



## Department of Energy

Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

FREEDOM OF INFORMATION ACT PROGRAM

September 18, 2024

In reply refer to: FOIA #BPA-2023-01399-F

**SENT VIA EMAIL ONLY TO:** [twhitney@cablehuston.com](mailto:twhitney@cablehuston.com)

Tyler Whitney, Partner  
Cable Huston LLP  
1455 SW Broadway, Suite 1500  
Portland, Oregon 97201

Dear Mr. Whitney,

This communication is the Bonneville Power Administration's (BPA) final response to your request for agency records made under the Freedom of Information Act, 5 U.S.C. § 552 (FOIA). BPA received your records request on August 3, 2023 and formally acknowledged your request on August 10, 2023.

### Request

"...all amendments to agreements that govern the AC intertie[,] beyond the agreements and amendments which BPA has posted at the following links:

- <https://www.bpa.gov/-/media/Aep/foia/foia-2019/BPA-2019-00410-F.pdf>
- <https://www.bpa.gov/-/media/Aep/foia/foia-2019/BPA-2019-00411-F.pdf>
- <https://www.bpa.gov/-/media/Aep/foia/foia-2019/BPA-2019-00412-F-Sandvig---Final-Release.pdf>

This request specifically includes, but is not limited to, the following documents: • All amendments to PacifiCorp agreements related to the Meridian-Midpoint, Pacific Intertie, and B2H transmission line; • All amendments to PGE Intertie agreements since the materials posted on BPA's website in October and November of 2019; • Any products or published principles by the Scheduling and Operating Committee (established by the PGE Intertie Agreement) covering decisions regarding operations, maintenance, and scheduling of the Joint AC Intertie."

### Final Response

BPA searched for and gathered records responsive to your request from the agency's Transmission Account Services office. Accompanying this communication are 528 pages of responsive agency records with the following redactions applied:



- 12 redactions under 5 U.S.C. § 552(b)(4) (Exemption 4)
- 198 redactions under 5 U.S.C. § 552(b)(6) (Exemption 6)

**Explanation of Exemption**

The FOIA generally requires the release of all agency records upon request. However, the FOIA permits or requires withholding certain limited information that falls under one or more of nine statutory exemptions (5 U.S.C. §§ 552(b)(1-9)). Further, section (b) of the FOIA, which contains the FOIA's nine statutory exemptions, also directs agencies to publicly release any reasonably segregable, non-exempt information that is contained in those records.

**Exemption 4**

Exemption 4 protects "trade secrets and commercial or financial information obtained from a person [that is] privileged or confidential." (5 U.S.C. § 552(b)(4)). This exemption is intended to protect the interests of both the agency and third-party submitters of information. Information is considered commercial or financial in nature if it relates to business or trade. Here, compliant with the FOIA and established guidance provided by the U.S. Department of Justice, BPA relies on Exemption 4 to withhold confidential commercial information belonging to the Turlock Irrigation District.

**Exemption 6**

Exemption 6 protects Personally Identifiable Information (PII) contained in agency records when no overriding public interest in the information exists. BPA does not find an overriding public interest in a release of the information redacted under Exemption 6 — specifically, personal signatures. BPA cannot waive this PII redaction, as the protections afforded by Exemption 6 belong to individuals and not to the agency.

Lastly, as required by 5 U.S.C. § 552(a)(8)(A), information has been withheld only in instances where (1) disclosure is prohibited by statute, or (2) BPA foresees that disclosure would harm an interest protected by the exemption cited for the record. When full disclosure of a record is not possible, the FOIA statute further requires that BPA take reasonable steps to segregate and release nonexempt information. The agency has determined that in certain instances partial disclosure is possible and has accordingly segregated the records into exempt and non-exempt portions.

**Certification**

Pursuant to 10 C.F.R. § 1004.7(b)(2), I am the individual responsible for the records search, the redactions applied thereto, and the records release described above.

**Appeal**

The records release certified above is final. Pursuant to 10 C.F.R. § 1004.8, you may appeal the adequacy of the records search, and the completeness of this final release, within 90 calendar days from the date of this communication. Appeals should be addressed to:

Director, Office of Hearings and Appeals  
HG-1, L'Enfant Plaza

U.S. Department of Energy  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585-1615

The written appeal, including the envelope, must clearly indicate that a FOIA appeal is being made. You may also submit your appeal by e-mail to [OHA.filings@hq.doe.gov](mailto:OHA.filings@hq.doe.gov), including the phrase "Freedom of Information Appeal" in the subject line. (The Office of Hearings and Appeals prefers to receive appeals by email.) The appeal must contain all the elements required by 10 C.F.R. § 1004.8, including a copy of the determination letter. Thereafter, judicial review will be available to you in the Federal District Court either (1) in the district where you reside, (2) where you have your principal place of business, (3) where DOE's records are situated, or (4) in the District of Columbia.

Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows:

Office of Government Information Services  
National Archives and Records Administration  
8601 Adelphi Road-OGIS  
College Park, Maryland 20740-6001  
E-mail: [ogis@nara.gov](mailto:ogis@nara.gov)  
Phone: 202-741-5770  
Toll-free: 1-877-684-6448  
Fax: 202-741-5769

Questions about this communication, or the status of your FOIA request, may be directed to FOIA Program Lead Jason E. Taylor at 503-230-3537 or [jetaylor@bpa.gov](mailto:jetaylor@bpa.gov).

Sincerely,

Candice D. Palen  
Freedom of Information/Privacy Act Officer

[Attachments / Enclosures: Agency records responsive to FOIA request BPA-2023-01399-F accompany this communication.](#)



OFFICE OF  
THE ADMINISTRATOR

In reply refer to: PCH

# United States Department of the Interior

## BONNEVILLE POWER ADMINISTRATION

P.O. Box 3621, PORTLAND, OREGON 97208

MAR 25 1974

EXHIBIT B  
Table 2  
Contract No. 14-03-29224

Mr. R. B. Lisbakken  
Vice President, Power Resources  
Pacific Power & Light Company  
920 S. W. Sixth Avenue  
Portland, Oregon 97204

Dear Mr. Lisbakken:

Pacific, Portland General, and Bonneville have discussed the installation of another oscillograph at Malin substation. The total estimated cost of this installation is \$42,000.

I have determined that such installation is beneficial to the Government and propose the oscillograph be installed under Contract No. 14-03-29224 and the following terms and conditions:

1. Trust Fund. \$10,500
2. Duties of the Administrator. The Administrator, partially at Company expense, shall within 12 months after the effective date of this Table 2, furnish the necessary labor and material, and design, construct, and
  - (a) install a 16-element oscillograph in Malin substation; and
  - (b) perform test and energization of the facilities installed.
3. Duties of the Company. None.

If this Table 2 is acceptable to Pacific, please indicate your approval by signing one copy and returning it to me. Table 2 will be effective on the later of (1) the date Bonneville receives the signed copy of this Table 2 together with a check in the amount of the trust fund from the Company or (2) the date Bonneville receives a signed copy of Exhibit B,

Letter to R. B. Lisbakken, Subj: Exhibit B, Table 2, Contract No.  
14-03-29224

Table 2, to Contract No. 14-03-29225 together with a check in the amount  
of the trust fund from Portland General Electric Company.

Sincerely,

(b)(6)

(SEAL)

ACTING Administrator

Effective Date:

4-8-74

APPROVED:

PACIFIC POWER & LIGHT COMPANY

(b)(6)

By

Title Vice President



OFFICE OF  
THE ADMINISTRATOR

In reply refer to: PCH

# United States Department of the Interior

BONNEVILLE POWER ADMINISTRATION  
P.O. BOX 3621, PORTLAND, OREGON 97208

JUN 29 1977

Exhibit B  
Table 3  
Contract No. 14-03-29224

Mr. R. B. Lisbakken  
Vice President, Power Resources  
Pacific Power & Light Company  
920 S.W. Sixth Avenue  
Portland, Oregon 97204

Dear Mr. Lisbakken:

By letter of January 27, 1977, Pacific requested that Bonneville make certain Intertie relay modifications for it at the Government's Malin substation. The parties have agreed that such modifications would be mutually beneficial. Accordingly, I propose that the work be accomplished under Contract No. 14-03-29224 subject to the following terms and conditions:

1. Amount of Trust Deposit. \$2,000.

Estimated total cost of modifications is \$8,000. Consistent with its share of facilities owned under Contract No. 14-03-59840, Pacific shall pay for and own 25% of all facilities and site improvements installed at Malin under this table.

2. Duties of the Administrator. The Administrator shall, partially at Pacific's expense, within five months after the effective date of this Table 3, design and provide the necessary labor and materials, and:

- (a) on the Grizzly 500-kV No. 1 and No. 2 line terminals,
  - (1) remove and retire electromechanical relay set No. 2, with the exception of the KRD ground relay which will be moved to relay set No. 1 to provide permissive clearing for ground faults;
  - (2) replace the KC-4 and AR relays in relay set No. 1 with SI and ARS relays;



*Save Energy and You Serve America!*

Ltr to R. B. Lisbakken, PP&L, Subj: Exhibit B, Table 3, Contract  
No. 14-03-29224

- (3) reconnect the SKBU phase comparison relays; and
- (4) modify the automatic reclosing scheme;
- (b) on the 500-kV Round Mountain No. 1 and No. 2 line terminals,
  - (1) replace the KC-4 and AR relays in relay set No. 3 with SI and ARS relays; and
  - (2) modify the automatic reclosing scheme; and
- (c) test and energize the facilities installed under this section.

3. Duties of the Company. Jointly with the Administrator, test and energize the facilities installed under section 2 above.

If this Table 3 is acceptable to Pacific, please indicate your approval by signing one copy and returning it to me. Table 3 will be effective on the date Bonneville receives a signed copy together with a check in the amount of the Trust Deposit.

Sincerely yours,

(b)(6)

(SEAL)

ACTING

Administrator

Effective Date: JUL 15 1977

APPROVED:

PACIFIC POWER & LIGHT COMPANY

(b)(6)

By

Title Vice President



OFFICE OF  
THE ADMINISTRATOR

In reply refer to: PCH

# United States Department of the Interior

BONNEVILLE POWER ADMINISTRATION

P.O. BOX 3621, PORTLAND, OREGON 97208

JUL 15 1977

EXHIBIT B

Table 4

Contract No. 14-03-29224

Mr. Robert B. Lisbakken  
Vice President, Power Resources  
Pacific Power & Light Company  
920 S.W. Sixth Avenue  
Portland, Oregon 97204

Dear Mr. Lisbakken:

On May 3, 1972, we sent a letter to your office requesting Pacific's participation in the Supervisory Control and Data Acquisition (SCADA) system installation at the Government's Malin substation. With your participation, this work was recently completed and SCADA became operational. I propose that we ratify the informal arrangement under which this work was accomplished by executing this Table 4 as follows:

1. Amount of Trust Fund: \$17,400.

Estimated total cost of modifications is \$69,600. Consistent with its share of facilities owned under Contract No. 14-03-59840 between the parties hereto, Portland General Electric Company and the U. S. Bureau of Reclamation, Pacific shall pay for and own 25% of all facilities and site improvements installed at Malin under this table.

2. Duties of the Administrator. The Administrator, partially at the expense of Pacific, provided the necessary labor and materials and design, and

- (a) installed SCADA equipment at Malin substation; and
- (b) performed test and energization of the facilities installed.



Ltr to R. B. Lisbakken, PP&L Co., Subj: Exhibit B, Table 4, Contract No. 14-03-29224

3. Ownership of Facilities. The ownership of facilities is specified in said Contract No. 14-03-59840.

If this Table 4 is acceptable to Pacific, please indicate your approval by signing one copy and returning it to me. Table 4 will become effective on the date that Bonneville receives a signed copy from the Company, together with the necessary payment.

Sincerely yours,

(b)(6)

ACTING

Administrator

Effective Date: 7/29/77

APPROVED:

PACIFIC POWER & LIGHT COMPANY

By (b)(6)

Title Vice President

*AMS*





Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

In reply refer to: PCH

AUG 11 1978

Table 5  
Exhibit B  
Contract No. 14-03-29224

Mr. R. B. Lisbakken  
Vice President, Power Resources  
Pacific Power & Light Company  
920 SW. Sixth Avenue  
Portland, Oregon 97204

Dear Mr. Lisbakken:

In recent discussions between representatives of Bonneville and Pacific, it was agreed that it would be mutually beneficial to the parties for Bonneville to perform the work at Malin substation as outlined in Table 5.

Accordingly, I propose that the work be performed at Malin substation in accordance with the following terms and conditions:

1. Amount of Trust Deposit. \$4,025.

Estimated total cost of modifications is \$16,100. Consistent with its share of facilities owned under Contract No. 14-03-59840 among the parties hereto, Portland General Electric Company and the U.S. Bureau of Reclamation, Pacific shall pay for and own 25 percent of all facilities and site improvements installed at Malin substation under this table.

2. Duties of the Administrator. The Administrator partially at the expense of Pacific as set forth in section 1, shall, by 60 days after the Effective Date, provide the necessary labor, materials and design, and

(a) install necessary control switch and SCADA wiring in the Malin substation control house for the control of the 500 kV circuit switcher associated with the Malin substation reactors belonging to Portland General Electric Company, including the wiring necessary for transmission of status indication of the control switch to the PGE system control center, and installation of control cables to the circuit switcher and associated control and relay connections;

(b) connect seven existing SCADA I points, rewire three other existing SCADA I points; and

Ltr to R. B. Lisbakken, PP&L Company, Subj: Table 5, Exhibit B, Contract No. 14-03-29224

(c) perform test and energization of all facilities installed under this Table 5.

3. Duties of Pacific. None.

4. Ownership of Facilities. Ownership of facilities is specified in said Contract No. 14-03-59840.

If this Table 5 is acceptable to Pacific, please indicate your approval by signing one copy and returning it to me. Table 5 shall become effective on the date that Bonneville receives a signed copy from Pacific, together with a check in the amount of the Trust Deposit (Effective Date).

Sincerely,

(b)(6)

ACTING

Administrator

Effective Date: 9/8/78

APPROVED: September 7, 1978

PACIFIC POWER & LIGHT COMPANY

(b)(6)

By

(b)(6)

Title Vice President



Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

In reply refer to: PCH

AUG 11 1978

Table 5  
Exhibit B  
Contract No. 14-03-29224

Mr. R. B. Lisbakken  
Vice President, Power Resources  
Pacific Power & Light Company  
920 SW. Sixth Avenue  
Portland, Oregon 97204

Dear Mr. Lisbakken:

In recent discussions between representatives of Bonneville and Pacific, it was agreed that it would be mutually beneficial to the parties for Bonneville to perform the work at Malin substation as outlined in Table 5.

Accordingly, I propose that the work be performed at Malin substation in accordance with the following terms and conditions:

1. Amount of Trust Deposit. \$4,025.

Estimated total cost of modifications is \$16,100. Consistent with its share of facilities owned under Contract No. 14-03-59840 among the parties hereto, Portland General Electric Company and the U.S. Bureau of Reclamation, Pacific shall pay for and own 25 percent of all facilities and site improvements installed at Malin substation under this table.

2. Duties of the Administrator. The Administrator partially at the expense of Pacific as set forth in section 1, shall, by 60 days after the Effective Date, provide the necessary labor, materials and design, and

(a) install necessary control switch and SCADA wiring in the Malin substation control house for the control of the 500 kV circuit switcher associated with the Malin substation reactors belonging to Portland General Electric Company, including the wiring necessary for transmission of status indication of the control switch to the PGE system control center, and installation of control cables to the circuit switcher and associated control and relay connections;

(b) connect seven existing SCADA I points, rewire three other existing SCADA I points; and

Ltr to R. B. Lisbakken, PP&L Company, Subj: Table 5, Exhibit B, Contract No. 14-03-29224

(c) perform test and energization of all facilities installed under this Table 5.

3. Duties of Pacific. None.

4. Ownership of Facilities. Ownership of facilities is specified in said Contract No. 14-03-59840.

If this Table 5 is acceptable to Pacific, please indicate your approval by signing one copy and returning it to me. Table 5 shall become effective on the date that Bonneville receives a signed copy from Pacific, together with a check in the amount of the Trust Deposit (Effective Date).

Sincerely,

(b)(6)

ACTING

Administrator

Effective Date: 9/8/78

APPROVED: September 7, 1978

PACIFIC POWER & LIGHT COMPANY

(b)(6)

By

(b)(6)

Title Vice President



Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

In reply refer to: PGH

NOV 1 1978

EXHIBIT B  
Table 6  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective Date.

Mr. R. B. Lisbakken  
Vice President, Power Resources  
Pacific Power & Light Company  
920 SW. Sixth Avenue  
Portland, Oregon 97204

Dear Mr. Lisbakken:

In recent correspondence between Bonneville and Pacific, it was agreed that it would be mutually beneficial to the parties for Bonneville to install four 100-watt amplifiers (Amplifiers) and four line tuning units (Tuning Units) at the Government's Malin substation. Two of the Tuning Units will be installed at the Government's expense on the Malin-Round Mountain Line No. 1 terminal.

Accordingly, I propose that the work performed for Pacific at Malin substation be accomplished under this Table 6 to Contract No. 14-03-29224 (Trust Agreement) subject to the following terms and conditions:

1. Amount of Trust Deposit. \$9,750.

Estimated total costs of installation of the Amplifiers and Tuning Units are \$11,000 and \$14,000, respectively. In accordance with the provisions of Contract No. 14-03-59840 pertaining to the ownership of facilities at Malin substation by the parties hereto, Portland General and the U.S. Bureau of Reclamation, Pacific shall pay \$2,750 (25 percent of \$11,000) for the installation of the Amplifiers installed at Malin substation under this table. Pacific shall also pay an additional \$7,000 for installation by Bonneville of two Tuning Units on Pacific's Malin-Round Mountain Line No. 2.

2. Duties of Bonneville. Bonneville shall by 180 days after the Effective Date provide the necessary labor, materials and design and:

(b)(6)

Title Vice President

Letter to R. B. Lisbakken, Pacific Power & Light Company, Subject:  
Exhibit B, Table 6, Contract No. 14-03-29224

(a) at the partial expense of Pacific, install at Malin substation one Amplifier on each of the four carrier current phase comparison sets listed below:

- (1) Malin-Round Mountain Line No. 1 A-phase;
- (2) Malin-Round Mountain Line No. 1 C-phase;
- (3) Malin-Round Mountain Line No. 2 A-phase; and
- (4) Malin-Round Mountain Line No. 2 C-phase; and

(b) at the total expense of Pacific, remove the two old tuning units and install two new Tuning Units at Pacific's Malin-Round Mountain Line No. 2 terminal, one on the A-phase and one on the C-phase; and

(c) test and energize the facilities installed under this Table 6.

3. Duties of Pacific. Pacific shall cooperate with Bonneville to test and energize the facilities installed under sections 2(a) and 2(b) of this Table 6.

4. Ownership of Facilities. Ownership of facilities shall be as specified in said Contract No. 14-03-59840.

All references to "the Administrator" in the text of the Trust Agreement, as amended, shall be changed to "Bonneville."

If this Table 6 is acceptable to Pacific, please so indicate by signing one copy and returning it to me. Table 6 will become effective on the date that Bonneville receives such signed copy, together with the amount of the Trust Deposit (Effective Date).

Sincerely,

(b)(6)

ACTING Administrator

Effective Date: 12/20/78

ACCEPTED: 12/19/78

PACIFIC POWER & LIGHT COMPANY

(b)(6)

By

Title Vice President



Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

JAN 26 1979

In reply refer to: PCH

EXHIBIT B  
Table 7  
Contract No. 14-03-29224  
Effective at 2400 hours  
on the Effective Date

Mr. R. B. Lisbakken  
Vice President, Power Resources  
Pacific Power & Light Company  
920 S.W. Sixth Avenue  
Portland, Oregon 97204

Dear Mr. Lisbakken:

In recent correspondence between Bonneville and Pacific, it was agreed that it would be mutually beneficial to the parties for Bonneville to install a backup 50 ampere battery charger unit at the Malin substation.

Accordingly, Bonneville proposes that the work performed for Pacific at Malin substation be accomplished under Table 7 to Contract No. 14-03-29224 (Trust Agreement) subject to the following terms and conditions.

1. Amount of Trust Deposit. \$900

Estimated total cost of installation is \$3,600. In accordance with the provisions of Contract No. 14-03-59840 pertaining to the ownership of Malin substation facilities by Portland General, the U.S. Bureau of Reclamation, and the parties hereto, Pacific shall pay \$900 (25 percent of \$3,600) for the installation of the backup battery charger installed at Malin under Table 7.

2. Duties of Bonneville. Bonneville shall, partially at Pacific's expense, within eighteen months after the effective date of this table, design, provide the necessary labor and materials and install, test, and energize a 50 ampere battery charger.

3. Duties of Pacific. None.

Ltr. to R. B. Lisbakken, Pacific Power & Light Company, Subj: Exhibit B,  
Table 7, Contract No. 14-03-29224

4. Ownership of Facilities. Ownership of facilities shall be as  
specified in said Contract No. 14-03-59840.

If this Table 7 is acceptable to Pacific, please so indicate by signing  
one copy and returning it to Bonneville. Table 7 will become effective  
on the date that Bonneville receives such signed copy, together with the  
amount of the Trust Deposit (Effective Date).

Sincerely,

(b)(6)

Acting Administrator

Effective Date: 2/15/79

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

(b)(6)

By

Title Vice President





Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

JUN 27 1979

In reply refer to: PCI

Exhibit B  
Table 8  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective Date

Mr. R. B. Lisbakken  
Vice President, Power Resources  
Pacific Power & Light Company  
920 SW. Sixth Avenue  
Portland, Oregon 97204

Dear Mr. Lisbakken:

In recent discussions between Bonneville and Pacific, it was agreed that it would be mutually beneficial for the parties to install certain equipment at Malin substation for the use of Pacific to terminate the proposed Malin-Meridian 500 kV transmission line. The equipment will include a 500 kV power circuit breaker (PCB), a 500 kV reactor to be installed by Pacific in the substation yard, and the related monitoring and control apparatus to be installed by Bonneville in the joint-use control house.

Accordingly, I propose that the work performed by Bonneville for Pacific at Malin substation be accomplished under this Table 8 subject to the following terms and conditions:

1. Amount of Trust Deposit. \$107,200.
2. Duties of Bonneville. As soon as reasonably practicable, Bonneville, at Pacific's expense, shall design, furnish the necessary labor, equipment and material, and
  - (a) install required control cables from the joint-use control house to manhole MH-4D and connect to joint-use control house equipment;
  - (b) install additional cable ducts from manhole MH-1D to manhole MH-4D;
  - (c) assign operating numbers and install signs for the PCB and associated 500 kV disconnect switches;

Ltr to R. B. Lisbakken, Pacific Power & Light Company, Subj: Exhibit B, Table 8, Contract No. 14-03-29224

(d) install the PCB control panel and SCADA equipment in the joint-use control house;

(e) install the related SCADA equipment and data-base additions at Dittmer Control Center;

(f) install kW analog telemetering and kWh digital telemetering equipment at Dittmer Control Center;

(g) make final bus connections of the equipment installed by the parties to the existing 500 kV bus;

(h) make available kW analog telemetering and kWh digital telemetering equipment to be installed by Pacific in its control house No. 2; and

(i) jointly with Pacific, test and energize the equipment installed hereunder.

3. Duties of Pacific. As soon as reasonably practicable, Pacific shall, at its expense, design, furnish the necessary labor, equipment and material, and

(a) enlarge the Malin substation yard, remove and relocate the fence, install new ground mat and connect to the existing ground mat, and extend the existing access road;

(b) install the PCB and two 500 kV disconnect switches, 500 kV bus and bus pedestals, and the 500 kV reactor and circuit switcher to terminate the Malin-Meridian 500 kV transmission line;

(c) install yard lights and necessary station service supply;

(d) construct control house No. 2 and install relaying equipment and meters;

(e) construct a cable trench from control house No. 2 to manhole MH-4D;

(f) install the control cables, provided by Bonneville, from manhole MH-4D to control house No. 2 and from PCB No. 4591 to the joint-use control house;

(g) install kW analog telemetering, and kWh digital telemetering equipment at control house No. 2;

(h) jointly with Bonneville, test and energize the equipment installed hereunder; and

Ltr to R. B. Lisbakken, Pacific Power & Light Company, Subj: Exhibit B,  
Table 8, Contract No. 14-03-29224

(i) construct a maintenance building.

4. Ownership. Title to and ownership of the equipment and facilities installed under sections 2(e) and 2(f) shall be and remain in the Government. Title to and ownership of all other equipment and facilities installed hereunder shall be and remain in Pacific except parts of such equipment which cannot be removed without damage to Government property. Title to and ownership of such excepted parts shall remain with the Government.

5. Operation and Maintenance. The equipment owned by Pacific and installed under section 2(d) shall be operated and maintained by Bonneville as provided under Contract No. 14-03-62876 as amended.

If this Table 8 is acceptable to Pacific, please indicate your approval by signing and returning one copy. Table 8 will become effective on the date Bonneville (Attention: PCJ) receives a signed copy together with a check in the amount of the Trust Deposit (Effective Date).

Sincerely,

(b)(6)

Administrator

Effective Date:

July 26, 1979

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

(b)(6)

By

Title Vice President



Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

NOV 23 1979

In reply refer to: PCI

Exhibit B  
Table 9  
Contract No. 14-03-29224

Mr. R. B. Lisbakken  
Vice President, Power Resources  
Pacific Power & Light Company  
920 SW. Sixth Avenue  
Portland, Oregon 97204

Dear Mr. Lisbakken:

Representatives of Bonneville and Pacific Power & Light Company (Pacific) have agreed to the installation of solid state out-of-step relays on the AC-Intertie at Malin with the cost being shared among Bonneville, Pacific and Portland General Electric (Portland General).

Accordingly, Bonneville proposes the work be performed under the following terms and conditions:

1. Effective Date. This Table 9 shall take effect at 2400 hours on the date (Effective Date) that Bonneville has received all of the following:

(a) an originally signed copy of this agreement and a check in the amount of the Trust Deposit, and

(b) an originally signed Table 8 to Contract No. 14-03-29225 from Portland General and the attendant trust deposit.

2. Cost Sharing. The estimated cost of this work is \$21,900 which is to be shared as follows:

Bonneville	\$8,000
Pacific	\$9,900
Portland General	\$4,000

The costs of relocating the SLL relays to the Round Mountain No. 1 and No. 2 lines will be borne exclusively by Pacific and are included above.

3. Trust Deposit. The Trust Deposit shall be in the amount of \$9,900.

4. Duties of Bonneville. Bonneville, as soon as practicable after the Effective Date, shall (1) remove the existing HZM out-of-step relays, (2) procure and install SI-ARS fault detector relays for SLL supervision, (3) relocate the SLL relays to the Round Mountain No. 1 and No. 2 lines, (4) separate control of the SLL relays from relay set No. 1 and (5) perform together with Pacific all necessary tests. All costs are to be shared in accordance with Section 2 above.

5. Duties of Pacific. Pacific shall cooperate with Bonneville to test and energize the facilities installed under this table and make payments as required in Section 3.

6. Ownership and Operation and Maintenance of Facilities. Ownership of Facilities shall be as specified in Contract No. 14-03-59840, as amended. Operation and Maintenance shall be as specified in Contract No. 14-03-62876, as amended.

If this Table 9 is acceptable, please indicate Pacific approval by signing the copy provided and returning it to Bonneville.

Sincerely,

(b)(6)

ACTING Administrator

Effective Date:

January 14, 1980

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

(b)(6)

By

Title Vice President

*AKG*



Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

In reply refer to: PKJ

OCT 14 1982

Exhibit B, Table 10  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective Date

Mr. R. B. Lisbakken  
Vice President, Power Resources  
Pacific Power & Light Company  
920 SW. Sixth Avenue  
Portland, OR 97204

Dear Mr. Lisbakken:

In recent discussions between Bonneville and Pacific, it was agreed that it would be mutually beneficial for the parties to install certain equipment at Malin Substation for the use of Pacific to terminate the proposed Malin-Summer Lake 500-kV transmission line. The equipment will include two 500-kV power circuit breakers (PCB's), a four 500-kV reactor scheme to be installed by Pacific in the substation yard, and the related monitoring and control apparatus to be installed by Bonneville in the joint-use control house.

Accordingly, I propose that the work performed by Bonneville for Pacific at Malin Substation be accomplished under this Table 10 subject to the following terms and conditions:

1. Amount of Trust Deposit. \$140,000.
2. Duties of Bonneville. As soon as reasonably practicable, Bonneville, at Pacific's expense, shall design, furnish the necessary labor, equipment and materials related to the following, and
  - (a) install required control cables from the joint-use control house to control house No. 2 and connect to joint-use control house equipment;
  - (b) assign operating numbers and install signs for the PCB's and associated 500-kV disconnect switches;
  - (c) install the PCB control panels, instruments, and SCADA equipment in the joint-use control house;
  - (d) install two 500-kV low bus pedestals on foundations provided and installed by Pacific under section 3(a) of this table;

(e) make final bus connections of the equipment installed by the parties to the existing 500 kV bus;

(f) jointly with Pacific, test and energize the equipment installed hereunder.

3. Duties of Pacific. As soon as reasonably practicable, Pacific shall, at its expense, design, furnish the necessary labor, equipment and materials related to the following, and

(a) install two 500-kV low bus pedestal foundations;

(b) install two PCB's and associated 500-kV disconnect switches, 500-kV bus and bus pedestals, and the four 500-kV reactor scheme and circuit switcher to terminate the Malin-Summer Lake 500-kV transmission line;

(c) install relaying equipment and meters in control house No. 2;

(d) install the control cables, provided by Bonneville, from the PCB's installed under section 3(b) of this table to the joint-use control house;

(e) modify the existing Meridian 500-kV analog telemetering equipment (kW), and digital telemetering equipment (kWh) by reconnecting to the bus side PCB current transformers (CT's) on the existing Meridian PCB and the two PCB's installed under section 3(b) of this table to monitor the 500-kV bus interchange;

(f) jointly with Bonneville, test and energize the equipment installed hereunder.

4. Ownership. Title to and ownership of all equipment and facilities installed hereunder shall be and remain in Pacific except parts of such equipment which cannot be removed without damage to Government property. Title to and ownership of such excepted parts shall remain with the Government.

5. Operation and Maintenance. The equipment owned by Pacific and installed under section 2(c) of this table shall be operated and maintained by Bonneville as provided under Contract No. 14-03-62876 as amended.

6. Accounting. Bonneville, upon completion of the work described under section 2 of this Table 10, shall submit to Pacific a full accounting of all charges and expenses for which advance payments have been made and refund or invoice Pacific, whichever is necessary to balance the trust account.

If this Table 10 is acceptable to Pacific, please indicate your approval by signing and returning one copy. Table 10 will become effective on the date Bonneville receives a signed copy together with a check in the amount of the Trust Deposit (Effective Date).

(b)(6)

~~ACTING~~ Administrator

Effective Date: OCT 28 1982

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

(b)(6)

By

Title Vice President







Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

OCT 2 1984

In reply refer to: PKT

Exhibit B, Table 11  
Contract No. 14-03-29224  
Effective at 2400 hours  
on the Effective Date

Mr. Rodney Boucher  
Director of Power Resources  
Pacific Power & Light Company  
920 S.W. Sixth Avenue  
Portland, OR 97204

Dear Mr. Boucher:

Representatives of the Bonneville Power Administration (Bonneville), Pacific Power & Light Company (Pacific), and Portland General Electric Company (Portland General) have agreed that it would be to their mutual benefit if Bonneville made certain needed repairs and improvements to the Malin Substation access road, with the cost being shared among the principals.

Accordingly, I propose that Bonneville make these repairs and improvements pursuant to section 4(a)(4) of the Companies' O&M Trust Agreements for Malin Substation and under the following terms and conditions:

1. Effective Date. This Table 11 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received all of the following:

a. An originally signed copy of this Table 11 and a check in the amount of the Trust Deposit, and

b. an originally signed Table 9 of Exhibit B to Contract No. 14-03-29225 from Portland General and the attendant trust deposit.

2. Cost Sharing. The estimated total cost of the repairs and improvements, as described in section 4 below, is \$125,000. This amount is to be shared by the parties in proportion to their percentage ownerships of Malin Substation as follows:

Bonneville	\$52,800	(42.2%)
Portland General	\$20,600	(16.5%)
Pacific	\$51,600	(41.3%)

Final sharing will be based on actual costs.

3. Trust Deposit. The Trust Deposit shall be in the amount of \$51,600.

4. Duties of Bonneville. As soon as reasonably practicable after the Effective Date, Bonneville shall design, provide all necessary labor and materials, and construct new shoulders to and a new drainage system for the Malin access road. In addition, Bonneville shall repair all existing potholes in that road. All costs are to be shared in accordance with section 2.

5. Duties of Pacific. Pacific shall cooperate with Bonneville as necessary to make the improvements specified in this table and shall make payment as required in section 3.

6. Ownership. Ownership of the Malin Substation access road is as stated in section 5(c) of Contract No. 14-03-59840 and as indicated by the percentages listed in section 2 above.

7. Operation and Maintenance. Bonneville maintains the Malin Substation access road as provided under the BPA-Pacific O&M Trust Agreement (Contract No. 14-03-62876).

If this Table 11 is acceptable to Pacific, please indicate your approval by signing and returning one copy. The remaining copy is for your files.

Sincerely

(b)(6)

ACTING Administrator

Effective Date JAN 9 1985

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

(b)(6)

Title: Vice President

Date: November 5, 1984

ATTEST:

(b)(6)

By:

Title: Corporate Secretary

Date: November 5, 1984

(WP-PKT-0333e)



Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

In reply refer to: OWCA

MAR 14 1986

Exhibit B, Table 12  
Contract No. 14-03-29224  
Effective at 2400 hours  
on the Effective Date

Mr. Rodney M. Boucher  
Vice President of Power Systems  
Pacific Power & Light Company  
920 S. W. Sixth Avenue  
Portland, OR 97204

Dear Mr. Boucher:

Representatives of the Bonneville Power Administration (Bonneville), Pacific Power & Light Company (Pacific), and Portland General Electric Company (Portland General) have agreed that it would be to their mutual benefit if Bonneville made certain improvements to the stability controls for the AC Intertie at Malin Substation, with the cost being shared among the principals. These improvements are a critical step in establishing an appropriate level of reliability on the Intertie.

Accordingly, I propose that Bonneville make these improvements pursuant to the Construction Trust Agreement, Contract No. 14-03-29224, for Malin Substation and under the following terms and conditions:

1. Effective Date. This Table 12 shall be effective as of 2400 hours of the date (Effective Date) that Bonneville has received all of the following:
  - a. An originally signed copy of this Table 12 and a check in the amount of the Trust Deposit, and
  - b. an originally signed Table 10 of Exhibit B to Contract No. 14-03-29225 from Portland General and the attendant trust deposit.
2. Cost Sharing. The estimated total cost of the improvements, as described in section 4 below, is \$117,000. This amount is to be shared by the parties in proportion to their percentage ownerships of Malin Substation as follows:

Bonneville	\$58,500	(50%)
Portland General	\$29,250	(25%)
Pacific	\$29,250	(25%)

Final sharing will be based on actual costs.

3. Trust Deposit. The Trust Deposit shall be in the amount of \$29,250.
4. Duties of Bonneville. As soon as reasonably practicable after the Effective Date, Bonneville shall design, provide all necessary labor and materials to:
  - a. reconfigure the out-of-step lockout relays; and
  - b. add a redundant single-line-loss generator dropping circuit.
5. Duties of Pacific. Pacific shall cooperate with Bonneville as necessary to make the improvements specified in this table and shall make payment as required in section 3.
6. Ownership. Ownership of the equipment installed hereunder is as specified in Contract No. 14-03-59840.
7. Operation and Maintenance. Bonneville shall maintain the equipment installed hereunder as provided under the O&M Trust Agreement (Contract No. 14-03-62876).

If this Table 12 is acceptable to Pacific, please indicate your approval by signing and returning one copy with a check in the amount of the Trust Deposit. The remaining copy is for your files.

(b)(6)

Administrator

Effective Date

MAR 14 1986

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

(b)(6)

By:

Title: Rodney M. Boucher  
Vice President

Date:

March 17, 1986



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208 - 3621

OFFICE OF THE ADMINISTRATOR

JUN 8 1986

In reply refer to: PKT

Exhibit B  
Table 13, Page 1 of 3  
Contract No. 14-03-29224  
Effective: See "Term" below  
4/30/86

Mr. Rodney M. Boucher, Vice President  
Pacific Power & Light Company  
920 SW Sixth Avenue  
Portland, OR 97204

Dear Mr. Boucher:

To improve post analysis of disturbances on the Pacific Northwest-Pacific Southwest AC Intertie and to increase Intertie reliability, among other reasons, the four Intertie parties (Parties): Bonneville Power Administration (Bonneville), Portland General Electric Company (Portland General), Pacific Power & Light Company (Pacific), and Western Area Power Administration (WAPA) agree that Bonneville shall replace the existing antiquated Malin Substation (Malin) Data System (SUDS) with a modern Sequential Events Recorder (SER). The Parties further agree that they shall reimburse Bonneville in accordance with section 3 below.

I propose that the Malin Construction Trust Agreement, Contract No. 14-03-29224 (Primary Agreement) and the terms and conditions outlined below shall govern the replacement.

1. Term. This Table 13 shall be effective as of 2400 hours on the date Bonneville has received all the following:

(a) An original signed copy of this Table 13 and a check from Pacific in the amount of the Trust Deposit; and

(b) An original signed copy of Table 11 of Exhibit B to Contract No. 14-03-29225 from Portland General with a trust deposit in the amount stipulated as Portland General's share under section 3 below.

2. Trust Deposit. The Trust Deposit shall be in the amount of \$67,500.

3. Cost Sharing. The estimated total cost of replacing the SUDS recording system at Malin with a SER system, as described in section 4 below, is \$270,000. This estimated amount is to be shared by the Parties in proportion to their percentage ownerships of the Malin jointly owned property. Subsection 5(a) of the Malin Construction and Operation Agreement (Contract No. 14-03-59840) defines these percentages and stipulates their applicability to Malin control house equipment as follows:

<u>Party</u>	<u>Joint Ownership Percentage (%)</u>	<u>Estimated Share of SUDS-to-SER Replacement (\$)</u>
Bonneville	50.0	135,000
Portland General	25.0	67,500
WAPA 1/ Pacific	0.0 <u>25.0</u>	 <u>67,500</u>
Total	100.0	\$270,000

Final sharing will be based on actual costs.

4. Duties of Bonneville. Bonneville shall design, provide all necessary labor and materials, and within 8 months after the effective date of this table replace the SUDS event/alarm disturbance recording system at Malin with a tested, energized, and operating SER event recording system. All costs are to be shared in accordance with section 3 above.

1/ Pursuant to subsection 5(a) of Contract No. 14-03-59840, WAPA has no responsibility for Malin control house equipment. WAPA's share will be assumed by Bonneville acting for the Government. (WAPA's letter of March 6, 1985 from David G. Coleman, Area Manager, to Bonneville's Snake River Area Customer Service Manager, Steven A. Lee).

5. Duties of Pacific. Pacific shall cooperate with Bonneville as necessary for Bonneville to make the SUDS-to-SER replacement specified in section 4 above. Pacific shall make payment as required in section 3 and section 1 above.

6. Ownership. Ownership of the Malin SER event recording system installed hereunder shall be in accordance with subsection 5(a) of Contract No. 14-03-59840 and section 3 above.

7. Operation and Maintenance. Bonneville will O&M the replacement SER event recording system pursuant to subsections 4(a)(2) and 4(b) of the Malin O&M Trust Agreement (Contract No. 14-03-62876). Pacific shall reimburse Bonneville to the extent of Pacific's joint ownership percentage share (25 percent) indicated in section 3 above and subsection 3(c) of the Malin O&M Trust Agreement.

If this Table 13 is acceptable to Pacific, please indicate your approval by signing and returning one copy to Bonneville with a check in the amount of the Trust Deposit. The remaining copy is for your files.

Sincerely,

(b)(6)

Administrator

Effective Date

3/16/87

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

By (b)(6)

Rodney M. Boacher  
Title Vice President

(b)(6)

Date October 30, 1986

(WP-PKT-0659e)

DATE : November 4, 1986

In reply  
refer to : OWCA

(b)(6)

UNITED STATES GOVERNMENT

**Memorandum**TO : Thomas H. Blankenship, Chief  
Transmission and Service Programming Branch - PKTFROM : Allen J. Aplant (b)(6)  
Electrical Engineer - OWCASUBJECT : Pacific Power & Light Company - Table 13 of Exhibit B to Malin Trust  
Agreement, Contract No. 14-03-29224

Transmitted herewith is an original of Table 13 executed by Pacific. This Table provides for replacement of the Malin Substation--Substation Data System (SUDS) with a Sequential Events Recorder (SER).

The effective date of the Table will need to be filled in when we have a signed table from Portland General Electric Company.

Pacific's Trust Deposit check for \$67,500 has been forwarded to Financial Management.

**Attachment**

AAplant:ts (WP-OWCA-1993C-#8)

cc: (w/copy of PP&amp;L letter)

D. Raikoglo - EBB

D. Johnson/R. Hanford - EBBB

C. Perigo - EK

L. Salvisburg - EKSE

M. Brown - EN

L. Hill - ENR

L. Morales - EOFA

D. Loraas/B. Jenkins - PKTD

Official File - OW (POM 4)



**PACIFIC POWER & LIGHT COMPANY**

920 S.W. SIXTH AVENUE • PORTLAND, OREGON 97204 • (503) 243-1122

October 30, 1986

Steven A. Lee, Assistant Power  
Manager, Customer Service  
Bonneville Power Administration  
Snake River Area Office  
101 W. Poplar  
Walla Walla, Washington 99362

Dear Steve:

Enclosed is a fully executed original of Exhibit B, Table 13 to Contract No. 14-03-29224 (Malin Construction Trust Agreement), forwarded to Pacific for signature with your letter of June 19, 1986. Also enclosed is Pacific's check in the amount of \$67,500, the Trust Deposit amount designated in Table 13 for Pacific's share of replacement of the Substation Data System (SUDS) with a Sequential Events Recorder (SER).

While Pacific is providing the requested Trust Deposit with the signed Table in this instance, we emphasize that adequate lead time needs to be provided for Pacific's budgeting process. Annual budgets are prepared initially in May and finalized by October for the following year's expenditures. Although Pacific approved the SUDS to SER concept and requested a cost estimate in January, 1985, it was October 23, 1985, before BPA provided an estimate and draft trust agreement for this work.

Similar situations exist for the installations covered by Tables 14 through 17, 19 and 20, recently forwarded for Pacific's review. As discussed among representatives of the companies and Bonneville on August 19, 1986, several of the trust deposit requirements will be revised to coincide with Bonneville's financing needs at the time the work is to be completed. For these and all future trust deposits, please provide current cost estimates not later than May 1 of the year preceding the actual funding requirements.

Sincerely,

(b)(6)

Jerry D. Miller  
Supervisor Power Resources Contracts

JDM:rs

Enclosure

TELECOPIER 243-4774 • TWX 910-464-1594



**Department of Energy**  
Bonneville Power Administration  
Public Involvement  
P.O. Box 12999  
Portland, Oregon 97212-0999

In reply refer to: PKT

October 26, 1987

Exhibit B  
Table 14 - Page 1 of 3  
Contract No. 14-03-29224  
Effective at 2400 hours  
on the Effective Date

Mr. Rodney M. Boucher, Vice President  
Pacific Power & Light  
920 SW Sixth Avenue  
Portland, OR 97204

Dear Mr. Boucher:

In recent discussions and correspondence between representatives of the Bonneville Power Administration (Bonneville), Pacific Power and Light Company (Pacific), and Portland General Electric Company (Portland General), it was agreed that it would be mutually beneficial for Bonneville to replace the outdated battery chargers, oscillographs, and revenue meters at the jointly-owned Malin Substation (Malin) with less maintenance intensive, more reliable, modern equipment. Energization is planned for February 1988.

Accordingly, I propose that the work performed by Bonneville for Pacific hereunder at Malin be accomplished pursuant to Contract No. 14-03-29224 (Pacific's Malin Construction Trust Agreement), except as provided otherwise herein, and the terms and conditions outlined below:

1. Effective Date. This Table 14 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received an original signed copy of this Table 14 and a check from Pacific in the amount of the Trust Deposit.
2. Cost Sharing. The estimated total cost of replacing the battery chargers, oscillographs and revenue meters at Malin, as described in section 4 below, is \$190,000. The total estimated costs are comprised as follows:
  - a. battery charger replacement is \$17,000;



*Celebrating the U.S. Constitution Bicentennial -- 1787-1987*

- b. oscillograph replacement is \$137,000; and
- c. revenue meter replacement is \$36,000.

Pacific's 25 percent share of the estimated total cost is pursuant to Contract No. DE-MS79-86BP92299 (Intertie Agreement). Pacific's estimated share is \$47,500. Final sharing shall be based on actual costs.

3. Trust Deposit. The Trust Deposit shall be in the amount of \$47,500.

4. Duties of Bonneville. As soon as reasonably practicable after the Effective Date of this Table, Bonneville shall design, provide all necessary labor and materials, and replace the battery chargers, oscillographs, and revenue meters at Malin as follows:

- a. Battery Chargers. Replace the two existing 50A, 125V DC chargers with two 75A, 125V DC chargers to obtain parallel charger capabilities and thereby enhance the reliability;
- b. Oscillographs. Replace the two existing 12-channel light sensitive paper film oscillographs with one 32-channel digital oscillograph to eliminate the need to develop the paper film and to obtain prefault and remote readout capabilities; and
- c. Revenue Meters. Replace existing electro-mechanical Sangamo P30F kWh and kVARh (in and out) revenue meters with solid state meters which are more accurate and require less maintenance on the following:
  - (1) Portland General's Grizzly-Malin 500 kV line No. 2;
  - (2) The Government's Malin-Round Mountain 500 kV line No. 1;
  - (3) Pacific's 500/230 kV transformer bank; and
  - (4) Pacific's/Pacific Gas & Electric Company's Malin Round-Mountain 500 kV line No. 2.

All costs are to be shared in accordance with section 2 above.

Exhibit B  
Table 14 - Page 3 of 3  
Contract No. 14-03-29224  
Effective at 2400 hours  
on the Effective Date

5. Duties of Pacific. Pacific shall cooperate with Bonneville as necessary for Bonneville to make the equipment replacements specified in section 4 above. Pacific shall make payment as required in sections 1 and 3 above.

6. Ownership. Notwithstanding section 8 of Contract No. 14-03-29224, Pacific's ownership of the Malin battery chargers, oscillograph, and revenue meters installed hereunder shall be in accordance with the Intertie Agreement.

7. Operation and Maintenance. Bonneville shall operate and maintain the replacement units installed hereunder, as provided for under the O&M Trust Agreement (Contract No. 14-03-62876).

8. Accounting. If the parties agree that it is necessary for Pacific to participate in the test and energization of the revenue meters replaced by Bonneville under this Table, Pacific's appropriate costs incurred shall be proper charges against this trust. Pacific shall submit to Bonneville a detailed invoice of its costs incurred and Bonneville shall give Pacific appropriate credit against this trust.

If this Table 14 is acceptable to Pacific, please indicate your approval by signing and returning both copies with a check in the amount of the Trust Deposit. Bonneville will transmit a fully executed copy for your records.

Sincerely,

(b)(6)

ACTING Administrator

MAR 25 1988

Effective Date \_\_\_\_\_

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

By (b)(6)

Rodney M. Boucher  
Title Vice President

Date February 1, 1988

(WP-PKT-0881e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: PKT

October 26, 1987

Exhibit B  
Table 15 - Page 1 of 3  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective date

Mr. Rodney Boucher  
Vice President  
Pacific Power & Light Company  
920 SW. Sixth Avenue  
Portland, OR 97204

Dear Mr. Boucher:

In recent discussions and correspondence between representatives of the Bonneville Power Administration (Bonneville), Portland General Electric Company and Pacific Power & Light Company (Pacific), it was agreed that it would be mutually beneficial if Bonneville made certain significant changes and additions at the jointly-owned Malin Substation (Malin) to upgrade the AC Intertie Stability Control System. Cost for changes under this Part 3, Phase I of the Stability Control Upgrade Project shall be shared among the parties. Energization is planned for January 1988.

Accordingly, I proposed that these changes and additions to the Intertie stability controls at Malin be made by Bonneville for Pacific pursuant to Contract No. 14-03-29224 (Pacific's Malin Construction Trust Agreement), except as provided otherwise herein, and the terms and conditions outlined below.

1. Effective Date. This Table 15 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received an original signed copy of this Table 15 and a check from Pacific in the amount of the Trust Deposit.
2. Cost Sharing. The estimated total cost for changes and additions in Part 3, Phase I as described in section 4 below is \$303,000. Pacific's 25 percent share of the estimated total cost of these additions and



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replacements is pursuant to Contract No. DE-MS79-86BP92299 (Intertie Agreement). Pacific's estimated share is \$75,750. Final sharing shall be based on actual costs.

3. Trust Deposit. The Trust Deposit shall be in the amount of \$75,750.

4. Duties of Bonneville. As soon as reasonably practicable after the Effective Date of this Table, Bonneville shall design, provide all necessary labor and materials, and:

- a. add a power rate relay at Malin;
- b. revise the Malin-Grizzly "Intertie Trouble" transfer trip signal; and
- c. replace obsolete microwave transfer trip equipment associated with the existing remedial action scheme at Malin.

All costs are to be shared in accordance with section 2 above.

5. Duties of Pacific. Pacific shall cooperate with Bonneville as necessary for Bonneville to make the changes and additions specified in section 4 above. Pacific shall make payment as required in sections 1 and 3 above.

6. Ownership. Notwithstanding section 8 of Contract No. 14-03-29224, Pacific's ownership of the equipment installed hereunder shall be in accordance with the Intertie Agreement.

7. Operation and Maintenance. Bonneville shall operate and maintain the equipment installed hereunder, as provided for under the O&M Trust Agreement (Contract No. 14-03-62876).

8. Microwave Facilities. All microwave facilities at Malin are solely owned by the Government and operated and maintained by Bonneville at Government expense. Accordingly, the Government shall own and Bonneville shall make all additions, modifications, and replacements to microwave facilities for the AC Intertie Stability Control Upgrade, and shall operate and maintain these facilities at Government expense.

Exhibit B  
Table 15 - Page 3 of 3  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective date

If this Table 15 is acceptable to Pacific, please indicate your approval by signing and returning both copies with a check in the amount of the Trust Deposit. Bonneville will transmit a fully executed copy for your records.

Sincerely,

(b)(6)

ACTING Administrator

MAR 25 1988

Effective Date \_\_\_\_\_

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

By: (b)(6)

Rodney M. Boucher

Title: Vice President

Date: February 1, 1988

(WP-PKT-0882e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

In reply refer to:  
PMT

March 17, 1987

Exhibit B  
Table 16 - Page 1 of 6  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective Date

Mr. Rodney M. Boucher  
Vice President  
Pacific Power & Light Company  
920 SW. Sixth Avenue  
Portland, OR 97204

Dear Mr. Boucher:

In recent discussions and correspondence between representatives of the Bonneville Power Administration (Bonneville), Pacific Power & Light Company (Pacific), and Portland General Electric Company (Portland General), it was agreed that it would be mutually beneficial to upgrade jointly-owned AC Intertie Malin Substation (Malin) by, among other things, (1) adding two 500 kV power circuit breakers (Breakers) with their motor-operated disconnect switches (MOD's) and current transformers (CTs), four sets of 500 kV capacitor potential transformers (CPTs), and four 500 kV surge arresters; and (2) replacing two Breakers, their MODs and CTs, and one set of transformer bank surge arresters and isolating disconnect switches (MOD's). Bonneville would procure and install all project equipment and facilities, and would do all work associated with the project.

Project cost and ownership would be shared by Bonneville, Pacific, and Portland General. Participation, cost sharing, and ownership by Pacific in the above item (1) additions was agreed upon in the Intertie Agreement (Contract No. DE-MS79-86BP92299) executed July 8, 1986. Participation, cost sharing, and ownership by Pacific in the above item (2) replacements will also be in the manner specified in the Intertie Agreement.



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The addition and replacement of the Breakers is required to improve AC Intertie reliability. Addition of the first Breaker will allow relocation of the Malin-Round Mountain 500 kV line No. 1 (Line No. 1) from the 500 kV north main bus (North Main Bus). Addition of the second Breaker will allow relocation of the Malin-Round Mountain 500 kV line No. 2 (Line No. 2) from the 500 kV south main bus (South Main Bus), and will isolate Pacific's Malin 500/230 kV transformer on the South Main Bus from Line No. 2. This will result in each line being terminated in its own bay position in a standard breaker-and-one-half configuration which is a more reliable switching arrangement. It will also enable single-pole relaying on the Malin-Round Mountain lines.

Replacing the middle breaker in Bay 2 is required for maintenance reasons and to provide adequate capacity for the breaker-and-one-half switching arrangement. Replacing the middle breaker in Bay 4 is only required to provide adequate capacity for the breaker-and-one-half switching arrangement. Energization of all additions and replacements hereunder is planned for December 1988.

I therefore propose that Bonneville make the above-mentioned Breaker, MOD, CT, CPT, and surge arrester additions and replacements at Malin under Pacific's Malin Construction Trust Agreement (Contract No. 14-03-29224), except as otherwise provided herein, and the terms and conditions outlined below. (Bonneville is currently executing a corresponding Table 14 with Portland General.)

1. Effective Date. This Table 16 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received an original signed copy of this Table 16 and a check from Pacific in the amount of the Trust Deposit specified in subsection 3(a) below.
2. Cost Sharing. The estimated total cost for Bonneville to make the additions, replacements, reconnections, reconfigurations, and perform the other duties described in section 4 is \$6,076,000. Of this total, \$4,704,000 are joint costs shared by the owners. Pacific's share of the estimated total project cost is \$1,248,000 which consists of the following:

- Pacific's share of the joint cost	\$1,176,000
- Cost for which Pacific has sole responsibility	\$ 72,000
Pacific's total share	\$1,248,000

These costs are shown in Figure 1 and Figure 2 of Exhibit B. Pursuant to Exhibit A of the Intertie Agreement and as provided herein, Pacific's responsibility for sharing the joint cost of additions and replacements under this Table 16 shall be 25 percent. Final cost will be based on actual costs.

3. Trust Deposit. Pacific hereby agrees to pay \$1,248,000 to Bonneville to be held in trust to defray its share of the total project cost (see column (3) of Figure 2.) This amount is also Pacific's share of the estimated cost for Bonneville to perform the duties specified in section 4. Pacific shall pay the Trust Deposit as follows:

- (a) \$200,000 on the date of execution;
  - (b) \$300,000 within 4 months after the date of execution; and
  - (c) \$748,000 within 9 months after the date of execution.
4. Duties of Bonneville. Bonneville shall design, furnish, and provide all necessary labor and materials, and within 12 months after the Effective Date of this Table shall:
- (a) At the Government's sole expense:
    - (1) submit necessary project design drawings to Pacific for review, comment, and approval within a reasonable time after completing the project designs;
    - (2) replace the middle 500 kV Breaker and its MODs and CTs in Bay 2 with a new 4000 ampere Breaker, MODs, and 3000/5 ampere rated new CTs;
    - (3) replace the Grizzly 500 kV No. 1 Line Breaker CTs in Bay 2 with 3000/5 ampere rated new CTs; and
    - (4) add new 500 kV line surge arresters on the Grizzly 500 kV No. 1 line and the Round Mountain 500 kV No. 1 line in Bay 2;
  - (b) At Pacific's sole expense add new 500 kV line surge arresters on the Round Mountain 500 kV No. 2 line in Bay 4.
  - (c) At joint expense: (Reference Figure 1 of Exhibit B)
    - (1) add a new 500 kV, 3000 ampere Breaker with MOD's and 3000/5 ampere rated CTs in Bay 2 as the Round Mountain 500 kV No. 1 Line Breaker, MODs and CTs;
    - (2) add a set of new 500 kV CPTs on both sides of the Round Mountain 500 kV No. 1 line series capacitors in Bay 2;
    - (3) add a set of new 500 kV CPTs on the line side of the Round Mountain 500 kV No. 2 line series capacitors in Bay 4;
    - (4) add a new 500 kV, 3000 ampere Breaker with MODs and 3000/5 ampere rated CTs in Bay 4 as the Round Mountain 500 kV No. 2 Line Breaker, MODs and CTs;
    - (5) add a set of new 500 kV CPTs as the 500 kV South Main Bus CPTs;
    - (6) reconnect the set of existing CPTs in Bay 3 as the 500 kV North Main Bus CPTs;

- (7) replace the middle 500 kV Breaker, its MODs, and CTs in Bay 4 with a new 4000 ampere Breaker with MODs, and 3000/5 ampere rated new CTs;
- (8) install and reconfigure the 500 kV South Main Bus between Bays 2 and 4;
- (9) reconnect Pacific's 500 kV South Main Bus 500/230 kV transformer in Bay 1 to include replacement of its 500 kV isolating disconnect switch (MOD), and opening surge resistors, removal of its 500 kV circuit switcher, and replacement of its 500 kV surge arresters; (See Figure 1 for Cost Sharing)
- (10) install all joint-use control house wiring, cable, conduit, and grounding associated with equipment and facilities that are part of this Breaker project;
- (11) add a 500 kV, 3,000 ampere motor-operated disconnect switch (MOD) in Bay 6 to be the Meridian Line South Main Bus Switch;
- (12) reterminate Line No. 1 from Bay 3 to Bay 2; and
- (13) with Pacific or Portland General, as appropriate, joint test and energize their solely owned facilities added, replaced, or reconnected hereunder.

All joint costs are to be shared in accordance with section 2 above.

- 5. Duties of Pacific. Pacific shall cooperate with Bonneville as necessary for Bonneville to complete the additions, replacements, reconnections, tests, energizations, and other duties specified in section 4 above. Pacific shall review the project design drawings, furnished by Bonneville under subsection 4(a)(1), and within 15 days after receipt thereof provide Bonneville with comments on and approval of such designs. Pacific shall make payment as required in sections 2 and 3 above.
- 6. Ownership. Notwithstanding the provisions of section 5 of Contract No. 14-03-59840 regarding facilities and site improvements installed on or above the land areas of each party, ownership of facilities installed under section 4 of this Table shall be as depicted in Figure 3. As between Pacific and Bonneville, Pacific's joint ownership of 25% is established in the Intertie Agreement (Contract No. DE-MS79-86BP92299).
- 7. Land Rights. Bonneville is agreeable to Pacific's continued ownership of the Malin land in Bay 2 on which some of the Breaker additions and replacements hereunder will be located. However, Bonneville shall have a right, without charge, to construct, inspect, operate, and maintain the Breaker additions and replacements on

Pacific's Malin Substation real property. The specific location of such property shall be mutually determined by the parties hereto. Once the Breaker additions are constructed, they shall not be thereafter moved, nor shall either party take any action such as to interfere with their proper operation, without the consent of the other party. Such right shall, (1) continue for as long as the Malin Substation is used for the purposes described in sections 6 and 7 of Contract No. 14-03-59840; (2) inure to the benefit of, and be binding upon, the respective successors and assigns of the parties hereto; and (3) may be assigned only in compliance with section 11 of Contract No. DE-MS79-86BP92299.

8. Operation and Maintenance. Bonneville will operate and maintain all the facilities installed under this Table as provided for in sections 3 and 4 of the Malin O&M Trust Agreement (Contract No. 14-03-62876), except: The provisions of subsection 3(b) of Contract No. 14-03-62876 notwithstanding, Pacific shall reimburse Bonneville for 25 percent of Bonneville's actual cost of operating/inspecting the jointly owned facilities installed under this Table, and 100 percent of the actual cost of operating/inspecting Pacific's solely owned facilities installed under this Table.
9. Progress Reports and Final Drawings.
  - (a) Bonneville shall provide Pacific with a monthly progress report as appropriate to note significant milestones, delays, and final completion of its respective portion of this Breaker Additions and Replacements Project. These reports shall commence from the Effective Date and terminate when the Breaker Additions and Replacements Project is completed.
  - (b) On completion of the work specified herein, Bonneville shall furnish Pacific accurate physical layout drawings and schematic wiring diagrams of the equipment and facilities installed or modified under its respective portion of the Breaker Additions and Replacements Project.
10. Transformer Bank Isolating Device. In the event the parties mutually determine that it is necessary to have an improved switching device, other than the resistor isolating disconnect switch installed pursuant to subsection 4(c)(9), for isolating Pacific's 500/230 kV transformer bank, the parties agree to provide such a device based on joint Bonneville-Pacific cost sharing of Bonneville (75%) and Pacific (25%). The parties shall make the said mutual determination based on commonly accepted utility engineering and operating standards and practices.

If this Table 16 is acceptable to Pacific, please indicate your approval by signing and returning two original copies to Bonneville with a check in the amount of the Trust Deposit as specified in subsection 3(a). Bonneville will transmit a fully executed original copy for your records.

(b)(6)

Administrator

Effective Date April 8, 1988

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

By (b)(6)

Title Vice President

Date April 6, 1988

(VS6-PMTT-3002e)

COST SHARING FOR PROJECT FACILITIES

Equipment/Facility	Percentage of Cost Borne (%)			Estimated Cost Borne (\$)		
	Bonneville (2)	Pacific (3)	Portland General (4)	Bonneville (5)	Pacific (6)	Portland General (7)
						Total (8)
(1) -----						
Bay 2 Round Mountain 500 kV No. 1 Line Breaker, MOD, and CT Addition	50	25	25	515,000	257,500	257,500
Bay 4 Round Mountain 500 kV No. 2 Line Breaker, MOD, and CT Addition	50	25	25	443,500	221,750	221,750
Grizzly 500 kV No. 1 Line Breaker CT Replacement	100	--	--	142,000	--	--
Bay 2 500 kV Middle Breaker, MOD, and CT Replacement	100	--	--	884,000	--	--
Bay 4 500 kV Middle Breaker, MOD, and CT Replacement	75	25	--	663,000	221,000	--
<u>Group No. 1</u>	50	25	25	690,000	345,000	345,000
500 kV Round Mountain Lines CPT Additions (3 sets)						
South Main Bus CPT Addition (1 set)						
North Main Bus CPT Reconnection (1 set)						
						1,380,000

Figure 1

Exhibit B, Table 16  
Figure 1 - Page 2 of 6  
Contract No. 14-03-29224  
Pacific Power & Light Company  
Effective at 2400 hours on  
the Effective Date

Equipment/Facility (1)	Percentage of Cost Borne (%)			Estimated Cost Borne (\$)			
	Bonneville (2)	Pacific (3)	Portland General (4)	Bonneville (5)	Pacific (6)	Portland General (7)	Total (8)
Retermination of Round Mountain 500 kV No. 1 Line from Bay 3 to Bay 2							
Control House Indoor Wiring, Cable, Conduit, and Grounding Installation	100	---	---	170,000	---	---	170,000
Group No. 2							
Grizzly 500 kV No. 1 Line Surge Arresters Additions							
Round Mountain 500 kV No. 1 Line Surge Arresters Addition							
Grizzly 500 kV No. 2 Line Surge Arresters Addition	---	---	100	---	---	104,000	104,000
Round Mountain 500 kV No. 2 Line Surge Arresters Addition	---	100	---	---	72,000	---	72,000
South Main Bus 500/230 kV Transformer Reconnection Including: - Replacement of 500 kV isolating disconnection switch and addition of opening surge resistors	75	25	---	211,500	70,500	---	282,000

Figure 1

Exhibit B, Table 16  
Figure 1 - Page 3 of 6  
Contract No. 14-03-29224  
Pacific Power & Light Company  
Effective at 2400 hours on  
the Effective Date

Equipment/Facility (1)	Percentage of Cost Borne (%)			Estimated Cost Borne (\$)			
	Bonneville (2)	Pacific (3)	Portland General (4)	Bonneville (5)	Pacific (6)	Portland General (7)	Total (8)
- Removal of 500 kV circuit switcher							
- Replacement of 500 kV bank surge arresters							
South Main Bus Reconfiguration Between Bays 2 and 4	50	25	25	70,000	35,000	35,000	140,000
Bay 6 Meridian Line 500 kV South Main Bus Switch (MOD) Addition	50	25	25	50,500	25,250	25,250	101,000
Total Project				3,839,500	1,248,000	988,500	6,076,000
Solely Expensed Cost				1,196,000	72,000	104,000	1,372,000
Jointly Expensed Cost				2,643,500	1,176,000	884,500	4,704,000

Figure 1



Exhibit B, Table 16  
Figure 2 - Page 4 of 6  
Contract No. 14-03-29224  
Pacific Power & Light Company  
Effective at 2400 hours on  
the Effective Date

PARTICIPATION IN ESTIMATED PROJECT COST

	Share of Estimated Project Cost (\$)		
	<u>Estimated Solely Expensed Cost</u> (1)	<u>Estimated Jointly Expensed Cost</u> (2)	<u>Estimated Project Cost</u> (3)
Bonneville	1,196,000	2,643,500	3,839,500
Pacific	72,000	1,176,000	1,248,000
Portland General	<u>104,000</u>	<u>884,500</u>	<u>988,500</u>
Total Project	1,372,000	4,704,000	6,076,000

- 1/ Unless otherwise indicated, jointly expensed normally means Bonneville (50 percent), Pacific (25 percent), and Portland General (25 percent).  
2/ Contains some joint costs with Bonneville (75 percent) and Pacific (25 percent).

