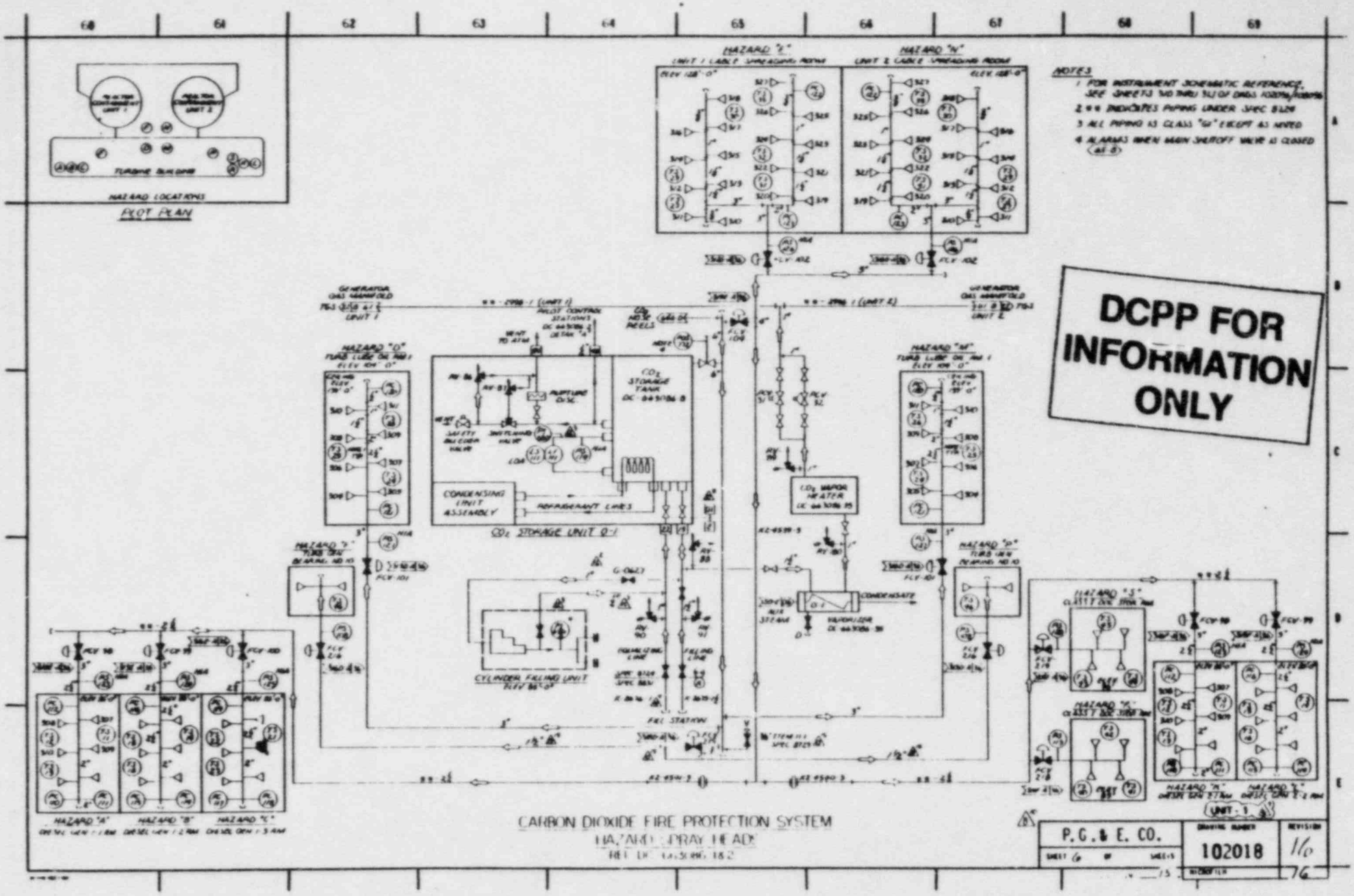
1. VALVE IT NO. 34619 APE UNDER SPEC. B729 AND INSTALLED UNDER SPEC. B831 (38-B)
2. ALL PIPING WITH PG&E CLASS "C" & "E" ARE UNDER B711 EXCEPT AS NOTED.
3. ALL PIPING & VALVES WITH PG&E CLASS "G" ARE UNDER SPEC B831, AND WITH RR INDICATE UNDER SPEC B724.
4. ALL PIPING ON THIS SHEET IS PIPING SPEC "K", EXCEPT AS NOTED.
5. DELETED
6. LINE NO 4531 HAS SPECIAL ARMSTRONG ARMAFLEX INSULATION (37-C)
7. EXPANSION JOINT SHALL BE REPLACED BY STRAINER DURING START-UP
8. BONNEY FORGE 2" SW GATE VLV CAT # NCW-108 (BODY A-105, SEAT: STELLITE NO. 6C - 13CR MD-800, TEMP-850°F) COORD-3'-31-D

P.G.&E.CO.

SHEET NO. 3 OF SHEETS 3

DRAWING NUMBER 102018

CHANGE 17


HAZARD "A"
HAZARD "B"
HAZARD "C"
HAZARD "D"
HAZARD "E"
HAZARD "F"
HAZARD "G"
HAZARD "H"
HAZARD "J"
HAZARD "K"
HAZARD LOCATIONS
PLOT PLAN
NOTES:
1. FOR INSTRUMENT SCHEMATIC REFERENCE, SEE SHEETS 340 THRU 342 OF DWGS 102018, 102019
2. ## INDICATES PIPING UNDER SPEC B12H
3. ALL PIPING IS CLASS "GA" EXCEPT AS NOTED
4. ALARMS WHEN MAIN SHUTOFF VALVE IS CLOSED
CO2 STORAGE UNIT 0-1
CONDENSING UNIT ASSEMBLY
CO2 STORAGE TANK
CO2 WATER HEATER
CYLINDER FILLING UNIT
FILL STATION
CONDENSATE
REFRIGERANT LINES
DCPP FOR INFORMATION ONLY
CARBON DIOXIDE FIRE PROTECTION SYSTEM
HAZARD SPRAY HEADS
P.G.&E. CO.
102018
1/0
76

CATEGORY: Cross-Connected or Shared Systems

Item 12: Boron Recycle

A. Reference

1. DCPP P&ID 102008

B. Description

Each unit has two 80,000 gallon Liquid Hold Up Tanks (LHUT's), with a shared LHUT 0-1, making a total of 5 LHUT's. Additionally, the following components of the boron recycle system are shared: 1) Concentrates Holding Tank 0-1 shared, including supporting Concentrates Holding Tank Transfer Pumps 0-1 and 0-2 and 2) the Boric Acid Batching Tank is shared between Unit 1 and 2.

C. Reason

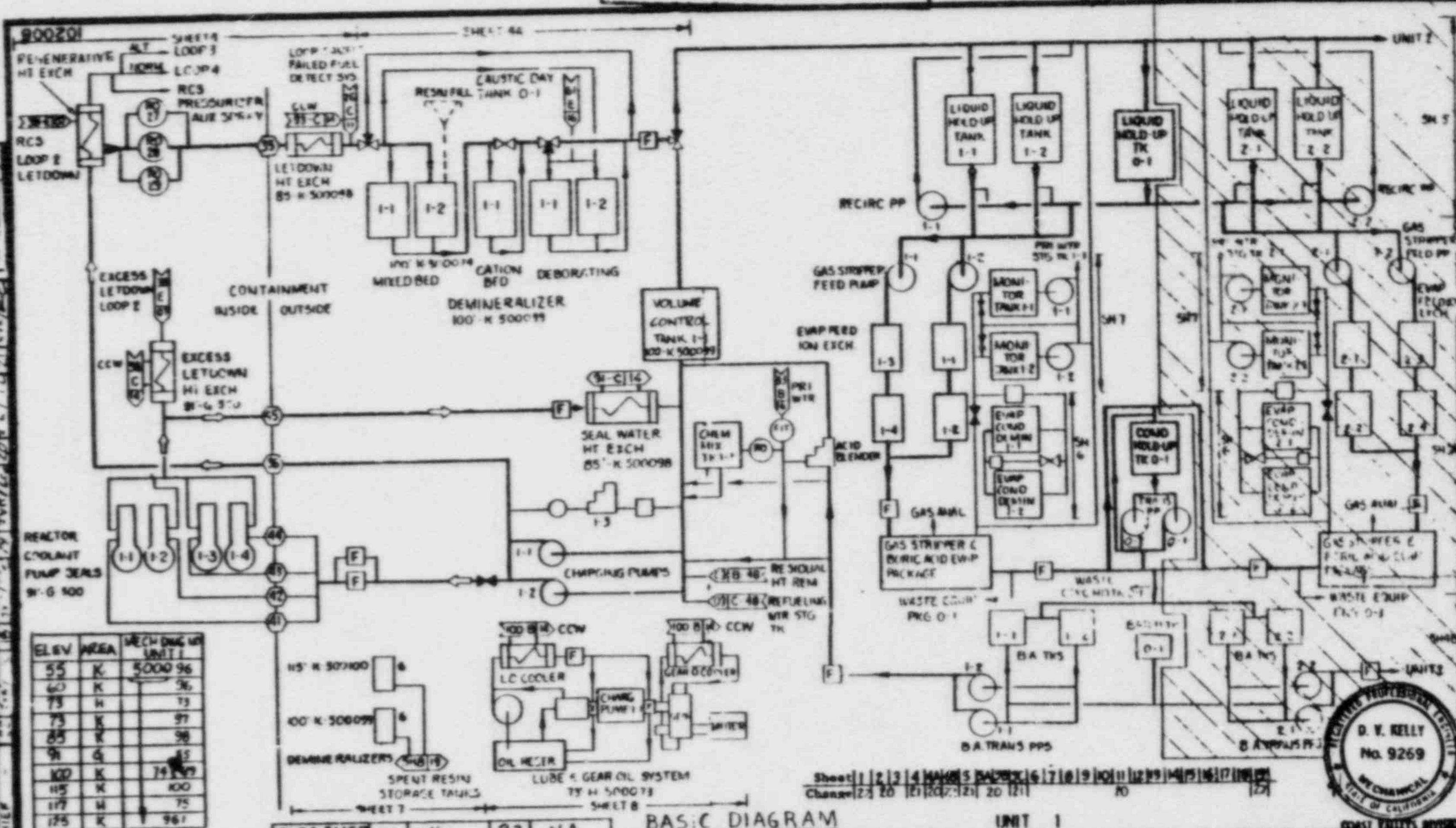
System flexibility.

