

**FACILITIES INSTRUCTIONS,
STANDARDS, AND TECHNIQUES
VOLUME 4-2**

POWER O&M CODES for ADP

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**FACILITIES ENGINEERING BRANCH
ENGINEERING DIVISION
DENVER OFFICE
DENVER, COLORADO**

*The Appearance of the Internet Version of This Manual
May Differ From the Original, but the Contents Do Not*

**UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION**

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POWER O&M CODES FOR ADP

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I. INTRODUCTION

Codes are provided in this bulletin to facilitate the use of data processing equipment in the preparation of summaries and the statistical analyses of various power operating reports. Abbreviations currently in use for facilities have been used to the greatest extent possible. Additions and modifications have been made as necessary in order to identify lines between powerplants and associated switchyards, lines between switchyards at the same powerplant, line sections, and tap lines.

In order for the system to work, reports to be processed must use the specific codes provided. The codes have been included in this separate bulletin to permit periodic updating as system changes are made, reporting requirements are changed, or additions and modifications are indicated. The Engineering Division, Facilities Engineering Branch, Denver Office, will update the codes as needed. Suggested changes, additions, or deletions to the various lists of codes should be sent to the Denver Office each year when data are furnished for updating the PLS Listing and at such other times as reporting needs dictate.

The bulletin is divided into four main sections: (1) codes for various reports; (2) codes for PO&M-59, -59A, and -59B, Monthly Report of Power Operations for Powerplants, Pumping Plants, and Pumping-Generating Plants; (3) codes which are unique for PO&M-62, Transmission System Outages, PO&M-129, Annual Summary of Transmission Line Outages, and PO&M-130, Annual Summary of Substation Outages; and (4) codes which are unique for PO&M-124, Equipment Trouble Report. The facility code arrangement follows the format of the PLS Listing with the various facilities listed alphabetically by projects for each region. A cross-reference for codes common to the several reports is provided in the Table of Contents and the body of the bulletin. Detailed instructions for preparing the various reports are included in [FIST Volume 1-3, Reports and Records](#).

In section II, which includes facility codes by regions, the listing is in order by plants, lines, and substations.

In the preparation of reports, a few simple rules must be followed. They are:

1. All letters must be CAPITALIZED.
2. Write the letter "oh" as "ï" and the figure "zero" as "O."
3. Write the letter "eye" as "ï" and the figure "one" as "1 ."
4. To clearly distinguish between the letter "Z" and the figure "2," place a crossbar (hyphen or dash on the typewriter) through the letter, thus "Z."

5. On reporting forms PO&M-59, -59A, -59B, -59C, -62, and -124, the single-numeral designations (1 through 6) should continue to be used for "Region" identification, until such time as the forms and associated computer programs are modified to accommodate the dual-letter designations for the five Bureau of Reclamation regions.

1 = PN Region

2 = MP Region

3 = LC Region

4 = UC Region

6 = GP Region

Owner codes:

B = USBR

E = WAPA

C = Corp of Eng.

O = Other

I = BIA

W = International Water Boundary Commission

R = REA

Area codes:

M = Montana Area

N = North Platte Area

O = MO. Oahe Area

S = MO. Souris Area

B = Big Horn Area

R = Riverton Area

II. CODES FOR VARIOUS REPORTS

2.1 PN REGION FACILITIES AND OWNERS. -

2.1.1 POWERPLANTS AND PUMPING PLANTS. -

Powerplants (P)

Boise Project

Anderson Ranch **AND**

Black Canyon **BLA**

Boise River Div. **B I I**

Columbia Basin Project

Grand Coulee **GRD**

Hungry Horse Project

Hungry Horse **HUN**

Minidoka Project

Minidoka **MIN**

Palisades Project

Palisades **PAL**

Rogue River Basin Project

Green Springs **GRS**

Yakima Project

Chandler **CHA**

Roza **R I Z**

Pumping Plants (u)

Columbia Basin Project

Grand Coulee **GRD**

Pumping-Generating Plants (X)

Columbia Basin Project

Grand Coulee **GRD**

2.1.2 TRANSMISSION LINES (L)-

Boise Project

69-kV

Black Canyon - C-Line
Black Canyon - C-Line Trans. Line Tap
C-Line Trans. Line Tap - C-Line
C-Line Trans. Line Tap - Black Canyon I.D.P.P.

BLA-CLI
BLA-CLT
CLT-CLI
CLT-BLC

23-kV

Boise Diversion Powerplant - Arrowrock
Boise Diversion Powerplant - Barber Intercon.

BI I-ARR
BI I-BAR

Chief Joseph Dam Project

34.5-kV

Douglas PUD Tap - WBR P.P. Switchyards

DI U-BI R

13.8-kV and below

WBP Keokuk-WBR P.P. Switchyards
Howard Flat Tap - WBR P.P. Switchyards

BPA-BI R
HI T-BI R

Columbia Basin Project

Grand Coulee Consl. Swyd - 525 swyd
Spreading Yard - 525 swyd Cir. 1 (G19)
Spreading Yard - 525 swyd Cir. 2 (G20)
Spreading Yard - 525 swyd Cir. 3 (G21)
Spreading Yard - 525 swyd Cir. 4 (G22)

GRC-GRF
SPR-GRF1
SPR-GRF2
SPR-GRF3
SPR-GRF4

Spreading Yard - 525 swyd Cir. 5 (G23)
Spreading Yard - 525 swyd Cir. 6 (G24)
3 PP - 525 Spreading Yard (G23)
3 PP - 525 Spreading Yard (G24)

SPR-GRF5
SPR-GRF6
SPR-GRF7
SPR-GRF8

115-kV

End of Cable Circuit No. 8 - 115 kV Switchyard
End of Cable Circuit No. 9 - 115 kV Switchyard

EI C-GR I 8
EI C-GR I 9

Hungry Horse Project

230-kV

H. H. Powerplant - H. H. Switchyard C1T1
H. H. Powerplant - H. H. Switchyard C2T2

HUN-HUN-1
HUN-HUN-2

Palisades Project

115-kV

Palisades Powerplant - Switchyard (Y1)
Palisades Powerplant - Switchyard (Y2)
Palisades Powerplant - Switchyard (Y3)
Palisades Powerplant - Switchyard (Y4)

PAL-PAL-1
PAL-PAL-2
PAL-PAL-3
PAL-PAL-4

2.1.2 TRANSMISSION LINES (L). - (Continued)

Yakima Project

34.5-kV

East Selah - P.P. No. 17

EST PUM

13.8-kV and below

East Selah - Roza Dam

EST-RIZ

PP&L - Wasteway No. 2

PPL-WA2

PP&L - Wasteway No. 4

PPL-WA4

PSP&L U. S. Highway No. 10 - Lake Kachess

PSP-LAL

Roza P.P. No.14 - P. P. No. 13

RIZ-PUM

Roza P. P. No. 15 - Severyn's P. P.

RIZ-SEV

2.1.3 SWITCHYARDS (S) AND SUBSTATIONS (H). -

Anderson Ranch	(S)	AND
Arrowrock Dam	(H)	ARR
Black Canyon I.D.P.P.	(H)	BLC
Black Canyon	(S)	BLA
Boise Diversion	(S)	B I I
C-Line P.P.	(H)	CLI
Emmett I.D.P.P.	(H)	EMM
<u>Chief Joseph Dam Project</u>		
Brays Land P.P. No. 1	(H)	BRL
Brays Landing P.P.A.	(H)	BRA
East Unit Booster P.P.	(H)	EAS
Howard Flat Booster P.P.	(H)	H I B
Howard Flat Tap Sub.	(H)	H I T
<u>Columbia Basin Project</u>		
Coulee Third P.P.	(S)	GRD
Grand Coulee Consolidated	(S)	GRC
Grand Coulee 115-kV	(S)	GR
Grand Coulee 11.95-kV	(S)	GRE
<u>Hungry Horse Project</u>		
Hungry Horse	(S)	HUN
<u>Minidoka Project</u>		
34.5- and 138-kV Int. at Minidoka P.P.	(H)	INT
Minidoka	(S)	MIN
<u>Palisades project</u>		
Palisades	(S)	PAL
<u>Rogue River Basin Project</u>		
Green Springs	(S)	GRS
<u>Yakima Project</u>		
Chandler	(S)	CHA
Roza P.P. No. 1	(H)	CHA
Roza P.P. No. 2	(H)	R I N
Roza P.P. No. 3	(H)	RTW
Roza P.P. No. 9	(H)	RTH
Roza P.P. No. 9A	(H)	RNI
Roza P.P. No. 13	(H)	R I A
Roza P.P. No. 14	(H)	RFB
Roza P.P. No. 15	(H)	RFI
Roza P.P. No. 16	(H)	RSI
Roza	(S)	R I Z

2.1.4. METERING STATIONS (J). -

All in PN Region **MET**

2.1.5 OWNERS.-

Benton REA **BEN**
Bonneville Power Administration **WBP**
Bureau of Reclamation **LBR**
Burley Irrigation District **BID**
Chelan County P.U.D. **CHE**

Idaho Power Company **IPC**
Lower Valley Power and Light **LVP**
Pacific Power and Light Company **PPL**
Prairie Power Cooperative **PPC**
Raft River REA **RRR**

Utah Power and Light Company **UPL**

2.1.6 TRANSMISSION CABLES (C)-

Columbia Basin Project

525-kV

Grand Coulee Third - 500-kV Switchyard Cir. No. 1 (G-19)	GRD-GRF-1
Grand Coulee Third - 500-kV Switchyard Cir. No. 2 (G-20)	GRD-GRF-2
Grand Coulee Third - 500-kV Switchyard Cir. No. 3 (G-21)	GRD-GRF-3
Grand Coulee Third - 500-kV Switchyard Cir. No. 4 (G-22)	GRD-GRF-4
Grand Coulee Third - 500-kV Switchyard Cir. No. 5 (G23)	GRD-GRF-5
Grand Coulee Third - 500-kV Switchyard Cir. No. 6 (G24)	GRD-GRF-6

230-kV

Grand Coulee Left - Consolidated Switchyard Circuit No. 1 (G-1-2-3-4-5)	GRD-GRC-1
Grand Coulee Left - Consolidated Switchyard Circuit No. 2 (G-6-7-8-9)	GRD-GRC-2
Grand Coulee Left Right - Consolidated Switchyard Circuit No. 3 (G-10-11-12-13)	GRD-GRC-3
Grand Coulee Left Right - Consolidated Switchyard Circuit No. 4 (G-14-15-16-17-18)	GRD-GRC-4
Grand Coulee P/GP - Consolidated Switchyard Circuit No. 5 (P/G-7-8-9-10-11-12)	GRD-GRC-5
Grand Coulee Left - Consolidated Switchyard Old Circuit No. 4 (G-4-5-6)	GRD-GRC-T
Grand Coulee Left - Consolidated Switchyard Circuit No. 7 (G-1-2-3)	GRD-GRC-7
Grand Coulee - 230-kV/525-kV Switchyards Transformer Tie Circuit KX26A	GRC-GRF-1

115-kV

Grand Coulee Left - 115-kV Switchyard Circuit No. 8 (G-1)	GRD-GRⁱ-8
Grand Coulee Left - 115-kV Switchyard Circuit No. 9 (G-9)	GRD-GRⁱ-9
Grand Coulee - 115-kV/230-kV Switchyards Transformer Tie Circuit KX2A	GRⁱ-GRC-1

11.9-kV

Grand Coulee - 11.95-kV Station Service Tie No. 1	GRD-GRE-1
Grand Coulee - 11.95-kV Station Service Tie No. 2	GRD-GRE-2
Grand Coulee - 11.95-kV Switchyard - Grant County P.U.D. (City of Grand Coulee Feeder)	GRE-CGC
Grand Coulee - 11.95-kV Switchyard - Grant County P.U.D. (City of Grand Coulee Standby)	GRD-CGC-A
Grand Coulee - 11.95-kV Switchyard - Coulee Dam Feeder Circuit No. 1	GRE-DAM-1
Grand Coulee - 11.95-kV Switchyard - Coulee Dam Feeder Circuit No. 3	GRE-DAM-3
Grand Coulee - 11.95-kV Switchyard - Coulee Dam Feeder Circuit No. 4	GRE-DAM-4
Grand Coulee -11.95-kV/115-kV Switchyards Transformer Tie Circuit KLN9A	GRE-GRⁱ-1
Grand Coulee - 11.95-kV/115-kV Switchyards Transformer Tie Circuit KLN9B	GRE-GRⁱ-2

2.2 MP REGION FACILITIES AND OWNERS. -

2.2.1 POWERPLANTS, PUMPING PLANTS, AND PUMPING-GENERATING PLANTS. -

Powerplants (P)

Pumping Plants (U)

Central Valley Project

Central Valley Project

Judge Francis Carr	CR
Folsom	FI
Keswick	KE
New Melones	ME
Nimbus	NB
Shasta	SH
Spring Creek	SC
Stampede	ST
Trinity	TN

Tracy	TR
Corning	CN
Dos Amigos	DA

Pumping-Generating Plants (X)

Central Valley Project

O'Neill	SF
San Luis	SL

2.2.2 TRANSMISSION LINES (L)-

Central Valley Project

230-kV

Cottonwood (PGE)-Elverta No. 2	CW-EL-2
Cottonwood (PGE)-Elverta No. 3	CW-EL-3
Cottonwood (PGE)-Tracy	CW-TR
Elverta-Hudey (SMU) No. 1	EL-HU-1
Elverta-Hurley No. 2	EL-HU-2
Folsom-Elverta	FI -EL
Folsom Powerplant - Folsom Switchyard No. 1	FI -FI 2-1
Folsom Powerplant - Folsom Switchyard No. 2	FI -FI 2-2
Hurley (SMU)-Tracy No. 1	HU-TR-1
Hufiey-Tracy No. 2	HU-TR-2
Judge F. Carr Powerplant-Judge F. Carr Switchyard	CR-CR
Judge F. Carr-Keswick No. 1	CR-KE-1
Judge F. Carr-Keswick No. 2	CR-KE-2
Keswick-Cottonwood (PGE) No. 2	KE-CW-2
Keswick-Cottonwood (PGE) No. 3	KE-CW-3
Keswick Elverta	KE-EL
Keswick Powerplant-Keswick Switchyard No. 1	KE-K2-1
Keswick Powerplant-Keswick Switchyard No. 2	KE-KE2-2
Keswick Powerplant-Keswick Switchyard No. 3	KE-KE2-3
New Melones Powerplant - New Melones Switchyard	ME-ME1
Shasta-Cottonwood (PGE)	SH-CW
Shasta-Keswick	SH-KE
Shasta Powerplant-Shasta Switchyard No. 1	SH-SH-1
Shasta Powerplant-Shasta Switchyard No. 2	SH-SH-2
Shasta Powerplant-Shasta Switchyard No. 3	SH-SH-3
Shasta Powerplant-Shasta Switchyard No. 4	SH-SH-4
Shasta Powerplant-Shasta Switchyard No. 5	SH-SH-5
Shasta-Tracy	SH-TR
Spring Creek-Keswick	SC-KE
Trinity-Judge F. Carr	TN-CR

15-kV

Folsom Powerplant-Folsom Switchyard	FI -FI 1
Folsom-Nimbus	FI -NB
Keswick Powerplant-Keswick Switchyard No. 1	KE-KE1-1
Keswick Powerplant-Keswick Switchyard No. 2	KE-KE1-2
Keswick Powerplant-Keswick Switchyard No. 3	KE-KE1-3

2.2.2. TRANSMISSION LINES (L).- (Continued)

Central Valley Project (Continued)

69-kV

Tracy-Ygnacio	TR-YG
Tracy-Contra Costa No. 1	TR-CC1
Contra Costa No. 1-Contra Costa No. 3	CC1-CC3
Contra Costa No. 3-Contra Costa No. 4	CC3-CC4
Contra Costa No. 4-Clayton	CC4-CL
Clayton-Ygnacio	CL-YG
Clayton-Port Chicago	CL-NW

13.8-kV

Folsom Powerplant-Folsom Prison	FI -PR
Folsom Powerplant-Guard House	FI -GU
Folsom Powerplant-Rose Springs	FI -RI
Judge F. Carr-Valve House	CR-VA
Nimbus-Hatchery	NB-HA
PG&E Co.-Friant Dam and Camp	PGE-FRI
PG&E Co. - Mowry P.P.	PGE-MI W
PG&E-Columbia P.P.	PGE-CI
Columbia P.P.-Mowry P.P.	CI -MI W
Shasta-Keswick	SH-KE-L
Shasta-Pole 98	SH-P98
Pole 98-Keswick	P98-KE
Pole 98-Spring Creek Dam	P98-SC
Shasta-Toyon	SH-TI
Tracy-Delta Mendota Headworks	TR-DE

Pacific Northwest-Pacific Southwest Intertie Project

500-kV

Malin-Round Mountain No. 1	MA-RM-1
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230-kV

Round Mountain-Cottonwood (PGE) No. 1	RM-CW-1
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2.2.3 SWITCHYARDS (S) AND SUBSTATIONS (H). -

Central Valley Project

Judge F. Carr	(S)	CR
Clayton	(H)	CL
Columbia P.P.	(H)	ci
Columbia Relift "A"	(H)	ci A
Columbia Relift "B"	(H)	ci B
Columbia Relift "C"	(H)	ci C
Contra Loma	(H)	CLi
Corning	(H)	CN
Dos Amigos P.P.	(H)	DA
Elverta	(H)	EL
Folsom	(S)	Fi
Friant Dam	(H)	FRI
Keswick	(S)	KE
Lewiston	(S)	LN
Mowry P.P.	(H)	Mi W
New Melones	(S)	ME
Nimbus	(S)	NB
O'Neill P.P.	(S)	SF
San Luis	(S)	SL
Shasta	(S)	SH
Spring Creek	(S)	SC
Tracy P.P.	(H)	TR
Trinity	(S)	TN
Ygnacio	(H)	YG

Pacific Northwest-Pacific Southwest Intertie

Round Mountain	(H)	RM
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2.2.4 METERING STATIONS (J). -

All in MP Region

MET

2.2.5 OWNERS.-

Bonneville Power Administration

WBP

Bureau of Reclamation

LBR

California Department of Water Resources

DWR

Corps of Engineers (Army, Department of the)
Navy, Department of the

C I E
USN

Pacific Gas and Electric Company

PGE

Portland General Electric Company

P I G

Sacramento Municipal U.D.