(VS6-PMTT-3002e)

Figure 2

Exhibit B, Table 16  
Figure 3 - Page 5 of 6  
Contract No. 14-03-29224  
Pacific Power & Light Company  
Effective at 2400 hours on  
the Effective Date

OWNERSHIP OF FACILITIES AND EQUIPMENT  
INSTALLED AT MALIN SUBSTATION UNDER SECTION 4

Equipment/Facility (1)	Percentage Ownership (%)		
	Bonneville (2)	Pacific (3)	Portland General (4)
Bay 2 Round Mountain 500 kV No. 1 Line Breaker, MOD, and CT Addition	50	25	25
Bay 4 Round Mountain 500 kV No. 2 Line Breaker, MOD, and CT Addition	50	25	25
Grizzly 500 kV No. 1 Line Breaker CT Replacement	100	--	--
Bay 2 500 kV Middle Breaker, MOD, and CT Replacement	100	--	--
Bay 4 500 kV Middle Breaker, MOD, and CT Replacement	75	25	--
500 kV Round Mountain No. 1 Line CPT Additions (2 sets) 1/	100	--	--
500 kV Round Mountain No. 2 Line CPT Addition (1 set)	--	100	--
North Main Bus CPT Reconnection (1 set)	100	--	--
South Main Bus CPT Addition (1 set)	50	25	25
Grizzly 500 kV No. 1 Line Surge Arresters Addition	100	--	--
Grizzly 500 kV No. 2 Line Surge Arresters Addition	--	--	100
Round Mountain 500 kV No. 1 Line Surge Arresters Addition	100	--	--
Round Mountain 500 kV No. 2 Line Surge Arresters Addition	--	100	--

Figure 3

OWNERSHIP OF FACILITIES AND EQUIPMENT  
INSTALLED AT MALIN SUBSTATION UNDER SECTION 4

Equipment/Facility (1)	Percentage Ownership (%)		
	Bonneville (2)	Pacific (3)	Portland General (4)
South Main Bus 500/230 kV Transformer Reconnection Including:	--	100	--
- Replacement of 500 kV isolating disconnect switch and addition of opening surge resistors	--	100	--
- Removal of 500 kV circuit switcher	--	100	--
- Replacement of 500 kV bank surge arresters	--	100	--
South Main Bus Reconfiguration Between Bays 2 and 4	50	25	25
Control House Indoor Wiring, Cable, Conduit, and Grounding Installation	50	25	25
Bay 6 Meridian Line 500 kV South Main Bus Switch (MOD) Addition 2/	--	100	--
Retermination of Round Mountain Line No. 1 from Bay 3 to Bay 2 3/	100	--	--
Round Mountain No. 2 Line 500 KV South Main Bus Switch (MOD) 2/	50	25	25
<p>1/ One or both sets of the 500 kV Round Mountain No. 1 Line CPT's are located in the Government's right-of-way. Therefore, ownership of these CPT's shall be in the Government.</p> <p>2/ In exchange for giving Pacific 100 percent ownership of the Meridian Line 500 kV South Main Bus Switch, the existing Round Mountain No. 2 Line 500 kV South Main Bus Switch shall be jointly owned by Bonneville (50%), Portland General (25%), and Pacific (25%).</p> <p>3/ When the Round Mountain 500 kV No. 1 Line is reterminated from Bay 3 to Bay 2, Bonneville, acting by and for the Government, shall own the section of that line within Malin passing over land owned by Pacific; and the Bay 2 deadend tower.</p>			

Figure 3



**Department of Energy**  
Bonneville Power Administration  
Public Involvement  
P.O. Box 12999  
Portland, Oregon 97212-0999

In reply refer to: PKT

October 26, 1987

Exhibit B  
Table 17 - Page 1 of 3  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective Date

Mr. Rodney M. Boucher  
Vice President  
Pacific Power & Light Company  
920 SW. Sixth Avenue  
Portland, OR 97204

Dear Mr. Boucher:

At jointly-owned Malin 500-kV Substation (Malin) of the Pacific Northwest-Pacific Southwest AC Intertie (Intertie), the existing phase comparison relays (Line Relays) on (1) the Government's Malin-Round Mountain 500-kV line No. 1 (Line No. 1) and (2) Pacific's Malin-Round Mountain 500-kV line No. 2 (Line No. 2) can no longer be considered adequate for Intertie protection and reliability. The existing Line Relays are also incapable of single pole switching.

Accordingly, Bonneville Power Administration (Bonneville) and Pacific Power & Light Company (Pacific) agree that it would be mutually beneficial to replace the existing Line Relays with relays capable of single-pole switching. Energization is planned for October 1988.

I therefore propose that Bonneville make the above-mentioned relay replacement pursuant to Contract No. 14-03-29224 (Pacific's Malin Construction Trust Agreement), except as provided otherwise herein, and the terms and conditions outlined below.

1. Effective Date. This Table 17 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received an original signed copy of this Table 17 and a check from Pacific in the amount of the Trust Deposit as specified in subsection 3(a) below.



*Celebrating the U.S. Constitution Bicentennial — 1787-1987*

2. Cost Sharing. The estimated total cost of replacing the Line No. 1 and Line No. 2 relays in the manner described in section 4 below is \$678,000. Pursuant to Exhibit A of Contract No. DE-MS79-86BP92299 (Intertie Agreement), Pacific's responsibility for cost sharing is 25 percent of the total actual costs. Pacific's estimated share is \$169,500. Final sharing shall be based on actual costs.

3. Trust Deposit. Pacific hereby agrees to pay \$169,500 to Bonneville to be held in trust to defray the cost to the Government of performing the duties specified in section 4. Pacific shall pay the Trust Deposit as follows:

- (a) \$10,000 on the date of execution;
- (b) \$52,500 within 4 months after the date of execution; and
- (c) \$107,000 within 12 months after the date of execution.

4. Duties of Bonneville. Bonneville shall design, provide all necessary labor and materials, and within 12 months after the Effective Date of this Table shall:

- (a) replace the existing Line Relays on Line No. 1 and Line No. 2 at Malin with tested, energized, and operating modern solid state relays capable of single-pole switching; and
- (b) replace the Power Line Carrier communications link supporting the above-mentioned existing Line Relays and retire and replace such link with a Microwave Transfer Trip system.

All costs are to be shared in accordance with section 2 above.

5. Duties of Pacific. Pacific shall cooperate with Bonneville as necessary for Bonneville to make the Line Relays and communications link replacements specified in section 4 above. Pacific shall make payment as required in sections 1 and 3 above.

6. Ownership. Notwithstanding section 8 of Contract No. 14-03-29224, Pacific's ownership of the Malin replacement Line Relays shall be in accordance with the Intertie Agreement.

Exhibit B  
Table 17 - Page 3 of 3  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective Date

7. Operation and Maintenance. Bonneville will operate and maintain the replacement Line Relays as provided under subsections 4(a)(2) and 4(b) of the Malin O&M Trust Agreement (Contract No. 14-03-62876).

8. Microwave Facilities. All microwave facilities at Malin are solely owned by the Government and operated and maintained by Bonneville at Government expense. Accordingly, the Government shall own and Bonneville shall make all additions, modifications, and replacements to microwave facilities for Line No. 1 and Line No. 2, and shall operate and maintain these facilities at Government expense.

If this Table 17 is acceptable to Pacific, please indicate your approval by signing and returning both copies with a check in the amount of the Trust Deposit. Bonneville will transmit a fully executed copy for your records.

(b)(6)

ACTING Administrator

MAR 25 1988

Effective Date

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

(b)(6)

By: Rodney M. Boucher

Title Vice President

Date February 1, 1988

(WP-PKT-0883e)



**Department of Energy**  
Bonneville Power Administration  
Public Involvement  
P.O. Box 12999  
Portland, Oregon 97212-0999

In reply refer to: PKT

October 26, 1987

Exhibit B  
Table 19, page 1 of 3  
Contract No. 14-03-29224  
Effective at 2400 hours  
on the Effective Date

Mr. Rodney M. Boucher, Vice President  
Pacific Power & Light Company  
920 SW. Sixth Avenue  
Portland, OR 97204

Dear Mr. Boucher:

In recent discussions and correspondence between representatives of the Bonneville Power Administration (Bonneville), Pacific Power and Light Company (Pacific), and Portland General Electric Company, it was agreed that it would be mutually beneficial for Bonneville to construct a 34' by 40' addition to the north side of the jointly-owned Malin Substation (Malin) control house, reroof the existing Malin control house and replace the heating, ventilating, and air conditioning system (HVAC). Completion is planned for November 1987.

The addition to the control house is needed for the control and communication equipment associated with the Malin breaker additions, Malin-Round Mountain relay replacements, the stability control upgrade projects, and the dynamic voltage support project (DVS). This addition shall include sufficient space to house future control, protection, communication, and data systems. The new roof is needed because of the deteriorating condition of the existing roof. The current HVAC is 6 years past its nominal service life and suffers from frequent failures. Additional HVAC capacity is also needed because of the control house expansion.

Accordingly, I propose that the work performed by Bonneville for Pacific at Malin be accomplished pursuant to Contract No. 14-03-29224 (Pacific's Malin Construction Trust Agreement), except as provided otherwise herein, and the terms and conditions outlined below.



*Celebrating the U.S. Constitution Bicentennial — 1787-1987*

1. Effective Date. This Table 19 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received an original signed copy of this Table 19 and a check from Pacific in the amount of the Trust Deposit as specified in subsection 3(a).
2. Cost Sharing. The estimated total cost of constructing the 34' by 40' addition, reroofing the control house and replacing the HVAC at Malin as described in section 4 below is \$349,000. Pacific's 25 percent share of the estimated total cost of these additions and replacements is pursuant to Contract No. DE-MS79-86BP92299 (Intertie Agreement). Pacific's estimated share is \$87,250. Final sharing shall be based on actual costs.
3. Trust Deposit. Pacific hereby agrees to pay \$87,250 to Bonneville to be held in trust to defray the cost to the Government for performing the duties specified in section 4. Pacific shall pay the Trust Deposit as follows:
  - a. \$10,000 on the date of execution; and
  - b. \$77,250 within 4 months after the date of execution.
4. Duties of Bonneville. Bonneville shall design, provide all necessary labor and materials, and as soon as reasonably practicable after the Effective Date of this Table construct the addition to the Malin control house, reroof the control house and replace the HVAC as follows:
  - a. Control House Addition. Construct a 34' by 40' addition to the north side of the Malin control house;
  - b. Control House Reroofing. Reroof the control house with a pitched roof; and
  - c. HVAC Replacement. Remove and replace the existing water-cooled air conditioning unit and water-heated boiler with a new outdoor air-cooled air conditioning unit and a new electric resistance heating unit.All costs are to be shared in accordance with section 2 above.
5. Duties of Pacific. Pacific shall cooperate with Bonneville as necessary for Bonneville to make the additions and replacements as specified in section 4 above. Pacific shall make payment as required in sections 1 and 3 above.



Exhibit B  
Table 19, page 3 of 3  
Contract No. 14-03-29224  
Effective at 2400 hours  
on the Effective Date

6. Ownership. Notwithstanding section 8 of Contract No. 14-03-29224, Pacific's ownership of the Malin Substation control house addition, new roof, and new HVAC installed hereunder shall be in accordance with the Intertie Agreement.

7. Operation and Maintenance. Bonneville shall operate and maintain the new and replacement units installed hereunder, as provided under the O&M Trust Agreement (Contract No. 14-03-62876).

If this Table 19 is acceptable to Pacific, please indicate your approval by signing and returning both copies with a check in the amount of the Trust Deposit. Bonneville will transmit a fully executed copy for your records.

Sincerely,

(b)(6)

ACING Administrator

MAR 25 1988

Effective Date

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

By (b)(6)

Rodney M. Boucher  
Title Vice President

Date February 1, 1988

(WP-PKT-0884e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

PKT

In reply refer to:

October 26, 1987

Exhibit B  
Table 18, Page 1 of 3  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective Date

Mr. Rodney M. Boucher  
Vice President  
Pacific Power & Light Company  
920 SW. Sixth Avenue  
Portland, OR 97204

Dear Mr. Boucher:

To insure Pacific Northwest-Pacific Southwest (PNW-PSW) AC Intertie stability for PNW-PSW DC Intertie outages occurring after the DC Terminal expansion is completed, it has been determined that it will be necessary to add Dynamic Voltage Support (DVS) facilities at Malin 500-kV and Table Mountain 500-kV AC Intertie Substations. The DVS facility at Malin Substation (Malin) will include provisions for mechanically switched capacitors (MSC), and a static var controller (SVC).

The addition of two mechanically switched capacitor banks at Malin with energization planned for February 1989 is provided for in this Table 18. A separate Exhibit B Table 21 is being submitted to Pacific for installation of the static var controller with energization planned for the period May 1990 to December 1990.

The Bonneville Power Administration (Bonneville), and Pacific Power & Light Company (Pacific) agree that Bonneville should initially install an MSC facility at Malin as a part of the DC Terminal Expansion Project. Participation and cost sharing by Pacific was agreed upon in the Intertie Agreement (Contract No. DE-MS79-86BP92299) executed July 8, 1986.

I therefore propose that Bonneville make the above-mentioned MSC installation at its discretion pursuant to Pacific's Malin Construction Trust Agreement (Contract No. 14-03-29224), except as provided otherwise herein, and the terms and conditions outlined below.



*Celebrating the U.S. Constitution Bicentennial — 1787-1987*

1. Effective Date. This Table 18 shall be effective as of 2400 hours on the date of execution (Effective Date).

2. Trust Deposit. None.

3. Cost Sharing. None. The estimated total cost of installing the MSC facility at Malin (\$6,000,000) will be borne entirely by the Government.

4. Duties of Bonneville.

(a) Bonneville shall design, provide all necessary labor and materials, and within 16 months after the Effective Date of this Table, install on the north 500-kV main bus at Malin a tested, energized, and operating MSC facility which shall include two 216.6 megavar (at 523.9 kV) shunt capacitor banks with provisions for adding two additional banks.

(b) Installation of the MSC and SVC facilities on the Malin north 500 kV main bus shall not prevent or interfere with Pacific's right to install a 500/230 kV transformer and related facilities as provided for in section (C)(3)(a) of Amendatory Agreement No. 1 to Contract No. DE-MS79-82BP90924 and Exhibit A of Contract No. DE-MS79-86BP92299. The MSC facility shall be located off the east end of the north 500 kV main bus to the north of Bay 6. The SVC facility shall be located off the west end of the north 500 kV main bus and to the north of that bus. The installation of Bonneville's new 500 kV north main bus extension for the SVC facility shall be designed to provide for a future bus extension from which Pacific may construct additional 500 kV facilities for its planned 500/230 kV transformer installation.

(c) Commencing on the Effective Date, if Pacific's facilities are adversely affected as a result of the installation and operation of the MSC facilities to be installed at Malin, Bonneville shall take corrective actions to eliminate such adverse effects. The adverse effects and required corrective actions shall be determined jointly by Bonneville and Pacific and shall be based on commonly accepted utility engineering and operating practices. Corrective actions shall be at the Government's expense.

5. Duties of Pacific. Pacific shall cooperate with Bonneville as necessary for Bonneville to install the MSC facility specified in section 4 above.

Exhibit B  
Table 18, Page 3 of 3  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective Date

6. Land Rights. Pacific shall convey title to Bonneville, at fair market value or a negotiated price as appropriate, of a sufficient amount of Pacific's land at Malin to enable Bonneville to install the MSC facility specified in sections 4 and 5 and the first paragraph of this Table. Until such title is conveyed, Pacific hereby grants to Bonneville the right to construct, inspect, operate, and maintain the MSC facility to be located on Pacific's land.

7. Ownership. Notwithstanding section 8 of Contract No. 14-03-29224, ownership of the Malin MSC facility installed hereunder shall be solely in the Government.

8. Operation and Maintenance. Bonneville will operate and maintain the Malin MSC facility at the Government's expense.

9. DVS Facility Engineering. As facility owner, Bonneville shall perform and administer engineering work associated with the DVS facility plan of service. To insure that Pacific's facilities are not adversely impacted, an engineering liaison from Pacific shall be designated to participate in all technical reviews on DVS specifications, proposals and design layouts.

If this Table 18 is acceptable to Pacific, please indicate your approval by signing and returning both copies to Bonneville for execution. Bonneville will transmit a fully executed copy for your records.

Sincerely,

(b)(6)

ACTING Administrator

Effective Date MAR 25 1988

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

By (b)(6)

Rodney M. Boucher  
Title Vice President

Date February 1, 1988

(WP-PKT-0801e)



**Department of Energy**  
Bonneville Power Administration  
Public Involvement  
P.O. Box 12999  
Portland, Oregon 97212-0999

In reply refer to: PKT

October 26, 1987

Exhibit B  
Table 20 - Page 1 of 3  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective Date

Mr. Rodney M. Boucher  
Vice President  
Pacific Power & Light Company  
920 SW. Sixth Avenue  
Portland, OR 97204

Dear Mr. Boucher:

The existing HVDC Modulation System (Modulation Control System) for damping power flow over the AC Intertie is well beyond its expected service life. In its present state, the Modulation Control System does not provide the desired level of reliability for an Intertie-related control system, has no backup, and provides only minimal monitoring.

Accordingly, Bonneville Power Administration (Bonneville), and Pacific Power & Light Company (Pacific) agree that it would be to their mutual benefit if Bonneville replaced the existing Modulation Control System located at John Day Substation and Celilo Converter Station with an updated control system at Malin Substation and Celilo Converter Station. Energization is planned for February 1989.

I therefore propose that Bonneville make the changes at Malin Substation (Malin) necessary to support the above-mentioned Modulation Control System replacement pursuant to Contract No. 14-03-29224 (Pacific's Malin Construction Trust Agreement), except as provided otherwise herein, and the terms and conditions outlined below.

1. Effective Date. This Table 20 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received an original signed copy of this Table 20 and a check from Pacific in the amount of the Trust Deposit as specified in section 3 below.



*Celebrating the U.S. Constitution Bicentennial — 1787-1987*

2. Cost Sharing. The estimated total cost of installing the Malin portion of the upgraded Modulation Control System is \$140,000. Pacific's 25 percent share of the estimated total cost of upgrading this system is pursuant to Contract No. DE-MS79-86BP92299 (Intertie Agreement). Pacific's estimated share is \$35,000. Final sharing shall be based on actual costs.

3. Trust Deposit. Pacific hereby agrees to pay \$35,000 to Bonneville to be held in trust to defray the cost to the Government of performing the duties specified in section 4. Pacific shall pay the Trust Deposit as follows:

- (a) \$5,000 on the date of execution; and
- (b) \$30,000 within 12 months after the date of execution.

4. Duties of Bonneville. Bonneville shall design, provide all necessary labor and materials at Malin, and within 16 months after the Effective Date of this Table replace the existing Modulation Control System with a tested, energized, and operating modern control system.

The equipment to be located at Malin includes transducers and telemetry necessary to make AC Intertie measurements and transmit the real-time data to an HVDC Modulation Controller located at Celilo Converter Station.

All costs are to be shared in accordance with section 2 above.

5. Duties of Pacific. Pacific shall cooperate with Bonneville as necessary for Bonneville to make the Modulation Control System installation specified in section 4 above. Pacific shall make payment as required in sections 1 and 3 above.

6. Ownership. Notwithstanding section 8 of Contract 14-03-29224, Pacific's ownership of the upgraded Modulation Control System installed hereunder at Malin shall be in accordance with the Intertie Agreement.

7. Operation and and Maintenance. Bonneville shall operate and maintain the upgraded Modulation Control System installed hereunder at Malin as provided under subsections 4(a)(2) and 4(b) of the Malin O&M Trust Agreement (Contract No. 14-03-62876).

Exhibit B  
Table 20 - Page 3 of 3  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective Date

If this Table 20 is acceptable to Pacific, please indicate your approval by signing and returning both copies with a check in the amount of the Trust Deposit. Bonneville will transmit a fully executed copy for your records.

(b)(6)

Acting Administrator

MAR 25 1988

Effective Date

ACCEPTED:

PACIFIC POWER & LIGHT COMPANY

By (b)(6)

Rodney M. Boucher  
Title Vice President

Date February 1, 1988

(WP-PKT-0885e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

August 8, 1990

In reply refer to: PMT

July 3, 1990

Exhibit B  
Table 22 - Page 1 of 5  
Contract No. 14-03-29224  
Effective at 2400 hours on  
the Effective Date

Mr. Thomas A. Lockhart  
Vice President, Power Systems  
PacifiCorp Electric Operations  
920 SW. Sixth Avenue  
Portland, OR 97204

Dear Mr. Lockhart:

Representatives of the Bonneville Power Administration (Bonneville), Portland General Electric Company (Portland General), and PacifiCorp, doing business as Pacific Power & Light (Company), agree that it would be mutually beneficial if Bonneville made certain changes and additions at jointly-owned Malin Substation (Malin) to upgrade the existing Pacific Northwest-Pacific Southwest AC Intertie Stability Control System (Upgrade Project), with the costs being shared by the parties. Authorized Phase 1 of the Upgrade Project has all but been completed.

Under proposed Phases 2 and 3 of the Upgrade Project at Malin, the stability control system will attain the necessary reliability, security, and flexibility to meet and exceed current and anticipated Western Systems Coordinating Council (WSCC) operating standards by essentially replacing the existing system with a new system capable of full redundant operation.

Energization for Phase 2 and Phase 3 is planned for February 1991.

I therefore propose that Bonneville make the above Phase 2 and Phase 3 replacement and upgrade of the AC Intertie Stability Control System at Malin under the Bonneville-Company Malin Construction Trust Agreement (Contract No. 14-03-29224) and the following terms and conditions: (Bonneville is currently executing a corresponding Table 20 with Portland General under the Bonneville-Portland General Construction Trust Agreement (Contract No. 14-03-29225)).

1. Effective Date. This Table 22 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received the following:

- (a) an originally signed copy of this Table 22 and a check from the Company in the amount of the Trust Deposit specified in section 3; and



(b) an originally signed copy of Table 20 of Exhibit B to Contract No. 14-03-29225 from Portland General and the attendant trust deposit.

2. Cost Sharing. The estimated total joint cost for Bonneville to complete Phase 2 and Phase 3 of the Upgrade Project at Malin is \$1,428,000. Actual replacement and upgrade costs are to be shared by the parties in proportion to their percentage ownerships of the Malin jointly-owned property as indicated in Figure 1 below. Participation, cost sharing, and ownership by the Company in the Malin Upgrade Project for Phases 1 and 2 were agreed upon in the Bonneville - Pacific Power & Light Company Intertie Agreement (Contract No. DE-MS79-86BP92299) executed July 8, 1986. This Trust Table 22 establishes participation, cost sharing and ownership for Phase 3 of the Project; these were not specified in the Intertie Agreement. The Company's estimated share of Phase 2 and Phase 3 of the Upgrade Project cost is \$357,000.

<u>Party</u>	<u>Cost Sharing Percentage (%)</u>	<u>Estimated Share of Phase 2 &amp; Phase 3 Project Costs (\$)</u>
Bonneville	50.00	714,000
Portland General	25.00	357,000
Pacific	<u>25.00</u>	<u>357,000 1/</u>
Total	100.00	1,428,000

Figure 1

1/ Includes 30% overheads.

Final sharing will be based on actual costs.

3. Trust Deposit. The Company hereby agrees to pay \$357,000 to Bonneville to be held in an account established for this project to defray the Company's share of the total project cost. This amount also represents the Company's share of the cost for Bonneville to perform the duties specified in subsection 4(a). The Company shall pay the full Trust Deposit of \$357,000 on the Date of Execution hereof.

4. Duties of Bonneville. Bonneville shall design, provide all necessary labor and materials, and, within 7 months after the Effective Date of this Table 22, make Phase 2 and Phase 3 replacement and upgrade of the existing AC Intertie Stability Control System at Malin, including:

(a) at joint Bonneville-Portland General-Company expense as shown in Figure 1:

- (1) installation and testing of ten Line Loss Logic panels;
- (2) installation and testing of four Power Rate Relays;

(3) installation and testing of 23 sets of Integrated Microwave Transfer Trip equipment to integrate the subsection 4(a)(1) Line Loss Logic panels and subsection 4(a)(2) Power Rate Relays into the said stability control system;

(4) integration into the line loss logic of Government-owned auxiliary "b" switches installed by Bonneville on motor-operated disconnect switches (MOD's) pursuant to subsection 4(b) and Company-owned auxiliary "b" switches installed by the Company pursuant to subsection 5(b); and

(5) installation of required cables and conduits to integrate all MOD auxiliary "b" switches installed hereunder into the Line Loss Logic; and

(b) at Government expense, installation of auxiliary "b" switches to the following Government-owned MOD's for the integration of such "b" switches into the Line Loss Logic:

<u>Bay 2 MOD's</u>	
<u>Construction Number</u>	<u>Owner</u>
23E	Government
25E	Government
26E	Government
28E	Government

Figure 2

Bonneville shall cooperate with the Company as necessary for the Company to make the Phase 2 and Phase 3 replacement and upgrade specified in section 5.

5. Duties of The Company.

(a) The Company shall cooperate with Bonneville as necessary for Bonneville to make the Phase 2 and Phase 3 replacement and upgrade (including installation and testing) specified in section 4. The Company shall make payment as required in sections 1 and 3.

(b) The Company, at its own expense, shall design, provide all necessary labor and materials, and, within 7 months after the Effective Date of this Table 22, make Phase 2 and Phase 3 installation of auxiliary "b" switches to the following Company-owned MOD's for Bonneville's integration of such "b" switches into the Line Loss Logic. The Company's installation shall include connection of such MOD auxiliary "b" switches to cables installed by Bonneville pursuant to subsection 4(a)(5):

Bay 4 MOD's		Bay 6 MOD's	
Construction Number	Owner	Construction Number	Owner
46E	Company	63E	Company
48E	Company	65E	Company
4581E 1/	Company	66E	Company
68E	Company	69E	Company

Figure 3

1/ Dispatcher's switching or operation number.

6. Ownership. Title to and ownership of the MOD auxiliary "b" switches installed under subsections 4(b) and 5(b) of this Table 22 shall be in the Government and the Company respectively. As between the Company and Bonneville, the Company's percentage ownership of the subsection 4(a) facilities and equipment installed under this Table 22 is established in the Intertie Agreement (Contract No. DE-MS79-86BP92299) and is indicated by the Company's cost sharing percentage in Figure 1 of section 2 above.

7. Operation and Maintenance. Bonneville will operate and maintain the section 4 facilities installed hereunder and operate the Company's subsection 5(b) facilities installed hereunder as provided for in the Malin O&M Trust Agreement (Contract No. 14-03-62876). The Company's share of the cost of operating and maintaining the subsection 4(a) facilities shall be its ownership percentage established in the Intertie Agreement and indicated as its cost sharing percentage in Figure 1 of section 2 above. Bonneville will operate and maintain the Government's subsection 4(b) facilities at Government expense. The Company will maintain its subsection 5(b) facilities at its own expense.

8. Microwave Facilities. All microwave facilities at Malin are solely owned, operated, and maintained by Bonneville at Government expense. Accordingly, Bonneville shall own and make all additions, modifications, and replacements to microwave facilities for the Upgrade Project, and shall operate and maintain these facilities at Government expense.

If this Table 22 is acceptable to the Company, please indicate your approval by signing and returning two original copies to Bonneville with a check in the

amount of the Trust Deposit specified in section 3. Bonneville will transmit a fully executed original copy for your records.

Sincerely,

(b)(6)

**ACTING**

Administrator

Effective Date AUG 8 1990

ACCEPTED:

PACIFICORP ELECTRIC OPERATIONS

By (b)(6)

Thomas A. Lockhart

Title Vice President, Power Systems

Date August 6, 1990

(VS6-PMTT-3126e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

January 6, 1992

OFFICE OF THE ADMINISTRATOR

In reply refer to: PMTT

Exhibit B  
Table 23, Page 1 of 2  
Contract No. 14-03-29224  
Effective on the Effective Date

Mr. Thomas Lockhart  
Vice President  
PacifiCorp Electric Operations  
920 SW. Sixth Avenue  
Portland, OR 97204

Dear Mr. Lockhart:

On July 8, 1986, Bonneville Power Administration (Bonneville) and PacifiCorp Electric Operations, doing business as Pacific Power & Light Company (Pacific), executed the Intertie Agreement, Contract No. DE-MS79-86BP92299, as amended, which established, among other things, cost-sharing principles between the parties. The participation, cost responsibility, ownership, and operation and maintenance for the addition of new 500 kV line surge arresters in Malin Substation on the Round Mountain 500 kV No. 2 was agreed upon in Trust Table 16, Exhibit B, Contract No. 14-03-29224, effective April 8, 1988. The parties have now mutually agreed to replace the surge arresters in Malin Substation on Pacific's Round Mountain No. 2 line because they are underrated for Third AC Intertie additions. Energization of the replacement surge arresters is scheduled for December 1, 1992.

1. Effective Date. This Table 23 shall be effective as of 2400 hours on the date that Bonneville has received both an original signed copy of this Table 23 and payment from Pacific in the amount of the Trust Deposit specified in section 3 below (Effective Date).

2. Cost Responsibility. Subsection 4(b) of Table 16 of Exhibit B, Contract No. 14-03-29224, defined the cost responsibility for adding new 500 kV line surge arresters on Round Mountain 500 kV No. 2 line to be Pacific's sole expense. Accordingly, Pacific shall have sole responsibility for replacement of the surge arresters at an estimated cost of \$112,000. Final costs shall be based on actual costs, including appropriate overhead costs.

3. Trust Deposit. Pacific hereby agrees to pay Bonneville \$112,000 (Trust Deposit) to be held in an account to defray the cost to the Government of performing the duties specified in section 4. Bonneville shall prepare a final accounting of actual costs for the duties performed pursuant to section 4.

4. Duties of Bonneville. As soon as reasonably practicable after the Effective Date, Bonneville shall design, provide all necessary labor and materials, remove and return to Pacific the 500 kV Round Mountain No. 2 line, 396 kV, 5 MJ surge arresters, and replace them with 396 kV, 10 MJ surge arresters.

5. Duties of Pacific. Pacific shall cooperate with Bonneville as necessary to make the replacements specified in this Table and shall make payment as required in section 3.

6. Ownership. Notwithstanding Section 5 of the Malin Construction and Operation Agreement, Contract No. 14-03-59840, regarding facilities and site improvements installed on or above the land areas of each party, ownership of the surge arresters installed hereunder shall be solely in Pacific.

7. Operation and Maintenance. Bonneville shall operate and maintain the surge arresters installed under this Table 23. Pacific shall reimburse Bonneville for 100 percent of the actual cost of operating/inspecting the surge arresters as provided under the Malin Operation and Maintenance Trust Agreement, Contract No. 14-03-62876.

If this Table 23 is acceptable to Pacific, please indicate your approval by signing and returning both copies with a check in the amount of the Trust Deposit to Bonneville. Bonneville will transmit a fully-executed copy for your records.

Sincerely,

(b)(6)

ACTING Administrator

JAN 06 1992

Effective Date

ACCEPTED:

PACIFICORP ELECTRIC OPERATIONS

(b)(6)

By

Thomas A. Lockhart

Title

Vice President

Date

December 24, 1991

(VS6-PMTT-3486e)

R9 A926



## Department of Energy

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

TRANSMISSION BUSINESS LINE

December 2, 2003

In reply refer to: TM/OPP-2

Exhibit B  
Table 27, Page 1 of 3  
Contract No. 14-03-29224  
Effective on the Effective Date

### AUTHENTICATED

Mr. Dave Cory, Transmission Account Manager  
PacifiCorp  
700 NE. Multnomah Street, Suite 550 L7B  
Portland, OR 97232

Dear Mr. Cory:

Representatives of the Bonneville Power Administration (Bonneville) and PacifiCorp have agreed to provide relaying, controls and data systems in the jointly-owned Malin Control House associated with a new Bonneville owned Shunt Reactor installation at Captain Jack Substation (Project).

Accordingly, Bonneville and PacifiCorp hereby agree to the following terms and conditions:

1. **Effective Date.** Table 27 shall be effective at 2400 hours on the date that Bonneville has received all of the following:
  - (a) an original signed copy of this Table 27 and payment from PacifiCorp in the amount of the Trust Deposit as specified in section 3 below; and
  - (b) an original signed copy of Table 24 of Exhibit B to contract No. 14-03-29225 from Portland General Electric and the attendant Trust Deposit (Effective Date).
2. **Cost Sharing.** The estimated total cost for Bonneville to perform the duties as described in section 4 is \$102,000.00, which includes appropriate overheads. The estimated total cost of such work is to be shared by the parties in proportion to their percentage ownership of the Malin Substation jointly-owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation control house equipment as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Work Order No. 00134029 ( \$ )</b>	<b>Estimated Total Costs ( \$ )</b>
Bonneville	50	\$51,000	\$51,000
Portland General	25	\$25,500	\$25,500
<b>PacifiCorp</b>	<b>25</b>	<b>\$25,500</b>	<b>\$25,500</b>
Total	100	\$102,000	\$102,000

Final cost sharing shall be based on actual costs including appropriate overheads. The overheads shall be fixed at the Effective Date of this Table 27.

3. **Trust Deposit.** PacifiCorp hereby agrees to pay Bonneville \$25,500 (Trust Deposit) to be held in an account to defray the cost to the Government of performing the duties specified in section 4.
4. **Duties of Bonneville.** Bonneville shall:
  - (a) design, procure, install, and test dual RFL TT control support for the new Bonneville owned Captain Jack shunt reactor in the control house at Malin Substation;
  - (b) replace the two existing Bitronics PLC Transducers on the Malin Substation Network with smart transducers;
  - (c) update and verify the RAS A&B PLC Controller code with the new dual Transfer Trip In and Out to Captain Jack Substation;.
  - (d) forward the design for the control house modifications associated with the new Captain Jack shunt reactor to PacifiCorp for review and comment;
  - (e) purchase all related materials and use its best efforts to install the controls, SCADA, and SER points and jointly test with PacifiCorp in accordance with design during FY 2004;
  - (f) as soon as practicable, after the completion of Bonneville's duties specified in section 4, forward to PacifiCorp a final accounting of the actual costs for installation of the controls, SCADA, and SER points.
5. **Duties of PacifiCorp.** PacifiCorp shall review and comment on Bonneville's design for the controls, SCADA, and SER points.
6. **Ownership.** Title to and ownership of the equipment installed under this Table 27 shall be in accordance with subsection 5(a) of the Malin Substation Construction and

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Table 27, Contract No. 14-03-29224  
PacifiCorp



Operation Agreement (Contract No. 14-03-59840), as amended, and as indicated by the percentages specified in section 2 above.

7. **Operation and Maintenance.** Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended.

If the terms of this Table 27 are acceptable to PacifiCorp, please indicate your approval by signing both enclosed copies and returning both copies with a check in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to PacifiCorp.

Sincerely,

**/S/ CLIFFORD C PERIGO**

Clifford C. Perigo  
Bonneville Power Administration  
Senior Transmission Account Executive  
Transmission Marketing and Sales

ACCEPTED:

PACIFICORP

By: **/S/ DAVID B CORRY**

Name: **David B Corry**  
(Print/Type)

Title: **Dir. Trans. Services**

Date: **12/23/03**

ACCEPTED:

BONNEVILLE POWER ADMINISTRATION

By: **/S/ CLIFFORD C PERIGO**

Name: **Clifford C Perigo**  
(Print/Type)

Title: **Sr. Act. Exec.**

Date: **1-5-04**

(W:\TMC\CT\PacifiCorp\Revisions\29224T27.doc) 10/21/03 lh

Table 27, Contract No. 14-03-29224  
PacifiCorp

## Department of Energy

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

TRANSMISSION BUSINESS LINE

November 22, 2010

**AUTHENTICATED**

In reply refer to: TSE/TPP-2

Agreement No. 14-03-29224  
Exhibit B, Table 35

Mr. Les Bahls, Director, Transmission Customer Accounts  
PacifiCorp  
825 NE. Multnomah Street, Suite 1600  
Portland, OR 97232

Dear Mr. Bahls:

Representatives of the Bonneville Power Administration (Bonneville) and PacifiCorp recently met and agreed on three completed capital work orders that were subject to cost sharing based on the joint-ownership of facilities at the Malin Substation between Bonneville and PacifiCorp. This Trust Table 35 supersedes the previous Trust Tables 30-34 sent earlier this year and consolidates the three agreed upon capital work orders into this one Trust Table 35.

Accordingly, Bonneville and PacifiCorp hereby agree to the following terms and conditions:

**1. Effective Date**

Table 35 shall be effective at 0000 hours on the date when the following have occurred:

- (a) execution of this Table 35 by both Bonneville and PacifiCorp; and
- (b) payment in the amount of PacifiCorp's total cost share as specified in section 2 and 3 below has been received by Bonneville.

**2. Cost Sharing**

The total cost for Bonneville to complete the three capital work orders listed in section 4, below, is \$156,280, which includes appropriate overheads. The total cost of these work orders is to be shared by Bonneville and PacifiCorp in proportion to the percentage ownership of the Malin Substation jointly-owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation control house equipment as follows:

Party	Joint Ownership	Work Order No. 189008 \$ 46,323	Work Order No. 226694 \$ 30,209	Work Order No. 229854 \$ 79,748	Total Cost Share \$ 156,280
	(%)	(\$)	(\$)	(\$)	(\$)
Bonneville	50	23,162	15,104	39,874	78,140
PacifiCorp	25	11,581	7,552	19,937	39,070

The work orders described in section 4, below, have been completed. The costs shown above are final and include appropriate overheads.

**3. Joint Ownership Payment Obligation**

PacifiCorp hereby agrees to pay Bonneville \$39,070 for the actual costs of performing the duties of the work orders included in sections 2 and 4 of this Trust Table 35.

**4. Duties of Bonneville**

Bonneville has fully performed all tasks required for completion of the three work orders listed in this section. The completed work orders are being listed in this section for informational purposes, as the work has been completed and the cost sharing has been agreed to by both Bonneville and PacifiCorp.

- 1) Work Order 189008: Install FIN Access Server in main Control House;
- 2) Work Order 226694: FIN expansion for NERC CIP purposes; and
- 3) Work Order 229854: NERC CIP physical security upgrades.

**5. Duties of PacifiCorp**

PacifiCorp shall make payment as required in sections 1 and 3 above.

**6. Ownership**

Title to and ownership of the equipment installed under this Table 35 shall be in accordance with subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, and, as between PacifiCorp and Bonneville, as indicated by the percentages specified in section 2 above.

**7. Operation and Maintenance**

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended.

If the terms of this Table 35 are acceptable to PacifiCorp, please indicate your approval by signing both enclosed originals and returning one fully executed original to me at one of the following addresses:

First Class Mail

Bonneville Power Administration  
Mail Stop: TSE/TPP-2  
P.O. Box 61409  
Vancouver, WA 98666-1409

Overnight Delivery Service

Bonneville Power Administration  
Mail Stop: TSE/TPP-2  
7500 NE 41<sup>st</sup> Street – Suite 130  
Vancouver, WA 98662-7905

The remaining original is for your records. The required payment can be made either electronically or by check (instructions enclosed). Please reference Agreement No. 14-03-29224 and the associated work order numbers when remitting payment.

Sincerely,

**/S/ KENNETH H JOHNSTON**

Kenneth H. Johnston  
Transmission Account Executive  
Transmission Sales

ACCEPTED:

PACIFICORP

By /S/ L H BAHLS

Name L. H. Bahls  
(Print/Type)

Title Director Transmission

Date 21 Dec 2010

bcc:

L. Limpf – FRP-2

P. Nguyen – KSB-MODD

C. Lockman – KSC-4

C. Combs – LT -7

G. Russell – TPC-TPP-4

L. Morales – TPW-TPP-4

C. Nichols – TPW-TPP-4

K. Johnston – TSE-TPP-2

C. Blanco – TSES-TPP-2

Customer File – TSE/TPP-2 (TM-11 PacifiCorp)

Official File – KSC/TPP-1

ContractAdministration/TXCustomerFolders/PacifiCorp\_29224\_Table35\_111910.doc



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

January 6, 1992

OFFICE OF THE ADMINISTRATOR

In reply refer to: PMTT

**Exhibit B**  
Table 25, Page 1 of 3  
Contract No. 14-03-29224  
Effective on the Effective Date

Mr. Thomas Lockhart  
Vice President  
PacifiCorp Electric Operations  
920 SW. Sixth Avenue  
Portland, OR 97204

Dear Mr. Lockhart:

Representatives of the Bonneville Power Administration (Bonneville) and PacifiCorp Electric Operations, doing business as Pacific Power & Light Company (Pacific), have agreed to provide relaying, controls, and data systems at jointly-owned Malin Substation (Malin) for the Grizzly No. 2 and Captain Jack No. 1 line positions (Power System Controls). On July 8, 1986, the parties executed an Intertie Agreement, Contract No. DE-MS79-86BP92299, as amended, which established cost-sharing principles between the parties for the Joint AC Intertie by reference to the Malin Substation Construction and Operation Agreement Contract No. 14-03-59840, as amended. The Power System Controls are required for the Joint AC Intertie as identified in Exhibit B of the Intertie Agreement.

Further, Bonneville and Pacific have agreed to replace the protective relaying equipment and add automatic voltage control relaying for the shunt reactor banks No. 1 and No. 2 on the Captain Jack No. 1 and Grizzly No. 2 lines at the Malin Substation (Relay Additions). The Relay Additions are required due to (1) the obsolescence of the existing relaying equipment; and (2) the need to improve voltage controls at the Malin Substation to support the AC Intertie. Energization is planned for December 1, 1992.

Accordingly, Bonneville proposes the work be performed under the following terms and conditions:

1. Effective Date. This Table 25 shall be effective at 2400 hours on the date that Bonneville has received all of the following:
  - (a) an original signed copy of this Table 25 and payment from Pacific in the amount of the Trust Deposit as specified in section 3 below; and



(b) an original signed copy of Table 22 of Exhibit B to Contract No. 14-03-29225 from Portland General Electric Company (Portland General) and the attendant Trust Deposit (Effective Date).

2. Cost-Sharing. The estimated total cost for Bonneville to perform the duties as described in section 4 is \$1,036,000, which includes appropriate overheads. The estimated total cost of such work is to be shared by the parties in proportion to their percentage ownership of the Malin Substation jointly-owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation control house equipment as follows:

Party	Joint Ownership	Budget Item	Budget Item	Estimated
	Percentage	103	150	Cost Share
	(%)	(\$)	(\$)	(\$)
Bonneville	50	253,000	265,000	518,000
Portland General	25	126,500	132,500	259,000
Pacific	25	126,500	132,500	259,000
Total	100	506,000	530,000	1,036,000

Final sharing shall be based on actual costs including appropriate overheads.

3. Trust Deposit. Pacific hereby agrees to pay Bonneville \$259,000 (Trust Deposit) to be held in an account to defray the cost to the Government of performing the duties specified in section 4. Bonneville shall prepare a final accounting of actual costs for the duties performed pursuant to section 4.

4. Duties of Bonneville. Bonneville shall:

(a) Design, procure, and install SCADA, SER points, and automatic voltage control relaying (i.e., SEL-187V) on reactor banks No. 1 and No. 2 at Malin Substation;

(b) Design, procure, and install new replacement reactor relaying consisting of phase and neutral over-current relay and a new differential relay for both reactor banks No. 1 and No. 2 at Malin Substation;

(c) Design, procure, and install data systems for the 500 kV PCB and MOD replacements;

(d) Provide relays and design the protective relaying scheme for the Captain Jack No. 1 500 kV line and the Grizzly No. 2 500 kV line; and

Exhibit B  
Table 25, Page 3 of 3  
Contract No. 14-03-29224  
Effective on the Effective Date

(e) As soon as practicable, after the completion of Bonneville's duties specified in section 4, forward to Pacific final accounting of the actual costs for the Power System Controls and Relay Additions.

5. Duties of Pacific. Pacific shall cooperate with Bonneville as necessary for Bonneville to perform the work as specified in section 4 above. Pacific shall make payment as required in section 3 above.

6. Ownership. Title to and ownership of the facilities and equipment installed hereunder shall be in accordance with subsection 5(a) of the Malin Construction and Operation Agreement (Contract No. 14-03-59840), as amended, and as indicated by the percentages specified in section 2 above.

7. Operation and Maintenance. Bonneville shall operate and maintain the facilities and equipment installed hereunder as provided under the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended.

If this Table 25 is acceptable to Pacific, please indicate your approval by signing both enclosed copies and returning both copies with a check in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to Pacific.

Sincerely,

(b)(6)

**ACTING**

Administrator

Effective Date JAN 06 1992

ACCEPTED:

PACIFICORP ELECTRIC OPERATIONS

(b)(6)

By

Thomas A. Lockhart

Title Vice President

Date December 24, 1991

(VS6-PMTT-3455e)



**EXHIBIT B, TABLE 37  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 37 (Exhibit) captures the project details, ownership percentage, project cost, and cost sharing obligations between the Bonneville Power Administration (BPA), PacifiCorp and Portland General Electric Company (PGE) to install heat strips around the entrance gate on the entry road to the Malin Substation Main Control House.*

*As a result of snow and ice build up around the entrance gate and gate sensors during winter months, BPA has identified times when the entrance gate failed to close, causing security and compliance concerns. This work order was necessary to ensure the entry gate to the Malin Substation, a substation that is a NERC CIP Critical Asset, will close properly at all times. Based on Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), BPA, PacifiCorp and PGE have joint-ownership in the entry road to the Malin Substation Main Control House.*

Accordingly, BPA and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when executed by both BPA and PacifiCorp.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$39,090.39, with applicable overheads included. The total cost of this work is to be shared by PacifiCorp in proportion to the percentage ownership of the Malin Substation jointly owned property. Subsection 5(c) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment, as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ ) Work Order 267495</b>
BPA	42.2	\$16,496.73
<b>PacifiCorp</b>	<b>41.3</b>	<b>\$16,144.34</b>
PGE	16.5	\$ 6,449.32
Total	100.0	\$39,090.39

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PacifiCorp agrees to pay BPA \$16,144.34, PacifiCorp's ownership percentage of the actual costs, which includes the applicable overheads for this completed project. PacifiCorp shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 20<sup>th</sup> day after the invoice is issued (Due Date). If the 20<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Install heat strips in the road at the entrance gate. This includes a control unit, snow sensor and all related electrical wiring.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Exhibit, shall be in accordance with Subsection 5(c) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

**7. SIGNATURES**

The Parties have executed this Exhibit as of the last date indicated below.

PACIFICORP

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By \_\_\_\_\_  
Name \_\_\_\_\_  
(Print/Type)  
Title \_\_\_\_\_  
Date \_\_\_\_\_

By \_\_\_\_\_  
Name Kenneth H. Johnston  
(Print/Type)  
Title Transmission Account Executive  
Date \_\_\_\_\_

**EXHIBIT B, TABLE 39  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 39 (Exhibit) captures the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and PacifiCorp, for a recently completed work order.*

*Work Order 329958 was for an emergency replacement of the Malin Substation's 480/240 V station service transformer. The transformer is located in the basement of the Malin Substation's Main Control House and is used to feed critical loads.*

*Based on Malin Construction and Operation Agreement, Contract 14-03-59840, BPA, PacifiCorp and Portland General Electric Company have joint ownership in the Malin Substation's Main Control House, and all equipment installed therein.*

Accordingly, BPA and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when executed by both BPA and PacifiCorp.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 below is \$56,482, with applicable overheads included. The total cost of this work is to be shared by PacifiCorp, in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment, as follows:

<b>Party</b>	<b>Joint Ownership (%)</b>	<b>Total Costs (\$) Work Order 329958</b>
BPA	50.0	\$28,242
<b>PacifiCorp</b>	<b>25.0</b>	<b>\$14,120</b>
PGE	25.0	\$14,120
Total	100.0	\$56,482

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PacifiCorp agrees to pay BPA \$14,120, which is PacifiCorp's ownership percentage share of the actual cost of Work Order 329958, and includes the applicable overheads for this completed project. BPA shall issue an invoice to PacifiCorp for this amount and PacifiCorp shall pay the invoice electronically, in accordance with instructions on the bill. Payment must be received by the 20<sup>th</sup> day after the invoice is issued (Due Date). If the 20<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Replaced the 480/240 V station service transformer, located in the Main Control House basement, that feeds critical loads.

**5. OWNERSHIP**

Title to, and ownership of, the equipment installed under this Exhibit, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended.

**7. SIGNATURES**

The Parties have executed this Exhibit as of the last date indicated below.

PACIFICORP

UNITED STATES OF AMERICA

Department of Energy

Bonneville (b)(6)

By

(b)(6)

By

Name

Laura Kampush  
(Print/Type)

Name

Kenneth H. Johnston  
(Print/Type)

Title

Asst Manager, Transmission

Title

Transmission Account Executive

Date

7/26/13

Date

6/19/13

CCM: 29224\_ExhB\_T39

NOV 28 2011

**EXHIBIT B, TABLE 36  
MODIFICATION OF FACILITIES**

This Exhibit B, Table 36 captures the project details, equipment ownership, project cost estimate, and cost sharing obligations between the Bonneville Power Administration (Bonneville), PacifiCorp and Portland General Electric Company (PGE) at the Malin Substation Main Control House to support PacifiCorp's relay replacement project for Malin Reactors No. 3 and No. 4 on the Malin-Summer Lake and Malin-Captain Jack No. 2 500 kV lines.

As a result of PacifiCorp's relay replacement project for Malin Reactors No. 3 and No. 4, Bonneville must install new transducers and replace display meters in the Malin Substation Main Control House. Based on Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), Bonneville, PacifiCorp and PGE have joint-ownership in the Malin Main Control House, and all equipment installed therein.

Accordingly, Bonneville and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

Exhibit B, Table 36 shall be effective at 0000 hours on the date when executed by both Bonneville and PacifiCorp.

**2. COST SHARING**

The total estimated cost for Bonneville to complete the duties described in Section 4 is \$14,000, with applicable overheads included. The total cost of this work is to be shared by PacifiCorp in proportion to the percentage ownership of the Malin Substation jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages and stipulates their applicability to the Malin Substation's Main Control House equipment as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ )</b>
Bonneville	50	\$7,000
<b>PacifiCorp</b>	<b>25</b>	<b>\$3,500</b>
PGE	25	\$3,500
Total	100	\$14,000

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

The costs detailed above in Section 2 are estimated costs only, with the final costs determined upon completion of all work related to this project and detailed in Section 4 below. PacifiCorp agrees to pay Bonneville PacifiCorp's ownership percentage of the actual costs, including applicable overheads, upon completion of this project and once final accounting has been performed. Once final accounting has been performed, Bonneville will send PacifiCorp an invoice for PacifiCorp's



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12/10/11 @ 8:30am - m

share of actual costs. PacifiCorp shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 20<sup>th</sup> day after the invoice is issued (Due Date). If the 20<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

**4. DUTIES OF BONNEVILLE**

- a) Replace existing transducers, one for Reactor #3 and one for Reactor #4 with RS-485 serial to analog signal converters, configure for operations, and connect the analog inputs to Bonneville's Supervisory Control and Data Acquisition system; and
- b) Replace existing Amp and MVAR board meters, one set for Reactor #3 and one set for Reactor #4 (four board meters total) within existing designated panel and rack space, and configure for operations.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under Exhibit B, Table 36, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.


**6. OPERATION AND MAINTENANCE**

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

**7. SIGNATURES**

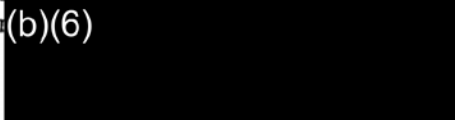
The Parties have caused this Table to be executed as of the date both Parties have signed this Table.

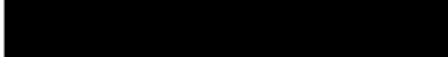
**PACIFICORP**

By   
Name Laura Kaypush  
(Print/Type)  
Title Account Manager  
Date 12/8/11

**UNITED STATES OF AMERICA**

Department of Energy

Bonneville 

By   
Name Kenneth H. Johnston  
(Print/Type)  
Title Transmission Account Executive  
Date 11/23/11

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## Department of Energy

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

TRANSMISSION BUSINESS LINE

August 12, 2005 **AUTHENTICATED**

In reply refer to: TM/OPP-2

Exhibit B  
Table No. 28, Page 1 of 3  
Contract No. 14-03-29224  
Effective on the Effective Date

Mr. Dave Cory, Transmission Account Manager  
PacifiCorp  
700 NE. Multnomah Street, Suite 550 L7B  
Portland, OR 97232

Dear Mr. Cory:

Representatives of the Bonneville Power Administration (Bonneville) and PacifiCorp have agreed to provide breaker failure relay replacements in the jointly-owned Malin Control House associated with the two power circuit breaker positions (PCB # 4072 and PCB # 4582) on the Malin-Round Mountain No. 2 500 kV transmission line.

Accordingly, Bonneville and PacifiCorp hereby agree to the following terms and conditions:

1. **Effective Date.** Table No. 28 shall be effective at 2400 hours on the day after all of the following have occurred:
  - (a) execution of this Table No. 28 and payment in the amount of the Trust Deposit as specified in section 3 below has been received by Bonneville from PacifiCorp; and
  - (b) execution of Table No. 25 of Exhibit B to PGE's Contract No. 14-03-29225 has been received by Bonneville with the attendant trust deposit.
2. **Cost Sharing.** The estimated total cost for Bonneville to perform the duties as described in section 4 is \$184,000.00, which includes appropriate overheads. The estimated total cost of such work is to be shared by the parties in proportion to their percentage ownership of the Malin Substation jointly-owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation control house equipment as follows:

Party	Joint Ownership ( % )	Estimated Total Costs ( \$ )
Bonneville	50	\$92,000
Portland General	25	\$46,000
<b>PacifiCorp</b>	<b>25</b>	<b>\$46,000</b>
Total	100	\$184,000

Final cost sharing shall be based on actual costs including appropriate overheads. The overheads shall be fixed at the Effective Date of this Table 28.

3. **Trust Deposit.** PacifiCorp hereby agrees to pay Bonneville \$46,000 (Trust Deposit) to be held in an account to defray the cost to the Government of performing the duties specified in section 4.
4. **Duties of Bonneville.** Bonneville shall:
  - (a) design, procure, install, and test new SEL 352 Breaker Failure Relays (BFR) on the power circuit breaker positions (PCB # 4072 and PCB # 4582) on the Malin-Round Mountain No. 2 500 kV transmission line;
  - (b) remove and retire the two existing GE-SBC BFR relays; and
  - (c) forward the design for the control house modifications associated with the new relays to PacifiCorp for review and comment;
5. **Duties of PacifiCorp.** PacifiCorp shall review and comment as needed on Bonneville's design for the new BFR relays.
6. **Ownership.** Title to and ownership of the equipment installed under this Table No. 28 shall be in accordance with subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, and as indicated by the percentages specified in section 2 above.
7. **Operation and Maintenance.** Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended.



If the terms of this Table No. 28 are acceptable to PacifiCorp, please indicate your approval by signing both enclosed copies and returning both copies with the payment in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to PacifiCorp.

Sincerely,

/S/ R A GILLMAN

Richard A. Gillman  
Bonneville Power Administration  
Transmission Account Executive  
Transmission Marketing and Sales

ACCEPTED:

PACIFICORP

By: /S/ K HOUSTON

Name: Kenneth Houston  
(Print/Type)

Title: Director, Planning

Date: 10-7-05

ACCEPTED:

BONNEVILLE POWER ADMINISTRATION

By: /S/ R A GILLMAN

Name: Richard Gillman  
(Print/Type)

Title: Account Executive

Date: 10/11/05

(W:\TMC\CT\PacifiCorp\Revisions\29224T27.doc) 08/08/05

**EXHIBIT B, TABLE 40  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 40 (Exhibit) captures the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and PacifiCorp, for a recently completed work order.*

*BPA Work Order 347835 was for the emergency replacement of three leaking Current Transformers (CTs) on the Malin – Round Mountain No. 2 line at the Malin Substation. The B and C phases of the three CTs were leaking oil through the casting and required an emergency work order to replace this equipment as these were non-repairable oil leaks. The CT on the A phase was also replaced based on the equipment age and parts obsolescence.*

*Based on Table 16 to the Malin Trust Agreement, BPA Contract No. 14-03-29224 (Table 16), BPA, PacifiCorp and Portland General Electric Company have joint ownership of the CTs on the Malin – Round Mountain No. 2 line. These CTs are associated with breaker position 4582 on the Malin – Round Mountain No. 2 line. Therefore cost sharing will be based on the ownership percentage established in Table 16.*

Accordingly, BPA and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when executed by both BPA and PacifiCorp.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$258,148, with applicable overheads included. The total cost of this work is to be shared by PacifiCorp, in proportion to the percentage ownership of the Malin Substation's jointly owned equipment. Section 6 and Exhibit B, Figure 3 of Table 16, as amended, defines those percentages, and stipulates their applicability to the CTs on the Malin – Round Mountain No. 2 line, as follows:

Party	Joint Ownership ( % )	Total Costs ( \$ ) Work Order 347835
BPA	50.0	\$129,074
PacifiCorp	25.0	\$64,537
PGE	25.0	\$64,537
Total	100.0	\$258,148

**RECEIVED**  
JUL 15 2014

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PacifiCorp agrees to pay BPA \$64,537, which is PacifiCorp's ownership percentage share of the actual cost of Work Order 347835, and includes the applicable overheads for this completed project. BPA shall issue an invoice to PacifiCorp for this amount and PacifiCorp shall pay the invoice electronically, in accordance with instructions on the bill. Payment must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four (4) percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

- (a) Replaced leaking CTs C06301 and C06314 on the B and C phase of the Malin – Round Mountain No. 2 line due to non-repairable leaking.
- (b) Replaced CT C06300 on the A phase of the Malin – Round Mountain No. 2 line due to age and equipment and parts obsolescence.
- (c) Removal of existing CT footings and installation of new footings.

**5. OWNERSHIP**

Title to, and ownership of, the equipment installed under this Exhibit, shall be in accordance with Table 16, as amended, and as indicated by the percentages specified in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended. PacifiCorp's share of the cost of maintaining jointly owned facilities replaced hereunder shall be the same percentage as the ownership percentage indicated in Exhibit B, Figure 3 of Table 16.

7. **ENVIRONMENT**

BPA's Pollution, Prevention and Abatement group (PPA group) completed a Pollution Abatement Clearance (PAC), conducting inspections and sampling to determine if hazardous waste contamination or other environmental concerns existed. The PPA group provided guidance on disposal of soil, concrete, and other excess materials to BPA's project workers to ensure compliance with Federal and state environmental regulations. Identified soil and concrete were disposed of properly.


8. **SIGNATURES**

The Parties have executed this Exhibit as of the last date indicated below.

PACIFICORP

UNITED STATES OF AMERICA

Department of Energy 

Bonne 

(b)(6) 

By

By

Name Laura Kaepush Dombronsky  
(Print/Type)

Name Kenneth H. Johnston  
(Print/Type)

Title Account Manager

Title Transmission Account Executive

Date July 9, 2014

Date 6/19/14

CCM: 29224\_ExhB\_T40

**EXHIBIT B, TABLE 38  
MODIFICATION OF FACILITIES**

MAY 24 2013

*This Exhibit B, Table 38 (Exhibit) captures the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and PacifiCorp regarding a recently completed work order in the Malin Substation's Main Control House, for the replacement of the South Bus Differential Relay.*

Accordingly, BPA and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when it has been executed by both BPA and PacifiCorp.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$206,968, with applicable overheads included. The total cost of this work is to be shared by PacifiCorp in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines the percentages applicable to the Malin Substation Main Control House. The following table applies the percentages to the total cost, as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs (\$) Work Order 248411</b>
BPA	50.0	\$103,484
<b>PacifiCorp</b>	<b>25.0</b>	<b>\$51,742</b>
PGE	25.0	\$51,742
Total	100.0	\$206,968

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PacifiCorp agrees to pay BPA \$51,742, PacifiCorp's ownership percentage of the actual costs of Work Order 248411, which includes the applicable overheads for this completed project. PacifiCorp shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 20<sup>th</sup> day after the invoice is issued (Due Date). If the 20<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or



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(b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

#### 4. DUTIES OF BPA

- (a) Replaced differential relay (set A) on the South Bus with current/standard differential relay;
- (b) Replaced relay rack; and
- (c) Made the redundant relay set on the South Bus identical and supportable to the North Bus relay set.

#### 5. OWNERSHIP

Title to and ownership of the equipment installed under this Exhibit, shall be in accordance with Subsection 5(a) of Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.

#### 6. OPERATION AND MAINTENANCE

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended.

#### 7. SIGNATURES

The Parties have executed this Exhibit as of the last date indicated below.

PACIFICORP

By:

(b)(6)

Name: Laura Kaypolsh

(Print/Type)

Title: Account Manager, Trans.

Date: 6/18/13

CCM: 29224\_ExhB\_T38

UNITED STATES OF AMERICA

Department of Energy

Bonneville (b)(6)

By:

Name: Kenneth H. Johnston

(Print/Type)

Title: Transmission Account Executive

Date: 5/23/13

**EXHIBIT B, TABLE 41  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 41 (Exhibit) captures the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and PacifiCorp, for a recently completed work order.*

*Work Order 322001 provided for the replacement of various relays located in the Malin Substation control house. This equipment is jointly owned by BPA, PacifiCorp, and Portland General Electric (PGE) pursuant to Contract 14-03-59840, at 50% BPA, 25% PGE, and 25% PacifiCorp. BPA has recently replaced 500 kV relays at the Malin Substation, and this Exhibit B Table 41 details the ownership and cost responsibilities between BPA and PacifiCorp associated with Work Order 322001.*

Accordingly, BPA and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when executed by both BPA and PacifiCorp.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$1,013,711.60, with applicable overheads included. The total cost of this work is to be shared by PacifiCorp, in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment, as follows:

<b>Party</b>	<b>Joint Ownership (%)</b>	<b>Total Costs (\$) Work Order 322001</b>
BPA	50.0	\$ 506,855.80
<b>PacifiCorp</b>	<b>25.0</b>	<b>\$ 253,427.90</b>
PGE	25.0	\$ 253,427.90
<b>Total</b>	<b>100.0</b>	<b>\$ 1,013,711.60</b>

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PacifiCorp agrees to pay BPA \$253,427.90, which is PacifiCorp's ownership percentage share of the actual cost of Work Order 322001, and includes the applicable overheads for this completed project. BPA shall issue an invoice to PacifiCorp for this amount and PacifiCorp shall pay the invoice electronically, in accordance with instructions on the bill. Payment must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate, as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due, plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

BPA has fully performed the following tasks required for completion of this work order:

- (a) Replaced the existing 500 kV relays on the Malin – Grizzly #2 line with a new 500 kV relay package. This includes replacement of the Transfer Trip relays. Transfer Trip will be via digital relay to relay communications. Installed 2 OHSU cards in channel bank;
- (b) Replaced the existing 500 kV relays on the Malin – Captain Jack #1 line with a new 500 kV relay package. This includes replacement of the Transfer Trip relays. Transfer Trip will be via digital relay to relay communications. Installed 2 OHSU cards in channel bank; and
- (c) Installed two Universal Relays with two Line Loss Logic each.

**5. OWNERSHIP**

Title to, and ownership of, the equipment installed under this Exhibit, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended.



7. **SIGNATURES**

The Parties have executed this Exhibit as of the last date indicated below.

**PACIFICORP**

By

(b)(6)

Name

Rich Vail

(Print/Type)

Title

VP, Transmission

Date

6/3/15

CCM: 29224\_ExhB\_T41

**UNITED STATES OF AMERICA**

Department of Energy

Bonneville Power Administration

By

(b)(6)

Name

David A. Fitzsimmons

(Print/Type)

Title

Manager, Transmission Sales

Date

6/11/2015

**EXHIBIT B, TABLE 42  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 42 (Exhibit) captures the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and PacifiCorp, for a recently completed work order.*

*Under Work Order 319051 BPA retired and replaced three existing JEM dual interchange meter sets (six meters in all). Meters are located within the jointly owned Malin Substation control house.*

*Based on Malin Construction and Operation Agreement, Contract 14-03-59840, BPA, PacifiCorp and Portland General Electric Company have joint ownership in the Malin Substation's Main Control House, and all equipment installed therein.*

Accordingly, BPA and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when executed by both BPA and PacifiCorp.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$125,502.16, with applicable overheads included. The total cost of this work is to be shared by PacifiCorp, in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment, as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ ) Work Order 319051</b>
BPA	50.0	\$ 62,751.08
<b>PacifiCorp</b>	<b>25.0</b>	<b>\$ 31,375.54</b>
PGE	25.0	\$ 31,375.54
Total	100.0	\$ 125,502.16

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PacifiCorp agrees to pay BPA \$31,375.54, which is PacifiCorp's ownership percentage share of the actual cost of Work Order 319051, and includes the applicable overheads for this completed project. BPA shall issue an invoice to PacifiCorp for this amount and PacifiCorp shall pay the invoice electronically, in accordance with instructions on the bill. Payment must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

### Late Payments

After the Due Date, a late payment charge equal to the higher of:

(a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or

(b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

### 4. DUTIES OF BPA

Replaced three sets of dual interchange meters (six meters total) on the following:

- 1) PacifiCorp 500/230 kV Transformer;
- 2) Malin - Round Mountain 500 kV # 1 line; and
- 3) Malin - Round Mountain 500 kV # 2 line.

### 5. OWNERSHIP

Title to, and ownership of, the equipment installed under this Exhibit, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.

### 6. OPERATION AND MAINTENANCE

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended.

### 7. SIGNATURES

The Parties have executed this Exhibit as of the last date indicated below.

PACIFICORP

By (b)(6)  
Name Rick Vail  
(Print/Type)  
Title VP, Transmission  
Date 6/3/15

CCM: 29224\_ExhB\_T42

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By (b)(6)  
Name David A. Fitzsimmons  
(Print/Type)  
Title Manager, Transmission Sales  
Date 6/11/2015

## EXHIBIT B, TABLE 43 MODIFICATION OF FACILITIES

*This Exhibit B, Table 43 (Table 43) documents the project, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and PacifiCorp regarding a recently completed work order.*

*Under Work Order 00349163 BPA replaced the Optical Network System (ONS) equipment in the Malin Substation Control House.*

*Based on the Malin Construction and Operation Agreement, Contract 14-03-59840, BPA, PacifiCorp and Portland General Electric Company have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 43 shall be effective at 0000 hours on the date when it has been executed by both BPA and PacifiCorp.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$199,594, with applicable overheads included. The total cost of this work is to be shared by PacifiCorp in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines the percentages applicable to the Malin Substation Main Control House. The following table applies the percentages to the total cost, as follows:

Party	Joint Ownership (%)	Total Costs (\$) Work Order 00349163
BPA	50	\$99,798
PacifiCorp	25	\$49,898
PGE	25	\$49,898
Total	100	\$199,594

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PacifiCorp agrees to pay BPA \$49,898, which is PacifiCorp's ownership percentage share of the actual costs of Work Order 00349163, which includes the applicable overheads for this completed project. BPA shall issue an invoice to PacifiCorp for this amount and PacifiCorp shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

### Late Payments

After the Due Date, a late payment charge equal to the higher of:

(a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or

(b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

### 4. DUTIES OF BPA

Pursuant to Work Order 00349163, BPA completed the following work:

(a) Removed the existing ANSI ONS chassis;

(b) Replaced the old ANSI ONS chassis with current generation CISCO 15454 ONS Chassis, installed and tested; and

(c) Upgraded Malin station grounding system for compatibility with BPA standards.

### 5. OWNERSHIP

Title to and ownership of the equipment installed under this Exhibit, shall be in accordance with Subsection 5(a) of Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.

### 6. OPERATION AND MAINTENANCE

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended.

### 7. SIGNATURES

The Parties have executed this Table 43 as of the last date indicated below.