D. Operational Considerations

1. LHUT 0-1 can only be valved into one unit's N_2 supply due to a mechanical interlock on the inlet valves.

2. Batching Tank and Concentrates Tank are used to supplement both units on an infrequent basis. Manual valving is used throughout.

DCPP FOR INFORMATION ONLY



ELEV	AREA	MECH DWG NO UNIT 1
55	K	500096
60	K	96
73	H	73
73	K	97
85	K	98
91	G	65
100	K	74
115	K	100
117	H	75
135	K	96

ELEC ENGR 21 | 22 N.A.

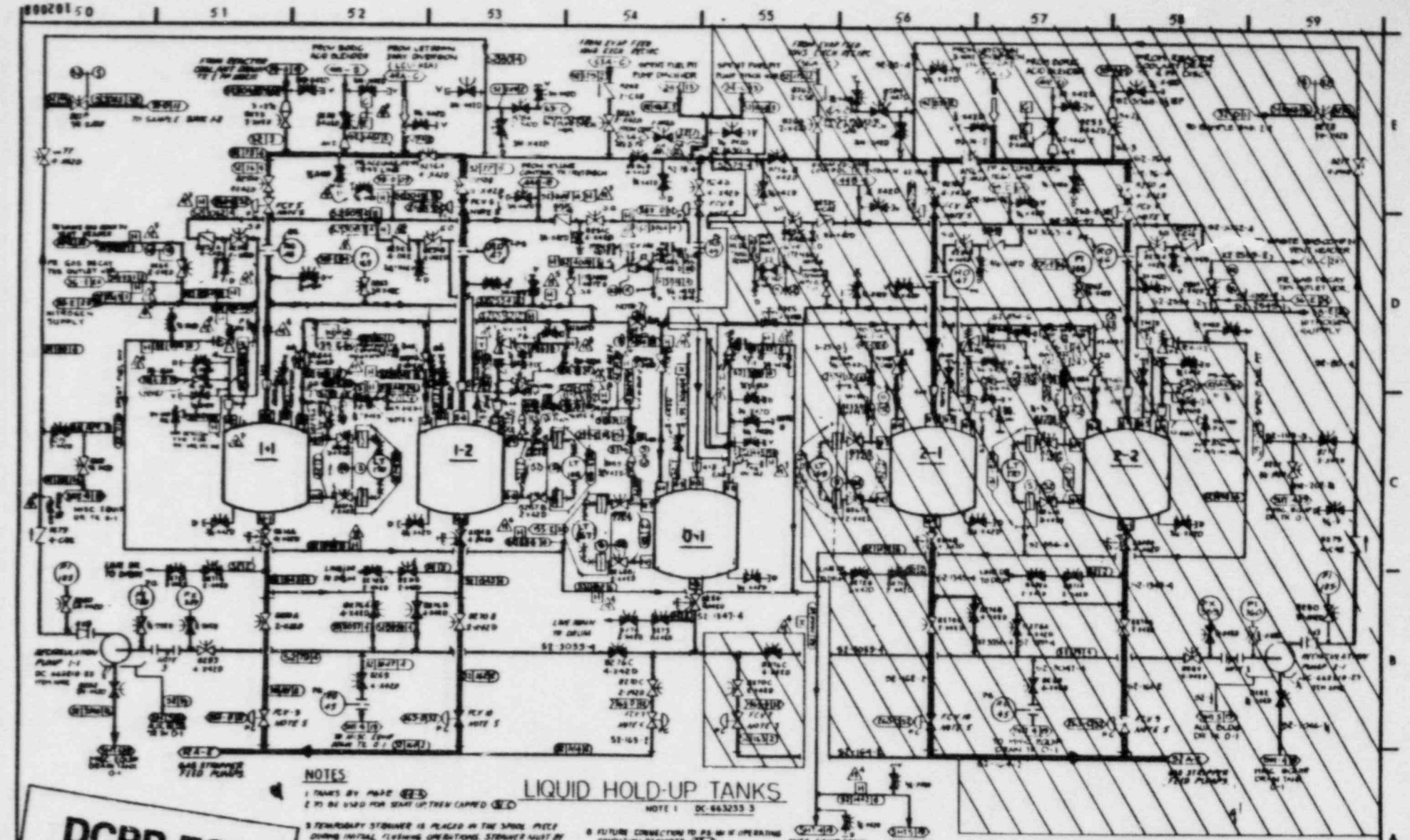
	DATE	DESCRIPTION	GM	BY	CH.
22	11-13-86	REVISED SH. 4B; SEE SHEET 19 FOR DETAILS	167027	J2B	
21	3-25-86	REVISED PER FOTIPENSEE SH 19 FOR DETAILS	167027	J2B	
20	4-7-85	SUP'D UNIT 1 & 2 SCHEM., REV'D PER DCN; SEE SH 17	167027	YO	
19	3-1-85	REV'D ALL SHEETS; SEE SHEET 19 FOR DETAILS	167027	J2B	
18	1-31-84	REV'D SHS 3 THRU 7; SEE SHEETS 18 & 19 FOR DET	167027	J7B	
15		REV'D PER DCN; SEE SH 18 DET	167027		

TABLE OF CHANGES

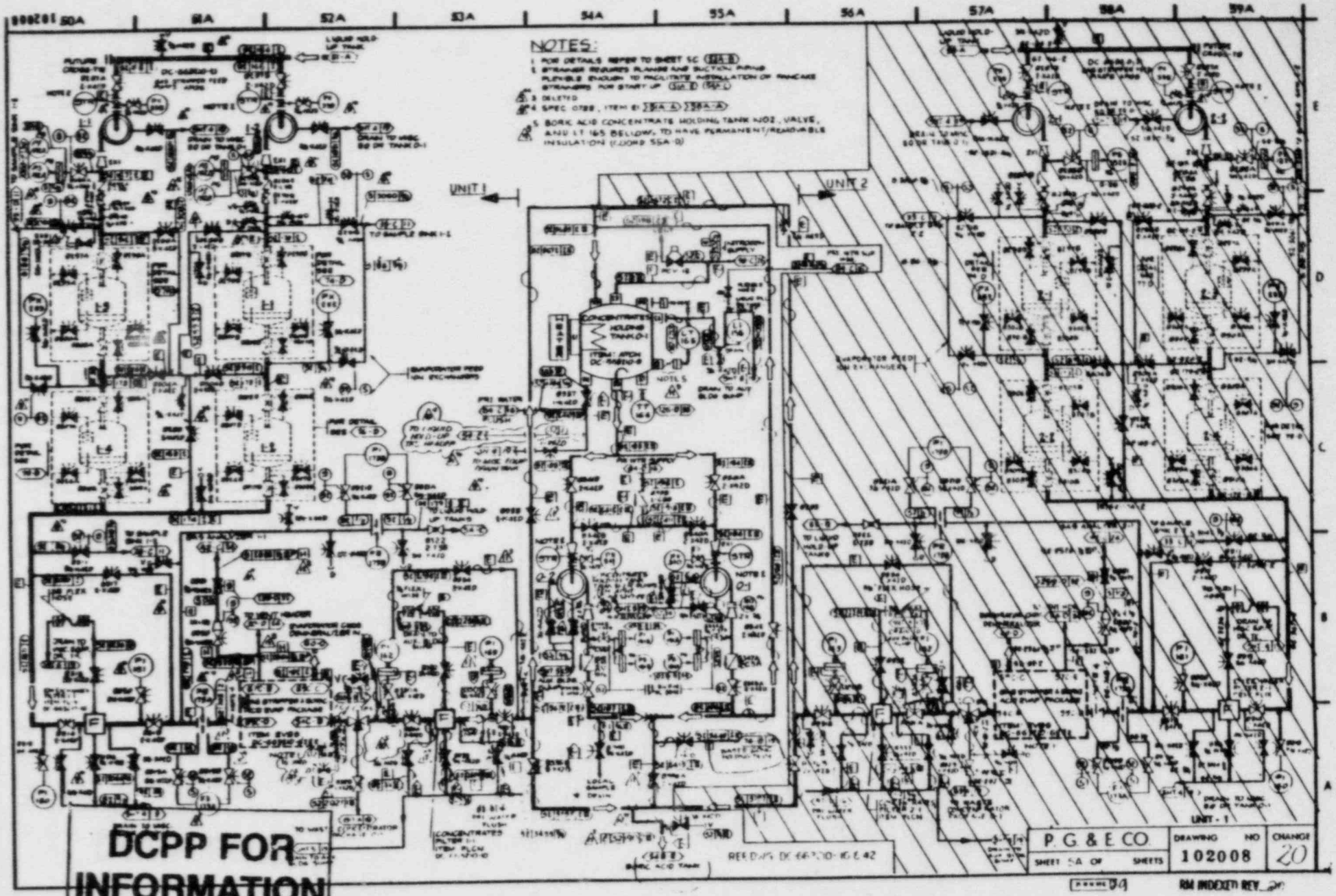
PIPING SCHEMATIC
CHEMICAL & VOLUME CONTROL SYSTEM
DIABLO CANYON
DEPARTMENT OF ENGINEERING
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

