

J. PHILLIP CARVER
General Attorney

BellSouth Telecommunications, Inc.
150 South Monroe Street
Room 400
Tallahassee, Florida 32301
(404) 335-0710

ORIGINAL

April 9, 1999

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99 APR -9 PM 4: 37
RECORDS AND
REPORTING

Mrs. Blanca S. Bayo
Director, Division of Records and Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399

Re: Docket Nos. 980946-TL, 980947-TL, 980948-TL,
981011-TL, 981012-TL and 981250-TL

Dear Mrs. Bayo:

Enclosed are an original and 15 copies of BellSouth Telecommunications, Inc.'s Direct Testimony of W. Keith Milner, James D. Bloomer, Barbara Cruitt, George Mainer, Thomas E. Fortenberry, Power Panel (John N. MacDonald, Robert N. Fisher), Circuit Capacity Panel (Susan E. Smith, Alan S. Levak, Kenneth Krick), Switching Capacity Panel (Shakur Bolden, William Perez, Thomas Forness), and Common Systems Capacity Panel (Miguel F. Rodriguez, Guy Ream, Robert Cook, Louis Caban). Please file these documents in the captioned docket. *(DNS 04635-99 through 04643-99)*

A copy of this letter is enclosed. Please mark it to indicate that the original was filed and return the copy to me. Copies have been served on the parties shown on the attached Certificate of Service.

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- RCH _____
- SEC 1 _____
- WAS _____
- OTH _____

Enclosures

cc: All Parties of Record
M. M. Criser, III
N. B. White
W. J. Ellenberg

Sincerely,

J. Phillip Carver
Phillip Carver
(28)

CERTIFICATE OF SERVICE
Docket Nos. 980946-TL, 980947-TL, 980948-TL, 981011-TL,
981012-TI and 981250-TL

I HEREBY CERTIFY that a true and correct copy of the foregoing was served via
U.S. Mail this 9th day of April, 1999 to the following:

Beth Keating, Esq.
Staff Counsel
Florida Public Service
Commission
Division of Legal Services
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Charles J. Pellegrini
Wiggins & Villacorta, P.A.
2145 Delta Boulevard
Suite 200
P.O. Drawer 1657
Tallahassee, FL 32302
Tel. No. (850) 385-6007
Fax. No. (850) 385-6008

Steve Brown
Intermedia Communications, Inc.
3625 Queen Palm Drive
Tampa, FL 33619-1309
Tel. No. (813) 829-0011
Fax. No. (813) 829-4923

Floyd R. Self, Esq.
Messer, Caparello & Self, P.A.
215 South Monroe Street
Suite 701
Tallahassee, FL 32301-1876
Tel. No. (850) 222-0720
Fax. No. (850) 224-4359

Mr. Brian Sulmonetti
WorldCom Technologies, Inc.
1515 South Federal Highway
Suite 400
Boca Raton, FL 33432
Tel. No. (561) 750-2940
Fax. No. (561) 750-2629

David V. Dimlich, Esq.
Legal Counsel
Supra Telecommunications &
Information Systems, Inc.
2620 S.W. 27th Avenue
Miami, FL 33133
Tel. No. (305) 476-4235
Fax. No. (305) 443-1078

Amanda Grant
BellSouth Telecommunications, Inc.
Regulatory & External Affairs
675 West Peachtree Street, N.E.
Room 38L64
Atlanta, Georgia 30375

Norman H. Horton, Jr.
Messer, Caparello & Self, P.A.
215 S. Monroe Street
Suite 701
Tallahassee, Florida 32301-1876
Tel. No. (850) 222-0720
Fax. No. (850) 224-4359
Represents e.spire»

James C. Falvey, Esq.
e.spire™ Communications, Inc.
133 National Business Parkway
Suite 200
Annapolis Junction, Maryland 20701
Tel. No. (301) 361-4298
Fax. No. (301) 361-4277

Kenneth A. Hoffman, Esq.
John R. Ellis, Esq.
Rutledge, Ecenia, Underwood,
Purnell & Hoffman, P.A.
P.O. Box 551
Tallahassee, FL 32301
Tel. No. (850) 681-6788
Fax. No. (850) 681-6515

Steven Gorosh
Vice President and General Counsel
NorthPoint Communications, Inc.
222 Sutter Street, 7th Floor
San Francisco, CA 94108
Tel. No. (415) 659-6518
Fax. No. (415) 658-4190

Charles A. Hudak, Esq.
Jeremy D. Marcus, Esq.
Gerry, Friend & Saprnov, LLP
Three Ravinia Drive, Suite 1450
Atlanta, GA 30346-2131
Tel. No. (770) 399-9500
Fax. No. (770) 395-0000
Attys. for ACI Corp.

Jeffrey Blumenfeld, Esq.
Elise P.W. Kiely, Esq.
Blumenfeld & Cohen
1615 M Street, NW
Suite 700
Washington, DC 20036
Tel. No. (202) 955-6300
Fax. No. (202) 955-6460

Attys. for ACI Corp.

Peter M. Dunbar, Esq.
Barbara D. Auger, Esq.
Pennington, Moore, Wilkinson
& Dunbar, P.A.
Post Office Box 10095
Tallahassee, FL 32302-2095
Tel. (850) 222-3533
FAX (850) 222-2126
Attys for Time Warner Telecom

Carolyn Marek
VP of Reg. Affairs
Time Warner Communications
233 Bramerton Court
Franklin, TN 37069
Tel. (615) 376-6404
Fax (615) 376-6405

Monica M. Barone
Sprint Communications Company
Limited Partnership
3100 Cumberland Circle
Mailstop GAATLN0802
Atlanta, GA 30339

James D. Earle, Esq.
Covad Communications, Inc. d/b/a
DIECA Communications
700 Thirteenth Street NW
Suite 950
Washington, DC 20005
Tel: (202) 434-8902
Fax: (202) 434-8932

Richard D. Melson
Gabriel E. Nieto
Hopping Green Sams & Smith
Post Office Box 6526
Tallahassee, FL 32314
Attys. for ACI Corp.