PACIFICORP

UNITED STATES OF AMERICA

Department of Energy

Bonneville (b)(6)

By:

(b)(6)

By:

(b)(6)

Name:

Rich Vail  
(Print/Type)

Name:

David A. Fitzsimmons  
(Print/Type)

Title:

VP, Transmission

Title:

Manager, Transmission Sales

Date:

6/14/16

Date:

June 21, 2016



**EXHIBIT B, TABLE 44  
MODIFICATION OF FACILITIES**

**AUTHENTICATED**

*This Exhibit B, Table 44 (Table 44) documents the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and PacifiCorp (PAC) regarding a recently completed work order.*

*Under Work Order 00381830, BPA replaced the communication battery charger equipment in the Malin Substation's Main Control House.*

*Based on the Malin Construction and Operation Agreement, Contract 14-03-59840, BPA, PGE and PacifiCorp have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PAC hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 44 shall be effective at 0000 hours on the date when executed by both BPA and PAC.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$101,168, with applicable overheads included. The total cost of this work is to be shared by PAC in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment, as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ ) Work Order 00381830</b>
BPA	50	\$50,584
PGE	25	\$25,292
<b>PacifiCorp</b>	<b>25</b>	<b>\$25,292</b>
Total	100	\$101,168

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PAC agrees to pay BPA \$25,292, which is PAC's ownership percentage share of the actual costs of Work Order 00381830, which includes the applicable overheads for this completed project. BPA shall issue an invoice to PAC for this amount and PAC shall pay the invoice electronically in accordance with instructions on the invoice. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Pursuant to Work Order 00381830, BPA completed the following work:

- (a) Removed the existing communication battery charger; and
- (b) Replaced the old battery charger with current generation battery charger, installed and tested.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Table 44, shall be in accordance with Subsection 5(a) of Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement, Contract No. 14-03-62876, as amended.

**7. SIGNATURES**

The Parties have executed this Table 44 as of the last date indicated below.

PACIFICORP

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: /S/ RICH VAIL

By: /S/ ERIC H. CARTER

Name: Rich Vail  
(Print/Type)

Name: Eric H. Carter  
(Print/Type)

Title: VP, Transmission

Title: Transmission Account Executive

Date: 6/14/16

Date: 6/20/16

**EXHIBIT B, TABLE 46  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 46, documents the project details, ownership percentage, project cost and cost sharing obligations between Bonneville Power Administration (BPA) and PacifiCorp regarding a recently completed work order. Under Work Order 00351723, BPA replaced the Station Service Emergency Generator in the Malin Substation. In accordance with the Malin Construction and Operation Agreement (Contract 14-03-59840), BPA, PGE and PacifiCorp have joint ownership in the Malin Substation's Main Control House and associated site improvements (paragraph 5.(a)(1)).*

Accordingly, BPA and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 46 shall be effective at 0000 hours on the date when executed by both BPA and PacifiCorp.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$579,084, with applicable overheads included. The total cost of this work is to be shared by PacifiCorp in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment, as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ ) Work Order 00351723</b>
BPA	50	\$289,542
PGE	25	\$144,771
<b>PacifiCorp</b>	<b>25</b>	<b>\$144,771</b>
Total	100	\$579,084

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PacifiCorp agrees to pay BPA \$144,771, which is PacifiCorp's ownership percentage share of the actual costs of Work Order 00351723, which includes the applicable overheads for this completed project. BPA shall issue an invoice to PacifiCorp for this amount and PacifiCorp shall pay the invoice electronically in accordance with instructions on the invoice. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.



**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Pursuant to Work Order 00351723, BPA completed the following work:

- (a) Removed the existing station service emergency generator; and
- (b) Replaced the old emergency generator with current emergency generator, installed and tested.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Table 46, shall be in accordance with Subsection 5(a) of Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement, Contract No. 14-03-62876, as amended.

7. SIGNATURES

This Agreement may be executed in several counterparts, all of which taken together will constitute one single agreement, and the Agreement may be executed and delivered electronically. The parties have executed this Agreement as of the last date indicated below.

PACIFICORP

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: \_\_\_\_\_

By: \_\_\_\_\_

(b)(6)

Digitally signed by  
ehc2532@bud.bpa.gov  
Date: 2018.06.11 14:40:19 -07'00'

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Senior Transmission Account Executive

If opting out of the electronic signature:

By: \_\_\_\_\_

(b)(6)

Name: \_\_\_\_\_

BRIAN FRITZ

(Print/Type)

Title: \_\_\_\_\_

DIRECTOR TRANSMISSION SERVICES

Date: \_\_\_\_\_

6/29/2018

**EXHIBIT B, TABLE 47  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 47 (Table 47) documents the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and PacifiCorp regarding a recently completed work order. Prior to commencing the work, BPA, Portland General Electric Company (PGE), and PacifiCorp entered into a Letter of Intent dated February 12, 2019. This Table 47 is intended to be consistent with the Letter of Intent. BPA replaced and installed fencing and security equipment at the Malin Substation, a Critical Infrastructure facility to ensure adequate physical protection for critical assets. In accordance with the Malin Construction and Operation Agreement (Contract 14-03-59840), BPA, PGE, and PacifiCorp have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 47 shall be effective at 0000 hours on the date when executed by both BPA and PacifiCorp.

**2. COST SHARING**

The Project costs are separated into two aspects, which are: (a) installation of a new Security Fence, and (b) installation of Security Equipment.

With respect to the Security Fence, BPA and PacifiCorp were unable to agree on the necessity and cost allocation for the Security Fence. BPA determined that the Security Fence is nevertheless, necessary from a security perspective. BPA thus assumes the total cost of the Security Fence and will take full ownership of the Security Fence. BPA's total cost to complete the Security Fence, including overheads was \$3,353,521. This arrangement does not create precedent for future projects.

The total cost of the installation of Security Equipment including overheads is to be shared by PacifiCorp in proportion to the percentage ownership of the Malin Substation's Main Control House. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment. The tables below reflect the ownership percentages for both aspects of the Project, and the final charges.

(a)

Security Fence			
Party	Joint Ownership (%)	Total Costs ( \$ )	Final Amount Due ( \$ )
BPA	100	\$3,353,521	\$3,353,521
PGE	0	\$0	\$0
<b>PacifiCorp</b>	<b>0</b>	<b>\$0</b>	<b>\$0</b>
Total	100	\$3,353,521	\$3,353,521

(b)

Security Equipment			
Party	Joint Ownership (%)	Total Costs ( \$ )	Final Amount Due ( \$ )
BPA	50	\$944,736	\$944,736
PGE	25	\$472,368	\$472,368
<b>PacifiCorp</b>	<b>25</b>	<b>\$472,368</b>	<b>\$472,368</b>
Total	100	\$1,889,472	\$1,889,472

3.

**JOINT OWNERSHIP PAYMENT OBLIGATION**

PacifiCorp agrees to pay BPA \$472,368, which is PacifiCorp's ownership percentage share of the costs incurred or actual costs for the Security Equipment portion of the Project, which includes the applicable overheads. This amount represents the total costs attributable to PacifiCorp's portion of the Project. BPA shall issue an invoice to PacifiCorp for this amount and PacifiCorp shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or

- (b) the Prime Rate times 1.5, divided by 365;  
shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

BPA completed the following work:

- (a) Fence (Demolition, Fence, Fence Post Footings, Gates, Fence Grounding, Yard Rock, Hydroseed), and
- (b) Security (Cameras, Security Poles and Footings, Security Cabinets, Trenching and Conduit for Fiber and Electrical, Grounding for Security Equipment, Hardware and Software System, Program, Test, and Commission Security Equipment), Civil Improvements (Gravel Path, Boulders, Construction Entrance).

**5. OWNERSHIP**

Title to and ownership of the equipment installed under Section 2(a) above shall be in accordance with the Letter of Intent between BPA, PacifiCorp, and PGE dated February 12, 2019. For clarity and the avoidance of doubt, BPA takes title to and ownership of the Security Fence that it installed at its expense. PacifiCorp and PGE retain title to and ownership of their respective lands underneath the Security Fence as well as their respective interior fencing.

Title to and ownership of the equipment installed under Section 2(b) above shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2(b) above.

**6. OPERATION AND MAINTENANCE**

BPA assumes the responsibility for Operation and Maintenance of the Security Fence facilities and equipment installed under Section 2(a); however, the cost of repairs for damage to the Security Fence shall be borne by the party that caused such damages (BPA, PGE or PacifiCorp). PacifiCorp agrees to provide access to the Security Fence for its Operation and Maintenance. BPA agrees that PacifiCorp retains access to Malin Substation as access currently stands.

BPA will notify and share information with PacifiCorp regarding security incidents (i.e., fence perimeter intrusion attempts or actual break-ins).

Operation and Maintenance of the Security Equipment facilities and equipment installed under Section 2(b) shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No.14-03-62876), as amended.

**7. SIGNATURES**

This Agreement may be executed in several counterparts, all of which taken together will constitute one single agreement, and the Agreement may be executed and delivered electronically. The parties have executed this Agreement as of the last date indicated below.

PACIFICORP

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: **Brian Fritz** Digitally signed by Brian Fritz  
Date: 2019.12.13 15:20:01  
-08'00'

By: **ERIC CARTER** Digitally signed by ERIC CARTER  
Date: 2019.12.13 10:30:10 -08'00'

Title: Director, Transmission Services

Title: Senior Transmission Account Executive

If opting out of the electronic signature:

By: \_\_\_\_\_

Name: \_\_\_\_\_  
(Print/Type)

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**EXHIBIT B, TABLE 49  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 49 (Table 49) documents the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and PacifiCorp regarding a recently completed work order at the Malin Substation. Under Work Order 425936, BPA replaced the Comdial Keyed Telephone System (Comdial KTS System) that was beyond its economic life and no longer supported by the manufacturer. In accordance with the Malin Construction and Operation Agreement (Contract 14-03-59840), BPA, Portland General Electric (PGE) and PacifiCorp have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 49 shall be effective at 0000 hours on the date when executed by both BPA and PacifiCorp.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$160,442 including applicable overheads, is to be shared by PacifiCorp in proportion to the percentage ownership of the Malin Substation's Main Control House.

Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment. The table below reflects the ownership percentages for the Project, and the final charges.

Malin KTS Replacement			
Party	Joint Ownership (%)	Total Costs (\$)	Final Amount Due (\$)
BPA	50	\$80,221	\$80,220
PGE	25	\$40,111	\$40,111
PacifiCorp	25	\$40,111	\$40,111
Total	100	\$160,443	\$160,442

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PacifiCorp agrees to pay BPA \$40,411, which is PacifiCorp's ownership percentage share of the actual costs of Work Order 425936, which includes the applicable overheads. This amount represents total costs attributable to PacifiCorp's portion of the Project. BPA shall issue an invoice to PacifiCorp for this amount and PacifiCorp shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Pursuant to Work Order 425936, BPA completed the following work:

- (a) Removed and retired existing Comdial KTS System; and
- (b) Replaced retired Comdial KTS System with new Comdial KTS System, installed and tested.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Table 49, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended.



**7. SIGNATURES**

This Table may be executed in several counterparts, all of which taken together will constitute one single agreement, and may be executed by electronic signature and delivered electronically. The Parties have executed this Table as of the last date indicated below.

PACIFICORP

UNITED STATES OF AMERICA

Department of Energy

Bonneville Power Administration

By: **Rick Vail** Digitally signed by Rick Vail  
Date: 2021.08.05 15:44:52  
-07'00'

By: **ERIC CARTER** Digitally signed by ERIC CARTER  
Date: 2021.04.05 13:45:41 -07'00'

Title: VP, Transmission

Title: Senior Transmission Account Executive

If opting out of the electronic signature:

By: \_\_\_\_\_

Name: \_\_\_\_\_  
(Print / Type)

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**EXHIBIT B, TABLE 48  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 48 (Table 48) documents the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and PacifiCorp regarding a recently completed work order at the Malin Substation. Under Work Order 425943, BPA conducted a relay replacement project at the Malin Substation for the Round Mountain (Round MT) Relays that were technologically obsolete and beyond its economic lifecycle. In accordance with the Malin Construction and Operation Agreement (Contract 14-03-59840), BPA, Portland General Electric (PGE) and PacifiCorp have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 48 shall be effective at 0000 hours on the date when executed by both BPA and PacifiCorp.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$2,759,932 including applicable overheads, is to be shared by PacifiCorp in proportion to the percentage ownership of the Malin Substation's Main Control House.

Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment. The table below reflects the ownership percentages for the Project, and the final charges.

Replacement of the Round MT Relays at Malin Substation			
Party	Joint Ownership (%)	Estimated Total Costs (\$)	Final Amount Due (\$)
BPA	50	\$1,379,966	\$1,375,672
PGE	25	\$689,983	\$687,836
PacifiCorp	25	\$689,983	\$687,836
Total	100	\$2,759,932	\$2,751,344

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PacifiCorp agrees to pay BPA **\$687,836**, which is PacifiCorp's ownership percentage share of the actual costs of Work Order 425943, which includes the applicable overheads. This amount represents total costs attributable to PacifiCorp's portion of the Project. BPA shall issue an invoice to PacifiCorp for this amount and PacifiCorp shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Pursuant to Work Order 425943, BPA completed the following work:

- (a) Removed existing Round Mt Relays; and
- (b) Replaced with new Round Mt Relays, installed and tested.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Table 48, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended.

**7. SIGNATURES**

This Table may be executed in several counterparts, all of which taken together will constitute one single agreement, and may be executed by electronic signature and delivered electronically. The Parties have executed this Table as of the last date indicated below.

PACIFICORP

UNITED STATES OF AMERICA

Department of Energy

Bonneville Power Administration

By: **Rick Vail** Digitally signed by Rick Vail  
Date: 2021.08.24 05:48:24  
-07'00'

By: **ERIC CARTER** Digitally signed by ERIC CARTER  
Date: 2021.04.05 13:45:09 -07'00'

Title: VP, Transmission

Title: Senior Transmission Account Executive

If opting out of the electronic signature:

By: \_\_\_\_\_

Name: \_\_\_\_\_  
(Print / Type)

Title: \_\_\_\_\_

Date: \_\_\_\_\_



In reply refer to: PCH

# United States Department of the Interior

BONNEVILLE POWER ADMINISTRATION  
P.O. BOX 3621, PORTLAND, OREGON 97208

JUN 29 1977

Exhibit B  
Table 3  
Contract No. 14-03-29225

Mr. G. E. Bredemeier  
Vice President  
Portland General Electric Company  
621 S.W. Alder Street  
Portland, Oregon 97205

Dear Mr. Bredemeier:

By letter of February 7, 1977, Portland General requested that Bonneville make certain Intertie relay modifications for it at the Government's Malin substation. The parties have agreed that such modifications would be mutually beneficial. Accordingly, I propose that the work be accomplished under Contract No. 14-03-29225 subject to the following terms and conditions:

1. Amount of Trust Deposit. \$2,000.

Estimated total cost of modifications is \$8,000. Consistent with its share of facilities owned under Contract No. 14-03-59840, Portland General shall pay for and own 25% of all facilities and site improvements installed at Malin under this table.

2. Duties of the Administrator. The Administrator shall, partially at Portland General's expense, within five months after the effective date of this Table 3, design and provide the necessary labor and materials, and

(a) on the Grizzly 500-kV No. 1 and No. 2 line terminals,

- (1) remove and retire electromechanical relay set No. 2, with the exception of the KRD ground relay which will be moved to relay set No. 1 to provide permissive clearing for ground faults;
- (2) replace the KC-4 and AR relays in relay set No. 1 with SI and ARS relays;
- (3) reconnect the SKBU phase comparison relays; and



Ltr to G. E. Bredemeier, PGE, Contract No. 14-03-29225, Exhibit B,  
Table 3

- (4) modify the automatic reclosing scheme;
- (b) on the 500-kV Round Mountain No. 1 and No. 2 line terminals,
  - (1) replace the KC-4 and AR relays in relay set No. 3 with SI and ARS relays; and
  - (2) modify the automatic reclosing scheme; and
- (c) test and energize the facilities installed under this section.

3. Duties of the Company. Jointly with the Administrator, test and energize the facilities installed under section 2 above.

If this Table 3 is acceptable to Portland General, please indicate your approval by signing one copy and returning it to me. Table 3 will be effective on the date Bonneville receives a signed copy together with a check in the amount of the Trust Deposit.

Sincerely yours,

(b)(6)

(SEAL)

ACTING

Administrator

Effective Date: 7/29/77

APPROVED:

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By

Title Vice President

**EXHIBIT B, TABLE 50  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 50 (Table 50) documents the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and PacifiCorp regarding a recently completed work order at the Malin Substation. Under Work Order 420266, BPA conducted a Physical Security Enhancement project at the Malin Substation. In accordance with the Malin Construction and Operation Agreement (Contract 14-03-59840), BPA, Portland General Electric (PGE) and PacifiCorp have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PacifiCorp hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 50 shall be effective at 0000 hours on the date when executed by both BPA and PacifiCorp.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$41,528 including applicable overheads, is to be shared by PacifiCorp in proportion to the percentage ownership of the Malin Substation's Main Control House. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment. The table below reflects the ownership percentages for the Project, and the final charges.

Malin Substation Physical Security Enhancements			
Party	Joint Ownership (%)	Estimated Total Costs (\$)	Final Amount Due (\$)
BPA	50	\$36,341	\$20,764
PGE	25	\$18,170	\$10,382
<b>PacifiCorp</b>	<b>25</b>	<b>\$18,170</b>	<b>\$10,382</b>
Total	100	72,681\$	\$41,528

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PacifiCorp agrees to pay BPA \$10,382, which is PacifiCorp's ownership percentage share of the actual costs of Work Order 420266, which includes the applicable overheads. This amount represents total costs attributable to PacifiCorp's portion of the Project. BPA shall issue an invoice to PacifiCorp for this amount and PacifiCorp shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Pursuant to Work Order 420266, BPA completed the following work:

Upgraded the physical security to add alarm sensors to the tunnel hatches.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Table 50, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended.



**7. SIGNATURES**

This Table may be executed in several counterparts, all of which taken together will constitute one single agreement, and may be executed by electronic signature and delivered electronically. The Parties have executed this Table as of the last date indicated below.

PACIFICORP

UNITED STATES OF AMERICA

Department of Energy

Bonneville Power Administration

By: **Rick Vail** Digitally signed by Rick Vail  
Date: 2021.08.05 15:44:19  
-07'00'

By: **ERIC CARTER** Digitally signed by ERIC CARTER  
Date: 2021.04.05 13:46:14 -07'00'

Title: VP, Transmission

Title: Senior Transmission Account Executive

If opting out of the electronic signature:

By: \_\_\_\_\_

Name: \_\_\_\_\_  
(Print / Type)

Title: \_\_\_\_\_

Date: \_\_\_\_\_



OFFICE OF  
THE ADMINISTRATOR  
In reply refer to: PCH

# United States Department of the Interior

## BONNEVILLE POWER ADMINISTRATION

P.O. Box 3621, PORTLAND, OREGON 97208

MAR 25 1974

EXHIBIT B  
Table 2  
Contract No. 14-03-29225

Mr. A. J. Porter  
Senior Vice President  
Portland General Electric Company  
621 S. W. Alder Street  
Portland, Oregon 97205

Dear Mr. Porter:

Portland General, Pacific, and Bonneville have discussed the installation of another oscillograph at Malin substation. The total estimated cost of this installation is \$42,000.

I have determined that such installation is beneficial to the Government and propose the oscillograph be installed under Contract No. 14-03-29225 and the following terms and conditions:

1. Trust Fund. \$10,500
2. Duties of the Administrator. The Administrator, partially at Company expense, shall within 12 months after the effective date of this Table 2, furnish the necessary labor and material, and design, construct, and
  - (a) install a 16-element oscillograph in Malin substation; and
  - (b) perform test and energization of the facilities installed.
3. Duties of the Company. None.

If this Table 2 is acceptable to Portland General, please indicate your approval by signing one copy and returning it to me. Table 2 will be effective on the later of (1) the date Bonneville receives the signed copy of this Table 2 together with a check in the amount of the trust fund from the Company or (2) the date Bonneville receives a signed copy of Exhibit B,

Letter to A. J. Porter, Subj: Exhibit B, Table 2, Contract No. 14-03-29225

Table 2, to Contract No. 14-03-29224 together with a check in the amount of the trust fund from Pacific Power & Light Company.

Sincerely,

(b)(6)

(SEAL)

ACTING

Administrator

Effective Date: 4-8-74

APPROVED:

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By \_\_\_\_\_

Title Senior Vice President



Department of Energy

Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

In reply refer to: PCH

AUG 11 1978

Table 5  
Exhibit B  
Contract No. 14-03-29225

Mr. G. E. Bredemeier  
Vice President  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, Oregon 97204

Dear Mr. Bredemeier:

In recent discussions between representatives of Bonneville and Portland General, it was agreed that it would be mutually beneficial to the parties for Bonneville to perform the work at Malin substation as outlined under this Table 5.

Accordingly, I propose that the work be performed at Malin substation in accordance with the following terms and conditions:

1. Amount of Trust Deposit. \$4,025.

Estimated total cost of modifications is \$16,100. Consistent with its share of facilities owned under Contract No. 14-03-59840 among the parties hereto, Pacific Power & Light Company and the U.S. Bureau of Reclamation, Portland General shall pay for and own 25 percent of all facilities and site improvements installed at Malin substation under this table.

2. Duties of the Administrator. The Administrator partially at the expense of Portland General as set forth in section 1, shall, by 60 days after the Effective Date, provide the necessary labor, materials and design, and

(a) install necessary control switch and SCADA wiring in the Malin substation control house for the control of the 500 kV circuit switcher associated with the Malin substation reactors belonging to Portland General Electric Company, including the wiring necessary for transmission of status indication of the control switch to the PGE system control center, and also installation of control cables to the circuit switcher and associated control and relay connections;

Ltr to G. E. Bredemeier, PGE Company, Subj: Table 5, Exhibit B, Contract No. 14-03-29225

(b) connect seven existing SCADA I points, rewire three other existing SCADA I points; and

(c) perform test and energization of all facilities installed under this Table 5.

3. Duties of Portland General. Portland General, at its expense, shall

(a) by 30 days after the Effective Date,

(1) install a 500 kV circuit switcher and associated equipment at Malin substation;

(2) install conduit from circuit switcher to manhole 4C; and

(3) make wiring connections at the circuit switcher; and

(b) by 60 days after the Effective Date, cooperate with the Administrator in performing test and energization of all facilities installed under this Table 5.

4. Ownership of Facilities. Ownership of facilities shall be as specified in said Contract No. 14-03-59840.

If this Table 5 is acceptable to Portland General, please indicate your approval by signing one copy and returning it to me. Table 5 shall become effective on the date that Bonneville receives a signed copy from Portland General, together with a check in the amount of the Trust Deposit (Effective Date).

Sincerely,

(b)(6)

ACTING

Administrator

Effective Date: SEP 13 1978

APPROVED:  
PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By

Title VICE PRESIDENT



OFFICE OF  
THE ADMINISTRATOR

In reply refer to: PCH

# United States Department of the Interior

BONNEVILLE POWER ADMINISTRATION  
P.O. BOX 5621, PORTLAND, OREGON 97208

JUL 15 1977

EXHIBIT B  
Table 4  
Contract No. 14-03-29225

Mr. G. E. Bredemeier  
Vice President  
Portland General Electric Company  
121 S.W. Salmon Street  
Portland, Oregon 97204

Dear Mr. Bredemeier:

On May 3, 1972, we sent a letter to your office requesting Portland General's participation in the Supervisory Control and Data Acquisition (SCADA) system installation at the Government's Malin substation. With your participation, this work was recently completed and SCADA became operational. I propose that we ratify the informal arrangement under which this work was accomplished by executing this Table 4 to Contract No. 14-03-29225 as follows:

1. Amount of Trust Fund: \$17,400.

Estimated total cost of modifications is \$69,600. Consistent with its share of facilities owned under Contract No. 14-03-59840 between the parties hereto, Pacific Power & Light Company and the U. S. Bureau of Reclamation, Portland General shall pay for and own 25% of all facilities and site improvements installed at Malin under this table.

2. Duties of the Administrator: The Administrator, partially at the expense of Portland General, provided the necessary labor and materials and design, and

- (a) installed SCADA equipment at Malin substation; and
- (b) performed test and energization of the facilities installed.

3. Ownership of Facilities: The ownership of facilities is specified in said Contract No. 14-03-59840.



Ltr to G. E. Bredemeier, PGE, Subj: Exhibit B, Table 4, Contract  
No. 14-03-29225

If this Table 4 is acceptable to Portland General, please indicate  
your approval by signing one copy and returning it to me. Table 4  
will become effective on the date that Bonneville receives a signed  
copy from the Company, together with the necessary payment.

Sincerely yours,

(b)(6)

ACTING

Administrator

Effective Date: SEP 2 1977

APPROVED:

PORTLAND GENERAL ELECTRIC COMPANY

By

(b)(6)

Title Vice President



Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

In reply refer to: PCH

NOV 1 1978

EXHIBIT B  
Table 6  
Contract No. 14-03-29225  
Effective at 2400 hours on  
the Effective Date.

Mr. G. E. Bredemeier  
Vice President  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, Oregon 97204

Dear Mr. Bredemeier:

In recent correspondence between Bonneville and Portland General, it was agreed that it would be mutually beneficial for Bonneville to install four 100 watt amplifiers (Amplifiers or as specified Amplifier) at the Government's Malin substation as outlined under this Table 6. Four line tuning units (Tuning Units) will be installed concurrently with the Amplifiers at the expense of Pacific Power & Light Company (Pacific) and the Government.

Accordingly, I propose that the work performed for Portland General at Malin substation be accomplished under Contract No. 14-03-29225 (Trust Agreement) subject to the following terms and conditions:

1. Amount of Trust Deposit. \$2,750.

Estimated total cost of installation of the Amplifiers is \$11,000. In accordance with the provisions of Contract No. 14-03-59840 pertaining to the ownership of facilities at Malin substation by the parties hereto, Pacific and the U.S. Bureau of Reclamation, Portland General shall pay \$2,750 (25 percent of \$11,000) for the installation of the Amplifiers installed at Malin substation under this Table 6.

2. Duties of Bonneville. Bonneville shall by 180 days after the Effective Date, provide the necessary labor, materials and design and:



Letter to G. E. Bredemeier, Portland General Electric Company, Subject:  
Exhibit B, Table 6, Contract No. 14-03-29225

(a) at the partial expense of Portland General, install at Malin substation one Amplifier on each of the four carrier current phase comparison sets listed below:

- (1) Malin-Round Mountain Line No. 1 A-phase;
- (2) Malin-Round Mountain Line No. 1 C-phase;
- (3) Malin-Round Mountain Line No. 2 A-phase; and
- (4) Malin-Round Mountain Line No. 2 C-phase; and

(b) test and energize the facilities installed under this Table 6.

3. Duties of Portland General. Portland General shall cooperate with Bonneville to test and energize the facilities installed under section 2 of this Table 6.

4. Ownership of Facilities. Ownership of facilities shall be as specified in said Contract No. 14-03-59840.

All references to "the Administrator" in the Trust Agreement as amended or replaced shall be changed to "Bonneville."

If this Table 6 is acceptable to Portland General, please indicate your approval by signing one copy and returning it to me. Table 6 will become effective on the date that Bonneville receives a signed copy from Portland General, together with the amount of the Trust Deposit (Effective Date).

Sincerely,

(b)(6)

ACTING Administrator

Effective Date: November 8, 1978

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

By (b)(6)

Title VICE PRESIDENT



Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

JAN 26 1979

In reply refer to: PCH

EXHIBIT B  
Table 7  
Contract No. 14-03-29225  
Effective at 2400 hours  
on the Effective Date

Mr. Glen E. Bredemeier  
Vice President  
Portland General Electric Company  
121 S.W. Salmon Street  
Portland, Oregon 97204

Dear Mr. Bredemeier:

In recent correspondence between Bonneville and Portland General, it was agreed that it would be mutually beneficial to the parties for Bonneville to install a backup 50 ampere battery charger unit at the Malin substation.

Accordingly, Bonneville proposes that the work performed for Portland General at Malin substation be accomplished under Table 7 to Contract No. 14-03-29225 (Trust Agreement) subject to the following terms and conditions.

1. Amount of Trust Deposit. \$900

Estimated total cost of installation is \$3,600. In accordance with the provisions of Contract No. 14-03-59840 pertaining to the ownership of Malin substation facilities by Pacific, the U.S. Bureau of Reclamation, and the parties hereto, Portland General shall pay \$900 (25 percent of \$3,600) for the installation of the backup battery charger installed at Malin under Table 7.

2. Duties of Bonneville. Bonneville shall, partially at Portland General's expense, within eighteen months after the effective date of this table, design, provide the necessary labor and materials and install, test, and energize a 50 ampere battery charger.

3. Duties of Portland General. None

Ltr. to Glen E. Bredemeier, PGE, Subj: Exhibit B, Table 7, Contract No. 14-03-29225

4. Ownership of Facilities. Ownership of facilities shall be as specified in said Contract No. 14-03-59840.

If this Table 7 is acceptable to Portland General, please so indicate by signing one copy and returning it to Bonneville. Table 7 will become effective on the date that Bonneville receives such signed copy, together with the amount of the Trust Deposit (Effective Date).

Sincerely,

(b)(6)

Acting Administrator

Effective Date: 3/6/79

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

By (b)(6)

Title VICE PRESIDENT



Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

NOV 23 1979

In reply refer to: PCI

Exhibit B  
Table 8  
Contract No. 14-03-29225

Mr. Glen E. Bredemeier  
Vice President  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, Oregon 97204

Dear Mr. Bredemeier:

Representatives of Bonneville and Portland General Electric Company (Portland General) have agreed to the installation of solid state out-of-step relays on the AC-Intertie at Malin with the cost being shared among Bonneville, Portland General and Pacific Power & Light (Pacific).

Accordingly, Bonneville proposes the work be performed under the following terms and conditions:

1. Effective Date. This Table 8 shall take effect at 2400 hours on the date (Effective Date) that Bonneville has received all of the following:

(a) an originally signed copy of this agreement and a check in the amount of the Trust Deposit, and

(b) an originally signed Table 9 to Contract No. 14-03-29224 from Pacific and the attendant trust deposit.

2. Cost Sharing. The estimated cost of this work is \$21,900 which is to be shared as follows:

Bonneville	\$8,000
Pacific	\$9,900
Portland General	\$4,000

The costs of relocating the SLL relays to the Round Mountain No. 1 and No. 2 lines will be borne exclusively by Pacific and are included above.

3. Trust Deposit. The Trust Deposit shall be in the amount of \$4,000.

4. Duties of Bonneville. Bonneville, as soon as practicable after the Effective Date, shall (1) remove the existing HZM out-of-step relays, (2) procure and install SI-ARS fault detector relays for SLL supervision, (3) relocate the SLL relays to the Round Mountain No. 1 and No. 2 lines, (4) separate control of the SLL relays from relay set No. 1 and (5) perform together with Portland General all necessary tests. All costs are to be shared in accordance with Section 2 above.

5. Duties of Portland General. Portland General shall cooperate with Bonneville to test and energize the facilities installed under this table and make payments as required in Section 3.

6. Ownership and Operation and Maintenance of Facilities. Ownership of Facilities shall be as specified in Contract No. 14-03-59840, as amended. Operation and Maintenance shall be as specified in Contract No. 14-03-63627, as amended.

If this Table 8 is acceptable, please indicate Portland General approval by signing the copy provided and returning it to Bonneville.

Sincerely,

(b)(6)

ACTING Administrator

Effective Date:

January 14, 1980

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By

Title

VICE PRESIDENT



Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

OCT 2 1984

In reply refer to: PKT

Exhibit B, Table 9  
Contract No. 14-03-29225  
Effective at 2400 hours  
on the Effective Date

Mr. Glen E. Bredemeier  
Vice President  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Bredemeier:

Representatives of the Bonneville Power Administration (Bonneville), Portland General Electric Company (Portland General), and Pacific Power & Light Company (Pacific) have agreed that it would be to their mutual benefit if Bonneville made certain needed repairs and improvements to the Malin Substation access road, with the cost being shared among the principals.

Accordingly, I propose that Bonneville make these repairs and improvements pursuant to section 4(a)(4) of the Companies' O&M Trust Agreements for Malin Substation and under the following terms and conditions:

1. Effective Date. This Table 9 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received all of the following:

- a. An originally signed copy of this Table 9 and a check in the amount of the Trust Deposit, and
- b. an originally signed Table 11 of Exhibit B to Contract No. 14-03-29224 from Pacific and the attendant trust deposit.

2. Cost Sharing. The estimated cost of the above repairs and improvements, as described in section 4 below, is \$125,000. This amount is to be shared by the parties in proportion to their percentage ownerships of Malin Substation as follows:

Bonneville	\$52,800	(42.2%)
Pacific	\$51,600	(41.3%)
Portland General	\$20,600	(16.5%)

Final sharing will be based on actual costs.

3. Trust Deposit. The Trust Deposit shall be in the amount of \$20,600.

4. Duties of Bonneville. As soon as reasonably practicable after the Effective Date, Bonneville shall design, provide all necessary labor and materials, and construct new shoulders to and a new drainage system for the Malin access road. In addition, Bonneville shall repair all existing potholes in that road. All costs are to be shared in accordance with section 2.

5. Duties of Portland General. Portland General shall cooperate with Bonneville as necessary to make the improvements specified in this table and shall make payment as required in section 3.

6. Ownership. Ownership of the Malin Substation access road is as stated in section 5(c) of Contract No. 14-03-59840 and as indicated by the percentages listed in section 2 above.

7. Operation and Maintenance. Bonneville maintains the Malin Substation access road as provided under the BPA-Portland General O&M Trust Agreement (Contract No. 14-03-63627).

If this Table 9 is acceptable to Portland General, please indicate your approval by signing and returning one copy. The remaining copy is for your files.

Sincerely,

(b)(6)

ACTING Administrator

JAN 9 1985

Effective Date: \_\_\_\_\_

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By: \_\_\_\_\_

Title: Vice President

Date: Oct. 30, 1984

ATTEST:

(b)(6)

By: \_\_\_\_\_

Title: Assistant Secretary

Date: Nov. 1, 1984

(WP-PKTD-0334e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: PKT

January 26, 1987

Exhibit B  
Table 11 - Page 1 of 3  
Contract No. 14-03-29225  
Effective: See "Term" below

Mr. R. E. Dyer  
Vice President, Power Supply  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

To improve post analysis of disturbances on the Pacific Northwest-Pacific Southwest AC Intertie and to increase Intertie reliability, among other reasons, the four Intertie parties (Parties): Bonneville Power Administration (Bonneville), Portland General Electric Company (Portland General), Pacific Power & Light Company (Pacific), and Western Area Power Administration (WAPA) agree that Bonneville shall replace the existing antiquated Malin Substation (Malin) Data System (SUDS) with a modern Sequential Events Recorder (SER). The Parties further agree that they shall reimburse Bonneville in accordance with section 3 below. Energization is planned for June 1987.

I propose that the Malin Construction Trust Agreement, Contract No. 14-03-29225 (Primary Agreement) and the terms and conditions outlined below shall govern the replacement.

1. Term. This Table 11 shall be effective as of 2400 hours on the date Bonneville has received all the following:

- (a) An original signed copy of this Table 11 and a check from Portland General in the amount of the Trust Deposit; and
- (b) An original signed copy of Table 13 of Exhibit B to Contract No. 14-03-29224 from Pacific with a trust deposit in the amount stipulated as Pacific's share under section 3 below.

2. Trust Deposit. The Trust Deposit shall be in the amount of \$67,500.



3. Cost Sharing. The estimated total cost of replacing the SUDS recording system at Malin with a SER system, as described in section 4 below, is \$270,000. This estimated amount is to be shared by the Parties in proportion to their percentage ownerships of the Malin jointly owned property. Subsection 5(a) of the Malin Construction and Operation Agreement (Contract No. 14-03-59840) defines these percentages and stipulates their applicability to Malin control house equipment as follows:

<u>Party</u>	<u>Joint Ownership Percentage (%)</u>	<u>Estimated Share of SUDS-to-SER Replacement (\$)</u>
Bonneville	50.0	135,000
Portland General	25.0	67,500
WAPA 1/ Pacific	0.0 <u>25.0</u>	<u>67,500</u>
Total	100.0	\$270,000

Final sharing will be based on actual costs.

4. Duties of Bonneville. Bonneville shall design, provide all necessary labor and materials, and within 8 months after the effective date of this table replace the SUDS event/alarm disturbance recording system at Malin with a tested, energized, and operating SER event-recording system. All costs are to be shared in accordance with section 3 above.

5. Duties of Portland General. Portland General shall cooperate with Bonneville as necessary for Bonneville to make the SUDS-to-SER replacement specified in section 4 above. Portland General shall make payment as required in section 3 and section 1 above.

6. Ownership. Ownership of the Malin SER system installed hereunder shall be in accordance with subsection 5(a) of Contract No. 14-03-59840 and section 3 above.

1/ Pursuant to subsection 5(a) of Contract No. 14-03-59840, WAPA has no responsibility for Malin control house equipment. WAPA's share will be assumed by Bonneville acting for the Government. (WAPA's letter of March 6, 1985 from David G. Coleman, Area Manager, to Bonneville's Snake River Area Customer Service Manager, Steven A. Lee).

7. Operation and Maintenance. Bonneville will O&M the replacement SER system pursuant to subsections 4(a)(2) and 4(b) of the Malin O&M Trust Agreement (Contract No. 14-03-63627). Portland General shall reimburse Bonneville to the extent of Portland General's joint ownership percentage share (25 percent) indicated in section 3 above and subsection 3(c) of the Malin O&M Trust Agreement.

If this Table 11 is acceptable to Portland General, please indicate your approval by signing and returning one copy to Bonneville with a check in the amount of the Trust Deposit. The remaining copy is for your files.

(b)(6)

Administrator

Effective Date 3/16/87

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

By (b)(6)

Title Vice President, Power Supply

Date 2-10-87

(WP-PKT-0657e)



Department of Energy  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208

OFFICE OF THE ADMINISTRATOR

MAR 14 1986

In reply refer to: OWCA

Exhibit B, Table 10  
Contract No. 14-03-29225  
Effective at 2400 hours  
on the Effective Date

Mr. R. E. Dyer  
Vice President, Power Supply  
Portland General Electric  
121 S. W. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

Representatives of the Bonneville Power Administration (Bonneville), Pacific Power & Light Company (Pacific), and Portland General Electric Company (Portland General) have agreed that it would be to their mutual benefit if Bonneville made certain improvements to the stability controls for the AC Intertie at Malin Substation, with the cost being shared among the principals. These improvements are a critical step in establishing an appropriate level of reliability on the Intertie.

Accordingly, I propose that Bonneville make these improvements pursuant to the Construction Trust Agreement, Contract No. 14-03-29225, for Malin Substation and under the following terms and conditions:

1. Effective Date. This Table 10 shall be effective as of 2400 hours of the date (Effective Date) that Bonneville has received all of the following:
  - a. An originally signed copy of this Table 10 and a check in the amount of the Trust Deposit, and
  - b. an originally signed Table 12 of Exhibit B to Contract No. 14-03-29224 from Pacific and the attendant trust deposit.
2. Cost Sharing. The estimated total cost of the improvements, as described in section 4 below, is \$117,000. This amount is to be shared by the parties in proportion to their percentage ownerships of Malin Substation as follows:

Bonneville	\$58,500	(50%)
Portland General	\$29,250	(25%)
Pacific	\$29,250	(25%)

Final sharing will be based on actual costs.

3. Trust Deposit. The Trust Deposit shall be in the amount of \$29,250.
4. Duties of Bonneville. As soon as reasonably practicable after the Effective Date, Bonneville shall design, provide all necessary labor and materials to:
  - a. reconfigure the out-of-step lockout relays; and
  - b. add a redundant single-line-loss generator dropping circuit.
5. Duties of Portland General. Portland General shall cooperate with Bonneville as necessary to make the improvements specified in this table and shall make payment as required in section 3.
6. Ownership. Ownership of the equipment installed hereunder is as specified in Contract No. 14-03-59840.
7. Operation and Maintenance. Bonneville shall maintain the equipment installed hereunder as provided under the O&M Trust Agreement Contract No. 14-03-63627).

If this Table 10 is acceptable to Portland General, please indicate your approval by signing and returning one copy with a check in the amount of the Trust Deposit. The remaining copy is for your files.

(b)(6)

Administrator

MAR 14 1986

Effective Date

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

By: (b)(6)

Title: Vice President, Power Supply

Date: April 3, 1986



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: PKT

January 26, 1987

Exhibit B  
Table 12 - Page 1 of 4  
Contract No. 14-03-29225  
Effective: at 2400 hours  
on the Effective Date

Mr. Richard E. Dyer  
Vice President, Power Supply  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

In recent discussions and correspondence between representatives of the Bonneville Power Administration (Bonneville), Pacific Power and Light Company (Pacific), and Portland General Electric Company (Portland General), it was agreed that it would be mutually beneficial for Bonneville to replace the outdated battery chargers, oscillographs, and revenue meters at the jointly-owned Malin Substation (Malin) with less maintenance intensive, more reliable, modern equipment. Energization is planned for August 1987.

Accordingly, I propose that the work performed by Bonneville for Portland General hereunder at Malin be accomplished subject to Portland General's Malin Construction Trust Agreement (Contract No. 14-03-29225) and the following terms and conditions:

1. Effective Date. This Table 12 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received the following:
  - a. an originally signed copy of this Table 12 and a check from Portland General in the amount of the Trust Deposit; and
  - b. an originally signed copy of Table 14 of Exhibit B to Contract No. 14-03-29224 from Pacific and the attendant trust deposit.
2. Cost Sharing. The estimated total cost of replacing the battery chargers, oscillographs and revenue meters at Malin, as described in section 4 below, is \$190,000. The estimated costs are as follows:

Exhibit B  
Table 12 - Page 2 of 4  
Contract No. 14-03-29225  
Effective: at 2400 hours  
on the Effective Date

- a. battery charger replacement is \$17,000;
- b. oscillograph replacement is \$137,000; and
- c. revenue meter replacement is \$36,000.

The estimated total cost of replacing the equipment is to be shared by the parties in proportion to their percentage ownership of the Malin jointly-owned property. Subsection 5(a) of the Malin Construction and Operation Agreement (Contract No. 14-03-59840) defines such percentages and stipulates their applicability to the Malin control house equipment as follows:

Party	Joint Ownership Percentage (%)	Estimated Share of Replacement Costs (\$)
Bonneville	50.0	95,000
Portland General	25.0	47,500
Pacific	25.0	47,500
WAPA <sup>1/</sup>	0.0	0
Total	100.0	\$190,000

Final sharing shall be based on actual costs.

3. Trust Deposit. The Trust Deposit shall be in the amount of \$47,500.

4. Duties of Bonneville. As soon as reasonably practicable after the Effective Date of this Table, Bonneville shall design, provide all necessary labor and materials, and replace the battery chargers, oscillographs, and revenue meters at Malin as follows:

- a. Battery Chargers. Replace the two existing 50A, 125V DC chargers with two 75A, 125V DC chargers to obtain parallel charger capabilities and thereby enhance the reliability;

<sup>1/</sup> Pursuant to subsection 5(a) of Contract No. 14-03-59840, WAPA has no responsibility for Malin control house equipment. WAPA's share will be assumed by Bonneville acting for the Government. (WAPA's letter of March 6, 1985 from David G. Coleman, Area Manager, to Bonneville's Snake River Area Customer Service Manager, Steven A. Lee.)

Exhibit B  
Table 12 - Page 3 of 4  
Contract No. 14-03-29225  
Effective: at 2400 hours  
on the Effective Date

b. Oscillographs. Replace the two existing 12-channel light sensitive paper film oscillographs with one 32-channel digital oscillograph to eliminate the need to develop the paper film and to obtain pre-fault and remote readout capabilities; and

c. Revenue Meters. Replace existing electro-mechanical Sangamo P30F kWh and kVARh (in and out) revenue meters with solid state meters which are more accurate and require less maintenance on the following:

- (1) Portland General's Grizzly-Malin 500 kV line No. 2;
- (2) The Government's (WAPA's) Malin-Round Mountain 500 kV line No. 1;
- (3) Pacific's 500/230 kV transformer bank; and
- (4) Pacific's/Pacific Gas & Electric Company's Malin Round-Mountain 500 kV line No. 2.

All costs are to be shared in accordance with section 2 above.

5. Duties of Portland General. Portland General shall cooperate with Bonneville as necessary for Bonneville to make the equipment replacements specified in section 4 above. Portland General shall make payment as required in sections 1 and 3 above.

6. Ownership. Ownership of the Malin battery chargers, oscillograph, and revenue meters installed hereunder shall be in accordance with subsection 5(a) of Contract No. 14-03-59840, and as indicated by the percentages listed in section 2 above.

7. Operation and Maintenance. Bonneville will maintain the replacement units installed hereunder, as provided for under the O&M Trust Agreement (Contract No. 14-03-63627).

8. Accounting. If the parties agree that it is necessary for Portland General or Pacific to participate in the test and energization of the revenue meters replaced by Bonneville under this Table, the Companies' appropriate costs incurred shall be proper charges against this trust. The Companies shall submit to Bonneville a detailed invoice of their costs incurred and Bonneville shall give the Companies appropriate credit against this trust.

Exhibit B  
Table 12 - Page 4 of 4  
Contract No. 14-03-29225  
Effective: at 2400 hours  
on the Effective Date

If this Table 12 is acceptable to Portland General, please indicate your approval by signing and returning one copy to Bonneville with a check in the amount of the Trust Deposit. The remaining copy is for your files.

(b)(6)

Administrator

Effective Date \_\_\_\_\_

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

By (b)(6)

Title Vice President, Power Supply

Date 2-10-87

(WP-PKT-0691e)





**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: PKT

January 26, 1987

Exhibit B  
Table 15 - Page 1 of 4  
Contract No. 14-03-29225  
Effective: at 2400 hours on  
the Effective Date

Mr. Richard E. Dyer  
Vice President, Power Supply  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

At jointly-owned Malin 500-kV Substation (Malin) of the Pacific Northwest-Pacific Southwest AC Intertie (Intertie), the existing phase comparison relays (Line Relays) on (1) the Government-owned and WAPA-controlled Malin-Round Mountain 500-kV line No. 1 (Line No. 1) and (2) Pacific's Malin-Round Mountain 500-kV line No. 2 (Line No. 2) can no longer be considered adequate for Intertie protection and reliability. The existing Line Relays are also incapable of single pole switching.

Accordingly, the four Intertie parties (Parties): Bonneville Power Administration (Bonneville), Portland General Electric Company (Portland General), Pacific Power & Light Company (Pacific), and Western Area Power Administration (WAPA) agree that it would be mutually beneficial to replace the existing Line Relays with relays capable of single-pole switching. Energization is planned for October 1988.

I therefore propose that Bonneville make the above-mentioned relay replacement under the Malin Construction and Operation Agreement (Contract No. 14-03-59840), and that Portland General's participation in the replacement be governed by its Malin Construction Trust Agreement (Contract No. 14-03-29225), and the terms and conditions outlined below:

1. Effective Date. This Table 15 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received all of the following:

(a) an original signed copy of this Table 15 and a check from Portland General in the amount of the Trust Deposit as specified in subsection 3(a) below; and

(b) an original signed copy of Table 17 of Exhibit B to Contract No. 14-03-29224 from Pacific and the attendant trust deposit.

2. Cost Sharing. The estimated total cost of replacing the Line No. 1 and Line No. 2 relays is to be shared by the Parties in proportion to their percentage ownerships of the Malin jointly-owned property. Subsection 5(a) of the Malin Construction and Operation Agreement (Contract No. 14-03-59840) defines these percentages and stipulates their applicability to Malin control house equipment as follows:

<u>Party</u>	<u>Joint Ownership Percentage (%)</u>	<u>Estimated Share of Line Relay Replacement Costs (\$)</u>
Bonneville	50.0	339,000
Portland General	25.0	169,500
Pacific	25.0	169,500
WAPA <sup>1/</sup>	0.0	0
Total	100.0	\$678,000

Final sharing will be based on actual costs.

3. Trust Deposit. Portland General hereby agrees to pay \$169,500 to Bonneville to be held in trust to defray the cost to the Government of performing the duties specified in section 4. Portland General shall pay the Trust Deposit as follows:

- (a) \$10,000 on the date of execution;
- (b) \$52,500 within 4 months after the date of execution; and
- (c) \$107,000 within 12 months after the date of execution.

<sup>1/</sup> Pursuant to subsection 5(a) of Contract No. 14-03-59840, WAPA has no responsibility for Malin control house equipment. WAPA's share will be assumed by Bonneville acting for the Government. (WAPA's letter of March 6, 1985 from David G. Coleman, Area Manager, to Bonneville's Snake River Area Customer Service Manager, Steven A. Lee.)

4. Duties of Bonneville. Bonneville shall design, provide all necessary labor and materials, and within 24 months after the Effective Date of this Table shall:

(a) replace the existing Line Relays on Line No. 1 and Line No. 2 at Malin with tested, energized, and operating modern solid state relays capable of single-pole switching; and

(b) replace the Power Line Carrier communications link supporting the above-mentioned existing Line Relays and retire and replace such link with a Microwave Transfer Trip system.

All costs are to be shared in accordance with section 2 above.

5. Duties of Portland General. Portland General shall cooperate with Bonneville as necessary for Bonneville to make the Line Relay and communications link replacements specified in section 4 above. Portland General shall make payment as required in section 2 and section 1 above.

6. Ownership. Ownership of the Malin replacement Line Relays shall be in accordance with subsection 5(a) of Contract No. 14-03-59840 and the following:

	<u>Line No. 1</u> <u>(%)</u>	<u>Line No. 2</u> <u>(%)</u>
Bonneville (Government)	50	50
Portland General	25	25
Pacific	<u>25</u>	<u>25</u>
Total	100	100

7. Operation and Maintenance. Bonneville will O&M the replacement Line Relays as provided under subsections 4(a)(2) and 4(b) of the Malin O&M Trust Agreement (Contract No. 14-03-63627).

8. Microwave Facilities. All microwave facilities at Malin are solely owned and operated and maintained by Bonneville at Government expense. Accordingly, Bonneville shall own and make all additions, modifications, and replacements to microwave facilities for Line No. 1 and Line No. 2, and shall O&M these facilities at Government expense.

Exhibit B  
Table 15 - Page 4 of 4  
Contract No. 14-03-29225  
Effective: at 2400 hours on  
the Effective Date

If this Table 15 is acceptable to Portland General, please indicate your approval by signing and returning one copy to Bonneville with a check in the amount of the Trust Deposit as specified in subsection 3(a). The remaining copy is for your files.

(b)(6)

Administrator

Effective Date \_\_\_\_\_

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

By (b)(6)  
Title **Vice President, Power Supply**

Date 2-10-87

(WP-PKT-0700e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3821  
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: PKT

January 26, 1987

Exhibit B  
Table 13 - Page 1 of 3  
Contract No. 14-03-29225  
Effective at 2400 hours on  
the Effective date

Mr. Richard E. Dyer  
Vice President, Power Supply  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

In recent discussions and correspondence between representatives of the Bonneville Power Administration (Bonneville), Portland General Electric Company (Portland General), and Pacific Power & Light Company (Pacific), it was agreed that it would be mutually beneficial if Bonneville made certain significant changes and additions at the jointly-owned Malin Substation (Malin) to upgrade the AC Intertie Stability Control System. Cost for changes under this Part 3, Phase I of the Stability Control Upgrade Project shall be shared among the parties. Energization is planned for June 1987.

Accordingly, I proposed that these changes and additions to the Intertie stability controls be made by Bonneville for Portland General at Malin Substation under this Table 13 to Contract No. 14-03-29225 (Construction Trust Agreement) subject to the following terms and conditions:

1. Effective Date. This Table 13 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received the following:
  - a. an originally signed copy of this Table 13 and a check from Portland General in the amount of the Trust Deposit; and
  - b. an originally signed copy of Table 15 of Exhibit B to Contract No. 14-03-29224 from Pacific and the attendant trust deposit.
2. Cost Sharing. The estimated total cost for changes and additions in Part 3, Phase I, as described in section 4 below, is \$303,000. The estimated total cost of the additions and replacements is to be

Exhibit B  
Table 13 - Page 2 of 3  
Contract No. 14-03-29225  
Effective at 2400 hours on  
the Effective date

Shared by the parties in proportion to their percentage ownership of the Malin jointly-owned property. Subsection 5(a) of the Malin Construction and Operation Agreement (Contract No. 14-03-59840) defines those percentages applicable to the Stability Control System as follows:

Party	Joint Ownership Percentage (%)	Estimated Share of Stability Control Upgrade Costs (\$)
Bonneville	50.0	151,500
Pacific	25.0	75,750
Portland General	25.0	75,750
WAPA <sup>1/</sup>	0.0	0
Total	100.0	\$303,000

Final sharing shall be based on actual cost.

3. Trust Deposit. The Trust Deposit shall be in the amount of \$75,750.

4. Duties of Bonneville. As soon as reasonably practicable after the Effective Date of this Table, Bonneville shall design, provide all necessary labor and materials, and:

- a. add a power rate relay at Malin;
- b. revise the Malin-Grizzly "Intertie Trouble" transfer trip signal; and
- c. replace obsolete microwave transfer trip equipment associated with the existing remedial action scheme at Malin.

All costs are to be shared in accordance with section 2 above.

5. Duties of Portland General. Portland General shall cooperate with Bonneville as necessary for Bonneville to make the changes and additions specified in section 4 above. Portland General shall make payment as required in sections 1 and 3 above.

<sup>1/</sup> Pursuant to subsection 5(a) of Contract No. 14-03-59840, WAPA has no responsibility for Malin control house equipment. WAPA's share will be assumed by Bonneville acting for the Government. (WAPA's letter of March 6, 1985 from David G. Coleman, Area Manager, to Bonneville's Snake River Area Customer Service Manager, Steven A. Lee.)

Exhibit B  
Table 13 - Page 3 of 3  
Contract No. 14-03-29225  
Effective at 2400 hours on  
the Effective date

6. Ownership. Ownership of the equipment installed hereunder is as specified in subsection 5(a) of Contract No. 14-03-59840, and as indicated by the percentages listed in section 2 above.

7. Operation and Maintenance. Bonneville will maintain the equipment installed hereunder, as provided for under the O&M Trust Agreement (Contract No. 14-03-63627).

8. Microwave Facilities. All microwave facilities at Malin are solely owned and operated and maintained by Bonneville at Government expense. Accordingly, Bonneville shall own and make all additions, modifications, and replacements to microwave facilities for the AC Intertie Stability Control Upgrade, and shall O&M these facilities at Government expense.

If this Table 13 is acceptable to Portland General, please indicate your approval by signing and returning one copy to Bonneville with a check in the amount of the Trust Deposit. The remaining copy is for your files.

Sincerely,

(b)(6)

Administrator

Effective Date \_\_\_\_\_

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

By: \_\_\_\_\_

(b)(6)

Title: Vice President, Power Supply

Date: 2-10-87

(WP-PKT-0694e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: PMT

March 17, 1988

Exhibit B  
Table 14 - Page 1 of 5  
Contract No. 14-03-29225  
Effective at 2400 hours on  
the Effective Date

Mr. Richard E. Dyer  
Vice President, Power Management  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

In recent discussions and correspondence between representatives of the Bonneville Power Administration (Bonneville), Pacific Power & Light Company (Pacific), and Portland General Electric Company (Portland General), it was agreed that it would be mutually beneficial to upgrade jointly-owned AC Intertie Malin Substation (Malin) by, among other things, (1) adding two 500 kV power circuit breakers (Breakers) with their motor-operated disconnect switches (MOD's) and current transformers (CTs), four sets of 500 kV capacitor potential transformers (CPTs), and four 500 kV surge arresters; and (2) replacing two Breakers, their MOD's and CT's, and one set of transformer bank surge arresters and isolating disconnect switches (MOD's). Bonneville proposes to procure and install all project equipment and facilities, and proposes to do all work associated with the project. Project cost and ownership would be shared by Bonneville, Pacific, and Portland General.

The addition and replacement of the Breakers is required to improve AC Intertie reliability. Addition of the first Breaker will allow relocation of the Malin-Round Mountain 500 kV line No. 1 (Line No. 1) from the 500 kV north main bus (North Main Bus) to Bay 2. Addition of the second Breaker will allow relocation of the Malin-Round Mountain 500 kV line No. 2 (Line No. 2) from the 500 kV south main bus (South Main Bus) to Bay 4, and will isolate Pacific's Malin 500/230 kV transformer on the South Main Bus from Line No. 2. This will result in each line being terminated in its own bay position in a standard breaker-and-one-half configuration which is a more reliable switching arrangement. It will also enable single-pole relaying on the Malin-Round Mountain lines.



*Celebrating the U.S. Constitution Bicentennial — 1787-1987*



Replacing the middle breaker in Bay 2 is required for maintenance reasons and to provide adequate capacity for the breaker-and-one-half switching arrangement. Replacing the middle breaker in Bay 4 is only required to provide adequate capacity for the breaker-and-one-half switching arrangement. Energization is planned for December 1988.

I therefore propose that Bonneville make the above-mentioned Breaker, MOD, CT, CPT, and surge arrester additions and replacements at Malin under Portland General's Malin Construction Trust Agreement (Contract No. 14-03-29225), except as otherwise provided herein, and the terms and conditions outlined below. (Bonneville is currently executing a corresponding Table 16 with Pacific.)

1. Effective Date. This Table 14 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received the following:
  - (a) an originally signed copy of this Table 14 and a check from Portland General in the amount of the Trust Deposit specified in subsection 3(a) below; and
  - (b) an originally signed copy of Table 16 of Exhibit B to Contract No. 14-03-29224 from Pacific and the attendant trust deposit.
2. Cost Sharing. The estimated total cost for Bonneville to make the additions, replacements, reconnections, reconfigurations, and perform the other duties described in section 4 is \$6,076,000. Of this total, \$3,418,000 are joint costs shared by the owners in proportion to the ownership percentages of Bonneville 50 percent, Portland General 25 percent, and Pacific 25 percent, established in subsection 5(a) of the Malin Construction and Operation Agreement (Contract No. 14-03-59840). Portland General's share of the estimated total project cost is \$958,500 which consists of the following:
 

- Portland General's share of the joint cost	\$854,500
- Cost for which Portland General has sole responsibility	104,000
Portland General's total estimated cost	\$958,500

These costs are shown in Figures 1 and 2 of Exhibit B. The final cost will be based on actual costs.

3. Trust Deposit. Portland General hereby agrees to pay \$958,500 to Bonneville to be held in trust to defray its share of the total project cost (see column (3) of Figure 2.) This amount is also Portland General's share of the cost for Bonneville to perform the duties specified in section 4. Portland General shall pay the Trust Deposit as follows:
  - (a) \$200,000 on the date of execution;
  - (b) \$300,000 within 4 months after the date of execution; and
  - (c) \$458,500 within 9 months after the date of execution.

4. Duties of Bonneville. Bonneville shall design, furnish, and provide all necessary labor and materials, and within 12 months after the Effective Date of this Table 14 shall:

(a) At the Government's sole expense:

- (1) submit necessary project design drawings to Portland General for review, comment, and approval within a reasonable time after completing the project designs;
- (2) replace the middle 500 kV Breaker and its MODs and CTs in Bay 2 with a new 4000 ampere Breaker, MODs, and 3000/5 ampere rated new CTs;
- (3) replace the Grizzly 500 kV No. 1 Line Breaker CTs in Bay 2 with 3000/5 ampere rated new CTs; and
- (4) add new 500 kV line surge arresters on the Grizzly 500 kV No. 1 line and the Round Mountain 500 kV No. 1 line in Bay 2.

(b) At Portland General's sole expense add new 500 kV line surge arresters on the Grizzly 500 kV No. 2 line in Bay 4.

(c) At the Government's, Portland General's, and Pacific's joint expense:

- (1) add a new 500 kV, 3000 ampere Breaker with MODs and 3000/5 ampere rated CTs in Bay 2 as the Round Mountain 500 kV No. 1 Line Breaker, MODs and CTs;
- (2) add a new 500 kV, 3000 ampere Breaker with MODs and 3000/5 ampere rated CTs in Bay 4 as the Round Mountain 500 kV No. 2 Line Breaker, MODs, and CTs;
- (3) add a set of new 500 kV CPTs as the 500 kV South Main Bus CPTs;
- (4) reconnect the set of existing CPT's in Bay 3 as the 500 kV North Main Bus CPT's;
- (5) install and reconfigure the 500 kV South Main Bus between Bays 2 and 4;
- (6) install all joint-use control house wiring, cable, conduit, and grounding associated with equipment and facilities that are part of this Breaker project;
- (7) add a 500 kV, 3000 ampere motor-operated disconnect switch (MOD) in Bay 6 to be the Meridian Line South Main Bus Switch;
- (8) reterminate Line No. 1 from Bay 3 to Bay 2; and

- (9) with Pacific or Portland General, as appropriate, joint test and energize their solely owned facilities added, replaced, or reconnected hereunder.

(d) At the Government's and Pacific's joint expense:

- (1) add a set of new 500 kV CPTs on both sides of the Round Mountain 500 kV No. 1 line series capacitors in Bay 2;
- (2) add a set of new 500 kV CPTs on the line side of the Round Mountain 500 kV No. 2 line series capacitors in Bay 4;
- (3) replace the middle 500 kV Breaker, its MODs, and CTs in Bay 4 with a new 4000 ampere Breaker with MODs and 3000/5 ampere rated new CTs; and
- (4) reconnect Pacific's 500 kV South Main Bus 500/230 kV transformer in Bay 1 to include replacement of its 500 kV isolating disconnect switch (MOD) and opening surge resistors, removal of its 500 kV circuit switcher, and replacement of its 500 kV surge arresters.

All costs are to be shared in accordance with section 2 above and Figures 1 and 2 of Exhibit B.

- 5. Duties of Portland General. Portland General shall cooperate with Bonneville as necessary for Bonneville to complete the additions, replacements, reconnections, tests, energizations, and other duties specified in section 4 above. Portland General shall review the project design drawings, furnished by Bonneville under subsection 4(a)(1), and within 15 days after receipt thereof provide Bonneville with comments on and within a reasonable time approval of such designs. Portland General shall make payment as required in sections 2 and 3 above.
- 6. Ownership. Notwithstanding the provisions of section 5 of Contract No. 14-03-59840 regarding facilities and site improvements installed on or above the land areas of each party, ownership of facilities installed under section 4 of this Table 14 shall be as depicted in Figure 3. The joint ownership percentages of Bonneville 50 percent, Pacific 25 percent, and Portland General 25 percent are derived from subsection 5(a) of Contract No. 14-03-59840.
- 7. Operation and Maintenance. Operation and maintenance of the facilities installed under this Table 14 shall be as provided for in the Malin O&M Trust Agreement (Contract No. 14-03-63627).
  - (a) Portland General's share of the cost of maintaining jointly owned facilities installed hereunder shall be the same percentage as the ownership percentage indicated in Figure 3 of this Table 14.

- (b) Each party is responsible for maintenance of its solely owned facilities installed under this Table 14. However, Bonneville will maintain, at Portland General's expense, Portland General's solely owned facilities specified in Exhibit A of Contract No. 14-03-63627.

8. Progress Reports and Final Drawings.

- (a) Bonneville shall provide Portland General with a monthly progress report as appropriate to note significant milestones, delays, and final completion of its respective portion of this Breaker Additions and Replacements Project. These reports shall commence from the Effective Date and terminate when the Breaker Additions and Replacements Project has been successfully tested, energized, and released for commercial operation.
- (b) On completion of the work specified herein, Bonneville shall furnish Portland General accurate physical layout drawings and schematic wiring diagrams of the equipment and facilities installed or modified under its respective portion of the Breaker Additions and Replacements Project.

If this Table 14 is acceptable to Portland General, please indicate your approval by signing and returning two original copies to Bonneville with a check in the amount of the Trust Deposit as specified in subsection 3(a). Bonneville will transmit a fully executed original copy for your records.

(b)(6)

Administrator

Effective Date 4/25/88

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

By (b)(6)

Title Vice President

Date MARCH 31, 1988

(VS6-PMTT-3005e)

COST SHARING FOR PROJECT FACILITIES

Equipment/Facility (1)	Percentage of Cost Borne (%)			Estimated Cost Borne (\$)			
	Bonneville (2)	Pacific (3)	Portland General (4)	Bonneville (5)	Pacific (6)	Portland General (7)	Total (8)
Bay 2 Round Mountain 500 kV No. 1 Line Breaker, MOD, and CT Addition	50	25	25	515,000	257,500	257,500	1,030,000
Bay 4 Round Mountain 500 kV No. 2 Line Breaker, MOD, and CT Addition	50	25	25	443,500	221,750	221,750	887,000
Grizzly 500 kV No. 1 Line Breaker CT Replacement	100	--	--	142,000	---	---	142,000
Bay 2 500 kV Middle Breaker, MOD, and CT Replacement	100	--	--	884,000	---	---	884,000
Bay 4 500 kV Middle Breaker, MOD, and CT Replacement	75	25	--	663,000	221,000	---	884,000
<u>Group No. 1</u>				720,000	345,000	315,000	1,380,000
500 kV Round Mountain Lines CPT Additions (3 sets)	75	25	--				
South Main Bus CPT Addition (1 set)	50	25	25				
North Main Bus CPT Reconnection (1 set)	50	25	25				

Figure 1

Exhibit B, Table 14  
Figure 1 - Page 2 of 6  
Contract No. 14-03-29225  
Portland General Electric Company  
Effective at 2400 hours on  
the Effective Date

Equipment/Facility (1)	Percentage of Cost Borne (%)			Estimated Cost Borne (\$)			
	Bonneville (2)	Pacific (3)	Portland General (4)	Bonneville (5)	Pacific (6)	Portland General (7)	Total (8)
Retermination of Round Mountain 500 kV No. 1 Line from Bay 3 to Bay 2	50	25	25				
Control House Indoor Wiring, Cable, Conduit, and Grounding Installation	50	25	25				
<u>Group No. 2</u>	100	---	---	170,000	---	---	170,000
Grizzly 500 kV No. 1 Line Surge Arresters Additions	100	---	---				
Round Mountain 500 kV No. 1 Line Surge Arresters Addition	100	---	---				
Grizzly 500 kV No. 2 Line Surge Arresters Addition	---	---	100	---	---	104,000	104,000
Round Mountain 500 kV No. 2 Line Surge Arresters Addition	---	100	---	---	72,000	---	72,000
South Main Bus 500/230 kV Transformer Reconnection Including: - Replacement of 500 kV isolating disconnection switch and addition of opening surge resistors	75	25	---	211,500	70,500	---	282,000

Figure 1

Exhibit B, Table 14  
Figure 1 - Page 3 of 6  
Contract No. 14-03-29225  
Portland General Electric Company  
Effective at 2400 hours on  
the Effective Date

Equipment/Facility (1)	Percentage of Cost Borne (%)			Estimated Cost Borne (\$)			
	Bonneville (2)	Pacific (3)	Portland General (4)	Bonneville (5)	Pacific (6)	Portland General (7)	Total (8)
- Removal of 500 kv circuit switcher - Replacement of 500 kv bank surge arresters							
South Main Bus Reconfiguration Between Bays 2 and 4	50	25	25	70,000	35,000	35,000	140,000
Bay 6 Meridian Line 500 kv South Main Bus Switch (MOD) Addition	50	25	25	50,500	25,250	25,250	101,000
Total Project				3,869,500	1,248,000	958,500	6,076,000
Solely Expensed Cost				1,196,000	72,000	104,000	1,372,000
Jointly Expensed Cost				2,673,500	1,176,000	854,500	4,704,000

Figure 1

Exhibit B, Table 14  
 Figure 2 - Page 4 of 6  
 Contract No. 14-03-29225  
 Portland General Electric Company  
 Effective at 2400 hours on  
 the Effective Date

PARTICIPATION IN ESTIMATED PROJECT COST

	Share of Estimated Project Cost			
	Estimated Solely Expensed Cost	Estimated Jointly Expensed Cost with Bonneville, Portland General and Pacific Participating 1/	Estimated Jointly Expensed Cost with Bonneville and Pacific Participating 2/	Estimated Project Cost
Bonneville	1,196,000	1,709,000	964,500	3,869,500
Pacific	72,000	854,500	321,500	1,248,000
Portland General	104,000	854,500	0	958,500
Total Project	1,372,000	3,418,000	1,286,000	6,076,000

1/ Sharing of the jointly expensed cost is based on joint ownership percentages of Bonneville 50 percent, Portland General 25 percent, and Pacific 25 percent established in subsection 5(a) of the Malin Construction and Operation Agreement (Contract No. 14-03-59840).