SMU

Shasta Dam Area PUD

SUD

2.3 LC REGION FACILITIES AND OWNERS. -

2.3.1 POWERPLANTS AND PUMPING-GENERATING PLANTS. -

<u>Powerplants (P)</u>		<u>Pumping Plants (U)</u>	
<u>Boulder Canyon Project</u>		<u>CRFW&LS Project</u>	
Hoover	HVR	Senator Wash	SEW
<u>Central Arizona</u>			
Navajo	NAV		
<u>Parker-Davis Project</u>			
Davis	DAD		
Parker	PAD		

2.3.2 TRANSMISSION LINES (L)-

Boulder Canyon Project

287.5-kV

Hoover Powerplant - City of L.A. Swyd. No. 1 (N-3-4) **HVR-LI S-1**

Hoover Powerplant - City of L.A. Swyd. No. 2 (N-1-2) **HVR-LI S-2**

Hoover Powerplant - City of L.A. Swyd. No. 3 (A-1-2) **HVR-LI S-3**

230-kV

Hoover Powerplant - MWD Switchyard No. 1 (N-5-6) **HVR-MWD-1**

Hoover Powerplant - MWD Switchyard No. 2 (N-7) **HVR-MWD-2**

Hoover Powerplant - MWD Switchyard No. 3 (N-8) **HVR-MWD-3**

Hoover Powerplant - SCE 230-kV Switchyard No. 1 (A-5) **HVR-SCE-1**

Hoover Powerplant - SCE 230-kV Switchyard No. 2 (A-6) **HVR-SCE-2**

Hoover Powerplant - SCE 230-kV Switchyard No. 3 (A-7) **HVR-SCE-3**

Hoover Powerplant - States 230-kV Switchyard No. 1 (A-4) **HVR-STZ-1**

Hoover Powerplant - States 230-kV Switchyard No. 2 (A-3) **HVR-STZ-2**

138-kV

Hoover Powerplant - SCE 138-kV Switchyard (A-8) **HVR-SCE**

69-kV

Hoover Powerplant - Boulder City **HVR-BI U**

Hoover Powerplant-States 69-kV Switchyard (Bank Z) **HVR-NEV**

States 69-kV Switchyard-Boulder City **NEV-BI U**

Hoover Powerplant-States 69-kV Switchyard No. 1 (Bank Y) **HVR-NEV-1**

Hoover Powerplant-States 69-kV Switchyard No. 2 (A-9) **HVR-NEV-2**

No. 2A P.P. Tap-No. 2A P.P. **2AT-N2A**

34.5-kV

Boulder City-No. 2 Warehouse **BI U-WN2**

No. 2 P.P. Tap-No. 2 P.P. **N2T-NI 2**

Colorado River Front Work and Levee System Project

69-kV

Gila - Senator Wash **GLA-SEW**

34.5-kV

Gila-Gila Valley Drainage Pumps **GLA-GIV**

Colorado River Storage Project

345-kV

Flagstaff-Pinnacle Peak No. 1 **FLG-PPK-1**

Flagstaff-Pinnacle Peak No. 2 **FLG-PPK-2**

230-kV

Pinnacle Peak-Mesa No. 1 **PPK-MSA-1**

Pinnacle Peak-Mesa No. 2 **PPK-MSA-2**

2.3.2 TRANSMISSION LINES (L).- (Continued)

Pacific Northwest-Pacific Southwest Intertie Project

345-kV

Mead-Liberty

MED-LIB

230-kV

Liberty-Agua Fria 0NBR/SRP)

LIB-AGF

Liberty-Estrella No. 2 (WBR)

LIB-EST-2

Estrella-Agua Fria (SRP)

EST-AGF

Liberty-Orme

LIB-1 RM

Liberty-Structure 10-3(Estralla)

LIB-105

Structure 10-3(Estrmlla) - Orme

105-1 RM

Liberty-West Wing

LIB-WWG

Liberty-Estrad

LIB-EST

Estrada-West Wing

EST-WWG

West Wing-Pinnacle Peak

WWG-PPK

Parker-Davis Project

230-kV

Davis Powerplant-Davis Switchyard No. 1

DAD-DAD-1

Davis Powerplant-Davis Switchyard No. 2

DAD-DAD-2

Davis Powerplant-Davis Switchyard No. 3

DAD-DAD-3

Davis Powerplant-Davis Switchyard No. 4

DAD-DAD-4

Davis Powerplant-Davis Switchyard No. 5

DAD-DAD-5

Davis-Mead

DAD-MED

Davis-Parker No. 1

DAD-PAD

Davis-Parker No. 2

DAD-PAD-2

Davis-Black Mesa

DAD-BMA

Black Mesa-Parker

BMA-PAD

Davis-Prescott

DAD-PRS

Davis-Hilltop

DAD-HLT

Hilltop-Round Valley (APS)

HLT-RVL

Round Valley (APS)-Prescott

RVL-PRS

2.3.2 TRANSMISSION LINES (L).- (Continued)

Parker-Davis Project (Continued)

230-kV (continued)

Hoover-Basic (North Basic Line)	HVR-BAS <u>A&</u>
Hoover-Amargosa	HVR-AMR <u>A&</u>
Amargosa-Clark Tie (East)	AMR-CLK-E <u>A&</u>
Clark Tie-Basic (East)	CLK-BAS-E <u>A&</u>
Mead-Basic	MED-BAS <u>A&</u>
Mead-Amargosa	MED-AMR <u>A&</u>
Amargosa-Clark Tie (West)	AMR-CLK-W <u>A&</u>
Clark Tie-Basic (West)	CLK-BAS-W <u>A&</u>
Mead-Hoover	MED-HVR
Mead-Boulder City Tap	MED-BTP
Boulder City Tap-Hoover	BTP-HVR
Mesa-Coolidge	MSA-C I L
Parker-Gene (MWD)	PAD-GNE
Prescott-Pinnacle Peak	PRS-PPK
<u>161-kV</u>	
Blythe-Knob	BLY-KNB
Gila-Knob	GLA-KNB
Gila-Wellton Mohawk	GLA-WMS
Parker Powerplant-Parker 161-kV Switchyard No. 1	PAD-PAD-1
Parker Powerplant-Parker 161-kV Switchyard No. 2	PAD-PAD-2
Parker Powerplant-Parker 161-kV Switchyard No. 3	PAD-PAD-3
Parker Powerplant-Parker 161-kV Switchyard No. 4	PAD-PAD-4
Parker-Blythe No. 1	PAD-BLY-1 <u>B&</u>
Parker-Headgate Rock (LIA)	PAD-HDR <u>B&</u>
Headgate Rock (LIA)-Blythe	HDR-BLY <u>B&</u>
Parker-Blythe No. 2	PAD-BLY-2
Parker-Gila	PAD-GLA
Parker-Bouse	PAD-BSE
Bouse-Gila	BSE-GLA

A& On operating reports (form PO&M-62), Amargosa and Clark Tie (East) or (West) need not be identified, only the complete line Hoover-Basic (HVR-BAS) or Mead-Basic (MED-BAS), whichever is applicable.

B& On operating reports (form PO&M-62), Headgate Rock need not be identified, only the complete line Parker-Blythe No. 1 (PAD-BLY-1).

2.3.2 TRANSMISSION LINES (L).- (Continued)

Parker. Davis Project (Continued)

161-kV (continued)

Parker 161-kV-Parker 230-kV (Bank 5)	PAD-PAD-5
Parker 161-kV-Parker 230-kV (Bank 6)	PAD-PAD-6

Parker-Phoenix No. 2	PAD-PHX-2
Parker-Eagle Eye (APS) No. 2	PAD-EGL-2 ^{A&}
Eagle Eye (APS)-Buckeye	EGL-BKE ^{A&}
Buckeye-Phoenix	BKE-PHX

Pilot Knob (IID)-EI Centro (IID)	(IID/WBR)	PKN-ECN
Pilot Knob-Knob Tap	(IID)	PKN-KNT
Knob Tap-Drop 4 Tap	(WBR)	KNT-DP4
Drop 4 Tap-EI Centro	(IID)	DP4-ECN

115-kV

Coolidge-ED2 (via Signal)	Ci L-ED2
Coolidge-Signal	Ci L-SIG
Signal-ED2	SIG-ED2
Coolidge-Oracle	Ci L-i RA

Coolidge-Saguaro (APS)	Ci L-SGR
Coolidge-ED2 (Saguaro)	Ci L-ED2-S
ED2-ED4	ED2-ED4
ED4-ED5	ED4-ED5
ED5-Saguaro-1 (APS)	ED5-SGR-1

Maricopa-Saguaro (APS)	MAR-SGR
Maricopa-Casa Grande	MAR-CAG
Casa Grande-Empire	CAG-EMP
Empire-ED5	EMP-ED ^{B&}
ED5-Saguaro-2 (APS)	ED5-SGR-2 ^{B&}

Oracle-Tucson	i RA-TUC
Phoenix-Coolidge	PHX-Ci L
Phoenix-Maricopa	PHX-MAR

Saguaro (APS)-Oracle	SGR-i RA
Saguaro (APS)-Tucson	SGR-TUC
Saguaro (APS)-Marana	SGR-MRN
Marana-Tucson	MRN-TUC

^{A&} On operating reports (form PO&M-62), Eagle Eye need not be identified, only a line section directly from Parker to Buckeye (PAD-BKE).

^{B&} On operating reports (form PO&M-62), ED5 need not be identified, only a line section directly between Empire and Saguaro (EMP-SGR).

2.3.2 TRANSMISSION LINES (L).- (Continued)

Parker-Davis Project (Continued)

115-kV (continued)

Tucson-Cochise	TUC-CHS
Tucson-Nogales Tap	TUC-NGL
Nogales Tap-Coronado (APS)	NGL-CI R
Coronado (APS)-Cochise	CI R-CHS

69-kV

Davis Powerplant-Davis 69-kV Switchyard	DAD-DAD
Davis-CUC Tap (Kingman)	DAD-CUT
Davis-Bullhead Tap	DAD-BUL
Bullhead Tap-Warm Springs Tap	BUL-WST
Warm Springs Tap-Duval Tap	WST-DUV ^{A&}
Duval Tap-MEC Kingman Tap	DUV-MKT ^{A&}
MEC Kingman Tap-CUC Tap (Kingman)	MKT-CUT ^{A&}
Parker Powerplant-Parker 69-kV (Bank 3)	PAD-PA7-3
Parker Powerplant-Parker 69-kV (Bank 4)	PAD-PA7-4
Parker-Bagdad	PAD-BAG ^{B&}
Parker-Colorado	PAD-CL I ^{B&}
Colorado-Buckskin Tap (APS)	CI L-BUK ^{B&}
Buckskin Tap (APS)-Planet Tap	BUK-PNT ^{B&}
Planet Tap-Bill Williams Tap	PNT-BWM ^{B&}
Bill Williams Tap-Cypress Tap	BWM-CYM ^{B&}
Cypress Tap-Bagdad	CYM-BAG ^{B&}

34.5-kV

Gila-Yuma Tap	GLA-YUT
Gila-Yuma Mesa Tap	GLA-YMT
Yuma Mesa Tap-Yuma Tap	YMT-YUT
Parker (Indian Service)-Parker Dam Camp	PAD-PAR
Wellton Mohawk-Wellton Mohawk P.P. No. 1	WMS-WM1
Wellton Mohawk-Wellton Hohawk P.P. No. 3	WMS-WM3

13.8-kV and below

Parker toward Colorado (APS)	PAD-C1 I L
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Yuma Project

34.5-kV

Laguna Tap-Laguna Dam	LAT-LAG
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^{A&} On operating reports (Form PO&M-62), Duval Tap and MEC Kingman Tap need not be identified, only a line section directly between Warm Spring Tap and CUC Tap (WST-CUT).

^{B&} On operating reports (Form PO&M-62), Colorado Buckskin Tap, Planet Tap, Bill Williams Tap, and Cypress Tap need not be identified, only the complete line Parker-Bagdad (PAD-BAG).

2.3.3 SWITCHYARDS (S) AND SUBSTATIONS (H). -

Boulder Canyon Project

Boulder City	(H)	Bi U
Hoover	(S)	HVR
No. 2A Pumping Plant	(H)	N2A

Colorado River Front Work and Levee System Project

Senator Wash	(S)	SEW
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Colorado River Storage Project

Pinnacle Peak	(H)	PPK
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Pacific Northwest-Pacific Southwest Intertie Project

Liberty	(H)	LIB
Mead	(H)	MED

Parker-Davis Project

Adams (APS)	(H)	ADA
Amargosa	(H)	AMR
Bagdad	(H)	BAG
Basic	(H)	BAS
Bill Williams Tap	(H)	BWM

Black Mesa (CVC)	(H)	BMA
Blythe	(H)	BLY
Boulder City Tap	(H)	BTP
Boundary	(H)	BRY
Bouse	(H)	BSE

Buckeye	(H)	BKE
Bullhead Tap	(H)	BUL
Casa Grande	(H)	CAG
Clark Tie (NPC)	(H)	CLK
Cochise	(H)	CHS

Colorado	(H)	CLi
Coolidge	(H)	CL L
Coronado (APS)	(H)	CL R
C.U. Tap (Kingman)	(H)	CUT
Cyprus Tap	(H)	CYM

Davis	(S)	DAD
Dome	(H)	DME
Drop 4 Tap	(H)	DP4
Duval	(H)	DUV
Eagle Eye (APS)	(H)	EGL

ED-2	(H)	ED2
ED-4	(H)	ED4
ED-5	(H)	ED5

2.3.3 SWITCHYARDS (S) AND SUBSTATIONS (H). - (Continued)

Parker-Davis Project (Continued)

Empire	(H)	EMP
Gene (MWD)	(H)	GNE
Gila	(H)	GLA
Headgate Rock (LIA)	(H)	HDR
Hilltop	(H)	HLT
Hoover T-7A	(S)	H I Z
Knob	(H)	KNB
Marana	(H)	MRN
Maricopa	(H)	MAR
MEC Kingman Tap	(H)	MKT
Mesa	(H)	MSA
Mohave	(H)	MEK
Nogales Tap	(H)	NGL
Oracle	(H)	I RA
Oracle (BIA)	(H)	I RB
Parker Camp	(H)	PAR
Parker	(S)	PAD
Phoenix	(H)	PHX
Phoenix Headquarters	(H)	PHS
Planet	(H)	PNT
Prescott	(H)	PRS
Round Valley (APS)	(H)	RVL
Signal	(H)	SIG
Tucson	(H)	TUC
Warm Springs Tap	(H)	WST
Wellton Mohawk P.P. No. 1	(H)	WM1
Wellton Mohawk (Sub. and P.P. No. 2	(H)	WMS
Wellton Mohawk P.P. No. 3	(H)	WM3
Yuma-Mesa Tap	(H)	YMT
Yuma Tap (Arizona)	(H)	YUT

Yuma Project

Laguna Dam	(H)	LAG
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2.3.4 METERING STATIONS (J). -