DRAWING LIST 050052
SHEET NO. 1 OF 19
102008 | CHANGE 22

RM INDEXED REV.
CHANGE NUMBER & ENGINEER



DCPP FOR INFORMATION ONLY



CATEGORY: Cross-Connected or Shared Systems

Item 13: Liquid Radwaste

A. Reference

1. DCPP P&ID 102008, 102019

B. Description

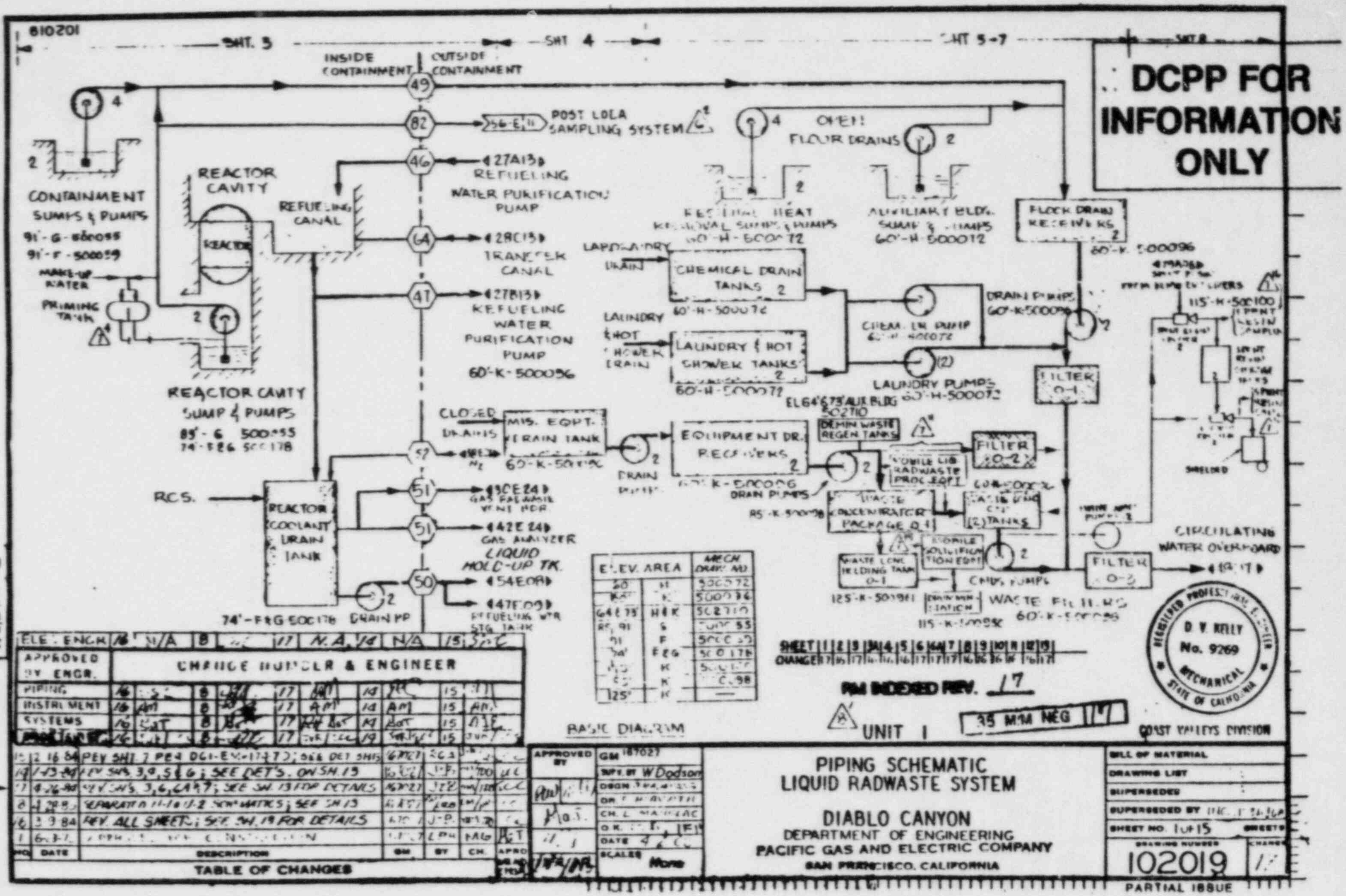
The closed and open drain systems are common to both Units. All radwaste requiring treatment is processed through a single waste concentrator.

C. Reason

Design is adequate for both units.

D. Operational Considerations

Common Aux Bldg for both units. Capacity of shared tanks is designed to accomodate both units. All equipment and controls located outside of Control Room and operated from the Unit 1 side of auxiliary building



DCPP FOR INFORMATION ONLY
810201
SHT. 3
SHT 4
SHT 5-7
INSIDE CONTAINMENT
OUTSIDE CONTAINMENT
49
82
POST LOCA SAMPLING SYSTEM
46
27A13
REFUELING WATER PURIFICATION PUMP
64
28C13
TRANSFER CANAL
47
27B13
REFUELING WATER PURIFICATION PUMP
60'-K-500056
CONTAINMENT SUMPS & PUMPS
91'-G-500055
91'-F-500059
MAKE-UP WATER
PRIMING TANK
REACTOR CAVITY
REACTOR
REFUELING CANAL
REACTOR CAVITY SUMP & PUMPS
85'-G 500055
74'-E&G 500178
OPEN FLOOR DRAINS
RESIDUAL HEAT REMOVAL SUMPS & PUMPS
60'-H-500072
AUXILIARY BLDG. SUMP & PUMPS
60'-H-500072
FLOOR DRAIN RECEIVERS
60'-K-500096
LAUNDRY DRAIN
CHEMICAL DRAIN TANKS
LAUNDRY HOT SHOWER DRAIN
LAUNDRY & HOT SHOWER TANKS
60'-H-500072
CHEM. LAB PUMP
LAUNDRY PUMPS
DRAIN PUMPS
FILTER 0-1
CLOSED DRAINS
MIS. EQPT. DRAIN TANK
60'-K-500096
DRAIN PUMPS
EQUIPMENT DR. RECEIVERS
60'-K-500096
DEMIN WASTE REGEN TANKS
MOBILE LIQ RADWASTE PROC EQPT
FILTER 0-2
WASTE CONCENTRATOR PACKAGE 0-1
WASTE CONC HOLDING TANK 0-1
MOBILE SOLIDIFICATION EQPT
CHDS PUMPS
WASTE FILTERS
60'-K-500096
FILTER 0-3
CIRCULATING WATER OVERBOARD
SHIELD
RCS.
REACTOR COOLANT DRAIN TANK
74'-E&G 500178
DRAIN PP
52
51
43E24
GAS ANALYZER
LIQUID HOLD-UP TK.
50
54E08
47E09
REFUELING WTR STG TANK
ELEV. AREA MECH. DRWG. NO.
BASIC DIAGRAM
RM INDEXED REV. 17
35 MM NEG 17
UNIT 1
COAST VALLEYS DIVISION
REGISTERED PROFESSIONAL ENGINEER D. V. KELLY No. 9269 MECHANICAL STATE OF CALIFORNIA
CHANGE NUMBER & ENGINEER
TABLE OF CHANGES
PIPING SCHEMATIC
LIQUID RADWASTE SYSTEM
DIABLO CANYON
DEPARTMENT OF ENGINEERING
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA
102019
PARTIAL ISSUE