J. Phillip Carver
(20)

ORIGINAL

1 BELLSOUTH TELECOMMUNICATIONS, INC.
2 DIRECT TESTIMONY OF JOHN N. MACDONALD AND ROBERT N. FISHER
3 BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
4 DOCKET NOS. 980946-TL, 980947-TL, 980948-TL, 981011-TL,
5 981012-TL, AND 981250-TL

6 APRIL 9, 1999
7
8

9 Q. PLEASE STATE YOUR NAME AND COMPANY NAME AND ADDRESS.
10

11 A. John N. MacDonald (South Florida)
12

13 My name is John N. MacDonald. I am employed by
14 BellSouth Telecommunications, Inc. as an Area Manager
15 in the South Florida Capacity Management
16 organization. My business address is 18560 N.W. 27th
17 Avenue, Room 330, Miami, Florida 33056.
18

19 Robert Neil Fisher (North Florida)
20

21 My name is Robert Neil Fisher. I am employed by
22 BellSouth Telecommunications, Inc. as a Power
23 Capacity Manager in the North Florida Capacity
24 Management organization. My business address is 301
25

1 West Bay Street, Room 5KK1, Jacksonville, Florida
2 33022.

3

4 Q. PLEASE SUMMARIZE YOUR BACKGROUND AND EXPERIENCE.

5

6 A. John N. MacDonald (South Florida)

7

8 I graduated from Palm Beach Junior College in 1966
9 with an Associate of Science degree in Electronics
10 Technology. In 1966, I began employment with
11 Southern Bell as a Traffic Engineer. From 1972 to
12 1981, I managed the Southeast Florida Traffic
13 Engineering group. During 1982 and 1983, I managed
14 the Southeast Florida Detailed Continuing Property
15 Records (DCPR) group. From 1984 into 1987, I was the
16 Manager of the Florida Circuit Provisioning Center
17 (CPC). From 1987 through 1992, I was the Manager of
18 the Central Florida Switch Planning organization. I
19 managed the North Florida Circuit & Data
20 Administration Center through 1993 and 1994. Since
21 1995, I have managed the Common Systems Capacity
22 Management (CSCM) group, Power Capacity Management
23 (PCM) group and Transmission/Video Engineers for
24 South Florida.

25

1 Robert Neil Fisher (North Florida)

2

3 I graduated from The Virginia Military Institute in
4 1966 with a Bachelor of Science degree in Electrical
5 Engineering. In 1966, I began employment with
6 Western Electric as a Planning Engineer. In 1968, I
7 entered Active Duty in the Army and was Honorably
8 Discharged in 1970. In 1970, I returned to Western
9 Electric as a Planning Engineer. In 1973, I
10 transferred to Southern Bell as an Equipment Engineer
11 for Switching in Miami, Florida. In 1975, I was
12 transferred to Maintenance Engineering - Power. In
13 1983, I was transferred to North Florida as a Power
14 Planner and Engineer. In 1993, I was awarded a
15 Masters degree in Business Administration from NOVA-
16 Southeastern University. Since 1993, I have had the
17 Power Planning responsibility for various areas
18 served by BellSouth Telecommunications in the State
19 of Florida. Since 1997, I have also had the Power
20 Capacity Management duties for North Florida. I am a
21 member of the Institute of Electrical and Electronic
22 Engineers (IEEE.) I am also licensed as a
23 Professional Engineer under Chapter 471, Florida
24 Statute (PE 0022425.)

25

1 Q. HAVE YOU TESTIFIED PREVIOUSLY?

2

3 A. No. We have not testified previously in any
4 proceedings.

5

6 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

7

8 A. The purpose of our testimony is to provide
9 information associated with the placement of DC power
10 equipment and a standby engine/alternators in the
11 Miami Palmetto, North Dade Golden Glades, Boca Raton
12 Boca Teeca, West Palm Beach Gardens, Lake Mary, and
13 Daytona Beach Port Orange central offices. This
14 testimony will also discuss what factors should be
15 considered by the Commission in making its
16 determination of BellSouth's requirement to provide
17 physical collocation in these six offices.

18

19 **ISSUE 2: WHAT FACTORS SHOULD BE CONSIDERED BY THE**
20 **COMMISSION IN MAKING ITS DETERMINATION ON BELLSOUTH'S**
21 **PETITIONS FOR WAIVER AND TEMPORARY WAIVER OF THE**
22 **REQUIREMENT TO PROVIDE PHYSICAL COLLOCATION FOR THE**
23 **FOLLOWING CENTRAL OFFICES:**

24

25 a) **Daytona Beach Port Orange**

- 1 **b) Boca Raton Boca Teeca**
- 2 **c) Miami Palmetto**
- 3 **d) West Palm Beach Gardens**
- 4 **e) North Dade Golden Glades**
- 5 **f) Lake Mary**

6

7 Q. WHAT ARE THE RESPONSIBILITIES OF A POWER CAPACITY
8 MANAGER (PCM)?

9

10 A. A PCM is responsible for the planning of adequate DC
11 power to support all switching and circuit equipment,
12 including collocation, within a central office. The
13 PCM uses an outsource vendor, Lucent Technologies, to
14 perform all DC power planning functions but the PCM
15 directly oversees this vendor and approves all
16 equipment projects and expenditures. The PCM performs
17 all planning functions and acquires funding for
18 standby engines/alternators located in all central
19 offices to provide power to support the total
20 switching, circuit and building load in the event of
21 a commercial alternating current (AC) power failure.

22

23 Q. HOW DOES THE POWER CAPACITY MANAGER DETERMINE THE
24 AMOUNT OF FLOOR SPACE TO BE RESERVED FOR DC POWER
25 EQUIPMENT/STANDBY DIESEL POWERED ALTERNATORS?

1 A. DC battery plants, including rectifiers, batteries,
2 power distribution bays and overhead copper buss
3 bars, require special expertise to properly design.
4 The PCM uses Lucent Technologies not only to plan but
5 to engineer, furnish & install (EF&I) DC power
6 equipment. High DC current and floor loading
7 limitations due to the weight of the equipment,
8 especially batteries, influence power room space
9 requirements. Outside structural engineers,
10 contracted by BellSouth, advise Lucent as to the safe
11 spacing and layout of the heavy battery strings. The
12 Lucent power engineer assists the PCM in determining
13 the overall power room "footprint" required.
14 Standby engines/alternators also require special
15 expertise as to the amount of floor space required.
16 Physical size, volume of required intake air, cooling
17 needs, exhaust arrangements, sound attenuation
18 requirements and control cabinet layout all influence
19 space needs. BellSouth's Property & Services
20 Management (P&SM) group uses their outsource vendor
21 or contracts outside mechanical and/or structural
22 engineers to specify floor space needs for standby
23 engine/alternator installations.