All in LC Region **MET**

2.3.5 OWNERS.-

Arizona Electric Power Company	AEP
Arizona Public Service Company	APS
Bagdad Copper Corporation	BCC
Bureau of Indian Affairs	LIA
Bureau of Reclamation	LBR
California Pacific Utilities Company	CPU
Citizens Utilities Co.	CUC
Electrical District No. 1	ED1
Electrical District No. 2	ED2
Electrical District No. 3	ED3
Electrical District No. 4	ED4
Electrical District No. 5	ED5
Imperial Irrigation District	IID
Los Angeles Department of Water and Power	DWP
Metropolitan Water District	MWD
Mohave Electric Co-op	MEC
National Park Service	FNP
Nevada Power Co.	NPC
Salt River Project Agricultural Improvement and Power District	SRP
Southern California Edison Company	SCE
Tri-County Co-op (Region 3)	TC3
Valley Electric Co-op	VEC
Wellton Mohawk I. and D. District	WMD
Yuma County Water Users Association	YCA
Yuma-Mesa I. and D. District	YMD

2.4 UC REGION FACILITIES AND OWNERS. -

2.4.1 POWERPLANTS (P).-

Collbran Project

Lower Molina

LM

Upper Molina

UM

Colorado River Storage Project

Blue Mesa

BM

Crystal

CR

Flaming Gorge

FG

Glen Canyon

GC

Morrow Point

MP

Provo River Project

Deer Creek

DC

Bio Grande Project

Elephant Butte

EB

Seedskadee Project

Fontenelle

FL

2.4.2 TRANSMISSION LINES (L)-

Collbran Project

115-kV

Upper Molina-Lower Molina

UM-LM

12.5-kV

Bonham-Cottonwood

Upper Molina-Equalizing Reservoir

**B I N-C I T
UM-EQR**

Colorado River Storage Project

345-kV

Glen Canyon-Flagstaff No. 1

Glen Canyon-Flagstaff No. 2

Glen Canyon Powerplant-GC Switchyard No. 1

Glen Canyon Powerplant-GC Switchyard No. 2

Glen Canyon Powerplant-GC Switchyard No. 3

**GC-FLG-1
GC-FLG-2
GC-GC-1
GC-GC-2
GC-GC-3**

230-kV

Curecanti-Midway

Curecanti-Poncha

Ponchi-Midway

Curecanti-Rifle

Glen Canyon-Kayenta (NTA)

**CCI-MID
CCI-P I N
P I N-MID
CCI-RFL
GC-KAY**

Archer-Hayden

Archer-Walden

Craig-Hayden No. 1

Walden-Hayden

Kayenta (NTA)-Shiprock

**AR-HDN ^{A&}
AR-WAL ^{A&}
CR-HDN-1
WAL-HDN ^{A&}
KAY-SHR**

Curecanti-Morrow Point

Curecanti-Shiprock

Glen Canyon Powerplant-GC Switchyard

Shiprock-Four Corners

Glen Canyon-Navajo

**CCI-MP
CCI-SHR
GC-GC
SHR-FC I
GC-NAV**

Navajo-Kayenta

NAV-KAY

A& On operating reports (form PO&M-62), Walden need not be identified, only the complete line Archer to Hayden (AR-HDN).

2.4.2 TRANSMISSION LINES (L).- (Continued)

Colorado River Storage Project (Continued)

138-kV

Flaming Gorge-Vernal No. 1	FG-VNL-1
Flaming Gorge-Vernal No. 3	FG-VNL-3
Green Mountain-Hayden)	GM-HDN
Gore Junction-Hayden	GI R-HDN
Vernal-Hayden	VNL-HDN
Vernal-Artesia	VNL-ART
Artesia-Hayden	ART-HDN
Artesia-Rangely (Rangely Tap Line)	ART-RGL
Flaming Gorge Powerplant-FG Switchyard	FG-FG
Glen Canyon-Page	GC-PGE

115-kV

Blue Mesa-Salida	BM-SLA
Blue Mesa-Skito	BM-SKI
Skito-Gunnison Tap	SKI -GUN
Gunnison Tap-Salida	GUN-SLA
Blue Mesa Powerplant - BM Switchyard	BM-BM
Curecanti-Blue Mesa	CCI-BM
Curecanti-Cimarron	CCI-CIM
Curecanti-Crystal	CCI-CR
Curecanti-Montrose (UTE)	CCI-MTR
West (ARK)-Pueblo (SCP)	WES-PUE

13.8-kV and below

Curecanti-Morrow Point	CCI-MP-L
Blue Mesa Powerplant-BM Switchyard	BM-BM-L
Flaming Gorge Powerplant-FG Switchyard	FG-FG-L
Glen Canyon Switchyard - Microwave Site	GC-MIC

Provo River Project

44-kV

Deer Creek-Utah Power and Light Company Line	DC-UPL
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2.4.3 SWITCHYARDS (S) AND SUBSTATIONS (H). -

Collbran Project

Lower Molina	(S)	LM
Upper Molina	(S)	UM

Colorado River Storage Project

Blue Mesa	(S)	BM
Crystal	(S)	CR
Curecanti	(H)	CCI
Flagstaff	(H)	FLG
Flaming Gorge	(S)	FG
Flaming Gorge East	(S)	FGE
Glen Canyon	(S)	GC
Gunnison	(H)	GUN
Hayden	(H)	HDN
Kayenta (NTA)	(H)	KAY
Long House Valley	(S)	LHV
Midway	(H)	MID
Morrow Point	(S)	MP
Poncha	(H)	P I N
Rifle	(H)	RFL
Salida	(H)	SLA
Shiprock	(H)	SHR
Skito	(H)	SK I
Vernal	(H)	VNL

Provo River Project

Deer Creek	(S)	DC
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Rio Grand Project

Elephant Butte	(S)	EB
Hot Springs	(H)	HS

Seedskadee Project

Fontenelle	(S)	FL
Fontenelle East	(S)	FLE

2.4.4 METERING STATIONS (J).

All in UC Region	MET
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2.4.5 OWNERS.-

Arizona Public Service Company	APS
Arkansas Valley G&T Cooperative	ARK
Bridger Valley Electric Association, Inc.	BVE
Bureau of Reclamation	LBR
Colorado Springs, City of	CSP
Colorado-Ute Electric Association, Inc.	UTE
Community Public Service Company	COM
El Paso Electric Company	EPE
Garkane Power Association	GRK
International Boundry and Water Commission	IBW
Moon Lake Electric Association, Inc.	MLE
Navajo Tribal Utility Authority	NTA
Pacific Power and Light Co.	PPL
Plains Electric Generation and Transmission Co-op	PGT
Public Service Company of Colo.	PSC
Public Service Company of New Mexico	NMX
Southern Colorado Power Company (Central Telephone and Utility Corp.)	SCP
Utah Power and Light Company	UPL
Western Colorado Power Company	WCP

2.4.6 TRANSMISSION CABLES (C).-

Colorado River Storage

230-kV

Morrow Point Powerplant-MP Switchyard **MP-MP**

115-kV

Crystal Powerplant-Crystal Switchyard **CR-CR**

25-kV

Glen Canyon Switchyard-G.C. Switchyard No. 1 **CR-CR-1**
Glen Canyon Powerplant-G.C. Switchyard **CR-CR**

12-kV

Morrow Point Powerplant - MP Switchyard (LV) **MP-MP-L**
Crystal Powerplant - Distribution Cable **CR-CRD**

Seedskee

69-kV

Fontenelle Power Plant-Fontenelle Switchyard **FL-FLS**

2.5 GP REGION FACILITIES AND OWNERS. -

2.5.1 POWERPLANTS AND PUMPING PLANTS. -

<u>Powerplants (P)</u>		<u>Powerplants (U)</u>	
<u>P-SMB Program</u>		<u>P-SMB Program</u>	
Canyon Ferry	CF	(Crow Creek Unit)	
Yellowtail	YT	Crow Creek	CC
Boysen	B		
Fremont Canyon	FC		
Glendo	GL		
Kortes	K		
Pilot Butte	PB		
 <u>Fort Peck Project,</u> <u>Corps of Engineers</u>		 <u>Colorado-Big Thompson Project</u>	
Fort Peck Project	FP	Granby	GP
		Willow Creek	WC
 <u>P-SMB Program Corps</u> <u>of Engineers</u>			
Big Bend	BG		
Fort Randall	FR		
Garrison	GA		
Gavins Point	GP		
Oahe	i A		
 <u>Colorado-Big Thompson Project</u>		 <u>Pumping-Generating Plants (X)</u>	
Big Thompson	BT	<u>Colorado-Big Thompson Project</u>	
Estes	E	Flatiron, Unit 3	F3
Flatiron	F		
Green Mountain	GM		
Marys Lake	ML	<u>Fryingpan-Arkansas Project</u>	
Pole Hill	PH	Mt. Elbert Pumped-	
		Storage	MO
 <u>Kendrick Project</u>			
Alcova	A		
Seminole	S		
 <u>North Platte Project</u>			
Guernsey	G		
 <u>Shoshone Project</u>			
Heart Mountain	HM		
Shoshone	SH		
Buffalo Bill	BB		
 <u>Wind-Hydro. Integration Study (W)</u>			
Medicine Bow	MB		

2.5.2 TRANSMISSION LINES (L)-

Fort Peck Project

230-kV

Fort Peck-Dawson County **FP-DC2**

161-kV

Fort Peck-Richardson Coulee **FP-RE**
 Harlem-Havre **HA-HV**
 Havre-Rainbow **HV-RB**
 Richardson Coulee-Harlem **RE-HA**

115-kV

Dawson County-Glendive **DC-GL**
 Dawson County-Lewis and Clark **DC-LC**
 Dawson County-Miles City **DC-MC**

 Dawson County-O'Fallon Creek **DC-*i*F**

 O'Fallon Creek-Terry Tap ***i*F-TR**
 Terry Tap-Shirley Tap **TR-SL**
 Shirley Tap-Miles City **SL-MC**
 Shirley Tap-Shirley Pumping Plant **SL-SY**

Fort Peck-Dawson County **FP-DC1**
 Fort Peck-Wolf Point No. 1 **FP-WP-1**
 Wolf Point-Circle **WP-CR**
 Circle-Dawson County **CR-DC**

Fort Peck-Williston **FP-WN**
 Fort Peck-Wolf Point No. 2 **FP-WP-2**

 Wolf Point-Poplar (MDU) **WP-P *i***

 Poplar-Culbertson **P *i* -CQ**
 Culbertson-Williston **CQ-WN**

 Poplar (MDU)-Williston **P *i* -WN**

Havre-Shelby **HV-SH**
 Havre-Rudyard **HV-RY**
 Rudyard-Tiber Tap **RY-TT**
 Tiber Tap-Shelby **TT-SH**
 Tiber Tap-Tiber **TT-TI**

Lewis and Clark-Williston **LC-WN**
 Lewis and Clark-Richland **LC-RH**
 Richland-Williston **RH-WN**

69- and 57-kV

Fallon Pumping Plant-Glendive Pumping Plant **FN-GG**
 Fallon Pumping Plant-O'Fallon Creek **FN-*i*F**

 O'Fallon Creek-Fallon Relift ***i*F-FE**
 Fallon Relift-Glendive Pumping Plant **FE-GG**
 Fort Peck-Whately **FP-WH**
 Fort Peck-New Deal **FP-ND**
 New Deal-Whately **ND-WT**

2.5.2 TRANSMISSION LINES (L).- (Continued)

Fort Peck Project (Continued)

69- and 57-kV

MDU Line Tap-Buford Trenton Pumping Plant	MDL-BP
MDU Line Tap-Kinsey	MDL-KI

34.5-kV

Fort Peck-Wolf Point	FP-WP
Fort Peck-Nashua Tap	FP-NAT
Nashua Tap-West Frazer Tap	NAT-WFT
West Frazer Tap-Valley Tap	WFT-VAT
Nashua Tap-Valley Tap	NAT-VAT
Valley Tap-Frazer	VAT-FZ
Frazer-Frazer Pumping Tap	FZ-FGT
Frazer Pumping Tap-Oswego Tap	FGT-<i>i</i> T
Oswego Tap-Wolf Point	<i>i</i> T-WP

Frazer Pumping Tap-Wolf Point	FGT-WP
Nashua Tap-Nashua	NAT-NA
Valley Tap-Valley	VAT-VA
Frazer Pumping Tap-Frazer Pumping Plant	FGT-FG

Terry Tap-Terry Pumping Plant	TR-TE
Terry Tap-MDU Line Tap	TR-MDL
MDU Line Tap-Terry Pumping Plant	MDL-TE

13.8-kV and below

Intake-Intake Pumping	IN-INP
Kinsey-North Line	KI-Nⁱ L
Kinsey-South Line	KI-Sⁱ L
Tiber Sub-Tiber Spillway	TI-TS

P-SMB Program. Missouri Oahe Area

345-kV

Fort Thompson-Grand Island	FT-GI
Watertown-Sioux City	WT-SC

230-kV

Bismarck-Oahe (See UM Region, Missouri Souris Area)	
Fargo-Morris (See UM Region, Missouri Souris Area)	
F. L. Blair (ERC)-Granite Falls	FB-GF
Fort Randall-Lake Platte	FR-LP
Fort Randall-Fort Thompson	FR-FT
Lake Platte-Fort Thompson	LP-FT
Eagle-Sioux City	EA-SC

2.5.2 TRANSMISSION LINES (L).- (Continued)

P-SMB Program. Missouri Oahe Area (Continued)

230-kV (continued)

Fort Randall-Sioux City No. 1	FR-SC-1
Fort Randall-Utica Jct.	FR-UJ
Utica Jct.-Rasmussen	U J-RS
Rasmussen-Sioux City	RS-SC
Utica Jct.-Sioux Falls	UJ-SF
Fort Randall-Sioux City No. 2	FR-SC-2
Fort Thompson-Big Bend No. 1	FT-BG-1
Fort Thompson-Big Bend No. 2	FT-BG-2
Fort Thompson-Sioux Falls	FT-SF
Fort Thompson-V. T. Hanlon (ERC)	FT-VH
Fort Thompson-Storla	FT-ST
Storla-V. T. Hanlon	ST-VH
Fort Thompson-Watertown No. 1	FT-WT-1
Fort Thompson-Huron No. 1	FT-HU-1
Huron-Watertown No. 1	HU-WT-1
Fort Thompson-Watertown No. 2	FT-WT-2
Fort Thompson-Huron No. 2	FT-HU-2
Huron-Watertown No. 2	HU-WT-2
Granite Falls-Minnesota Valley (NSP)	GF-MIV
Morris-Granite Falls	MI -GF
Glenham-Sully Buttes	GH-SB
Glenham-Whitlock Tap	GH-WK
Whitlock Tap-Sully Buttes	WK-SB
New Underwood-Stegall	NU-SG <u>A&</u>
New Underwood-Structure 80/2	NU-S80 <u>A&</u>
Structure 80/2-Stegall	SS0 -SG <u>A&</u>
Oahe-Fort Thompson No. 1	! A-FT-1
Oahe-Fort Thompson No. 2	! A-FT-2
Oahe-Fort Thompson No. 3	! A-FT-3
Oahe-Fort Thompson No. 4	! A-FT-4
Oahe-New Underwood	! A-NU
Oahe-Phillips Tap	! A-PT
Phillips Tap-New Underwood	PT-NU
Sioux City-Denison	SC-DN

A& On operating reports (form PO&M-62), structure 80/2 need not be identified, only the complete line from New Underwood to Stegall (NU-SG).