CATEGORY: Cross-Connected or Shared Systems

Item 14: Gaseous Radwaste

A. Reference

1. DCPP P&IDs 102014, 102024

B. Description

1. Waste Gas Compressor 0-1 shared.

2. Can cross-tie between Decay Tank 1-3 and 2-3 inlets to allow gas decay tanks 1-3 and 2-3 to be cross-tied.

C. Reason

Flexibility

D. Operational Considerations

1. WGC 0-1 considerations

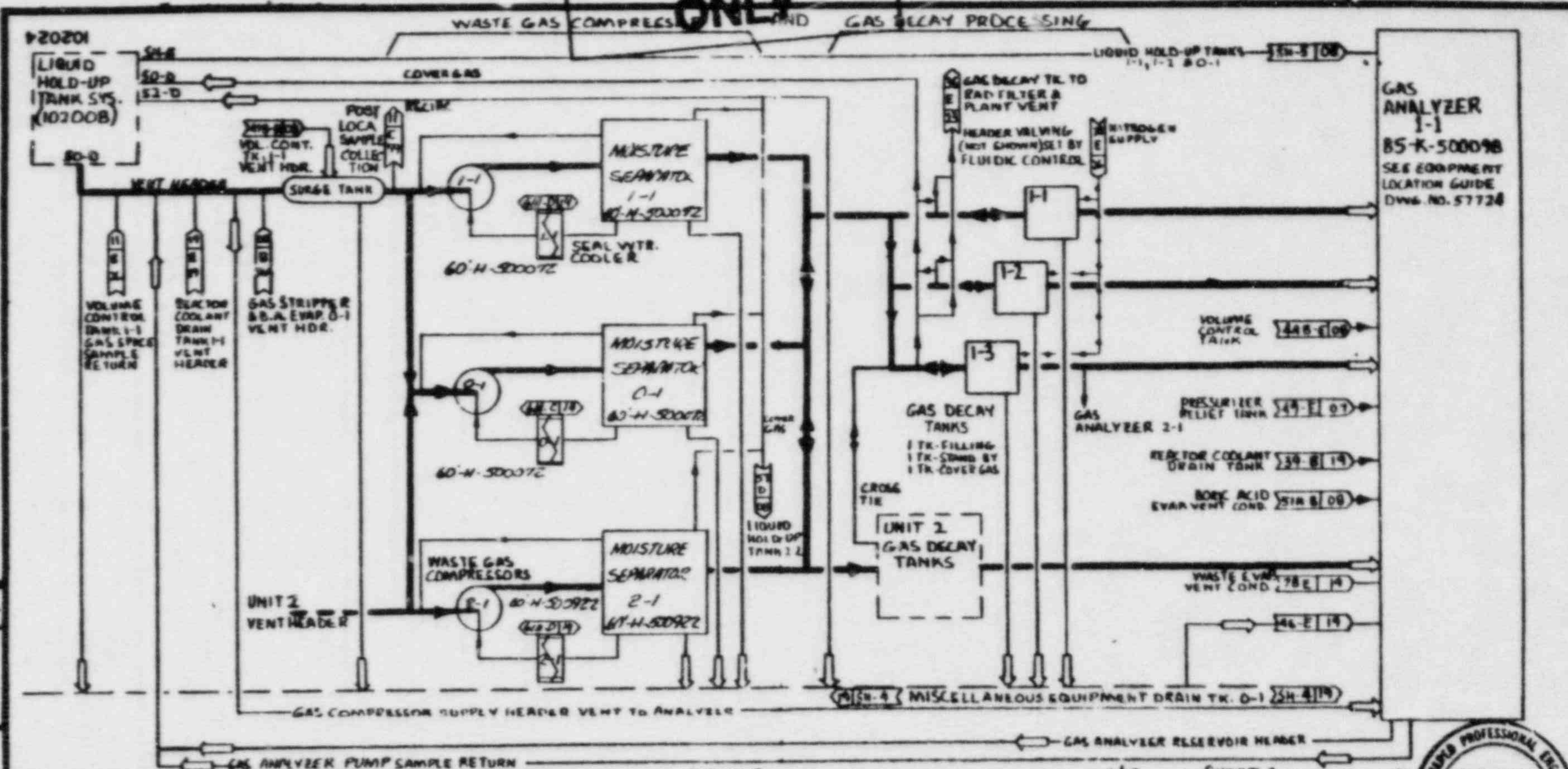
   a. WGC 0-1 may be shutdown by either Unit 1/Unit 2 gas analyzers on High O_2.

   b. WGC 0-1 may be selected to specific unit or remain in AUTO and STBY is On at 3.0/Off at 2.6 psig on whichever unit reaches high pressure setpoint first. WGC 0-1,1 if selected to support one unit, will start at 2.0/Off at 1.6 psig on that unit.

2. Gas Decay Tank 1-3/2-3 total curie considerations when cross connected.

3. If using TK 2-3 for FILL, must open Key-operated valve FCV 417 (cannot be venting or purging TK 1-3 or 2-3).

DCPP FOR INFORMATION ONLY



APPROVED BY ENGR.	CHANGE NUMBER & ENGINEER									
ELECTR.	8 [illegible]	9 N/A	10 N/A	11 N/A					ELECTR.	7 [illegible]
PIPING	8 [illegible]	9 [illegible]	10 [illegible]	11 [illegible]	6 [illegible]	7 [illegible]				
INSTRUMENT	8 [illegible]	9 [illegible]	10 [illegible]	11 [illegible]	6 [illegible]	7 [illegible]				
SYSTEMS	8 [illegible]	9 [illegible]	10 [illegible]	11 [illegible]	6 [illegible]	7 [illegible]				
CHIEF	8 [illegible]	9 [illegible]	10 [illegible]	11 [illegible]	6 [illegible]	7 [illegible]				

SHEET	1	2	3	4	5	6
CHANGE	11	8	11	10	9	11

BASIC DIAGRAM

FM INDEXED REV. 11 UNIT - 1

ELEV.	AREA	DWG. NUMBER
54	H	500071
60	H	500072
85	K	500098

REGISTERED PROFESSIONAL ENGINEER D. V. KELLY No. 9269 MECHANICAL STATE OF CALIFORNIA

COAST VALLEYS DIVISION

NO.	DATE	DESCRIPTION	GM	BY	CH.	APPR.
6	E-18-?	SEE DESCRIPTION OF CHANGES SH 2A	[illegible]	[illegible]	[illegible]	[illegible]
11	1-26-84	SEE SHEET 6 FOR DESCRIPTION OF CHANGES	167027	[illegible]	[illegible]	[illegible]
10	12-21-83	SEE SH. 6 FOR DESCRIPTION OF CHANGES	167027	[illegible]	[illegible]	[illegible]
9	10-6-83	SEE SH. 5 FOR DESCRIPTION OF CHANGES	167027	[illegible]	[illegible]	[illegible]
8	5-2-83	UNIT 1 SEPARATED - SEE SHEET 6 FOR DETAILS	167027	[illegible]	[illegible]	[illegible]
7	10-31-80	REVISED ALL SHEETS; SEE SHEET 5 FOR DETAILS	167027	[illegible]	[illegible]	[illegible]