24
25

1 Q. WHAT INFORMATION DOES A POWER CAPACITY MANAGER USE TO
2 PERFORM HIS DUTIES?
3

4 A. A PCM needs the quantity, sizing and timing of DC
5 power equipment additions. The PCM needs standby
6 engine/alternator load information, peak office power
7 loads and any other significant load data such as
8 central office cooling.
9

10 Q. FROM WHERE DOES THE POWER CAPACITY MANAGER RECEIVE
11 INFORMATION TO PERFORM HIS DUTIES?
12

13 A. DC power quantity, sizing and timing comes from the
14 Lucent Technologies Power Planner. Standby
15 engine/alternator load data comes from central office
16 power room logs and commercial power utility peak
17 office load records. P&SM provides cooling system
18 loads.
19

20 Q. PLEASE EXPLAIN HOW THE POWER CAPACITY MANAGER USES
21 THE INFORMATION HE RECEIVES TO PERFORM HIS DUTIES.
22

23 A. The PCM works with CSCM and P&SM to properly locate
24 the DC power room "footprint" within the central
25 office.

1 Q. IN THESE CENTRAL OFFICES, BELLSOUTH IS OCCUPYING
2 SPACE FOR DC POWER AND STANDBY ENGINES/ALTERNATORS.
3 PLEASE PROVIDE A DEPICTION OF THE ACTUAL USAGE OF
4 THIS SPACE IN EACH OFFICE.

5

6 A. **MIAMI PALMETTO** (John N. MacDonald)

7

8 In the Miami Palmetto central office, BellSouth is
9 occupying 3,263 square feet for DC power and a
10 standby engine/alternator. Exhibit PCM Panel-1
11 depicts the power room with the original DC battery
12 plant and, to its left, the newly installed DC
13 battery plant. Exhibit PCM Panel-2 depicts the
14 standby engine/alternator room with the 750KW
15 engine/alternator.

16

17 **NORTH DADE GOLDEN GLADES** (John N. MacDonald)

18

19 In the North Dade Golden Glades central office,
20 BellSouth is currently occupying 3,863 square feet
21 for DC power and a standby engine/alternator. Exhibit
22 PCM Panel-3 depicts 2,545 square feet for the 1ST
23 floor power room housing a DC battery plant and, to
24 its left, the 750KW engine/alternator room. The
25 1200KW engine/alternator planned for a June 2000

1 completion will use an additional 404 square feet to
2 the left of the existing engine room.

3

4 Exhibit PCM Panel-4 depicts 1,318 square feet for the
5 2nd floor power room housing a DC battery plant.

6

7 **BOCA RATON BOCA TEECA** (John N. MacDonald)

8

9 In the Boca Raton Boca Teeca central office,
10 BellSouth is occupying 1,367 square feet for DC power
11 and a standby engine/alternator. Exhibit PCM Panel-5
12 depicts the power room for the DC battery plant.

13 Exhibit PCM Panel-6 depicts the standby
14 engine/alternator room with the 600KW
15 engine/alternator.

16

17 **WEST PALM BEACH GARDENS** (John N. MacDonald)

18

19 In the West Palm Beach Gardens central office,
20 BellSouth is occupying 2,188 square feet for DC power
21 and a standby engine/alternator. Exhibit PCM Panel-7
22 depicts the power area for the DC battery plant.

23 Exhibit PCM Panel-8 depicts the standby
24 engine/alternator room with the 750KW
25 engine/alternator.

1 **LAKE MARY** (Robert Neil Fisher)

2

3 In the Lake Mary central office, BellSouth is
4 occupying 734 square feet for DC power and a standby
5 engine/alternator. Exhibit PCM Panel-9 depicts both
6 the power areas for the DC battery plant and the
7 present Engine Room.

8

9 **DAYTONA BEACH PORT ORANGE** (Robert Neil Fisher)

10

11 In the Daytona Beach Port Orange central office,
12 BellSouth is occupying 1,586 square feet for DC power
13 and a standby engine/alternator. Exhibit PCM
14 Panel-10 depicts both the power areas for the DC
15 battery plant and the present Engine Room.

16

17 Q. WHAT POWER EQUIPMENT AND STANDBY ENGINE/ALTERNATOR
18 ARE LOCATED IN THESE OFFICES?

19

20 A. **MIAMI PALMETTO** (John N. MacDonald)

21

22 There are two DC battery plants in the same power
23 room. The original plant, that is currently serving
24 all equipment in the building, is virtually
25 exhausted. It is a nominal 6400-ampere plant normally

1 providing a maximum of 5200 amps to its loads. A new,
2 nominal 6400-ampere DC plant is currently being
3 installed next to the old plant with an initial
4 capacity of 2000 amps. It will have various circuit
5 and collocation loads moved to it from the old plant
6 over the next few months. The present standby
7 engine/alternator is a 750KW diesel.

8

9 **NORTH DADE GOLDEN GLADES** (John N. MacDonald)

10

11 There are two DC battery plants in this central
12 office. The first floor plant is currently serving
13 all circuit and switch equipment on the first floor.
14 It is a nominal 6400-ampere plant equipped to provide
15 approximately 3600 amps. The second floor plant is
16 currently serving all switch equipment on the second
17 floor. It is a nominal 6400-ampere plant limited to
18 approximately 4000 amps. The present standby
19 engine/alternator is a 750KW diesel.

20

21 **BOCA RATON BOCA TEECA** (John N. MacDonald)

22

23 There is one DC battery plant in this central office.
24 It is a 6000-ampere plant equipped to provide
25 approximately 2600 amps. It is currently serving all

1 circuit and switch equipment. The present standby
2 engine/alternator is a 600KW diesel.

3

4 **WEST PALM BEACH GARDENS** (John N. MacDonald)

5

6 There is one DC battery plant in this central office.

7 It is a 10,000-ampere plant equipped to provide
8 approximately 5200 amps. This plant is currently
9 serving all equipment in the building. The present
10 standby engine/alternator is a 750KW diesel.

11

12 **LAKE MARY** (Robert Neil Fisher)

13

14 There is one DC battery plant. It is a nominal 2600-
15 ampere plant equipped to provide 1500 amps. It is
16 currently serving all circuit and switch equipment.
17 The present standby engine/alternator is a 200KW
18 diesel.

19

20 **DAYTONA BEACH PORT ORANGE** (Robert Neil Fisher)

21

22 There is one DC Battery plant in this central office.
23 It is a nominal 6400-ampere plant equipped to provide
24 3000 amps. It is currently serving all circuit and

25

1 switch equipment. The present standby
2 engine/alternator is a 750KW diesel.

3

4 Q. IS THERE GROWTH AREA RESERVED FOR FUTURE USE?

5

6 A. **MIAMI PALMETTO** (John N. MacDonald)

7

8 Within the power room footprint, there is room to add
9 one (1) more battery string. Ongoing planning will
10 include the changing out of existing lower-capacity
11 batteries for higher capacity batteries.

12

13 **NORTH DADE GOLDEN GLADES** (John N. MacDonald)

14

15 Within the 1st floor power room footprint, there may
16 be room to add three (3) to four (4) more battery
17 strings depending on space and floor loading
18 considerations. Ongoing planning will entail adding
19 one new string in June 2000 and another in March
20 2003.

21

22 Within the 2nd floor power room, there is virtually
23 no room for growth.

24

25 **BOCA RATON BOCA TEECA** (John N. MacDonald)

1 Within the power room footprint, there is room to add
2 three (3) more battery strings. Two of the three will
3 be installed in the 3rd quarter of 1999.