2.5.2 TRANSMISSION LINES (L).- (Continued)

P-SMB Program. Missouri Oahe Area (Continued)

115-kV (continued)

Sioux Falls-Eagle	SF-EA
Sioux Falls-Split Rock	SF-SR
Split Rock-Eagle	SR-EA
Sully Buttes-Oahe	SB-<i>I</i> A
V. T. Hanlon (ERC)-Sioux Falls	VH-SF
Watertown-F.L. Blair (ERC)	WT-FB
Watertown-Granite Falls	WT-GF

161-kV

Creston-Maryville (NWE)	CS-MY
Denison-Creston	DN-CS
Denison-Anita Tap (CIP)	DN-AT
Anita Tap (CIP)-Creston	AT-CS
Sioux City-Spencer	SC-SP

115-kV

Brookings-Watertown No. 1	BR-WT-1
Brookings-Watertown No. 2	BR-WT-2
Forman-Summit	FM-SU
Sisseton (State Hwy 10)-Summit	H10-SU
Fort Randall-Gregory	FR-GY
Fort Randall-Bonesteel	FR-<i>B</i>
Bonesteel-Gregory	<i>B</i> -GY
Fort Randall-O'Neill	FR-<i>I</i> N
Fort Randall-Spencer Tap	FR-SE
Spencer Tap-O'Neill	SE-<i>I</i> N
Fort Randall-Yankton Jct. (NWP)	FR-YJ
Fort Randall-Tyndall	FR-TY
Tyndall-Yankton Jct. (NWP)	TY-YJ
Gavins Point-Belden	GP-BN
Gavins Point-Hartington (NPP)	GP-HR
Hartington (NPP)-Belden	HR-BN
Gavins Point-E. J. Manning (ERC)	GP-EJ
Gavins Point-Yankton	GP-YA
Yankton-E. J. Manning (ERC)	YA-EJ
Gavins Point-Spirit Mound	GP-SM
Gregory-Mission	GY-MS
Gregory-Winner	GY-WI
Winner-Witten	WT-WE
Witten-Mission	WE-MS

2.5.2 TRANSMISSION LINES (L). - (Continued)

P-SMB Program. Missouri Oahe Area (Continued)

115-kV (continued)

Groton-Huron	GR-HU
Groton-Redfield	GR-RF
Redfield-Huron	RF-HU
Huron-Storla	HU-ST
Huron-Woonsocket	HU-Wi
Woonsocket-Storla	Wi -ST
Woonsocket-Mt. Vernon	Wi -MV
E. J. Manning (ERC)-Sioux Falls	EJ-SF
E. J. Manning (ERC)-Beresford	EJ-BE
Beresford-Sioux Falls	BE-SF
Maurine-Rapid City	MA-RC
Maurine-Newell	MA-NL
Newell-Rapid City	NL-RC
Mission-Martin	MS-MR
Mission-Vetal Tap	MS-VE
Vetal Tap-Martin	VE-MR
Martin-Philip	MR-PH
Mt. Vernon-Fort Randall	MV-FR
Mt. Vernon-Armour	MV-AR
Armour-Fort Randall	AR-FR
New Underwood-Philip	NU-PH
New Underwood-Wicksville	NU-WK
Wicksville-Wall	WK-WL
Wall-Philip	WL-PH
New Underwood-Rapid City No. 1	NU-RC-1
New Underwood-Ellsworth (LBR)	NU-EW
Ellsworth (LBR)-Rapid City	EW-RC
New Underwood-Rapid City No. 2	NU-RC-2
New Underwood-Rushmore (REP)	NU-RM
Rushmore (REP)-Rapid City	RM-RC
Oahe-Maurine	i A-MA
Oahe-Eagle Butte	i A-EB
Eagle Butte-Faith	EB-FH
Faith-Maurine	FH-MA
Oahe-Pierre	i A-PI

2.5.2 TRANSMISSION LINES (L).- (Continued)

P-SMB Program. Missouri Oahe Area (Continued)

115-kV (continued)

Pierre-Philip	PI-PH
Pierre-Irv Simmons	PI-IS
Irv Simmons-Midland	IS-MD
Midland-Philip	MD-PH

Sioux Falls-Brookings	SF-BR
Sioux Falls-Flandreau	SF-FL
Flandreau-Brookings	FL-BR
Summit-Groton	SU-GR
Storla-Mt. Vernon	ST-MV

Spirit Mound-Manning	SM-EJ
Valley City-Summit (See Missouri Souris Area)	
Watertown-Summit	WT-SU
Yankton Jct. (NWP)-Gavins Point	YJ-GP
Yankton-Spirit Mound	YA-SM

13.8-kV and below

Fort Thompson-Big Bend	FT-BG-L
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P-SMB Program. Missouri Souris Area

230-kV

Bismarck-Jamestown No. 1	BS-JT-1
Bismarck-Jamestown No. 2	BS-JT-2
Bismarck-Glenham (MDU)	BS-GH
Glenham (MDU)-Oahe	GH- I A

Dawson County-Dickinson (BEP)	DC-DK
Dickinson (BEP)-Bismarck	DK-BS
Dickinson-Heskett Tap	DK-HE
Heskett Tap-Bismarck	HE-BS

Fargo-Morris	FA- M I
Garrison-Bismarck No. 1	GA-BS-1
Garrison-Washburn	GA-WB
Washburn-Bismarck No. 1	WB-BS-1

Garrison-Leland Olds (BEP)	GA- L I
Garrison-Basin Tap (BEP)	GA-BT
Basin Tap (BEP)-Leland Olds (BEP)	BT- L I

Garrison-Jamestown	GA-JT
Jamestown-Fargo No. 1	JT-FA-1
Jamestown-Fargo No. 2	JT-FA-2

2.5.2 TRANSMISSION LINES (L).- (Continued)

P-SMB Program. Missouri Souris Area (Continued)

230-kV (Continued)

Leland Olds (BEP)-Bismarck	LI -BS
Leland Olds (BEP)-Basin Tap (BEP)	LI -BT
Basin Tap (BEP)-Washburn	BT-WB
Washburn-Bismarck No. 2	WB-BS-2

115-kV

Beulah (MDU)-Garrison	BU-GA
Beulah (MDU)-Stanton Tap (OMC)	BU-SN
Stanton Tap (OMC)-Garrison	SN-GA
Carrington-Jamestown	CA-JT
Barlow-Carrington	BA-CA

Devils Lake-Carrington	DL-CA
Devils Lake-Lakota	DL-LA
Edgeley-Groton	ED-GR
Edgeley-Ellendale	ED-EL
Ellendale-Groton	EL-GR

Fargo-Grand Forks	FA-GK
Devils Lake-Barlow	DL-BA
Forman-Summit	FI -SU
Garrison-Mallard (NSP)	GA-ML
Garrison-Max	GA-MX

Max-Mallard	MX-ML
Garrison-Snake Creek	GA-SK
Garrison-Wm. J. Neal (CPE)	GA-WJ
Jamestown-Edgeley	JT-ED

Jamestown-Grand Forks	JT-GK
Jamestown-Pickert (MKA)	JT-PK
Pickett (MKA)-Grand Forks	PK-GK
Jamestown-Valley City	JT-VC
Mallard (NSP)-Rugby	ML-RG

Rugby-Devils Lake	RG-DL
Rugby-Leeds	RG-LE
Leeds-Devils Lake	LE-DL
Towner (CPE)-Rugby	TI -RG

2.5.2 TRANSMISSION LINES (L). - (Continued)

P-SMB Program. Missouri Souris Area (Continued)

115-kV (Continued)

Valley City-Forman	VC-Fⁱ
Forman-Summit	Fⁱ -SU ^{A&}
Forman-State Highway No. 10	Fⁱ -H10 ^{A&}
State Highway No. 10-Summit	H10-SU ^{A&}
Watford City-Beulah (MDU)	WC-BU
Watford-Chadie Creek	WC-CC
Charlie Creek-Killdeer	CC-KD
Watford City-Killdeer	WC-KD
Killdeer-Beulah (MDU)	KD-BU
Wm. J. Neal (CPE)-Towner (CPE)	WJ -Tⁱ
Williston-Watford City	WN-WC

69-kV

Edgeley-Forman	ED-Fⁱ
Edgeley-Dickey Tap	ED-DT
Dickey Tap-Omega	DT -ⁱ T
Omega Tap-West Oak Tap	ⁱ T-WZ
West Oak Tap-Cogswell Tap	WZ-CG
Cogswell Tap-Forman	CG-Fⁱ
Edgely-Omega Tap (JVC)	ED -ⁱ T
Omega Tap (JVC)-Forman	ⁱ T-Fⁱ
Leeds-Rolla	LE-RL
Leeds-Cando Tap	LE-CD
Cando Tap-Bisbee	CD-BB
Bisbee-Rolla	BB-RL
MDU P.P. - DeVaul	MDU-DV
MDU P.P. - Mandan Tap	MDU-MT
Mandan Tap-Plains View	MT-PV
Plains View-Custer Trail	PV-CT
Custer Trail-DeVaul	CT-DV

P-SMB Program. Montana Area

230-kV

Custer-Dawson County	CU-DC
Custer-Rose Bud Creek	CU-RBC
Rose Bud Creek-Dawson County	RBC-DC
Yellowtail-Custer	YT-CU
Yellowtail Switchyard (WAPA)-Yellowtail Sub. (PPL)	YT-PY

A& On operating reports (form PO&M-62), State Highway No. 10 need not be identified, only a line section directly between Forman and Summit (FO-SU, Mo. Oahe Area).

2.5.2 TRANSMISSION LINES (L).- (Continued)

P-SMB Program. Montana Area

115-kV

Canyon Ferry-East Helena "A"
Canyon Ferry-East Helena "B"

CF-EH-A
CF-EH-B

12.5-kV

Canyon Ferry-Canyon Ferry Camp

CF-CFC

4.16-kV

Crow Creek-Crow Creek Pumping Plant

CC-CCP

P-SMB Program. Big Horn Area

115-kV

Boysen-Alcova
Boysen-Raderville
Raderville-Alcova
Boysen-Pilot Butte
Boysen-Thermopolis

B-A
B-RV
RV-A
B-PB
B-TH

Lovell-Yellowtail No. 1

LI -YT-1

Lovell-Yellowtail No. 2

LI -YT-2

Thermopolis-Lovell

TH-LI

Thermopolis-PP&L Worland Tap
PP&L Worland Tap-Basin

TH-WR
WR-BA

Basin-Lovell

BA-LI

Basin-Graybull Tap

BA-GU

Graybull Tap-Lovell

GU-LI

69-kV

Heart Mountain-Lovell (See Shoshone Project)

HM-LI 2

Garland Tap-Lovell

GD-LI

34.5-kV

Boysen-PP&L Fremont Junction
Boysen Tap-Boysen (Remainder of Pilot Butte-Boysen
34.5-kV line listed in Riverton Area of P-SMB Program)

B-FJ

BI T-B

P-SMB Program. North Platte Area

230-kV

Archer-Stegall
Glenrock-Stegall
New Underwood-Stegall (See P-SMB Program,
Missouri-Oahe Area)

AR-SG
DJ-SG

115-kV

Alcova-Casper (North Line)
Alcova-Fremont Canyon

A-CA-N
A-FC

2.5.2 TRANSMISSION LINES (L).- (Continued)

P-SMB Program. North Platte Area (Continued)

115-kV (Continued)

Archer-Sidney	AR-SD
Archer-Pine Bluffs	AR-PN
Pine Bluffs-Bushnell Tap	PN-BU
Bushnell Tap-Kimball	BU-KB
Kimball-Jacinto	KB-JI
Jacinto-Sidney	JI -SD
Casper-Glendo (North)	CA-GL-N
Casper-Glenrock Tap (North)	CA-DJT-N
Glenrock Tap-Glendo (North)	DJT-GL-N
Casper-Glendo (South)	CA-GL-S
Casper-Glenrock Tap (South)	CA-DJT-S
Glenrock Tap-Glendo (South)	DJT-GL-S
Cheyenne-Archer (North) (See Kendrick Project)	
Cheyenne-Archer (South)	CH-AR-S
Gering-Chadron	GS-CD
Gering-Morrill County Tap	GS-MI T
Morrill County Tap-Snake Creek	MI T-SNC
Snake Creek-Alliance	SNC-AL
Alliance-PEMA Box Butte Tap	AL-BBT
PEMA Box Butte Tap-Dunlap	BBT-DN
Dunlap-Chadron	DN-CD
Gering-Sidney	GS-SD
Gering-McGraw Tap (TSGT)	GS-MG
McGraw Tap-Bridgeport	MG-BP
Bridgeport-Wheatbelt PPD Dalton Tap	BP-DL
Wheatbelt PPD Dalton Tap-Sidney	DL-SD
Glendo-Lusk Rural Tap (69-kV Operation)	GL-LRT
Glendo-Podolak	GL-PK
Glendo-Stegall (North)	GL-SG-N
Glendo-Lingle Tap	GL-LT
Lingle Tap-Lyman Tap	LT-LYT
Lyman Tap-Stegall	LYT-SG
Lingle Tap-Lingle	LT-L
Lyman Tap-Lyman	LYT-LY
Glendo-Stegall (South)	GL-SG-S
Glendo-Guernsey Rural	GL-GW
Guernsey Rural-Stegall	GW-SG
Guernsey Rural-Guernsey	GW-G
Kortes-Alcova (East)	K-A-E

2.5.2 TRANSMISSION LINES (L).- (Continued)

P-SMB Program. North Platte Area (Continued)

115-kV (continued)

Kortes-Cheyenne

K-CH

Kortes-Oasis Tap

K-Ī A

Oasis Tap-Gem City Tap (PP&L)

Ī A-GCT

Gem City Tap (PP&L)-Cheyenne

GCT-CH

Lyman-Torrington

LY-TĪ

Ogallala (Tri State)-Ogallala

Ī GT-Ī G

Seminole-Sinclair

S-SN

Seminole-PP&L Bairoil Tap

S-BLT

PP&L Bairoil Tap-Sinclair

BLT-SN

Sidney-Beaver Creek (See CBT Project)

SD-BC1

Sidney-Ogallala (Tri State)

SD-Ī GT

Sidney-Colton Tap (Wheatbelt PPD)

SD-CĪ T

Colton Tap (Wheatbelt PPD)-Chappell

CĪ T-CP

Chappell-Julesburg Tap

CP-JUT

Julesburg Tap-Big Springs Tap

JUT-BST

Big Springs Tap-Ogallala (Tri State)

BST-Ī GT

Julesburg Tap-Julesburg

JUT-JU

Stegall-Gering (North)

SG-GS-N

Stegall-Gering (South)

SG-GS-S

69-kV

Glendo-Lusk

GL-LU

Glendo-Lusk Rural Tap

GL-LRT

Lusk Rural Tap-Lusk

LRT-LU

Lusk Rural Tap-Lusk Rural

LRT-LR

Podolak-Lusk Rural

PK-LR

Podolak-Lusk

PK-LU

South Cody Tap Line (Glendale Tap-Glendale)
(See Shoshone Project)

13.8-kV and below

Cheyenne-Warren Air Force Base Boundary No. 1

CH-WAR-1

Cheyenne-Warren Air Force Base Boundary No. 2

CH-WAR-2

Fremont Canyon-Pathfinder Dam

FC-PAD

Pine Bluffs-Pine Bluffs (Town)

PN-PT

P-SMB Program. Riverton Area

34.5-kV

Pilot Butte-Boysen

PB-B

Pilot Butte-Pavillion Tap

PB-PAT

Pavillion Tap-Muddy Ridge

PAT-MR

Muddy Ridge-Boysen Tap

MR-BĪ T

Boysen Tap-Boysen (listed in Big Horn Area)

Pavillion Tap-Pavillion

PAT-PA

Pavillion-RVEA Sub.

PA-RVS

2.5.2 TRANSMISSION LINES (L). - (Continued)

Colorado-Big Thompson Project

115-kV

Beaver Creek-Limon	BC-LN
Beaver Creek-Woodrow	BC-Wi
Woodrow-Morgan Company REA South Woodrow Tap	Wi -SWi
Morgan Company REA South Woodrow Tap-Last Chance	SWi -LH
Last Chance-Big Sandy	LC-BY
Big Sandy Limon	BY-LN
Last Chance-Limon	LH-LN
Beaver Creek-Wray	BC-WA
Beaver Creek-Akron	BC-AK
Akron-YW EA Otis Tap	AK-i S
Akron-Yuma Tap	AK-YUT
YW EA Otis Tap-Yuma Tap	i S-YUT
Yuma Tap-Eckley Tap	YUT-EC
Eckley Tap-Tri State's Wray Tap	EC-WAT
Tri State's Wray Tap-Wray	WAT-WA
Yuma Tap-Yuma	YUT-YU
Cheyenne-Flatiron	CH-F
Tap near Ault-Poudre	AV-PD
Cheyenne-Nunn	CH-NN
Nunn-Tap near Ault	NN-AV
Tap near Ault-Poudre Valley REA Black Hollow Tap	AV-BH
PV REA Black Hollow Tap-Timnath	BH-TM
Timnath Tap-Poudre	TM-PD
Poudre-Station 400	PD-FT4
Station 400-PS Co. Ft. Collins	FT4-FT
Drake Road Tap-T.S. Horsetooth Tap	DRT-Hi
T.S. Horsetooth Tap-Flatiron	Hi -F
Poudre Valley REA Black Hollow Tap-Poudre	BH-PD
Poudre-P. S. Company Ft. Collins	PD-FT
P. S. Company Ft. Collins-Drake Road Tap	FT-DRT
Drake Road Tap-Flatiron	DRT-F
Erie-Beaver Creek	ER-BC
Erie-Brighton	ER-BN
Brighton-Hoyt	BN-HT
Hoyt-Morgan Company REA Adena Tap	HT-ADT
Morgan Company REA Adena Tap-Beaver Creek	ADT-BC
Hoyt-Wiggins	HT-WG
Estes-Flatiron	E-F
Estes-Marys Lake	E-ML
Estes-Pole Hill	E-PH

2.5.2 TRANSMISSION LINES (L).- (Continued)

Colorado-Big Thompson Project (Continued)

115-kV (continued)