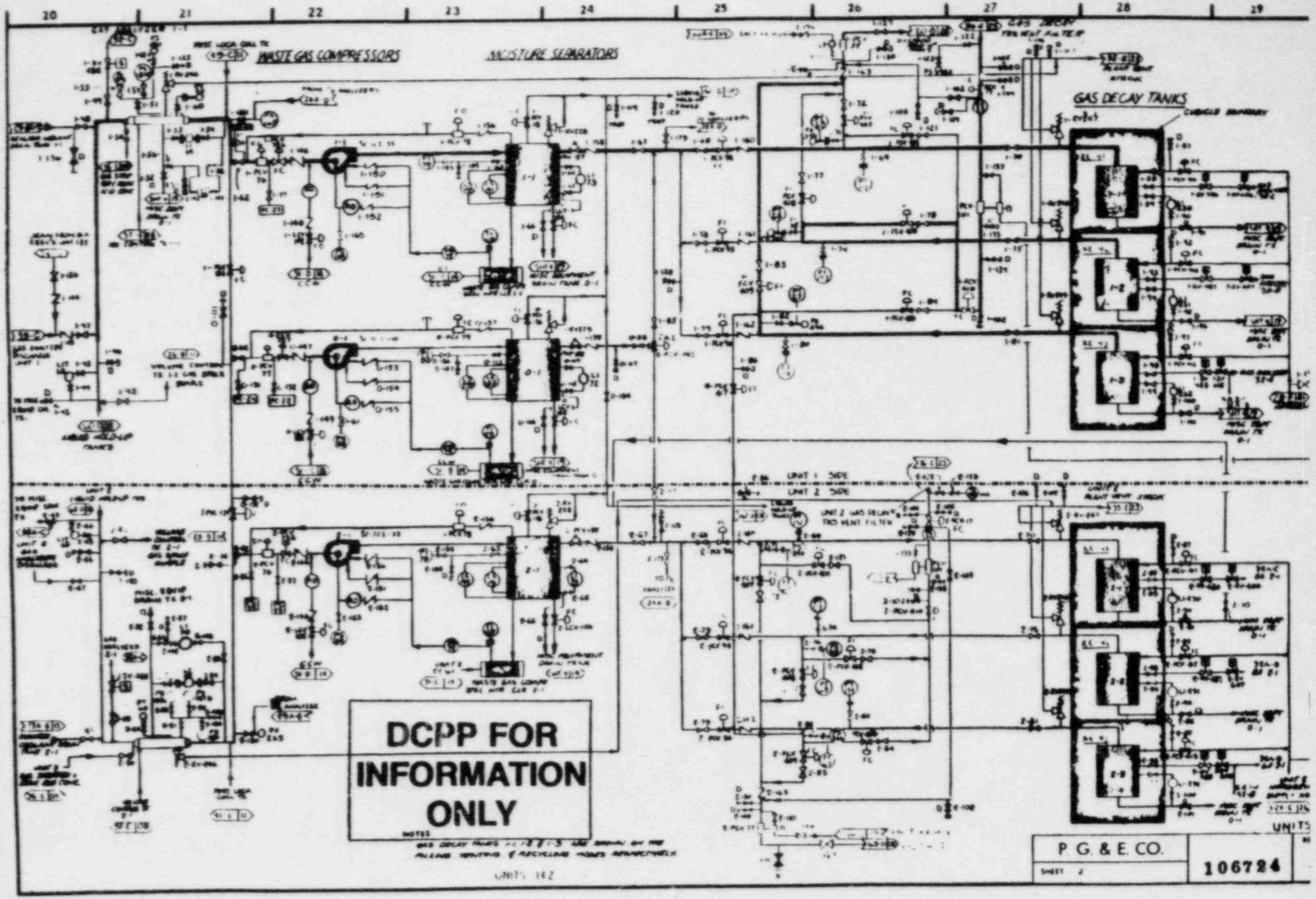
TABLE OF CHANGES

APPROVED BY: [illegible]

GM 167027
SUPT. W. P. Dodson
DSGN. J. MAHARAJ
DR. [illegible]
CH. L. MANALAC
O.K. [illegible]
DATE 4-13-76
SCALES None

PIPING SCHEMATIC
GASEOUS RADWASTE SYSTEM
DIABLO CANYON
DEPARTMENT OF ENGINEERING
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

BILL OF MATERIAL -
DRAWING LIST -
SUPERSEDES -
SUPERSEDED BY
SHEET NO. 1 OF 6 SHEETS
DRAWING NUMBER 102024
CHANGE 11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21
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WASTE GAS COMPRESSORS
MOISTURE SEPARATORS
GAS DECAY TANKS
UNIT 1 SIDE
UNIT 2 SIDE
DCPP FOR
INFORMATION
ONLY
P G. & E. CO.
106724
UNITS 1&2

CATEGORY: Cross-Connected or Shared Systems

Item 15: Diesel Generator 1-3

A. Reference

1. DCPP Equipment Description
2. DCPP FSAR, Tech. Specs.
3. DCPP EOP-4A

B. Description

Diesel Generator 1-3 shared by b th Units.

C. Reason

Cost-savings.

D. Operational Considerations

Operation of the DG in ESF mode on one Unit makes it unavailable for the other Unit, which places this Unit in a ACTION statement if in Modes 1 through 4. EOP-4A, Appendix B, addresses the problem of re-energizing a dead Bus F on one unit, when the diesel is feeding the other unit. Relays must be defeated to re-energize the dead bus.

Regarding Control Switch positions:

1. To operate in Ischronous mode, both Unit 1/Unit 2 sw. must be in AUTO.
2. Auto starts of EDG 1-3 are only blocked w/both Unit 1/Unit 2 sw. in MANUAL.
3. EDG 1-3 will auto-start if one unit in AUTO, one in MANUAL, even if auto-start signal is on unit in MANUAL.
4. Proposed c/o switch for auto-starts on a units 4 KV UV signal. Prevents lifting leads. C/O would have alarm annunciation.

On a loss of offsite power each unit has a dedicated diesel to its 4160V Bus G and H. The loads on bus G and H are identical for both units and Unit 1's loads are listed below.

VITAL BUS G	VITAL BUS H
D/G 1-2	D/G 1-1
MCC 1-G	MCC 1-H
CC Pp 1-2	SI Pp 1-2
Recip. Charg. Pp 1-3	RHR Pp 1-2
RHR Pp 1-1	
CFCU 1-3	CFCU 1-4
CFCU 1-5	CCW Pp 1-3
CCW Pp 1-2	AFW Pp 1-2
ASW Pp 1-2	
Cont Spray 1-1	Cont Spray Pp 1-2

The loads on Vital Bus F are identical on both units. Unit 1 Bus F loads are listed below:

VITAL BUS F
D/G 1-3
MCC 1-F
CC Pp 1-1
SI Pp 1-1
CFCU 1-2
CFCU 1-1
CCW Pp 1-1
ASW Pp 1-1
AFW Pp 1-3

During a loss offsite power only 1 unit's vital bus F can be powered. If there is an Safety Injection (S.I.) signal on a unit the diesel generator breaker feeding the other unit will trip open and the diesel will power the (first) unit with the S.I.

Looking at the above lists it can be easily verified that 1 train of ECCS equipment is available on the unit without the diesel. This is because Vital Bus F on the unit supplies power only to equipment that the SSPS Train A (for that unit) initiates. (Bus G only supplies power to the equipment that SSPS Train B initiates, and Bus H supplies power to parts of both trains.)

A precaution on operation of the diesel when both units have a loss of offsite power and S.I. signals, is that when the unit that had the first S.I. has its S.I. reset, that unit will have its diesel generator breaker trip and the diesel will load onto the other unit. This feature allows us to choose which unit will get the diesel if both units have an S.I.

In addition to being able to have a single train of ECCS for an S.I., the amount of equipment available or on will also allow either unit to cooldown or maintain Hot Standby status without its Bus F.

CATEGORY: Cross-Connected or Shared Systems

Item 16: Compressed Air

A. Reference

1. DCPP P&ID 102025

B. Description

Shared system.

C. Reason

More efficient and there is no need for redundant air sytems for this non-vital system.

D. Operational Considerations

Reset of a compressor that has auto-started can only be done on Unit 1. Master/Individual loader selection can only be done on Unit 1. Excessive usage of air on either unit will affect both units, although service air isolation will take place as pressure goes below 93 psig.