4

5 **WEST PALM BEACH GARDENS** (John N. MacDonald)

6

7 Within the power room footprint, there is room to add
8 two (2) more battery strings. These are currently
9 being added.

10

11 **LAKE MARY** (Robert Neil Fisher)

12

13 In the Lake Mary central office, no power equipment
14 growth space is available.

15

16 **DAYTONA BEACH PORT ORANGE** (Robert Neil Fisher)

17

18 In the Daytona Beach Port Orange central office,
19 there is power equipment growth space for up to eight
20 (8) battery strings, eleven (11) additional
21 rectifiers, eight (8) miscellaneous power equipment
22 bays and an additional distribution bay. One battery
23 string is presently scheduled for installation in the
24 year 2000. Utilization of the growth space by a

25

1 collocator raises safety and other concerns that must
2 be answered by our P&SM group.

3

4 Q. DOES THIS CONCLUDE THE PANEL TESTIMONY?

5

6 A. Yes, it does.

7

8

9

10

11

12

13

14

15

16

17

18

19

20

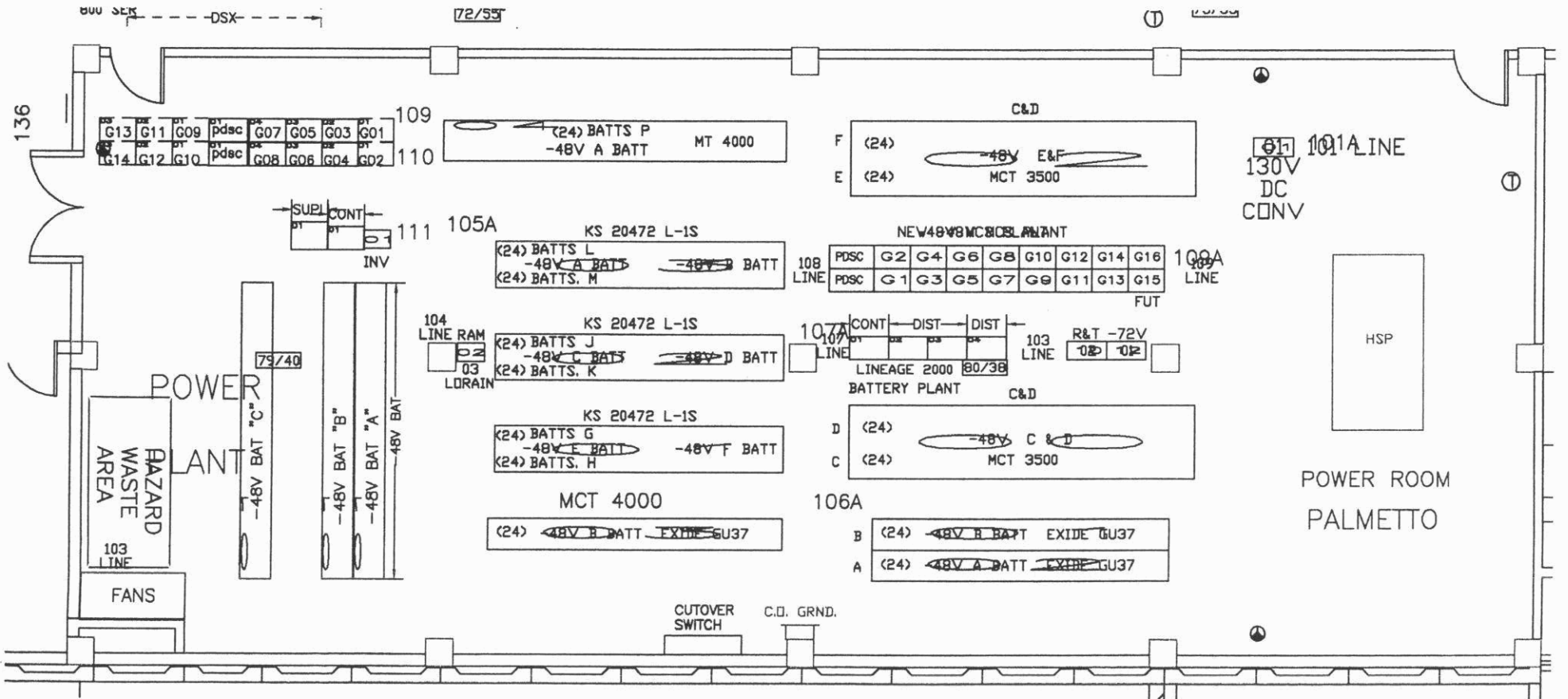
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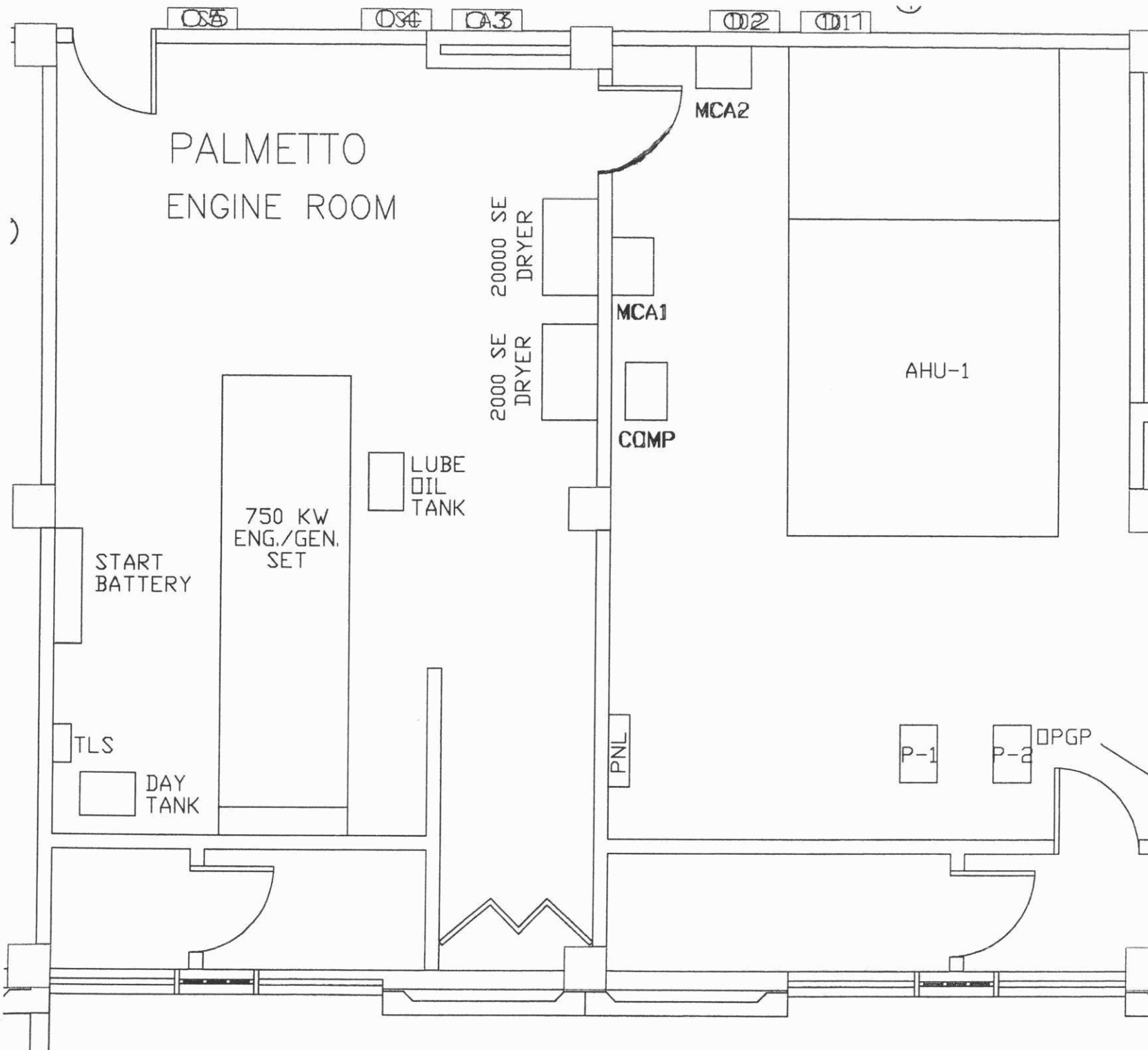
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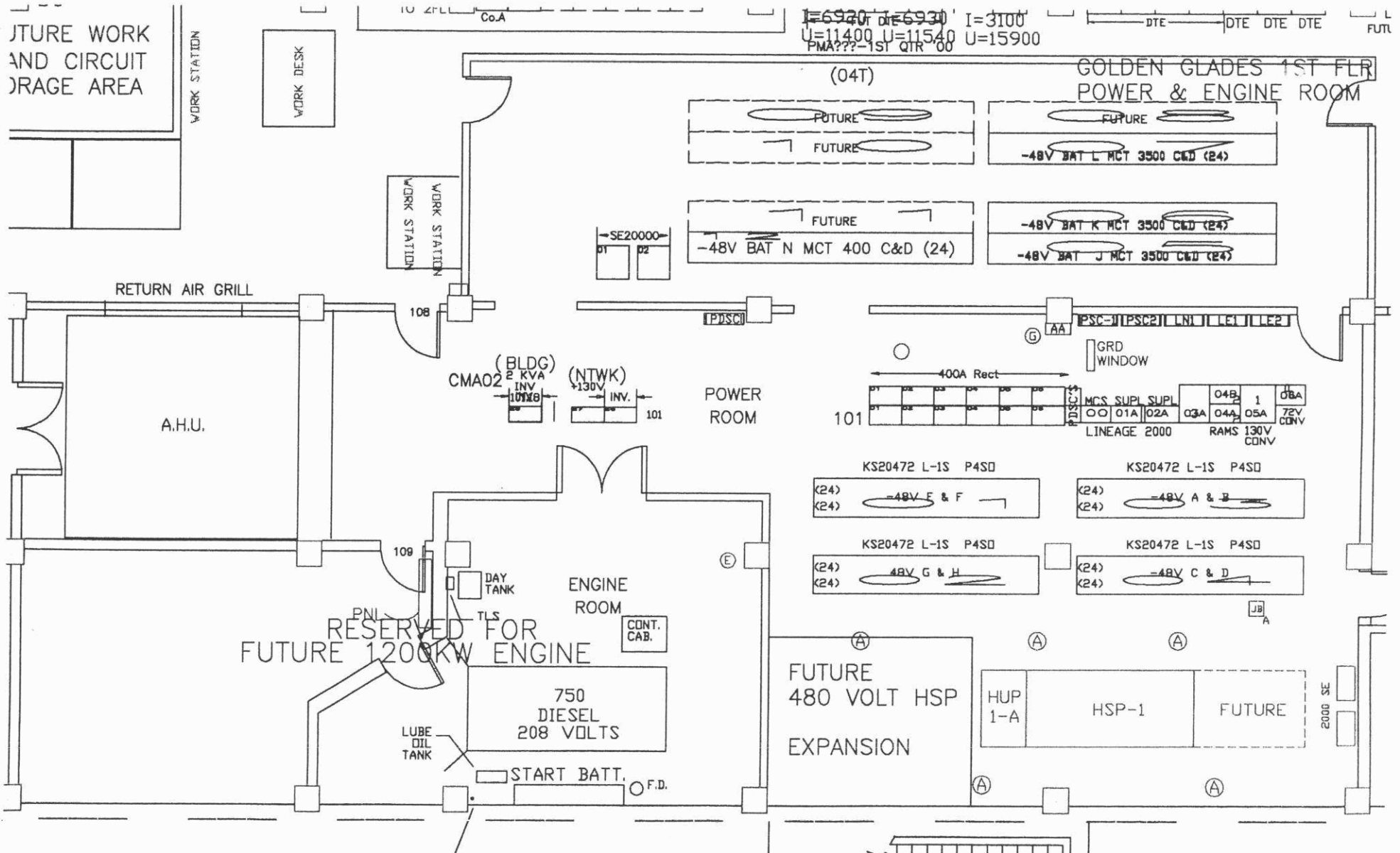
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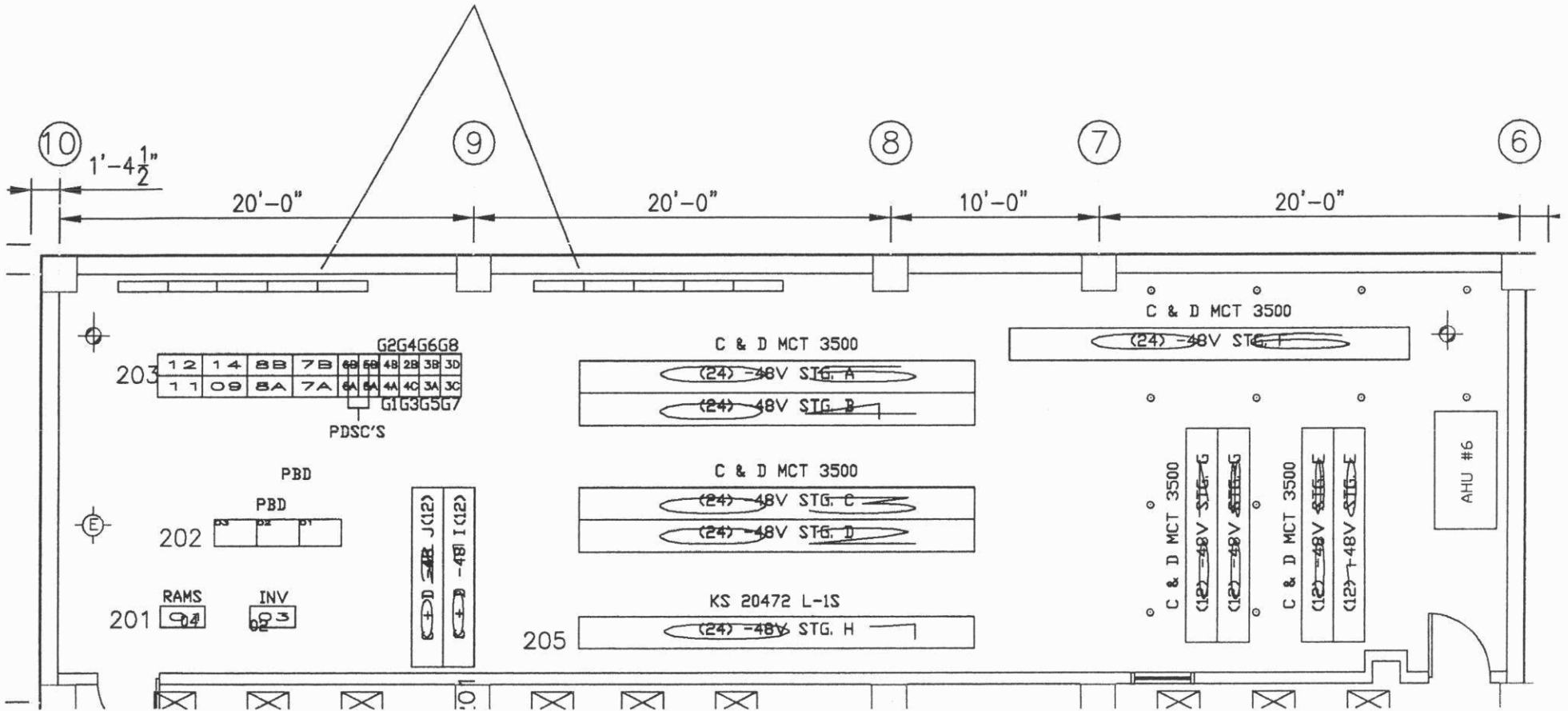