Flatiron-Kodak	F-Kⁱ K
Flatiron-PV REA Carter Lake Tap	F-CRT
PV REA Carter Lake Tap-Loveland West Tap	CRT-LWT
Loveland West Tap-Loveland Tap	LWT-LLT
Loveland Tap-Derby Hill	LLT-DH
Derby Hill-Boyd	DH-BD
Boyd-PV REA Kodak West Tap	BD-KWT
Loveland Tap-Loveland	LLT-LL
Derby Hill-PV REA Kodak West Tap	DH-KWT
PV REA Kodak West Tap-Kodak (PV REA)	KWT-Kⁱ K
PV REA Kodak West Tap-Windsor	KWT-WN
Flatiron-Pole Hill	F-PH
Flatiron-PV-REA Lyons Tap	F-LS
Greeley-Rosedale	GR-RD
Kodak-Weld	Kⁱ K-WE
PV REA Kodak East-Weld	KET-WE
Green Mountain-Summit	GM-SU
Henderson Temporary Tap-Summit	HN-SU
Green Mountain-Henderson Temporary Tap	GM-HN
Kodak (PV REA)-PV REA Kodak East Tap	Kⁱ K-KET
Windsor-PV REA Kodak East Tap	WN-KET
Longmont Northwest-Erie	LMN-ER
Longmont Northwest-Longmont Tap	LMW-LMT
PV REA Lyons Tap-Hygiene	LS-HG
PV REA Lyons Tap-Longmont N.W.	LS-LMW
Hygiene-Longmont Northwest	HG-LMW
Hygiene-City of Longmont Tap	HG-CLT
City of Longmont Tap-Longmont Tap	CLT-LMT
Longmont Tap-Erie	LMT-ER
Longmont Tap-Longmont	LMT-LM
Sidney-Beaver Creek	SD-BC
Sidney-Peetz Tap (PsCo.)	SD-PZ
Peetz Tap-Sterling	PZ-ST
Sterling-Morgan Company REA Messex Tap	ST-MS
Morgan Company REA Messex Tap-Beaver Creek	MS-BC

2.6.2 TRANSMISSION LINES (L).- (Continued)

Colorado-Big Thompson Project (Continued)

115-kV (continued)

Weld-Beaver Creek	WE-BC
Weld-Point near Rosedale	WE-PNR
Point near Rosedale-PV REA Kersey Tap	PNR-KRT
Weld-PV IIEA Kersey Tap	WE-KRT
Poudre Valley REA Kersey Tap-Prospect Valley Tap	KRT-PVT
Prospect Valley Tap-Morgan Company REA Orchard Tap	PVT-i RT
Morgan Company REA Orchard Tap-Wiggins Tap	i RT-WGT
Wiggins Tap-Bijou Tap	WGT-BIT
Bijou Tap-Ft. Morgan Tap	BIT-FMT
Ft. Morgan Tap-Ft. Morgan East Sub. Tap	FMT-FME
Ft. Morgan East Sub. Tap-Brush Tap	FME-BRT
Brush Tap-Beaver Creek	BRT-BC
Prospect Valley Tap-Morgan REA Lost Creek Tap	PVT-LK
Morgan REA Lost Creek Tap-Prospect Valley	LK-PV
Wiggins Tap-Wiggins	WGT-WG
Ft. Morgan Tap-Ft. Morgan	FMT-FM
Brush Tap-Brush	BRT-BR

69-kV

Estes-Granby Pumping Plant	E-GP
Estes-East Portal	E-EP
East Portal-West Portal (See "TRANSMISSION CABLES," Sec. 2.6.6)	
West Portal-Grand Lake Tap	WP-GT
Grand Lake Tap-Shadow Mtn. Tap	GT-SMT
West Portal-Shadow Mountain Tap	WP-SMT
Shadow Mountain Tap-Granby Pumping Plant	SMT-GP
Shadow Mountain Tap-Shadow Mountain	SMT-SM
Green Mountain-Granby Pumping Plant	GM-GP
Green Mountain-Kremmling Tap	GM-KT
Kremmling Tap-Troublesome	KT-TR
Troublesome-Wm. Fork Tap (City of Denver)	TR-WFT
Wm. Fork Tap (City of Denver)-Windy Gap Tap	WFT-WIT
Windy Gap Tap-Granby	WIT-GY
Granby-Granby Pumping Plant	GY-GP
Granby-Willow Creek Pumping Plant	GY-WC
Kremmling Tap-Muddy Pass	KT-MP
Stealing-Holyoke	ST-HK
Sterling-Fleming	ST-FL
Fleming-Haxtun	FL-HX
Fleming-Crook Tap	FL-CR
Crook Tap-Haxtun	CR-HX
Haxtun-Holyoke	HX-HK

24.9-kV

Granby-Granby Dam (Station Service)	GY-GRD
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2.5.2 TRANSMISSION LINES (L).- (Continued)

Colorado-Big Thompson Project (Continued)

13.8-kV and below

Estes-Marys Lake	E-ML1
Flatiron-Big Thompson	F-BT
Flatiron-Pole Hill	F-PH-L
Troublesome-Colorado River Improvement	TR-CIL

Colorado River Storage Project

230-kV

Archer-Hayden (See UC Region CRS Project)	AR-WAL
Archer-Walden Archer-Weld	AR-WE
Archer-Point near Ault	AR-AV
Point near Ault-Weld	AV-WE

138-kV

Green Mountain-Gore Pass Tap	GM-GI
Green Mountain-Hayden	GM-HDN
Green Mountain-Gore Junction	GM-GIR
Gore Pass Tap-Gore Junction	GI-GIR

FryingDan-Arkansas Project

230-kV

Mt. Elbert-Malta	MI-MAL
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Kendrick Project

115-kV

Alcova-Casper (South)	A-CA-S
Archer-Gering	AR-GS
Archer-Pole Creek Tap (TSGT)	AR-PC
Pole Creek Tap-Round Top Tap	PC-RT
Round Top Tap-La Grange Tap	RT-LG
Archer-Wyrulec La Grange Tap	AR-LG
Wyrulec La Grange Tap-Gering	LG-GS
Cheyenne-Archer (North)	CH-AR-N
Cheyenne-Flatiron (See LM Region CBT Project)	CH-F1
Flatiron-Greeley (See LM Region CBT Project)	
Kortes-Alcova (West)	K-A-W
Weld-Greeley	WE-GR
Seminole-Cheyenne	S-CH
Seminole-Medicine Bow Tap	S-MB
Medicine Bow Tap-Lamramie	MB-LA
Laramie-Cheyenne	LA-CH
Seminole-Kortes	S-K

2.5.2 TRANSMISSION LINES (L). - (Continued)

Kendrick Project (Continued)

69-kV

Casper-Waltman	CA-WM
Casper-Culvert (PP&L) Tap	CA-CT
Culvert (PP&L) Tap-H.S. REA (Powder River) Tap	CT-PR
H.S. REA (Powder River) Tap-H.S. REA (Waltman) Tap	PR-WM
Seminole-Casper	S-CA
Seminole-H.S. REA (Kortes Tap)	S-KI T
H.S. REA (Kortes Tap)-H.S. REA (Alcova Tap)	KI T-ALT
H.S. REA (Alcova Tap)-Iron Creek (PP&L)	ALT-IC
Iron Creek (PP&L)-Casper	IC-CA
Waltman-Thermopolis	WM-TH
H.S. REA (Waltman) Tap-H.S. REA (Arminto) Tap No. 2	WM-AT2
H.S. REA (Arminto) Tap No. 2-H.S. REA (Arminto) Tap No. 1	AT2-AT1
H.S. REA (Arminto) Tap No. 1-H.S. REA Lost Cabin Tap	AT1-LC
H.S. REA (Lost Cabin) Tap-PP&L Bridger Tap	LC-BG
PP&L Bridger Tap-Thermopolis	BG-TH
H.S. REA Lost Cabin Tap-H.S. REA Lost Cabin No. 2	LC-LC2

34.5 kV

Medicine Bow-CP&L Walcott Jct.	MB-WLJ
Medicine Bow-Sinclair	MB-SN
Medicine Bow-PP&L Hanna Tap	MB-HA
PP&L Hanna Tap-CP&L Ft. Steele Tap	HA-FS
Medicine Bow-CP&L Chace Tap	MB-CHT
CP&L Chace Tap-PP&L Hanna Tap	CHT-HA
PP&L Hanna Tap-CP&L Walcott Jct.	HA-WLJ
Walcott Jct. (CP&L)-Sinclair	WLJ-SN
Walcott Jct. (CP&L) Fort Steele Tap	WLJ-FS
CP&L Fort Steele Tap-Sinclair	FS-SN

North Platte Project

69-kV

Guernsey Ruml-Wheatland (South)	GW-WHS
Guernsey Rural-Point near Guernsey Rural	GW-GWS
Point near Guernsey Rural-Wheatland (North)	GWS-WHN
Wheatland (North)-Wheatland (South)	WHN-WHS

2.5.2 TRANSMISSION LINES (L).- (Continued)

North Platte Project (Continued)

34.5-kV

Ft. Laramie Tap-Lingle	FLT-L
Ft. Laramie Tap-Wyrulec Ft. Laramie Tap	FLT-WFL
Wyrulec Ft. Laramie Tap-Wyrulec Lingle and Lingle Tap	WFL-WLT
Wyrulec Lingle and Lingle Tap-Lingle	WLT-L
Ft. Laramie Tap-Ft. Laramie	FLT-FLA
Wyrulec Ft. Laramie Tap-Wyrulec Ft. Laramie	WFL-WLA
Wyrulec Lingle and Lingle Tap-Wyrulec Lingle and Lingle	WLT-WL
Gering-Bayard and Northport Tap	GS-BNT
Gering-CRPPE Minatare Tap	GS-MIN
CRPPD Minatare Tap-CRPPD Bayard Tap	MIN-BAT
CRPPD Bayard Tap-Bayard and Northport Tap	BAT-BNT
Guernsey-Ft. Laramie Tap	G-FLT
Guernsey-Wyrulec Guernsey Tap	G-WGW
Wyrulec Guernsey Tap-Whalen Dam Tap	WGW-WT
Whalen Dam Tap-Ft. Laramie Tap	WT-FLT
Whalen Dam Tap-Whalen Dam	WT-W
Guernsey-Wheatland REA Guernsey	G-WHR
Guernsey-Guernsey Tap	G-GT
Guernsey Tap-Wyrulec Guernsey Stone Tap	GT-WGS
Wyrulec Guernsey Stone Tap-Wheatland REA Guernsey	WGS-WHR
Guernsey Tap-Guernsey (Town)	GT-GIJ
Lingle-Torrington Tap	L-Tⁱ
Lingle-torrington Tap (Wyrulec)	L-Tⁱ W
Torrington Tap (Wyrulec)-Torrington Tap	Tⁱ W-Tⁱ
Lyman-Lyman Nebraska Tap	LY-LNT ^{A&}
Lyman-Lyman Jct.	LY-LYJ ^{A&}
Lyman Jct.-Lyman Nebraska Tap	LYJ-LNT ^{A&}
Lyman Nebraska Tap-Gering	LNT-GS
Lyman Nebraska Tap-RPPD Lyman Tap	LNT-RLT
RPPD Lyman Tap-Wyrulec Gering Tap	RLT-WY
Wyrulec Gering Tap-Roosevelt PPD Tap	WY-RPT
Roosevelt PPD Tap-Gering	RPT-GS

^{A&} On operating records (form PO&M-62), Lyman Jct. need not be identified, only a line section directly between Lyman and Lyman Nebraska Tap (LY-LNT).

2.5.2 TRANSMISSION LINES (L). - (Continued)

North Platte Project (Continued)

34.5-kV (Continued)

Torrington Tap-Gering

Torrington Tap-RPPD Henry Tap
 RPPD Henry Tap-Morrill Tap
 Morrill Tap-West Mitchell Tap
 West Mitchell Tap-East Mitchell Tap
 East Mitchell Tap-RPPD Mitchell Tap
 RPPD Mitchell Tap-Sievers
 Sievers-Gering
 RPPD Mitchell Tap-Gering

TI -GS
TI -HET
HET-MT
MT-WMT
WMT-EMT
EMT-RMT
RMT-SI
SI-GS
RMT-GS

Shoshone Project

69-kV

Casper-Waltman (See Kendrick Project)

Heart Mountain-Lovell

Heart Mountain-North Cody
 North Cody-Ralston
 Ralston-PP&L Powell Tap
 PP&L Powell Tap-GL&P Kysar Tap
 GL&P Kysar Tap-Garland
 Garland-Lovell

HM-LI
HM-NC-7
NC-RS
RS-PI
PI -KYT
KYT-GD
GD-LI

Heart Mountain-Thermopolis

Heart Mountain-Glendale Tap
 Glendale Tap-SRP South Cody Tap
 SRP South Cody Tap-SRP Meeteetse Tap
 SRP Meeteetse Tap-Meeteetse
 Meeteetse-Gooseberry Tap
 Gooseberry Tap-PP&L Grass Creek Tap
 PP&L Grass Creek Tap-Golden Eagle Tap
 Golden Eagle Tap-Hamilton Dome Tap
 Hamilton Dome Tap-Thermopolis
 Glendale Tap-Glendale (South Cody Tap Line)

HM-TH
HM-GAT
GAT-SC
SC-SME
SME-ME
ME-GB
GB-GC
GC-GE
GE-HD
HD-TH
GAT-GA

Shoshone-Heart Mountain No. 1

Waltman-Thermopolis (See Kendrick Project)

SH-HM-1
WM-TH2

34.5-kV

Heart Mountain-North Cody

North Cody-Cody
 Shoshone-Heart Mountain No. 2
 Shoshone-North Cody No. 1
 Shoshone-SRP Shoshone Canyon Tap
 SRP Shoshone Canyon Tap-North Cody

HM-NC-3
NC-CI
SH-HM-2
SH-NC-1
SH-SSC
SSC-NC

13.8-kV and below

Garland-Collins Corner

Ralston-Toward Powell

Willwood-Toward Powell

GD-CC
RS-TPI
WW-TPI

2.5.3 SWITCHYARDS (S) AND SUBSTATIONS (H). -

Fort Peck Project

Buford-Trenton	(H)	BP
Circle (McCone Company REA)	(H)	CR
Dawson County	(H)	DC
Fallon Pumping Plant	(H)	FN
Fallon Relift Pumping Plant	(H)	FE
Frazer Pumping	(H)	FG
Frazer (Valley County Co-op)	(H)	FZ
Glendive Pumping Plant	(H)	GG
Glendive	(H)	GL
Harlem (MPC)	(H)	HA
Havre	(H)	HV
Intake	(H)	IN
Kinsey	(H)	KI
Miles City	(H)	MC
Nashua	(H)	NA
Poplar (MDU)	(H)	PI
O'Fallon Creek	(H)	IF
Rainbow	(H)	RB
Richardson Coulee	(H)	RE
Richland	(H)	RH
Rudyard	(H)	RY
Savage Pumping Plant	(H)	SV
Savage	(H)	SA
Shelby	(H)	SH
Shirley Pumping	(H)	SY
Terry Pumping	(H)	TE
Terry Tap	(H)	TET
Tiber	(H)	TI
Valley	(H)	VA
Whately (Valley Company REA)	(H)	WH
Williston	(H)	WN
Wolf Point	(H)	WP
<u>P-SMB Program. Missouri Oahe Area</u>		
Armour	(H)	AR
Belden	(H)	BN
Beresford	(H)	BE
Bonesteel	(H)	BI
Brookings	(H)	BR

2.5.3 SWITCHYARDS (S) AND SUBSTATIONS (H). - (Continued)

P-SMB Program. Missouri Oahe Area (Continued)

Creston	(H)	CS
Denison	(H)	DN
Eagle Butte	(H)	EB
Ellsworth (WBR)	(H)	EW
Faith	(H)	FH
Flandreau	(H)	FL
Fort Thompson	(H)	FT
Glendam (MDU)	(H)	GH
Grand Island	(H)	GI
Granite Falls	(H)	GF
Gregory	(H)	GY
Groton	(H)	GR
Huron	(H)	HU
E. J. Manning (ERC)	(H)	EJ
Martin	(H)	MR
Maurine	(H)	MA
Midland	(H)	MD
Mission	(H)	MS
Mt. Vernon	(H)	MV
Newell	(H)	NL
New Underwood	(H)	NU
O'Neill	(H)	IN
Philip	(H)	PH
Pierre	(H)	PI
Rapid City	(H)	RC
Sioux City	(H)	SC
Sioux Falls	(H)	SF
Spencer	(H)	SP
Summit	(H)	SU
Tyndall	(H)	TY
Wall	(H)	WL
Watertown	(H)	WT
Wicksville	(H)	WK
Winner	(H)	WI
Witten (ROC)	(H)	WE
Woonsocket	(H)	Wi
Yankton	(H)	YA
Yankton Junction (NWP)	(H)	YJ