2/ Sharing of the jointly expensed cost is based on subsection 5(a) of Contract No. 14-03-59840, and Exhibit A of the Pacific-Bonneville Intertie Agreement (Contract No. DE-MS79-86BP2299 in which Pacific's participation is established at 25 percent.

(VS6-PMTT-3005e)

Figure 2



Exhibit B, Table 14  
Figure 3 - Page 5 of 6  
Contract No. 14-03-29225  
Portland General Electric Company  
Effective at 2400 hours on  
the Effective Date

OWNERSHIP OF FACILITIES AND EQUIPMENT  
INSTALLED AT MALIN SUBSTATION UNDER SECTION 4

Equipment/Facility (1)	Percentage Ownership (%)		
	Bonneville (2)	Pacific (3)	Portland General (4)
Bay 2 Round Mountain 500 kV No. 1 Line Breaker, MOD, and CT Addition	50	25	25
Bay 4 Round Mountain 500 kV No. 2 Line Breaker, MOD, and CT Addition	50	25	25
Grizzly 500 kV No. 1 Line Breaker CT Replacement	100	--	--
Bay 2 500 kV Middle Breaker, MOD, and CT Replacement	100	--	--
Bay 4 500 kV Middle Breaker, MOD, and CT Replacement	75	25	--
500 kV Round Mountain No. 1 Line CPT Additions (2 sets)	100	--	--
500 kV Round Mountain No. 2 Line CPT Addition (1 set)	--	100	--
North Main Bus CPT Reconnection (1 set)	100	--	--
South Main Bus CPT Addition (1 set)	50	25	25
Grizzly 500 kV No. 1 Line Surge Arresters Addition	100	--	--
Grizzly 500 kV No. 2 Line Surge Arresters Addition	--	--	100
Round Mountain 500 kV No. 1 Line Surge Arresters Addition	100	--	--
Round Mountain 500 kV No. 2 Line Surge Arresters Addition	--	100	--

Figure 3

OWNERSHIP OF FACILITIES AND EQUIPMENT  
INSTALLED AT MALIN SUBSTATION UNDER SECTION 4

Equipment/Facility  (1)	Percentage Ownership (%)		
	Bonneville (2)	Pacific (3)	Portland General (4)
South Main Bus 500/230 kV Transformer Reconnection Including:	--	100	--
- Replacement of 500 kV isolating disconnect switch and addition of opening surge resistors	--	100	--
- Removal of 500 kV circuit switcher	--	100	--
- Replacement of 500 kV bank surge arresters	--	100	--
South Main Bus Reconfiguration Between Bays 2 and 4	50	25	25
Control House Indoor Wiring, Cable, Conduit, and Grounding Installation	50	25	25
Bay 6 Meridian Line 500 kV South Main Bus Switch (MOD) Addition <u>1/</u>	--	100	--
Retermination of Round Mountain Line No. 1 from Bay 3 to Bay 2 <u>2/</u>	100	--	--
Round Mountain No. 2 Line 500 KV South Main Bus Switch (MOD) <u>1/</u>	50	25	25

1/ In exchange for giving Pacific 100 percent ownership of the Meridian Line 500 kV South Main Bus Switch, the existing Round Mountain No. 2 Line 500 kV South Main Bus Switch shall be jointly owned by Bonneville (50%), Portland General (25%), and Pacific (25%).

2/ When the Round Mountain 500 kV No. 1 Line is reterminated from Bay 3 to Bay 2, Bonneville, acting by and for the Government, shall own the section of that line within Malin passing over land owned by Pacific, and the Bay 2 deadend tower.

Figure 3



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208 - 3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: PKT

February 5, 1987

Exhibit B  
Table 17, page 1 of 4  
Contract No. 14-03-29225  
Effective at 2400 hours  
on the Effective Date

Mr. Richard E. Dyer  
Vice President, Power Supply  
Portland General Electric Company  
121 S.W. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

In recent discussions and correspondence between representatives of the Bonneville Power Administration (Bonneville), Pacific Power and Light Company (Pacific), and Portland General Electric Company (Portland General), it was agreed that it would be mutually beneficial for Bonneville to construct a 34' by 40' addition to the north side of the jointly-owned Malin Substation (Malin) control house, reroof the existing Malin control house and replace the heating, ventilating, and air conditioning system (HVAC). Completion is planned for November 1987.

The addition to the control house is needed for the control and communication equipment associated with the Malin breaker additions, Malin-Round Mountain relay replacements, the stability control upgrade projects, and the mechanically-switched capacitor (MSC). This addition shall include sufficient space to house future control, protection, communication, and data systems. The new roof is needed because of the deteriorating condition of the existing roof. The current HVAC is 6 years past its nominal service life and suffers from frequent failures. Additional HVAC capacity is also needed because of the control house expansion.

Accordingly, I propose that the work performed by Bonneville for Portland General at Malin be accomplished subject to the following terms and conditions:

1. Effective Date. This Table 17 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received all the following:

Exhibit B  
Table 17, page 2 of 4  
Contract No. 14-03-29225  
Effective at 2400 hours  
on the Effective Date

a. an originally signed copy of this Table 17 and a check from Portland General in the amount of the Trust Deposit as specified in subsection 3(a); and

b. an originally signed copy of Table 19 of Exhibit B to Contract No. 14-03-29224 from Pacific and the attendant trust deposit.

2. Cost Sharing. The estimated total cost of constructing the 34 foot by 40 foot addition, reroofing the control house and replacing the HVAC at Malin, as described in section 4 below, is \$349,000. The estimated total cost of these additions and replacements is to be shared by the parties in proportion to their percentage ownerships of the Malin jointly-owned property. Subsection 5(a) of the Malin Construction and Operation Agreement (Contract No. 14-03-59840) defines these percentages and stipulates their applicability to the Malin control house as follows:

Party	Joint Ownership Percentage (%)	Estimated Share of Control House Expansion Costs (\$)
Bonneville	50.0	174,500
Portland General	25.0	87,250
Pacific	25.0	87,250
WAPA <sup>1/</sup>	0.0	0
Total	100.0	\$349,000

Final sharing shall be based on actual costs.

<sup>1/</sup> Pursuant to subsection 5(a) of Contract No. 14-03-59840, WAPA has no responsibility for Malin control house equipment. WAPA's share will be assumed by Bonneville acting for the Government. (WAPA's letter of March 6, 1985 from David G. Coleman, Area Manager, to Bonneville's Snake River Area Customer Service Manager, Steven A. Lee.)

3. Trust Deposit. Portland General hereby agrees to pay \$87,250 to Bonneville to be held in trust to defray the cost to the Government for performing the duties specified in section 4. Portland General shall pay the Trust Deposit as follows:

- a. \$10,000 on the date of execution; and
- b. \$77,250 within 4 months after the date of execution.

4. Duties of Bonneville. Bonneville shall design, provide all necessary labor and materials, and within 9 months after the Effective Date of this Table construct the addition to the Malin control house, reroof the control house and replace the HVAC as follows:

- a. Control House Addition. Construct a 34' by 40' addition to the north side of the Malin control house;
- b. Control House Reroofing. Reroof the control house with a pitched roof; and
- c. HVAC Replacement. Remove and replace the existing water-cooled air conditioning unit and water-heated boiler with a new outdoor air-cooled air conditioning unit and a new electric resistance heating unit.

All costs are to be shared in accordance with section 2 above.

5. Duties of Portland General. Portland General shall cooperate with Bonneville as necessary for Bonneville to make the additions and replacements as specified in section 4 above. Portland General shall make payment as required in section 3 above.

6. Ownership. Ownership of the Malin Substation control house addition, new roof, and new HVAC installed hereunder shall be in accordance with subsection 5(a) of Contract No. 14-03-59840 and as indicated by the percentages listed in section 2 above.

7. Operation and Maintenance. Bonneville shall maintain the new and replacement units installed hereunder, as provided under the O&M Trust Agreement (Contract No. 14-03-63627).

Exhibit B  
Table 17, page 4 of 4  
Contract No. 14-03-29225  
Effective at 2400 hours  
on the Effective Date

If this Table 17 is acceptable to Portland General, please indicate your approval by signing and returning one copy to Bonneville with a check in the amount of the Trust Deposit as specified in subsection 3(a). The remaining copy is for your files.

(b)(6)

Administrator

Effective Date \_\_\_\_\_

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

By (b)(6)

Title Vice President, Power Supply

Date 2-10-87

(WP-PKT-0696e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: PKT

January 26, 1987

Exhibit B  
Table 18 - Page 1 of 3  
Contract No. 14-03-29225  
Effective: at 2400 hours on  
the Effective Date

Mr. Richard E. Dyer  
Vice President, Power Supply  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

The existing HVDC Modulation System (Modulation Control System) for damping power flow over the AC Intertie is well beyond its expected service life. In its present state, the Modulation Control System does not provide the desired level of reliability for an Intertie-related control system, has no backup, and provides only minimal monitoring.

Accordingly, the four AC Intertie parties (Parties): Bonneville Power Administration (Bonneville), Portland General Electric Company (Portland General), Pacific Power & Light Company (Pacific), and Western Area Power Administration (WAPA) agree that it would be to their mutual benefit if Bonneville replaced the existing Modulation Control System located at John Day Substation and Celilo Converter Station with an updated control system at Malin Substation and Celilo Converter Station. Energization is planned for February 1989.

I therefore propose that Bonneville make the changes at Malin Substation (Malin) necessary to support the above-mentioned Modulation Control System replacement in accordance with the Malin Construction and Operation Agreement (Contract No. 14-03-59840), and that Portland General's participation in the replacement be governed by its Malin Construction Trust Agreement (Contract No. 14-03-29225) and the terms and conditions outlined below.

1. Effective Date. This Table 18 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received all the following:

Exhibit B  
Table 18 - Page 2 of 3  
Contract No. 14-03-29225  
Effective: at 2400 hours on  
the Effective Date

- a. an original signed copy of this Table 18 and a check from Portland General in the amount of the Trust Deposit as specified in section 2 below; and
  - b. an original signed copy of Table 20 of Exhibit B to Contract No. 14-03-29224 from Pacific and the attendant trust deposit.
2. Trust Deposit. The Trust Deposit shall be: (a) \$5,000 on date of execution and (b) \$30,000 by 12 months after the date of execution.
3. Cost Sharing. The estimated total cost of installing the Malin portion of the upgraded Modulation Control System is to be shared by the Parties in proportion to their percentage ownerships of the Malin jointly-owned property. Subsection 5(a) of the Malin Construction and Operation Agreement (Contract No. 14-03-59840) defines these percentages and stipulates their applicability to Malin control house equipment as follows:

<u>Party</u>	<u>Joint Ownership Percentage (%)</u>	<u>Estimated Share of Modulation Control System Installation Costs at Malin (\$)</u>
Bonneville	50.0	70,000
Portland General	25.0	35,000
Pacific	25.0	35,000
WAPA <sup>1/</sup>	<u>0.0</u>	<u>0</u>
Total	100.0	140,000

Final sharing will be based on actual costs.

4. Duties of Bonneville. Bonneville shall design, provide all necessary labor and materials at Malin, and within 25 months after the Effective Date of this Table replace the existing Modulation Control System with a tested, energized, and operating modern control system.

The equipment to be located at Malin includes transducers and telemetry necessary to make AC Intertie measurements and transmit the real-time data to an HVDC Modulation Controller located at Celilo Converter Station.

All costs are to be shared in accordance with section 3 above.

<sup>1/</sup> Pursuant to subsection 5(a) of Contract No. 14-03-59840, WAPA has no responsibility for Malin control house equipment. WAPA's share will be assumed by Bonneville acting for the Government. (WAPA's letter of March 6, 1985 from David G. Coleman, Area Manager, to Bonneville's Snake River Area Customer Service Manager, Steven A. Lee.)



Exhibit B  
Table 18 - Page 3 of 3  
Contract No. 14-03-29225  
Effective: at 2400 hours on  
the Effective Date

5. Duties of Portland General. Portland General shall cooperate with Bonneville as necessary for Bonneville to make the Modulation Control System installation specified in section 4 above. Portland General shall make payment as required in section 3 and section 1 above.

6. Ownership. Ownership of the upgraded Modulation Control System installed hereunder at Malin shall be in accordance with subsection 5(a) of Contract No. 14-03-59840 and as indicated by the percentages listed in section 3 above.

7. Operation and and Maintenance. Bonneville will O&M the upgraded Modulation Control System installed hereunder at Malin as provided under subsections 4(a)(2) and 4(b) of the Portland General Malin O&M Trust Agreement (Contract No. 14-03-63627).

If this Table 18 is acceptable to Portland General, please indicate your approval by signing and returning one copy to Bonneville with a check in the amount of the Trust Deposit as specified in section 2. The remaining copy is for your files.

(b)(6)

Administrator

Effective Date \_\_\_\_\_

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

By (b)(6)  
Title Vice President, Power Supply

Date 2-10-87

(WP-PKT-0706e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208 - 3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: PMT

August 24, 1990

Exhibit B  
Table 20 - Page 1 of 6  
Contract No. 14-03-29225  
Effective at 2400 hours on  
the Effective Date

Mr. Richard E. Dyer  
Vice President, Power Management  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

Representatives of Bonneville Power Administration (Bonneville) and Portland General Electric Company (Portland General) desire to supersede the July 28, 1988, version of this Table 20 executed July 29, 1988, with this August 24, 1990, version of Table 20.

Representatives of Bonneville, Portland General, and Pacific Power & Light Company (Pacific) agree that it would be mutually beneficial if Bonneville made certain significant changes and additions at jointly-owned Malin Substation (Malin) to upgrade the existing Pacific Northwest-Pacific Southwest AC and HVDC Intertie Stability Control Systems (Upgrade Project), with the costs being shared by the parties. Authorized Phase 1 of the Upgrade Project has all but been completed.

Under proposed Phases 2 and 3 of the Upgrade Project at Malin, the Intertie Stability Control Systems will attain the necessary reliability, security, and flexibility to meet and exceed current and anticipated Western Systems Coordinating Council (WSCC) operating standards by essentially replacing the existing systems with new systems capable of fully redundant operations.

Energization for Phase 2 and Phase 3 is planned for February 1991. The HVDC stability controls for Phase 2 were completed in March 1989.

I therefore propose that Bonneville make the above Phase 2 and Phase 3 replacement and upgrade of the Intertie Stability Control Systems at Malin under the Bonneville-Portland General Malin Construction Trust Agreement (Contract No. 14-03-29225) and the following terms and conditions (Bonneville is currently executing a corresponding Table 22 with Pacific):

1. Effective Date. This Table 20 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received the following:

(a) an originally signed copy of this Table 20 and a check from Portland General in the amount of the Trust Deposit specified in subsection 3(c); and

(b) an originally signed copy of Table 22 of Exhibit B to Contract No. 14-03-29224 from Pacific and the attendant trust deposit.

2. Cost Sharing.

(a) The estimated project joint costs for Bonneville to make the Phase 2 and Phase 3 replacement and upgrade of the existing Intertie Stability Control Systems at Malin are \$1,428,000. Actual replacement and upgrade costs are to be shared by the parties in proportion to the cost sharing percentages established in subsection 9(f) of the Bonneville-Portland General Electric Company Intertie Agreement (Contract No. DE-MS79-87BP92340) and as indicated in Figure 1(a) below. Portland General's estimated share of the total joint costs is \$357,000.

The estimated project total costs for Bonneville to make the above-mentioned replacement and upgrade (including installation of auxiliary "b" switches on Bonneville and Portland General MOD's) at Malin is \$1,444,000 as indicated in Figure 1(b) below. Portland General's estimated share of project total costs is \$362,000.

<u>PROJECT JOINT COSTS</u>		
<u>Party</u>	<u>Cost Sharing Percentage (%)</u>	<u>Estimated Share of Phase 2 &amp; Phase 3 Joint Costs (\$)</u>
Bonneville	50.0	714,000
Portland General	25.0	357,000
Pacific	<u>25.0</u>	<u>357,000</u>
Total	100.0	1,428,000 <u>1/</u>

1/ Cost estimates include 30 percent overheads.

Figure 1 (a)

Final sharing of project joint costs will be based on actual costs, including 30 percent overheads for Portland General and Pacific, as described in subsection 2(b) and estimated costs as modified in accordance with subsection 2(c).

PROJECT TOTAL COSTS

Party	Project Joint Costs From Figure 1(a) Above (\$)	MOD Auxiliary "b" Switch Installation		Project Total Costs (\$)
		Responsibility for	Costs (\$)	
Bonneville	714,000	own "b" switch installation.	11,000	725,000
Portland General	357,000	own "b" switches as installed by Bonneville.	5,000	362,000
Pacific	<u>357,000</u>	own "b" switch installation.	<u>---</u>	<u>357,000</u>
Total	1,428,000		16,000	1,444,000 <u>1/</u>

1/ Cost estimates include 30 percent overheads.

Figure 1 (b)

Final sharing of project total costs will be based on actual costs, including 30 percent overheads for Portland General and Pacific, as described in subsection 2(b) and estimated costs as modified in accordance with subsection 2(c).

(b) Portland General's share of the Upgrade Project at Malin Substation consists of the following four components:

- (1) Direct Specific Substation Costs which are 25 percent of (WO 827-534) actual (final) costs plus a 30 percent overhead charge. This amount is estimated to be \$299,400.
- (2) Line Loss Logic Prototype Costs (WO 827-517) which are based on the ratio of the number of Line Loss Logic Units at Malin to the total number of Upgrade Project Line Loss Logic Units. This amount is estimated to be \$14,800. Final billing will be based on WO 827-517 actual (final) charges. The formula is shown in section (a) of Attachment 1.
- (3) Upgrade Project Coordination, Project Management, and Testing Costs (WO 827-546) which are based on the ratio of the Malin specific substation costs to the total Upgrade Project costs. This amount is estimated to be \$42,800. The formula is shown in section (b) of Attachment 1.

(4) Auxiliary "b" Switch Installation Costs which are estimated to be \$5,000. This estimated costs includes an assessment of \$600 representing the costs of Coordination, Project Management, and Testing associated with the installation of the auxiliary "b" switches, the formula for which is shown in section (b) of Attachment 1.

(c) Final billing of WO 827-546 charges to the substations will be based on the above subsection 2(b) and Attachment 1 formulas, except the actual (final) charges to WO 827-546 (Holding), WO 827-521 (Fort Rock), WO 827-534 (Malin), and WO 827-536 (Grizzly), will be used instead of estimated values in all calculations. The value of \$SCU used in the final billing formulas will be the best available estimate of final cost at the time WO 827-546 is closed. (This estimated cost will reflect the actual costs for WO's 827-546, 827-521, 827-534, 827-536, and any other Work Orders that have been closed, as well as any revisions made to the remaining estimates to account for mutually approved project scope changes or cost adjustments.)

3. Trust Deposit. Portland General hereby agrees to pay \$362,000 to Bonneville to be held in an account established for this project to defray Portland General's share of the total project cost. This amount also represents Portland General's share of the cost for Bonneville to perform the duties specified in subsections 4(a) and 4(c). Portland General shall pay the Trust Deposit as follows:

(a) \$172,500 on the date of execution of the July 28, 1988, version of this Table 20;

(b) \$117,500 by 17 months after the date of execution of the July 28, 1988, version of this Table 20.

(c) \$72,000 on the date of execution hereof.

4. Duties of Bonneville. Bonneville shall design, provide all necessary labor and materials, and, within 7 months after the Effective Date of this Table 20, complete Phase 2 and Phase 3 replacement and upgrade of the existing Intertie Stability Control Systems at Malin, including:

(a) at joint Bonneville-Portland General-Pacific expense as shown in Figure 1(a):

(1) installation and testing of ten Line Loss Logic panels;

(2) installation and testing of four Power Rate Relays;

(3) installation and testing of 23 sets of Integrated Microwave Transfer Trip equipment to integrate the subsection 4(a)(1) Line Loss Logic panels and subsection 4(a)(2) Power Rate Relays into the said stability control system;

(4) integration into the Line Loss Logic of MOD auxiliary "b" switches installed by Bonneville pursuant to subsections 4(b) and 4(c); and

(5) installation of required cables and conduit to integrate all MOD auxiliary "b" switches installed hereunder into the Line Loss Logic;

(b) at Government expense, installation of auxiliary "b" switches to the following Government-owned motor-operated disconnect switches (MOD's) for the integration of such "b" switches into the Line Loss Logic:

Bay 2 MOD's	
Construction Number	Owner
23E	Government
25E	Government
26E	Government
28E	Government

Figure 2

(c) at Portland General's expense, installation of auxiliary "b" switches to the following Portland General-owned MOD's for Bonneville's integration of such "b" switches into the Line Loss Logic:

Bay 4 MOD's	
Construction Number	Owner
43E	Portland General
45E	Portland General

Figure 3

5. Duties of Portland General. Portland General shall cooperate with Bonneville as necessary for Bonneville to complete the Phase 2 and Phase 3 replacement and upgrade (including installation and testing) specified in section 4. Portland General shall make payment as required in sections 1 and 3.

6. Ownership. Title to and ownership of the MOD auxiliary "b" switches installed under subsections 4(b) and 4(c) of this Table 20 shall be in the Government and Portland General respectively. Title to and ownership of the subsection 4(a) facilities and equipment installed hereunder shall be in accordance with subsection 9(f) of Contract No. DE-MS79-87BP92340 and subsection 5(a) of Contract No. 14-03-59840, and as indicated by the cost sharing percentages in Figure 1(a) of section 2 above.

7. Operation and Maintenance. Bonneville will operate and maintain the subsections 4(a) and 4(b) facilities installed hereunder and operate Portland General's subsection 4(c) facilities installed hereunder as provided for in the Malin O&M Trust Agreement (Contract No. 14-03-63627). Portland General's share of the cost of operating and maintaining the subsection 4(a) facilities shall be the percentage specified in subsection 9(f) of Contract No. DE-MS79-87BP92340 and indicated as its cost sharing percentage in Figure 1(a) of section 2 above. Bonneville will operate and maintain the Government's subsection 4(b) facilities at Government expense. Portland General will maintain its subsection 4(c) facilities at its own expense.

8. Microwave Facilities. All microwave facilities at Malin are solely owned, operated, and maintained by Bonneville at Government expense. Accordingly, Bonneville shall own and make all additions, modifications, and replacements to microwave facilities for the Upgrade Project, and shall operate and maintain these facilities at Government expense.

9. Upgrade Project System Work Order (WO) Costs Spreading. Attachment 1 contains the derivation and application of formulas used to spread the costs of Upgrade Project system work orders to Malin Substation. The estimated spread costs are included in Figures 1(a) and 1(b) (see subsection 2(b)). Attachment 1 is hereby made a part of this Agreement.

If this revised Table 20 is acceptable to Portland General, please indicate your approval by signing and returning two original copies to Bonneville. Bonneville will transmit a fully executed original copy for your records.

Bonneville hereby acknowledges receipt of Portland General's payment in the amount of the Trust Deposit specified in subsections 3(a) and 3(b).

Sincerely,

(b)(6)

ACTING Administrator

Effective Date 10/04/90

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By

Title Senior Vice President

Date 10-1-90

(VS6-PMTT-3123e)

## ATTACHMENT 1

### Stability Control Upgrade Project System Work Order (WO) Costs Spreading.

Upgrade Project System WO costs are spread or distributed to associated Intertie Upgrade Project substations according to the following methodology with specific application to Malin Substation.

#### (a) WO 827-517 (Line Loss Logic Prototype)

##### Trust Tables

Estimated costs in the Trust Tables are based on Estimate EC-7788-1, and proportioned to the associated substations in accordance with the ratio of the number of Line Loss Logic Units (LLL) at the substation to the total number of LLL (28). When the estimated costs are spread to a shared-cost substation, they are allocated to each participant at that substation in proportion to the ratios referenced in the Construction Trust Agreement for that substation. The estimated cost for WO 827-517 is \$128,000 (direct cost), resulting in the following spreading formulas for the Trust Tables:

$$T_{LLL} = \text{Total Line Loss Logic Units} = 28$$

$$S_{LLL} = \text{Number of Line Loss Logic Units at Station}$$

$$\$827-517 = \text{Estimated Direct Cost, WO 827-517} = \$128,000$$

$$D_S = \text{Estimated Direct Charges to Station} = (S_{LLL}/28) (\$128,000)$$

$$\%CUST = \text{Proportion of SCU station charges to be assessed to customer (as established in Trust Agreement).}$$

$$D_{CUST} = \text{Estimated direct station charges from WO 827-517 to be assessed to customer} = (D_S)(\%CUST)$$

$$\$CUST = \text{Total estimated station charges to customer (including 30\% Overheads) from WO 827-517} = (D_{CUST})(1.3)$$

##### Portland General at Malin Substation

$$T_{LLL} = 28$$

$$S_{LLL} = 10$$

$$D_S = (10/28) (\$128,000) = \$45,700$$

$$\%CUST = 25\%$$

$$D_{CUST} = (\$45,700)(25\%) = \$11,400 \text{ (Direct)}$$

$$\$CUST = (\$11,400)(1.3) = \$14,800 \text{ (Including Overheads)}$$



(b) WO 827-546 (Coordination, Project Management, and Testing)

Trust Tables

Estimated costs in the Trust Tables are based on Estimates EC-8157-1 and EC-9086-1, and proportioned to the associated substations in accordance with the ratio of the substation-specific estimated direct cost to the total estimated project cost, less the estimated direct costs of the associated communication work orders and WO's 827-517 and 827-546. When the estimated costs are spread to a shared-cost substation, they are allocated to each participant at that substation in proportion to the ratios referenced in the Construction Trust Agreement for that substation. The estimated cost for WO 827-546 is \$940,000 (direct cost), resulting in the following spreading formulas for the Trust Tables:

$$TSCU = \text{Total estimated direct project costs} = \$8,638,300$$

$$\begin{aligned} \$COM &= \text{Estimated direct cost, Communication Work Orders} \\ &= \$1,000,100 \end{aligned}$$

$$\$827-517 = \text{Estimated direct cost, WO 827-517} = \$128,000$$

$$\$827-546 = \text{Estimated direct cost, WO 827-546} = \$940,000$$

$$\$SCU = TSCU - \$COM - \$827-517 - \$827-546 = \$6,570,200$$

$$\$SCU = \text{Estimated direct cost of station-specific non-communication SCU work orders.}$$

$$\begin{aligned} D_S &= \text{Estimated direct charges to Station} \\ &= (\$SCU / \$6,570,200) (\$940,000) \end{aligned}$$

$$\%CUST = \text{Proportion of SCU station charges to be assessed to customer (as established in Trust Agreement).}$$

$$DCUST = \text{Estimated direct station charges from WO 827-546 to be assessed to customer} = (D_S) (\%CUST)$$

$$\$CUST = \text{Total estimated station charges to customer (including 30\% Overheads) from WO 827-546} = (DCUST) (1.3)$$

Portland General at Malin Substation

$$\$SCU = \$6,570,200$$

$$\$SCU[827-534] = \$921,000 \text{ (EC-9873-2)}$$

$$D_S[827-534] = (\$921,000 / \$6,570,200) (\$940,000) = \$131,800$$

$$\%CUST[827-534] = 25\%$$

$$DCUST[827-534] = (\$131,800) (25\%) = \$32,900 \text{ (Direct)}$$

$\$CUST[827-534] = (\$32,900) (1.3) = \$42,800$  (Including Overheads)

$SSCU[BPA "b"] = \$7,400$  (SS-5034-3)

$DS[BPA "b"] = (\$7,400/\$6,570,200) (\$940,000) = \$1,100$

$\%CUST[BPA "b"] = 0\%$

$DCUST[BPA "b"] = (\$1,100) (0\%) = \$0$

$SSCU[PGE "b"] = \$3,400$  (SS-6028)

$DS[PGE "b"] = (\$3,400/\$6,570,200) (\$940,000) = \$500$

$\%CUST[PGE "b"] = 100\%$

$DCUST[PGE "b"] = (\$500) (100\%) = \$500$  (Direct)

$\$CUST[PGE "b"] = (\$500) (1.3) = \$600$  (Including Overheads)

Portland General at Malin Summary

$\$CUST[827-534] = \$42,800$

$\$CUST[PGE "b"] = \$ \underline{600}$

$\$CUST[PGE TOTAL] = \$43,400$  (Including Overheads)

(VS6-PMTT-3123e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

**JUL - 6 1992**

In reply refer to: PMTT

Exhibit B  
Table 22, Page 1 of 4  
Contract No. 14-03-29225  
Effective on the Effective Date

Mr. Richard E. Dyer  
Vice President  
Marketing and Supply  
Utility Operations  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

Representatives of the Bonneville Power Administration (Bonneville) and Portland General Electric Company (Portland General) have agreed to provide relaying, controls, and data systems at jointly-owned Malin Substation (Malin) for the Grizzly No. 2 and Captain Jack No. 1 line positions (Power System Controls). The parties have also agreed to modify the existing line loss logic for the Grizzly No. 2, Round Mountain Nos. 1 and 2, and the Summer Lake and Captain Jack No. 1 line terminals (Line Loss Logic). On July 29, 1988, the parties executed an Intertie Agreement, Contract No. DE-MS79-87BP92340, as amended, which established cost-sharing principles between the parties for the Joint AC Intertie by references to the Malin Substation Construction and Operation Agreement, Contract No. 14-03-59840, as amended. The Power System Controls and Line Loss Logic are required for the Joint AC Intertie as identified in Exhibit B of the Intertie Agreement.

Further, Bonneville and Portland General have agreed to replace the protective relaying equipment and add automatic voltage control relaying for the shunt reactor banks No. 1 and No. 2 on the Captain Jack No. 1 and Grizzly No. 2 lines at the Malin Substation (Relay Additions). The Relay Additions are required due to (1) the obsolescence of the existing relaying equipment; and (2) the need to improve voltage controls at the Malin Substation to support the AC Intertie.

Accordingly, Bonneville and Portland General hereby agree to the following terms and conditions:

1. Effective Date. Table 22 shall be effective at 2400 hours on the date that Bonneville has received all of the following:

(a) an original signed copy of this Table 22 and payment from Portland General in the amount of the Trust Deposit as specified in section 3 below; and

(b) an original signed copy of Table 25 of Exhibit B to Contract No. 14-03-29224 from PacifiCorp Electric Operations, doing business as Pacific Power and Light Company (Pacific) and the attendant Trust Deposit (Effective Date).

2. Cost Sharing. The estimated total cost for Bonneville to perform the duties as described in section 4 is \$2,108,266, which includes appropriate overheads. The estimated total cost of such work is to be shared by the parties in proportion to their percentage ownership of the Malin Substation jointly-owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation control house equipment as follows:

Party	Joint Ownership Percentage	Budget Item 103	Budget Item 150	Estimated Total Cost
	(%)	(\$)	(\$)	(\$)
Bonneville	50	789,000	265,000	1,054,000
Portland General	25	394,500	132,500	527,000
Pacific	<u>25</u>	<u>394,500</u>	<u>132,500</u>	<u>527,000</u>
Total	100	1,578,000	530,000	2,108,000

Final sharing shall be based on actual costs including appropriate overheads. The overheads shall be fixed at the Effective Date of this Table 22.

3. Trust Deposit. Portland General hereby agrees to pay Bonneville \$527,000 (Trust Deposit) to be held in an account to defray the cost to the government of performing the duties specified in section 4.

4. Duties of Bonneville. Bonneville shall:

(a) design Line Loss Logic and test to the remedial action scheme central controllers;

(b) design, procure, and install SCADA, SER points, and automatic voltage control relaying (i.e., SEL-187V) on reactor banks No. 1 and No. 2 at Malin Substation;

(c) design, procure, and install new replacement reactor relaying consisting of phase and neutral over-current relay and a new

differential relay for both reactor banks No. 1 and No. 2 at Malin Substation;

(d) design, procure, and install data systems for the 500 kV PCB and MOD replacements;

(e) provide relays and design the protective relaying scheme for Captain Jack No. 1 500 kV line and the Grizzly No. 2, 500 kV line;

(f) forward the design for the Power System Controls, Line Loss Logic, and Relay Additions to Portland General for its review and comment;

(g) purchase all related materials and use its best efforts to install the Power System Controls, Line Loss Logic, and Relay Additions in accordance with design by December 1, 1992;

(h) test the Power System Controls, Line Loss Logic, and Relay Additions jointly with Portland General; and

(i) as soon as practicable, after the completion of Bonneville's duties specified in section 4, forward to Portland General a final accounting of the actual costs for installation of the Power System Controls, Line Loss Logic, and Relay Additions.

5. Duties of Portland General. Portland General shall:

(a) review and comment on Bonneville's design for the Power System Controls, Line Loss Logic, and Relay Additions; and

(b) test the Power System Controls and Relay Additions jointly with Bonneville.

6. Ownership. Title to and ownership of the equipment installed under this Table 22 shall be in accordance with subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, and as indicated by the percentages specified in section 2 above.

7. Operation and Maintenance. Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with

Exhibit B  
Table 22, Page 4 of 4  
Contract No. 14-03-29225  
Effective on the Effective Date

the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

If the terms of this Table 22 are acceptable to Portland General, please indicate your approval by signing both enclosed copies and returning both copies with a check in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to Portland General.

(b)(6)

Administrator (b)(6)  
(b)(6)

Name

(Print/Type) Randall W. Hardy

Effective Date: JUL 08 1992

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

By

(b)(6)

Name Richard E. Byer  
(Print/Type)

Title Vice President

Date June 24, 1992

(VS10-PMTT-3454e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: PKT

October 16, 1987

Exhibit B  
Table 16, page 1 of 3  
Contract No. 14-03-29225  
Effective at 2400 hours on  
the Effective Date

Mr. Richard E. Dyer  
Vice President, Power Supply  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

To insure Pacific Northwest-Pacific Southwest (PNW-PSW) AC Intertie stability for PNW-PSW DC Intertie outages occurring after the DC Terminal expansion is completed, it has been determined that it will be necessary to add Dynamic Voltage Support (DVS) facilities at Malin 500-kV and Table Mountain 500-kV AC Intertie Substations. The DVS facility at Malin Substation (Malin) will include provisions for mechanically switched capacitors (MSC) and a static var controller (SVC).

The addition of two mechanically switched capacitor banks at Malin with energization planned for February 1989 is provided for in this Table 16. A separate Exhibit B, Table 19 is being submitted to Portland General for installation of the static var controller with energization planned for the period May 1990 to December 1990.

The Bonneville Power Administration (Bonneville) and Portland General Electric Company (Portland General) agree that Bonneville should initially install an MSC facility at Malin as a part of the DC Terminal Expansion Project.

I therefore propose that Bonneville make the above-mentioned MSC installation at its discretion pursuant to Portland General's Malin Construction Trust Agreement (Contract No. 14-03-29225), except as provided otherwise herein, and the terms and conditions outlined below.



*Celebrating the U.S. Constitution Bicentennial — 1787-1987*

1. Effective Date. This Table 16 shall be effective as of 2400 hours on the date of execution (Effective Date).
2. Trust Deposit. None.
3. Cost Sharing. None. The estimated total cost of installing the MSC facility at Malin (\$6,000,000) will be borne entirely by the Government.
4. Duties of Bonneville.
  - (a) Bonneville shall design, provide all necessary labor and materials, and within 16 months after the Effective Date of this Table, install on the north 500-kV main bus at Malin a tested energized, and operating MSC facility which shall include two 216.6 megavar (at 523.9 kV) shunt capacitor banks with provisions for adding two additional banks. The MSC facility shall be located off the east end of the north 500 kV main bus to the north of Bay 6.
  - (b) Commencing on the Effective Date, if Portland General's facilities are adversely affected as a result of the installation and operation of MSC facilities to be installed at Malin, Bonneville shall take corrective actions to eliminate such adverse effects. The adverse effects and required corrective actions shall be determined jointly by Bonneville and Portland General and shall be based on commonly accepted utility engineering and operating practices. Corrective actions shall be at the Government's expense, unless otherwise agreed upon.
5. Duties of Portland General. Portland General shall cooperate with Bonneville as necessary for Bonneville to install the MSC facility as specified in section 4 above.
6. Land Rights. Pacific Power & Light Company (Pacific) shall convey title to Bonneville, at fair market value or a negotiated price as appropriate, of a sufficient amount of Pacific's land at Malin to enable Bonneville to install the MSC facility specified in sections 4 and 5 and the first paragraph of this Table. Until such title is conveyed, Pacific grants to Bonneville the right to construct, inspect, operate, and maintain the MSC facility to be located on Pacific's land.
7. Ownership. Ownership of the Malin MSC facility installed hereunder shall be solely in the Government.
8. Operation and Maintenance. Bonneville will operate and maintain the Malin MSC facility at the Government's expense.



Exhibit B  
Table 16, page 3 of 3  
Contract No. 14-03-29225  
Effective at 2400 hours on  
the Effective Date

If this Table 16 is acceptable to Portland General, please indicate your approval by signing and returning both copies to Bonneville for execution. Bonneville will transmit a fully executed copy for your records.

(b)(6)

Effective Date

*July 29, 1988*

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

By

(b)(6)

Title

*Vice President*

Date

*July 29, 1988*

(WP-PKT-0704e)



## Department of Energy

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

TRANSMISSION BUSINESS LINE

August 11, 2005 **AUTHENTICATED**

In reply refer to: TM/OPP-2

Contract No. 14-03-29225  
Exhibit B, Table 25  
Effective on the Effective Date

Mr. Frank Afranji, Director  
Transmission and Reliability Services  
Portland General Electric Company  
121 SW Salmon Street  
Portland, OR 97204

Dear Mr. Afranji:

Representatives of the Bonneville Power Administration (Bonneville) and Portland General Electric Company (PGE) have agreed to provide breaker failure relay replacements in the jointly owned Malin Substation Control House associated with the two power circuit breaker positions (PCB No. 4072 and PCB No. 4582) on the Malin-Round Mountain No. 2 500 kV transmission line.

Accordingly, Bonneville and PGE hereby agree to the following terms and conditions:

1. **Effective Date.** Table 25 shall be effective at 0000 hours on the day after all of the following have occurred:
  - (a) execution of this Table 25, and payment in the amount of the Trust Deposit as specified in section 3 below has been received by Bonneville from PGE; and
  - (b) execution of Table 28 of Exhibit B to PacifiCorp's Contract No. 14-03-29224 has been received by Bonneville with the attendant trust deposit.
2. **Cost Sharing.** The estimated total cost for Bonneville to perform the duties as described in section 4 is \$184,000, which includes appropriate overheads. The estimated total cost of such work is to be shared by the parties in proportion to their percentage ownership of the Malin Substation jointly owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation Control House equipment as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>( \$ )</b>	<b>Estimated Total Costs ( \$ )</b>
Bonneville	50	\$92,000	\$92,000
<b>PGE</b>	<b>25</b>	<b>\$46,000</b>	<b>\$46,000</b>
PacifiCorp	25	\$46,000	\$46,000
 Total	 100	 \$ 184,000	 \$ 184,000

Final cost sharing shall be based on actual costs including appropriate overheads.

3. **Trust Deposit.** PGE hereby agrees to pay Bonneville \$46,000 (Trust Deposit) to be held in an account to defray the actual costs to Bonneville of performing the duties specified in section 4.
4. **Duties of Bonneville.** Bonneville shall:
  - (a) design, procure, install and test new SEL 352 Breaker Failure Relays (BFR) on the power circuit breaker positions (PCB No. 4072 and PCB No. 4582) on the Malin-Round Mountain No. 2 500 kV transmission line;
  - (b) remove and retire the two existing GE-SBC BFR relays; and
  - (c) forward the design for the control house modifications associated with the new relays to PGE for review and comment.
5. **Duties of PGE.** PGE shall review and comment as needed on Bonneville's design for the new BFR relays.
6. **Ownership.** Title to and ownership of the equipment installed under this Table 25 shall be in accordance with subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, and as indicated by the percentages specified in section 2 above.
7. **Operation and Maintenance.** Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

If the terms of this Table 25 are acceptable to PGE, please indicate your approval by signing both enclosed originals and returning both originals with the payment in the amount of the Trust Deposit to Bonneville.

This Table 25 will be not be considered to be executed until signed by Bonneville in the "accepted" block below. Upon execution by Bonneville, a fully executed original will be forwarded to PGE.

Sincerely,

/S/ A PASCHKE

Allan F. Paschke  
Bonneville Power Administration  
Transmission Account Executive  
Transmission Marketing and Sales

ACCEPTED:

PORTLAND GENERAL ELECTRIC  
COMPANY

By: /S/ FRANK AFRANJI

Name: Frank Afranji  
(Print/Type)

Title: Director

Date: Oct. 12., 2005

ACCEPTED:

BONNEVILLE POWER ADMINISTRATION

By: /S/ A PASCHKE

Name: Allan Paschke  
(Print/Type)

Title: Account Executive

Date: 10/19/05

(W:\TMC\CT\PGE\Revisions\29225.exhB.T25.doc)



## Department of Energy

Bonneville Power Administration  
P.O. Box 491  
Vancouver, Washington 98666-0491

TRANSMISSION BUSINESS LINE

April 8, 2002

In reply refer to: TM/Ditt2

Exhibit B  
Table 23, Page 1 of 4  
Contract No. 14-03-29225  
Effective on the Effective Date

### AUTHENTICATED

Mr. Frank Afranji  
Senior Vice President for Power Supply  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Afranji:

Representatives of the Bonneville Power Administration (Bonneville) and Portland General Electric Company (Portland General) have agreed to provide relaying, controls and data systems in the jointly-owned Malin Control House associated with a new replacement Power Circuit Breaker to replace the Portland General Mark-5 Power Circuit Switcher at position 41E in Bay 4 on the Grizzly No. 2 line terminal located in the shared substation yard.

Further, Bonneville and Portland General have agreed to upgrade the Malin Substation phone system and wiring to a digital system to improve phone communications and enable computer connections (local area network) to answer in the Malin Substation facility.

Accordingly, Bonneville and Portland General hereby agree to the following terms and conditions:

1. **Effective Date.** Table 23 shall be effective at 2400 hours on the date that Bonneville has received all of the following:
  - (a) an original signed copy of this Table 23 and payment from Portland General in the amount of the Trust Deposit as specified in section 3 below; and
  - (b) an original signed copy of Table 26 of Exhibit B to contract No. 14-03-29224 from PacifiCorp and the attendant Trust Deposit (Effective Date).
2. **Cost Sharing.** The estimated total cost for Bonneville to perform the duties as described in section 4 is \$144,620.00, which includes appropriate overheads. The estimated total cost of such work is to be shared by the parties in proportion to their

percentage ownership of the Malin Substation jointly-owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation control house equipment as follows:

<b>Party</b>	<b>Joint Ownership Percentage</b> (%)	<b>Work Order No. 00036737</b> (\$)	<b>Work Order No. 00037897</b> (\$)	<b>Estimated Total Costs</b> (\$)
Bonneville	50	\$34,310	\$38,000	\$72,310
<b>Portland General</b>	<b>25</b>	<b>\$17,155</b>	<b>\$19,000</b>	<b>\$36,155</b>
PacifiCorp	25	\$17,155	\$19,000	\$36,155
Total	100	\$68,620	\$76,000	\$144,620

Final cost sharing shall be based on actual costs including appropriate overheads. The overheads shall be fixed at the Effective Date of this Table 23.

**3. Trust Deposit.** Portland General hereby agrees to pay Bonneville \$36,155 (Trust Deposit) to be held in an account to defray the cost to the Government of performing the duties specified in section 4.

**4. Duties of Bonneville.** Bonneville shall:

- (a) design, procure, install, and jointly test relay controls, SCADA, SER points, and station service required for the replacement of the Power Circuit Switcher with the Power Circuit Breaker in the control house at Malin Substation;
- (b) design, procure, and install all underground control and power cabling required for the installation and operation of the new replacement Power Circuit Breaker in Bay 4;
- (c) design, procure, and install a replacement of the existing Malin Substation phone system;
- (d) forward the design for the control house modifications and cable associated with the new Power Circuit Breaker and replacement phone system to Portland General for review and comment;
- (e) purchase all related materials and use its best efforts to install relay controls, SCADA, SER points underground control and power cabling, and jointly test with Portland General in accordance with design during FY 2002;

---

Table 23, Contract No. 14-03-29225  
Portland General Electric Company



- (f) purchase all related material and install the replacement phone system in accordance with design; and
- (g) as soon as practicable, after the completion of Bonneville's duties specified in section 4, forward to Portland General a final accounting of the actual costs for installation of the relay controls, SCADA, SER points, underground control and power cabling, and phone system.

**5. Duties of Portland General.** Portland General shall:

- (a) review and comment on Bonneville's design for the relay controls, SCADA, SER points, underground control and power cabling, and phone system;
- (b) install the replacement Power Circuit Breaker and footings in Bay 4 and make the final wiring and buswork connections; and
- (c) test the relay controls, SCADA, SER points, and underground control and power cabling jointly with Bonneville.

**6. Ownership.** Title to and ownership of the equipment installed under this Table 23 shall be in accordance with subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, and as indicated by the percentages specified in section 2 above.

**7. Operation and Maintenance.** Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

If the terms of this Table 23 are acceptable to Portland General, please indicate your approval by signing both enclosed copies and returning both copies with a check in the

amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to Portland General.

Sincerely,

**/S/ CLIFFORD C PERIGO**

Clifford C. Perigo  
Senior Transmission Account Executive  
Transmission Marketing and Sales  
Bonneville Power Administration

ACCEPTED:

PORTLAND GENERAL ELECTRIC  
COMPANY

By: **/S/ FRANK AFRANJI**

Name: **Frank Afranji**  
(Print/Type)

Title: **Director, Trans. & Reliability Services**

Date: **04-22-02**

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**Department of Energy**

**RECEIVED**

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

MAR 02 2009

**TRANSMISSION SVCS.**

Transmission Services

February 27, 2009

In reply refer to: TSE/TPP-2

Contract No. 14-03-29225  
Exhibit B, Table 26  
Effective on the Effective Date

Mr. Frank Afranji, Director  
Transmission and Reliability Services  
Portland General Electric Company  
121 SW Salmon Street  
Portland, OR 97204

Dear Mr. Afranji:

Representatives of the Bonneville Power Administration (Bonneville) need to perform an emergency replacement of the control battery at the Malin Substation. Battery B-2183 at the Malin Substation has failed, along with the associated chargers (B-1983 and B-1984), and need to be replaced as soon as possible. The estimated completion date depending on design time, lead time of procured battery cells, and maintenance crew's availability would be March 2009.

Accordingly, Bonneville and Portland General Electric (PGE) hereby agree to the following terms and conditions:

1. **Effective Date.** Table 26 shall be effective at 0000 hours on the day after all of the following have occurred:
  - (a) execution of this Table 26, and payment in the amount of the Trust Deposit as specified in section 3 below has been received by Bonneville from PGE; and
  - (b) an executed copy of Table 29 of Exhibit B to PacifiCorp's Contract No. 14-03-29224 has been received by Bonneville with the attendant trust deposit.
2. **Financial Terms and Conditions.** The estimated total cost for Bonneville to perform the duties as described in section 4 is \$65,000, which includes appropriate overheads. The estimated total cost of such work is to be shared by the parties in proportion to their percentage ownership of the Malin Substation jointly-owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-

59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation control house equipment as follows:

<b>Party</b>	<b>Joint Ownership (%)</b>	<b>Estimated Total Costs (\$)</b>
Bonneville	50	\$32,500
<b>PGE</b>	<b>25</b>	<b>\$16,250</b>
PacifiCorp	25	\$16,250
Total	100	\$65,000

The cost of performing the project by Bonneville at PGE's expense shall be the actual cost of doing the work specified in this Agreement, plus an overhead rate of 48% for labor and 23% for materials, representing the indirect costs of the project office plus the contractual support costs of contract negotiation, billing and accounting functions, and contract management.

PGE hereby agrees to advance \$16,250, the estimated project cost, to Bonneville upon execution of this Agreement. Payments made to Bonneville shall be held in an account established for this Agreement.

Within a reasonable time after completion of the project, Bonneville shall make a full accounting to PGE showing the actual costs charged against the account. Bonneville shall either remit any unexpended balance in the account to PGE or bill for any costs in excess of the deposits in the account. PGE shall pay any excess costs within 30 days of the billing.

Payment not received within 30 days of the invoice date will accrue interest on the amount due from the invoice date to the date paid, at an annual interest rate equal to the higher of i) the prime rate (as reported in the Wall Street Journal in the first issue published during the month in which payment by PGE is due) plus 4 percent; or ii) such prime rate multiplied by 1.5.

3. **Duties of Bonneville.** Bonneville shall:

- (a) design, procure, and install Battery replacement at Malin Substation for Battery B-2183;
- (b) replace the associated chargers (B-1983 and B-1984); and
- (c) perform additional work to include spill containment, seismic racks, ventilation assessment and ventilation system (if required), and location / space available evaluation.

4. **Duties of PGE.** PGE shall cooperate with Bonneville as necessary for Bonneville to make the equipment replacements specified in Section 4 above. PGE shall make payment as required in Sections 1 and 3 above.
5. **Ownership.** Title to and ownership of the equipment installed under this Table 26 shall be in accordance with subsection 5(a) of Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in section 2 above.
6. **Operation and Maintenance.** Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

If the terms of this Table 26 are acceptable to PGE, please indicate your approval by signing both enclosed originals and returning both originals with the payment in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to PGE.

ACCEPTED:

PORTLAND GENERAL ELECTRIC  
COMPANY

By:

(b)(6)

Name: Frank AFRANTI  
(Print/Type)

Title: Director, Transmission and  
Reliability Services

Date: 03-04-2009

ACCEPTED:

BONNEVILLE POWER ADMINISTRATION

By:

(b)(6)

Name: Melanie M. Jackson  
(Print/Type) Executive

Title: Transmission Account

Date: 03/05/2009



**Department of Energy**

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

12-15-03A11:33 RCVD mje

TRANSMISSION BUSINESS LINE

December 2, 2003

In reply refer to: TM/OPP-2

Exhibit B  
Table 24, Page 1 of 3  
Contract No. 14-03-29225  
Effective on the Effective Date

Mr. Frank Afranji  
Director, Transmission and Reliability Services  
Portland General Electric Company  
121 SW Salmon Street  
Portland, OR 97204

Dear Mr. Afranji:

Representatives of the Bonneville Power Administration (Bonneville) and Portland General Electric Company (PGE) have agreed to provide relaying, controls and data systems in the jointly-owned Malin Control House associated with a new Bonneville owned Shunt Reactor installation at Captain Jack Substation (Project).

Accordingly, Bonneville and PGE hereby agree to the following terms and conditions:

1. **Effective Date.** Table 24 shall be effective at 2400 hours on the date that Bonneville has received all of the following:
  - (a) an original signed copy of this Table 24 and payment from PGE in the amount of the Trust Deposit as specified in section 3 below; and
  - (b) an original signed copy of Table 27 of Exhibit B to contract No. 14-03-29225 from PacifiCorp and the attendant Trust Deposit (Effective Date).
2. **Cost Sharing.** The estimated total cost for Bonneville to perform the duties as described in section 4 is \$102,000.00, which includes appropriate overheads. The estimated total cost of such work is to be shared by the parties in proportion to their percentage ownership of the Malin Substation jointly-owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation control house equipment as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Work Order No. 00134029 ( \$ )</b>	<b>Estimated Total Costs ( \$ )</b>
Bonneville	50	\$51,000	\$51,000
<b>PGE</b>	<b>25</b>	<b>\$25,500</b>	<b>\$25,500</b>
PacifiCorp	25	\$25,500	\$25,500
Total	100	\$102,000	\$102,000

Final cost sharing shall be based on actual costs including appropriate overheads. The overheads shall be fixed at the Effective Date of this Table 24.

**3. Trust Deposit.** PGE hereby agrees to pay Bonneville \$25,000 (Trust Deposit) to be held in an account to defray the cost to the Government of performing the duties specified in section 4.

**4. Duties of Bonneville.** Bonneville shall:

- (a) design, procure, install, and test dual RFL TT control support for the new Bonneville owned Captain Jack shunt reactor in the control house at Malin Substation;
- (b) replace the two existing Bitronics PLC Transducers on the Malin Substation Network with smart transducers.
- (c) update and verify the RAS A&B PLC Controller code with the new dual Transfer Trip In and Out to Captain Jack Substation.
- (d) forward the design for the control house modifications associated with the new Captain Jack shunt reactor to PGE for review and comment;
- (e) purchase all related materials and use its best efforts to install the controls, SCADA, and SER points and jointly test with PGE in accordance with design during FY 2004;
- (f) as soon as practicable, after the completion of Bonneville's duties specified in section 4, forward to PGE a final accounting of the actual costs for installation of the controls, SCADA, and SER points.

**5. Duties of PGE.** PGE shall review and comment on Bonneville's design for the controls, SCADA, and SER points.

---

Table 24, Contract No. 14-03-29225  
Portland General Electric Company

6. **Ownership.** Title to and ownership of the equipment installed under this Table 24 shall be in accordance with subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, and as indicated by the percentages specified in section 2 above.
7. **Operation and Maintenance.** Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

If the terms of this Table 24 are acceptable to PGE, please indicate your approval by signing both enclosed copies and returning both copies with a check in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to PGE.

Sincerely,

(b)(6)

Clifford C. Perigo  
Bonneville Power Administration  
Senior Transmission Account Executive  
Transmission Marketing and Sales

ACCEPTED:

PORTLAND GENERAL ELECTRIC  
COMPANY

By:

(b)(6)

Name: FRANK AFRANIT  
(Print/Type)

Title: Director, Trans. & Reliability Serv.

Date: 12-5-03  
(W:\TMC\CT\PGE\Revisions\29225T24.doc) 10/21/03

ACCEPTED:

BONNEVILLE POWER  
ADMINISTRATION

By:

(b)(6)

Name: CLIFFORD C. PERIGO  
(Print/Type)

Title: SR. MGT. EXEC.

Date: 12-16-03

Table 24, Contract No. 14-03-29225  
Portland General Electric Company

PORTLAND GENERAL ELECTRIC CO.

614735

7C-248442

DATE	INVOICE NUMBER	VOUCHER	GROSS	DISCOUNT	NET
12052003	#140329225	597213492	25,500.00	0.00	25,500.00
			12-15-03A11:33 RCVDmgc		
TOTALS			25,500.00	0.00	25,500.00

PLEASE DETACH BEFORE DEPOSITING

614735

PORTLAND GENERAL ELECTRIC CO.

121 SW Salmon St.  
Portland, OR 97204

US Bank 24-Hour Banking  
East Grand Forks, MN 56721  
1-800-673-3555

75-1092  
B12

7C-248442

TO THE ORDER OF:

BONNEVILLE POWER ADMIN  
PO BOX 61409  
VANCOUVER WA 98666-1409

THIS CHECK MUST BE PRESENTED FOR  
PAYMENT WITHIN NINETY DAYS FROM DATE

12/10/2003 1 25,500.00

PORTLAND GENERAL ELECTRIC CO.

(b)(6)

⑈0248442⑈ ⑆091215927⑆152100013977⑈

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LL



## Department of Energy

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

TRANSMISSION SERVICES

March 9, 2010

In reply refer to: TSE/TPP-2

Contract No. 14-03-29225  
Exhibit B, Table 28  
Page 1 of 3  
Effective on the Effective Date

Mr. Frank Afranji, Director  
Transmission and Reliability Services  
Portland General Electric Company  
121 SW Salmon Street, 3WTC0506  
Portland, OR 97204

Dear Mr. Afranji:

This Table 28 of Exhibit B (Table 28) to the Construction Trust Agreement, Contract No. 14-03-29225, between the Bonneville Power Administration (Bonneville) and Portland General Electric (PGE), provides details and responsibility for work being performed at the Malin Substation. Representatives of Bonneville have moved RAS, TT, SCADA, TM and voice analog microwave circuits that use the Eastern Control Center (ECC) facility to the SONET system. ECC is a hub for passing circuits between the analog microwave systems. Circuits were moved primarily to the SONET #A and #D rings.

Accordingly, Bonneville and PGE hereby agree to the following terms and conditions:

- 1. Effective Date.** Table 28 shall be effective at 0000 hours on the day after execution of this Table 28 and payment of the total project amount as specified in section 3 below has been received by Bonneville from PGE.
- 2. Cost Sharing.** The total cost for Bonneville to perform the duties as described in section 4 was \$2,008, including appropriate overheads. The total cost of such work is to be shared by the parties in proportion to their percentage ownership of the Malin Substation jointly-owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation control house equipment as follows:

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MAY 28 2010



<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ )</b>
Bonneville	50	\$1,004.00
<b>Portland General</b>	<b>25</b>	<b>\$ 502.00</b>
PacifiCorp	25	\$ 502.00
Total	100	\$2,008.00

Final cost sharing is based on actual costs including appropriate overheads.

3. **Trust Deposit.** PGE hereby agrees to pay Bonneville \$502.00 (Trust Deposit) to pay the actual costs to Bonneville of performing the duties specified in section 4.
4. **Duties of Bonneville.** Bonneville shall:
  - (a) migrate analog circuits to the SONET #A and #D rings.
5. **Duties of PGE.** PGE shall make payment as required in Sections 1 and 3 above.
6. **Ownership.** Title to and ownership of the equipment installed under this Table 28 shall be in accordance with subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, and as indicated by the percentages specified in section 2 above.
7. **Operation and Maintenance.** Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

MAY 28 2010

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u

If the terms of this Table 28 are acceptable to PGE, please indicate your approval by signing both enclosed originals and returning both originals with the payment in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to PGE.

Sincerely,

(b)(6)

Craig Hardin  
Transmission Account Executive  
Transmission Sales

PORTLAND GENERAL ELECTRIC  
COMPANY

(b)(6)

By:

Name:

(Print/Type)

FRANK AFRANJI

Title:

Director, Transmission  
and Reliability Services

Date:

5/24/2010

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

(b)(6)

By:

Name:

(Print/Type)

CRAIG HARDIN

Title:

Account Executive

Date:

May 27, 2010

bcc:

hand delivered 7/22/10 @ 3:00pm  
LL



## Department of Energy

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

TRANSMISSION SERVICES

March 9, 2010

In reply refer to: TSE/TPP-2

Contract No. 14-03-29225

Exhibit B, Table 29

Page 1 of 3

Effective on the Effective Date

Mr. Frank Afranji, Director  
Transmission and Reliability Services  
Portland General Electric Company  
121 SW Salmon Street, 3WTC0506  
Portland, OR 97204

Dear Mr. Afranji:

This Table 29 of Exhibit B (Table 29) to the Construction Trust Agreement, Contract No. 14-03-29225, between the Bonneville Power Administration (Bonneville) and Portland General Electric (PGE), provides details and responsibility for work being performed at the Malin Substation. Representatives of Bonneville have replaced the transfer trip shelves on the Ashe-Marion 500 kV line as part of the relay replacement program. This upgrade of communication cross connects in the main control house of the Malin Substation meets NERC criteria.

Accordingly, Bonneville and PGE hereby agree to the following terms and conditions:

1. **Effective Date.** Table 29 shall be effective at 0000 hours on the day after execution of this Table 29 and payment of the total project amount as specified in section 3 below has been received by Bonneville from PGE.
2. **Cost Sharing.** The total cost for Bonneville to perform the duties as described in section 4 was \$5,760, including appropriate overheads. The total cost of such work is to be shared by the parties in proportion to their percentage ownership of the Malin Substation jointly-owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation control house equipment as follows:

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MAR 10 2010

TRANSMISSION SVCS.

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ )</b>
Bonneville	50	\$2,880.00
<b>Portland General</b>	<b>25</b>	<b>\$1,440.00</b>
PacifiCorp	25	\$1,440.00
Total	100	\$5,760.00

Final cost sharing is based on actual costs including appropriate overheads.

3. **Trust Deposit.** PGE hereby agrees to pay Bonneville \$1,440.00 (Trust Deposit) to pay the actual costs to Bonneville of performing the duties specified in section 4.
4. **Duties of Bonneville.** Bonneville shall:
  - (a) replace transmission line relay terminal that will allow BPA to be in compliance with NERC criteria for relay loading.
5. **Duties of PGE.** PGE shall make payment as required in Sections 1 and 3 above.
6. **Ownership.** Title to and ownership of the equipment installed under this Table 29 shall be in accordance with subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, and as indicated by the percentages specified in section 2 above.
7. **Operation and Maintenance.** Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

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If the terms of this Table 29 are acceptable to PGE, please indicate your approval by signing both enclosed originals and returning both originals with the payment in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to PGE.

Sincerely,

(b)(6)

Craig Hardin  
Transmission Account Executive  
Transmission Sales

PORTLAND GENERAL ELECTRIC  
COMPANY

(b)(6)

By: \_\_\_\_\_

Name: \_\_\_\_\_

(Print/Type)

**FRANK AFRANJI**

Title: \_\_\_\_\_

**Director, Transmission  
and Reliability Services**

Date: \_\_\_\_\_

7/22/2010

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

(b)(6)

By: \_\_\_\_\_

Name: \_\_\_\_\_

(Print/Type)

Title: \_\_\_\_\_

*Account Executive*

Date: \_\_\_\_\_

*July 23, 2010*

bcc:



**Department of Energy**

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

TRANSMISSION SERVICES

June 15, 2010

In reply refer to: TSE/TPP-2

Contract No. 14-03-29225  
Exhibit B, Table 30

Mr. Frank Afranji, Director  
Transmission and Reliability Services  
Portland General Electric Company  
121 SW Salmon Street, 3WTC0506  
Portland, OR 97204

Dear Mr. Afranji:

This Table 30 of Exhibit B (Table 30) to the Construction Trust Agreement, Contract No. 14-03-29225, between the Bonneville Power Administration (Bonneville) and Portland General Electric (PGE), provides details and responsibility for work being performed at the Malin Substation. Representatives of Bonneville have installed Field Integrated Network (FIN) equipment at the Malin Substation to comply with North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) field compliance. This FIN expansion project was identified as necessary during the NERC CIP readiness evaluation at various field locations.

Accordingly, Bonneville and PGE hereby agree to the following terms and conditions:

1. **Effective Date.** Table 30 shall be effective at 0000 hours on the day after execution of this Table 30 and payment of the total project amount as specified in section 3 below has been received by Bonneville from PGE.
2. **Cost Sharing.** The total cost for Bonneville to perform the duties as described in section 4 was \$31,082, including appropriate overheads. The total cost of such work is to be shared by the parties in proportion to their percentage ownership of the Malin Substation jointly-owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation control house equipment as follows:

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**RECEIVED**

JUN 16 2010

TRANSMISSION SVCS.

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ )</b>
Bonneville	50	\$15,542.00
<b>Portland General</b>	<b>25</b>	<b>\$7,770.00</b>
PacifiCorp	25	\$7,770.00
<b>Total</b>	<b>100</b>	<b>\$31,082.00</b>

Final cost sharing is based on actual costs including appropriate overheads.

3. **Trust Deposit.** PGE hereby agrees to pay Bonneville \$7,770.00 (Trust Deposit) to pay the actual costs to Bonneville of performing the duties specified in section 4.
4. **Duties of Bonneville.** Bonneville shall:
  - (a) install 2 GE D400 communication processors.
5. **Duties of PGE.** PGE shall make payment as required in Sections 1 and 3 above.
6. **Ownership.** Title to and ownership of the equipment installed under this Table 30 shall be in accordance with subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, and as indicated by the percentages specified in section 2 above.
7. **Operation and Maintenance.** Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

If the terms of this Table 30 are acceptable to PGE, please indicate your approval by signing both enclosed originals and returning both originals with the payment in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to PGE.

Sincerely,

(b)(6)

Craig Hardin  
Transmission Account Executive  
Transmission Sales

PORTLAND GENERAL ELECTRIC  
COMPANY

(b)(6)

By:

Name:

(Print/Type)

Title:

Date:

**FRANK AFRANJI**  
Director, Transmission  
and Reliability Services

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

(b)(6)

By:

Name:

(Print/Type)

Title:

Date:

CRAIG HARDIN

Transmission Account Executive

November 14, 2010



hand delivered 7/2/10 @ 3:00pm LL



## Department of Energy

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

TRANSMISSION SERVICES

March 9, 2010

In reply refer to: TSE/TPP-2

Contract No. 14-03-29225  
Exhibit B, Table 31  
Page 1 of 3  
Effective on the Effective Date

Mr. Frank Afranji, Director  
Transmission and Reliability Services  
Portland General Electric Company  
121 SW Salmon Street, 3WTC0506  
Portland, OR 97204

Dear Mr. Afranji:

This Table 31 of Exhibit B (Table 31) to the Construction Trust Agreement, Contract No. 14-03-29225, between the Bonneville Power Administration (Bonneville) and Portland General Electric (PGE), provides details and responsibility for work being performed at the Malin Substation. Representatives of Bonneville have replaced the District Data Network (DDN) with Field Integrated Network (FIN). The DDN utilized STAT MUX as main component to collect and gather non-critical information of the Malin Substation. This information will assist field personnel to investigate and control power disturbance during fault conditions on power lines. The STAT MUX equipment is obsolete with no available spare parts and support from the factory, and unreliable. This replacement is critical for the continued gathering of this necessary information.