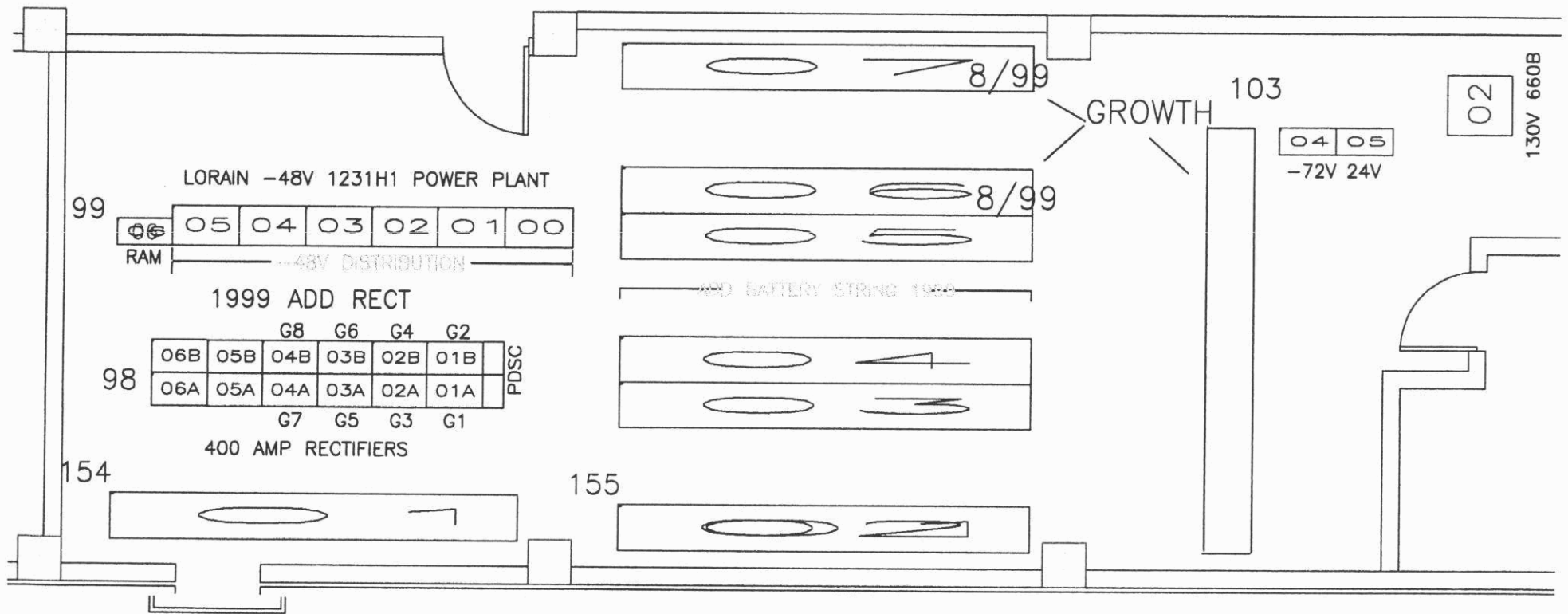


GOLDEN GLADES 2ND FLOOR POWER ROOM

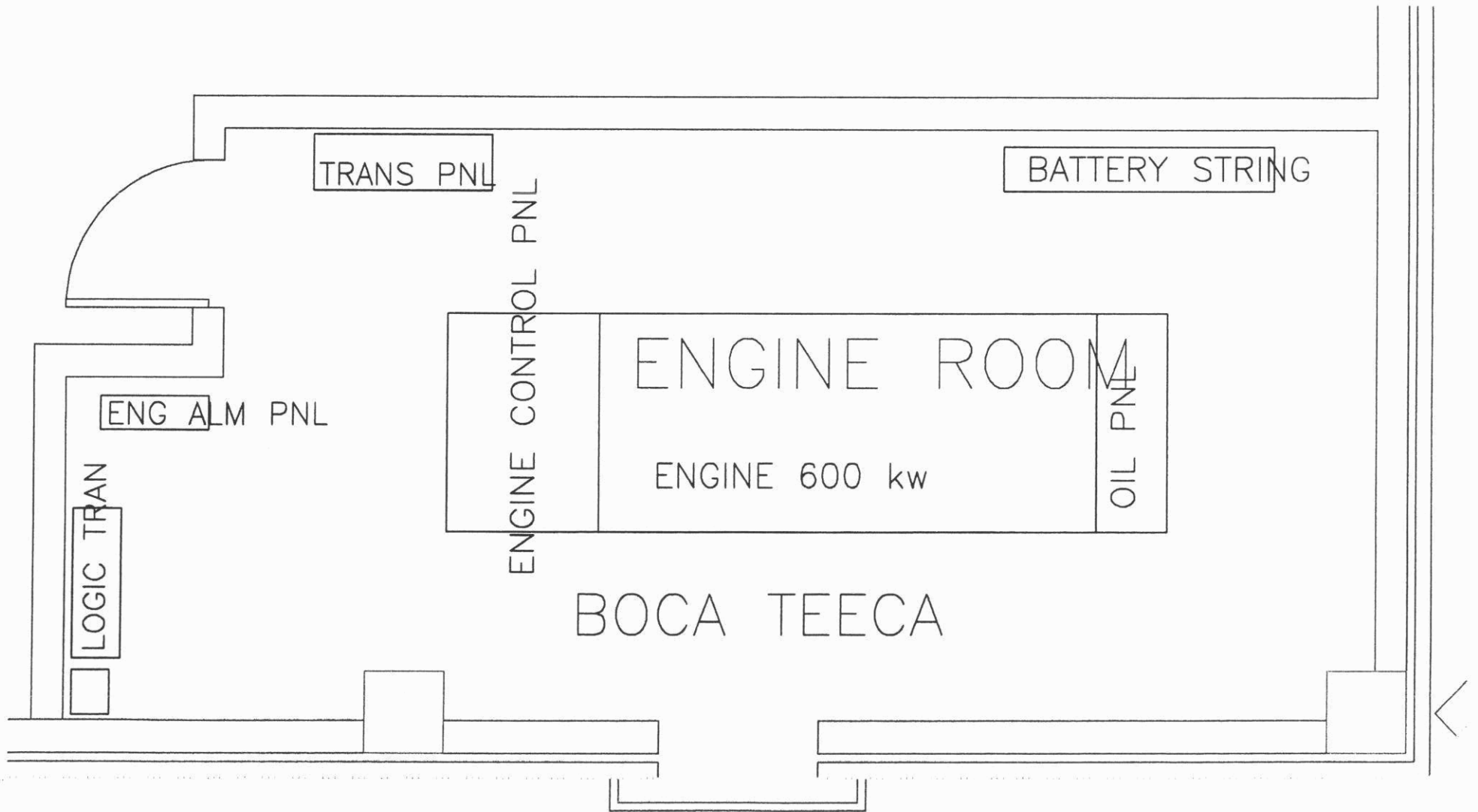
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BellSouth Telecommunications, Inc.
 FPSC Docket Nos. 980946-TL, 980947-TL,
 980948-TL, 981011-TL, 981012-TL & 981250-TL
 Exhibit PCM Panel-4



BOCA TEECA E8181 FIRST FLOOR
 POWER ROOM



C
NORTHERN
WORK
AREA

01 02 03 04 05 06

TANDEM
GROWTH

102 RECTIFIER GROWTH

01 01 02 03 04 05 06

AC PDSC 24V
01 101 02

102
102

CONT
18 17 16 15