2.5.3 SWITCHYARDS (S) AND SUBSTATIONS (H). - (Continued)

P-SMB Program. Missouri Souris Area

Basin Tap (BEP)	(H)	BT
Beulah (MDU)	(H)	BU
Bisbee	(H)	BB
Bismarck	(H)	BS
Cando Tap	(H)	CD
Carrington	(H)	CA
Custer Trail	(H)	CT
DeVaul	(H)	DV
Devils Lake	(H)	DL
Edgeley	(H)	ED
Ellendale	(H)	EL
Fargo	(H)	FA
Forman	(H)	Fi
Grand Forks	(H)	GK
Jamestown	(H)	JT
Killdeer	(H)	KD
Lakota	(H)	LA
Leeds	(H)	LE
Morris	(H)	Mi
Omega Tap (JVC)	(H)	i T
Rolla	(H)	RL
Rugby	(H)	RG
Snake Creek	(H)	SK
Valley City	(H)	VC
Washburn	(H)	WB
Watford City	(H)	WC

P-SMB Program. Montana Area

Canyon Ferry	(S)	CF
Crow Creek	(H)	CC
Custer	(H)	CU
Yellowtail (WBR)	(S)	YT
Yellowtail Switchyard	(S)	YS
Yellowtail (PPL)	(H)	PY

P-SMB Program. Big Horn Area

Basin	(H)	BA
Boysen	(S)	B
Cody	(H)	ci
Lovell	(H)	Li
Meeteetse	(H)	ME

2.5.3 SWITCHYARDS (S) AND SUBSTATIONS (H). - (Continued)

P-SMB Program. Big Horn Area (Continued)

Muddyhidge	(H)	MR
North Cody	(H)	NC
Pilot Butte	(S)	PB
Ralston	(H)	RS
Thermopolis	(H)	TH

P-SMB Program. North Platte Area

Alcova	(S)	A
Alliance	(H)	AL
Bridgeport	(H)	BP
Chadron	(H)	CD
Chappell	(H)	CP
Dunlap	(H)	DN
Fremont Canyon	(S)	FC
Gerling	(H)	GS
Glendale	(H)	GA
Glendo	(S)	GL
Guernsey	(S)	G
Guernsey Rural	(H)	GW
Julesburg	(H)	JU
Kimball	(H)	KB
Kortes	(S)	K
Lingle	(H)	L
Lusk	(H)	LU
Lusk Rural	(H)	LR
Lyman	(H)	LY
Ogallala	(H)	i G
Pine Bluffs	(H)	PN
Pine Bluffs (Town)	(H)	PT
Podolak	(H)	PK
Raderville	(H)	RV
Sidney	(H)	SD
Sinclair	(H)	SN
Stegall	(H)	SG
Torrington	(H)	Ti

P-SMB Program. Riverton Area

Pavillion	(H)	PA
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P-SMB Program. South Platte Area

Derby Hill	(H)	DH
Erie	(H)	ER

2.5.3 SWITCHYARDS (S) AND SUBSTATIONS (H). - (Continued)

Colorado-Big Thompson Project

Akron	(H)	AK
Ault Junction	(H)	AV
Beaver Creek	(H)	BC
Big Thompson	(S)	BT
Brighton	(H)	BN
Brush	(H)	BR
Estes	(S)	E
Flatiron	(S)	F
Fleming	(H)	FL
Fort Morgan	(H)	FM
Granby	(H)	GY
Granby Pumping Plant	(H)	GP
Greeley	(H)	GR
Green Mountain	(S)	GM
Haxtun	(H)	HX
Holyoke	(H)	HK
Hoyt	(H)	HT
Hygiene	(H)	HG
Kodak (Poudre Valley)	(H)	KI K
Kremmling Tap	(H)	KT
Limon	(H)	LN
Longmont	(H)	LM
Loveland	(H)	LL
Marys Lake	(S)	ML
Nunn	(H)	NN
Pole Hill	(S)	PH
Poudre	(H)	PD
Poudre Valley Lyons Tap	(H)	LS
Prospect Valley	(H)	PV
Shadow Mountain	(H)	SM
Sterling	(H)	ST
Troublesome	(H)	TR
Wiggins	(H)	WG
Willow Creek	(H)	WC
Windsor	(H)	WN
Woodrow	(H)	WI
Wray	(H)	WA
Yuma	(H)	YU

Colorado River Storage Project

Archer	(H)	AR
Weld	(H)	WE

2.5.3 SWITCHYARDS (S) AND SUBSTATIONS (H). - (Continued)

Fryingpan-Arkansas Project

Mt. Elbert	(S)	mi
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Kendrick Project

Alcova	(S)	A
Casper	(H)	CA
Cheyenne	(H)	CH
Laramie	(H)	LA
Medicine Bow	(H)	MB
Seminole	(S)	S
Wyrulec La Grange	(H)	LG

North Platte Project

Guernsey (See P-SMB Program, North Platte Area)		
Whalen	(H)	W
Wyrulec	(H)	WY

Shoshone Project

Garland	(H)	GD
Heart Mountain	(S)	HM
Shoshone	(S)	SH

Wind-Hydro

Medicine Bow	(S)	MB
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2.5.4 METERING STATIONS (J). -

All in MB Region		MET
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2.5.5 OWNERS.-

Arkansas Valley G&T Cooperative	ARK
Baker Electric Cooperative	BAC
Basin Electric Power Cooperative	BEP
Black Hills Electric Cooperative	BHC
Black Hills Power and Light Company	BHP
Bonneville Power Administration	WBP
Bureau of Indian Affairs	LIA
Bureau of Reclamation	LBR
Buffalo Rapids Irrigation District No. 1	BR1
Buffalo Rapids Irrigation District No. 2	BR2
Butte Electric Cooperative	BUC
CAM-WAL Electric Cooperative	CWC

2.5.5 OWNERS.- (Continued)

Canyon Ferry Camp	CFF
Capital Electric Cooperative	CAC
Central Iowa Power Cooperative	CIP
Central Montana Elec. G&T Cooperative	CMC
Central Power Electric Cooperative	CPE
Cherry-Todd Electric Cooperative	CTC
Cheyenne Light, Fuel, and Power Company	CLF
City of Alliance	ALC
City of Beresford	CBE
City of Brookings	CBR
City of Chappell	CPC
City of Cody	ci c
City of Denison	CDN
City of Faith	CFH
City of Flandreau	CFL
City of Fort Pierre	CPF
City of Gering	GSC
City of Lakota	CIA
City of Moorhead	CMH
City of Pierre	CPI
City of Tyndall	CTY
City of Valley City	CVC
City of Watertown	CWT
Cooperative Power Association	CPA
Corn Belt Power Cooperative	CBP
Corps of Engineers (Army, Department of the)	ci E
Dairyland Power Cooperative	DPC
East River Electric Power Cooperative	ERC
Glacier Electric Cooperative	GLC
Grand Electric Cooperative	GRC
Hill County Electric Cooperative	HCC
Intake Irrigation District	INI
Interstate Power Company	ISP
Iowa Electric Light and Power Company	IEL
Iowa Illinois Gas and Electric Company	IIG
Iowa Power and Light Company	IPL
Iowa Public Service Company	IPS
Iowa Southern Utilities Company	ISU
James Valley Electric Cooperative	JVC
Kansas City Power and Light Company	KCP

2.5.5 OWNERS.- (Continued)

Kansas Gas and Electric Company	KGE
Kansas Power and Light Company	KPL
Kinsey Irrigation District	KII
L and O Power Cooperative	L i C
LaCreek Electric Cooperative	LCC
Lake Superior District Power Company	LSD
Lewis and Clark Mutual Aid Corporation	LCI
Lower Yellowstone Electric Cooperative	LYC
Lower Yellowstone Irrigation District	LYI
Lusk, Town of	LUT
Marias River Electric Cooperative	MRC
McCone Electric Cooperative	MCC
McKenzie Electric Cooperative	MKC
Medicine Bow Electric Company	MBE
Midvale Irrigation District	MID
Mid-Yellowstone Electric Cooperative	MYC
Minnesota Power and Light Company	MPL
Minnesota Valley Electric Cooperative	MVC
Minnkota Power Cooperative	MKA
Missouri Public Service Company	MPS
Montana-Dakota Utilities Company	MDU
Montana Power Company	MPC
Moreau-Grand Electric Cooperative	MGC
Mor-Gran-Sou Electric Cooperative	MCS
Nebraska Public Power District	NPP
North Dakota State Hospital	NDH
Northern Electric Cooperative	NOC
Northern States Power Company	NSP
Northwest Electric Power Cooperative	NWE
Northwest Iowa Power Cooperative	NIP
Northwestern Public Service Company	NWP
Oahe Electric Cooperative	i AC
Oliver-Mercer Electric Cooperative	i MC
Omaha Public Power District	i P
Otter Tail Power Company	i TP
Pacific Power and Light Company	PPL
Poudre Valley REA	PVR
Public Service Company of Colorado	PSC
Rosebud Electric Cooperative	R i C
Rural Cooperative Power Association	RCP
Rushmore Electric Power Cooperative	REP
School District No. 21, Fort Peck	S21

2.5.5 OWNERS.- (Continued)

Southwestern Power Administration	WSW
St. Joseph Light and Power Company	SJL
Tiber Dam, MRBP	TIF
Tongue River Electric Cooperative	TRC
Toston Irrigation District	T I I
Tri-County Electric Cooperative (Region 6)	TC6
Tri-State G&T	TRS
Union Electric Company	UEC
United Power Association	UPA
United States Air Force	AFF
United States Indian Service	ISF
Upper Missouri G&T	UMO
Valley County Electric Cooperative	VCC
Verendrye Electric Cooperative	VDC
West Central Electric Cooperative	WCC
West Plains Electric Cooperative	WPC
West River Electric Cooperative	WRC
Williams Electric Cooperative	WLC
Wyrulec Company	WYC
Yellowstone Valley Electric Cooperative	YVC

2.5.6 TRANSMISSION CABLES (C).-

<u>P-SMB Program. Montana Area</u>	
<u>230-kV</u>	
Yellowtail Switchyard-Yellowtail Powerplant	YT-YP-B
<u>115-kV</u>	
Yellowtail Switchyard-Yellowtail Powerplant	YT-YP-A
<u>Colorado-Big Thompson Project</u>	
<u>69-kV</u>	
East Portal-West Portal (portion of Estes-Granby Pumping Plant 69-kV circuit)	EP-WP
<u>Fryingpan-Arkansas Project</u>	
<u>230-kV</u>	
Mt. Elbert Powerplant - Mt. Elbert Switchyard	M I E-MSW

2.6 PROJECT NAMES. -

Boulder Canyon	BCP
Boise	Bi I
Colorado-Big Thompson	CBT
Chief Joseph Dam	CHJ
Columbia Basin	ci B
Central Arizona	CAP
Collbran	COL
Colorado River Basin Salinity Control	CBS
Colorado River Front Work and Levee System	CRF
Colorado River Storage	CRS
Central Valley	CVP
Dolores	Di L
Fort Peck	FPP
Fryingpan-Arkansas	FAP
Hungry Horse	HHP
Kendrick	KEN
Minidoka	MIN
North Platte Project	NPP
Pacific Northwest-Pacific Southwest Intertie	PAI
Palisades	PAL
Parker-Davis	PDP
Pick-Sloan Missouri Basin Program (initially Missouri River Basin Project)	PSP
Provo River	PRP
Rio Grande	RGP
Rogue River Basin	RRB
Seedskadee	SEE
Shoshone	SHi
Wind-Hydro	WIH
Yaklma	YAK
Yuma	YUM

2.7 OWNERS, ALL REGIONS. - (Arranged alphabetically)

Air Force, United States	AFF
Alaska Power Administration	WAP
Alliance, City of (Nebraska)	ALC
Arizona Electric Power Company	AEP
Arizona Public Service Company	APS
Arkansas Valley G&T Cooperative	ARK
Army, Department of the	USA
Bagdad Copper Corporation	BCC
Baker Electric Cooperative	BAC
Basin Electric Power Cooperative	BEP
Benton REA	BEN
Beresford, City of (South Dakota)	CBE
Black Hills Electric Cooperative	BHC
Black Hills Power and Light Company	BHP
Bonneville Power Administration	WBP
Brookings, City of (South Dakota)	CBR
Bridger Valley Electric Association, Inc.	BVE
Buffalo Rapids Irrigation District No. 1	BR1
Buffalo Rapids Irrigation District No. 2	BR2
Bureau of Indians Affairs	LIA
Bureau of Reclamation	LBR
Burley Irrigation District	BID
Butte Electric Cooperative	BUC
California Department of Water Resources	DWR
California Pacific Utilities Company	CPU
Canyon Ferry Camp	CFF
Capital Electric Cooperative	CAC
Central Iowa Power Cooperative	CIP
Central Montana Electric G&T Cooperative	CMC
Central Power Electric Cooperative	CPE
Central Telephone and Utility Corp. (See Southern Colo. Power Co.)	
Chappell, City of (Nebraska)	CPC
Chelan County P.U.D.	CHE
Cherry-Todd Electric Cooperative	CTC
Cheyenne Light, Fuel, and Power Company	CLF
Citizens Utilities Company	CUC
Cody, City of (Wyoming)	ci c
Colorado Springs, City of	CSP
Colorado-Ute Electric Association, Inc.	UTE
Community Public Service Company	CPS
Cooperative Power Association	CPA
Corn Belt Power Cooperative	CBP

2.7 OWNERS, ALL REGIONS. - (Arranged alphabetically) (Continued)

Corps of Engineers (Army, Department of the)	CI E
Dairyland Power Cooperative	DPC
Denison, City of (Iowa)	CDN
East River Electric Power Cooperative	ERC
Electric District No. 1	ED1
Electric District No. 2	ED2
Electric District No. 3	ED3
Electric District No. 4	ED4
Electric District No. 5	ED5
El Paso Electric Company	EPE
Faith, City of (South Dakota)	CFH
Flandreau, City of (South Dakota)	CFL
Fort Pierre, City of (South Dakota)	CPF
Garkane Power Association	GRK
Gering, City of (Nebraska)	GSC
Glacier Electric Cooperative	GLC
Grand Electric Cooperative	GRC
Hill County Electric Cooperative	HCC
Idaho Power Company	IPC
Imperial Irrigation District	IID
Intake Irrigation District	INI
International Boundary and Water Commission	IBW
Interstate Power Company	ISP
Iowa Electric Light and Power Company	IEL
Iowa-Illinois Gas and Electric Company	IIG
Iowa Power and Light Company	IPL
Iowa Public Service Company	IPS
Iowa Southern Utilities Company	ISU
James Valley Electric Cooperative	JVC
Kansas City Power and Light Company	KCP
Kansas Gas and Electric Company	KGE
Kansas Power and Light Company	KPL
Kinsey Irrigation District	KII
LaCreek Electric Cooperative	LCC
Lake Superior District Power Company	LSD
Lakota, City of (North Dakota)	CLA
L and O Power Cooperative	LI C
Lewis and Clark Mutual Air Corporation	LCI
Los Angeles Department of Water and Power	DWP
Lower Valley Power and Light	LVP

2.7 OWNERS, ALL REGIONS. - (Arranged alphabetically) (Continued)

Lower Yellowstone Electric Cooperative	LYC
Lower Yellowstone Irrigation District	LYI
Lusk, Town of (Wyoming)	LUT
Marias River Electric Cooperative	MRC
McCone Electric Cooperative	MCC
McKenzie Electric Cooperative	MKC
Medicine Bow Electric Company	MBE
Metropolitan Water District	MWD
Midvale Irrigation District	MID
Mid-Yellowstone Electric Cooperative	MYC
Minnesota Power and Light Company	MPL
Minnesota Valley Electric Cooperative	MVC
Minnkota Power Cooperative	MKA
Missouri Public Service Company	MPS
Mohave Electric Cooperative	MEC
Montana Dakota Utilities Company	MDU
Montana Power Company (The)	MPC
Moon Lake Electric Association, Inc.	MLE
Moorhead, City of (Minnesota)	CMH
Moreau-Grand Electric Cooperative	MGC
Mor-Gran-Sou Electric Cooperative	MSC
National Park Service	FNP
Navajo Tribal Utility Authority	NTA
Navy, Department of the	USN
Nebraska Public Power District	NPP
Nevada Power Company	NPC
North Dakota State Hospital	NDH
Northern States Power Company	NSP
Northern Electric Cooperative	NEC
Northwest Electric Power Cooperative	NWE
Northwest Iowa Power Cooperative	NIP
Northwestern Public Service Company	NWP
Oahe Electric Cooperative	OAC
Olive-Mercer Electric Cooperative	OMC
Omaha Public Power District	OPP
Otter Tail Power Company	OTC
Pacific Gas and Electric Company	PGE
Pacific Power and Light Company	PPL
Pierre, City of (South Dakota)	CPI
Plains Electric Generation and Trans. Cooperative	PGT