Accordingly, Bonneville and PGE hereby agree to the following terms and conditions:

1. **Effective Date.** Table 31 shall be effective at 0000 hours on the day after execution of this Table 31 and payment of the total project amount as specified in section 3 below has been received by Bonneville from PGE.
2. **Cost Sharing.** The total cost for Bonneville to perform the duties as described in section 4 was \$65,642, including appropriate overheads. The total cost of such work is to be shared by the parties in proportion to their percentage ownership of the Malin Substation jointly-owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation control house equipment as follows:

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MAR 10 2010

TRANSMISSION SVCS.

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JUL 23 2010  
KSC

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ )</b>
Bonneville	50	\$32,822.00
<b>Portland General</b>	<b>25</b>	<b>\$16,410.00</b>
PacifiCorp	25	\$16,410.00
<b>Total</b>	<b>100</b>	<b>\$65,642.00</b>

Final cost sharing is based on actual costs including appropriate overheads.

3. **Trust Deposit.** PGE hereby agrees to pay Bonneville \$16,410.00 (Trust Deposit) to pay the actual costs to Bonneville of performing the duties specified in section 4.
4. **Duties of Bonneville.** Bonneville shall:
  - (a) replace the existing CISCO 26020 XM with CISCO 3640 to accommodate future expansion; and
  - (b) replace STAT MUX equipment with a FIN.
5. **Duties of PGE.** PGE shall make payment as required in Sections 1 and 3 above.
6. **Ownership.** Title to and ownership of the equipment installed under this Table 31 shall be in accordance with subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, and as indicated by the percentages specified in section 2 above.
7. **Operation and Maintenance.** Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

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If the terms of this Table 31 are acceptable to PGE, please indicate your approval by signing both enclosed originals and returning both originals with the payment in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to PGE.

Sincerely,

(b)(6)

Craig Hardin  
Transmission Account Executive  
Transmission Sales

PORTLAND GENERAL ELECTRIC  
COMPANY

(b)(6)

By: \_\_\_\_\_

Name: \_\_\_\_\_

(Print/Type)

**FRANK AFRANJI**

Title: Director, Transmission

and Reliability Services

Date: \_\_\_\_\_

7/22/2010

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

(b)(6)

By: \_\_\_\_\_

Name: \_\_\_\_\_

(Print/Type)

Title: AE

Date: July 22, 2010

bcc:

**EXHIBIT B, TABLE 32  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 32, reflects a change from the format previously used in other Tables and is intended to meet current Bonneville contract standards.*

*The Bonneville Power Administration (Bonneville) completed Work Order 229854, which installed security equipment at the Malin Substation, a Critical Infrastructure facility. Installations included alarms, cameras and electronic key cards that are required to ensure adequate physical protection for critical cyber assets under the NERC Critical Infrastructure Protection (CIP) standards.*

Accordingly, Bonneville and Portland General Electric (PGE<sup>1</sup>) hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

Exhibit B, Table 32, shall be effective at 0000 hours on the date when executed by both Bonneville and PGE.

**2. COST SHARING**

The total cost for Bonneville to complete the duties described in Section 4 is \$79,748, with applicable overheads included. The total cost of this work order is to be shared by PGE in proportion to the percentage ownership of the Malin Substation jointly owned property. Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, defines those percentages and stipulates their applicability to the Malin Substation Control House equipment as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ )</b>
Bonneville	50	\$39,874
<b>PGE</b>	<b>25</b>	<b>\$19,937</b>
PacifiCorp	25	\$19,937
Total	100	\$79,748

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE hereby agrees to pay Bonneville \$19,937. Upon receipt of the executed Exhibit B, Table 32, Bonneville will send an invoice and PGE will make its payment of \$19,937 to Bonneville within thirty (30) days of the date on the invoice.

<sup>1</sup> Previously PGE was referred to as "Portland General." For this Exhibit B, Table 32, the term "PGE" has the same meaning as "Portland General."

**4. DUTIES OF BONNEVILLE**

Bonneville has fully performed all tasks required for completion of Work Order 229854, NERC CIP physical security upgrades, at the Malin Substation.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under Exhibit B, Table 32, shall be in accordance with Subsection 5(a) of the Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), as amended, and as indicated by the percentages specified in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

**7. SIGNATURES**

The Parties have caused this Table to be executed as of the date both Parties have signed this Table.

PORTLAND GENERAL ELECTRIC  
COMPANY

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By /S/ FRANK AFRANJI

By /S/ CRAIG HARDIN

Name Frank Afranji  
(Print/Type)

Name Craig Hardin  
(Print/Type)

Title Director, Transmission and  
Reliability Services

Title Transmission Account Executive

Date 03-03-2011

Date March 2 2011

ContractAdministration\TXCustomerFolders\29225\20ExhB\20Table\2032.doc

**EXHIBIT B, TABLE 33  
MODIFICATION OF FACILITIES**

This Exhibit B, Table 33 captures the project details, equipment ownership, project cost estimate, and cost sharing obligations between the Bonneville Power Administration (Bonneville), Portland General Electric Company (PGE), and PacifiCorp at the Malin Substation Main Control House to support PacifiCorp's relay replacement project for Malin Reactors No. 3 and No. 4 on the Malin-Summer Lake and Malin-Captain Jack No. 2 500 kV lines.

As a result of PacifiCorp's relay replacement project for Malin Reactors No. 3 and No. 4, Bonneville must install new transducers and replace display meters in the Malin Substation Main Control House. Based on Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), Bonneville, PGE and PacifiCorp have joint-ownership in the Malin Main Control House, and all equipment installed therein.

Accordingly, Bonneville and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

Exhibit B, Table 33 shall be effective at 0000 hours on the date when executed by both Bonneville and PGE.

**2. COST SHARING**

The total estimated cost for Bonneville to complete the duties described in Section 4 is \$14,000, with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Malin Substation jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages and stipulates their applicability to the Malin Substation Main Control House equipment as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ )</b>
Bonneville	50	\$7,000
<b>PGE</b>	<b>25</b>	<b>\$3,500</b>
PacifiCorp	25	\$3,500
Total	100	\$14,000

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

The costs detailed above in Section 2 are estimated costs only, with the final costs determined upon completion of all work related to this project and detailed in Section 4 below. PGE agrees to pay Bonneville PGE's ownership percentage of the actual costs, including applicable overheads, upon completion of this project and once final accounting has been performed. Once final accounting has been performed, Bonneville will send PGE an invoice for PGE's share of actual costs.



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SW*

PGE shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 20<sup>th</sup> day after the invoice is issued (Due Date). If the 20<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

**4. DUTIES OF BONNEVILLE**

- a) Replace existing transducers, one for Reactor No. 3 and one for Reactor No. 4 with RS-485 serial to analog signal converters, configure for operations, and connect the analog inputs to Bonneville's Supervisory Control and Data Acquisition system; and
- b) Replace existing Amp and MVAR board meters, one set for Reactor No. 3 and one set for Reactor No. 4 (four board meters total) within existing designated panel and rack space, and configure for operations.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under Exhibit B, Table 33, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

**7. SIGNATURES**

The Parties have caused this Table to be executed as of the date both Parties have signed this Table.

PORTLAND GENERAL ELECTRIC  
COMPANY

By (b)(6)  
Name FRANK AFRANJI  
(Print/Type)  
Title Director, Transmission  
and Reliability Services  
Date 12-7-2011

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By (b)(6)  
Name Craig Hardin  
(Print/Type)  
Title Transmission Account Executive  
Date 11/23/11

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**EXHIBIT B, TABLE 35  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 35 (Exhibit) captures the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric (PGE) regarding a recently completed work order in the Malin Substation's Main Control House, for the replacement of the South Bus Differential Relay.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when it has been executed by both BPA and PGE.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$206,968, with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines the percentages applicable to the Malin Substation Main Control House. The following table applies them to the total cost, as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ ) Work Order 248411</b>
BPA	50.0	\$103,484
<b>PGE</b>	<b>25.0</b>	<b>\$51,742</b>
PacifiCorp	25.0	\$51,742
<b>Total</b>	<b>100.0</b>	<b>\$206,968</b>

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$51,742, PGE's ownership percentage of the actual costs of Work Order 248411, which includes the applicable overheads for this completed project. PGE shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 20<sup>th</sup> day after the invoice is issued (Due Date). If the 20<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or



(b) the Prime Rate times 1.5, divided by 365;  
shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

- (a) Replaced differential relay (set A) on the South Bus with current/standard differential relay;
- (b) Replaced relay rack; and
- (c) Made the redundant relay set on the South Bus identical and supportable to the North Bus relay set.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Exhibit, shall be in accordance with Subsection 5(a) of Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

**7. SIGNATURES**

The Parties have executed this Exhibit as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

By: (b)(6)  
Name: FRANK AFRANJI  
(Print / Type)  
Title: Director, Transmission  
and Reliability Services  
Date: 6-20-2013

CCM: 29225\_ExhB\_T35

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: (b)(6)  
Name: Craig Hardin  
(Print / Type)  
Title: Transmission Account Executive  
Date: May 23, 2013

**EXHIBIT B, TABLE 34  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 34 (Exhibit) captures the project details, ownership percentage, project cost, and cost sharing obligations between the Bonneville Power Administration (BPA), Portland General Electric Company (PGE) and PacifiCorp to install heat strips around the entrance gate on the entry road to the Malin Substation Main Control House.*

*As a result of snow and ice build up around the entrance gate and gate sensors during winter months, BPA has identified times when the entrance gate failed to close, causing security and compliance concerns. This work order was necessary to ensure the entry gate to the Malin Substation, a substation that is a NERC CIP Critical Asset, will close properly at all times. Based on Malin Substation Construction and Operation Agreement (Contract No. 14-03-59840), BPA, PGE and PacifiCorp have joint-ownership in the entry road to the Malin Substation Main Control House.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$39,090.39, with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Malin Substation jointly owned property. Subsection 5(c) of Contract No. 14-03-59840, as amended, defines those percentages and stipulates their applicability to the Malin Substation's Main Control House equipment as follows:

<b>Party</b>	<b>Joint Ownership (%)</b>	<b>Total Costs (\$) Work Order 267495</b>
BPA	42.2	\$16,496.73
<b>PGE</b>	<b>16.5</b>	<b>\$ 6,449.32</b>
PacifiCorp	41.3	\$16,144.34
<b>Total</b>	<b>100.0</b>	<b>\$39,090.39</b>

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$6,449.32, PGE's ownership percentage of the actual costs, which includes the applicable overheads for this completed project. PGE shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 20<sup>th</sup> day after the invoice is issued (Due Date). If the 20<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

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### Late Payments

After the Due Date, a late payment charge equal to the higher of:

(a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or

(b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

### 4. DUTIES OF BPA

Install heat strips in the road at the entrance gate. This includes a control unit, snow sensor and all related electrical wiring.

### 5. OWNERSHIP

Title to and ownership of the equipment installed under this Exhibit, shall be in accordance with Subsection 5(c) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.

### 6. OPERATION AND MAINTENANCE

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

### 7. SIGNATURES

The Parties have executed this Exhibit as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

By (b)(6)  
Name (b)(6)  
(Print/Type)  
Title FRANK AFRANJI  
Director, Transmission  
and Reliability Services  
Date May 31, 2012  
May 31, 2012

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By (b)(6)  
Name Craig Hardin  
(Print/Type)  
Title Transmission Account Executive  
Date May 17, 2012

**EXHIBIT B, TABLE 37  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 37 (Exhibit) captures the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE), for a recently completed work order.*

*BPA Work Order 347837, was for the emergency replacement of three leaking Current Transformers (CTs) on the Malin – Round Mountain No. 2 line at the Malin Substation. The B and C phases of the three CTs were leaking oil through the casting and required an emergency work order to replace this equipment as these were non-repairable oil leaks. The CT on the A phase was also replaced based on the equipment age and parts obsolescence.*

*Based on Table 14 to the Malin Trust Agreement, BPA Contract No. 14-03-29225 (Table 14), BPA, PGE and PacifiCorp have joint ownership in the CTs on the Malin – Round Mountain No. 2 line. These CTs are associated with breaker position 4582 on the Malin – Round Mountain No. 2 line. Therefore cost sharing will be based on the ownership percentage established in Table 14.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$258,148, with applicable overheads included. The total cost of this work is to be shared by PGE, in proportion to the percentage ownership of the Malin Substation's jointly owned equipment. Section 6 and Exhibit B Figure 3 of Table 14, as amended, defines those percentages, and stipulates their applicability to the CTs on the Malin – Round Mountain No. 2 line, as follows:

Party	Joint Ownership ( % )	Total Costs ( \$ ) Work Order 347837
BPA	50.0	\$129,074
PGE	25.0	\$64,537
PacifiCorp	25.0	\$64,537
Total	100.0	\$258,148

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$64,537, which is PGE's ownership percentage share of the actual cost of Work Order 347837, and includes the applicable overheads for this completed project. BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

- (a) Replaced leaking CTs C06301 and C06314 on the B and C phase of the Malin – Round Mountain No. 2 line due to non-repairable leaking.
- (b) Replaced CT C06300 on the A phase of the Malin – Round Mountain No. 2 line due to age and equipment and parts obsolescence.
- (c) Removal of existing CT footings and installation of new footings.

**5. OWNERSHIP**

Title to, and ownership of, the equipment installed under this Exhibit, shall be in accordance with Table 14, as amended, and as indicated by the percentages specified in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended. PGE's share of the cost of maintaining jointly owned facilities replaced hereunder shall be the same percentage as the ownership percentage indicated in Exhibit B, Figure 3 of Table 14.



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7. **ENVIRONMENT**

BPA's Pollution, Prevention and Abatement group (PPA group) completed a Pollution Abatement Clearance (PAC), conducting inspections and sampling to determine if hazardous waste contamination or other environmental concerns existed. The PPA group provided guidance on disposal of soil, concrete, and other excess materials to BPA's project workers to ensure compliance with Federal and state environmental regulations. Identified soil and concrete were disposed of properly.

8. **SIGNATURES**

The Parties have executed this Exhibit as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

By

(b)(6)

Name

FRANK AFRANJ

Title

Director, Transmission  
and Reliability Services

Date

07-07-2014

CCM: 29224\_ExhB.T37

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By

(b)(6)

Name

Craig Hardin

(Print/Type)

Title

Transmission Account Executive

Date

July 10, 2014

**EXHIBIT B, TABLE 36  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 36 (Exhibit) captures the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) for a recently completed work order.*

*Work Order 329958, was for an emergency replacement of the Malin Substation's 480/240 V station service transformer. The transformer is located in the basement of the Malin Substation's Main Control House and is used to feed critical loads.*

*Based on Malin Construction and Operation Agreement, Contract 14-03-59840, BPA, PGE and PacifiCorp have joint ownership in the Malin Substation's Main Control House, and all equipment installed therein.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$56,480, with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment, as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ ) Work Order 329958</b>
BPA	50.0	\$28,242
PGE	25.0	\$14,120
PacifiCorp	25.0	\$14,120
<b>Total</b>	<b>100.0</b>	<b>\$56,482</b>

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$14,120, which is PGE's ownership percentage share of the actual costs of Work Order 329958, and includes the applicable overheads for this completed project. PGE shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 20<sup>th</sup> day after the invoice is issued (Due Date). If the 20<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

### Late Payments

After the Due Date, a late payment charge equal to the higher of:

(a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or

(b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

### 4. DUTIES OF BPA

Replaced the 480/240 V station service transformer, located in the Main Control House basement, that feeds critical loads.

### 5. OWNERSHIP

Title to and ownership of the equipment installed under this Exhibit, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.

### 6. OPERATION AND MAINTENANCE

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

### 7. SIGNATURES

The Parties have executed this Exhibit as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

By

(b)(6)

Name

FRANK AFRANJI  
(Print/Type)

Title

Director, Transmission  
and Reliability Services

Date

6-20-2013

CCM: 29225\_ExhB\_T36

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By

(b)(6)

Name

Craig Hardin  
(Print/Type)

Title

Transmission Account Executive

Date

June 14, 2013



**EXHIBIT B, TABLE 39  
MODIFICATION OF FACILITIES**

**AUTHENTICATED**

*This Exhibit B, Table 39 (Exhibit) captures the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) for a recently completed work order.*

*Work Order 322001 provided for the replacement of various relays located in the Malin Substation control house. This equipment is jointly owned between BPA and PGE, per Contract 59840, at 50% BPA and 25% PGE. BPA has recently replaced 500 kV relays at the Malin Substation, and this Exhibit B Table 39 details the ownership and cost responsibilities between BPA and PGE associated with Work Order 322001.*

*Based on Malin Construction and Operation Agreement, Contract 14-03-59840, BPA, PGE and PacifiCorp have joint ownership in the Malin Substation's Main Control House, and all equipment installed therein.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$1,013,711.60, with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment, as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ ) Work Order 322001</b>
BPA	50.0	\$ 506,855.80
<b>PGE</b>	<b>25.0</b>	<b>\$ 253,427.90</b>
PacifiCorp	25.0	\$ 253,427.90
Total	100.0	\$ 1,013,711.60

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$253,427.90, which is PGE's ownership percentage share of the actual costs of Work Order 322001, and includes the applicable overheads for this completed project. PGE shall pay the invoice electronically in accordance with instructions on the bill.

Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

BPA has fully performed the following tasks required for completion of this work order:

- (a) Replaced the existing 500 kV relays on the Malin – Grizzly # 2 line with a new 500 kV relay package. This includes replacement of the Transfer Trip relays. Transfer Trip will be via digital relay to relay communications. Installed 2 OHSU cards in channel bank;
- (b) Replaced the existing 500 kV relays on the Malin – Captain Jack # 1 line with a new 500 kV relay package. This includes replacement of the Transfer Trip relays. Transfer Trip will be via digital relay to relay communications. Installed 2 OHSU cards in channel bank; and
- (c) Installed two Universal Relays with two Line Loss Logic each.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Exhibit, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

**7. SIGNATURES**

The Parties have executed this Exhibit as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

By /S/ FRANK AFRANJI

Name FRANK AFRANJI  
(Print/Type) Director, Transmission

Title and Reliability Services

Date 05-28-2015

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By /S/ CRAIG HARDIN

Name Craig Hardin  
(Print/Type)

Title Transmission Account Executive

Date June 2, 2015

CCM: 29225\_ExhB\_T39

**EXHIBIT B, TABLE 38, REVISION NO.1  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 38 Revision No. 1 (Revision) captures the project details, ownership percentage, current project costs and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) for a completed work order at the Malin Substation.*

*The Malin Yard Project (Project) was halted in December 2014 due to inclement winter weather in the Klamath area. The Project resumed again in 2015. This Revision is intended to reflect the final charges and any remaining costs owed by PGE.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The Project costs are separated into five distinct aspects, which are: (1) DC cable replacement for the Mechanically Operated Disconnect (MOD) switches; (2) Malin yard rock and site development repair and replacement; (3) storm drain repair, replacement and construction; (4) access road repair and construction; and (5) grounding grid repair.

The total cost of this Project is to be shared by PGE, in proportion to the percentage ownership of the Malin Substation's jointly owned and solely owned equipment that is a part of this Project. Section 1 of Contract 14-03-63626, Land and Easements at Malin Substation, and Section 5(a) of Contract 14-03-59840, Malin Construction Agreement, detail these ownership obligations. The tables below reflect the ownership percentages for each aspect of the Project, and the final charges, in proportion to the percentage ownership of the Malin Substation's jointly owned and solely owned equipment that is a part of this Project.

(a)

DC Cable Replacement for the MOD's				
Party	Joint Ownership ( % )	Total Costs ( \$ )	Previously Paid, Table 38, Revision 0 ( \$ )	Final Amount Due ( \$ )
BPA	73.47	\$492,372	\$437,120	\$55,252
PGE	15.28	<b>\$102,402</b>	<b>\$90,911</b>	<b>\$11,491</b>
PacifiCorp	11.25	\$75,394	\$66,934	\$8,460
Total	100.0	\$670,168	\$594,965	\$75,203

(b)

Yard Rock and Site Development				
Party	Joint Ownership ( % )	Total Costs ( \$ )	Previously Paid, Table 38, Revision 0 ( \$ )	Final Amount Due ( \$ )
BPA	45.37	\$1,117,766	\$1,105,604	\$12,162
PGE	5.63	<b>\$138,704</b>	<b>\$137,195</b>	<b>\$1,509</b>
PacifiCorp	49.00	\$1,207,197	\$1,194,062	\$13,135
Total	100.0	\$2,463,667	\$2,436,861	\$26,806

(c)

<b>Storm Drain Repair, Replacement and Installation</b>				
<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ )</b>	<b>Previously Paid, Table 38, Revision 0 ( \$ )</b>	<b>Final Amount Due ( \$ )</b>
BPA	45.37	\$595,588	\$589,107	\$6,481
<b>PGE</b>	<b>5.63</b>	<b>\$73,907</b>	<b>\$73,103</b>	<b>\$804</b>
PacifiCorp	49.00	\$643,240	\$636,241	\$6,999
Total	100.0	\$1,312,735	\$1,298,451	\$14,284

(d)

<b>Access Road Repair and Construction</b>				
<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ )</b>	<b>Previously Paid, Table 38, Revision 0 ( \$ )</b>	<b>Final Amount Due ( \$ )</b>
BPA	50.00	\$217,418	\$215,052	\$2,366
<b>PGE</b>	<b>25.00</b>	<b>\$108,709</b>	<b>\$107,526</b>	<b>\$1,183</b>
PacifiCorp	25.00	\$108,709	\$107,526	\$1,183
Total	100.0	\$434,836	\$430,104	\$4,732



(e)

Grounding Grid Repair and Replacement				
Party	Joint Ownership (%)	Total Costs (\$)	Previously Paid, Table 38, Revision 0 (\$)	Final Amount Due (\$)
BPA	26.00	\$75,423	\$74,602	\$821
PGE	25.00	\$72,522	\$71,733	\$789
PacifiCorp	49.00	\$142,143	\$140,597	\$1,546
Total	100.0	\$290,088	\$286,932	\$3,156

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$15,776, which is PGE's ownership percentage share of the costs incurred for the Project (Work Orders 342131 and 349129), and includes the applicable overheads. This amount represents the total costs attributable to PGE's portion of the project, less amounts previously billed and collected, as shown in the tables above. BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365 shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

- (a) DC Cable Replacement for the MOD's
  - 1) Rectify issue with DC ground seasonally fluctuating between 60 V and 130 V over the last couple of years.
  - 2) Replaced wiring to all MOD's in the Malin Substation yard.
  - 3) Installed four yard panels each with dedicated branch circuits to feed the MOD's. This design allows for easier isolation of individual MOD's and increases safety by lowering overall impedance in each radial feed, which greatly increases the likelihood that a circuit breaker will trip in the event of a fault.

- (b) Yard Rock and Site Development
  - 1) Removed existing curbs, catch basins, and footings.
  - 2) Excavation and disposal of top 7-inches (includes switchyard rock and subsoil).
  - 3) Rough grading to include filling with acceptable imported materials.
  - 4) Grading to establish finish grade.
  - 5) Following subgrade work, installed new or retested switchyard surfacing.
- (c) Storm Drain Repair, Replacement and Installation
  - 1) Excavation for underground drainage.
  - 2) Installation of new sub-drainage piping, catch basins and outfalls.
  - 3) Replacement of existing piping, catch basin and outfalls.
- (d) Access Road Repair and Construction
  - 1) Construction of switchyard roads.
  - 2) Improvement of existing access roads.
- (e) Grounding Grid Repair and Replacement
  - 1) Installed new ground mats and connected to existing mats and substation facilities.
  - 2) Replaced or rebuilt existing ground risers where indicated.
  - 3) Installed new equipment ground connections to new improvements.
  - 4) Disconnect grounding on improvements to be removed.

**5. OWNERSHIP**

Title to, and ownership of, the equipment installed under this Exhibit, shall be in accordance with Section 1 of Contract 14-03-63626, Land and Easements at Malin Substation, and Section 5(a) of Contract 14-03-59840, Malin Construction Agreement, as amended, and as indicated by the percentages specified in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

**7. ENVIRONMENT**

BPA's Pollution, Prevention and Abatement group (PPA group) completed a Pollution Abatement Clearance (PAC), conducting inspections and sampling to determine if hazardous waste contamination or other environmental concerns existed. The PPA group provided guidance on disposal of soil, rock, and other excess materials to BPA's Project workers to ensure compliance with Federal and state environmental regulations. Identified soil and rock were disposed of properly.



8. **SIGNATURES**

The Parties have executed this Exhibit as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By /S/ FRANK AFRANJI

By /S/ CRAIG HARDIN

Name FRANK AFRANJI  
(Print/Type)

Name CRAIG HARDIN  
(Print/Type)

Title DIRECTOR TRANSMISSION AND  
RELIABILITY SERVICES

Title Transmission Account Executive

Date 05/20/2016

Date 5/23/2016

**EXHIBIT B, TABLE 38  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 38 (Exhibit) captures the project details, ownership percentage, current project costs and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) for a still in-process work order at the Malin Substation.*

*The Malin Yard Project (Project) was halted in December due to inclement winter weather in the Klamath area. The Project will not resume again until the spring/summer timeframe. This Exhibit is intended to capture the known costs up to the point of work stoppage, with the understanding that actual costs for the entire Project cannot be accurately accounted for until at least 90 days after the Project has been completed. At that time the Exhibit will be revised to reflect the final charges and any remaining costs owed by PGE.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The Project costs are separated into five distinct aspects, which are: (1) DC cable replacement for the Mechanically Operated Disconnect (MOD) switches; (2) Malin yard rock and site development repair and replacement; (3) storm drain repair, replacement and construction; (4) access road repair and construction; and (5) grounding grid repair.

The total cost of this Project is to be shared by PGE, in proportion to the percentage ownership of the Malin Substation's jointly owned and solely owned equipment that is a part of this Project. Section 1 of Contract 14-03-63626, Land and Easements at Malin Substation, and Section 5(a) of Contract 14-03-59840, Malin Construction Agreement, detail these ownership obligations. The tables below reflect the ownership percentages for each aspect of the Project, and the costs incurred until inclement weather postponed the Project. In addition to the costs set forth in these tables, PGE and BPA will incur additional costs to complete the Project in proportion to the percentage ownership of the Malin Substation's jointly owned and solely owned equipment that is a part of this Project.

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(a)

<b>DC Cable Replacement for the MOD's</b>		
<b>Party</b>	<b>Joint Ownership (%)</b>	<b>Total Costs (\$)</b>
BPA	73.47	\$437,119.89
<b>PGE</b>	<b>15.28</b>	<b>\$90,910.47</b>
PacifiCorp	11.25	\$66,933.42
<b>Total</b>	<b>100.0</b>	<b>\$594,963.78</b>

(b)

<b>Yard Rock and Site Development</b>		
<b>Party</b>	<b>Joint Ownership (%)</b>	<b>Total Costs (\$)</b>
BPA	45.37	\$1,105,603.84
<b>PGE</b>	<b>5.63</b>	<b>\$137,195.27</b>
PacifiCorp	49.00	\$1,194,061.90
<b>Total</b>	<b>100.0</b>	<b>\$2,436,861.01</b>

(c)

<b>Storm Drain Repair, Replacement and Installation</b>		
<b>Party</b>	<b>Joint Ownership (%)</b>	<b>Total Costs (\$)</b>
BPA	45.37	\$589,107.16
<b>PGE</b>	<b>5.63</b>	<b>\$73,102.78</b>
PacifiCorp	49.00	\$636,240.93
<b>Total</b>	<b>100.0</b>	<b>\$1,298,450.87</b>

(d)

Access Road Repair and Construction		
Party	Joint Ownership (%)	Total Costs (\$)
BPA	50.00	\$215,051.50
<b>PGE</b>	<b>25.00</b>	<b>\$107,525.75</b>
PacifiCorp	25.00	\$107,525.75
Total	100.0	\$430,103.00

(e)

Grounding Grid Repair and Replacement		
Party	Joint Ownership (%)	Total Costs (\$)
BPA	26.00	\$74,602.23
<b>PGE</b>	<b>25.00</b>	<b>\$71,732.92</b>
PacifiCorp	49.00	\$140,596.52
Total	100.0	\$286,931.67

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$480,467.19, which is PGE's ownership percentage share of the costs incurred to date for the Project (Work Orders 342131 and 349129), and includes the applicable overheads for this on-going Project. BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365 shall be applied each day to any unpaid balance.

#### 4. FINAL ACCOUNTING

Within a reasonable time after completion of the Project, BPA shall make a full accounting to PGE showing the actual costs charged against the Project work order. BPA shall bill PGE for any remaining charges accrued under the Project work order, beyond the payment amount listed in Section 3 above, in accordance with PGE's ownership share in the Project detailed in Section 2. Upon BPA completing its final accounting, a final invoice will be issued to PGE with payment due according to the provisions in Section 3 above.

#### 5. DUTIES OF BPA

- (a) DC Cable Replacement for the MOD's
  - 1) Rectify issue with DC ground seasonally fluctuating between 60 V and 130 V over the last couple of years.
  - 2) Replaced wiring to all MOD's in the Malin Substation yard.
  - 3) Installed four yard panels each with dedicated branch circuits to feed the MOD's. This design allows for easier isolation of individual MOD's and increases safety by lowering overall impedance in each radial feed, which greatly increases the likelihood that a circuit breaker will trip in the event of a fault.
- (b) Yard Rock and Site Development
  - 1) Removed existing curbs, catch basins, and footings.
  - 2) Excavation and disposal of top 7-inches (includes switchyard rock and subsoil).
  - 3) Rough grading to include filling with acceptable imported materials.
  - 4) Grading to establish finish grade.
  - 5) Following subgrade work, installed new or retested switchyard surfacing.
- (c) Storm Drain Repair, Replacement and Installation
  - 1) Excavation for underground drainage.
  - 2) Installation of new sub-drainage piping, catch basins and outfalls.
  - 3) Replacement of existing piping, catch basin and outfalls.
- (d) Access Road Repair and Construction
  - 1) Construction of switchyard roads.
  - 2) Improvement of existing access roads.
- (e) Grounding Grid Repair and Replacement
  - 1) Installed new ground mats and connected to existing mats and substation facilities.
  - 2) Replaced or rebuilt existing ground risers where indicated.
  - 3) Installed new equipment ground connections to new improvements.
  - 4) Disconnect grounding on improvements to be removed.

6. **OWNERSHIP**

Title to, and ownership of, the equipment installed under this Exhibit, shall be in accordance with Section 1 of Contract 14-03-63626, Land and Easements at Malin Substation, and Section 5(a) of Contract 14-03-59840, Malin Construction Agreement, as amended, and as indicated by the percentages specified in Section 2 above.

7. **OPERATION AND MAINTENANCE**

Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.


8. **ENVIRONMENT**

BPA's Pollution, Prevention and Abatement group (PPA group) completed a Pollution Abatement Clearance (PAC), conducting inspections and sampling to determine if hazardous waste contamination or other environmental concerns existed. The PPA group provided guidance on disposal of soil, rock, and other excess materials to BPA's Project workers to ensure compliance with Federal and state environmental regulations. Identified soil and rock were disposed of properly.

9. **SIGNATURES**


The Parties have executed this Exhibit as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

By   
Name FRANK AFRANJI  
(Print/Type)  
Title Director, Transmission  
and Reliability Services  
Date 02-20-2015

CCM: 29224\_ExhB\_T38

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By   
Name Craig Hardin  
(Print/Type)  
Title Transmission Account Executive  
Date 2/23/2015

**EXHIBIT B, TABLE 40  
MODIFICATION OF FACILITIES**

**AUTHENTICATED**

*This Exhibit B, Table 40 (Exhibit) captures the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) for a recently completed work order.*

*Under Work Order 319051 BPA retired and replaced three existing JEM dual interchange meter sets (six meters in all). Meters are located within the jointly owned Malin Substation control house.*

*Based on Malin Construction and Operation Agreement, Contract 14-03-59840, BPA, PGE and PacifiCorp have joint ownership in the Malin Substation's Main Control House, and all equipment installed therein.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$125,502.16, with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment, as follows:

Party	Joint Ownership ( % )	Total Costs ( \$ ) Work Order 319051
BPA	50.0	\$ 62,751.08
PGE	25.0	\$ 31,375.54
PacifiCorp	25.0	\$ 31,375.54
Total	100.0	\$ 125,502.16

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$31,375.54, which is PGE's ownership percentage share of the actual costs of Work Order 319051, and includes the applicable overheads for this completed project. PGE shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.



### **Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

#### **4. DUTIES OF BPA**

Replaced three sets of dual interchange meters (six meters total) on the following:

- 1) PacifiCorp 500/230 kV Transformer;
- 2) Malin – Round Mountain 500 kV # 1 line; and
- 3) Malin – Round Mountain 500 kV # 2 line.

#### **5. OWNERSHIP**

Title to and ownership of the equipment installed under this Exhibit, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages specified in Section 2 above.

#### **6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

#### **7. SIGNATURES**

The Parties have executed this Exhibit as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By /S/ FRANK AFRANJI

By /S/ CRAIG HARDIN

Name FRANK AFRANJI  
(Print/Type) Director, Transmission

Name Craig Hardin  
(Print/Type)

Title and Reliability Services

Title Transmission Account Executive

Date 05-28-2015

Date June 2, 2015

CCM: 29225\_ExhB\_T40



**EXHIBIT B, TABLE 41  
MODIFICATION OF FACILITIES**

**AUTHENTICATED**

*This Exhibit B, Table 41 (Table 41) documents the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) regarding a recently completed work order.*

*Under Work Order 00349163, BPA replaced the Optical Network System (ONS) equipment in the Malin Substation's Main Control House*

*Based on the Malin Construction and Operation Agreement, Contract 14-03-59840, BPA, PGE and PacifiCorp have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 41 shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$199,594, with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment, as follows:

<b>Party</b>	<b>Joint Ownership ( % )</b>	<b>Total Costs ( \$ ) Work Order 00349163</b>
BPA	50	\$99,798
PGE	25	\$49,898
PacifiCorp	25	\$49,898
Total	100	\$199,594

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$49,898, which is PGE's ownership percentage share of the actual costs of Work Order 00349163, which includes the applicable overheads for this completed project. BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Pursuant to Work Order 00349163, BPA completed the following work:

- (a) Removed the existing ANSI ONS chassis;
- (b) Replaced the old ANSI ONS chassis with current generation CISCO 15454 ONS Chassis, installed and tested; and
- (c) Upgraded Malin station grounding system for compatibility with BPA standards.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Table 41, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

**7. SIGNATURES**

The Parties have executed this Table 41 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By /S/ FRANK AFRANJI

By /S/ CRAIG HARDIN

Name Frank Afranji  
(Print/Type) Director,

Name Craig Hardin  
(Print/Type)

Title Transmission and Reliability  
Services

Title Transmission Account Executive

Date 01-28-2016

Date 2/1/2016

**EXHIBIT B, TABLE 42  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 42 (Table 42) documents the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) regarding a recently completed work order.*

*Under Work Order 00381830, BPA replaced the communication battery charger equipment in the Malin Substation's Main Control House*

*Based on the Malin Construction and Operation Agreement, Contract 14-03-59840, BPA, PGE and PacifiCorp have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 42 shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$101,168, with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment, as follows:

<b>Party</b>	<b>Joint Ownership (%)</b>	<b>Total Costs (\$) Work Order 00381830</b>
BPA	50	\$50,584
PGE	25	\$25,292
PacifiCorp	25	\$25,292
Total	100	\$101,168

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$25,292, which is PGE's ownership percentage share of the actual costs of Work Order 00381830, which includes the applicable overheads for this completed project. BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically in accordance with instructions on the bill.

Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

14-03-29225, Portland General Electric Company  
Exhibit B, Table 42  
Modification of Facilities

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Page 1 of 2

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

(a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or

(b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Pursuant to Work Order 00381830, BPA completed the following work:

(a) Removed the existing communication battery charger; and

(b) Replaced the old battery charger with current generation battery charger, installed and tested.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Table 42, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

**7. SIGNATURES**

The Parties have executed this Table 42 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY *DOL*

By (b)(6)  
Name FRANK AFRANJI  
(Print/Type)  
Title Director, Transmission  
and Reliability Services  
Date April 15, 2016

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By (b)(6)  
Name Craig Hardin  
(Print/Type)  
Title Transmission Account Executive  
Date 4/13/2016



**EXHIBIT B, TABLE 44  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 44 (Table 44) documents the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) regarding a recently completed work order. Prior to commencing the work, BPA, PGE, and PacifiCorp entered into a Letter of Intent dated February 12, 2019. This Table 44 is intended to be consistent with the Letter of Intent. BPA replaced and installed fencing and security equipment at the Malin Substation, a Critical Infrastructure facility to ensure adequate physical protection for critical assets. In accordance with the Malin Construction and Operation Agreement (Contract 14-03-59840), BPA, PGE and PacifiCorp have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 44 shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The Project costs are separated into two aspects, which are: (a) installation of a new Security Fence, and (b) installation of Security Equipment.

With respect to the Security Fence, BPA and PGE were unable to agree on the necessity and cost allocation for the Security Fence. BPA determined that the Security Fence is nevertheless, necessary from a security perspective. BPA thus assumes the total cost of the Security Fence and will take full ownership of the Security Fence. BPA's total cost to complete the Security Fence, including AFUDC and Overheads was \$3,353,521. This arrangement does not create precedent for future projects.

The total cost of the installation of Security Equipment including overheads, is to be shared by PGE in proportion to the percentage ownership of the Malin Substation's Main Control House. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment. The tables below reflect the ownership percentages for both aspects of the Project, and the final charges.

(a)

Security Fence			
Party	Joint Ownership ( % )	Total Costs ( \$ )	Final Amount Due ( \$ )
BPA	100	\$3,353,521	\$3,353,521
PGE	0	\$0	\$0
PacifiCorp	0	\$0	\$0
Total	100	\$3,353,521	\$3,353,521

(b)

Security Equipment			
Party	Joint Ownership ( % )	Total Costs ( \$ )	Final Amount Due ( \$ )
BPA	50	\$944,736	\$944,736
PGE	25	\$472,368	\$472,368
PacifiCorp	25	\$472,368	\$472,368
Total	100	\$1,889,472	\$1,889,472

### 3. JOINT OWNERSHIP PAYMENT OBLIGATION

PGE agrees to pay BPA **\$472,368**, which is PGE's ownership percentage share of the costs incurred or actual costs for the Security Equipment portion of the Project, which includes the applicable overheads. This amount represents total costs attributable to PGE's portion of the Project. BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

#### Late Payments

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
  - (b) the Prime Rate times 1.5, divided by 365;
- shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

BPA completed the following work:

- (a) Fence (Demolition, Fence, Fence Post Footings, Gates, Fence Grounding, Yard Rock, Hydroseed), and
- (b) Security (Cameras, Security Poles and Footings, Security Cabinets, Trenching and Conduit for Fiber and Electrical, Grounding for Security Equipment, Hardware and Software System, Program, Test, and Commission Security Equipment), Civil Improvements (Gravel Path, Boulders, Construction Entrance).

**5. OWNERSHIP**

Title to and ownership of the equipment installed under Section 2(a) above shall be in accordance with the Letter of Intent between BPA, PacifiCorp, and PGE dated February 12, 2019. For clarity and the avoidance of doubt, BPA takes title to and ownership of the Security Fence that it installed at its expense. PGE and PacifiCorp retain title to and ownership of their respective lands underneath the Security Fence as well as their respective interior fencing.

Title to and ownership of the equipment installed under 2(b) above, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2(b) above.

**6. OPERATION AND MAINTENANCE**

BPA assumes the responsibility for Operation and Maintenance of the Security Fence facilities and equipment installed under Section 2(a); however, the cost of repairs for damage to the Security Fence shall be borne by the party that caused such damages (BPA, PGE or PacifiCorp). PGE agrees to provide access to the Security Fence for its Operation and Maintenance. BPA agrees that PGE retains access to Malin Substation as access currently stands.

BPA will notify and share information with PGE regarding security incidents (i.e., fence perimeter intrusion attempts or actual break-ins).

Operation and Maintenance of the Security Equipment facilities and equipment installed under Section 2(b) shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

7. **SIGNATURES**

This Table 44 may be executed in several counterparts, all of which taken together will constitute one single agreement, and the Table 44 may be executed and delivered electronically. The parties have executed this Table 44 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: \_\_\_\_\_

By: \_\_\_\_\_

**Craig Hardin**

Digitally signed by Craig Hardin  
Date: 2019.12.18 13:11:08  
-08'00'

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Transmission Account Executive

If opting out of the electronic signature:

By: \_\_\_\_\_

(b)(6)

Name: \_\_\_\_\_

Sarah Edmonds  
(Print/Type)

Title: \_\_\_\_\_

Director

Date: \_\_\_\_\_

12/26/19



**EXHIBIT B, TABLE 43  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 43 (Table 43) documents the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) regarding a recently completed work order. Under Work Order 00351723, BPA replaced the Station Service Emergency Generator in the Malin Substation. In accordance with the Malin Construction and Operation Agreement (Contract 14-03-59840), BPA, PGE and PacifiCorp have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 43 shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$579,084, with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Malin Substation's jointly owned property. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment, as follows:

Party	Joint Ownership (%)	Total Costs ( \$ ) Work Order 00351723
BPA	50	\$289,542
PGE	25	\$144,771
PacifiCorp	25	\$144,771
Total	100	\$579,084

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$144,771, which is PGE's ownership percentage share of the actual costs of Work Order 00351723, which includes the applicable overheads for this completed project. BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Pursuant to Work Order 00351723, BPA completed the following work:

- (a) Removed the existing station service emergency generator; and
- (b) Replaced the old emergency generator with current emergency generator, installed and tested.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Table 43, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

7. SIGNATURES

This Agreement may be executed in several counterparts, all of which taken together will constitute one single agreement, and the Agreement may be executed and delivered electronically. The parties have executed this Agreement as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

*DOZ*  
By: (b)(6)

Title: *Director Transmission  
10/12/2018 Services*

If opting out of the electronic signature:

By: \_\_\_\_\_

Name: \_\_\_\_\_  
(Print/Type)

Title: \_\_\_\_\_

Date: \_\_\_\_\_

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: (b)(6) Digitally signed by CRAIG HARDIN  
Date: 2018.08.22 09:33:56 -07'00'

Title: Transmission Account Executive

**EXHIBIT B, TABLE 46  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 46 (Table 46) documents the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) regarding a recently completed work order at the Malin Substation. Under Work Order 425944, BPA conducted a relay replacement project at the Malin Substation for the Round Mountain (Round MT) Relays that were technologically obsolete and beyond its economic lifecycle. In accordance with the Malin Construction and Operation Agreement (Contract 14-03-59840), BPA, PGE and PacifiCorp have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 46 shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$2,759,932 including applicable overheads, is to be shared by PGE in proportion to the percentage ownership of the Malin Substation's Main Control House. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment. The table below reflects the ownership percentages for the Project, and the final charges.

Malin KTS Replacement			
Party	Joint Ownership ( % )	Total Costs ( \$ )	Final Amount Due (\$)
BPA	50	\$1,379,966	\$1,379,966
PGE	25	\$689,983	\$689,983
PacifiCorp	25	\$689,983	\$689,983
Total	100	\$2,759,932	\$2,759,932

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$689,983, which is PGE's ownership percentage share of the actual costs of Work Order 425944, which includes the applicable overheads. This amount represents total costs attributable to PGE's portion of the Project. BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Pursuant to Work Order 425944, BPA completed the following work:

- (a) Removed existing Round Mt Relays; and
- (b) Replaced with new Round Mt Relays, installed and tested.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Table 46, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

7. **SIGNATURES**

This Table 46 may be executed in several counterparts, all of which taken together will constitute one single agreement, and the Table 46 may be executed and delivered electronically. The parties have executed this Table 46 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

By:

(b)(6)

Title: Assistant General Counsel

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By:

Craig Hardin

Digitally signed by Craig Hardin  
Date: 2020.06.17 14:24:52  
-07'00'

Title: Transmission Account Executive

PORTLAND GENERAL ELECTRIC  
COMPANY

By:

(b)(6)

Title: Director, Transmission Svcs

**EXHIBIT B, TABLE 45  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 45 (Table 45) documents the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) regarding a recently completed work at the Malin Substation. Under Work Order 425938, BPA replaced the Comdial Keyed Telephone System (Comdial KTS System) that was beyond its economic life and no longer supported by the manufacturer. In accordance with the Malin Construction and Operation Agreement (Contract 14-03-59840), BPA, PGE and PacifiCorp have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 45 shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$160,443 including applicable overheads, is to be shared by PGE in proportion to the percentage ownership of the Malin Substation's Main Control House. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment. The table below reflects the ownership percentages for the Project, and the final charges.

Malin KTS Replacement			
Party	Joint Ownership ( % )	Total Costs ( \$ )	Final Amount Due ( \$ )
BPA	50	\$80,221	\$80,221
PGE	25	\$40,111	\$40,111
PacifiCorp	25	\$40,111	\$40,111
Total	100	\$160,443	\$160,443

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA \$40,411, which is PGE's ownership percentage share of the actual costs of Work Order 425938, which includes the applicable overheads. This amount represents total costs attributable to PGE's portion of the Project. BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Pursuant to Work Order 425938, BPA completed the following work:

- (a) Removed and retired existing Comdial KTS System; and
- (b) Replaced retired Comdial KTS System with new Comdial KTS System, installed and tested.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Table 45, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.



7. **SIGNATURES**

This Table 45 may be executed in several counterparts, all of which taken together will constitute one single agreement, and the Table 45 may be executed and delivered electronically. The parties have executed this Table 45 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

By: (b)(6)

Title: Assistant General Counsel

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: Craig Hardin Digitally signed by Craig Hardin  
Date: 2020.06.17 14:24:16  
+07'00'

Title: Transmission Account Executive

PORTLAND GENERAL ELECTRIC  
COMPANY

By: (b)(6)

Title: Director, Transmission Svcs

**EXHIBIT B, TABLE 47  
MODIFICATION OF FACILITIES**

*This Exhibit B, Table 47 (Table 47) documents the project details, ownership percentage, project cost and cost sharing obligations between the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) regarding a recently completed work order at the Malin Substation. Under Work Order 420265, BPA conducted a Physical Security Enhancement project at the Malin Substation. In accordance with the Malin Construction and Operation Agreement (Contract 14-03-59840), BPA, PGE and PacifiCorp (PAC) have joint ownership in the Malin Substation's Main Control House and all equipment installed therein.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 47 shall be effective at 0000 hours on the date when executed by both BPA and PGE.

**2. COST SHARING**

The total cost for BPA to complete the duties described in Section 4 was \$41,959 including applicable overheads, is to be shared by PGE in proportion to the percentage ownership of the Malin Substation's Main Control House. Subsection 5(a) of Contract No. 14-03-59840, as amended, defines those percentages, and stipulates their applicability to the Malin Substation's Main Control House equipment. The table below reflects the ownership percentages for the Project, and the final charges.

Malin Substation Physical Security Enhancements			
Party	Joint Ownership ( % )	Total Costs ( \$ )	Final Amount Due ( \$ )
BPA	50%	\$21,195	\$21,195
PGE	25%	\$10,382	\$10,382
PAC	25%	\$10,382	\$10,382
Total	100%	\$41,959	\$41,959

**3. JOINT OWNERSHIP PAYMENT OBLIGATION**

PGE agrees to pay BPA **\$10,382**, which is PGE's ownership percentage share of the actual costs of Work Order 420265, which includes the applicable overheads. This amount represents total costs attributable to PGE's portion of the Project. BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next business day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Pursuant to Work Order 420265, BPA completed the following work:

Upgraded the physical security to add alarm sensors to the tunnel hatches.

**5. OWNERSHIP**

Title to and ownership of the equipment installed under this Table 47, shall be in accordance with Subsection 5(a) of the Contract No. 14-03-59840, as amended, and as indicated by the percentages in Section 2 above.

**6. OPERATION AND MAINTENANCE**

Operation and Maintenance of the facilities and equipment installed hereunder shall be in accordance with the Malin Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-63627), as amended.

**7. SIGNATURES**

This Table 47 may be executed in several counterparts, all of which taken together will constitute one single agreement, and may be executed and delivered electronically. The Parties have executed this Table 47 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: Transmission Account Executive

If opting out of the electronic signature:

By: \_\_\_\_\_

Name: \_\_\_\_\_

*(Print / Type)*

Title: \_\_\_\_\_

Date: \_\_\_\_\_

PORTLAND GENERAL ELECTRIC  
COMPANY LEGAL APPROVAL

By: \_\_\_\_\_

Name: \_\_\_\_\_

*(Print / Type)*

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Revision No. 2 of  
Exhibit A, Page 1 of 1  
Contract No. 14-03-73941  
Effective on the Effective  
Date stated below

Solely Owned Intertie Facilities of the Company  
Maintained by Bonneville at Company Expense

This Revision No. 2 adds two transistorized VHF-FM portable radios.

<u>Location</u>	<u>Facility</u>	<u>Installed Under</u> <u>Contract No.</u> <u>14-03-09225</u>	<u>Maintenance</u> <u>Payment</u>
Along Intertie 500 kV lines between Grizzly and Malin Substations	Three transistorized VHF- FM mobile radios installed by the Company in its vehicles.	(Amend. 1)	Actual Cost under Cont. No. 14-03- 73941, O&M Trust Agreement
Along Intertie 500 kV lines between Grizzly and Malin Substations	Two transistorized VHF-FM portable radios.	(Amend. 2)	Actual Cost under Cont. No. 14-03- 73941, O&M Trust Agreement

APPROVED:

PORTLAND GENERAL ELECTRIC COMPANY

By (b)(6)

Title V.P. Mktg & Supply

Date December 9, 1991

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By (b)(6)  
ACTING Administrator

Effective Date: DEC 09 1991

9-27-67

O&M TRUST AGREEMENT

executed by the

UNITED STATES OF AMERICA

DEPARTMENT OF THE INTERIOR

acting by and through the

BONNEVILLE POWER ADMINISTRATOR

and

PORTLAND GENERAL ELECTRIC COMPANY

providing for the duties of the parties related to  
Grizzly substation operation and maintenance of part of  
the Company's facilities in the Grizzly substation  
and related Intertie facilities by the Administrator

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This O&M TRUST AGREEMENT, executed October 11, 1967, by the UNITED STATES OF AMERICA (hereinafter called "the Government"), Department of the Interior, acting by and through the BONNEVILLE POWER ADMINISTRATOR (hereinafter called "the Administrator"), and PORTLAND GENERAL ELECTRIC COMPANY (hereinafter called "the Company"), a corporation organized and existing under the laws of the State of Oregon,

W I T N E S S E T H:

WHEREAS the parties hereto entered into a trust agreement (designated as Contract No. 14-03-56747, as amended) on January 3, 1966, providing for design and construction of certain jointly-owned facilities of the parties at Grizzly substation and Fort Rock, Sand Spring and Sycan capacitor stations (the capacitor stations) by the Administrator; and

WHEREAS the Grizzly substation and the capacitor stations are a part of the Pacific Northwest-Pacific Southwest Intertie program (the Intertie) as recommended to Congress by making

appropriations for the construction of the Government portion thereof; and

WHEREAS the parties hereto desire to enter into an agreement which provides for payment by the Company of its share of the cost of operation and maintenance performed by the Administrator at the Grizzly substation, the capacitor stations, and on the Company's Intertie facilities, and define the duties and responsibilities of the parties at Grizzly substation; and

WHEREAS the parties hereto entered into an agreement (designated as Contract No. 14-03-55063) on December 30, 1965, regarding the operation of the parties' Intertie facilities (the Intertie Agreement); and

WHEREAS the parties hereto entered into a letter agreement (designated as Contract No. 14-03-58092) on December 14, 1965, which provided for operation and maintenance of Grizzly substation and the parties desire to terminate such agreement; and

WHEREAS the Administrator is authorized to dispose of electric energy generated at various federal hydroelectric projects in the Northwest and enter into related agreements in accordance with the Bonneville Project Act, approved August 20, 1937, as amended, and pursuant to the following orders of the Secretary of the Interior: No. 2563 dated May 2, 1950, and No. 2860 dated January 19, 1962, as amended;

NOW, THEREFORE, the parties hereto mutually agree as follows:

1. Termination of Agreement. Said Contract No. 14-03-58092 is hereby terminated as of the time this agreement takes effect, but all liabilities accrued thereunder shall be and are hereby preserved.



2. Term of Agreement. This agreement shall be effective commencing on the date of execution and ending on the expiration of the term of the Intertie Agreement as the same may be amended, extended, or renewed by a similar agreement.

3. Exhibits. Exhibits A and B attached hereto are by this reference incorporated herein as fully as though set forth verbatim in the body of this agreement. The Company shall be "the Contractor" mentioned in Exhibit B.

4. Trust Fund. The Company shall advance to the Administrator during the term of this agreement the total of the following:

(a) the total cost of maintenance of facilities solely owned by the Company and maintained by the Administrator as specified in Exhibit A;

(b) forty percent (40%) of the Administrator's total cost of operating the Grizzly substation;

(c) forty percent (40%) of the total cost of maintaining the facilities in the Grizzly substation which are jointly owned by the parties hereto as specified in section 5(a) of said Contract No. 14-03-56747; and

(d) fifty percent (50%) of the total cost of maintaining the supervisory control facilities which are jointly owned by the parties hereto as specified in section 5(c) of said Contract No. 14-03-56747, as amended.

The percentages set forth in subsections (b), (c) and (d) above were derived from assumptions as to the nature and relative extent and cost of such operation and maintenance, which assumptions

have been agreed upon by the parties. If experience in operation so indicates, or if a change in conditions occurs which substantially affects any of the foregoing percentages, said percentages shall be changed accordingly by supplement to this agreement.

Not later than thirty (30) days prior to the estimated date on which the first 500 kv line from Malin to Grizzly substations is to be placed in regular and continuous operation at a nominal voltage of 500 kv, the Company shall advance to the Administrator the amount estimated by him to be the total of the above costs for the period ending at the end of the calendar quarter in which such operation begins. The Company shall, on the first day of each subsequent calendar quarter, make further quarterly advances to the Administrator in amounts requested by him based on his latest estimates of the above costs.

All amounts so advanced by the Company shall be collectively called "the trust fund" and shall be held by the Administrator in trust to defray the expense and cost to the Administrator of performing the Company's share of the work specified in section 5 hereof. If at any time hereafter the Administrator estimates that the amount in the trust fund during any quarter is insufficient to pay the Company's share of the expense and cost of performing such duties, the Company will promptly advance to the Administrator, on receipt of his request, such additional moneys as he estimates will be required for that quarter. If at the end of any calendar quarter the Administrator determines that payments to the trust fund by the Company have exceeded the Company's share of costs and expenses specified in this section

such excess shall be credited against and shall reduce payment for the succeeding calendar quarter to be made by the Company.

All moneys so received by the Administrator will be placed in a trust account in the United States Treasury subject to withdrawal as provided in 31 U. S. C., sections 725r and 725s, for payment of the expense and cost of performing the duties imposed on the Government by this agreement.

5. Duties of the Administrator.

(a) The Administrator will:

(1) operate the Grizzly substation and operate the supervisory control facilities for Fort Rock, Sand Spring and Sycan capacitor stations;

(2) maintain all of the jointly-owned facilities of the parties at Grizzly substation;

(3) maintain the jointly-owned supervisory control facilities at Fort Rock, Sand Spring and Sycan capacitor stations; and

(4) pursuant to section 6(d) hereof, provide at the request of the Company, such emergency maintenance on the Company's solely-owned facilities in the Grizzly substation as the Administrator deems he is able to provide.

(b) The Administrator shall furnish all labor required to operate, inspect, and maintain facilities as provided in subsection (a) of this section, and furnish all parts for the jointly-owned facilities and shall perform the work by force account, by contract, or by both, in the same manner and subject to the same limitations as if all funds being expended therefor were Government funds.

6. Operation and Maintenance.

(a) The Administrator shall operate the Grizzly substation pursuant to the provisions of section 5 hereof. Operation of the Company's terminal positions in the Grizzly substation shall be subject to the dispatching control of the Company's dispatcher working through the Administrator's dispatcher. Operation of the Company's terminal positions, once it is determined supervisory control is feasible, will be resolved according to a mutually satisfactory agreement by the parties.

(b) All employees of the parties hereto who desire to enter the Grizzly substation shall obtain access clearance from the substation operator prior to entry.

(c) Routine maintenance of all facilities in the Grizzly substation and the capacitor stations shall be performed in accordance with schedules agreed to in advance by the parties and in accordance with accepted utility standards.

(d) Either party hereto may make emergency repairs of the Intertie facilities to be maintained by another party. The repairing party shall be reimbursed by the party responsible for such maintenance for actual expenses incurred, including reasonable overheads.

7. Use of Facilities. For the purposes of integrating the parties' Intertie facilities each party shall have the right to use the other party's solely-owned and jointly-owned facilities in the Grizzly substation.

8. Revision of Exhibit.

(a) Exhibit A may be revised at any time by mutual agreement of the parties to add other solely-owned facilities of the Company which the Administrator will maintain. Exhibit A shall be revised upon ninety (90) days' written notice by either party to the other to delete facilities maintained by the Administrator, provided that Exhibit A shall not be revised by either party more than once in each calendar year.

9. Liability. Each party shall be solely liable for any loss or claim for damage or injury to persons or property which arises from its maintenance of, or failure to maintain its separately-owned property maintained by such party.

10. Enforcement of Warranties. The Government shall, at its option, have the right to enforce all warranties, express or implied, made in connection with jointly-owned property. The Company may, after refusal by the Government, enforce any warranty, express or implied, made in connection with jointly-owned property. The parties agree to execute all documents or instruments necessary or required for the purpose of enforcing such warranties, or the release or satisfaction thereof. Cost of such enforcement, including but not limited to the cost of any administrative proceedings, arbitration, or suit, if necessary, shall be borne by the parties on a pro rata basis according to each party's interest in such property.

11. Assignment. This agreement shall inure to the benefit of, and shall be binding upon the respective successors and assigns of the parties to this agreement; provided, however, that neither

such agreement nor any interest therein shall be transferred or assigned by a party to any party other than the United States or an agency thereof without the written consent of the other parties; provided, further, that the interests of the Company under this agreement, including the Grizzly substation or any portion thereof, may be conveyed to its respective trustees as security under a mortgage or deed of trust to secure indebtedness without such written consent, but such trustee may act with respect to such interest only to the extent and in the manner that such act by the Company would have been authorized by this agreement.

12. Accounting.

(a) Within sixty (60) days after January 1 of each year in the term hereof, the Administrator will make a full accounting to the Company showing the receipts credited to, and the costs and expenses charged against, the trust fund for the preceding year. In addition the Administrator will provide the Company a memorandum accounting quarterly showing the receipts credited to, and the costs and expenses charged against, the trust fund for the previous calendar quarter.

(b) The costs and expenses of performing the work mentioned in section 4 hereof shall be proper charges against said trust fund, and shall be determined by charging the cost elements exclusive of interest in the same manner as if Government funds were being expended, including, among other items, labor, annual and sick leave obligations, contributions - employee benefits, equipment use, tool and stores expense, expense of transportation of any materials or equipment required for such maintenance which

is not included as stores expense, expense and cost incurred to make the accounts provided for in this section, and overheads reasonably allocable thereto.

13. Additions to or Disposition of Property. Equipment and property within the Grizzly substation may be added to or disposed of only by agreement of the parties. If at any time during the term hereof the parties agree that any property within the Grizzly substation is surplus to operating needs, such property shall be disposed of in the manner provided in section 14(c) hereof.

14. Provisions Applicable after the Term of the Agreement. From and after the end of the term of this agreement and unless the parties agree to a replacement or extension of this agreement, or to other similar arrangements, it is further agreed that:

(a) Unless the parties agree to dispose of the Grizzly substation, as provided in subsection (c) of this section, the parties will maintain both their jointly-owned and separately-owned facilities in the Grizzly substation in such manner so as to permit the continued use of facilities of other parties for delivery and receipt of power as provided in sections 6 and 7 hereof.

(b) If either party proposes to dispose of its jointly-owned facilities or of such of its separately-owned facilities as are required to be maintained under subsection (a) above it will, prior to such disposition, offer the same for sale to the other party. The price at which such facilities and interests shall be offered shall be the cost of such facilities as shown on the books of the selling party, less depreciation reserves on the books of the selling party accrued thereon as of the date of sale.

The other party shall accept or reject the offer of sale in writing within sixty (60) days after receipt by it of the offer of sale. Such purchasing party shall continue to operate the facilities subject to the provisions of subsection (a) above. If the other party does not accept such offer of sale, the disposing party may thereafter sell to any person its separately-owned facilities and its interest in the jointly-owned facilities or it may remove its separately-owned facilities; provided, however, that removal shall not take place until two (2) years after the offer of sale. If it removes its separately-owned facilities, the other party shall purchase its interest in all jointly-owned facilities at such party's book cost, less depreciation.

(c) If both parties agree to dispose of the Grizzly substation, all property located within the Grizzly substation shall be disposed of as follows:

(1) Disposition of separately-owned property shall be the responsibility of the owner.

(2) All jointly-owned property shall be disposed of by the Government in accordance with the then applicable Government regulations. Cost of such disposal, including costs of removal or dismantling such property, shall be shared on a pro rata basis according to each party's interest in such property. Any proceeds from such disposal shall be shared on the same basis.

15. Final Settlement. After termination of this agreement the Administrator shall determine the total costs and expenses to the date of termination. If the Company's share of such costs



and expenses exceed the amount previously paid by the Company, the Company will promptly pay the difference; if payments by the Company exceed the Company's share, the Administrator will promptly refund the difference to the Company.

IN WITNESS WHEREOF, the parties hereto have executed this agreement in several counterparts.

UNITED STATES OF AMERICA  
Department of the Interior

(b)(6)

(SEAL)

By  
ACTING Bonneville Power Administrator

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

(SEAL)

By

ATTEST:

(b)(6)

SECRETARY

APPROVED AS TO FORM

(b)(6)

EXHIBIT A

Solely-Owned Facilities of the Company  
Maintained by the Administrator

The Administrator shall perform routine maintenance on  
the following solely-owned facilities of the Company:

None

PROVISIONS REQUIRED BY STATUTE OR EXECUTIVE ORDERContract Work Hours Standards Act - Overtime Compensation.

This contract, to the extent that it is of a character specified in the Contract Work Hours Standards Act (Public Law 87-581, 76 Stat. 357-360) and is not covered by the Walsh-Healey Public Contracts Act (41 U. S. C. 35-45), is subject to the following provisions and to all other provisions and exceptions of said Contract Work Hours Standards Act.

(a) No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any workweek in which he is employed on such work, to work in excess of eight hours in any calendar day or in excess of forty hours in any workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times his basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such workweek, whichever is the greater number of overtime hours.

(b) In the event of any violation of the provisions of subsection (a), the Contractor and any subcontractor responsible for such violation shall be liable to any affected employee for his unpaid wages. In addition, such Contractor or subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed, with respect to each individual laborer or mechanic employed in violation of the provisions of subsection (a), in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of eight hours or in excess of forty hours in a workweek without payment of the required overtime wages.

(c) The Administrator may withhold, or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor, the full amount of wages required by this contract and such sums as may administratively be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for liquidated damages as provided in subsection (b).

(d) The Contractor shall require the foregoing subsections (a), (b), (c) and this subsection (d) to be inserted in all subcontracts.

(e) The Contractor shall keep and maintain for a period of three (3) years from the completion of this contract the information required by 29 CFR § 516.2(a). Such material shall be made available for inspection by authorized representatives of the Government, upon their request, at reasonable times during the normal work day.

Convict Labor. The Contractor shall not employ any person undergoing sentence of imprisonment at hard labor.

Nondiscrimination. During the performance of this contract, the Contractor agrees as follows:

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Administrator setting forth the provisions of this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.

(3) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the Administrator, advising the labor union or worker's representative of the Contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(5) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Administrator and the Secretary of Labor for purposes of investigations to ascertain compliance with such rules, regulations and orders.

(6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled,

terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(7) The Contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Administrator may direct as a means of enforcing such provisions including sanctions for noncompliance; provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Administrator, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Interest of Member of Congress. No Member of or Delegate to Congress, or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom. Nothing, however, herein contained shall be construed to extend to such contract if made with a corporation for its general benefit.

## TERM SHEET

THIS TERM SHEET IS INTENDED SOLELY TO FACILITATE DISCUSSIONS AMONG IDAHO POWER COMPANY ("**IDAHO POWER**" or "**IPC**"), PACIFICORP ("**PACIFICORP**" or "**PAC**"), AND THE BONNEVILLE POWER ADMINISTRATION ("**BPA**") (EACH REFERRED TO HEREIN AS A "**PARTY**" AND COLLECTIVELY REFERRED TO HEREIN AS THE "**PARTIES**") RELATED TO THE CONSTRUCTION, OWNERSHIP, OPERATION, ASSET EXCHANGES, AND SERVICE AGREEMENTS REGARDING THE BOARDMAN TO HEMINGWAY TRANSMISSION LINE PROJECT ("**B2H PROJECT**" OR "**PROJECT**") AND OTHER TRANSMISSION FACILITIES. EXCEPT FOR SECTION 5 OF THIS TERM SHEET WHICH SHALL BE LEGALLY BINDING UPON THE PARTIES UPON THE EXECUTION AND DELIVERY OF THIS TERM SHEET BY ALL OF THE PARTIES (THE "**EFFECTIVE DATE**"), (I) THIS TERM SHEET IS NOT INTENDED TO CREATE, NOR SHALL IT BE DEEMED TO CREATE, A LEGALLY BINDING OR ENFORCEABLE AGREEMENT OR OFFER, AND (II) NO PARTY SHALL HAVE ANY LEGAL OBLIGATION WHATSOEVER PURSUANT TO THIS TERM SHEET.