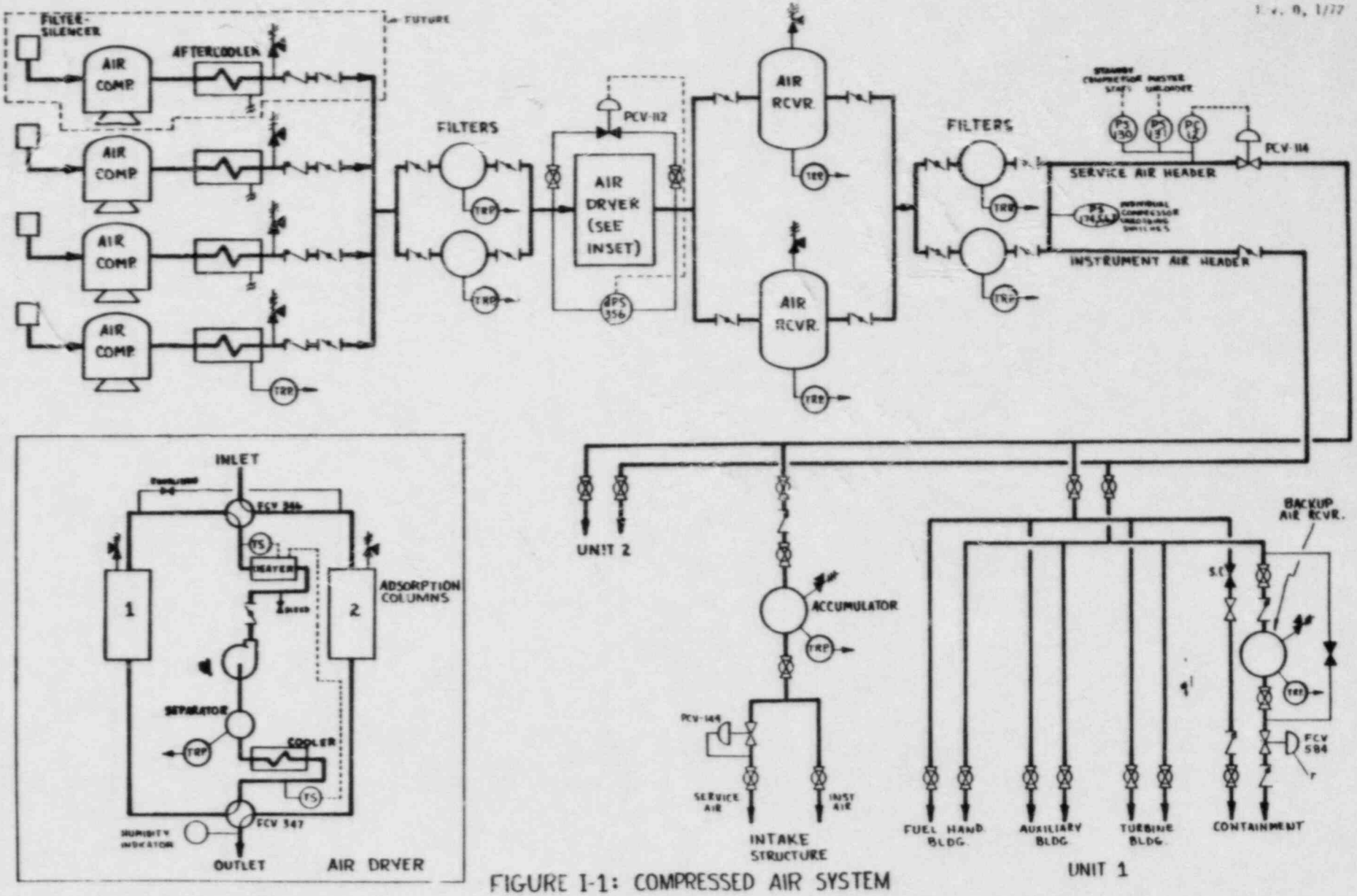


FIGURE I-1: COMPRESSED AIR SYSTEM

CATEGORY: Control Room

Item No.

1. Annunciator (PK) windows installed on Unit 1 only (not installed on Unit 2)

2. Control Board; items on Unit 1 only

CATEGORY: Control Room

Item 1: Annunciator (PK) Windows Installed On Unit 1 Only (Not Installed on Unit 2)

1. "RCS OVERPRESSURE" (PK 05)
   Explanation: Not required on Unit 2. This was an interim fix for PTS considerations. The Low Pressure lift setpoint for PORV's has eliminated the need for it. May be deleted from Unit 1 in the future.

2. "YARD LOOP FIRE VALVE CLOSED" (PK 09)
   Explanation: System common to both units.

3. "R.O. WATER TREATMENT" (PK 09)
   Explanation: System common to both units.

4. "SEA WATER DEMIN SYSTEM" (PK 09)
   Explanation: System common to both units; installed on Unit 1 side.

5. "CONDENSER VACUUM PUMP" (PK 10)
   Explanation: System common to both units; installed on Unit 1 side.

6. "TRANSFER TANK LEVEL" (PK 10)
   Explanation: System common to both units; installed on Unit 1 side.

7. "FIRE WATER SYSTEM" (PK 10)
   Explanation: System common to both units. Tank installed on Unit 1 side.

8. "FIRE WATER PUMPS" (PK 10)
   Explanation: Pumps installed on Unit 1 side only.

9. "AUXILIARY STEAM SYSTEM " (PK 12)
   Explanation: System common to both units.

10. "CAUSTIC STG TANK TEMP HI" (PK 13)
    Explanation: System common to both units. Tank installed on Unit 1 side.

*11. "BREATHABLE AIR COMPR TROUBLE" (PK 13)
Explanation: System common to both units. Compressors are located on Unit 2 side.

12. "INSTRUMENT AIR" (PK 13)
Explanation: System common to both units.

13. "AUXILIARY BOILER" (PK 13)
Explanation: Package auxiliary boilers installed on Unit 1 side only.

14. "AIR DRYER HI PRESS BYPASS" (PK 13)
Explanation: Plant air compressors/dryers installed on Unit 1 side only.

15. "BAR RACKS SCREENS" (PK 13)
Explanation: System common to both units.

16. "SEISMIC INSTR SYSTEM" (PK 15)
Explanation: System common to both units.

*17. "SECURITY POWER SYSTEM" (PK 20)
Explanation: System common to both units. Security diesel is located on Unit 2 side.

CATEGORY: Control Room

ITEM 2: Control Board; Items on Unit 1 Only

1. FCV-601, ASW CROSS-TIE VALVE HANDSWITCH
   Explanation: ASW pump discharge cross-connect.

2. FIRE WATER TANK LEVEL INDICATION
   Explanation: Tank located on Unit 1 (shared).

3. TRANSFER WATER TANK LEVEL INDICATION
   Explanation: Tank located on Unit 1 (shared)

4. AIR COMPRESSOR MASTER UNLOADER CONTROL SWITCH
   Explanation: Shared System. Switch on Unit 1 only.

5. AIR COMPRESSOR CONTROL SWITCHES
   Explanation: Control of compressors 0-1 & 0-2 from Unit 1. Control of compressors 0-3 & 0-4 from Unit 2.

6. AIR COMPRESSOR STANDBY START SIGNAL RESET
   Explanation: Can be reset from Unit 1 only.

7. AIR HEADER PRESSURE INDICATION
   Explanation: Shared system. Indication on Unit 1 only.

8. COND VAC PMP, CONTROL SWITCH & PUMP AMP METER (VB 3)
   Explanation: Vacuum pump installed on Unit 1 only.

9. M/U WTR XFER PMP 0-1 & 0-2 CONTROL SWITCHES (VB 3)
   Explanation: Transfer pumps installed on Unit 1 only.

10. 12 KV START-UP BUS TIE BREAKER (52 VU 11) TO UNIT 2 (VB 5)
    Explanation: 12 KV startup buses may be cross-connected. Provides system flexibility in event of failure of one startup transformer. (Breaker is physically located on Unit 1).

11. DSL 1-3 K-VOLT & MVAR RECORDER (VB 4)
    Explanation: DG 1-3 is shared.

12. DSL 1-3 MWATT & FREQUENCY RECORDER (VB 4)
    Explanation: DG 1-3 is shared.

CATEGORY: Technical Specifications

Item No.

1. Rated Thermal Power
2. Loop Design Flow
3. T' (Reference Tavg of RATED THERMAL POWER)
4. T" (Reference Tavg at RATED THERMAL POWER)
5. Steam/Feedwater Flow Mismatch
6. Rod Bank Insertion Limits
7. RCS Tavg Limit

CATEGORY: Technical Specifications

Item No. 1: Rated Thermal Power

A. Reference

1. Tech. Spec. Definition 1.26 (page 1-5)

B. Description

Unit 2 reads, "3411 MWt" vice "3338 MWt"

C. Reason

Different vessel internals design in Unit 2. Provides greater core flow, thus greater thermal power.

D. Operational Considerations

- Unit 2 will operate at a higher power level, but the only place that power level is not referenced tc a 100% RTP is on the DEH Turbine Control and the Generator Capability Curves. Nuclear instrumentation should not be affected as far as the operator is concerned because heat balances set the instrumentation trips and they will specify the 100% RTP value for the unit which is applicable.

PRESSURE BOUNDARY LEAKAGE

1.22 PRESSURE BOUNDARY LEAKAGE shall be leakage, except steam generator tube leakage, through a non-isolable fault in a Reactor Coolant System component body, pipe wall or vessel wall.

PROCESS CONTROL PROGRAM

1.23 The PROCESS CONTROL PROGRAM (PCP) shall contain the sampling, analysis, and formulation determination by which SOLIDIFICATION of radioactive wastes from liquid systems is assured.

PURGE - PURGING

1.24 PURGE or PURGING shall be the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

QUADRANT POWER TILT RATIO

1.25 QUADRANT POWER TILT RATIO shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater. With one excore detector inoperable, the remaining three detectors shall be used for computing the average.

RATED THERMAL POWER

1.26 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3338 MWt.
[3411 MWt]

REACTOR TRIP SYSTEM RESPONSE TIME

1.27 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until loss of stationary gripper coil voltage.

REPORTABLE OCCURRENCE

1.28 A REPORTABLE OCCURRENCE shall be any of those conditions specified in Specifications S.9.1.12 and 6.9.1.13.

CATEGORY: Technical Specifications

Item No. 2: Loop Design Flow

A. Reference

1. Tech. Spec. Table 2.2-1 (page 2-4, footnote)

B. Description

Unit 2 reads, "88,500 gpm" vice "87,700 gpm".