2.7 OWNERS, ALL REGIONS. - (Arranged alphabetically) (Continued)

Portland General Electric Company	PiG
Poudre Valley REA	PVR
Prairie Power Cooperative	PPC
Public Service Company of Colorado	PSC
Public Service Company of New Mexico	NMX
Raft River REA	RRR
Rosebud Electric Cooperative	RiC
Rural Cooperative Power Association	RCP
Rushmore Electric Power Cooperative	REP
Sacramento Municipal U.D.	SMU
Salt River Project Agricultural Improvement and Power District	SRP
School District No. 21. Fort Peck (Montana)	S21
Shasta Dam Area P.U.D.	SUD
Southern California Edison Company	SCE
Southern Colorado Power Company (Central Telephone and Utility Corporation)	SCP
Southwestern Power Administration	WSW
St. Joseph Light and Power Company	SJL
Tiber Dam (P-SMBP)	TIF
Tongue River Electric Cooperative	TRC
Toston Irrigation District	TiI
Tri-County Cooperative (LC Region)	
Tri-County Electric Cooperative (MB Region)	TC6
Tri-State G&T	TRS
Tyndall, City of (South Dakota)	CTY
Union Electric Company	UEC
United Power Association	UPA
Upper Missouri G&T	UMi
Utah Power and Light Company	UPL
Valley City, City of (North Dakota)	CVC
Valley County Electric Cooperative (MB Region)	VCC
Valley Electric Cooperative (LC Region)	
Verendrye Electric Cooperative	VDC
Watertown, City of (South Dakota)	CWT
Wellton Mohawk I&D District	WMD
West Central Electric Cooperative	WCC
Western Colorado Power Company	WCP
West Plains Electric Cooperative	WPC
West River Electric Cooperative	WRC
Williams Electric Cooperative	WLC
Wyrulec Company	WYC

2.7 OWNERS, ALL REGIONS. - (Arranged alphabetically) (Continued)

Yellowstone Valley Electric Cooperative	YVC
Yuma County Water Users Association	YCA
Yuma Mesa I&D District	YMD

2.8 TYPE OF FACILITIES. -

Alphabetic characters from the table below should be used with the facility code in the various reports except PO&M-59, -59A, and -59B where they have been preprinted on the form:

<u>Facility type</u>	<u>Code</u>
Area operating office	A
Canal	N
Dam	D
Dispatching office	F
Maintenance shops	I
Metering station	J
Microwave station	M
Mobile transformer or mobile substation	T
Pole yard	Y
Power operations center	i
Powerplant	P
Pumping-generating plant	X
Pumping plant	U
Radio station (UHF or VHF)	V
Switchyard (at powerplant or pumping-generating plant)	S
Substation (including switching station or switchyard at pumping plant)	H
Transmission cable	C
Transmission line	L
Warehouse	W
Wind turbine	Z

2.9 STATE ABBREVIATIONS. -

AK	Alaska
AZ	Arizona
CA	California
CO	Colorado
IA	Iowa
ID	Idaho
KS	Kansas
MN	Minnesota
MO	Missouri
MT	Montana
NE	Nebraska
ND	North Dakota
NM	New Mexico
NV	Nevada
OK	Oklahoma
OR	Oregon
SD	South Dakota
TX	Texas
UT	Utah
WA	Washington
WY	Wyoming

III. CODES FOR PO&M-59, -59A, AND -59B, REPORT OF MONTHLY POWER OPERATIONS FOR POWERPLANTS, PUMPING PLANTS, AND PUMPING-GENERATING PLANTS

Codes for indicating the name of the facility are all that are required for these reports. The facility codes are listed by region in section II.

IV. CODES FOR PO&M-62, TRANSMISSION SYSTEM OUTAGES, PO&M-129, ANNUAL SUMMARY OF TRANSMISSION LINE OUTAGES, AND PO&M-130, ANNUAL SUMMARY OF SUBSTATION OUTAGES

4.1 STATION, LINE, LINE SECTION, OR TAP. -

4.1.1 NAME OF TERMINALS. - The facility codes for transmission lines, line sections, taplines, substations, and switchyards are presented for each region in section II.

4.1.2 TYPE. - The alphabetic character codes for the different types of facilities, lines, substations, or switchyards are presented in section II, paragraph 2.10.

4.1.3 BUS DEAD. ~ Use a "Y" for yes if the bus of a reported station is dead. Use an "N" for no. No entry should be made in this column for a transmission line or cable outage.

4.2 DURATION. - Use "MOM" to indicate a momentary outage of 60 seconds or less. Express longer outages in hours and minutes.

4.3 BREAKER TRIPPED. - Use substation or switchyard code given in section II followed by a dash and the breaker number.

4.4 OWNER. - Use owner codes given in section II, paragraph 2.8.

4.5 TYPE OF FAULT. - The following codes should be used to designate the type of fault:

<u>Fault type</u>	<u>Code</u>
Single line-to-ground	L-G
Double line-to-ground	2LG
One line open	1Li
Two lines open	2Li
Line-to-line	L-L
Three-phase	3PH
Unknown, uncertain, or undetermined	UNK

4.6 CUSTOMER SERVICE INTERRUPTED.- Use "Y" (yes) to Indicate that service to a Bureau customer was Interrupted, "N" (no) that there was no interruption, or "I" (interconnection) to indicate that service was supplied by wheeling over an interconnected foreign system and it was not known whether any off-system Bureau customer suffered an interruption in service as the result of the reported outage.

4.7 OUTAGE

4.7.1 TYPE. - Use an "F" to indicate a forced outage, an "S" to indicate a scheduled outage, and an "I" to indicate an operational outage when a line is taken out of service to improve system operating conditions.

4.7.2 CAUSE OR REASON CODES. -

<u>Code</u>	<u>Description</u>	<u>Code</u>	<u>Description</u>
CI L	Cold weather	MEC	Mechanical failure
COM	Communication channels	MIS	Miscue, employee
CI I	Construction	I PR	Operational requirement
DEF	Mfg. defect or weakness	I UT	Out of step
EDP	Equipment damage protection	RAI	Rain or fog
ELE	Electrical failure	REC	Relay miscoordination
ELID	Electrical overload	REM	Relay malfunction
ERR	Error, employee	SAN	Sand or sandstorm
FIR	Fire	SUP	Supervisory control
FLA	Flashover	SYI	System inadequate
HI T	Hot weather	TES	Testing
ICE	Ice, sleet, snow, frost	TRE	Tree etc., in line
LIG	Lightning	TRI	Trouble on another system
LIN	Line down	UNK	Unknown
LI A	Load shedding	VAN	Vandalism
MAI	Maintenance	WIN	Wind, tornado

V. CODES FOR PO&M-124, EQUIPMENT TROUBLE REPORT

5.1 FACILITY CODES. - Use facility codes listed in section II to indicate name of plant, station, or line.

5.2 TYPE CODES. - Alphabetic characters from the table below should be used to Indicate the facility type:

<u>facility type</u>	<u>Code</u>
Area operating office	A
Canal	N
Dam	D
Dispatching office	F
Maintenance shop	I
Metering station	J
Microwave station	M
Mobile transformer or mobile substation	T
Pole yard	Y
Power operations center	i
Powerplant	P
Pumping-generating plant	X
Pumping plant	U
Radio station (UHF or VHF)	V
Switchyard (at powerplant or pumping-generating plant)	S
Substation (including switching station or switchyard at pumping plant)	H
Transmission cable	C
Transmission line	L
Warehouse	W

5.3 PRIMARY EQUIPMENT AND COMPONENT CODES. -

5.3.1 ELECTRICAL EQUIPMENT.

<u>Primary equipment</u>		<u>Component</u>	
<u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Code</u>
Accumulator	ACC		
Air Housing	AHS		
Air system	AIR		
Amortisseur winding	AMW		
Arrester	ARR		
Ballhead	BAL		
Battery	BAT		
		Case	CAS
		Cell	CEL
		Electrolyte	ELE
		Terminal	TER
Bearing	BEA		
Bearing guide	BEG		
Bearing lower guide	BEL		
Bearing thrust	BET		
Bearing upper guide	BEU		
Blade assembly	BLA		
Brake system	BRA		
Bus	BUS		
		Conductor	CND
		Duct	DUC
		Insulation	INS
		Insulator	ING
		Splice	SPL
		Structure	STR
		Terminal	TER
		Total	T I T
Bushing	BSG		

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u>		<u>Component</u>	
<u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Code</u>
Cable	CAB	Conductor assembly	ci c
		Conduit	ci i
		Cooling system	ci i
		Gas	GAS
		Insulation	INS
		Oil	i IL
		Pothead	PI T
		Sheath	SHE
		Suspension assembly	SUS
		Terminal	TER
		Total	Ti T
Capacitor	CAP		
Capacitor, series or Capacitor, shunt	CAE CAH	(Component list below is applicable for both types of capacitors)	
		Bushing	BSG
		Capacitor	CAP
		Container	CTR
		Discharge device	DIS
		Fuse	FUS
		Jumper	JUM
		Platform	PLA
		Total	Ti T
Carbon dioxide system	CAR		
Case	CAS		
Cell	CEL		
Charger, battery	CHA	Control System	CTS
		Reactor coils	REA
		Rectifier	RTF

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Component</u>	<u>Code</u>
Circuit breaker, air or Circuit breaker, gas or Circuit breaker, oil	CIA CIG ci i	(Component list below is applicable for all three types of circuit breakers)	Air system Bushing Control system Hydraulic system Interrupter assembly Oil system Operating assembly Tank Total	AIR BSG CTS HYD INT i IS i PE TAN Ti T
Clip assembly	CLI			
Compressor	ci M			
Condenser, synchronous	ci N			
		Amortisseur winding Bearing Control system Cooling system Exciter assembly Housing Labyrinth seal Lubrication system Pothead Resistance temperature detector Rotor assembly Shaft Stator core Stator winding Terminal Voltage regulator Total	AMW BEA CTS ci i EXC HSE LAB LUB Pi T RTD Ri T SHA STC STW TER Vi L Ti T	
Conductor assembly	ci c			
Conductor	CND			
Conduit	ci I			
Connector	CNN			

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Component</u>	<u>Code</u>
Container	CTR			
Control system	CTS			
Cooling system	ci i			
Core	ci R			
Coupling capacitor potential device	ci U			
		Coupling capacitor		ci U
		Drain coil		DRA
		Insulator		INI
		Protective gap		PRI
		Total		Ti T
		Transformer		TRW
Cubicle	CUB			
Damper	DAM			
Dashpot	DAS			
Deflector	DEF			
Discharge device	DIS			
Drain coil	DRA			
Drain valve	DRV			
Duct	DUC			
Electrical control system	ECS			
Electrolyte	ELE			
Exciter assembly	EXC			
Excitation system	EXS			
Field coil	FCL			
Fill valve	FIL			
Frame	FRA			

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Component</u>	<u>Code</u>
Fuse	FUS			
Gauge	GAG			
Gauge assembly	GAP			
Gas	GAS			
Gas system	GSS			
Gate limit drive motor	GAT			
Gate linkage	GAL			
Gate (shifting) ring	GAR			
Generator	GEN			
		Air housing		AHS
		Amortisseur winding		AMW
		Bearing, lower guide		BEL
		Bearing, thrust		BET
		Bearing, upper guide		BEU
		Brake system		BRA
		Carbon dioxide system		CAR
		Control system		CTS
		Cooling system		ci i
		Excitation system		EXS
		Field coil		FCL
		Heating system		HET
		Jacking system		JAC
		Lubrication system		LUB
		Pothead		Pi T
		Resistance temperature detector		RTD
		Ring bus		RIN
		Rotor assembly		Ri T
		Shaft		SHA
		Spider		SPI
		Static start system		SSS
		Stator core		STC
		Stator winding		STW
		Terminal		TER
		Total		Ti T
Ground wire, overhead	i GW			

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Component</u>	<u>Code</u>
Ground wire, pole	PGW			
Guide	GID			
Guide bearing	GUI			
Guy wire assembly	GUY			
Headcover	HEA			
Heating system	HET			
Hinge assembly	HIN			
Housing	HSE			
Housing lower	Hi L			
Housing upper	Hi U			
Hydraulic system	HYD			
Impeller	IMP			
Instrumentation	INS			
		Gauge Recorder (include use, as watt, megawatt, kilovolt, etc.)		GAG REC
Insulation	INS			
Insulator	INI			
Insulator assembly	INY			
Internal failure	INF			
Internal leads	INL			
Interrupter	INR			
Interrupter assembly	INT			
Jumper	JUM			

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Component</u>	<u>Code</u>
Labyrinth seal	LAB			
Lightning arrester	LIG			
		Gauge assembly		GAP
		Insulator		INI
		Internal failure		INF
		Seal		SEA
		Thyrite assembly		THY
		Total		TI T
		Unit		UNI
		Vent plugs		VEN
Line recloser	LIN			
Lubrication system	LUB			
Metering device	MET			
		Bushing		BSG
		Oil system		IS
		Tap		TAP
		Total		TI T
		Winding		WIN
Motor (pumping unit)	MI T			
Air housing	AHS			
Amortisseur winding	AMW			
Bearing, lower guide	BEL			
Bearing, thrust	BET			
Bearing, upper guide	BEU			
Brake system	BRA			
Carbon dioxide system	CAR			
Control system	CTS			
Cooling system	CI I			
Exciter assembly	EXC			
Field coil	FCL			
Lubrication system	LUB			

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u> <u>Component</u>	<u>Code</u>
Motor (Continued) (pumping unit)		Pothead	Pi T
		Resistance temperature detector	RTD
		Ring bus	RIN
		Rotor assembly	Ri T
		Shaft	SHA
		Spider	SPI
		Stator core	STC
		Stator winding	STW
		Terminal	TER
		Total	Ti T
Needle	NEE		
Nozzle, braking	Ni B		
Nozzle, power	Ni P		
Oil	i IL		
Oil cooling system	i CS		
Oil system	i IS		
Operating assembly	i PE		
Operating linkage, blade	i LB		
Permanent magnet generator	PER		
Pilot valve	PIL		
Piping	PIP		
Platform	PLA		
Pothead	Pi T		
Protective coating	PRC		
Protective gap	PRi		
Reactor coils	REA		

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Component</u> <u>Code</u>
Reactor, series (current limiting) or Reactor, shunt	REE REH	(Component list below is applicable for both types of reactors)	
		Bushing	BSG
		Conductor	CND
		Connector	CNN
		Control system	CTS
		Insulation	INS
		Oil system	i IS
		Structure	STR
		Terminal	TER
		Total	Ti T
		Turnbuckle tie-down	TTD
		Winding	WIN
Recorder	REC		
Rectifier	RTF		
Relay valve	REL		
Resistance temperature detector	RTD		
Riser	RIS		
Ring bus	RIN		
Rotor assembly	Ri T		
Rotovalve	Ri V		
Runner	RUN		
Seal	SEA		
Seal ring	SER		
Servomotor	SEV		
Servomotor, blade	SEB		
Servomotor, gate	SEC		
Shaft	SHA		

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Component</u> <u>Item</u>	<u>Code</u>
Sheath	SHE		
Spacer	SPA		
Spider	SPI		
Splice	SPL		
Strain band	STB		
Static start system	SSS		
Stator core	STC		
Stator winding	STW		
Structure	STR		
Structure, metal	STM		
Structure, wood	swi		
Storage tank	sti		
Stuffing box	STU		
Substation (unit type)	SUB		
		Bus	BUS
		Bushing	BSG
		Circuit breaker	CIA
		Cubicle	CUB
		Instrumentation	IMT
		Insulation	INS
		Insulator	ini
		Transformer	TRW
		Total	Ti T
Suspension assembly	SUS		

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Component</u>	<u>Code</u>
Switch, disconnect	SWD	(Component list below is applicable for all three types of switches)		
Switch, grounding	SWG			
Switch, interrupting	SWI			
			Blade assembly	BLA
			Clip assembly	CLI
			Fuse	FUS
			Hinge assembly	HIN
			Interrupter	INR
			Insulation	INS
			Insulator	INI
			Operating assembly	i PE
			Riser (from switch to line)	RIS
			Total	Ti T
Switchgear, metal clad	SWT			
		Operating assembly	i PE	
		Total	Ti T	
Tank	TAN			
Tap	TAP			
Terminal	TER			
Thermostat-heater circuit	THE			
Thyrite assembly	THY			
Total	Ti T			
Transformer	TRW			
Transformer, bushing current	TRB			
Transformer, potential	TRT			
Transformer, power (auto and distribution transformers included)	TRW			

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Component</u>	<u>Code</u>
Transformer, wound current	TRZ	(Component list below is applicable for all types of transformers)		
		Arrester		ARR
		Bushing		BSG
		Case		CAS
		Control system		CTS
		Cooling system		ci i
		Core		ci R
		Frame		FRA
		Gas system		GSS
		Insulation		INS
		Internal leads		INL
		Oil system		i IS
		Pothead		pi T
		Tap		TAP
		Terminal		TER
		Thermostat-heater circuit		THE
		Winding		WIN
		Total		ti T
Transmission line	TRA	Conductor		CND
		Damper		DAM
		Strain band		STB
		Ground wire, overhead		i GW
		Ground wire, pole		PGW
		Guy wire assembly		GUY
		Insulator assembly		INY
		Spacer		SPA
		Structure, metal		STM
		Structure, wood		swi
		Total		ti T
Turnbuckle	TUR			
Turnbuckle tie-down	TTD			
Unit	UNI			
Vent plugs	VEN			