1. **BPA Requirements.** The Parties acknowledge and agree that in order to negotiate the Agreements (as defined below) and before BPA can make a definitive final decision regarding whether to enter into the Agreements, BPA must (1) engage in customer and stakeholder outreach, share information about this Term Sheet during the outreach, and solicit feedback; (2) fulfill all requirements under the National Environmental Policy Act (NEPA), the National Historic Preservation Act (NHPA) and other applicable environmental laws, and (3) make a definitive decision in an Administrator's final record of decision. Nothing in this Term Sheet shall be construed as indicating that BPA has engaged in customer and stakeholder outreach; completed its NEPA and other environmental review processes or made a decision regarding how to proceed.
2. **Term.** This Term Sheet shall terminate the earlier of (a) energization of the B2H Project, or (b) execution of all agreements identified in the Term Sheet, or (c) mutual written agreement of all Parties. This Term Sheet may be extended by mutual written agreement of all Parties.
3. **Agreements.** Upon execution of this Term Sheet, the Parties intend to negotiate in good faith toward the execution of the definitive, binding agreements and amendments between or among the Parties described below consistent with the terms and conditions described below ("**Agreements**"). Each of the Parties intends to prepare and deliver to the other Parties initial drafts of the Agreements it is designated as responsible for below by no later than the date identified for each agreement. The Parties further intend, subject

to the BPA requirements in Section 1, that they will endeavor to complete negotiation of and execute the Agreements by no later than the date identified for each agreement; provided, however, that the effectiveness of any such Agreement may be subject to one or more conditions precedent, including state or federal regulatory approvals.

a) Asset Exchanges, Transmission Service Agreements, and Amended and Restated Existing and Future Agreements: The table below defines the transactions contingent on completion of the B2H Project including, without limitation, regulatory approval associated with IPC's acquisition of BPA's interest in the Amended and Restated Boardman to Hemingway Transmission Project Joint Permit Funding Agreement ("Joint Permitting Agreement"), asset exchanges, transmission service agreements, and amended and restated existing and future agreements. Each of the Parties will prepare an initial draft of the Agreements and Amendments below for which it is designated as the Primary Drafter, consistent with the following terms:

	<i><b>Parties / Agreement / Action / Primary Drafter</b></i>	<i><b>General Terms / Details</b></i>
<b>1.</b>	<p><b><i>PAC, BPA</i></b></p> <p><b><i>Agreement on Principles and Timelines</i></b></p> <p><b><i>Prepare First Draft – BPA: Quarter 2 of Calendar Year 2022</i></b></p> <p><b><i>Target Execution Date: Quarter 3 of Calendar Year 2022</i></b></p>	<p>PAC and BPA are parties to the Amended and Restated Midpoint-Meridian Agreement, originally executed June 1, 1994 (the "Midpoint-Meridian Agreement"), which provides PAC with 340 MW of bidirectional scheduling rights over the Buckley-Summer Lake 500kV line (the "Buckley-Summer Lake Line"). In connection with the Goshen Area Asset Exchange (as referenced in Section 3(a)(7) of this table) and the B2H Midline Series Capacitor Project (as referenced in Section 3(a)(12) of this table), PAC and BPA are discussing options to allow PAC the ability to schedule 340 MW from the Buckley substation to the 500kV side of the Ponderosa Transformer Bank 500/230 kV #1 ("Ponderosa 500") and to concurrently schedule 340 MW from the Summer Lake substation to Ponderosa 500 upon energization of the B2H line and the B2H Midline Series Capacitor Project.</p> <p>I. Contingent upon the conditions set forth below, PAC and BPA desire for the concurrent bidirectional scheduling rights over the Buckley-Summer Lake line to be provided as firm point-to-point transmission service ("PTP service") pursuant to the terms and conditions in BPA's Tariff and rate schedules upon energization of the B2H line</p>

		<p>and the B2H Midline Series Capacitor Project. As of the Effective Date, the PAC and BPA understand that such PTP service remains subject to further BPA evaluation.</p> <ol style="list-style-type: none"> <li>BPA's offer of PTP service may include conditions if such conditions are identified during BPA's evaluation. Conditions for PTP service are at BPA's sole discretion and, if required, will be developed consistent with the principles set forth in Section 3(a)(1)(II)(b) so that flows associated with the PTP service over the Buckley-Summer Lake line do not exceed 340 MW in the north-to-south direction and concurrently does not exceed 340 MW in the south-to-north direction during all lines in service.</li> <li>As part of the PTP service evaluation, PAC and BPA will also explore options to combine an offer of PTP service with the modification to points of receipt and points of delivery in PAC's existing PTP service tables ("redirect") within the Long Term Firm Point-to-Point Service Agreement (No. 04TX-11722) between PAC and BPA, subject to BPA's Tariff and related business practices including available transfer capability ("ATC"), with a goal to optimize PAC's transmission service over the Federal transmission system to serve its central Oregon loads (e.g., using a single wheel from a network point of receipt to PAC's load at Ponderosa 230 or Pilot Butte 230). BPA will apply its long-standing practice to evaluate the ATC impacts of the new PTP service against the ATC impacts of existing service, to include the bidirectional scheduling rights and redirected service.</li> <li>BPA may request additional information from PAC. PAC will make good faith efforts to provide such information within 30 days of BPA's request.</li> <li>PAC will submit applicable transmission service request(s) ("TSR") within 30 days</li> </ol>
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		<p>of BPA's notice to PAC that such requests should be submitted.</p> <p>e. If BPA determines, in its sole discretion, that BPA can convert the bidirectional scheduling rights to PTP service, BPA agrees to offer PTP service pursuant to BPA's Tariff and rate schedules.</p> <p>i. The PTP service will be contingent upon and will not be effective before (A) the energization of the B2H line and the installation of the B2H Midline Series Capacitor Project; (B) approval by the Federal Energy Regulatory Commission ("FERC") of the proposed amendments to the Midpoint-Meridian Agreement discussed in this Section 3(a)(1), per subpart (iii) below; and (C) the Goshen Area Asset Exchange set forth in Section 3(a)(7) of this table is completed and all associated agreements are in effect.</p> <p>ii. PAC and BPA will adhere to the applicable requirements set forth in BPA's Tariff and related business practices, including timelines for execution or amendment of a service agreement.</p> <p>iii. Concurrent with the execution of the PTP service agreements contemplated in this Section 3(a)(1)(I), PAC and BPA will amend Section 4(a) of the Midpoint-Meridian Agreement to remove and otherwise terminate PAC's bidirectional scheduling rights over the Buckley-Summer Lake Line.</p> <p>f. If BPA offers PTP service that satisfies PAC's objectives as expressed in this Term Sheet, PAC intends to accept such service subject to the condition regarding FERC approval described below. If following FERC acceptance without material conditions of the arrangements negotiated between BPA and PAC in this Section 3(a)(1)(I), PAC nonetheless fails to submit applicable TSRs or otherwise</p>
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		<p>declines to accept the PTP service or execute a PTP service agreement, then BPA will have no further obligations to provide PAC with the PTP service described in this Section 3(a)(1)(I) or the scheduling rights described in Section 3(a)(1)(II) below.</p> <p>g. PAC and BPA will negotiate in good faith to complete and enter into agreements needed to complete the other conditions set forth in Sections 3(a)(2) through (14) and 3(c) of this Term Sheet, as such conditions are applicable to either Party.</p> <p>h. PAC will seek FERC guidance as necessary and file the proposed amendment to the Midpoint-Meridian Agreement with FERC for acceptance. BPA will reasonably coordinate with PAC to prepare for FERC meetings and submissions. FERC's unconditioned acceptance shall be a condition to PAC's obligations as contemplated under this Term Sheet.</p> <p>II. Following either (1) BPA's determination that it is unable to provide the PTP service to PAC consistent with Section 3(a)(1)(I) above, or (2) FERC's failure to accept without material conditions the arrangements negotiated between PAC and BPA under Section 3(a)(1)(I) above, BPA will, effective upon energization of the B2H line and the B2H Midline Series Capacitor Project provided that all conditions described below are met, provide PAC with bidirectional scheduling rights over the Buckley-Summer Lake line which give PAC the ability to (A) schedule 340 MW from the Buckley substation to Ponderosa 500 ("North to South schedules") and (B) concurrently schedule 340 MW from the Summer Lake substation to Ponderosa 500 ("South to North schedules") (collectively referred to as "scheduling limits"). The concurrent, bidirectional scheduling rights described in the immediately preceding sentence will be</p>
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		<p>provided pursuant to an amendment to the Midpoint-Meridian Agreement and one or more separately negotiated agreements, that will be effective upon acceptance by FERC and after all conditions set forth in this Section 3(a)(1)(II) are met and will remain in effect until BPA offers PTP service as set forth in Section 3(a)(1)(I). PAC and BPA will work in good faith to satisfy all such conditions consistent with the principles articulated in Section 3(a)(1)(II)(b) below by energization of the B2H line.</p> <p>a. <u>Transmission service to move from the Ponderosa 500 substation.</u> The utilization of the concurrent bidirectional scheduling rights at the Ponderosa substation described in this Section 3(a)(1)(II) is limited to Ponderosa 500. PAC must reserve PTP service from BPA pursuant to BPA's Open Access Transmission Tariff ("OATT"), business practices, and rate schedules in effect at the time of such reservation to move from Ponderosa 500 to the 230 kV side of Ponderosa transformer bank #1 for delivery to PAC load in central Oregon.</p> <p>b. <u>Principles to guide satisfaction of conditions.</u></p> <ol style="list-style-type: none"> <li>i. North to South schedules, South to North schedules, and the associated directional power flows may not exceed the scheduling limits (<i>e.g.</i>, 340 MW North to South and, concurrently, 340 MW South to North, under all lines in service). A Power Transfer Distribution Factor ("PTDF") based methodology ("PTDF algorithm") and calculator will be used to determine directional power flow. The PTDF algorithm will sum positive flows in the North to South and South to North directions (<i>i.e.</i>, schedules and flows are not netted).</li> <li>ii. If, at any time, North to South schedules, South to North schedules, or the associated directional power</li> </ol>
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		<p>flows exceed the scheduling limits, PAC shall reduce the schedules so that the schedules and directional power flows are within the scheduling limits. BPA can, at BPA's sole discretion, curtail the schedules in whole or in part to maintain the scheduling limits and to mitigate congestion, such as during outages.</p> <p>iii. Schedules (E-Tags) must contain a single granular source and sink. Sources and sinks (1) cannot be consolidated on a single E-Tag; and (2) must be granular enough to determine the PTDF impact. Sources and sinks that are scheduling points, hubs, or nodes are not sufficiently granular to determine the PTDF impact.</p> <p>iv. PAC may not schedule from sources and sinks for which the PTDF impact has not been determined. PAC will provide BPA with advance notice of sources and sinks with sufficient time for BPA to determine the PTDF impact and, if necessary, to accommodate modifications to tools, systems, and contracts.</p> <p>v. The terms, tools, and protocols associated with the concurrent bidirectional scheduling rights will be structured to minimize to the maximum extent possible any impacts exceeding the scheduling limits (e.g., 340 MW North to South and, concurrently, 340 MW South to North, under all lines in service) that the physical flows associated with the concurrent bidirectional scheduling rights have on the Pacific Northwest AC Intertie (as such transmission facilities are defined in the various PNW AC Intertie-related agreements among PAC, BPA and the other PNW AC Intertie owners, the "NW AC Intertie") or the Federal transmission</p>
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		<p>system, as reasonably determined by BPA.</p> <p>c. <u>Conditions to Effectiveness of 3(a)(1)(II) Scheduling Rights</u></p> <p>i. <u>PTDF calculator.</u> BPA will develop a PTDF algorithm to calculate the directional power flow associated with each source and sink that PAC intends to schedule. PAC and BPA will coordinate to develop, at PAC's expense, a PTDF calculator that uses the PTDF algorithm and related communication equipment.</p> <p>ii. <u>Agreement on operational terms.</u> After the PTDF calculator is developed, PAC and BPA will work in good faith to develop operational terms, to include the protocols and requirements for monitoring, dispatch, curtailment, reduction of scheduling limits due to outages, and future modifications to stay current with reliability standards, automation, and technological abilities. The operational terms will remain in effect for the duration of the concurrent bidirectional scheduling rights described in this Section 3(a)(1)(II) and will be incorporated into the proposed amendments to the Midpoint-Meridian Agreement or such other agreement as mutually agreed by PAC and BPA.</p> <p>iii. Energization of the B2H Project, including the B2H Midline Series Capacitor Project.</p> <p>iv. The agreements set forth in Section 3(a)(1)(III) below are, to the extent required, accepted for filing at FERC without material conditions.</p> <p>v. The Goshen Area Asset Exchange set forth in Section 3(a)(7) of this table is completed and all associated agreements are in effect.</p> <p>III. Agreements.</p>
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		<p>a. <u>Agreement on Principles and Timelines.</u> Following execution of the Term Sheet, PAC and BPA will negotiate and execute an agreement to reflect the objectives, commitments, principles, conditions, and timelines, including negotiation of applicable follow-on agreements for the PTP service described in Section 3(a)(1)(I), and the concurrent, bidirectional scheduling rights described in Section 3(a)(1)(II). With regard to the concurrent, bidirectional scheduling rights described in Section 3(a)(1)(II), the Agreement on Principles and Timelines would include the principles and conditions set forth in Section 3(a)(1)(II) above, and the timelines for development of the PTDF calculator and negotiation of operational terms and protocols.</p> <p>b. <u>Follow-on Agreements.</u> Before energization of B2H and subject to the conditions described above in this Section 3(a)(1) being met, PAC and BPA will negotiate and execute (1) the agreements and amendments referenced in Section 3(a)(1)(I) above, or (2) if BPA is not yet providing PTP service upon B2H energization consistent with Section 3(a)(1)(I) above, then an amendment to the Midpoint-Meridian Agreement to reflect the addition of the concurrent bidirectional scheduling rights, including term, scheduling and directional power flow requirements, usage of the PTDF calculator, and operational terms, all as consistent with Section 3(a)(1)(II) above. PAC and BPA understand that PAC may be required to file amendments to the Midpoint-Meridian Agreement with FERC for acceptance and that the effective date for the agreements referenced above will be upon FERC acceptance without material conditions.</p> <p>IV. Consistent with the "Phase II Joint Study Report (2020-2021), Boardman to</p>
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		<p>Hemingway (B2H) and Incremental Central Oregon Load” completed on March 23, 2021, upon notice from BPA, PAC will upgrade the existing Meridian Series Capacitor on the 500 kilovolt bus or install an electrically equivalent series capacitor on the PAC section of the Dixonville-Meridian-Klamath Falls-Captain Jack lines in southern Oregon within a reasonable time after receiving the notice. PAC shall be responsible for all costs associated with the upgrade.</p> <p>V. PAC and BPA agree that the proposed modifications to the Midpoint-Meridian Agreement described above are limited in scope to PAC’s bidirectional scheduling rights over the Buckley-Summer Lake line under Section 4 of the Midpoint-Meridian Agreement and do not include BPA’s bidirectional scheduling rights over the Summer-Lake Malin line under Section 4 of the Midpoint-Meridian Agreement. PAC and BPA do not intend to modify, change, alter, or terminate BPA’s bidirectional scheduling rights over the Summer Lake-Malin line set forth in Section 4 of the Midpoint-Meridian Agreement or the General Transfer Agreement between PAC and BPA, originally executed May 4, 1982, as amended.</p>
2.	<p><b><i>IPC &amp; PAC &amp; BPA</i></b></p> <p><b><i>New operational agreement between IPC, PAC &amp; BPA</i></b></p> <p><b><i>Prepare First Draft – BPA: Quarter 3 of Calendar Year 2022</i></b></p> <p><b><i>Target Execution Date: Quarter 4 of Calendar Year 2022</i></b></p>	<p>IPC, PAC and BPA agree to negotiate in good faith and draft a tri-party operational agreement that will:</p> <ol style="list-style-type: none"> <li>Consider Midpoint-Meridian Agreement Section 5(f); and</li> <li>Define the curtailment procedures between NW AC Intertie, Western Electricity Coordinating Council (WECC) Path 14 (Idaho to Northwest), and WECC Path 75 (Hemingway – Summer Lake); and</li> <li>Identify conditions for revising the tri-party operational agreement including, but not limited to: <ol style="list-style-type: none"> <li>Engagement with NW AC Intertie partners;</li> </ol> </li> </ol>

		<p>ii. In the event the B2H Project and the B2H Midline Series Capacitor Project are not complete and energized by 2027.</p> <p>The Parties will make best efforts to negotiate and target execution of the tri-party operational agreement within one year of the Effective Date of this Term Sheet, with an effective date for the tri-party operational agreement a reasonable time thereafter.</p>
3.	<p><b>PAC &amp; BPA</b></p> <p><b>Termination of Existing NITSAs:</b></p> <p><b>PAC Trans – BPA Merchant NITSAs (SA Nos. 746, 747)</b></p> <p><b>Incorporate into Agreement on Principles and Timelines under 3(a)(1)</b></p>	<p>BPA Network Integration Transmission Service Agreements (“NITSAs”) (PacifiCorp Service Agreement No. 746 and No. 747): BPA and PAC agree to terminate the aforementioned NITSAs upon (1) the completion of the asset purchase and sale between IPC and PAC as detailed in Section 3(a)(5) through Section 3(a)(7) of this table – the Goshen Area Asset Exchange, and (2) the commencement of network service as described in Section 3(b)(1).</p>
4.	<p><b>IPC &amp; BPA &amp; PAC</b></p> <p><b>New Agreement:</b></p> <p><b>Longhorn Substation Agreements</b></p> <p><b>Prepare First Draft – BPA: Quarter 2 of Calendar Year 2022</b></p> <p><b>Target Execution Date: Quarter 3 of Calendar Year 2022</b></p>	<p>IPC and PAC will fund a portion of the proposed Longhorn substation near Boardman, Oregon, if B2H interconnects at Longhorn. This funding will occur as specified in one or more negotiated Longhorn Substation Agreements between the Parties that is consistent with BPA’s Line and Load Interconnection Business practices and allows for recovery of the network portion of these funds through incremental transmission wheeling revenue. The agreement will:</p> <ol style="list-style-type: none"> <li>include provisions for IPC and PAC to pay a use of facilities charge or other charge pursuant to BPA’s OATT and applicable rate schedules to transact across the Longhorn bus in the future;</li> <li>include provisions for IPC and PAC to potentially own, operate and maintain B2H equipment, which shall include: the</li> </ol>



		<p>B2H series capacitor at Longhorn, the B2H shunt line reactors at Longhorn, any ancillary equipment required to support those devices, such as switches, bypass breakers (series cap), and insertion breakers (shunt reactor); and</p> <p>c. be contingent upon BPA completing its obligations and responsibilities under NEPA, NHPA, and other requisite environmental compliance laws and making a decision regarding how to proceed (including provisions for IPC and PAC funding upfront at a prorated amount based on cost allocation of Longhorn, BPA's NEPA, NHPA, and environmental compliance costs).</p> <p>Non-binding cost estimates identified for the potential Longhorn aspects of the B2H Project as of the Effective Date of this Term Sheet are as follows, which all Parties acknowledge and agree are preliminary and may be modified and revised prior to and upon B2H energization:</p> <p><i>These are estimated costs, charges to be trued up with actual costs.</i></p> <p>a. Longhorn (base substation) network costs ~\$59M. Costs subject to transmission credit.</p> <ol style="list-style-type: none"> <li>IPC 21% ~ \$12M (BPA to cover up to \$14M of IPC cost)</li> <li>PAC 55% ~ \$33M</li> <li>BPA 24% ~ \$14M (plus IPC ~ \$12M, for total ~ \$26M)</li> </ol> <p>b. B2H connection to Longhorn Network Bay~\$11M. Constructed/Owned/Maintained by BPA. Develop bay 3 with (2) 500kV circuit breakers &amp; (5) 500kV disconnects. Costs subject to transmission credits.</p> <ol style="list-style-type: none"> <li>IPC &amp; PAC 100%</li> </ol> <p>c. Customer built (not subject to transmission credits). Including civil work with the reactor and cap costs.</p>
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5.	<p><b>IPC &amp; PAC</b></p> <p><b><i>New Agreement:</i></b></p> <p><b><i>Purchase and Sale Agreement for Asset Exchange -potentially utilize the previously developed Joint Purchase and Sale Agreement</i></b></p> <p><b><i>Prepare First Draft – IPC: Quarter 2 of Calendar Year 2022</i></b></p> <p><b><i>Target Execution Date: Quarter 4 of Calendar Year 2022</i></b></p>	<p>PAC and IPC would purchase and sell to each other various assets to achieve the objectives identified in Section 3(a)(6) and Section 3(a)(7) of this table. PAC and IPC will seek to first balance the purchase and sale of the transferred assets through the depreciated net book value of such assets and allocation of upgrade costs and, finally, if necessary, will be balanced between IPC and PAC through cash considerations.</p> <p><u>Details related to Populus – Four Corners assets:</u></p> <p>These assets will provide IPC ownership on the existing PAC transmission system from Four Corners substation in New Mexico to Populus substation in Idaho. This will include 345 kV transmission lines between the following substations and assets to create a path through each substation:</p> <p>Four Corners, Pinto, Huntington, Camp Williams, Mona, Terminal, 90<sup>th</sup> South, Ben Lomond and Populus.</p> <p>Consistent with federal processes, IPC and PAC will complete required studies to determine if recent system upgrades result in a possible increase in existing transmission capacity between Borah and Populus to facilitate IPC's incremental transfer needs associated with this exchange. If determined necessary, IPC and PAC will identify revisions to the JOOA (as defined in Section 3(a)(6) of this table), upgrades, modifications, or other options to meet each party's commercial needs between Borah and Populus.</p> <p><u>Details related to Borah/Kinport to Hemingway and Midpoint to Borah/Kinport assets:</u></p> <p>These assets will provide PAC ownership on the existing IPC transmission system from Borah/Kinport to Hemingway and from Midpoint 500 to Borah/Kinport. This will include 500 kV and 345 kV transmission lines between the following substations and assets to create a path through each substation:</p> <p>Borah, Kinport, Adelaide, Midpoint and Hemingway.</p> <p>Upgrades are required across the Borah West and Midpoint West paths to facilitate this portion of the</p>
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		<p>proposed asset exchange transaction. The cost of these upgrades will be determined in the course of negotiating the proposed asset exchange transaction described in this Section 3(a)(5).</p> <p><u>Details related to Goshen Area assets:</u></p> <p>As described in more detail in Section 3(a)(7) of this table, PAC will transfer to IPC certain to-be-determined Goshen areas transmission assets that would allow IPC to provide transmission service to all BPA customers in southeast Idaho currently served by PAC. These assets are being transferred to IPC, from PAC, as part of the negotiations between PAC and BPA as described in Section 3(a)(1) of this table, with the consideration for these assets being the transmission service provided by BPA to PAC as detailed in Section 3(a)(1) of this table. IPC and PAC intend for these Goshen assets to be incorporated into the broader purchase and sale agreement described in this Section 3(a)(5) with a goal of minimizing changes to each company's transmission rate base. This goal is intended to be facilitated through the allocation of the costs associated with the Borah West and Midpoint West upgrades.</p>
6.	<p><b>IPC &amp; PAC</b></p> <p><b><i>Amendment to Existing Agreement:</i></b></p> <p><b><i>IPC – PAC Joint Ownership and Operating Agreement (“JOOA”)</i></b></p> <p><b><i>Prepare First Draft – IPC: Quarter 2 of Calendar Year 2022</i></b></p> <p><b><i>Target Execution Date: Quarter 4 of Calendar Year 2022</i></b></p>	<p>As part of a transaction transferring assets described in Section 3(a)(5) of this table, IPC and PAC may expand their existing Joint Ownership and Operating Agreement, as amended and restated August 22, 2019 (“JOOA”), to include the following:</p> <ul style="list-style-type: none"> <li>I. PAC owning 300 MW of west-to-east transmission assets between Midpoint 500 and Borah (transferred from IPC); and</li> <li>II. PAC owning an additional 600 MW of east-to-west transmission assets between Borah and Hemingway (transferred from IPC) - total increases from the current 1,090 MW to 1,690 MW; and</li> <li>III. IPC owning 200 MW of bi-directional transmission assets between Populus, Mona and Four Corners (transferred from PAC); and</li> <li>IV. Other revisions as necessary to facilitate other asset exchanges (e.g., for Goshen area, as</li> </ul>

		described in Section 3(a)(5) and Section 3(a)(7) of this table).
7.	<p><b>IPC &amp; PAC</b></p> <p><b>Goshen Area Asset Exchange</b></p> <p><b>Part of 3(a)(5)</b></p>	<p>As referenced in Section 3(a)(5) and Section 3(a)(6) of this table, IPC and PAC would negotiate an asset exchange to be effective no later than (i) energization of the B2H line and (ii) commencement of the NITSA between BPA and IPC, as referenced in Section 3(b)(1), that enables BPA to serve its loads currently in PAC's East transmission system (Lower Valley Elec., Idaho Falls, Fall River Rural Elec., Lost River Electric, Salmon River Electric, Soda Springs,) ("Southeast Idaho Load Service (SILS) Customers") with one leg of firm IPC network transmission service.</p> <p>As referenced in Section 3(a)(6) of this table, the Goshen area asset exchange may be wrapped into the existing JOOA framework.</p> <p>IPC, PAC, and BPA agree to make best efforts to plan for service to Idaho Falls that requires only one leg of network transmission from the BPA transmission system, provided such best efforts among the Parties must (1) respect and retain the existing services arranged for Idaho Falls load service between BPA and Utah Associated Municipal Power Systems (UAMPS); and (2) be in line with FERC orders in similar circumstances and accepted by FERC.</p>
8.	<p><b>IPC &amp; BPA</b></p> <p><b>New Agreement:</b></p> <p><b>Point to Point TSA</b></p> <p><b>Prepare First Draft –</b> <b>BPA: Quarter 2 of</b> <b>Calendar Year 2022</b></p> <p><b>Target Execution Date:</b> <b>Quarter 3 of Calendar</b> <b>Year 2022</b></p>	<p>IPC will acquire up to 500 MW of PTP transmission service from Mid-C to Longhorn subject to the terms of BPA's OATT, business practices and applicable rate schedules. The duration of the new service must be for an initial service duration of at least 5 years, and sufficient to compensate BPA for BPA's revenue requirement associated with BPA capital investments to facilitate the transmission service, with the right to rollover service in accordance with the BPA's OATT and business practices in effect at the conclusion of the initial term.</p>

9.	<b>IPC &amp; PAC</b>	<p>Upon energization of the B2H Project, PAC would not renew its current 510 MW of east-to-west rights on the IPC system (which rights are found in IPC 1<sup>st</sup> Revised Service Agreement (SA) Nos. SAs 344-346 and 383-384).</p> <p>Consistent with and pursuant to IPC's OATT, PAC and IPC will coordinate to extend any remaining IPC SAs, enter into new SAs, or take other action as necessary to bridge any SA expiration dates until such time as the B2H project is in-service.</p>
10.	<b>IPC &amp; PAC</b>  <b>B2H Construction Funding Agreement-related Commitments</b>	<p>The B2H Construction Funding Agreement, between IPC and PAC as referenced in Section 3(d) below, and any additional agreements as the Parties determine necessary, will include terms necessary to implement the Agreement to Reimburse BPA's Removal and Replacement Related Transaction Costs, among IPC, PAC and BPA, dated March 18, 2020 (BPA Contract No. 20TX-16835).</p> <p>IPC, on behalf of the B2H Project, will assure that it coordinates construction of the B2H Project with BPA in a manner consistent with the terms of BPA's Use Agreement, as amended by Amendment Two (2) to NF(R)-9617, including Exhibits A, B and C, between the United States of America, Dept. of the Navy and the United States of America, Bonneville Power Administration Ptn Secs 13, 23 and 24-T2N-R25E, W.M.</p> <p>IPC and PAC acknowledge that the Removal and Replacement Related Transactions described in Contract No. 20TX-16835 are contingent upon (1) BPA obtaining acceptable service from Umatilla Electric so that BPA may continue to serve Columbia Basin Electric's load; (2) BPA completing its obligations and responsibilities under NEPA, NHPA, or other requisite environmental compliance laws and making a decision regarding how to proceed; and (3) IPC and PAC moving forward with construction of the B2H Project.</p>
11.	<b>IPC &amp; PAC &amp; BPA</b>	<p>In conjunction with the termination of the NITSAs identified in Section 3(a)(3) of this table (<i>i.e.</i>, PAC</p>

	<p><b><i>BPA Redirect and Assignment of existing PTP transmission service</i></b></p> <p><b><i>Incorporate into Agreement on Principles and Timelines under 3(a)(1)</i></b></p>	<p>SAs 746 &amp; 747), following the energization of B2H, BPA will redirect its two 100 MW PTP transmission service agreements (91629850 and 91629500, or any applicable AREFs that supersede or replace them) that it takes from IPC (<i>i.e.</i>, IPC 1<sup>st</sup> Revised SAs 324 &amp; 342) such that the new POR of each SA will be Walla Walla and the new POD for each SA will be Borah. Consistent with and pursuant to IPC OATT, following approval of such redirects by IPC as described above, BPA will assign those redirected reservations to PAC. This redirect and assignment will be delayed by BPA if B2H energization is delayed past 07/01/2026. PAC shall be responsible to pay for all costs associated with 91629850 and 91629500, or any applicable AREFs that supersede or replace them, upon approval of such redirect by IPC and assignment by BPA.</p>
12.	<p><b><i>IPC &amp; PAC &amp; BPA, with respect to B2H Plus Facilities Expectations</i></b></p> <p><b><i>IPC &amp; PAC, with respect to B2H Construction Funding Agreement</i></b></p>	<p>The B2H Project will include the installation of the B2H Midline Series Capacitor Project and development of a remedial action scheme ("RAS"). When considering BPA's study methodology, the B2H midline series capacitor reduces simultaneous interactions between the NW AC Intertie, central and southern Oregon load service, and WECC Path 14 (Idaho to Northwest). The Parties agree to funding of the B2H Midline Series Capacitor Project as follows:</p> <ul style="list-style-type: none"> <li>a. IPC: funding 45% of the cost.</li> <li>b. PAC: funding 55% of the cost</li> <li>c. BPA: funding 0% of the cost</li> </ul> <p>The Parties will work in good faith to have the B2H Midline Series Capacitor Project in-service when the B2H Project is energized and to document expectations of operation, maintenance, and future reinforcements and upgrades.</p>
13.	<p><b><i>IPC &amp; PAC</i></b></p> <p><b><i>B2H Grant or Additional Funding</i></b></p>	<p>Under IPC and PAC's existing OATT rate procedures, IPC and PAC will include any United States Department of Energy ("DOE") grant or additional funding received for the B2H project in the appropriate FERC account provided such account is allocated 100% to Transmission. Nothing in this Term Sheet limits or waives any party's right to participate, review, comment, or challenge the other</p>



		party's rate case or formula rate inputs through their respective update processes.
14.	<b>IPC &amp; PAC &amp; BPA</b>  <b>Permit Funding Agreement Amendment</b>	Upon transfer of BPA's Permitting Interest to IPC identified in 3(b)(3) below, the Permit Funding Agreement will be amended to recognize the re-allocation of the Parties' Permitting Interests and related funding obligations.

b) NITSA Terms and Conditions, NITSA Security Agreement, NITSA Backstop

1.	<b>IPC &amp; BPA</b>  <b>New Agreements:</b>  <b>Network Integration Transmission Service Agreement to serve BPA customers at Goshen</b>  <b>Network Integration Transmission Service Agreement to service BPA's customer at Burley</b>  <b>Amendment to currently effective Network Integration Transmission Service Agreements</b>  <b>Prepare First Draft – IPC: Quarter 2 of Calendar Year 2022</b>	<p>IPC and BPA will enter into two NITSAs for IPC to provide firm network transmission service to BPA.</p> <p>One NITSA will serve BPA customers at Goshen (replacing what is, as of the Effective Date of this Term Sheet, provided under PAC Service Agreement 746) and one NITSA will serve Idaho Falls (replacing what is, as of the Effective Date of this Term Sheet, provided under PAC Service Agreement 747) ("New NITSAs"). The New NITSAs will be in addition to the existing NITSAs BPA currently holds with IPC for service to BPA's customers located on IPC's system ("Existing NITSAs").</p> <p>The term of BPA's New NITSAs will be 20-years from energization of the B2H Project, with a renewal or rollover option at BPA's discretion as required and permitted by FERC</p> <ol style="list-style-type: none"> <li>The NITSA Security Agreement (as referenced in Section 3(b)(2) of this table), and any related other agreements necessary, between BPA and IPC will be updated once the energization of B2H has occurred to document the term and the repayment periods with the actual energization date.</li> <li>The New NITSAs, NITSA Security Agreement, and any related other agreements necessary, are conditioned on the Goshen Area Asset Exchange set forth in Section 3(a)(7) being completed and all associated agreements being in effect by the energization of the B2H line.</li> </ol>
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<p><b><i>Target Execution Date: Quarter 3 of Calendar Year 2022</i></b></p>	<p>The New NITSAs and the Existing NITSAs will be updated to include three Points of Receipt (PORs) over which BPA can deliver energy to its customers located on IPC's system. The three PORs are as follows: AMPS POR, LaGrande POR, and Longhorn POR.</p> <p>The New NITSAs shall reflect the following provisions:</p> <ol style="list-style-type: none"> <li>a. Under the New NITSAs, IPC will plan for and reserve transmission capacity for the continued network service to BPA's SILS Customers' loads and ensure that it can reliably serve the load for the term of the contract prior to BPA assigning the PTP service agreements to PAC pursuant to Section 3(a)(11) above.</li> <li>b. The New NITSAs between BPA and IPC will permit BPA to assign service to specific Points of Delivery (PODs) to BPA's wholesale customers who take service at those PODs. Such assigned PODs will be served by a separate NITSA agreement between BPA's wholesale customer and IPC. The New NITSA between BPA and IPC will state that the customer requesting a separate NITSA for its POD must meet credit rating standards consistent with IPC's OATT. Notwithstanding assignment of the NITS service, BPA would remain entitled to all outstanding credits associated with the Funded Amounts (as defined in Section 3(b)(2) below) as long as BPA continues to be a NITS customer.</li> <li>c. IPC will maintain the current practice of letting BPA choose through the annual delivery allocation process the PODs where BPA will deliver power to serve its loads. The current PODs include LaGrande and AMPS. Once B2H is in service, the PODs will include LaGrande, Longhorn, and AMPS.</li> <li>d. BPA would pay the NT rate as established by IPC's OATT transmission formula rate. There shall be no adders or segmentation</li> </ol>
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		<p>like actions which result in a rate above the NT rate and the amount BPA pays to IPC under the NT service agreement will be reduced as discussed in the NITSA Security Agreement.</p> <p>e. IPC will not charge BPA IPC's system losses for energy from BPA's Palisades resource used to serve load behind Goshen.</p>
2.	<p><b>IPC &amp; BPA</b></p> <p><b><i>New Agreement:</i></b></p> <p><b><i>NITSA Security and Risk Backstop Agreement</i></b></p> <p><b><i>Prepare First Draft – IPC: Quarter 2 of Calendar Year 2022</i></b></p> <p><b><i>Target Execution Date: Quarter 3 of Calendar Year 2022</i></b></p>	<p>IPC and BPA will enter into an NITSA security and risk backstop agreement ("NITSA Security Agreement"), concurrently with the New NITSA and the purchase and sale agreement referenced in Section 3(b)(3) of this table.</p> <p><u>Reimbursement If IPC Receives all Permits and Certificates of Public Convenience and Necessity (CPCN) for Construction of B2H</u></p> <p>IPC will reimburse BPA for the transfer of BPA's Permitting Interest under the Joint Permitting Agreement in an amount consisting of BPA's investment in B2H prior to the transfer date (~\$25m). BPA will also pay to IPC an additional \$10 million upon execution of the New NITSAs and the NITSA Security Agreement with the intent of offsetting overall B2H project costs in IPC's rate base. The additional \$10 million plus BPA's investment in B2H will be collectively referred to as the "Funded Amount."</p> <p>IPC will retain the Funded Amount as follows:</p> <p>If and when IPC obtains all necessary CPCNs and permits for the B2H Project (and all appeals, if any, have been resolved), IPC shall have until January 1, 2026 ("Commencement Date") to commence construction of B2H or to inform BPA of its intent to not pursue construction of B2H.</p> <p>(1) If IPC commences construction of B2H by or before the Commencement Date, then:</p> <p>a. Interest on the Funded Amount (~\$35m) payable by IPC to BPA will accrue from the date of energization of B2H at the rate</p>

		<p>established in the applicable IPC tariff for customer funded projects;</p> <p>b. The Funded Amount and all accrued interest will be repaid to BPA starting year 11 following the energization date (the "Refund Commencement Date"), with repayment amortized over the remaining 10 years of the New NITSAs.</p> <ul style="list-style-type: none"> <li>i. IPC and BPA will incorporate the interest schedule and payment amortization as an exhibit to the NITSA Security Agreement;</li> <li>ii. If during the term of the New NITSAs BPA defaults on its payment obligations under the New NITSAs, IPC will be entitled to retain for its own account an amount equal to the defaulted payment obligation not to exceed the amount not reimbursed to BPA as of the default date;</li> <li>iii. BPA will not be considered in default for any amount not paid subject to a billing dispute; and</li> <li>iv. IPC may prepay the Funded Amount and interest thereon at any time without penalty.</li> </ul> <p>(2) If IPC does not commence construction of B2H by or before the Commencement Date or if IPC informs BPA before the Commencement Date of its intent to not proceed with B2H, then:</p> <ul style="list-style-type: none"> <li>a. IPC shall have 180 days from the Commencement Date (or notice to BPA of its intent to not proceed, whichever is earlier) to sell its Permitting Interests in the B2H Project;</li> <li>b. No later than the close of the above mentioned 180 days, IPC shall <ul style="list-style-type: none"> <li>i. pay to BPA BPA's proportional share of any proceeds received from the sale of its Permitting Interest in the B2H Project (if any), and</li> </ul> </li> </ul>
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	<p>ii. Pay to BPA the \$10 million BPA provided to IPC upon execution of the New NITSAs.</p> <p><u>Risk Backstop if IPC does not Receive all Permits or CPCNs Necessary for constructing B2H.</u></p> <p>If IPC does not obtain all necessary CPCNs and permits for the B2H Project, or any such CPCNs or permits are overturned on appeal, then (a) IPC will return to BPA the \$10 million BPA provided to IPC upon execution of the New NITSAs; and (b) BPA will reimburse IPC for funding the additional 24.24% share of all B2H Permitting and Preconstruction Costs incurred after BPA transfers its 24.24% Permitting Interest to IPC.</p> <p>The reimbursement obligation will not include any costs related to Right of Way option acquisition or exercising Right of Way Options.</p> <p>The risk backstop commitment will remain in place until IPC obtains all necessary CPCNs and permits for the Project (and all appeals, if any, have been resolved). The intent of the backstop is only to assist IPC in mitigating the risk associated with receiving the approvals for the B2H Project; not to assist in mitigating business risk.</p> <p>The risk backstop commitment will be as follows:</p> <ol style="list-style-type: none"> <li>IPC will not compensate or reimburse BPA for costs expended by BPA on B2H prior to the transfer of the Permitting Interest to IPC (<i>i.e.</i>, ~\$25m BPA has expended to date);</li> <li>BPA will reimburse 24.24% of actual B2H Project Permitting Costs incurred after IPC takes over funding 45% of the project. (Current estimates for 2021-2024 – Total B2H Project estimated at \$9,125,466 with 24.24% of these costs estimated at \$2,212,234); and</li> <li>BPA will reimburse 24.24% of actual B2H Project Pre-Construction Costs incurred after IPC assumes funding 45% of the project. (Current estimates for</li> </ol>
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		<p>2021-2024 – Total B2H Project estimated at \$9,403,564 with 24.24% of these costs estimated at \$2,279,652).</p> <p>Collectively, these amounts set forth in a. through c. above will be the “Risk Backstop Amount.”</p> <p>The Risk Backstop Amount will be adjusted, as necessary, to the extent that IPC receives grants or forms of other financial assistance from sources other than BPA or PAC. For example, if IPC received a government grant that defrayed the pre-construction costs of B2H, BPA’s 24.24 % share of the pre-construction costs would be reduced accordingly.</p>
3.	<p><b><i>Transfer of Interest in Joint Permitting Agreement:</i></b></p> <p><b><i>Prepare First Draft – IPC: Quarter 2 of Calendar Year 2022</i></b></p> <p><b><i>Target Execution Date: Quarter 3 of Calendar Year 2022</i></b></p>	<p>IPC and BPA will execute a purchase and sale agreement, assignment, and other applicable transfer documents, concurrently with the New NITSAs, NITSA Security Agreement, and any related other agreements necessary, to transfer all of BPA’s Permitting Interest under the Joint Permitting Agreement (and all of BPA’s interest in the assets associated therewith) to IPC in exchange for IPC’s agreement for repayment to BPA of BPA’s investment in B2H through the Joint Permitting Agreement through the effective date of the definitive purchase and sale agreement contemplated in this Section 3(b) (or other date specified therein). The proposed purchase and sale agreement contemplated in this Section 3(b)(3) will contain representations, warranties, and covenants typical of a transaction of the nature contemplated by these proposed terms. The definitive agreements transferring BPA’s Permitting Interest under the Joint Permitting Agreement and related assets will be executed prior to any activities BPA has indicated could impact federal environmental regulatory requirements under NEPA, so as to prevent additional delay in the development of B2H.</p> <p>Following the transfer of BPA’s Permitting Interest (and associated assets) under the Joint Permitting Agreement to IPC, IPC will be solely responsible for funding an additional 24.24% share of all B2H Project Costs thereafter under Joint Permitting Agreement</p>

	(which includes permitting and preconstruction costs), and IPC will be entitled to all rights, title, and interests and assets that BPA would otherwise obtain under the Joint Permitting Agreement if it were a remaining funding party thereto.
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c) Ownership, Operation, and Maintenance Agreement: Defines IPC's and PAC's capacity and property ownership, and their roles and responsibilities for operating and maintaining the B2H Project ("**Ownership and Operation Agreement**"). IPC will prepare an initial draft of the Ownership and Operation Agreement based on the ownership interests below and otherwise consistent with the terms of the JOOA between IPC and PAC. Alternatively, in lieu of a new agreement, IPC and PAC may decide to amend the existing JOOA to cover the B2H Project assets.

Idaho Power	PacifiCorp	BPA
Project ownership: 45.45%	Project ownership: 54.55%	Project ownership: 0%

d) Construction Funding Agreement: Defines IPC's and PAC's roles and responsibilities in construction of the B2H Project ("**Construction Funding Agreement**"). IPC will prepare an initial draft of the Construction Funding Agreement consistent with the following terms:

<b>1. Project In-Service Date</b>	June 1, 2026
<b>2. Scope</b>	The Construction Funding Agreement covers all work necessary to construct the B2H Project by the Project In-Service Date, including any associated residual work after the Project In-Service Date, but excluding any work already covered by the Joint Permitting Agreement.
<b>3. Project Delivery System</b>	A competitive process is being completed to hire a Construction Manager / Constructability Consultant ("CM") for the B2H Project in 2022 to: (1) provide constructability feedback to the design engineer; and (2) collaborate with PAC and IPC to complete the BLM Construction Plan of Development and the Oregon Energy Facility Siting Council's Site Certificate amendments. The hiring process of the CM will be structured such that the CM may be retained to construct the B2H Project.

	<p>IPC and PAC may mutually agree to modify the CM's role through the Construction Funding Committee (as defined in Section 10 below <b><i>-Project Funding and Committee</i></b>) without amending the Construction Funding Agreement.</p>
<p><b>4. Project Manager</b></p>	<p>IPC is the overall Project Manager for all B2H Project permitting, design, procurement, construction, except that BPA will be responsible for designing, procuring, and constructing the Longhorn substation as described in Section 3(a)(4) and relocating and replacing the BPA 69 kV line off Navy property as described in Section 3(a)(10).</p> <p>Although IPC is the Project Manager, PAC is not precluded from taking project management responsibilities for all or selected tasks associated with the B2H Project; provided that these delegations must be made by the Construction Funding Committee.</p>
<p><b>5. Construction Project Manager</b></p>	<p>IPC's role as Construction Project Manager will be generally consistent with the roles and responsibilities of the Permitting Project Manager set forth in Article IV of the Joint Permitting Agreement, provided that the permitting responsibilities not relevant to construction will be removed.</p> <p>IPC, as the Construction Project Manager, will provide monthly project updates, including updates on project activities, financials, forecasts, and invoices detailing costs incurred with breakdowns demonstrating all Parties' cost responsibilities based on their percentage shares.</p> <p>To provide the necessary flexibility to avoid delay/additional costs, the Construction Project Manager will administer and oversee all work necessary to construct the B2H Project within the approved budget, schedule and scope, and also have authority to approve any non-material changes to the B2H Project resulting in a price difference of less than \$500k, so long as the overall B2H Project costs remain within the approved budget with the price change. All changes to the B2H Project resulting in a change in the approved budget, will require approval of the Construction Funding Committee.</p>

<p><b>6. Component Specifications</b></p>	<p>All B2H Project construction specifications shall meet or exceed all applicable state and federal design requirements and standards; provided that, such specifications may be modified by the Construction Funding Committee so long as the project complies with all applicable state and federal design requirements and standards.</p>
<p><b>7. Real Property Ownership</b></p>	<p><u>B2H real property, except Longhorn substation:</u> IPC will acquire rights of way, grants, easements, or other interests in real property necessary to construct, operate and maintain the B2H transmission line and grant to PAC perpetual and sufficient rights of access, to be set forth in the Ownership and Operation Agreement.</p> <p><u>Longhorn Substation:</u> Upon completion of BPA's obligations and responsibilities under NEPA, NHPA, and other requisite environmental compliance laws and if BPA decides to proceed with construction of Longhorn substation, BPA will continue to own all real property associated with the Longhorn substation, and in relation to the B2H Project equipment BPA shall grant to IPC and PAC perpetual and sufficient rights of access, to be set forth in one or more Longhorn Substation Agreements as described in Section 3(a)(4).</p>
<p><b>8. Equipment and Facilities Ownership</b></p>	<p>Equipment and facilities ownership will be consistent with the Ownership and Operation Agreement.</p> <p><u>B2H equipment/facilities, except Longhorn substation:</u> IPC and PAC will jointly own as tenants in common the transmission line and all associated facilities and equipment, including all associated facilities located in Hemingway Substation as well as supporting communication facilities and B2H Project substation equipment.</p> <p><u>Longhorn Substation:</u> Upon completion of BPA's obligations and responsibilities under NEPA, NHPA, and other requisite environmental compliance laws and if BPA decides to proceed with construction of Longhorn substation, BPA will own all equipment and facilities in the Longhorn substation, except the B2H specific equipment and facilities which will be jointly owned by IPC and PAC as tenants in common. BPA will grant IPC and PAC access rights to the equipment</p>



	and facilities in Longhorn substation that are constructed as part of and necessary to the operation of the B2H transmission line facilities, to be set forth in one or more Longhorn Substation Agreements as described in Section 3(a)(4).
<b>9. Material Procurement</b>	All material specifications shall be in accordance with IPC's procurement policies and standards, unless otherwise agreed by the Construction Funding Committee to exceed the same.
<b>10. Project Funding and Committee</b>	<p><u>Funding:</u> IPC and PAC will fund the B2H Project consistent with their respective ownership shares.</p> <p><u>Construction Funding Committee:</u> The Construction Funding Agreement shall create a Construction Funding Committee consistent with IPC and PAC's ownership interests in the B2H Project, and generally consistent with the Permit Funding Committee created by the Joint Permitting Agreement (Article III).</p> <p>The Project Manager's reporting requirements set forth in the above Section 5 (<b>Construction Project Manager</b>) will be delivered to all members of the Construction Funding Committee prior to, and discussed during, each of the Committee's regularly-scheduled monthly meetings.</p> <p>Obligations, disputed amounts, and audit rights will be generally consistent with Article III of the Joint Permitting Agreement.</p> <p>The Project Manager will have flexibility to make day-to-day decisions associated with construction of the Project but will be required to seek resolution/approval from the Construction Funding Committee on larger dollar/impact decisions, consistent with that set forth in the above Section 5 (<b>Construction Project Manager</b>).</p> <p>BPA will be responsible for designing, procuring, and constructing the Longhorn substation as described in Section 3(a)(4) and relocating and replacing the BPA 69 kV line off Navy property, as described in Section 3(a)(10).</p>
<b>11. Payment Schedule</b>	<u>Costs Accrued Prior to Agreement Execution:</u> Prior to executing the Construction Funding Agreement, IPC



	<p>and PAC will have the opportunity to audit all accrued construction-related expenses included therein that have not otherwise been funded under the Joint Permitting Agreement. IPC and PAC will align on ownership shares prior to execution of the Construction Funding Agreement and pay their respective portions of accrued expenses within 30 days of the effective date of the Construction Funding Agreement. Until which time BPA fully divests its ownership interest in the B2H Project, the Parties acknowledge that the B2H Project is bound to compliance with NEPA, NHPA, and other environmental laws associated with federal agency action.</p> <p><u>Costs Incurred After Execution:</u> Following execution of the Construction Funding Agreement, the Project Manager will invoice the Construction Funding Agreement participants monthly, requiring payment within 30 days of the invoice date.</p>
<p><b>12. Transfer/Assignment of Rights/Interests</b> <i>(Some or all of these terms may be instead placed in the Ownership Agreement)</i></p>	<p>IPC and PAC may sell some or all of their respective ownership interests in the B2H Project, together with associated capacity, subject to the Construction Funding Committee's agreement and approval of the terms of any such transaction; provided that, such approval will not be unreasonably withheld.</p> <p>IPC will not transfer or assign rights or interests in the B2H Project that would materially impact the BPA load service commitments set forth in Section 3(b) of this Term Sheet.</p>
<p><b>13. Term</b> <b>Early Termination</b> <b>Withdrawal</b></p>	<p><u>Term:</u> The term of the Construction Funding Agreement will extend through completion of B2H Project construction, as well as final billing and any reconciliation or mitigation associated with the final expenses, unless otherwise agreed by the Construction Funding Committee.</p> <p><u>Early Termination/Withdrawal:</u> Absent approval of the Construction Funding Committee, no Party shall have a right to withdraw from the Construction Funding Agreement following the earlier of (1) awarding the B2H Project construction contract, or (2) commencing procurement of long-lead items and equipment.</p>

	Assignments of IPC's or PAC's rights and obligations under the Construction Funding Agreement shall be managed pursuant to the above Section 12 ( <i>Transfer/Assignment of Rights/Interests</i> ).
<b>14. Event of Default</b>	Generally consistent with Article VIII of the Joint Permitting Agreement.
<b>15. Force Majeure</b>	Generally consistent with Article IX of the Joint Permitting Agreement.
<b>16. Reps and Warranties</b>	Generally consistent with Article X of the Joint Permitting Agreement.
<b>17. Common Defense &amp; Limitation of Liability</b>	Generally consistent with Article XI of the Joint Permitting Agreement, except that the Article will be expanded to address construction claims.
<b>18. Proprietary Information/Confidentiality</b>	Generally consistent with Article XII of the Joint Permitting Agreement, except that the Article will provide IPC the ability to share information as necessary to work with potential and selected engineers and contractors.
<b>19. Dispute Resolution</b>	Generally consistent with Article XIII of the Joint Permitting Agreement.
<b>20. Miscellaneous</b>	Generally consistent with Article XIV of the Joint Permitting Agreement and including any standard terms that are necessary for PAC agreements (e.g. assignment and jury trial waiver provisions).

**4. Additional Agreements.** The Parties agree that they may consolidate any or all of the above-described Agreements and are not precluded from pursuing additional agreements, or amending existing agreements as needed, related to the B2H Project besides those discussed herein.

**5. Expenses.** Each Party will bear its own expenses (including attorneys' fees) incurred in connection with preparation, negotiation, and execution of this Term Sheet, including preparation, negotiation and execution of the Agreements described herein.

ACKNOWLEDGED AND AGREED TO BY THE PARTIES:

IDAHO POWER COMPANY

Signature: (b)(6)

Printed Name: Ryan N. Adelmann

Title: VP, Power Supply

Date: 1/18/22

**PACIFICORP**

Signature:

**Rick Link**

Digitally signed by Rick Link  
Date: 2022.01.18 11:11:21  
-08'00'

Printed Name: Rick Link

Title: Senior Vice President, Resource Planning, Procurement and Optimization

Date: 01/18/2022

Signature:

**Rick Vail**

Digitally signed by Rick Vail  
Date: 2022.01.18 11:59:50  
-08'00'

Printed Name: Rick Vail

Title: Vice President, Transmission

Date: 01/18/2022

**BONNEVILLE POWER ADMINISTRATION**

Signature: TINA KO Digitally signed by TINA KO  
Date: 2022.01.18 04:25:04  
-08'00'

Printed Name: Tina Ko

Title: Vice President, Transmission Marketing &

Date: 1/18/2022

Signature: (b)(6) Digitally signed by KIM  
THOMPSON  
Date: 2022.01.18 07:32:28 -08'00'

Printed Name: Kim Thompson

Title: Vice President, Requirements Manag

Date: 1/18/2022

*This document contains information confidential and proprietary to the Funders. Neither this document nor any information obtained from this document is to be published, reproduced, transmitted, distributed, disclosed or used otherwise in whole or in part without the written consent of all the Funders.*

**ELEVENTH AMENDMENT  
TO  
AMENDED AND RESTATED BOARDMAN TO HEMINGWAY TRANSMISSION  
PROJECT JOINT PERMIT FUNDING AGREEMENT**

This ELEVENTH AMENDMENT TO AMENDED AND RESTATED BOARDMAN TO HEMINGWAY TRANSMISSION PROJECT JOINT PERMIT FUNDING AGREEMENT ("Eleventh Amendment") is entered to be effective the 25th day of July 2022 ("Amendment Effective Date"), by and among IDAHO POWER COMPANY, an Idaho corporation ("Idaho Power"); PACIFICORP, an Oregon corporation ("PAC"); and the BONNEVILLE POWER ADMINISTRATION, a United States government power marketing administration ("BPA"). Idaho Power, PAC, and BPA may be referred to herein individually as a "Funder" or "Party," or collectively as the "Funders" or "Parties."

**RECITALS**

The Funders previously entered an *Amended and Restated Boardman to Hemingway Transmission Project Joint Permit Funding Agreement* dated February 13, 2018 ("Permit Funding Agreement").

The Funders subsequently entered the following amendments to the Permit Funding Agreement:

- 1) *First Amendment to Amended and Restated Boardman to Hemingway Transmission Project Joint Permit Funding Agreement* dated January 16, 2020 ("First Amendment") to extend the Negotiation Period of the Definitive Development and Construction Agreements until March 17, 2020, with an option for the Funders to agree to an additional 120-day extension through July 15, 2020.
- 2) *Second Amendment to Amended and Restated Boardman to Hemingway Transmission Project Joint Permit Funding Agreement* dated April 7, 2020 ("Second Amendment") to include in the Project Costs the preparing, issuing, awarding, and funding completion of a request for proposal for the Light Detection and Ranging (LiDAR).
- 3) *Third Amendment to Amended and Restated Boardman to Hemingway Transmission Project Joint Permit Funding Agreement* dated July 13, 2020 ("Third Amendment") to extend the Negotiation Period of the Definitive Development and Construction Agreements until October 13, 2020, with an option for the Funders to agree to further extensions up to, but not beyond, January 11, 2021.
- 4) *Fourth Amendment to Amended and Restated Boardman to Hemingway Transmission Project Joint Permit Funding Agreement* dated August 31, 2020 ("Fourth Amendment") to include a process through which the Funders can agree

to: prepare, issue, award, and fund completion of requests for proposals for detailed design, geotechnical exploration, legal surveying, acquiring rights-of-way options, and constructability consulting. The Seventh Amendment eliminated the Fourth Amendment in its entirety as set forth in Section 3(a) of the Seventh Amendment.

- 5) *Fifth Amendment to Amended and Restated Boardman to Hemingway Transmission Project Joint Permit Funding Agreement* dated January 5, 2021 (“Fifth Amendment”) to extend the Negotiation Period of the Definitive Development and Construction Agreements until March 12, 2021, with an option for the Funders to agree to further extensions up to, but not beyond, July 10, 2021.
- 6) *Sixth Amendment to Amended and Restated Boardman to Hemingway Transmission Project Joint Permit Funding Agreement* dated July 9, 2021 (“Sixth Amendment”) to extend the Negotiation Period of the Definitive Development and Construction Agreements for the Project until September 8, 2021, with an option for the Funders to agree to further extensions up to, but not beyond, November 7, 2021.
- 7) *Seventh Amendment to Amended and Restated Boardman to Hemingway Transmission Project Joint Permit Funding Agreement* dated July 20, 2021 (“Seventh Amendment”) to provide for the funding of Preconstruction Objectives and Acquisition of Rights-of-Way Options.
- 8) *Eighth Amendment to Amended and Restated Boardman to Hemingway Transmission Project Joint Permit Funding Agreement* dated November 5, 2021 (“Eighth Amendment”) to extend the Negotiation Period of the Definitive Development and Construction Agreements for the Project until January 6, 2022.
- 9) *Ninth Amendment to Amended and Restated Boardman to Hemingway Transmission Project Joint Permit Funding Agreement* dated January 6, 2022 (“Ninth Amendment”) to extend the Negotiation Period of the Definitive Development and Construction Agreements for the Project until February 5, 2022.
- 10) On January 18, 2022, the Parties entered into a nonbinding Term Sheet setting forth the terms and conditions the Parties intend to negotiate in good faith towards the execution of binding agreements and amendments related to the construction, ownership, operation, asset exchanges, and service agreements regarding the Boardman to Hemingway Project and other transmission facilities, subject to BPA making a final decision as set forth in the Term Sheet.
- 11) *Tenth Amendment to Amended and Restated Boardman to Hemingway Transmission Project Joint Permit Funding Agreement* dated February 4, 2022 (“Tenth Amendment”) to extend the Negotiation Period of the Definitive Development and Construction Agreements for the Project until August 4, 2022.

The Funders now desire to amend the Permit Funding Agreement, as amended by the First Amendment, Second Amendment, Third Amendment, Fourth Amendment, Fifth Amendment, Sixth Amendment, Seventh Amendment, Eighth Amendment, Ninth Amendment, and Tenth Amendment to extend the Negotiation Period an additional one hundred fifty days, for a total of one thousand three hundred and twenty days from the Completion Notice (i.e., January 1, 2023).

### **AGREEMENT**

For and in consideration of the mutual covenants and provisions set forth in this Eleventh Amendment, and other good and valuable consideration, the receipt of which is hereby acknowledged, the Funders, intending to be legally bound, agree as follows:

1. **Recitals.** The Funders acknowledge and agree as to the accuracy of the Recitals set forth above, and such Recitals are incorporated herein by this reference.

2. **Defined Terms.** Capitalized terms not defined in this Eleventh Amendment shall have the meaning given to them in the Permit Funding Agreement, First Amendment, Second Amendment, Third Amendment, Fourth Amendment, Fifth Amendment, Sixth Amendment, Seventh Amendment, Eighth Amendment, Ninth Amendment, and Tenth Amendment.

3. **Amendments to Agreement.** Section 3.3(a)(ii) "Negotiation Period" of the Permit Funding Agreement is hereby deleted in its entirety and replaced with the following:

**Negotiation Period.** Upon receipt of the Completion Notice, the Funders shall meet, subject to Section 3.3(a)(iii), to negotiate one or more Definitive Development and Construction Agreements for up to one thousand three hundred and twenty (1,320) days (the "Negotiation Period").

4. **No Other Amendments.** Except as expressly set forth herein, nothing in this Eleventh Amendment will be construed to amend, modify, or alter any term, condition, right, or obligation set forth in the Permit Funding Agreement, as amended by First Amendment, Second Amendment, Third Amendment, Fourth Amendment, Fifth Amendment, Sixth Amendment, Seventh Amendment, Eighth Amendment, Ninth Amendment, and Tenth Amendment, or in any way affect its enforceability. The Permit Funding Agreement, as amended by the First Amendment, Second Amendment, Third Amendment, Fourth Amendment, Fifth Amendment, Sixth Amendment, Seventh Amendment, Eighth Amendment, Ninth Amendment, Tenth Amendment, and this Eleventh Amendment, is in full force and effect and is hereby in all respects ratified and confirmed. References in the Permit Funding Agreement to "this Agreement" and to words such as "herein," "hereinafter," "hereof," "hereunder," and any words of similar import refer to the Permit Funding Agreement as amended by the First Amendment, Second Amendment, Third Amendment, Fourth Amendment, Fifth Amendment, Sixth Amendment, Seventh Amendment, Eighth Amendment, Ninth Amendment, Tenth Amendment, and this Eleventh Amendment.



5. **Miscellaneous.** This Eleventh Amendment may be executed in one or more counterparts, each of which will be deemed an original and all of which taken together shall constitute one and the same instrument. Delivery of an executed Eleventh Amendment by one party to the other may be made by facsimile or email transmission. To the extent of any conflict between this Eleventh Amendment and the Permit Funding Agreement, as amended by the First Amendment, Second Amendment, Third Amendment, Fourth Amendment, Fifth Amendment, Sixth Amendment, Seventh Amendment, Eighth Amendment, Ninth Amendment, and Tenth Amendment, this Eleventh Amendment will control. This Eleventh Amendment and the Permit Funding Agreement, as amended by the First Amendment, Second Amendment, Third Amendment, Fourth Amendment, Fifth Amendment, Sixth Amendment, Seventh Amendment, Eighth Amendment, Ninth Amendment, and Tenth Amendment, constitute the full and entire understanding and agreement between the Parties regarding the subjects set forth therein and herein and supersede all prior agreements and understandings related thereto. Neither this Eleventh Amendment nor any term in this Eleventh Amendment may be amended, waived, discharged, or terminated other than by a written instrument signed by the Parties. This Eleventh Amendment is binding upon and will inure to the benefit of the successors and assigns of the Parties.

IN WITNESS WHEREOF, the Parties hereto have entered into this Eleventh Amendment to be effective as of the Amendment Effective Date.

**IDAHO POWER COMPANY**

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**PACIFICORP**

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**BONNEVILLE POWER ADMINISTRATION**

Signature: **JEFFREY COOK** Digitally signed by JEFFREY COOK  
Date: 2022.08.02 14:45:18 -07'00'

Printed Name: Jeff Cook

Title: Acting VP of Transmission Marketing & Sales

Date: \_\_\_\_\_

IN WITNESS WHEREOF, the Parties hereto have entered into this Eleventh Amendment to be effective as of the Amendment Effective Date.

**IDAHO POWER COMPANY**

Signature: (b)(6)  
Printed Name: Ryan N. Anderson  
Title: VP, Power Supply  
Date: 8/2/22

**PACIFICORP**

Signature: Rick Vail  
Printed Name: Rick Vail  
Title: Vice President, Transmission  
Date: 08/01/2022

Digitally signed by Rick Vail  
Date: 2022.08.01 10:54:16  
-07'00'

**BONNEVILLE POWER ADMINISTRATION**

Signature: \_\_\_\_\_  
Printed Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

March 24, 2023

Joel Cook, Chief Operating Officer,  
Bonneville Power Administration  
905 NE 11<sup>th</sup> Ave.  
Portland, OR 97208

Re: Agreement to Redirect and Reassign Transmission Service Agreements

Dear Joel Cook:

On January 18, 2022, Bonneville Power Administration (BPA), Idaho Power Company (Idaho Power), and PacifiCorp entered into a non-binding Term Sheet, Contract No. 22TX-17207, ("B2H Term Sheet") setting forth the construction, ownership, operation, asset exchanges, and transmission service agreements the parties intended to negotiate and execute, subject to various conditions, regarding the proposed Boardman to Hemingway Transmission Project ("B2H Project"), which includes installation of the Midline Series Capacitor. The estimated energization date for the B2H Project is July 1, 2026. The parties negotiated the necessary contracts contemplated in the B2H Term Sheet, including this letter agreement ("Agreement") and an agreement to address the installation of the Midline Series Capacitor, and on March 23, 2023, BPA made a final decision to execute this Agreement and other contracts that BPA will be party to, conditioned on the terms of those respective agreements.

This Agreement sets forth the rights and obligations of BPA and PacifiCorp with regard to the renewal, redirect, and assignment of two BPA transmission service agreements as they may be amended or replaced pursuant to Idaho Power's Open Access Transmission Tariff ("OATT") prior to the energization of the B2H Project: Second Revised Service Agreement 324, for 100 MW of service from Summer Lake to Kinport ("SA 324"), and Second Revised Service Agreement 342, for 100 MW of service from Midpoint 500 to Kinport ("SA 342," and together with SA 324, the "Service Agreements").

For the purposes of this Agreement, BPA and PacifiCorp may be referred to individually as a "Party" and collectively as the "Parties."

## **1. Term**

- (a) Effectiveness. Unless terminated pursuant to Section 1(b), this Agreement becomes effective upon execution by the Parties and the satisfaction of all of the following conditions: (i) satisfaction of all conditions precedent in the Joint Purchase and Sale Agreement ("JPSA") between PacifiCorp and Idaho Power to transfer certain transmission facilities related to the B2H Project in accordance with the terms of the JPSA, including the development, construction and energization of the B2H Project; (ii) satisfaction of all conditions precedent in Point-to-Point Contract No.

04TX-11722, Tables 250, 251, 252, 253, 254, and 255 in accordance with the terms thereof; and (iii) satisfaction of all conditions precedent in the Network Integration Transmission Service Agreements (“NITSAs”) between BPA and Idaho Power, Nos. 23PX-10202 and 23PX-10203 in accordance with the terms thereof.

- (b) Termination. This Agreement may be terminated by the Parties at any time upon mutual agreement, and shall automatically terminate upon ninety (90) calendar days' prior written notice from a Party that (1) the B2H Project has been canceled by Idaho Power and PacifiCorp; or (2) the NITSAs have been cancelled by Idaho Power and BPA; provided, however, that if the non-terminating Party disputes the termination of this Agreement under this Section 1(b) and has initiated the dispute resolution process in Section 5(g) of this Agreement, then this Agreement shall terminate in accordance with the resolution of the dispute resolution process.

## **2. BPA Responsibilities**

- (a) Renewals and Preservation of Priority Rights. BPA shall timely renew the Service Agreements in accordance with Idaho Power's OATT by the earlier of July 1, 2025 or the one-year right of first refusal notification period in Section 2.2 of Idaho Power's OATT and shall continue to timely renew the Service Agreements thereafter as necessary and appropriate to ensure that at all times prior to assignment to PacifiCorp under this Agreement, the Service Agreements shall (i) have a contract term of at least five years and (ii) otherwise preserve the reservation priority rights of the Service Agreements.
- (b) Redirect Request Submittal. Upon energization of B2H, or such other time as mutually agreed by the Parties, BPA shall submit requests to redirect service under the Service Agreements on a firm basis as directed by PacifiCorp, which shall include redirecting the points of receipt (“POR”) and points of delivery (“POD”) of each Service Agreement such that the POR for each Service Agreement is Walla Walla and the POD is Borah for a term of service to commence as close in time as possible to B2H energization (“Redirect Requests”), provided however that BPA shall not be required to submit the Redirect Requests while the then-current estimated B2H energization date is or reasonably could be anticipated by BPA to change. PacifiCorp acknowledges that BPA uses the Service Agreements to serve its loads in Idaho and must retain rights to the service until B2H is energized and service under the NITSAs commence. Any Redirect Request submitted by BPA shall indicate BPA's intent to convey on-going rollover rights to the redirected path.
- (c) Redirect Request Processing. BPA shall promptly share with PacifiCorp as soon as reasonably practicable any correspondence with Idaho Power that is relevant to the Redirect Requests, including study reports, offers of service, counteroffers, attempted challenges or preemptions, and response deadlines communicated by Idaho Power.