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PDSC

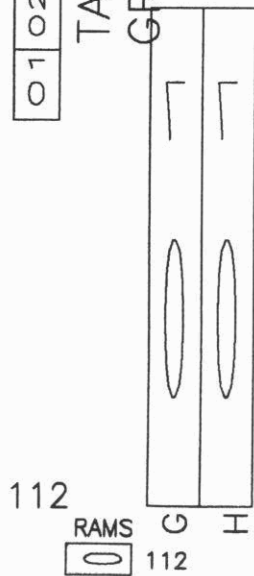
400 AMP RECTIFIERS

G1	G3	G5	G7	G9	G11				
13	12	11	10	09	08	07	06	05	04
13A	12A	11A	10A	19A	08A	07A	06A	05A	04A
G2	G4	G6	G8	G10					

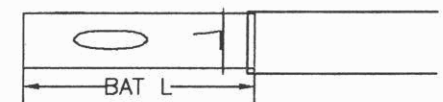
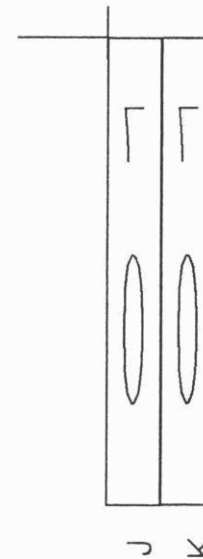
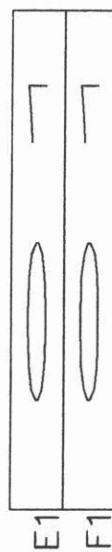
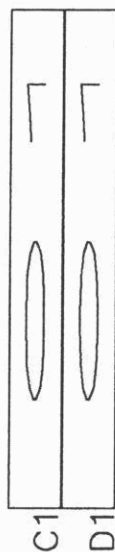
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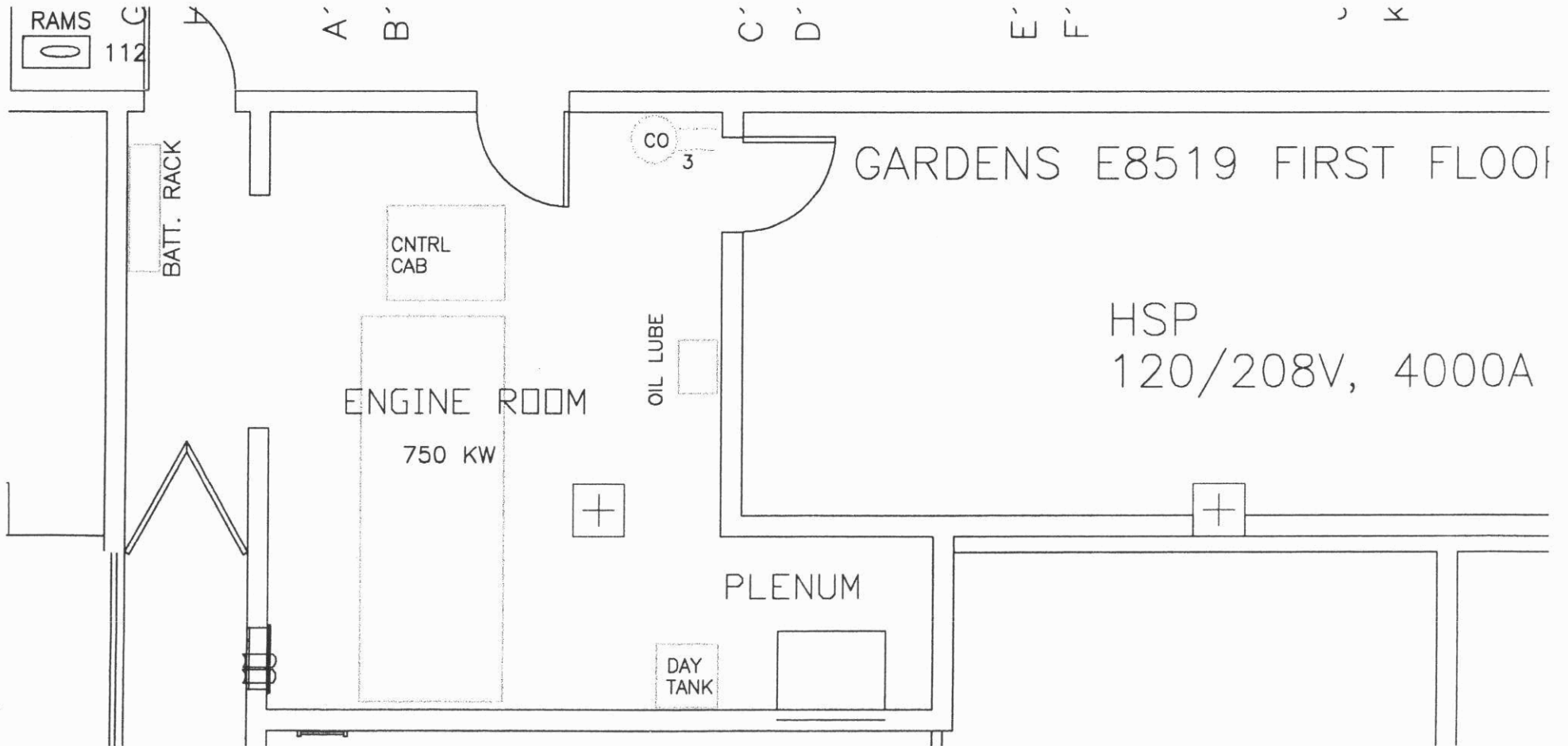
LORAIN 10,000 AMP POWER PLANT