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u> <u>Component</u>	<u>Code</u>
Voltage regulator	vi L	Bushing	BSG
		Control system	CTS
		Cooling system	ci i
		Fuse	FUS
		Oil system	i IS
		Tap	TAP
		Total	Ti T
		Winding	WIN
Voltage regulator - solid state	VSS		
Wave trap	WVT		
		Total	Ti T
		Turnbuckle	TUR
Wearing ring	WEA		
Wicket gate	WIC		
Winding	WIN		

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Component</u> <u>Code</u>
Air compressor (include use description)	AIR	Accumulator	ACC
		Compressor	CI M
		Motor	MI T
		Piping	PIP
		Storage tank	STI
Draft tube gate	DRA	Control system	CTS
		Guide	GID
		Seal	SEA
		Structure	STR
Governor	GI V	Ballhead	BAL
		Dashpot	DAS
		Electrical control system	ECS
		Gate limit drive motor	GAT
		Oil system	IS
		Permanent magnet generator	PER
		Pilot valve	PIL
		Relay valve	REL
		Penstock	PEN
		Fill valve	FIL
		Protective coating	PRC
		Structure	STR
Penstock gate	PEG	Control system	CTS
		Seal	SEA
		Structure	STR
Penstock valve (butterfly)	PEV	Control system	CTS
		Seal	SEA
		Structure	STR

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Component</u> <u>Code</u>
Pump (indicate use, such as firewater, dam sump, unit 1 unwatering, etc.)	PUM	Bearing	BEA
		Case	CAS
		Control system	CTS
		Cooling system	ci i
		Impeller	IMP
		Lubrication	LUB
		Shaft	SHA
		Stuffing box	STU
		Wearing ring	WEA
Regulator	REG		
Voltage regulator - solid state	VSS		
Turbine, impulse (also referred to as Pelton turbine)	TUI	Deflector	DEF
		Guide bearing	GUI
		Housing, lower	Hi L
		Housing, upper	Hi U
		Lubrication system	LUB
		Needle	NEE
		Nozzle, braking	ni B
		Nozzle, power	ni P
		Oil cooling system	i CS
		Rotovalve	ri V
		Runner	RUN
		Seal ring	SER
		Servomotor	SEV
		Shaft	SHA

5.3.1 ELECTRICAL EQUIPMENT. - (Continued)

<u>Primary equipment</u> <u>Item</u>	<u>Code</u>	<u>Item</u>	<u>Component</u> <u>Code</u>		
Turbine, propeller (includes Kaplan and adjustable blade turbines)	TUP	Gate linkage	GAL		
		Guide bearing	GUI		
		Headcover	HEA		
		Lubrication system	LUB		
		Oil cooling system	i CS		
		Operating linkage, blade	i LB		
		Runner	RUN		
		Servomotor, blade	SEB		
		Servomotor, gate	SEG		
		Shaft	SHA		
		Stuffing box	STU		
		Wicket gate	WIC		
		Turbine, reaction (also referred to as Francis turbine)	TUR	Bearing, guide	BEG
				Gate linkage	GAL
				Gate (shifting) ring	GAR
Headcover	HEA				
Lubrication system	LUB				
Oil cooling system	i CS				
Runner	RUN				
Servomotor	SEV				
Shaft	SHA				
Stuffing Box	STU				
Wearing ring	WEA				
Wicket gate	WIC				

5.4 MANUFACTURER'S NAME CODES. -

<u>Manufacturer name</u>	<u>Code</u>
A. B. Chance	ABCH
Associated Engineering Co.	ASEN
Alcoa	ALC<i>i</i>
Allied Insulators Ltd.	ALID
Allis-Chalmers	ALLI
American	AMEA
American Bridge	AMEB
American Elin	AMEE
American ESNA	AMES
American Ligurian Company	AMEL
American Rectifier	AMRF
Anaconda Copper	ANAC
Anchor Metals	ANCR
A. O. Smith Corp.	A<i>i</i> SM
ASEA	ASEA
Baldwin -Lima -Hamilton	BALD
Baldwin-Southwark	BLDS
Barber-Coleman	BARB
Berkely Pump Company	BERK
Bingham Pump	BING
Bodine Electric Company	B<i>i</i> DI
Bowie Switch Company	B<i>i</i> WI
Brewer-Titchener Corporation	BTC<i>i</i>
Brown and Sharpe Mfg. Company	BR<i>i</i> A
Brown-Boveri	BR<i>i</i> B
Bruce Peebles, Ltd.	BRUP
Burndy Corporation	BURN
Brush Aboe, Inc.	BRUS
Bussman Fuse Company	BUSS
Byron Jackson	BYR<i>i</i>
C & D Batteries, Inc.	CAND
C. A. Parsons and Company Ltd.	CPC<i>i</i>
Canadian General Electric	CAGE
Cascade	CASC
Central Transformer Company	CENL
Central-Moloney	CM<i>i</i> L
Century Electric Company	CENT
Cogenel, Inc.	C<i>i</i> GN
Colt Industries	C<i>i</i> LT
Consolidated Steel Corporation	C<i>i</i> NS

5.4 MANUFACTURER'S NAME CODES. - (Continued)

<u>Manufacturer name</u>	<u>Code</u>
Control Corporation	CI NC
Control Data Corporation	CI NT
Copperweld Steel Company	CWLD
Crane O'Fallon	CRAN
Cutler Hammer	CUTL
Dayton Dowd	DAYT
Detroit Controls Corporation	DETR
Detroit Diesel	DETD
Delle Alsthom	DELL
Delta-Star Electric	DLTA
Eastern Industries, Inc.	EAST
Economy Pumps	ECI N
Eisler Engineering Company, Inc.	EISL
Electric Machine Mfg. Company	ELEM
Electric Products	ELEP
Electric Storage Battery, Inc. (Exide)	ELES
Electromagnetic Industries of Florida	ELIF
Elin A. G. (Vienna)	ELEV
Elliott Company	ELLI
Eltec, Inc.	ELTC
Emil Haefely and Company Ltd.	EHAC
E. M. P. Electric Limited	EMPE
English Electric	ENGL
Everstick Anchor Company	EVER
Fairbanks-Morse	FAIR
Fargo Mfg. Company	FRGI
Federal Pacific Electric Company	FEDE
Ferranti-Packard	FERR
Flese and Firstenberger	FIES
Fischer and Porter	FISC
Food Machinery (FMC Corporation)	FI I D
Fort Wayne	FI RT
F. William Young	FWIL
Furukawa Electric	FURU
Galileo	GALI
Gardner Electric Mfg. Company	GARD
Garlock	GARL
G&W Electrical Specialty	GAWE
General Electric	GENE
General Cable	GCAB

5.4 MANUFACTURER'S NAME CODES. - (Continued)

Manufacturer name

Goslin-Birmingham Mfg. Company	Gi SL
Gould National Batteries, Inc.	Gi UL
Graybar Electric Company	GBAR
H. K. Porter Company	HKPR
Hans Ritz Messwandler Work	HANS
Hathaway Instruments, Inc.	HATH
Heavi Duty Electric Company	HEVI
Hitachi	HITA
Hughes Electronics Company	HUGH
Ideal Electric and Mfg. Company	IDEA
Illinois Electric Porcelain Company	ILLI
Instrumenti-Di-Misura	INST
Inet, Inc.	INET
Ingersoll Rand Company	INGE
Inoue Electric Mfg. Company Ltd.	INOE
I. T. E. Circuit Breaker Company	ITEC
James Leffel Company	JAME
Jeffery Dewitt	JEFF
John Hollingworth	JHi L
Johnstone Pump Company	Ji HN
Joslyn Mfgr. and Supply Company	Ji SL
Joy Manufacturing Company	Ji YM
Kearney National Company	KEAR
Kelman Mfg. Company	KELM
Koppers Company	Ki PP
Kuhlman	KUHL
Kyle	KYLE
Lapp Insulator Company, Inc.	LAPP
Larkin Lectro Products	LARK
Lee Electric and Mfg. Company	LEEE
Leeds and Northrup	LEED
Leffel	LEFE
Legnano Electric Corporation	LEGA
Linegear Ltd.	LIGE
Line Material Industries	LINE
Lipsett, Inc.	LIPS
Locke Insulator Company	Li CK
Louis Allis Company	LUIS
Magna Sync. Corporation	MAGN
Magrini	MAGR

5.4 MANUFACTURER'S NAME CODES. - (Continued)

<u>Manufacturer name</u>	<u>Code</u>
Mallory	MALL
Marathon	MARA
Marcus Transformer Company	MARC
Marelli and Company SPA	MARE
McGraw-Edison	MCGR
Mears	MEAR
Merlin Gerin, Inc.	MRGR
Meswandler-Bau	MESW
MEMCO, Eng. and Mfg. Company	MEMC
Mercoid Corporation	MERC
Micafil	MFIL
Mitsubishi Heavy Industries	MBSH
Mitsui	MITS
Moloney Electric Company	Mi Li
Morris Mach.	Mi RR
Motorola	Mi Ti
National Light and Pump Company	NATI
NEMA Standard	NEMA
Newport News Co.	NEWP
Nickle-Cadmium Battery Corporation	NICK
NGK	NGKi
Nohab	Ni HA
"Not Given"	NGVN
Oerlikon	i ERL
Ohio Brass	i Hi
OZ Elect. Mfg. Company	i ZEL
Pacific Electric Company	PACI
Pacific Float Company	PCFT
Pacific Oerlikon	Pi RK
Passoni and Villa	PASS
Peerless Pumps	PEER
Pelton Waterwheel Company	PELT
Penn Control	PENC
Penn Pump and Compressor Company	PENP
Pennsylvania Transformer Company	PENS
Phelps Dodge Copper Products	PHE
Philadelphia Gear Corporation	PHIL
Pinco	PINC
Pioneer Electric Limited	Pi i N
Pomona Pump	Pi Mi

5.4 MANUFACTURER'S NAME CODES. - (Continued)

<u>Manufacturer name</u>	<u>Code</u>
Porcelain Products, Inc.	Pi RC
Power Conversion Products	Pi CP
Power Craft Corp.	Pi WE
Precision Transformer Company	PREC
Preformed Line Products Company	PREF
Radio Corporation of America	RADI
Rapid Electric Company	RAPI
Ratelco, Inc.	RATL
Regulator Eng. and Dev. Company	REGU
Reliable Electric Company	RELE
Remington Air Conditioning	REMI
Reynolds Metals Company	REYN
Robinson, W. O. Equipment Company	Ri BE
Roller Smith	Ri LL
Rome Cable	Ri ME
Rowan Controller Company	Ri WA
Royal	Ri YA
Sangamo Electric Company	SANG
Schwager-Wood	SCHW
Schweitzer & Concord (S&C)	SACC
Sempco	SEMP
Shin Mitsubishi	SHIN
Shutte & Koerting	SHUT
S. Morgan Smith	SMi R
Soclete Nucletron, Inc.	Si CN
Southern States, Inc.	Si UE
South Wales Switch Gear	Si UW
Square-D	SQRD
Staley	STAL
Standard Transformer Company	STAN
Star-Kimble	STAR
Stewart-Warner	STEW
Stromberg-Carlson	STRM
Thomas Spacing Machine Company	THi M
Tobe Deutschmnn	Ti BE
Torrington	Ti RR
Toshiba	Ti SH
Trench Electric Ltd. (Toronto Canada)	TREN
Trojan	TRi J
Unknown	UNKN

5.4 MANUFACTURER'S NAME CODES. - (Continued)

<u>Manufacturer name</u>	<u>Code</u>
Uptegraff Mfg.	UPTE
U.S.C.O	USC <i>i</i>
U.S. Motor	USM <i>i</i>
Usines Balteau (Liege Belgium)	UBAL
Voight and Haeffner	V <i>i</i> IG
Wagner Electric Company	WAGN
Ward Leonard Electric Company	WARD
Warren Pump	WARR
Water Engineering	WATE
Waukesha Foundry Company, Pump Div.	WAUK
Wellma-Seaver-Morgan Company	WELL
Western Pipe and Steel Company	WSPS
Westinghouse	WEST
Wheeler	WHEE
Willamette Iron and Steel Company	WILE
William Powell Company	WILM
Williston Construction Company	WILT
Wintroat Pump and Equipment Company	WINT
Woodward Governor Company	W <i>i i</i> D
Worthington	W <i>i</i> RT

5.5 DEFECT OR DAMAGE TO COMPONENT CODES. -

<u>Descriptor</u>	<u>Code</u>	<u>Descriptor</u>	<u>Code</u>
Antiquated	ANT	Open circuit	i PN
Arc burn	ARC		
Bent	BEN	Peened	PEE
Blown	BLi	Perforated	PER
Broken	BRi	Pitted	PIT
Burned	BUR	Pulled apart	PUL
Bulged	BUL	Punctured	PUN
Carbonized	CAR	Ruptured	RUP
Cracked	CRA		
Contaminated	CI N	Scored	SCI
Corroded	CI R	Scratched	SCR
Deflated	DEF	Seized	SEI
Destroyed	DES	Separated	SEP
Deteriorated	DET	Shattered	SHA
Disappeared	DIA	Sheared	SHE
Distorted	DIT	Shorted	SHi
Exploded	EXP	Soaked-oil	si i
		Soaked-water	si W
		Stretched	STE
		Stripped	STI
Frozen	FRi		
Fused	FUS	Torn	Ti R
		Twisted	TWI
Grooved	GRi		
Grounded	GRU	Unglued	UNG
Melted	MEL	Warped	WAR
Mutilated	MUT	Wiped	WIP
		Worn	Wi R
No damage	NI A		
No defect	NI E		

5.6 CAUSE OF TROUBLE OR FAILURE CODES. -

ACT	Act of outside individuals	LAK	Lack if use or exercise
AIR	Air loss, leak, or low	LIG	Lightning
AIS	Airplane, helicopter, glider	LIN	Line down
ANI	Animal, bird, bug LGA	Li A	Load Shedding
APP	Application of equipment Improper	Li i	Loose pare (bolt, bracing, connection)
ASY	Assembly improper	MAI	Maintenance
BEA	Bearing bad	MEC	Mechanical failure (not overload)
BRi	Broken part	MEi	Mechanical overload
BUS	Bushing defective	MIS	Miscue, employee
CLE	Clearance improper	Mi i	Moisture or water
ci L	Cold weather	i IL	Oil loss, leak, or low
ci M	Communication channels	i TE	Other equipment failed
ci N	Connection problem	i UT	Out of step
ci i	Construction		
ci P	Contact problem		
ci Q	Contamination	PRi	Protection faulty
ci R	Corrosion	RAI	Rain or fog
DEF	Mfg. defect or weakness	REC	Relay miscoordination
DEG	Defective from misuse or abuse	REM	Relay malfunction
DES	Design inadequate	SAN	Sand or sandstorm
DET	Deterioration	SNi	Snowslide
EAR	Earthquake	STI	Sticking parts
ELE	Electrical failure	SUP	Supervisory control
ELi	Electrical overload	SYI	System inadequate
ERR	Error, employee	SYT	System trouble, problem, or breakup
FAI	Failed to operate or faulty operation	TEF	Test failure
FAT	Fatigue	TES	Testing
FIR	Fire	TRE	Tree, etc., in line
FLA	Flashover	TRi	Trouble on another system
FLi	Flood		
Fi I	Foreign objects in equipment	UNK	Unknown
Fi i	Foreign objects on line	VAN	Vandalism
GAL	Galloping conductors	VIB	Vibration
GAN	Galvanic action	Vi H	Voltage high
GAS	Gas loss, leak, or low	Vi L	Voltage low
GUN	Gunfire	WIN	Wind, tornado
HOT	Hot weather	WIR	Wiring incorrect
ICE	Ice, sleet, snow, frost		
INS	Installation faulty		
INU	Insulation failure		

5.7 OUTAGE INVOLVEMENT. - Indicate by one of the following five single-letter codes whether as a result of the equipment trouble, any power system outage occurred, if so what type (forced or scheduled), and whether any interruption to customer service occurred:

F = Forced outage, but NO interruption in any customer service

G = Forced outage, WITH accompanying interruption in customer service

S = Scheduled outage, WITHOUT interruption in any customer service

T = Scheduled outage, WITH accompanying interruption in customer service

N = NO outage or interruption in customer service

5.8 DISPOSITION OF FAULTY EQUIPMENT. - Use the following codes to indicate disposition made of the faulty equipment:

Scrapped, Unsalvageable	1
Repaired and returned to service	2
Repaired for spare	3
Partially salvaged (cannibalized for serviceable parts)	4
Removed and stored in damaged condition	5
Removed and returned to manufacturer	6
Disconnected from service and left in place (impossible to remove)	7
Other (describe in remarks)	8