- (1) BPA shall communicate to Idaho Power PacifiCorp's response under Section 3(b) by no later than the relevant response deadline provided in Idaho Power's OATT or otherwise communicated by Idaho Power.
- (2) BPA shall not accept or reject an offer of redirect service associated with the Redirect Requests except as directed by PacifiCorp pursuant to Section 3(b).
- (d) Assignment of Service Agreements. Upon notification by PacifiCorp pursuant to Section 3(b) that PacifiCorp will accept assignment of the Service Agreements as modified by the Redirect Requests, BPA shall confirm the Redirect Requests with Idaho Power and assign the Service Agreements, as modified by the confirmed Redirect Requests, to PacifiCorp. Upon notification by PacifiCorp pursuant to Section 3(b) that PacifiCorp will not accept assignment of the Redirect Requests, or if PacifiCorp fails to notify BPA pursuant to Section 3(b), BPA shall not confirm the Redirect Requests and the Parties shall coordinate in good faith to facilitate any substitute redirect request that the Parties mutually agree shall be submitted by BPA on PacifiCorp's behalf.
- (e) Termination of the Service Agreements or Third-Party Assignments by BPA. During the term of this Agreement, BPA shall not terminate or cancel the Service Agreements, submit any redirect request associated with the Service Agreements, assign or offer to assign the Service Agreements to another party, or in any way modify service under the Service Agreements absent written consent by PacifiCorp. Notwithstanding the forgoing, BPA will not be required to seek prior written consent from PacifiCorp to redirect the Service Agreements as necessary to account for any outages on Idaho Power's system; provided, however, that at all times, any such redirect service shall be consistent with the requirements in Section 2(a).

### **3. PacifiCorp Responsibilities**

- (a) Payment of study costs. PacifiCorp shall reimburse BPA for all study costs, and any applicable restudy-costs associated with the Redirect Requests submitted by BPA in accordance with this Agreement. This provision shall survive termination of this Agreement.
- (b) Redirect Request Evaluation and Communications to BPA. PacifiCorp shall have the right but not the obligation to accept any offer of service in response to the Redirect Requests, including conditions associated with such service, that PacifiCorp determines in its sole discretion to be acceptable. PacifiCorp shall communicate in writing to BPA PacifiCorp's decision to accept or reject any offer of service in response to the Redirect Requests and otherwise respond to any deadline or request for information by Idaho Power related to the Redirect Requests, in each case, by no later than one (1) business day prior to the deadlines provided in Idaho Power's OATT or otherwise communicated to BPA (acting as the Transmission Customer on PacifiCorp's behalf) in writing by Idaho Power.



- (c) Payment of Service Agreement charges. If service under BPA's NITSA's has commenced before PacifiCorp has accepted assignment, then PacifiCorp shall reimburse BPA for all costs BPA incurs, including reimbursement of rates and charges assessed by Idaho Power, to preserve the reservation priority rights in the Service Agreements in accordance with Section 2(a). This provision shall survive termination of this Agreement.

#### **4. Good Faith Cooperation and Coordination**

BPA and PacifiCorp shall coordinate in good faith to facilitate the submittal and timely processing of the Redirect Requests, including submitting a motion to intervene in support of Idaho Power's filings of the assigned Service Agreements as modified by the Redirect Requests to the Federal Energy Regulatory Commission. Such coordination shall also include, but is not limited to, BPA facilitating communications between PacifiCorp and Idaho Power regarding the Redirect Requests.

#### **5. Miscellaneous**

- (a) Amendments. No amendment of this Agreement shall be of any force or effect unless set forth in a written instrument signed by authorized representatives of each Party.
- (b) Assignment. This Agreement is binding on any successors and permitted assigns of the Parties. Neither Party may transfer or assign this Agreement, in whole or in part, without the other Party's prior written consent (such consent not to be unreasonably withheld, conditioned or delayed), except that, after thirty (30) calendar days written notice to the other Party, either Party may assign this Agreement to any: (i) affiliate, (ii) successor in interest, or (iii) corporation or any other business entity acquiring all or substantially all of the assets of the Party.
- (c) Choice of Law and Forum. This Agreement shall be interpreted, construed, enforced and implemented pursuant to Federal law. The forum for litigation arising from this contract shall exclusively be a Federal court of the United States, unless the Parties mutually agree to pursue arbitration.
- (d) Entire Agreement. This Agreement constitutes the entire agreement between the Parties and supersedes all previous communications, representations, or contracts, either written or oral, which purport to describe or embody the subject matter of this Agreement.
- (e) No Third-Party Beneficiaries. This Agreement is made and entered into for the sole benefit of the Parties and their successors and permitted assigns, and the Parties intend that no other person or entity shall be a direct or indirect beneficiary of this Agreement.
- (f) Waivers. No waiver of any provision or breach of this Agreement shall be effective unless such waiver is in writing and signed by the waiving Party, and any such

waiver shall not be deemed a waiver of any other provision or breach (or subsequent breach) of this Agreement.

- (g) Dispute Resolution. In the event that either Party has a dispute that arises out of this Agreement, such Party shall provide the other Party with written notice of the dispute, which will be referred to a designated senior representative for each Party for resolution on an informal basis as promptly as practicable after receipt of such notice of dispute. In the event the designated representatives are unable to resolve the dispute within thirty (30) calendar days of the other Party's receipt of the notice of dispute, such dispute may, upon mutual agreement of the Parties, be submitted to arbitration. In the event the Parties do not agree to submit such dispute to arbitration, each Party may exercise whatever rights and remedies it may have at law. Each Party shall be responsible for its own costs incurred.
- (h) Notices. Any notice or other communication related to this Agreement shall be delivered in person, or with proof of receipt by email, First Class mail or overnight delivery service. Notices are effective on the date received. Either Party may change the contact information by providing notice of such change to the other Party at the address below:

To PacifiCorp:

825 NE Multnomah Street, Suite 600  
Portland, OR 97232  
Attention: Vice President,  
Energy Supply Management  
Phone: (503) 813-5431  
Email: [Mike.Wilding@pacificorp.com](mailto:Mike.Wilding@pacificorp.com)

To Bonneville Power Administration:

905 NE 11th Ave.  
Portland, OR 97232  
Attention: Joel Cook,  
Chief Operating Officer  
Phone: (503) 230-7640  
Email: [JDCook@BPA.gov](mailto:JDCook@BPA.gov)

This Agreement may be executed in several counterparts, all of which taken together will constitute one single agreement. Please electronically sign the flagged signature field in this Agreement and return by email to [Thomas.Woodworth@pacificorp.com](mailto:Thomas.Woodworth@pacificorp.com). Alternatively, BPA may print, sign, date, and scan this Agreement into a PDF file and return by email or send a paper copy of this Agreement to one of the following addresses by the date stated above:

First Class Mail

PacifiCorp:  
825 NE Multnomah Street, Suite 600  
Portland, OR 97232  
Attention: Vice President,  
Energy Supply Management

*[signature page follows]*



Sincerely,

---

Mike Wilding  
Vice President, Energy Supply Management

ACKNOWLEDGED AND AGREED

BONNEVILLE POWER ADMINISTRATION

Joel D. Cook Digitally signed by Joel D. Cook  
Date: 2023.03.24 08:12:49  
+0700

---

Joel D. Cook  
Chief Operating Officer

Date: 3/24/2023



## Department of Energy

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

TRANSMISSION SERVICES

March 18, 2020

In reply refer to: TP-DITT-2

Contract No. 20TX-16835  
Letter Agreement

Mr. Richard Vail, Vice President of Transmission  
PacifiCorp  
825 NE Multnomah Street, Suite 1600  
Portland, Oregon 97232

Mr. Ryan Adelman, Vice President,  
Transmission and Distribution Engineering and Construction  
Idaho Power Company  
1221 W. Idaho Street  
Boise, ID 83707

RE: Agreement to Reimburse Bonneville Power Administration's Removal and  
Replacement Related Transaction Costs

Dear Gentleman:

As you are aware, the Boardman to Hemingway (B2H) Project desires to repurpose 7.1 miles of Bonneville Power Administration's (BPA) existing right of way on the U.S. Department of the Navy Naval Weapons Systems Training Facility (NWSTF) Boardman property. Idaho Power Company (Idaho Power), as permitting project manager for the B2H Project, submitted an easement application to the Navy. Since BPA's Boardman to Lone No. 1 transmission line (BPA Line) currently utilizes the NWSTF Boardman property right-of-way that the B2H Project proposes to use, the Navy is requiring a commitment from BPA to remove the BPA Line if the B2H Project is constructed.

On May 13, 2019, BPA issued a Record of Decision agreeing to remove the BPA Line contingent upon two requirements. First, BPA must enter an agreement to make the B2H Project legally responsible for BPA's costs of removing the BPA Line, including construction of a step down substation, tap line and tap, and other necessary construction or reconfigurations to accommodate the removal (Removal and Replacement Related Transactions). Second, BPA must ensure it can continue to provide reliable and cost-effective transmission service to Columbia Basin Electric Cooperative (Columbia Basin).

With regard to the first requirement, Idaho Power and PacifiCorp have provided verbal and email assurances to BPA regarding the payment or reimbursement of BPA's Removal and Replacement Related Transaction costs by the B2H Project.

This Letter Agreement (Agreement) formally documents the understanding and commitments of BPA, Idaho Power, and PacifiCorp with regard to payment or reimbursement of BPA's Removal and Replacement Related Transaction costs. The obligations and responsibilities in this Agreement are set forth below and shall continue in effect until satisfied so long as Idaho Power and PacifiCorp are participants in the development and construction of the B2H Project, as provided in Boardman to Hemingway Transmission Project Joint Permit Funding Agreement, dated January 12, 2012, as amended, by and among BPA, Idaho Power and PacifiCorp (the Permitting Agreement). For the purposes of this Agreement, each of BPA, Idaho Power, and PacifiCorp may be referred to individually as a "Party" and collectively as the "Parties."

**1. BPA's Removal and Replacement Related Transactions and Costs**

If the B2H Project is constructed and contingent upon payment or reimbursement to BPA as provided in Section 2 below:

- (a) BPA will be responsible for the following Removal and Replacement Related Transactions:
  - (1) Removal of the BPA Line from the NWSTF Boardman property, including the removal of any abandoned line segments of BPA's Boardman to Lone line north or south of the Navy property;
  - (2) Reconfiguration of the new Umatilla Electric Cooperative's Wheatridge Wind line being built to provide a tap point for BPA's new tap line to enable BPA to connect to Columbia Basin and provide continued service to Columbia Basin;
  - (3) Construction of the BPA tap line and step down substation, and any reconfiguration of BPA's or Columbia Basin's existing lines necessary to connect to Columbia Basin and provide continued service; and
  - (4) Any communication or control modifications or additions at BPA's Boardman and Morrow Flat substation that are necessary to complete the Removal and Replacement Related Transactions described above.
- (b) BPA will conduct the Removal and Replacement Related Transactions in accordance with federal law and to BPA's standards and requirements.
- (c) BPA's costs associated with the Removal and Replacement Related Transactions set forth in Section 1(a) include, but are not limited to, planning, scoping, project management, environmental and cultural review (as required by federal and state law), land surveying, mapping, photogrammetry, roads design and construction, appraisal and acquisition of land rights according to federal law (substation, related facilities and an

access road), geotech, siting, design in accordance with BPA's standards and requirements, materials, communications, metering, control, construction, environmental and cultural mitigation, and all associated overhead expenses.

## **2. Payment or Reimbursement to BPA**

- (a) BPA's Removal and Replacement Related Transaction costs are directly related to the development and construction of the B2H Project. Pursuant to the Permitting Agreement, the development and construction of the B2H Project and payment of associated costs will be set forth in Definitive Development and Construction Agreements (DDCA), which has the meaning set forth in the Permitting Agreement. To give effect to the purposes of this Agreement, each Party is jointly and separately responsible for ensuring that the DDCA (or, in the absence of the DDCA, any other agreements providing for the development and construction of the B2H Project) includes requirements to reimburse or pay BPA for BPA's reasonable, actual costs with respect to the Removal and Replacement Related Transactions as set forth in Section 1 ("BPA's Reimbursement"), without regard to whether BPA is a party to the DDCA or such other agreements.
- (b) Prior to incurring any costs subject to BPA's Reimbursement, BPA must conduct a joint meeting with authorized representatives of Idaho Power and PacifiCorp to review the estimated costs and supporting documentation to complete the Removal and Replacement Related Transactions. Idaho Power and PacifiCorp shall have ten (10) calendar days after the meeting to dispute the estimated costs. Any dispute of estimated costs must also be accompanied by a statement providing the basis for the dispute and proposing solutions to resolve the issues resulting in the dispute. The Parties shall work in good faith to timely resolve any disputes over the estimated costs. If the authorized representatives of the Parties are unable to resolve the dispute, the dispute shall be referred to designated senior representatives of the Parties for resolution as promptly as practicable. BPA does not intend to conduct Removal and Replacement Related Transactions until the Parties have resolved disputes of estimated costs.
- (c) If BPA is a party to the DDCA, BPA's Reimbursement may be credited to BPA's share of the costs of the B2H Project. Such credit is considered an acceptable form of payment or reimbursement to BPA.
- (d) If BPA is not a party to the DDCA (or, alternatively, other agreements providing for the development and construction of the B2H Project), Idaho Power and PacifiCorp will ensure that BPA receives BPA's Reimbursement.
- (e) If any Party sells, assigns, transfers or conveys its interests in the DDCA (or other agreements providing for the development or construction of the B2H Project) as provided by the terms of those agreements, ("Assignor") to an affiliate of the Party or a third party ("Assignee"), the effectiveness of such sale, assignment, transfer or conveyance shall be conditioned upon Assignor

ensuring BPA's Reimbursement will be paid in full consistent with this Agreement.

**3. Timing of Removal and Replacement Related Transactions**

BPA does not intend to conduct Removal and Replacement Related Transactions until after the DDCA (or other alternative agreements providing for the development and construction of the B2H Project) is in effect and BPA is assured receipt of BPA's Reimbursement consistent with Section 2 above. Removal and Replacement Related Transactions may be conducted in a phased approach.

**4. BPA NEPA Requirements**

BPA has certain obligations and responsibilities under the federal National Environmental Policy Act (NEPA) and other applicable governmental requirements that must be fulfilled before it can make a definitive decision concerning whether to participate in development and construction of the B2H Project. Nothing in this Agreement or BPA's May 13, 2019, decision to remove the BPA Line if the B2H Project is built shall be construed as obligating or committing BPA to enter into the DDCA (or other alternative agreements providing for the development and construction of the B2H Project) before the NEPA review process for the B2H Project has been completed and BPA has made a decision regarding how to proceed.

**5. Negotiation of other Agreements**

The Parties will negotiate in good faith the terms and conditions of all agreements referenced herein to assure BPA receives BPA's Reimbursement consistent with this Agreement.

**6. Notices**

Any notice or other communication related to this Agreement shall be delivered in person, or with proof of receipt by email, facsimile, First Class mail or overnight delivery service. Notices are effective on the date received. Either party may change the contact information by providing notice of such change to the following person and address:

**To Idaho Power Company:**

1221 West Idaho Street  
Boise, ID 83702  
Attention: Vice President,  
Transmission and Distribution  
Engineering and Construction  
Phone: (208) 388-2546  
Fax: (208) 388-2741  
Email: [radelman@idahopower.com](mailto:radelman@idahopower.com)

**To Bonneville Power Administration:**

P.O. Box 61409  
Vancouver, WA 98666  
Attention: Senior Vice President,  
Transmission Services  
Phone: (360) 619-6016  
Fax: (360) 619-6940  
Email: [txsalescontracts@bpa.gov](mailto:txsalescontracts@bpa.gov)

**To PacifiCorp:**

825 NE Multnomah Street, Suite 1600  
Portland, OR 97232  
Attention: Vice President,  
Transmission Services  
Phone: (503) 813-6712  
Email: [Richard.Vail@pacificorp.com](mailto:Richard.Vail@pacificorp.com)

**7. Amendments**

No amendment of this Agreement shall be of any force or effect unless set forth in a written instrument signed by authorized representatives of each Party.

**8. Governing Law**

This Agreement shall be governed by and construed in accordance with the laws of the United States.



This Agreement may be executed in several counterparts, all of which taken together will constitute one single agreement. Please electronically sign the flagged signature field in this Agreement, and return by email to [txsalescontracts@bpa.gov](mailto:txsalescontracts@bpa.gov) by close of business on April 2, 2020. Alternatively, Idaho Power and PacifiCorp may print, sign, date, and scan this Agreement into a PDF file and return by email or send a paper copy of this Agreement to one of the following addresses by the date stated above:

First Class Mail

Bonneville Power Administration  
Mail Stop: TSE/TPP-2  
P.O. Box 61409  
Vancouver, WA 98666-1409

Overnight Delivery Service

Bonneville Power Administration  
Mail Stop: TSE/TPP-2  
905 NE 11<sup>th</sup> Avenue  
Portland, OR 97232

If you have any questions regarding this letter, please contact Craig Hardin at (360) 619-6011.

Sincerely,

JEFFREY  
COOK

Digitally signed by JEFFREY  
COOK  
Date: 2020.03.18 13:19:15  
+07'00'

Jeffrey W. Cook  
Vice President, Planning and Asset Management

IDAHO POWER COMPANY

PACIFICORP

By: \_\_\_\_\_

By: **Rick Vail** Digitally signed by Rick Vail  
Date: 2020.03.19 08:19:57  
+07'00'

Title: \_\_\_\_\_

Title: Vice President, Transmission

If opting out of the electronic signature:

If opting out of the electronic signature:

By: \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_  
(Print/Type)

Name: \_\_\_\_\_  
(Print/Type)

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

bcc:

J. Cook – TP-DITT-2

E. Carter – TSE/TPP-2

C. Hardin – TSE/TPP-2

T. Mussen – TSES/TPP-2

T. Poyner – TSES/TPP-2

CCM\_Support

Official File – CCM (Idaho Power Company, 20TX-16835)

Official File – CCM (PacifiCorp, 20TX-16835)





**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

in reply refer to: PMTT

Exhibit B  
Table 8, Page 1 of 4  
Contract No. DE-MS79-86BP92277  
Effective on the Effective Date

Mr. Richard E. Dyer  
Vice President  
Marketing and Supply  
Utility Operations  
Portland General Electric Company  
121 SW Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

Representatives of the Bonneville Power Administration (Bonneville) and Portland General Electric (Company) have agreed that it would be mutually beneficial to make certain replacements and upgrades at the Grizzly Substation in order to protect substation equipment and maintain the integrity of the power system with the costs being shared by the parties. This contract provides for replacement of indoor power line carrier equipment for PGE's Round Butte-Grizzly 500 kV transmission line, battery chargers, and SCADA Remote Terminal Unit (RTU) at Grizzly Substation.

I therefore propose that Bonneville make the above replacements and upgrades under the Bonneville-Company Grizzly Substation Construction Trust Agreement (Contract No. DE-MS79-86BP92277). Accordingly, Bonneville and the Company hereby agree to the following terms and conditions:

1. Effective Date. Table 8 shall be effective on 2400 hours on the date (Effective Date) which shall be the later of (a) Bonneville receives both (1) an original signed copy of this Table 8 by the Company and (2) payment from the Company in the amount of the trust deposit specified in Section 3; or (b) acceptance for filing by the Federal Energy Regulatory Commission of this Table 8.
2. Cost Sharing.
  - (a) The estimated total project cost for the replacement of the indoor power line carrier equipment, battery chargers and SCADA Remote Terminal Unit

(RTU) at Grizzly Substation is \$133,000 which includes appropriate overheads. Costs for the project shall be shared as follows:

<u>Party</u>	<u>Cost Share Percentage</u>	<u>Estimated Share of Project Cost (\$)</u>
BPA	60	79,800
<u>PGE</u>	<u>40</u>	<u>53,200</u>
Total	100	133,000

The estimated total cost for each of the three separate projects is as follows:

- (1)(a) indoor power line carrier equipment replacement: \$20,000
- (1)(b) indoor power line carrier equipment: \$19,000
- (2) battery charger replacement: \$21,000
- (3) RTU replacement: \$73,000

(b) The Company's share of the project cost shall be reduced to take into account the estimated cost, including overheads, of the indoor power line carrier equipment provided by the Company.

Company's estimated share of project cost:	\$53,200
<u>Credit for power line carrier equipment:</u>	<u>\$19,000</u>

Company's remaining obligation:	\$34,200
---------------------------------	----------

(c) Final sharing of project joint costs shall be based on actual costs including appropriate overheads. The overheads are fixed at the Effective Date of this Table 8.

3. Trust Deposit. The Company shall pay Bonneville \$34,200 (\$53,200 - \$19,000) to be held in an account (Trust Deposit) established for the project to defray the Company's estimated share of the cost to the Government of performing the duties specified in Section 4.

4. Duties of Bonneville. Bonneville shall:

- (a) design, procure, install, and test the dual 75 amp battery charger system at Grizzly Substation;
- (b) design, install, and jointly test with the Company the power line carrier system used on the (PGE) Round Butte 500 kV line terminal at Grizzly Substation; and
- (c) design, procure, install, and test the SCADA RTU which replaces the existing GETAC unit.

5. Duties of the Company. The Company shall:

- (a) provide the indoor transmitter, receiver, and test panel equipment for the power line carrier system to Bonneville at Grizzly Substation;
- (b) test the power line carrier system jointly with Bonneville; and
- (c) make payment as required in sections 1 and 3.

6. Ownership. Title to and ownership of the facilities and equipment installed under this Table 8 shall be in accordance with section 5(a) of the Grizzly Substation Trust Agreement (Contract No. 14-03-56747), as amended, whereby an undivided sixty percent (60%) interest shall be and remain in the Government, and an undivided forty percent (40%) interest shall be and remain in the Company.

7. Operation and Maintenance of Facilities. Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), whereby the Company shall pay Bonneville forty percent (40%) of the total cost of maintaining the jointly-owned facilities at Grizzly Substation.

If the terms of this Table 8 are acceptable to the Company, please indicate your acceptance by signing both enclosed copies and returning both copies with a check in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to the Company.

Sincerely

(b)(6)

Administrator

Name John S. Robertson

(Print/Type)

Effective Date May 4, 1994

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By

Name Fred H. Lamoureux

(Print/Type)

Title Vice President

Date May 3, 1994

BALTMAN:bda:5307:12/23/93 (PMTT-8180-C:\BA\K\PGE\92277K2.DOC)

## Contract Administration Responsibilities

Contract: Trust Table No. 8 to the Grizzly Construction Trust Agreement with Portland General Electric Company (PGE), Contract No. DE-MS79-86BP92277.

Related Agreements: None.

Prior Agreements: Trust Tables 1 through 7.

Power Revenues Branch. No billing responsibilities as payments will be handled by OFM.

Snake River Area Office. This revision will have no impact other than continued O&M responsibilities.

O&M Responsibilities. Operation and maintenance of the facilities and equipment installed under Table 8 shall be in accordance with Contract No. 14-03-73941, whereby PGE shall pay Bonneville 40% of the total costs.

Financial Management. True up the actual costs for the work performed and reimburse or bill PGE the remainder as appropriate.

BALTMAN:BDA:5307:12/23/93 (PMTT-8180-C\BA\K\PGE\92277CAR.DOC)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208 - 3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: PMT

August 24, 1990

Exhibit B  
Table 6 - Page 1 of 6  
Contract No. DE-MS79-86BP92277  
Effective: See "Term" Below

Mr. Richard E. Dyer  
Vice President, Power Management  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

Representatives of Bonneville Power Administration (Bonneville) and Portland General Electric Company (Company) desire to supersede the July 28, 1988, version of this Table 6 executed July 29, 1988, with this August 24, 1990, version of Table 6.

Representatives of Bonneville and the Company agree that it would be mutually beneficial if Bonneville made certain significant changes and additions at jointly-owned Grizzly Substation (Grizzly) to upgrade the existing Pacific Northwest-Pacific Southwest AC and HVDC Intertie Stability Control System (Upgrade Project), with the costs being shared by the parties. Authorized Phase 1 of the Upgrade Project has all but been completed.

Under proposed Phases 2 & 3 of the Upgrade Project at Grizzly, the Intertie Stability Control System will attain the necessary reliability, security, and flexibility to meet and exceed current and anticipated Western Systems Coordinating Council (WSCC) operating standards by essentially replacing the existing system with a new system capable of fully redundant operation.

Energization for Phase 2 and Phase 3 is planned for February 1991.

I therefore propose that Bonneville make the above Phase 2 and Phase 3 replacement and upgrade of the Intertie Stability Control System at Grizzly under the Bonneville-Company Grizzly Construction Trust Agreement (Contract No. DE-MS79-86BP92277) and the following terms and conditions:

1. Term. Table 6 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received an original signed copy of this Table 6 and a check from the Company in the amount of the Trust Deposit specified in subsection 3(c).

## 2. Cost Sharing.

(a) The estimated project joint costs for Bonneville to make the Phase 2 and Phase 3 replacement and upgrade of the existing Intertie Stability Control System at Grizzly are \$707,000. The actual amount is to be shared by the parties in proportion to the cost sharing percentages referenced in subsection 9(f) of the Bonneville-Company Intertie Agreement (Contract No. DE-MS79-87BP92340) and as indicated in Figure 1(a) below. The Company's estimated share of the total joint costs is \$283,000.

The estimated project total costs for Bonneville to make the above-mentioned replacement and upgrade (including installation of auxiliary "b" switches on Bonneville and Company MOD's) at Grizzly is \$738,000 as indicated in Figure 1(b) below. The Company's estimated share of project total costs is \$293,000.

<u>PROJECT JOINT COSTS</u>		
<u>Party</u>	<u>Cost Sharing Percentage (%)</u>	<u>Estimated Share of Phase 2 &amp; Phase 3 Joint Costs (\$)</u>
Bonneville	60.0	424,000
Portland General Electric Company	<u>40.0</u>	<u>283,000</u>
Total	100.0	707,000 <u>1/</u>

1/ Cost estimates include 30 percent overheads.

Figure 1 (a)

Final sharing of project joint costs will be based on actual costs, including 30 percent overheads for the Company, as described in subsection 2(b) and estimated costs as modified in accordance with subsection 2(c).

## PROJECT TOTAL COSTS

Party	Project Joint Costs From Figure 1(a) Above (\$)	MOD Auxiliary "b" Switch Installation		Project Total Costs (\$)
		Responsibility for	Costs (\$)	
Bonneville	424,000	own "b" switch installation	21,000	445,000
Portland General Electric Company	283,000	own "b" switches as installed by Bonneville.	10,000	293,000
Total	<u>707,000</u>		<u>31,000</u>	<u>738,000</u> <sup>1/</sup>

<sup>1/</sup> Cost estimates include 30 percent overheads.

## Figure 1 (b)

Final sharing of project total costs will be based on actual costs, including 30 percent overheads for the Company, as described in subsection 2(b) and estimated costs as modified in accordance with subsection 2(c).

(b) The Company's share of the Upgrade Project at Grizzly consists of the following four components:

- (1) Direct Specific Substation Costs which are 40 percent of (WO 827-536) actual (final) costs plus a 30 percent overhead charge. This amount is estimated to be \$231,000.
- (2) Line Loss Logic Prototype Costs (WO 827-517) which are based on the ratio of the number of Line Loss Logic Units at Grizzly to the total number of Upgrade Project Line Loss Logic Units. This amount is estimated to be \$19,000. Final billing will be based on WO 827-517 actual (final) charges. The formula is shown in section (a) of Attachment 1.
- (3) Upgrade Project Coordination, Project Management, and Testing Costs (WO 827-546) which are based on the ratio of the Grizzly specific substation costs to the total Upgrade Project costs. This amount is estimated to be \$33,000. The formula is shown in section (b) of Attachment 1.
- (4) Auxiliary "b" Switch Installation Costs which are estimated to be \$10,000. This estimated costs includes an assessment of \$1,300 representing the costs of Coordination, Project Management, and Testing associated with the installation of the auxiliary "b" switches, the formula for which is shown in section (b) of Attachment 1.



(c) Final billing of WO 827-546 charges to the substations will be based on the above subsection 2(b) and Attachment 1 formulas, except the actual (final) charges to WO 827-546 (Holding), WO 827-521 (Fort Rock), WO 827-534 (Malin), and WO 827-536 (Grizzly), will be used instead of estimated values in all calculations. The value of \$SCU used in the final billing formulas will be the best available estimate of final cost at the time WO 827-546 is closed. (This estimated cost will reflect the actual costs for WO's 827-546, 827-521, 827-534, 827-536, and any other Work Orders that have been closed, as well as any revisions made to the remaining estimates to account for mutually approved project scope changes or cost adjustments.)

3. Trust Deposit. The Company agrees to pay \$293,000 to Bonneville to be held in an account established for this project to defray the Company's share of the cost to the Government of performing the duties specified in subsections 4(a) and 4(c). The Company shall pay the Trust Deposit as follows:

- (a) \$156,500 on the date of execution of the July 28, 1988, version of this Table 6;
- (b) \$82,500 by 17 months after the date of execution of the July 28, 1988, version of this Table 6.
- (c) \$32,500 (\$54,000 less credit from Table 7 of this Contract No. 92277 of \$21,500) on the date of execution hereof.

4. Duties of Bonneville. Bonneville shall design, provide all necessary labor and materials, and, within 7 months after the Effective Date of this Table 6, complete Phase 2 and Phase 3 replacement and upgrade of the existing Intertie Stability Control System at Grizzly, including:

- (a) at joint Bonneville-Company expense as shown in Figure 1:
  - (1) installation and testing of eight Line Loss Logic panels;
  - (2) installation and testing of eight sets of Integrated Microwave Transfer Trip equipment to integrate the subsection 4(a)(1) Line Loss Logic panels into the said stability control system;
  - (3) integration into the Line Loss Logic of MOD auxiliary "b" switches installed by Bonneville pursuant to subsections 4(b) and 4(c); and
  - (4) installation of required cables and conduit to integrate all MOD auxiliary "b" switches installed hereunder into the Line Loss Logic;

(b) at Government expense, installation of auxiliary "b" switches to the following Government-owned motor-operated disconnect switches (MOD's) for the integration of such "b" switches into the Line Loss Logic:

Bay 2 MOD's		Bay 4 MOD's	
Construction Number	Owner	Construction Number	Owner
21E	Government	41E	Government
23E	Government	43E	Government
24E	Government	44E	Government
26E	Government		

Figure 2

(c) at Company expense, installation of auxiliary "b" switches to the following Company-owned MOD's for Bonneville's integration of such "b" switches into the Line Loss Logic:

Bay 2 MOD's		Bay 4 MOD's	
Construction Number	Owner	Construction Number	Owner
27E	Company	47E	Company
29E	Company	49E	Company

Figure 3

5. Duties of the Company. The Company shall cooperate with Bonneville as necessary for Bonneville to complete the Phase 2 and Phase 3 replacement and upgrade (including installation and testing) specified in section 4. The Company shall make payment as required in sections 1 and 3.

6. Ownership. Title to and ownership of the MOD auxiliary "b" switches installed under subsections 4(b) and 4(c) of this Table 6 shall be in the Government and the Company respectively. Title to and ownership of subsection 4(a) facilities and equipment installed under this Table 6, shall be in accordance with subsection 9(f) of Contract No. DE-MS79-87BP92340 and subsection 5(a) of Contract No. 14-03-56747, and as indicated by the cost sharing percentages in Figure 1(a) of section 2 above.

7. Operation and Maintenance. Bonneville will operate and maintain the subsections 4(a) and 4(b) facilities and equipment installed hereunder and operate the Company's subsection 4(c) facilities and equipment installed hereunder in accordance with the Grizzly O&M Trust Agreement (Contract No. 14-03-73941). The Company's share of the cost of operating and

maintaining the subsection 4(a) facilities and equipment shall be the percentage specified in subsection 9(f) of Contract No. DE-MS79-87BP92340 and indicated in Figure 1(a) of section 2 above. Bonneville will operate and maintain the Government's subsection 4(b) facilities and equipment at Government expense. The Company will maintain its subsection 4(c) facilities and equipment at its own expense.

8. Microwave Facilities. All microwave facilities at Grizzly are solely owned, operated, and maintained by Bonneville at Government expense. Accordingly, Bonneville shall own and make all additions, modifications, and replacements to microwave facilities for the Upgrade Project, and shall operate and maintain these facilities at Government expense.

9. Upgrade Project System Work Order (WO) Costs Spreading. Attachment 1 contains the derivation and application of formulas used to spread the costs of Upgrade Project system work orders to Grizzly Substation. The estimated spread costs are included in Figures 1(a) and 1(b) (see subsection 2(b)). Attachment 1 is hereby made a part of this Agreement.

If this revised Table 6 is acceptable to the Company, please indicate your approval by signing and returning two original copies to Bonneville. Bonneville will transmit a fully executed original copy for your records.

Bonneville hereby acknowledges receipt of the Company's payment in the amount of the Trust Deposit specified in subsections 3(a) and 3(b).

Sincerely,

(b)(6)

ACTING Administrator

Effective Date 10/04/90

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By

Title Senior Vice President

Date 10-1-90

(VS6-PMTT-3128e)

## ATTACHMENT 1

### Stability Control Upgrade Project System Work Order (WO) Costs Spreading.

Upgrade Project System WO costs are spread or distributed to associated Intertie Upgrade Project substations according to the following methodology with specific application to Grizzly Substation.

#### (a) WO 827-517 (Line Loss Logic Prototype)

##### Trust Tables

Estimated costs in the Trust Tables are based on Estimate EC-7788-1, and proportioned to the associated substations in accordance with the ratio of the number of Line Loss Logic Units (LLL) at the substation to the total number of LLLs (28). When the estimated costs are spread to a shared-cost substation, they are allocated to each participant at that substation in proportion to the ratios referenced in the Construction Trust Agreement for that substation. The estimated cost for WO 827-517 is \$128,000 (direct cost), resulting in the following spreading formulas for the Trust Tables:

$$T_{LLL} = \text{Total Line Loss Logic Units} = 28$$

$$S_{LLL} = \text{Number of Line Loss Logic Units at Station}$$

$$\$827-517 = \text{Estimated Direct Cost, WO 827-517} = \$128,000$$

$$D_S = \text{Estimated Direct Charges to Station} = (S_{LLL}/28) (\$128,000)$$

$$\%CUST = \text{Proportion of SCU station charges to be assessed to customer (as established in Trust Agreement).}$$

$$D_{CUST} = \text{Estimated direct station charges from WO 827-517 to be assessed to customer} = (D_S)(\%CUST)$$

$$\$CUST = \text{Total estimated station charges to customer (including 30\% Overheads) from WO 827-517} = (D_{CUST})(1.3)$$

#### Portland General Electric Company at Grizzly Substation

$$T_{LLL} = 28$$

$$S_{LLL} = 8$$

$$D_S = (8/28) (\$128,000) = \$36,600$$

$$\%CUST = 40\%$$

$$D_{CUST} = (\$36,600)(40\%) = \$14,600 \text{ (Direct)}$$

$$\$CUST = (\$14,600)(1.3) = \$19,000 \text{ (Including Overheads)}$$

(b) WO 827-546 (Coordination, Project Management, and Testing)

Trust Tables

Estimated costs in the Trust Tables are based on Estimates EC-8157-1 and EC-9086-1, and proportioned to the associated substations in accordance with the ratio of the substation-specific estimated direct cost to the total estimated project cost, less the estimated direct costs of the associated communication work orders and WO's 827-517 and 827-546. When the estimated costs are spread to a shared-cost substation, they are allocated to each participant at that substation in proportion to the ratios referenced in the Construction Trust Agreement for that substation. The estimated cost for WO 827-546 is \$940,000 (direct cost), resulting in the following spreading formulas for the Trust Tables:

$$T_{SCU} = \text{Total estimated direct project costs} = \$8,638,300$$

$$\begin{aligned} \$COM &= \text{Estimated direct cost, Communication Work Orders} \\ &= \$1,000,100 \end{aligned}$$

$$\$827-517 = \text{Estimated direct cost, WO 827-517} = \$128,000$$

$$\$827-546 = \text{Estimated direct cost, WO 827-546} = \$940,000$$

$$\$SCU = T_{SCU} - \$COM - \$827-517 - \$827-546 = \$6,570,200$$

$$\begin{aligned} S_{SCU} &= \text{Estimated direct cost of station-specific} \\ &\quad \text{non-communication SCU work orders.} \end{aligned}$$

$$\begin{aligned} D_S &= \text{Estimated direct charges to Station} \\ &= (S_{SCU} / \$6,570,200) (\$940,000) \end{aligned}$$

$$\begin{aligned} \%CUST &= \text{Proportion of SCU station charges to be assessed to} \\ &\quad \text{customer (as established in Trust Agreement).} \end{aligned}$$

$$\begin{aligned} D_{CUST} &= \text{Estimated direct station charges from WO 827-546 to be} \\ &\quad \text{assessed to customer} = (D_S) (\%CUST) \end{aligned}$$

$$\begin{aligned} \$CUST &= \text{Total estimated station charges to customer (including} \\ &\quad \text{30\% Overheads) from WO 827-546} = (D_{CUST}) (1.3) \end{aligned}$$

Portland General Electric Company at Grizzly Substation

$$\$SCU = \$6,570,200$$

$$S_{SCU}[827-536] = \$444,000 \text{ (EC-10098)}$$

$$D_S[827-536] = (\$444,000 / \$6,570,200) (\$940,000) = \$63,500$$

$$\%CUST[827-536] = 40\%$$

$$D_{CUST}[827-536] = (\$63,500) (40\%) = \$25,400 \text{ (Direct)}$$

$\$CUST[827-536] = (\$25,400) (1.3) = \$33,000$  (Including Overheads)

$\$SCU[BPA "b"] = \$14,000$  (SS-5033)

$DS[BPA "b"] = (\$14,000/\$6,570,200) (\$940,000) = \$2,000$

$\%CUST[BPA "b"] = 0\%$

$DCUST[BPA "b"] = (\$2,000) (0\%) = \$0$

$\$SCU[PGE "b"] = \$6,700$  (SS-6029)

$DS[PGE "b"] = (\$6,700/\$6,570,200) (\$940,000) = \$1,000$

$\%CUST[PGE "b"] = 100\%$

$DCUST[PGE "b"] = (\$1,000) (100\%) = \$1,000$  (Direct)

$\$CUST[PGE "b"] = (\$1,000) (1.3) = \$1,300$  (Including Overheads)

Portland General Electric Company at Grizzly Summary

$\$CUST[827-536] = \$33,000$

$\$CUST[PGE "b"] = \$1,300$

$\$CUST[PGE TOTAL] = \$34,300$  (Including Overheads)

(VS6-PMTT-3128e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208 - 3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: PMT

August 24, 1990

Exhibit B  
Table 7 - Page 1 of 4  
Contract No. DE-MS79-86BP92277  
Effective: See "Term" Below

Mr. Richard E. Dyer  
Vice President, Power Management  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

Representatives of Bonneville Power Administration (Bonneville) and Portland General Electric Company (Company) desire to supersede the July 28, 1988, version of this Table 7 executed July 29, 1988, with this August 24, 1990, version of Table 7.

Representatives of Bonneville and the Company agree that it would be mutually beneficial if Bonneville made certain necessary changes and additions in the Government's Fort Rock Capacitor Switching Station (Fort Rock) control house to upgrade the existing Pacific Northwest-Pacific Southwest AC and HVDC Intertie Stability Control System (Upgrade Project), with the costs being shared by the parties. Authorized Phase 1 of the Upgrade Project has all but been completed.

Under proposed Phase 2 of the Upgrade Project at Fort Rock, the Intertie Stability Control System will attain the necessary reliability, security, and flexibility to meet and exceed current and anticipated Western Systems Coordinating Council (WSCC) operating standards, by essentially replacing the existing system with a new system capable of fully redundant operations.

At Fort Rock, replacement and upgrade of the existing Stability Control System facilities and equipment in the Government's control house will improve AC Intertie stability by assuring the initiation of high speed insertion of the Government's and the Company's Fort Rock series capacitors when there is a significant loss of DC Intertie power.

Energization of HVDC stability controls for Phase 2 was completed in March 1989.

I therefore propose that Bonneville make the above Phase 2 replacement and upgrade of the Intertie Stability Control System at Fort Rock under the Bonneville-Company Grizzly Substation Construction Trust Agreement (Contract No. DE-MS79-86BP92277) and the following terms and conditions:

1. Term. Table 7 shall be effective as of 2400 hours on the date (Effective Date) that Bonneville has received an original signed copy of this Table 7 and a check from the Company in the amount of the Trust Deposit specified in section 3.

2. Cost Sharing.

(a) The estimated project joint costs for Bonneville to make the Phase 2 replacement and upgrade of the existing Intertie Stability Control System in the Government's control house at Fort Rock is \$56,000. The actual amount is to be shared by the parties in proportion to the cost sharing percentages referenced in subsection 9(f) of the Bonneville-Company Intertie Agreement (Contract No. DE-MS79-87BP92340) and as shown in Figure 1 below. The Company's estimated share is \$28,000.

<u>PROJECT JOINT COSTS</u>		
<u>Party</u>	<u>Cost Sharing Percentage (%)</u>	<u>Estimated Share of Phase 2 Joint Costs (\$)</u>
Bonneville	50.0	28,000
Portland General Electric Company	<u>50.0</u>	<u>28,000</u>
Total	100.0	56,000 <u>1/</u>

1/ Cost estimates include 30 percent overheads.

Figure 1

Final sharing of project joint costs will be based on actual costs, including 30 percent overheads for the Company, as described in subsection 2(b) and estimated costs as modified in accordance with subsection 2(c).

(b) The Company's share of the Upgrade Project at Fort Rock consists of the following components:

(1) Direct Specific Substation Costs which are 50 percent of (WO 827-521) actual (final) costs plus a 30 percent overhead charge. This amount is estimated to be \$24,500.

(2) Upgrade Project Coordination, Project Management, and Testing Costs (WO 827-546) which are based on the ratio of the Fort Rock specific substation costs to the total Upgrade Project costs. This amount is estimated to be \$3,500. The formula is shown in section (a) of Attachment 1.



(c) Final billing of WO 827-546 charges to the substations will be based on the above subsection 2(b) and Attachment 1 formulas, except the actual (final) charges to WO 827-546 (Holding), WO 827-521 (Fort Rock), WO 827-534 (Malin), and WO 827-536 (Grizzly), will be used instead of estimated values in all calculations. The value of \$SCU used in the final billing formulas will be the best available estimate of final cost at the time WO 827-546 is closed. (This estimated cost will reflect the actual costs for WO's 827-546, 827-521, 827-534, 827-536, and any other Work Orders that have been closed, as well as any revisions made to the remaining estimates to account for mutually approved project scope changes or cost adjustments.)

3. Trust Deposit. The Company paid \$49,500 to Bonneville following the date of execution of the July 28, 1988, version of this Table 7. This amount was held in an account established for the project to defray the Company's estimated share of the cost to the Government of performing the duties specified in section 4. The Company's overpayment (\$49,500-\$28,000), which equals \$21,500, shall be credited to offset the Trust Deposit due in subsection 3(c) of Table 6 of this Contract No. DE-MS79-86BP92277.

Bonneville shall make a final accounting for actual costs of the duties performed in section 4. Pursuant to section 6(c) of this Contract No. DE-MS79-86BP92277, Bonneville shall remit to the Company any remaining balance or bill the Company for any actual costs in excess of that balance.

4. Duties of Bonneville. Bonneville designed, provided all necessary labor and materials, and completed the Phase 2 replacement and upgrade of the existing Intertie Stability Control System in the control house at Fort Rock, including installation and testing of:

- (a) two sets of Integrated Microwave Transfer Trip equipment to integrate Fort Rock control facilities and equipment into the said stability control systems; and
- (b) the necessary interface wiring for initiation of high speed insertion of series capacitors in the Government's and the Company's Fort Rock Capacitor Switching Stations.

5. Duties of the Company. The Company cooperated with Bonneville as necessary for Bonneville to complete the Phase 2 replacement and upgrade (including installation and testing) specified in section 4. The Company made payment as required in sections 1 and 3.

6. Ownership. Title to and ownership of the facilities and equipment installed under this Table 7, shall be in accordance with subsection 9(f) of Contract No. DE-MS79-87BP92340 and subsection 5(c) of Contract No. 14-03-56747, and as indicated by the cost sharing percentages in Figure 1 of section 2 above.

7. Operation and Maintenance. Bonneville will operate and maintain the facilities and equipment installed hereunder in accordance with the Grizzly Substation O&M Trust Agreement (Contract No. 14-03-73941). Any provisions of Contract No. 14-03-73941 to the contrary notwithstanding, the Company's share of the cost of operating and maintaining such facilities and equipment shall be the percentage established under subsection 9(f) of Contract No. DE-MS79-87BP92340 and indicated in Figure 1 of section 2 above.

8. Microwave Facilities. All microwave facilities at Fort Rock are solely owned, operated, and maintained by Bonneville at Government expense. Accordingly, Bonneville shall own and make all additions, modifications, and replacements to microwave facilities for the Upgrade Project, and shall operate and maintain these facilities at Government expense.

9. Upgrade Project System Work Order (WO) Costs Spreading. Attachment 1 contains the derivation and application of formulas used to spread the costs of Upgrade Project system work orders to Fort Rock Capacitor Switching Station. The estimated spread costs are included in Figure 1 (see subsection 2(b)). Attachment 1 is hereby made a part of this Agreement.

If this revised Table 7 is acceptable to the Company, please indicate your approval by signing and returning two original copies to Bonneville. Bonneville will transmit a fully executed original copy for your records.

Bonneville hereby acknowledges receipt of the Company's payment in the amount of the Trust Deposit specified in section 3.

Sincerely,

(b)(6)

ACTING Administrator

Effective Date 10/04/90

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By

Title Senior Vice President

Date 10-1-90

(VS6-PMTT-3131e)

## ATTACHMENT 1

### Stability Control Upgrade Project System Work Order (WO) Costs Spreading.

Upgrade Project System WO costs are spread or distributed to associated Intertie Upgrade Project substations according to the following methodology with specific application to the Fort Rock Capacitor Switching Station.

#### (a) WO 827-546 (Coordination, Project Management, and Testing)

##### Trust Tables

Estimated costs in the Trust Tables are based on Estimates EC-8157-1 and EC-9086-1, and proportioned to the associated substations in accordance with the ratio of the substation-specific estimated direct cost to the total estimated project cost, less the estimated direct costs of the associated communication work orders and WO's 827-517 and 827-546. When the estimated costs are spread to a shared-cost substation, they are allocated to each participant at that substation in proportion to the ratios referenced in the Construction Trust Agreement for that substation. The estimated cost for WO 827-546 is \$940,000 (direct cost), resulting in the following spreading formulas for the Trust Tables:

$$TSCU = \text{Total estimated direct project costs} = \$8,638,300$$

$$\begin{aligned} \$COM &= \text{Estimated direct cost, Communication Work Orders} \\ &= \$1,000,100 \end{aligned}$$

$$\$827-517 = \text{Estimated direct cost, WO 827-517} = \$128,000$$

$$\$827-546 = \text{Estimated direct cost, WO 827-546} = \$940,000$$

$$\$SCU = TSCU - \$COM - \$827-517 - \$827-546 = \$6,570,200$$

$$\begin{aligned} \$SCU &= \text{Estimated direct cost of station-specific} \\ &\quad \text{non-communication SCU work orders.} \end{aligned}$$

$$\begin{aligned} D_S &= \text{Estimated direct charges to Station} \\ &= (\$SCU / \$6,570,200) (\$940,000) \end{aligned}$$

$$\begin{aligned} \%CUST &= \text{Proportion of SCU station charges to be assessed to} \\ &\quad \text{customer (as established in Trust Agreement).} \end{aligned}$$

$$\begin{aligned} DCUST &= \text{Estimated direct station charges from WO 827-546 to be} \\ &\quad \text{assessed to customer} = (D_S) (\%CUST) \end{aligned}$$

$\$CUST$  = Total estimated station charges to customer (including 30% Overheads) from WO 827-546 =  $(DCUST) (1.3)$

Portland General Electric Company at Fort Rock Capacitor Switching Station

$\$SCU = \$6,570,200$

$\$SCU [827-521] = \$38,000 (EC-7795-2)$

$D_S [827-521] = (\$38,000/\$6,570,200)(\$940,000) = \$5,400$

$\%CUST [827-521] = 50\%$

$DCUST [827-521] = (\$5,400)(50\%) = \$2,700 (Direct)$

$\$CUST [827-521] = (\$2,700)(1.3) = \$3,500 (including Overheads)$

(VS6-PMTT-3131e)



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

**AUG 11 1992**

OFFICE OF THE ADMINISTRATOR

In reply refer to: PMTT

Exhibit B  
Table 9, Page 1 of 4  
Contract No. DE-MS79-86BP92277  
Effective on the Effective Date

Mr. Richard E. Dyer  
Vice President  
Marketing and Supply  
Utility Operations  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

Representatives of the Bonneville Power Administration (Bonneville) and Portland General Electric Company (Company) have agreed to provide the remedial action scheme, relaying, controls, and data systems at jointly-owned Grizzly Substation (Grizzly) for bays 2, 3, and 4 and the North and South Busses, Buckley and Summer Lake 500 kV line terminals, and the Company's Round Butte line terminal (Power System Controls). On July 29, 1988, the parties executed an Intertie Agreement, Contract No. DE-MS79-87BP92340, as amended, which established cost-sharing principles between the parties for the Joint AC Intertie. The Power System Controls are required for the Joint AC Intertie as identified in Exhibit B of the Intertie Agreement.

Accordingly, Bonneville and the Company hereby agree to the following terms and conditions:

1. Effective Date. Table 9 shall be effective on 2400 hours on the date (Effective Date) that Bonneville receives both (1) an original signed copy of this Table 9 by the Company; and (2) payment from the Company in the amount of the Trust Deposit specified in section 3.

2. Cost Sharing. The estimated cost of the Power System Controls is \$4,665,000 which includes appropriate overheads. Such costs shall be shared as follows:

<u>Party</u>	<u>Cost Share Percentage</u>	<u>Estimated Share of Power System Controls (\$)</u>
BPA	73	3,405,450
PGE	27	1,259,550
Total	100	4,665,000

Final sharing shall be based on actual costs including appropriate overheads. The overheads are fixed at the Effective Date of this Table 9.

3. Trust Deposit. The Company shall pay Bonneville \$1,259,550 to be held in an account (Trust Deposit) established for the Power System Controls to defray the Company's estimated share of the cost to the Government of performing the duties specified in section 4. The Company shall pay the Trust Deposit as follows:

- (a) \$895,000 on the date of execution of this Table 9; and
- (b) \$364,550 on March 1, 1993.

4. Duties of Bonneville. Bonneville shall:

- (a) design the Power System Controls, specifically:
  - (1) design, procure, and install the protective relaying scheme for the John Day Nos. 1 and 2 500 kV Lines, Captain Jack 500 kV line, Malin No. 2 500 kV line, and North and South buses;
  - (2) design, procure, and install control and data systems for the 500 kV PCB and MOD additions/replacements associated with bays 3, 4, and 6;
  - (3) design, procure, and install required line loss logic associated with items 4(a)(1) and 4(a)(2) above and test to the Remedial Action Scheme Central Controllers;
  - (4) add relaying and SCADA SER points associated with the new PCB in Bay 4 and the Company's reconfigured Round Butte line terminal;
  - (5) design, procure, and install the control, protective relaying schemes, and data systems for the Buckley and Summer Lake 500 kV line terminals;
  - (6) design, procure, and install required Line Loss Logic associated with item 4(a)(5) above and test to the Remedial Action Scheme Central Controllers;
- (b) forward the design for the Power System Controls to the Company for its review and comment;
- (c) purchase all related materials;
- (d) use its best efforts to install the Power System Controls in accordance with the design by December 1, 1992, for the items 4(a)(1)

through 4(a)(4) and by November 30, 1993, for the items 4(a)(5) and 4(a)(6) of this Table 9;

(e) test the Power System Controls jointly with the Company; and

(f) within a reasonable time, after completion of Bonneville's duties pursuant to section 4, forward to the Company a final accounting of the actual cost for installation of the Power System Controls.

5. Duties of the Company. The Company shall:

(a) review and comment on Bonneville's designs for the Power System Controls; and

(b) test the Power System Controls jointly with Bonneville.

6. Ownership. Title to and ownership of the facilities and equipment installed under this Table 9 shall be in accordance with section 8 of the Grizzly Substation Trust Agreement (Contract No. 14-03-56747), as amended, whereby an undivided sixty percent (60%) interest shall be and remain in the Government, and an undivided forty percent (40%) interest shall be and remain in the Company.

7. Operation and Maintenance of Facilities. Operation and maintenance of the facilities and equipment installed hereunder shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), whereby the Company shall pay Bonneville forty percent (40%) of the total cost of maintaining the jointly-owned facilities at Grizzly Substation.

If the terms of this Table 9 are acceptable, please indicate your acceptance by signing both enclosed copies and returning both copies with a check in the

Exhibit B  
Table 9, Page 4 of 4  
Contract No. DE-MS79-86BP92277  
Effective on the Effective Date

amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to the Company.

Sincerely,

(b)(6)

**ACTING** Administrator

STEVEN G. HICKOK

(Print/Type)

Effective Date AUG 11 1992

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By

Title Vice President  
(Print/Type)

Date July 31, 1992

(VS6-PMTT-3451e)





**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

September 23, 1993

OFFICE OF THE ADMINISTRATOR

In reply refer to: PMTT

Exhibit B, Table 12  
Page 1 of 3  
Contract No. DE-MS79-86BP92277  
Effective at 2400 Hours On  
the Effective Date

Mr. Richard E. Dyer  
Vice President  
Marketing and Supply  
Utility Operations  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

On July 29, 1988, Bonneville Power Administration (Bonneville) and Portland General Electric Company (Company) executed Contract No. DE-MS79-87BP92340 (Intertie Agreement) which, among other things, provides the Principles for the Plan-of-Service to increase the Rated Transfer Capability of the Northwest AC Intertie to 4800 MW. On September 9, 1992, the parties executed Trust Table No. 10 to this Agreement which provided for, among other things, the construction of a 500 kV dead-end tower (Dead-End Tower) in the Company's 500 kV Malin No. 2 line. This Trust Table No. 12 (Trust Table 12) provides for the reconnection of the Company's Malin No. 2 500 kV transmission line to the Dead-End Tower (Reconnection).

Accordingly, Bonneville and the Company hereby agree to the following terms and conditions:

1. Effective Date. This Table 12 shall be effective as of 2400 hours on the date (Effective Date) which shall be the later of (a) Bonneville receives both (1) an original signed copy of this Table 12 by the Company; and (2) payment from the Company in the amount of the Trust Deposit specified in Section 3; or (b) acceptance for filing by the Federal Energy Regulatory Commission of this Table 12.
2. Cost Sharing. The estimated total cost for Bonneville to perform the duties as described in Section 4 is \$52,000 which includes appropriate overheads. Such costs shall be shared as shown on the following Table 1:

Table 1

<u>Project Facility</u>	<u>Bonneville Cost</u>	<u>Company Cost</u>
Reconnection	\$ 45,113	\$6,887

Final costs for the Reconnection shall be based on actual costs including appropriate overheads fixed at the Effective Date of this Table 12. Final costs for the Company's share will be the sum of the actual material cost of the line tap jumpers including an appropriate overhead plus a fixed labor cost of \$3,715, which includes an appropriate overhead.

3. Trust Deposit. The Company shall pay Bonneville \$6,887 to be held in an account (Trust Deposit) established for the Reconnection to defray the Company's cost to Bonneville for performing the duties specified in Section 4.

4. Duties of Bonneville.

- (a) Bonneville shall provide for the Reconnection including labor, insulators, and line tap jumpers.
- (b) Jointly with the Company, test the Reconnection.

5. Duties of the Company.

- (a) Review and comment on Bonneville's design for the Reconnection, and
- (b) Jointly with Bonneville, test the Reconnection.

6. Ownership. Title and ownership of the Dead End Tower installed under Trust Table 10 to this Agreement shall be with Bonneville. Title to and ownership of the Reconnection including the dead-end insulation strings, suspension insulator hardware, and the line tap jumpers, installed under this Table 12 shall be with the Company.

7. Operations and Maintenance. Bonneville shall maintain the Dead End Tower at the sole expense of Bonneville. The Company shall maintain the Reconnection, including the dead end insulation string, suspension insulator hardware, and the line tap jumpers installed under this Table 12 at the sole expense of the Company.

If the terms of this Table 12 are acceptable to the Company, please indicate your approval by signing both enclosed copies and returning both copies with a

check in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully-executed original will be forwarded to the Company.

Sincerely,

(b)(6)

Administrator

Name Randall W. Hardy

(Print/Type)

Effective Date October 4, 1993

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By

Name Richard E. Dyer

(Print/Type)

Title Vice President, Marketing & Supply

Date 9/16/93

(VS10-PMTT-3599e)

## Contract Abstract

For Internal Use Only  
Not for Outside Distribution

### Trust Table No. 12 to the Grizzly Construction Trust Agreement with PGE

**Contract Type:** Construction Trust Table

**Author:** Russ Pauls ~~rude~~ - PMTT ext. 5849

**Contract Number:** DE-MS79-86BP92277

**Term of Contract:** Until all acts performed thereunder are complete.

**Scope of Work:** A Dead End Tower was installed in PGE's Malin # 2 line under trust table No. 10 and for which BPA paid 100% of the costs and retained sole ownership. This trust table No. 12 provides for the reconnection of PGE's Grizzly-Malin 500 kV line # 2 to the new substation dead end tower. The estimated cost to do the work is \$52,000 which covers risers, jumpers, insulators, and misc. hardware necessary to connect the line.

**Background to Cost Share.** PGE was not consulted early enough in the planning process so they did not feel they should cost share in the tower. To maintain continuity to their line path however, PGE did agree to cost share in a portion of the dead end assembly which includes the line tap jumpers. PGE has also agreed to O&M the line tap jumpers, the insulators, and the suspension insulation hardware at the sole expense of PGE.

**Billing Information:** PGE has sent the <sup>6,887?</sup> \$6,867 trust deposit through the Snake River area office (received Oct. 4, 1993). Since all cost estimates were put into one non reimbursable holding work order, Financial Management will not be able to provide actual labor costs associated with the retermination. PGE has agreed to pay a fixed labor component of the work valued at \$3,715. Once the actual costs are known for the line tap jumpers, estimate was \$2,440 plus 30% overheads, PGE should be reimbursed/debited the true up amount.

**Ongoing Maintenance:** PGE shall operate and maintain the insulation string, suspension insulator hardware, and the line tap jumpers.

Contract Administration Responsibilities

~~TANC Reimbursable~~

Contract: Trust Table No. 12 to the Grizzly Construction Trust Agreement with Portland General Electric company (PGE), Contract No. DE-MS79-86BP92277, for reconnection of PGE's Grizzly-Malin 500 kV line #2 to the new substation dead end tower.

Related Agreements: Trust Table 10 provided for the Dead End Tower.

Prior Agreements: Trust Table's 1 through 11.

Power Revenues Branch No billing responsibilities as payments will be handled by OFM.

Snake River Area Office.

O&M Responsibilities. Maintain the Tower.

Financial Management. True up the actuals for the line tap jumpers and reimburse/debit PGE the remainder.



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

January 30, 1992

OFFICE OF THE ADMINISTRATOR

In reply refer to: PMTT

Exhibit B  
Table 11, Page 1 of 3  
Contract No. DE-MS79-86BP92277  
Effective on the Effective Date

Mr. Richard E. Dyer  
Vice President  
Marketing and Supply  
Utility Operations  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

Representatives of the Bonneville Power Administration (Bonneville) and Portland General Electric Company (Company) have agreed to replace the protective relaying equipment and add automatic voltage control relaying for the shunt reactor bank No. 1 at the Grizzly Substation (Relay Additions). The Relay Additions are required due to (1) the obsolescence of the existing relaying equipment; and (2) the need to improve voltage controls at the Grizzly Substation to support the AC Intertie. The cost of such Relay Additions shall be shared by Bonneville and the Company.

Accordingly, Bonneville proposes the work be performed under the following terms and conditions:

1. Effective Date. Table 11 shall be effective on 2400 hours on the date Bonneville receives both (1) an original signed copy of this Table 11 by the Company; and (2) payment from the Company in the amount of the Trust Deposit specified in section 3 (Effective Date).
2. Cost Sharing. The total estimated cost of the Relay Additions, including applicable overheads, is \$49,400. Such estimated cost shall be shared by Bonneville and the Company in accordance with their percentage ownership of the jointly-owned property, as specified below, at the Grizzly Substation:

<u>Party</u>	<u>Joint Ownership</u> (%)	<u>Estimated Cost of</u> <u>Relay Addition</u> (\$)
Bonneville	60	29,640
Company	40	19,760
Total	100	49,400

Final sharing shall be based on actual cost including appropriate overheads. The overheads shall be fixed at the Effective Date of this Table 11.

3. Trust Deposit. The Company shall pay Bonneville \$19,760 to be held in an account (Trust Deposit) established for the Relay Additions to defray the Company's estimated share of the cost to the Government of performing the duties specified in section 4.

4. Duties of Bonneville. Bonneville shall:

- (a) design the Relay Additions;
- (b) forward to the Company for their review and comment, the design for the Relay Additions. Approval is needed by the Company for designs related to facilities owned by the Company;
- (c) provide all necessary labor and materials and use its best efforts to complete the Relay Additions in accordance with the design by October 1992;
- (d) test the Relay Additions jointly with the Company; and
- (e) as soon as practicable, after completion of Bonneville's duties specified in section 4, forward to the Company a final accounting of the actual cost for the Relay Additions.

5. Duties of the Company. The Company shall:

- (a) review and comment on Bonneville's design for the Relay Additions; and
- (b) test the Relay Additions jointly with Bonneville.

6. Ownership. Title to and ownership of the facilities and equipment installed pursuant to section 4 shall be in accordance with Section 5 of the Grizzly Substation Trust Agreement (Contract No. 14-03-56747), as amended, whereby an undivided sixty percent (60%) interest shall be and remain in the Government, and an undivided forty percent (40%) interest shall be and remain in the Company.

7. Operation and Maintenance. Bonneville shall operate and maintain the facilities and equipment installed hereunder in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), whereby the Company shall pay Bonneville forty percent (40%) of the total cost of maintaining the jointly-owned facilities at the Grizzly Substation.

If the terms of this Table 11 are acceptable, please indicate your acceptance by signing both enclosed copies and returning both copies with a check in the

Exhibit B  
Table 11, Page 3 of 3  
Contract No. DE-MS79-86BP92277  
Effective on the Effective Date

amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to the Company.

Sincerely,

(b)(6)

/s/ STEVEN G. HICKOK (Acting)  
Administrator

**ACTING**

Administrator

February 7, 1992

Effective Date February 7, 1992

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By

/s/ RICHARD E. DYER

Title Vice President

Vice President

Date January 25, 1992

January 25, 1992

(VS6-PMTT-3460e)





**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

**SEP 04 1992**

OFFICE OF THE ADMINISTRATOR

In reply refer to: PMTT

Exhibit B  
Table 10 - Page 1 of 4  
Contract No. DE-MS79-86BP92277  
Effective on the Effective Date

Mr. Richard E. Dyer  
Vice President  
Marketing and Supply  
Utility Operations  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

Representatives of Bonneville Power Administration (Bonneville) and Portland General Electric Company (Company) have agreed to reterminate the Round Butte, John Day No. 1, Captain Jack, Buckley, Summer Lake 500 kV lines and Reactor Bank No. 2 (Reterminations) at the jointly-owned Grizzly Substation. On July 29, 1988, the parties executed an Intertie Agreement, Contract No. DE-MS79-87BP92340, as amended, which established cost-sharing principles between the parties in Exhibit B for the Plan-of-Service in the Joint AC Intertie. The Reterminations, as identified in Bonneville's project diagram, PD #196486, sheet No. 5 of 12, dated September 12, 1991, are required for the Joint AC Intertie.

Further, the Company has replaced its PCB No. 4052 during 1991, therefore, this construction plus the work described in section 4(a)(1) of this Table 10 shall represent completing the Round Butte PCB and MOD's as described in Exhibit B to the Intertie Agreement.

Accordingly, Bonneville and the Company hereby agree to the following terms and conditions:

1. Effective Date. Table 10 shall be effective at 2400 hours on the date (Effective Date) that Bonneville receives both (1) an original signed copy of this Table 10 by the Company; and (2) payment from the Company in the amount of the Trust Deposit specified in Section 3.
2. Cost Sharing. The estimated cost of the Reterminations is \$8,574,000 which includes thirty percent (30%) overheads. Such costs shall be shared as shown on the following Table 1:

TABLE 1

<u>Reterminations</u>	<u>BPA's Cost (\$)</u>	<u>Company's Cost (\$)</u>	<u>Total Cost (\$)</u>
(1) 7 PCB's, 12 MOD's, bus work modifications for Bays 1, 3, 4, and 6, associated towers, and 2 sets of main bus PT's.	8,289,000	0	8,289,000
(2) Reterminate Round Butte line through rigid bus into Bay 4 from Bay 5.	0	127,000	127,000
(3) BPA's Grizzly-Captain Jack line terminal surge arresters.	79,000	0	79,000
(4) Company's Grizzly-Malin No. 2 line terminal surge arresters.	<u>0</u>	<u>79,000</u>	<u>79,000</u>
TOTAL	<u>8,368,000</u>	<u>206,000</u>	<u>8,574,000</u>

Final sharing shall be based on actual costs including appropriate overheads fixed at the Effective Date of this Table 10.

3. Trust Deposit. The Company shall pay Bonneville \$206,000 to be held in an account (Trust Deposit) established for the Reterminations to defray the Company's estimated share of the cost to Bonneville for performing the duties specified in Section 4.

4. Duties of Bonneville. Bonneville shall:

(a) Design and construct the Reterminations, specifically:

- (1) Reterminate the Round Butte, 500 kV line into Bay 4 from Bay 5 using rigid bus.
- (2) Add a 500 kV PCB and associated MOD's between the reterminated Round Butte and John Day No. 1 lines in Bay 4.
- (3) Reterminate Bonneville's Captain Jack 500 kV line into Bay 3 by adding 2-500 kV breakers and associated MOD's in Bay 3 and reterminating the Captain Jack line between the two breakers.
- (4) Replace the Reactor Bank No. 2 500 kV load interrupting switch with a 500 kV breaker and reconnect Reactor Bank No. 2 to the South 500 kV main bus.

(5) Add 500 kV line surge arresters to the Company's Malin No. 2 and Bonneville's Captain Jack 500 kV line terminals.

(6) Add a set of 500 kV PT's on each main bus.

(b) Design and construct Bay 1 for the termination of Bonneville's Buckley-Summer Lake 500 KV line which includes 3-500 kV breakers, 6 MOD's and line PT's.

(c) Forward the design for the Reterminations to the Company for its review and comment.

(d) Purchase all required materials.

(e) Use its best efforts to complete Reterminations in accordance with the design by December 1, 1992, for items 4(a)(1) through 4(a)(6) and by November 30, 1993, for item 4(b) of this Table 10.