C Reason

Different vessel internals

D. Operational Considerations

Greater Rated Thermal Power for Unit 2

TABLE 2.2-1

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
1. Manual Reactor Trip	Not Applicable	Not Applicable
2. Power Range, Neutron Flux	Low Setpoint - $\leq$ 25% of RATED THERMAL POWER	Low Setpoint - $\leq$ 26% of RATED THERMAL POWER
	High Setpoint - $\leq$ 109% of RATED THERMAL POWER	High Setpoint - $\leq$ 110% of RATED THERMAL POWER
3. Power Range, Neutron Flux, High Positive Rate	$\leq$ 5% of RATED THERMAL POWER with a time constant $\geq$ 2 second	$\leq$ 5.5% of RATED THERMAL POWER with a time constant $\geq$ 2 second
4. Power Range, Neutron Flux, High Negative Rate	$\leq$ 5% of RATED THERMAL POWER with a time constant $\geq$ 2 second	$\leq$ 5.5% of RATED THERMALPOWER with a time constant $\geq$ 2 second
5. Intermediate Range, Neutron Flux	$\leq$ 25% of RATED THERMAL POWER	$\leq$ 30% of RATED THERMAL POWER
6. Source Range, Neutron Flux	$\leq 10^5$ counts per second	$\leq 1.3 \times 10^5$ counts per second
7. Overtemperature ΔT	See Note 1	See Note 2
8. Overpower ΔT	See Note 3	See Note 4
9. Pressurizer Pressure--Low	$\geq$ 1950 psig	$\geq$ 1940 psig
10. Pressurizer Pressure--High	$\leq$ 2385 psig	$\leq$ 2395 psig
11. Pressurizer Water Level--High	$\leq$ 92% of instrument span	$\leq$ 93% of instrument span
12. Loss of Flow	$\geq$ 90% of design flow per loop*	$\geq$ 89% of design flow per loop*

*Design flow is 87,700 gpm per loop.
[88,500 gpm]

CATEGORY: Technical Specifications

Item No. 3: T' (Reference Tavg at RATED THERMAL POWER)

A. Reference

1. Tech. Spec. Table 2.2-1 (page 2-7)

B. Description

For valve of T', Unit 2 reads, " $\leq$ 577.6°F" vice " $\leq$ 576.6°F"

C. Reason

Unit 2 has higher rated thermal power

D. Operational Considerations

Since Tavg is automatically controlled most of the time, and Tref is set by the turbine impulse pressure when in Manual, the operational differences are essentially non-existant (Unit 1 vs. Unit 2).

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

NOTATION

NOTE 1: Overtemperature $\Delta T \leq \Delta T_o \left[K_1 - K_2 \left(\frac{1+\tau_1 S}{1+\tau_2 S}\right)(T-T') + K_3(P-P') - f_1(\Delta I)\right]$

where: ΔT_o = Indicated ΔT at RATED THERMAL POWER

T = Average temperature, °F

T' = $\leq$ 576.6°F [577.6 °F] Reference T_{avg} at RATED THERMAL POWER

P = Pressurizer pressure, psig

P' = 2235 psig (indicated RCS nominal operating pressure)

$\frac{1+\tau_1 S}{1+\tau_2 S}$ = The function generated by the lead-lag controller for T_{avg} dynamic compensation

τ_1 & τ_2 = Time constants utilized in the lead-lag controller for T_{avg} τ_1 = 30 secs, τ_2 = 4 secs.

S = Laplace transform operator, sec^{-1}.

K_1 = 1.174

K_2 = 0.01358

K_3 = 0.000685

CATEGORY: Technical Specifications

Item No. 4: T" (Reference Tavg at RATED THERMAL POWER)

A. Reference

1. Tech. Spec. Table 2.2-1 (page 2-9)

B. Description

For value of T", Unit 2 reads, " $\leq$ 577.6°F" vice " $\leq$ 576.6°F"

C. Reason

Unit 2 has a higher rated thermal power

D. Operational Considerations

NONE

Note 3: Overpower $\Delta T \leq \Delta T_o[K_4 - K_5 \left(\frac{\tau_3 S}{1+\tau_3 S}\right) T - K_6 (T-T") - f_2(\Delta I)]$

where:

ΔT_o = Indicated ΔT at rated power

T = Average temperature, °F

$T"$ = $\leq$ 576.6°F [577.6 °F] Reference T_{avg} at RATED THERMAL POWER

K_4 = 1.079

K_5 = 0.0174/°F for increasing average temperature, 0 for decreasing average temperature

K_6 = 0.00121 for $T > T"$; $K_6 = 0$ for $T \leq T"$

$\frac{\tau_3 S}{1+\tau_3 S}$ = The function generated by the rate lag controller for T_{avg} dynamic compensation

τ_3 = Time constant utilized in the rate lag controller for T_{avg} τ_3 = 10 secs.

S = Laplace transform operator, sec^{-1}

$f_2(\Delta I)$ = 0 for all ΔI

Note 4: The channel's maximum trip point shall not exceed its computed trip point by more than 3 percent.

CATEGORY: Technical Specifications

Item No. 5: Steam/Feedwater Flow Mismatch

A. Reference

1. Tech. Spec. Bases 2.2-1 (page B 2-7)

B. Description

Unit 2 SF/FF mismatch setting reads, "1.49 x 10^6 lbs/hr" vice "1.45 x 10^6 lbs/hr"

C. Reason

Setpoint is based on approx. 40% total flow from 1 S/G at rated full power. Unit 2 has a higher rated full power (both thermal and electrical) thus higher steam flow.

D. Operational Considerations

None. The alarm and bistables are preset.

Steam Generator Water Level

The steam generator water level low-low trip protects the reactor from loss of heat sink in the event of a sustained steam/feedwater flow mismatch resulting from loss of normal feedwater. The specified setpoint provides allowances for starting delays of the auxiliary feedwater system.

Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level

The steam/feedwater flow mismatch in coincidence with a steam generator low water level trip is not used in the transient and accident analyses but is included in Table 2.2-1 to ensure the functional capability of the specified trip settings and thereby enhance the overall reliability of the Reactor Protection System. This trip is redundant to the Steam Generator Water Level Low-Low trip. The Steam/Feedwater Flow Mismatch portion of this trip is activated when the steam flow exceeds the feedwater flow by greater than or equal to 1.45×10^6 lbs/hour. The Steam Generator Low Water level portion of the trip is activated when the water level drops below 25 percent, as indicated by the narrow range instrument. These trip values include sufficient allowance in excess of normal operating values to preclude spurious trips but will initiate a reactor trip before the steam generators are dry. Therefore, the required capacity and starting time requirements of the auxiliary feedwater pumps are reduced and the resulting thermal transient on the Reactor Coolant System and steam generators is minimized.

[1.49 x 10^6 lbs/hr]

Undervoltage and Underfrequency - Reactor Coolant Pump Busses

The Undervoltage and Underfrequency Reactor Coolant Pump Bus trips provide reactor core protection against DNB as a result of complete loss of forced coolant flow. The specified set points assure a reactor trip signal is generated before the low flow trip set point is reached. Time delays are incorporated in the underfrequency and undervoltage trips to prevent spurious reactor trips from momentary electrical power transients. For undervoltage, the delay is set

CATEGORY: Technical Specifications

Item No. 6: Rod Bank Insertion Limits

A. Reference

1. Tech. Spec. LCO 3.1.3.6, Figure 3.1-1 (page 3/4 1-22)

B. Description

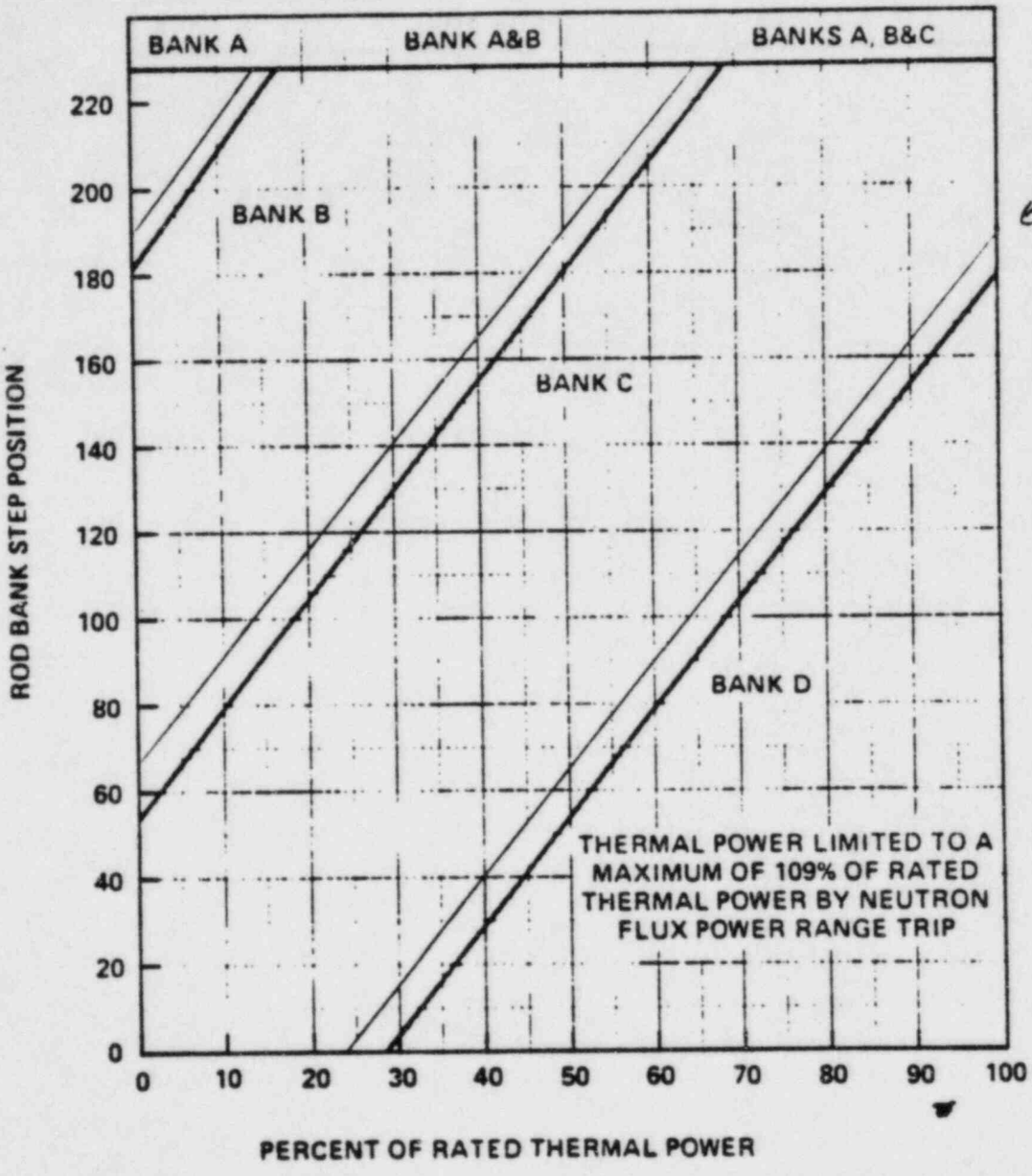
Unit 2 has a different ROD BANK INSERTION LIMITS vs. THERMAL POWER curve (i.e. at 100% power, Control Bank D RIL is 189 steps for Unit 2 vice 180 steps for Unit 1).