UPS
BATTERIES



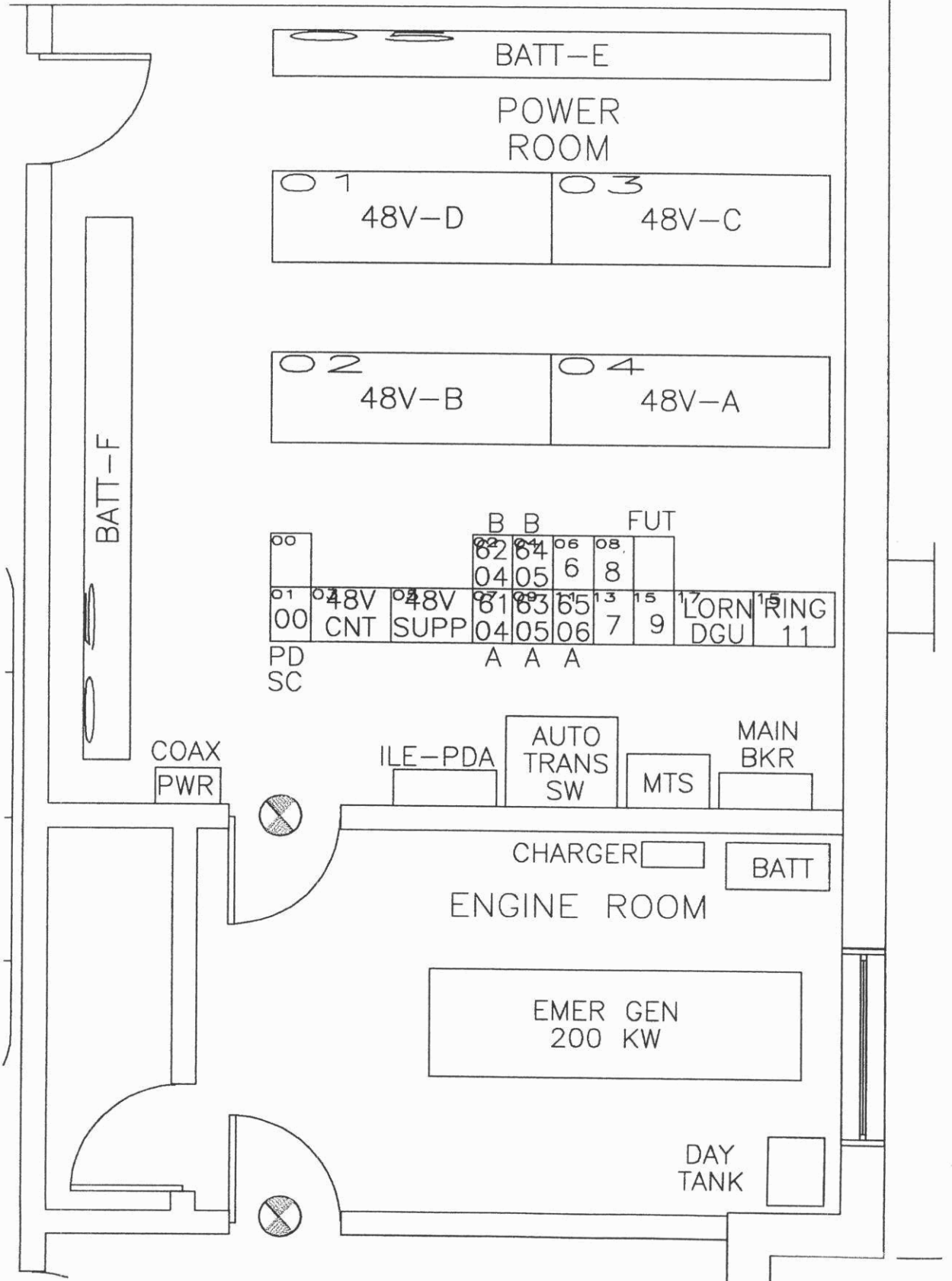
GARDENS E8519 FIRST FLOOR
POWER ROOM



LAKEMARY POWER & ENGINE ROOMS

A/C

BellSouth Telecommunications, Inc.
 FPSC Docket Nos. 980946-TL, 980947-TL,
 980948-TL, 981011-TL, 981012-TL & 981250-TL
 Exhibit PCM Panel-9



BellSouth Telecommunications, Inc.
 FPSC Docket Nos. 980946-TL, 980947-TL,
 980948-TL, 981011-TL, 981012-TL & 981250-TL
 Exhibit PCM Panel-10

PORT ORANGE POWER & ENGINE ROOM