C. Reason

Unit 2 has greater power and therefore a greater power defect. More rod worth must be inserted to meet Shutdown Margin requirements.

D. Operational Considerations

Normal. The operator must be aware of the different curve that applies to Unit 2. The Rod Lo and Lo Lo Insertion Limit alarm setpoints will reflect Unit 2 differences.



UNIT 2 (APPROXIMATION)

FIGURE 3.1-1 ROD BANK INSERTION LIMITS VERSUS THERMAL POWER
100 STEP BANK OVERLAP

CATEGORY: Technical Specifications

Item No. 7: Reactor Coolant Systems Tavg Limit

A. References

1. Tech. Spec. LCO 3.2.5, Table 3.2-1 (page 3/4 2-18)

B. Description

Unit 2 RCS Tavg Limit is " $\leq$ 582°F" vice " $\leq$ 581°F"

C. Reason

Unit 2 has a higher rated thermal power and loop design flow. Thus, the Tavg limit is higher.

D. Operational Considerations

1. High Tavg annunciation setpoint on Unit 2 will reflect the higher limit.

2. Pressurizer level program difference (61.1% vs. 59.8% at 100% power). Color band on level meter will reflect this difference.

TABLE 3.2-1

DNB PARAMETERS

PARAMETER	LIMITS
Reactor Coolant System T_{avg}	$\leq$ 581°F [582°F]
Pressurizer Pressure	$\geq$ 2220 psia*

*Limit not applicable during either a THERMAL POWER ramp in excess of 5% RATED THERMAL POWER per minute or a THERMAL POWER step in excess of 10% RATED THERMAL POWER.

ENCLOSURE 2

NRC LICENSE ACTIVITY SUMMARY SHEET

NRC LICENSE ACTIVITY SUMMARY SHEET

NAME	LICENSE #	DOCKET #	POSITION *	DATE OF LICENSE
ADAMS	OP 50004	50012	CO	11/08/83
AIKEN	SOP 4274-1	7752	SFM	03/29/84
ARELLANO	OP 5944-1	8295	CO	03/29/84
BARD	SOP 50001	9538	STA	11/08/83
BARTLETT	SOP 4483	3139	SCO	12/17/82
BEARDEN	SOP 4485	7753	SCO	01/03/83
BEASLEY	OP 50005	50010	CO	11/09/83
BECKER	SOP 50002	9540	STA	11/08/83
BOWLES	SOP 4486	7763	SCO	12/17/82
BRILEY	OP 50010	7754	AO	11/16/83
COLE	SOP 4052-1	1582	SFM	09/16/83
COLLINS	SOP 3963-1	7764	SFM	06/05/83
CRAIG	OP 5945-1	8296	SCO	03/29/84
CROCKETT	SOP 3956-1	7765	SR PPE (OPS)	06/05/83

NRC LICENSE ACTIVITY SUMMARY SHEET

NAME	LICENSE #	DOCKET #	POSITION*	DATE OF LICENSE
EWING	SOP 3960-1	3393	SFM	06/05/83
FISHER	SOP 3961-1	4883	SR PPE (OPS)	06/05/83
FRIDLEY	SOP 3964-1	6673	GEN OP FOREMAN	06/05/83
GISCLON	SOP 3955-1	5525	ASST PLT MGR/ TECH SERVICES	06/05/83
GOELZER	SOP 50059	9551	STA	03/28/84
GRAHAM	SOP 50060	9553	OP TRNG INST	03/28/84
HAUETER	SOP 4273-1	7755	SCO	03/29/84
HENDRICKSON	SOP 50061	9539	STA	03/28/84
HIRT	SOP 4269-1	8293	SCO	03/12/84
JACOBSON	OP 50006	50019	CO	11/08/83
KAEFER	SOP 3959-1	5524	ASST PLT MGR/ SUPPORT SERVICES	06/05/83
KENSINGER	SOP 3967-1	7751	SFM	06/15/83
KLINE	OP 50007	50013	CO	11/08/83
KOEHLER	OP 4043-1	7756	CO	09/16/83
LEADER	OP 50008	50016	ACO	11/08/83
LEMKE	SOP 50003	50018	ACO	11/08/83
LEWIS	SOP 50004	5820	OP TRNG INST	11/08/83

NRC LICENSE ACTIVITY SUMMARY SHEET

NAME	LICENSE #	DOCKET #	POSITION *	DATE OF LICENSE
LIEW	SOP 4418	8301	PPE (OPS)	10/09/82
LUCKETT	SOP 4487	4261	PPE (NUC)	12/12/82
LUGO	OP 5494-1	7757	CO	06/05/83
MAGRUDER	SOP 50062	9552	STA	03/28/84
MARTIN	SOP 3962-1	3796	TRAINING MGR	06/05/83
MIKLUSH	SOP 4271-1	8299	SUP OF MAINT	03/29/84
MOLDEN	SOP 3966-1	7750	OP TRNG SUP	06/15/83
MOORE	SOP 50005	50015	CO	11/08/83
NAVARRO	SOP 4589	7758	SCO	07/14/83
NEWMAN	OP 5496-1	7759	CO	06/15/83
NILMEIER	SOP 4270-1	8294	SCO	03/13/84
NORTHNESS	SOP 50006	7522	OP TRNG INST	11/08/83
PATTERSON	SOP 3958-1	7746	ASST PLT MGR/ PLT SUP	06/05/83

NRC LICENSE ACTIVITY SUMMARY SHEET

NAME	LICENSE #	DOCKET #	POSITION*	DATE OF LICENSE
PAULSON	OP 5947-1	7760	CO	03/12/84
PRICE	SOP 3957-1	7749	SCO	06/05/83
RAAB	SOP 4045-1	7748	SFM	09/16/83
RHODES	SOP 4265-1	8289	SFM	03/12/84
ROOS	SOP 4484	7747	SCO	12/17/82
SARGENT	SOP 4481	7502	OP SR TNG INST	01/03/83
SEXTON	SOP 3965-1	6672	OPERATION MGR	06/15/83
SMITH	OP 5498-1	7761	ACO	06/05/83
STEINKE	SOP 4275-1	7430	OP SR TRNG INST	04/16/84
TARDIFF	OP 50009	50017	ACO	11/08/83
TINLIN	SOP 4267-1	8291	OP SR TRNG INST	03/29/84
TOSTE	SOP 50008	50011	CO	11/08/83

NRC LICENSE ACTIVITY SUMMARY SHEET

NAME	LICENSE #	DOCKET #	POSITION *	DATE OF LICENSE
VOSBURG	SOP 4266-1	8290	SFM	04/16/84
WATERS	SOP 50009	9541	STA	11/08/83
WILLIAMS	OP 4049-1	7762	CO	09/16/83
WOMACK	SOP 4276-1	8489	ENGINEERING MGR	03/12/84

TOTAL RO 14

TOTAL SRO 46

TOTAL LICENSED 60

*AO - Auxiliary Operator
ACO - Assistant Control Operator
CO - Control Operator
RCE - Regulatory Compliance Engineer
SCO - Senior Control Operator
SFM - Shift Foreman
STA - Shift Technical Advisor
PPE (OPS) - Power Production Engineer, Operations
SR PPE (OPS) - Senior Power Production Engineer, Operations