(f) Test the Reterminations jointly with the Company.

(g) Within a reasonable time, after completion of Bonneville's duties pursuant to this Section 4, forward a final accounting of the actual cost to the Company for installation of the Reterminations.

5. Duties of the Company. The Company shall:

(a) Review and comment on Bonneville's designs for the Reterminations, and

(b) Test the Reterminations jointly with Bonneville.

6. Ownership. Title to and ownership of the facilities and equipment installed under this Table 10 shall be in accordance with Table 2 below:

TABLE 2

<u>Reterminations</u>	<u>BPA</u>	<u>Company</u>
(1) 7 PCB's, 12 MOD's for Bays 1, 3, 4, and 6, associated towers (2), and main bus PT's.	100%	0%
(2) Rigid bus work between Bay 5 and Bay 4 for the purposes of reterminating the Round Butte 500 kV line.	0%	100%
(3) BPA's Captain Jack line surge arresters.	100%	0%
(4) Company's Malin No. 2 line surge arresters.	0%	100%

7. Operation and Maintenance of Facilities. Bonneville shall operate the facilities and equipment installed in this Table 10 in accordance with the Grizzly Substation O&M Trust Agreement, Contract No. 14-03-73941, whereby the Company shall pay forty percent (40%) of Grizzly operating costs. The Company shall maintain its facilities and equipment installed hereunder (items 2 and 4 listed in Table 2) at its own expense. Bonneville shall maintain its facilities and equipment installed hereunder (items 1 and 3 listed in Table 2) at its own expense.

If the terms of this Table 10 are acceptable, please indicate your acceptance by signing both enclosed copies and returning both copies with a check in the amount of the Trust Deposit to Bonneville. Upon execution by Bonneville, a fully executed original will be forwarded to the Company.

Sincerely,

(b)(6)

Administrator

(b)(6)

Name

(Print/Type)

Name Jack Robertson

Effective Date SEP 9 1992

ACCEPTED:

PORTLAND GENERAL ELECTRIC COMPANY

(b)(6)

By

Name R. E. Dyer

(Print/Type)

Title Vice President

Date July 31, 1992

(VS6-PMTT-3547e)



## Department of Energy

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666-1409

January 19, 2006

In reply refer to: TM/OPP-2

**AUTHENTICATED**

Mr. Frank Afranji  
Senior Vice President for Power Supply  
Portland General Electric Company  
121 SW Salmon Street  
Portland, OR 97204

Exhibit B, Table 13  
Contract No. DE-MS79-86BP92277  
Effective on the Effective Date

Dear Mr. Afranji:

The Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have developed a joint plan to replace the existing Power Line Carrier Current (PLCC) on the Grizzly - Round Butte No. 1 500 kV line. This joint plan also eliminates PGE's backup leased telecommunication line between BPA's Grizzly Substation (Grizzly) and PGE's Round Butte Substation (Round Butte) and replaces it with a radio path via the Grizzly Mountain Radio Site. In addition, this joint plan replaces the PLCC on the Round Butte - Redmond 230 kV transmission line with a new radio path serving the area on BPA's existing microwave system.

Accordingly, PGE and BPA mutually agree to the following terms and conditions:

1. **Effective Date.** Table 13 shall be effective at 2400 hours on the date that BPA has received the original signed copy of this Table 13 and payment from PGE in the amount of the trust deposit as specified in section 2 below.
2. **Cost Responsibility.**
  - (a) Grizzly  
As stated below, the estimated cost for work at Grizzly, as described in section 4, is \$42,421, including overheads. PGE's share of the estimated cost at Grizzly shall reflect the estimated cost, including overheads, of the RFL 9780 PLCC to be provided by PGE in the amount of \$7,861. PGE's remaining share of the estimated cost is \$9,107 (\$16,968 - \$7,861). Except as expressly provided in subsections 2(b) and (c), for all other duties set forth in Sections 4 and 5, the parties shall be responsible for costs in accordance with their cost share percentage shown in the table below.

Party	Cost Share Percentage	Estimated Share of Project Cost (\$)
BPA	60	\$25,453
PGE	40	\$16,968
Total	100	\$42,421

(b) Grizzly Mountain Radio Site

BPA and PGE are responsible for the costs of performing their respective duties at Grizzly Mountain Radio Site, including overheads, in accordance with sections 4 and 5. BPA is responsible for costs to perform the duties set forth in sections 4 (g), (j), (k), and (l). PGE is responsible for costs to perform the duties set forth in section 5 (f).

(c) Redmond Substation (Redmond)

BPA and PGE are responsible for the costs of performing their respective duties at Redmond, including overheads, in accordance with sections 4 and 5. BPA is responsible for costs to perform the duties set forth in sections 4 (l), (m), (n), (o), and (p). PGE is responsible for costs to perform the duties set forth in sections 5 (g), (h), and (i).

3. **Financial Terms.** The cost of performing the joint plan by BPA and PGE shall be the actual cost of doing the work specified in this Exhibit B, Table 13. Actual costs, including the current non-direct overhead rates that are in effect at the time the work is performed, will be paid pursuant to section 6 of the Trust Agreement, Contract No. DE-MS79-86BP92277. PGE shall advance its share of the estimated cost to perform the work at Grizzly, as provided in 2(a) above. The amount for PGE is estimated to be \$9,107. PGE shall advance this amount to BPA upon execution of this Exhibit B, Table 13. Payment can be made either electronically or by check (payment instructions enclosed).

4. **Duties of BPA.** BPA shall:

- (a) Furnish the necessary design and labor to replace the existing PLCC equipment with a RFL 9780 type protective relaying communications channel transfer trip system furnished by PGE for Grizzly.
- (b) Coordinate with PGE the applicable equipment layout, schematics and wiring diagrams at both Grizzly and Round Butte to facilitate setting/programming levels and appropriate hardware/software logic for the RFL 9780 equipment.
- (c) Remove and retire the existing PLCC equipment at Grizzly.
- (d) Pre-test and assemble the PLCC Transfer Trip equipment at Grizzly after receiving the RFL unit from PGE.
- (e) Test and verify the correct operation of the wave trap and line-tuning unit at Grizzly during the outage window.

- (f) Coordinate with PGE and schedule a date to test the proper operation of transfer trip at both Grizzly and Round Butte. Upon coordination with PGE of the end-to-end test for both facilities, perform the end-to-end test at Grizzly.
- (g) Provide, install and test a new channel on the existing 'K' microwave system between Grizzly and the Grizzly Mountain Radio Site.
- (h) Re-use the RFL 9745 currently on PGE's leased telecommunication line and install it on the new microwave channel.
- (i) Perform action necessary to retire PGE's leased telecommunication line.
- (j) Provide space for, and power to, PGE's new antennae and radio system at the Grizzly Mountain Radio Site.
- (k) Coordinate, assist as needed and monitor PGE's installation efforts of the new antennae and radio system at the Grizzly Mountain Radio Site.
- (l) Provide, install and test a new channel on the existing 'K' microwave system between Grizzly Mountain Radio Site and Redmond.
- (m) Install PGE provided 9745 MWTT equipment at Redmond.
- (n) Coordinate with PGE the applicable equipment layout, schematics and wiring diagrams at both Redmond and Round Butte to facilitate setting/programming levels and appropriate hardware/software logic for the RFL 9745 equipment.
- (o) Remove and retire the PLCC equipment at Redmond.
- (p) Coordinate an end-to-end test of the new 'K' system microwave channel between Redmond and Round Butte.

**5. Duties of PGE. PGE shall:**

- (a) Procure and furnish the necessary design and labor to replace the existing PLCC equipment with a RFL 9780 type protective relaying communications channel transfer trip system at Round Butte.
- (b) Procure and deliver the RFL 9780 equipment in section 4(b) above to Grizzly. Delivery will include manufacturer prints and applicable manuals.
- (c) Remove and retire the existing PLCC equipment at Round Butte.
- (d) Coordinate with BPA the applicable equipment layout, schematics and wiring diagrams at both Grizzly and Round Butte to facilitate setting/programming levels and appropriate hardware/software logic for the RFL 9780 equipment.

- (e) Coordinate and schedule a date to test the proper operation of transfer trip at both Grizzly and Round Butte.
- (f) Procure and install under BPA guidance a new antennae and radio system at the Grizzly Mountain Radio Site.
- (g) Procure and deliver the RFL 9745 equipment in section 4(n) above to Redmond. Delivery will include manufacturer prints and applicable manuals.
- (h) Coordinate with BPA the applicable equipment layout, schematics and wiring diagrams at both Redmond and Round Butte to facilitate setting/programming levels and appropriate hardware/software logic for the RFL 9745 equipment.
- (i) Coordinate with BPA and end-to-end test the new 'K' system microwave channel between Redmond and Round Butte.

## **6. Ownership.**

- (a) Title to and ownership of the facilities and equipment installed at Grizzly Substation under this Table 13 shall be in accordance with section 5(a) of the Grizzly Substation Trust Agreement (Contract No. 14-03-56747), as amended, where an undivided sixty percent (60%) interest shall be and remain in the Government, and an undivided forty percent (40%) interest shall be and remain with PGE.
- (b) The 900 MHz radio, antennae and associated equipment provided by PGE at the Grizzly Mountain Radio site shall be owned by PGE.
- (c) The equipment installed at Redmond shall be owned by BPA.
- (d) The equipment installed at Round Butte shall be owned by PGE.

## **7. Operation and Maintenance of Facilities.**

- (a) Operation and maintenance of the facilities and equipment installed at Grizzly under this table shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA forty percent (40%) of the total cost of operating and maintaining the jointly owned facilities at Grizzly.
- (b) The 900 MHz radio at Grizzly Mountain Radio Site provided by PGE, shall be operated and maintained by PGE as coordinated with BPA, at PGE's expense. Access to the site for such operation and maintenance will be as specified under a separate operation and maintenance agreement between BPA and PGE.
- (c) The equipment installed at Redmond shall be operated and maintained by BPA at BPA's expense.



- (d) The equipment installed at Round Butte shall be operated and maintained by PGE at PGE's expense.
8. **Lease Arrangements.** PGE will enter into a separate agreement, as part of the operation and maintenance, for use of circuits/space and for PGE access at the Grizzly Mountain Radio site. Terms will be as specified in that Agreement. Based on mutual benefit, there will be no cost to PGE for PGE's use of the circuit or space for the specific equipment/circuits installed under this Agreement in accordance with sections 4 (g), (j), and (l).
9. **Schedule.** The BPA Project Manager and PGE Project personnel shall coordinate the schedule for the PGE-provided materials and deliveries.
10. If this Table 13 is executed no later than January 31, 2006, BPA will endeavor to energize the Project before September 30, 2006.

Please sign both originals of this Agreement, retain one original for your records, and return the other original to one of the following addresses:

Mailing Address:

Bonneville Power Administration  
Mail Stop: TM/OPP-2  
P. O. Box 61409  
Vancouver, WA 98662-1409

Express Mail:

Bonneville Power Administration  
Mail Stop: TM/OPP-2  
7500 NE 41<sup>st</sup> Street, Suite 130  
Vancouver, WA 98662-7905

If you have any questions, please call Kelly Johnson, Customer Service Engineer, at (360) 619-6055.

Sincerely,

/S/ ALLAN F PASCHKE

Allan F. Paschke  
Senior Transmission Account Executive  
Transmission Marketing and Sales

APPROVED:

PORTLAND GENERAL ELECTRIC COMPANY

By: /S/ FRANK AFRANJI

Name: Frank Afranji

Title: Director, Trans. & Reliability Services

Date: 01-26, 2006

bcc:

S. Millar – LT-7

A. Paschke – TM/OPP-2

M. McDaniel – TMC/OPP-2

K. Stuwe – TMM/MODD

K. Johnson – TOC/TPP-4

Official File – TM [TM-11, Portland General Electric]

Official File – TMC

MJMcDaniel:jsw:6870:01/18/06 (W/CT/PGE//Revisions/ 92277B\_T13.doc)

**EXHIBIT B, TABLE 14  
INSTALLATION OF FACILITIES**

*This Exhibit B, Table 14 reflects a change from the format previously used in other Tables and is intended to meet current BPA contract standards.*

*Representatives of the Bonneville Power Administration (Bonneville) and Portland General Electric Company (PGE<sup>1</sup>) met and agreed on three completed capital work orders that were subject to cost sharing based on the joint-ownership of facilities at the Grizzly Substation between Bonneville and PGE. This Table 14 consolidates the three agreed upon capital work orders into one Table.*

*Work Order 189663 replaced the Digital Fault Recorder because the drive memory had been failing intermittently and spare parts were scarce. The Digital Fault Recorder is a key device that records fault and disturbance data at the Grizzly Substation.*

*Work Order 226749 added Field Integrated Network (FIN) expansion at the Grizzly Substation to meet NERC CIP compliance. This order was part of the NERC CIP readiness evaluation at the Grizzly Substation and it provided a more reliable communication system to meet the NERC CIP June 2009 deadline for Field Compliance.*

*Work Order 229846 provided necessary security equipment upgrades and additions to meet NERC requirements for Critical Infrastructure facilities. Grizzly Substation is classified as a Critical Infrastructure facility.*

Accordingly, Bonneville and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

Table 14 shall be effective at 0000 hours on the date when Table 14 is executed by both Bonneville and PGE.

**2. COST RESPONSIBILITY**

The total cost for Bonneville to complete the three capital work orders listed in Section 4 below is \$406,127, with appropriate overheads included. The total cost of the work orders is to be shared by Bonneville and PGE in proportion to their percentage ownership of the Grizzly Substation jointly-owned property. Subsection 5(a) of the Grizzly Substation Trust Agreement (Contract No. 14-03-56747), as amended, defines those percentages and stipulates their applicability to the Grizzly Substation control house equipment as follows:

---

<sup>1</sup> Previously PGE was referred to as "Company." For this Exhibit B, Table 14, the term "PGE" has the same meaning as "Company."

<b>Party</b>	<b>Cost Share Percentage</b>	<b>Work Order No. 189663 \$ 288,375</b>	<b>Work Order No. 226749 \$ 32,585</b>	<b>Work Order No. 229846 \$ 85,167</b>	<b>Total Share of Project Costs \$ 406,127</b>
	(%)	(%)	(%)	(%)	(%)
Bonneville	60	173,025	19,551	51,100	243,676
PGE	40	115,350	13,034	34,067	162,451

**3. FINANCIAL TERMS**

Actual costs, including the overhead rates that were in effect at the time the work was performed, will be paid pursuant to Section 6 of the Trust Agreement, Contract No. DE-MS79-86BP92277. The total amount owed by PGE for the projects is \$162,451. PGE hereby agrees to pay Bonneville this amount. Upon receipt of the executed Exhibit, BPA will send an invoice and PGE will make its payment of \$162,451 to BPA within thirty (30) days of the date on the invoice.

**4. DUTIES OF BPA**

Bonneville has fully performed all tasks required for completion of the three work orders listed in this section. The completed work orders are being listed in this section for informational purposes, as the work has been completed and the cost sharing has been agreed to by both Bonneville and PGE.

- (a) Work Order 189663: Replace Digital Fault Recorder in the main control house;
- (b) Work Order 226749: FIN expansion for NERC CIP purposes; and
- (c) Work Order 229846: NERC CIP physical security upgrade.

**5. OWNERSHIP**

Title to and ownership of the facilities and equipment installed at Grizzly Substation under this Table 14 shall be in accordance with Section 5(a) of the Grizzly Substation Trust Agreement (Contract No. 14-03-56747), as amended, where an undivided sixty percent (60%) interest shall be and remain with Bonneville, and an undivided forty percent (40%) interest shall be and remain with PGE.

**6. OPERATION AND MAINTENANCE OF FACILITIES**

Operation and maintenance of the facilities and equipment installed at Grizzly Substation, under this Table, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay Bonneville forty percent (40%) of the total cost of operating and maintaining the jointly owned facilities at Grizzly Substation.

**7. SIGNATURES**

The Parties have caused this Table to be executed as of the date both Parties have signed this Table.

PORTLAND GENERAL ELECTRIC  
COMPANY

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: /S/ FRANK AFRANJI

By: /S/ MATT R. RIOS

Name: Frank Afranji  
(Print/Type)

for  
Name: Craig Hardin  
(Print/Type)

Title: Director, Transmission and  
Reliability Services

Title: Transmission Account Executive

Date: Feb. 25, 2011

Date: 2/22/11

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**EXHIBIT B, TABLE 15  
INSTALLATION OF FACILITIES**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that Work Order 188727 has a cost sharing obligation by both parties based on the ownership percentages detailed in the Grizzly Substation Trust Agreement (Contract No. 14-03-56747). Work Order 188727 replaced the existing SEL Breaker Failure Relays (BFRs) at the Grizzly Substation for the Grizzly – Captain Jack No. 1 line, with newer versions of BFRs. This Exhibit B, Table 15, (Table 15) details the ownership and cost responsibilities between BPA and PGE associated with Work Order 188727.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Exhibit shall be effective at 0000 hours on the date when Exhibit is executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA to complete the work listed in Section 4 below is \$238,152.22, with appropriate overheads included. The total cost of the work is to be shared by BPA and PGE in proportion to their percentage ownership of the Grizzly Substation jointly-owned property. Subsection 5(a) of Contract No. 14-03-56747, as amended, defines those percentages and stipulates their applicability to the Grizzly Substation control house equipment as follows:

Party	Cost Share Percentage	Total Costs
	(%)	(\$)
BPA	60	\$ 142,921.29
PGE	40	\$ 95,230.93
Total	100	\$ 238,152.22

**3. FINANCIAL TERMS**

The total amount owed by PGE for the project is \$95,230.93. PGE hereby agrees to pay BPA this amount. Upon receipt of the executed Table 15, BPA will send an invoice to PGE. PGE shall pay the invoice electronically in accordance with instructions on the bill. Payment of the invoice must be received by the 20<sup>th</sup> day after the invoice is issued (Due Date). If the 20<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent, divided by 365; or

(b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

BPA has fully performed the following tasks required for completion of this work order:

- (a) Upgrade breaker Open/Close scheme on breakers that protect the Grizzly – Captain Jack No. 1 line; and
- (b) Replaced the existing SEL BFRs at the Grizzly Substation with newer BFRs for the Grizzly – Captain Jack No. 1 line.

**5. OWNERSHIP**

Title to and ownership of the facilities and equipment installed at Grizzly Substation under this Exhibit shall be in accordance with Section 5(a) of Contract No. 14-03-56747, as amended, where an undivided sixty percent (60%) interest shall be and remain with BPA, and an undivided forty percent (40%) interest shall be and remain with PGE.

**6. OPERATION AND MAINTENANCE OF FACILITIES**

Operation and maintenance of the facilities and equipment installed at Grizzly Substation, under this Exhibit, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA forty percent (40%) of the total cost of operating and maintaining the jointly owned facilities at Grizzly Substation.

**7. SIGNATURES**

The Parties have executed this Exhibit as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

(b)(6)

By: \_\_\_\_\_

Name: Frank AFRANTI  
(Print/Type)

Title: Director, Transmission Reliability Services

Date: 5-17-12

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

(b)(6)

By: \_\_\_\_\_

Name: Craig Hardin  
(Print/Type)

Title: Transmission Account Executive

Date: May 15, 2012

**EXHIBIT B, TABLE 16  
INSTALLATION OF FACILITIES**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that Work Order 00339232 has a cost sharing obligation by both parties based on the ownership percentages detailed in the Section 3(a)(5) and 3(c) of Amendment No. 1 to the Grizzly Substation Trust Agreement (Contract No. 14-03-56747). This capital project upgraded the Serial Event Recorder (SER) and Supervisory Control and Data Acquisition (SCADA) in Bank One of the Fort Rock Compensation Station. This Exhibit B, Table 16 (Table 16), details the ownership and cost responsibilities between BPA and PGE.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table shall be effective at 0000 hours on the date when the Table is executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA to complete the work listed in Section 4 below is \$105,693.98, with applicable overheads included. The total cost of this work is to be shared by PGE, in proportion to the percentage ownership of the Fort Rock Compensation Station jointly owned property. Subsection 3(a)(5) and 3(c) of Amendment No. 1 of Contract No. 14-03-56747, as amended, defines those percentages and stipulates their applicability as follows:

Party	Cost Share Percentage	Total Costs
	(%)	(\$)
BPA	50	\$ 52,846.99
PGE	50	\$ 52,846.99
Total	100	\$ 105,693.98

**3. FINANCIAL TERMS**

PGE hereby agrees to pay BPA \$52,846.99, which is PGE's ownership percentage share of the actual cost of Work Order 00339232, and includes the applicable overheads for this completed project. Upon receipt of the executed Table 16, BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent (4%), divided by 365; or



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(b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

BPA has fully performed the following tasks required for completion of this work order:

- (a) Installed new large SER and medium SCADA with three Subrate Data Unit (SRU) signals;
- (b) Retired existing large SER and medium SCADA with three modems and three analog channels;
- (c) Replaced the three units during the analog to digital conversion at the Fort Rock Compensation Station.

**5. OWNERSHIP**

Title to, and ownership of the facilities and equipment installed at the Fort Rock Compensation Station, under this Table, shall be in accordance with subsection 3(a)(5) and 3(c) of Amendment No. 1 of Contract No. 14-03-56747, as amended, where an undivided fifty percent (50%) interest shall be and remain with BPA, and an undivided fifty percent (50%) interest shall be and remain with PGE.

**6. OPERATION AND MAINTENANCE OF FACILITIES**

Operation and maintenance of the facilities and equipment installed at the Fort Rock Compensation Station, under this Table, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA fifty percent (50%) of the total cost of operating and maintaining the jointly owned facilities at the Fort Rock Compensation Station.

**7. SIGNATURES**

The Parties have executed this Table as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

By: \_\_\_\_\_

Name: FRANK AFRANJI

Title: Director, Transmission  
and Reliability Services

Date: 03-14-14

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: \_\_\_\_\_

Name: Craig Hardin

Title: Transmission Account Executive

Date: 3/6/2014

CCM:PGE/92277/ExhB/Table\_16

DE-MS79-86BP92277, Portland General Electric Company  
Exhibit B, Table 16  
Installation of Facilities

Page 2 of 2

**EXHIBIT B, TABLE 17  
INSTALLATION OF FACILITIES**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that Work Order 00339224 has a cost sharing obligation by both parties based on the ownership percentages detailed in the Section 3(a)(5) and 3(c) of Amendment No. 1 to the Grizzly Substation Trust Agreement (Contract No. 14-03-56747). This capital project upgraded the Serial Event Recorder (SER) and Supervisory Control and Data Acquisition (SCADA) in Bank One of the Sand Springs Compensation Station. This Exhibit B, Table 17 (Table 17), details the ownership and cost responsibilities between BPA and PGE.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table shall be effective at 0000 hours on the date when the Table is executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA to complete the work listed in Section 4 below is \$111,093.66, with applicable overheads included. The total cost of this work is to be shared by PGE, in proportion to the percentage ownership of the Sand Springs Compensation Station jointly owned property. Subsection 3(a)(5) and 3(c) of Amendment No. 1 of Contract No. 14-03-56747, as amended, defines those percentages and stipulates their applicability as follows:

Party	Cost Share Percentage	Total Costs
	(%)	(%)
BPA	50	\$55,546.83
PGE	50	\$ 55,546.83
Total	100	\$ 111,093.66

**3. FINANCIAL TERMS**

PGE hereby agrees to pay BPA \$55,546.83, which is PGE's ownership percentage share of the actual cost of Work Order 00339224, and includes the applicable overheads for this completed project. Upon receipt of the executed Table 17, BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent (4%), divided by 365; or



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(b) the Prime Rate times 1.5, divided by 365;  
shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

BPA has fully performed the following tasks required for completion of this work order:

- (a) Installed new large SER and medium SCADA with three SRU signals;
- (b) Retired existing large SER and medium SCADA with three modems and three analog channels;
- (c) Replaced the three units during the analog to digital conversion at the Sand Springs Compensation Station.

**5. OWNERSHIP**

Title to, and ownership of the facilities and equipment installed at the Sand Springs Compensation Station, under this Table, shall be in accordance with subsection 3(a)(5) and 3(c) of Amendment No. 1 of Contract No. 14-03-56747, as amended, where an undivided fifty percent (50%) interest shall be and remain with BPA, and an undivided fifty percent (50%) interest shall be and remain with PGE.

**6. OPERATION AND MAINTENANCE OF FACILITIES**

Operation and maintenance of the facilities and equipment installed at the Sand Springs Compensation Station, under this Table, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA fifty percent (50%) of the total cost of operating and maintaining the jointly owned facilities at the Sand Springs Compensation Station.

**7. SIGNATURES**

The Parties have executed this Table as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

(b)(6)

By: \_\_\_\_\_

Name: FRANK AFRANJ  
(Print/Type)

Title: Director, Transmission  
and Reliability Services

Date: 03-14-14

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

(b)(6)

By: \_\_\_\_\_

Name: Craig Hardin  
(Print/Type)

Title: Transmission Account Executive

Date: 3/6/2014

CCM:PGE/92277/ExhB/Table\_17

**EXHIBIT B, TABLE 18  
INSTALLATION OF FACILITIES**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that Work Order 00348902 has a cost sharing obligation by both parties based on the ownership percentages detailed in the Grizzly Substation Trust Agreement (Contract No. 14-03-56747). Work Order 00348902 replaced the control battery B-2001, and the associated chargers, in the Grizzly Substation Main Control House that provide power for control and alarm functions, motor operators, tap changers and circuit breaker spring operators. This Exhibit B, Table 18 (Table 18), details the ownership and cost responsibilities between BPA and PGE associated with this emergency battery replacement.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 18 shall be effective at 0000 hours on the date when Table 18 is executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA to complete the work listed in Section 4 below is \$107,341.03, with applicable overheads included. The total cost of this work is to be shared by PGE, in proportion to the percentage ownership of the Grizzly Substation's jointly-owned property. Subsection 5(a) of Contract No. 14-03-56747, as amended, defines those percentages and stipulates their applicability to the Grizzly Substation's Main Control House equipment, as follows:

Party	Cost Share Percentage	Total Costs
	(%)	(\$)
BPA	60	\$ 64,404.62
PGE	40	\$ 42,936.41
Total	100	\$ 107,341.03

**3. FINANCIAL TERMS**

PGE hereby agrees to pay BPA \$42,936.41, which is PGE's ownership percentage share of the actual cost of Work Order 00348902, and includes the applicable overheads for this completed project. Upon receipt of the executed Table 18, BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent (4%), divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Replace the station control battery B-2001, associated chargers, racks and spill containment located in the Grizzly Substation Main Control House.

**5. OWNERSHIP**

Title to and ownership of the facilities and equipment installed at Grizzly Substation under this Table 18 shall be in accordance with Section 5(a) of Contract No. 14-03-56747, as amended, where an undivided sixty percent (60%) interest shall be and remain with BPA, and an undivided forty percent (40%) interest shall be and remain with PGE.


**6. OPERATION AND MAINTENANCE OF FACILITIES**

Operation and maintenance of the facilities and equipment installed at Grizzly Substation, under this Table 18, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA forty percent (40%) of the total cost of operating and maintaining the jointly owned facilities at Grizzly Substation.

**7. SIGNATURES**


The Parties have executed this Table 18 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

By:   
Name: **FRANK AFRANJ**  
Title: **Director, Transmission and Reliability Services**  
Date: 03-20-2014

CCM:PGE/92277/Exhibit\_B/Table\_18

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By:   
Name: **Craig Hardin**  
Title: **Transmission Account Executive**  
Date: 3/12/2014

# **EXHIBIT B, TABLE 19** **INSTALLATION OF FACILITIES**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that Work Order 00316493 has a cost-sharing obligation by both parties based on the ownership percentages detailed in the Grizzly Substation Trust Agreement (Contract No. 14-03-56747). Work Order 00316493 provided for NERC-CIP physical security enhancements at the Grizzly Substation Main Control House. This Exhibit B, Table 19 (Table 19), details the ownership and cost responsibilities between BPA and PGE associated with these security enhancements.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 19 shall be effective at 0000 hours on the date when Table 19 is executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA to complete the work listed in Section 4 below is \$72,287, with applicable overheads included. The total cost of this work is to be shared by PGE, in proportion to the percentage ownership of the Grizzly Substation's jointly-owned property. Subsection 5(a) of Contract No. 14-03-56747, as amended, defines those percentages and stipulates their applicability to the Grizzly Substation's Main Control House equipment, as follows:

Party	Cost Share Percentage	Total Costs
	(%)	(\$)
BPA	60	\$ 43,372
PGE	40	\$ 28,915
Total	100	\$ 72,287

**3. FINANCIAL TERMS**

PGE hereby agrees to pay BPA \$28,915, which is PGE's ownership percentage share of the actual cost of Work Order 00316493, and includes the applicable overheads for this completed project. Upon receipt of the executed Table 19, BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

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### Late Payments

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent (4%), divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

### 4. DUTIES OF BPA

Install two card reader packages to two doors at the Grizzly Substation Main Control House. Card reader packages include card reader, door hardware and door contacts.

### 5. OWNERSHIP

Title to and ownership of the facilities and equipment installed at the Grizzly Substation under this Table 19 shall be in accordance with Section 5(a) of Contract No. 14-03-56747, as amended, where an undivided sixty percent (60%) interest shall be and remain with BPA, and an undivided forty percent (40%) interest shall be and remain with PGE.

### 6. OPERATION AND MAINTENANCE OF FACILITIES

Operation and maintenance of the facilities and equipment installed at Grizzly Substation, under this Table 19, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA forty percent (40%) of the total cost of operating and maintaining the jointly owned facilities at Grizzly Substation.

### 7. SIGNATURES

The Parties have executed this Table 19 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

By: (b)(6)  
Name: FRANK AFRANJI  
Title: Director, Transmission and Reliability Services  
Date: Oct. 7, 2014

CCM:PGE/92277/Exhibit\_B/Table\_19

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: (b)(6)  
Name: Craig Hardin  
Title: Transmission Account Executive  
Date: 9/23/14



**EXHIBIT B, TABLE 20  
INSTALLATION OF FACILITIES**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that Work Order 00339234 has a cost sharing obligation by both parties based on the ownership percentages detailed in Section 3(a)(5) and 3(c) of Amendment No. 1 to the Grizzly Substation Trust Agreement (Contract No. 14-03-56747). This capital project upgraded the Serial Event Recorder (SER) and Supervisory Control and Data Acquisition (SCADA) in Bank One of the Sycan Compensation Station. This Exhibit B, Table 20 (Table 20), details the ownership and cost responsibilities between BPA and PGE. PGE's costs were captured under accompanying work order 00339727.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 20 shall be effective at 0000 hours on the date when Table 20 is executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA to complete the work listed in Section 4 below is \$144,592.62, with applicable overheads included. The total cost of this work is to be shared by PGE, in proportion to the percentage ownership of the Sycan Compensation Station jointly owned property. Subsection 3(a)(5) and 3(c) of Amendment No. 1 of Contract No. 14-03-56747, as amended, defines those percentages and stipulates their applicability as follows:

Party	Cost Share Percentage	Total Costs
	(%)	(\$)
BPA	50	\$ 72,296.31
PGE	50	\$ 72,296.31
Total	100	\$ 144,592.62

**3. FINANCIAL TERMS**

PGE hereby agrees to pay BPA \$72,296.31, which is PGE's ownership percentage share of the actual cost of Work Order 00339234, and includes the applicable overheads for this completed project. PGE's costs were captured under the accompanying work order 00339727 in order to keep each parties costs separated. Upon receipt of the executed Table 20, BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday or federal holiday, then the Due Date is the next Business Day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:



(a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent (4%), divided by 365; or

(b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

#### 4. DUTIES OF BPA

BPA has fully performed the following tasks required for completion of this work order during the analog to digital conversion at the Sycon Compensation Station:

(a) Installed new large SER and medium SCADA system with three Subrate Unit (SRU) signals; and

(b) Retired the existing large SER and medium SCADA with three modems and three analog channels.

#### 5. OWNERSHIP

Title to, and ownership of the facilities and equipment installed at the Sycon Compensation Station, under this Table 20, shall be in accordance with subsection 3(a)(5) and 3(c) of Amendment No. 1 of Contract No. 14-03-56747, as amended, where an undivided fifty percent (50%) interest shall be and remain with BPA, and an undivided fifty percent (50%) interest shall be and remain with PGE.

#### 6. OPERATION AND MAINTENANCE OF FACILITIES

Operation and maintenance of the facilities and equipment installed at the Sycon Compensation Station, under this Table 20, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA fifty percent (50%) of the total cost of operating and maintaining the jointly owned facilities at the Sycon Compensation Station.

#### 7. SIGNATURES

The Parties have executed this Table 20 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

(b)(6)

By:

Name: FRANK AFRANJI  
Director, Transmission  
Title: and Reliability Services

Date: Dec. 17, 2014

CCM:PGE/92277/ExhB/Table\_20

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

(b)(6)

By:

Name: Craig Hardin  
(Print/Type)  
Title: Transmission Account Executive

Date: Dec. 22, 2014

DEC 23 2014

**EXHIBIT B, TABLE 21  
INSTALLATION OF FACILITIES**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that capital Work Order 322042 has a cost sharing obligation by both parties based on the ownership percentages detailed in Exhibit B of AC Intertie Contract DE-MS79-87BP92340 (Contract 92340). Line relaying equipment located in the Grizzly Substation control house is jointly owned between BPA and PGE, per Contract 92340, at 73% BPA and 27% PGE. BPA has recently replaced 500 kV relays at the Grizzly Substation, and this Exhibit B, Table 21 details the ownership and cost responsibilities between BPA and PGE associated with Work Order 322042.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 21 shall be effective at 0000 hours on the date when Table 21 is executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA to complete the work listed in Section 4 below is \$ 1,900,876.91, with applicable overheads included. The total cost of this work is to be shared by PGE, in proportion to the percentage ownership of the jointly owned relays located within the Grizzly Substation control house. Contract 92340 defines those percentages and stipulates their applicability to the line relays located in the Grizzly Substation control house as follows:

Party	Cost Share Percentage	Total Costs
	(%)	(\$)
BPA	73	\$ 1,387,640.21
PGE	27	\$ 513,236.70
Total	100	\$ 1,900,876.91

**3. FINANCIAL TERMS**

PGE hereby agrees to pay BPA \$513,236.70, which is PGE's ownership percentage share of the actual cost of Work Order 322042, and includes the applicable overheads for this completed project. Upon receipt of the executed Table 21, BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent (4%), divided by 365; or

DE-MS79-86BP92277, Portland General Electric Company  
Exhibit B, Table 21  
Installation of Facilities

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Page 1 of 3

- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

BPA has fully performed the following tasks required for completion of Work Order 322042:

- (a) Replaced the existing 500 kV relays on the Grizzly – John Day No. 1 line with a new 500 kV relay package. This includes replacement of the Transfer Trip relays with new digital Transfer Trip. Installed 1 OHSU card in channel bank;
- (b) Replaced the existing 500 kV relays on the Grizzly – John Day No. 2 line with a new 500 kV relay package. This includes replacement of the Transfer Trip relays with new digital Transfer Trip. Installed 1 OHSU card in channel bank;
- (c) Replaced the existing 500 kV relays on the Grizzly – Malin No. 2 line with a new 500 kV relay package. This includes replacement of the Transfer Trip relays with new digital Transfer Trip. Also includes replacing the relays on the reactor on the Grizzly – Malin No. 2 line. Installed 1 OHSU card in channel bank;
- (d) Replaced the existing 500 kV relays on the Grizzly – Ponderosa line with a new 500 kV relay package. This includes replacement of the Transfer Trip relays with new digital Transfer Trip. Installed 1 OHSU card in channel bank; and
- (e) Installed 4 Universal Relays with Line Loss Logic and 2 stand alone Line Loss Logic.

**5. OWNERSHIP**

Title to, and ownership of the facilities and equipment installed at the Grizzly Substation, under this Table 21, shall be in accordance with Exhibit B of Contract 92340, as amended, where an undivided seventy three percent (73%) interest shall be and remain with BPA, and an undivided twenty seven percent (27%) interest shall be and remain with PGE.

**6. OPERATION AND MAINTENANCE OF FACILITIES**

Operation and maintenance of the facilities and equipment installed at the Grizzly Substation, under this Table 21, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA twenty seven percent (27%) of the total cost of operating and maintaining the jointly owned line relays at the Grizzly Substation.

7. SIGNATURES

The Parties have executed this Table 21 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

(b)(6)

By: \_\_\_\_\_

**FRANK AFRANJ**

Name: **Director, Transmission**  
(Print/Type)

Title: **and Reliability Services**

Date: 06-04-2015

CCM:PGE/92277/ExhB/Table\_21

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

(b)(6)

By: \_\_\_\_\_

Name: **Craig Hardin**

(Print/Type)

Title: **Transmission Account Executive**

Date: June 9, 2015

**EXHIBIT B, TABLE 22  
INSTALLATION OF FACILITIES**

**AUTHENTICATED**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that Work Order 322856 has a cost-sharing obligation by both parties based on the ownership percentages detailed in the Grizzly Substation Trust Agreement (Contract No. 14-03-56747). Work Order 322856 provided for the interchange meter replacement at the Grizzly Substation. This Exhibit B, Table 22 (Table 22), details the ownership and cost responsibilities between BPA and PGE associated with the meter replacement.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 22 shall be effective at 0000 hours on the date when Table 22 is executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA to complete the work listed in Section 4 below is \$66,814, with applicable overheads included. The total cost of this work is to be shared by PGE, in proportion to the percentage ownership of the Grizzly Substation's jointly-owned property. Subsection 5(a) of Contract No. 14-03-56747, as amended, defines those percentages and stipulates their applicability to the Grizzly Substation's Main Control House equipment, as follows:

<b>Party</b>	<b>Cost Share Percentage</b>	<b>Total Costs</b>
	(%)	(\$)
BPA	60	\$ 40,089
PGE	40	\$ 26,725
Total	100	\$ 66,814

**3. FINANCIAL TERMS**

PGE hereby agrees to pay BPA \$26,725, which is PGE's ownership percentage share of the actual cost of Work Order 322856, and includes the applicable overheads for this completed project. Upon receipt of the executed Table 22, BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.



**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent (4%), divided by 365; or
- (b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

Replacement of Grizzly Substation interchange meter consisting of:

- (a) the installation of (1) dual interchange meter, and (1) SRU card;
- (b) retirement of (1) existing JEM meter and (1) TX/RX.

**5. OWNERSHIP**

Title to and ownership of the facilities and equipment installed at the Grizzly Substation under this Table 22 shall be in accordance with Section 5(a) of Contract No. 14-03-56747, as amended, where an undivided sixty percent (60%) interest shall be and remain with BPA, and an undivided forty percent (40%) interest shall be and remain with PGE.

**6. OPERATION AND MAINTENANCE OF FACILITIES**

Operation and maintenance of the facilities and equipment installed at Grizzly Substation, under this Table 22, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement Contract No. 14-03-73941, where PGE shall pay BPA forty percent (40%) of the total cost of operating and maintaining the jointly owned facilities at Grizzly Substation.

**7. SIGNATURES**

The Parties have executed this Table 22 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: /S/ FRANK AFRANJI

By: /S/ CRAIG HARDIN

Name: Frank Afranji  
(Print/Type)

Name: Craig Hardin  
(Print/Type)

Title: Director, Transmission and Reliability Services

Title: Transmission Account Executive

Date: 08-20-2015

Date: 8/24/2015

**EXHIBIT B, TABLE 24  
INSTALLATION OF FACILITIES**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that Work Order 317634 has a cost-sharing obligation by both parties based on the ownership percentages detailed in the Grizzly Substation Trust Agreement (Contract No. 14-03-56747). Work Order 317634 provided for the replacement of synchronous closing units with SEL352's mounted in the substation control house. This Exhibit B, Table 24 (Table 24) details the ownership and cost responsibilities between BPA and PGE associated with these capital replacements.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 24 shall be effective at 0000 hours on the date when Table 24 is executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA to complete the work listed in Section 4 below is \$926,403.23, with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Grizzly Substation's jointly-owned property. Subsection 5(a) of Contract No. 14-03-56747, as amended, defines those percentages and stipulates their applicability to the Grizzly Substation's Main Control House equipment, as follows:

Party	Cost Share Percentage	Total Costs
	(%)	(\$)
BPA	60	\$ 555,842
PGE	40	\$ 370,561
Total	100	\$ 926,403

**3. FINANCIAL TERMS**

PGE hereby agrees to pay BPA \$370,561, which is PGE's ownership percentage share of the actual cost of Work Order 317634, and includes the applicable overheads for this completed project. Upon receipt of the executed Table 24, BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

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### Late Payments

After the Due Date, a late payment charge equal to the higher of:

- the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent (4%), divided by 365; or
- the Prime Rate times 1.5, divided by 365; shall be applied each day to any unpaid balance.

### 4. DUTIES OF BPA

BPA has performed the following work under this Table 24 and Work Order 317634.

- (a) Retired synchronous closing units to three reactors that have exceeded reliable lifespan.
- (b) Installed additional conduit from control house to reactor.
- (c) Installed three sets of protective relays to current standard.

### 5. OWNERSHIP

Title to and ownership of the facilities and equipment installed at the Grizzly Substation under this Table 24 shall be in accordance with Section 5(a) of Contract No. 14-03-56747, as amended, where an undivided sixty percent (60%) interest shall be and remain with BPA and an undivided forty percent (40%) interest shall be and remain with PGE.

### 6. OPERATION AND MAINTENANCE OF FACILITIES

Operation and maintenance of the facilities and equipment installed at Grizzly Substation, under this Table 24, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA forty percent (40%) of the total cost of operating and maintaining the jointly owned facilities at Grizzly Substation.

### 7. SIGNATURES

The Parties have executed this Table 24 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

By: (b)(6)

Name: FRANK AFRANJ  
Director, Transmission  
and Reliability Services

Title: \_\_\_\_\_

Date: 01/18/2016

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: (b)(6)

Name: Craig Hardin  
(Print/Type)

Title: Transmission Account Executive

Date: 1/20/16



**EXHIBIT B, TABLE 23  
INSTALLATION OF FACILITIES**

**AUTHENTICATED**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that Work Order 276403 has a cost-sharing obligation by both parties based on the ownership percentages detailed in the Grizzly Substation Trust Agreement (Contract No. 14-03-56747). Work Order 276403 provided for the replacement of transfer trip and line loss logic on the Grizzly – Captain Jack and Grizzly – Summer Lake transmission lines, equipment that is located within the main Control House of the Grizzly Substation. This Exhibit B, Table 23 (Table 23) details the ownership and cost responsibilities between BPA and PGE associated with these capital replacements.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 23 shall be effective at 0000 hours on the date when Table 23 is executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA to complete the work listed in Section 4 below is \$ 1,027,182, with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Grizzly Substation's jointly-owned property. Subsection 5(a) of Contract No. 14-03-56747, as amended, defines those percentages and stipulates their applicability to the Grizzly Substation's Main Control House equipment, as follows:

Party	Cost Share Percentage	Total Costs
	(%)	(\$)
BPA	60	\$ 616,309
PGE	40	\$ 410,873
Total	100	\$ 1,027,182

**3. FINANCIAL TERMS**

PGE hereby agrees to pay BPA \$ 410,873, which is PGE's ownership percentage share of the actual cost of Work Order 276403, and includes the applicable overheads for this completed project. Upon receipt of the executed Table 23, BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- (a) the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent (4%), divided by 365; or

(b) the Prime Rate times 1.5, divided by 365;

shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

BPA has performed the following work under this Table 23 and Work Order 276403.

- (a) Installed 2 universal relay / line loss logic packages.
- (b) Installed 6 transfer trip units with 4 Optical High Speed Unit (OHSU) card channels.
- (c) Installed new transfer trip units and line relaying on the Grizzly – Ponderosa – Captain Jack sets 1 and 2, and the Grizzly – Ponderosa – Summer Lake sets 1 and 2.
- (d) Retired 2 line loss logic units and 2 transfer trip units with associated communication equipment.

**5. OWNERSHIP**

Title to and ownership of the facilities and equipment installed at the Grizzly Substation under this Table 23 shall be in accordance with Section 5(a) of Contract No. 14-03-56747, as amended, where an undivided sixty percent (60%) interest shall be and remain with BPA and an undivided forty percent (40%) interest shall be and remain with PGE.

**6. OPERATION AND MAINTENANCE OF FACILITIES**

Operation and maintenance of the facilities and equipment installed at Grizzly Substation, under this Table 23, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA forty percent (40%) of the total cost of operating and maintaining the jointly owned facilities at Grizzly Substation.

**7. SIGNATURES**

The Parties have executed this Table 23 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

**DJL**

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: /S/ FRANK AFRNJI

By: /S/ CRAIG HARDIN

Name: FRANK AFRANJI  
(Print/Type) Director, Transmission

Name: Craig Hardin  
(Print/Type)

Title: and Reliability Services

Title: Transmission Account Executive

Date: 10-26-2015

Date: 10/29/2015

**EXHIBIT B, TABLE 25  
INSTALLATION OF FACILITIES**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that Work Order 329823 has a cost-sharing obligation by both parties based on the ownership percentages detailed in the Grizzly Substation Trust Agreement (Contract No. 14-03-56747). Work Order 329823 provided for the replacement of Key Telephone System. This Exhibit B, Table 25 (Table 25) details the ownership and cost responsibilities between BPA and PGE associated with these capital replacements.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 25 shall be effective at 0000 hours on the date when Table 25 is executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA to complete the work listed in Section 4 below is \$97,687, with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Grizzly Substation's jointly-owned property. Subsection 5(a) of Contract No. 14-03-56747, as amended, defines those percentages and stipulates their applicability to the Grizzly Substation's Main Control House equipment, as follows:

Party	Cost Share Percentage	Total Costs
	(%)	(\$)
BPA	60	\$58,612
PGE	40	\$39,075
Total	100	\$ 97,687

**3. FINANCIAL TERMS**

PGE hereby agrees to pay BPA \$39,075, which is PGE's ownership percentage share of the actual cost of Work Order 329823, and includes the applicable overheads for this completed project. Upon receipt of the executed Table 25, BPA shall issue an invoice to PGE for this amount and PGE shall pay the invoice electronically, in accordance with instructions on the bill. Payment of the invoice must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent (4%), divided by 365; or

- the Prime Rate times 1.5, divided by 365; shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

BPA has performed the following work under this Table 25 and Work Order 329823.

- (a) Retired the existing Key Telephone System which included existing wiring and six handsets.
- (b) Installed new Avaya standard IP office phone system, including 14 new handsets.
- (c) Made new connections for the Public Announcement system and eight circuit connections.

**5. OWNERSHIP**

Title to and ownership of the facilities and equipment installed at the Grizzly Substation under this Table 25 shall be in accordance with Section 5(a) of Contract No. 14-03-56747, as amended, where an undivided sixty percent (60%) interest shall be and remain with BPA and an undivided forty percent (40%) interest shall be and remain with PGE.

**6. OPERATION AND MAINTENANCE OF FACILITIES**

Operation and maintenance of the facilities and equipment installed at Grizzly Substation, under this Table 25, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA forty percent (40%) of the total cost of operating and maintaining the jointly owned facilities at Grizzly Substation.

**7. SIGNATURES**

The Parties have executed this Table 25 as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

(b)(6)

By: \_\_\_\_\_

Name: FRANK AFRANZI

(Print/Type)

Title: Director, Transmission

and Reliability Services

Date: 01/18/2016

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

(b)(6)

By: \_\_\_\_\_

Name: Craig Hardin

(Print/Type)

Title: Transmission Account Executive

Date: 1/20/16



**EXHIBIT B, TABLE 26  
INSTALLATION OF FACILITIES**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that Work Orders 00356246 and 00379612 have a cost-sharing obligation on the part of both parties based on the ownership percentages detailed in the Grizzly Substation Trust Agreement (Contract No. 14-03-56747). Work Orders 00356246 and 00379612 provided for the replacement of transfer trip equipment and security enhancements at Grizzly Substation. This Exhibit B, Table 26 (Table 26) details the ownership and cost responsibilities between BPA and PGE associated with these capital replacements.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table 26 shall be effective at 0000 hours on the date when Table 26 is executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA to complete the work listed in Section 4 below is \$353,898, which represents \$309,285 for work order 00356246 and \$44,613 for work order 00379612 with applicable overheads included. The total cost of this work is to be shared by PGE in proportion to the percentage ownership of the Grizzly Substation's jointly-owned property. Subsection 5(a) of Contract No. 14-03-56747, as amended, defines those percentages and stipulates their applicability to the Grizzly Substation's Main Control House equipment, as follows:

Party	Cost Share Percentage	Total Costs 00356246	Total Costs 00379612
	(%)	(\$)	(\$)
BPA	60	\$ 185,571	\$ 26,768
PGE	40	\$ 123,714	\$ 17,845
Total	100	\$ 309,285	\$ 44,613

**3. FINANCIAL TERMS**

PGE hereby agrees to pay BPA \$141,559. Of this amount, \$123,714 is PGE's ownership percentage share of the actual cost of Work Order 00356246, and \$17,845 is PGE's ownership percentage share of the actual cost of Work Order 00379612. These amounts include the applicable overheads for this completed project. Upon receipt of the executed Table 26, BPA shall issue invoices to PGE for these amounts and PGE shall pay these invoices electronically, in accordance with instructions on the bill. Payment of the invoices must be received by the 30<sup>th</sup> day after the invoice is issued (Due Date). If the 30<sup>th</sup> day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.

**Late Payments**

After the Due Date, a late payment charge equal to the higher of:

- the Prime Rate (as reported in the Wall Street Journal or successor publication in the first issue published during the month in which payment was due) plus four percent (4%), divided by 365; or
- the Prime Rate times 1.5, divided by 365; shall be applied each day to any unpaid balance.

**4. DUTIES OF BPA**

BPA has performed the following work under this Table 26 and Work Order 00356246:

At Grizzly Substation, BPA replaced analog transfer trip equipment that protects the Grizzly-Malin and Grizzly-Captain Jack lines with digital transfer trip equipment.

BPA has performed the following work under this Table 26 and Work Order 00379612:

At Grizzly Substation, BPA upgraded the physical security to add card readers and tunnel hatches.

**5. OWNERSHIP**

Title to and ownership of the facilities and equipment installed at the Grizzly Substation under this Table 26 shall be in accordance with Section 5(a) of Contract No. 14-03-56747, as amended, where an undivided sixty percent (60%) interest shall be and remain with BPA and an undivided forty percent (40%) interest shall be and remain with PGE.

**6. OPERATION AND MAINTENANCE OF FACILITIES**

Operation and maintenance of the facilities and equipment installed at Grizzly Substation, under this Table 26, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA forty percent (40%) of the total cost of operating and maintaining the jointly owned facilities at Grizzly Substation.

**7. SIGNATURES**

This Agreement may be executed in several counterparts, all of which taken together will constitute one single agreement, and may be executed by electronic signature and delivered electronically. The Parties have executed this Agreement as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: Sarah Edmonds  
Digitally signed by Sarah Edmonds  
Date: 2019.09.30 10:34:43 -07'00'

By: Craig Hardin  
Digitally signed by Craig Hardin  
Date: 2019.09.17 10:16:10 -07'00'

Title: Director, Transmission Services

Title: Transmission Account Executive

If opting out of the electronic signature:

By: \_\_\_\_\_

Name: \_\_\_\_\_  
(Print/Type)

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**EXHIBIT B, TABLE 27  
INSTALLATION OF FACILITIES**

*Representatives of the Bonneville Power Administration (BPA) and Portland General Electric Company (PGE) have agreed that Work Orders 00460709 and 18100-1070001-1000009883 have a cost-sharing obligation on the part of both parties based on the ownership percentages detailed in the Grizzly Substation Trust Agreement (Contract No. 14-03-56747). Work Orders 00460709 and 18100-1070001-1000009883 provided for the replacement of transfer trip equipment and communications enhancements at Grizzly Substation. This Exhibit B, Table 27 (Table) details the ownership and cost responsibilities between BPA and PGE associated with these capital replacements.*

Accordingly, BPA and PGE hereby agree to the following terms and conditions:

**1. EFFECTIVE DATE**

This Table shall be effective at 0000 hours on the date executed by both BPA and PGE.

**2. COST RESPONSIBILITY**

The total cost for BPA and PGE to complete the work listed in Section 4 below is \$2,587,182.66, which represents \$956,440.68 for work order 00460709 and \$1,630,741.98 for work order 18100-1070001-1000009883 with applicable overheads included. The total cost of this work is to be shared by PGE and BPA in proportion to the percentage ownership of the Grizzly Substation's jointly-owned property. Subsection 5(a) of Contract No. 14-03-56747, as amended, defines those percentages and stipulates their applicability to the Grizzly Substation's Main Control House equipment, as follows:

Party	Cost Share Percentage	Total Costs 00460709	Total Costs 18100-1070001- 1000009883
	(%)	(\$)	(\$)
BPA	60	\$573,864.41	\$978,445.19
PGE	40	\$382,576.27	\$652,296.79
Total	100	\$956,440.68	\$1,630,741.98

**3. FINANCIAL TERMS**

PGE shall invoice BPA charges provided by this Agreement in the amount of \$978,445.19; which represents 60% of costs incurred by PGE.

BPA shall invoice PGE charges provided by this Agreement in the amount of \$382,576.27; which represents 40% of costs incurred by BPA.

These amounts include the applicable overheads for this completed project. Payment of the invoices must be received by the 30th day after the invoice is issued (Due Date). If the 30th day is a Saturday, Sunday, or federal holiday, then the Due Date is the next Business Day.



**4. DUTIES OF BPA**

BPA has performed the following work under this Table and Work Order 00460709:

At Grizzly Substation, BPA replaced analog transfer trip equipment that protects the Grizzly-Redmond 500 kV line with digital transfer trip equipment.

**5. DUTIES OF PGE**

PGE has performed the following work under this Table and Work Order 18100-1070001-1000009883:

At Grizzly Substation, PGE replaced analog transfer trip equipment that protects the Grizzly-Redmond 500 kV line with digital transfer trip equipment.

On the Grizzly-Redmond 500 kV Line, PGE replaced the Power Line Carrier (PLC) equipment with fiber.

**6. OWNERSHIP**

Title to and ownership of the facilities and equipment installed at the Grizzly Substation under this Table shall be in accordance with Section 5(a) of Contract No. 14-03-56747, as amended, where an undivided sixty percent (60%) interest shall be and remain with BPA and an undivided forty percent (40%) interest shall be and remain with PGE.

**7. OPERATION AND MAINTENANCE OF FACILITIES**

Operation and maintenance of the facilities and equipment installed at Grizzly Substation, under this Table, shall be in accordance with the Grizzly Substation Operation and Maintenance Trust Agreement (Contract No. 14-03-73941), where PGE shall pay BPA forty percent (40%) of the total cost of operating and maintaining the jointly owned facilities at Grizzly Substation.

8. SIGNATURES

This Agreement may be executed in several counterparts, all of which taken together will constitute one single agreement, and may be executed by electronic signature and delivered electronically. The Parties have executed this Agreement as of the last date indicated below.

PORTLAND GENERAL ELECTRIC  
COMPANY

UNITED STATES OF AMERICA  
Department of Energy  
Bonneville Power Administration

By: \_\_\_\_\_

By: \_\_\_\_\_

TROY SIMPSON

Digitally signed by TROY  
SIMPSON  
Date: 2023.04.05 14:56:59 -0700

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Transmission Account Executive

If opting out of the electronic signature:

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

PORTLAND GENERAL ELECTRIC  
COMPANY LEGAL APPROVAL

By: \_\_\_\_\_

Donald Light

Digitally signed by Donald  
Light  
Date: 2023.04.16 20:00:49  
-0700

Title: \_\_\_\_\_

Senior Assistant General Counsel



**Department of Energy**  
Bonneville Power Administration  
P.O. Box 3621  
Portland, Oregon 97208-3621

OFFICE OF THE ADMINISTRATOR

In reply refer to: **PMT**

Contract No. DE-MS79-93BP93040

Mr. Richard E. Dyer  
Vice President  
Marketing and Supply  
Utility Operations  
Portland General Electric Company  
121 SW. Salmon Street  
Portland, OR 97204

Dear Mr. Dyer:

Bonneville Power Administration (Bonneville) and Portland General Electric Company (Company) entered into Contract No. DE-MS79-87BP92340, as amended, (Intertie Agreement) which, among other things, provides the parties specific rights for the use of the AC Intertie. Bonneville and the Company are entering into this Agreement to satisfy the requirements of Section 6(d) of the Intertie Agreement regarding remedial actions.

Bonneville and the Company agree that the terms of this Agreement, and any revisions hereto, are intended to provide for the availability of generation dropping from the Company, and compensation to Bonneville for other remedial actions, required to support the Company's AC Intertie rights as set forth in the Intertie Agreement. The parties further agree that as of the Effective Date and upon receipt of appropriate payments as described herein, the Company's generation dropping and remedial action compensation obligations required to support an AC Intertie with a Rated Transfer Capability of 4000 MW are satisfied in full; provided, however, that the Company's share of generation from the powerhouse sites described in subsection 5(a) herein remains available to the Company to provide generation dropping to support the Company's schedules on the AC Intertie; provided, further, the Company shall be responsible for any revised charges pursuant to sections 3 and 4 herein. In the event such generation is not available to the Company to support its schedules on the AC Intertie, the Company shall remain responsible for remedial actions as required by Section 6(d) of the Intertie Agreement.

This Agreement also acknowledges the continuing obligation of the Company to provide generation dropping as set forth in the Intertie Agreement, and establishes the general parameters for cost sharing of remedial actions necessary to support an AC Intertie with a Rated Transfer Capability of up to 4800 MW. This Agreement does not address remedial actions that may be required as a result of increasing the Rated Transfer Capability of the AC Intertie above 4800 MW.

All terms used in this Agreement, that are defined in the Intertie Agreement, are used herein as therein defined. In order to provide for AC Intertie remedial action scheme obligations, Bonneville and the Company agree to the following terms and conditions:

1. **TERM.** This Agreement shall be effective at 2400 hours on the date of execution (Effective Date), and shall terminate upon termination of the Intertie Agreement, as amended or replaced; provided, however, that all liabilities incurred prior to termination hereunder shall be preserved until satisfied.

2. **EXHIBITS.** Use-of-Facilities Transmission Rate Schedules and General Transmission Rate Schedules Provisions (Exhibit A); Calculation of Charges Pursuant to the Use-of-Facilities Rate Schedule (Exhibit B); Project Descriptions (Exhibit C); and General Wheeling Provisions (GWP-Form 4R) (Exhibit D) are by this reference made a part of this Agreement.

3. **REVISION OF EXHIBITS.**

(a) The rate schedules included in Exhibit A shall be replaced by successor rate schedules in accordance with the provisions of Section 7(i) of the Pacific Northwest Electric Power Planning and Conservation Act (PL 96-501).

(b) Exhibit B may be revised as follows:

(1) If Bonneville determines that any charge specified in this Agreement must be changed pursuant to Section 19 or 38 of Exhibit D, it shall prepare a new Exhibit B incorporating such revised charges and factors. Such new Exhibit B shall be substituted for the Exhibit B then in effect and shall become effective as of the date specified therein.

(2) The amount of investment used to calculate the Use-of-Facilities Charge specified in Exhibit B to this Agreement may be revised in accordance with subsections 5(b) and 5(c) hereof to accommodate the addition of new or modification of existing facilities associated with remedial action schemes for the AC Intertie as set forth in the recommendations of the Remedial Action Scheme Study Group, which consists of representatives from Bonneville, the Company, and PacifiCorp (Study Group); provided, however, all recommendations of the Study Group shall be implemented only upon prior approval of the Engineering Committee. Bonneville shall prepare a new Exhibit B incorporating such additions or modifications. The Company may review and audit any charges due as a result of such additions or modifications. Bonneville shall provide a copy of such new Exhibit B to the Company thirty (30) days prior to including any revised charge in the Company's monthly wholesale

power bill. The new Exhibit B shall be substituted for the Exhibit B then in effect and shall become effective as of the date specified therein.

(3) The monthly Use-of-Facilities charge specified in Exhibit B may be revised by Bonneville once every 2 years, beginning two years after the Effective Date, to be effective on the following July 1, to incorporate changes in the Composite General Plant ratio for Joint Use Facilities as specified in the "Total Direct" column in the "Annual Financial Requirements for Bonneville's Transmission System" as published by Bonneville annually. (Such ratio was 11.99 percent in the 1991/1992 Annual Financial Requirements for Bonneville's Transmission System.)

(4) Bonneville shall revise the company share specified in Exhibit B at any time the Rated Transfer Capability of the AC Intertie increases or decreases to reflect changes in the Company's proportional rights to AC Intertie capability as provided in the Intertie Agreement. The company share shall be a fraction, the numerator of which equals the Company's rights to AC Intertie capability, and the denominator of which equals the Rated Transfer Capability of the AC Intertie.

(c) Bonneville shall revise Exhibit C as required, and consistent with the Intertie Agreement, to describe Future Upgrades.

#### **4. FACILITIES AT JOINTLY-OWNED SUBSTATIONS.**

(a) Bonneville and the Company have executed Trust Table Nos. 20 and 22 to Contract No. 14-03-29225 (Malin Construction Trust Agreement Tables) and Table Nos. 6, 7 and 9 to Contract No. DE-MS79-86BP92277 (Grizzly Construction Trust Agreement Tables). The trust tables provide, in part, for cost sharing of certain AC Intertie stability control facilities, necessary to support an AC Intertie with up to a Rated Transfer Capability of 4800 MW, at jointly-owned Malin, Grizzly, and Fort Rock Substations (Substations).

The parties agree that payments made by the Company pursuant to the Grizzly Construction Trust Agreement Tables shall be adjusted as described below such that the Company's payment obligation for the stability control facilities specified therein does not exceed an amount equal to the Company's proportional 800/3200 MW share of AC Intertie rights; provided, however, that ownership of such facilities shall be equal to the percentages specified in the Grizzly Construction Trust Agreement Tables. Such adjustment due the Company shall be provided for as follows:

(1) A lump sum credit of \$115,509.00 for Grizzly Construction Trust Agreement Tables Nos. 6 and 7 shall be applied against the payments due Bonneville as described in subsections 5(a) and 5(b) herein; and

(2) Following completion of a final accounting by Bonneville of Grizzly Construction Trust Agreement Table No. 9, Bonneville shall compute the amount of adjustment due. The party owing such amount due shall make payment to the other party within thirty (30) days of receipt of the final accounting.

(b) If the Study Group determines (with the approval of the Engineering Committee) that further modifications or additions to remedial action or stability control facilities at the Substations are necessary to support the Rated Transfer Capability of the AC Intertie up to 4800 MW, the Company shall pay a proportional share of the cost of such facilities based on the ratio of the Company's right to AC Intertie capability, pursuant to the Intertie Agreement, to the total AC Intertie Rated Transfer Capability at the time such modifications or additions are completed.

Any such modifications or additions shall be documented in trust tables associated with the Grizzly Substation Construction Trust Agreement, Contract No. DE-MS79-86BP92277, or the Malin Substation Construction Trust Agreement, Contract No. 14-03-29225, as appropriate. Ownership of such modifications or additions shall be consistent with the ownership percentages as specified in the Grizzly Substation Construction Trust Agreement, or the Malin Substation Construction Trust Agreement, as appropriate.

(c) Adjustments made by Bonneville pursuant to subsections 4(a) and 4(b) above, with respect to the Grizzly Construction Trust Agreement Tables, shall not be precedential to future transactions between Bonneville and the Company.

## 5. PAYMENT.

(a) **POWERHOUSE UPGRADES.** Bonneville has completed the installation and connection of microwave transfer trip and other equipment to drop generation under certain AC Intertie conditions at Rocky Reach, Wells, and Wanapum generation projects (Powerhouse Upgrades).

The Company shall reimburse Bonneville a lump sum amount of \$98,196.00, which amount includes Bonneville's overhead charges at a rate of thirty percent (30%), plus interest calculated from the Energization Date to November 30, 1993, to pay the Company's share of the cost to the Government of providing the Powerhouse Upgrades. Such lump sum amount

represents Bonneville's final accounting of actual costs for the Powerhouse Upgrades, provided, however, the Company may review and audit such costs which were determined as follows:

<u>Powerhouse</u>	<u>Final Actual Cost</u>	<u>Cost for the Company (800/1100)</u>
Rocky Reach	\$ 54,702	\$ 39,783
Wanapum	40,060	29,135
Wells	<u>40,257</u>	<u>29,278</u>
	\$135,019	\$ 98,196
Interest for the period February 1, 1991 - November 30, 1993:		\$ 23,698
Lump sum payment due Bonneville for the Powerhouse Upgrades		<u>\$121,894</u>

The Powerhouse Upgrades are owned entirely by the Powerhouse owners. However, should Bonneville at some future date gain ownership of such Powerhouse Upgrades, 800/1100 of any ownership interest shall be transferred to the Company.

(b) **STABILITY CONTROL UPGRADE.** Bonneville has completed AC Intertie revisions and additions to enhance the reliability of emergency generator dropping circuits to support the 3200 MW Rated Transfer Capability of the AC Intertie (Stability Control Upgrade). The Stability Control Upgrade includes redundant units for essential components of the system and consists of sensing units at several AC Intertie substations, two fault-tolerant controller units, and receiving units which are primarily at generating plants.

The Company agrees to pay a use-of-facilities charge (Use-of-Facilities Charge) at the rates specified in Exhibit B for the Company's proportional share of the costs of the Stability Control Upgrade, except for receiving units at Federal hydro plants. The Use-of-Facilities Charge specified in Exhibit B shall equal the ratio of the Company's right to AC Intertie capability, pursuant to the Intertie Agreement, to the total AC Intertie Rated Transfer Capability, multiplied by the cost of the investments in the Stability Control Upgrade, and multiplied by the Composite General Plant ratio described in subsection 3(b)(3) herein.



The Stability Control Upgrade was energized February 1, 1991 (Energization Date). Upon execution of this Agreement, the Company shall pay Bonneville the sum of the Use-of-Facilities Charges for Stability Control Upgrade service provided from the Energization Date to March 31, 1993, plus interest through November 30, 1993, as follows:

<u>Stability Control Upgrade Payment &amp; Interest Due</u>	
February 1, 1991 - June 30, 1991	\$ 74,745
July 1, 1991 - March 31, 1993	302,337
Interest for the period February 1, 1991 - November 30, 1993	<u>51,928</u>
Lump sum payment due Bonneville for the Stability Control Upgrade	\$429,010

The Use-of-Facilities Charge may originally be determined based on estimated costs. Estimated costs shall be used until the final accounting of actual costs is complete. Estimated costs shall be adjusted from time to time, if needed, to approximate the actual costs as closely as possible. Estimated and actual costs shall include interest calculated from the Energization Date to November 30, 1993, and Bonneville's applicable overhead rate; provided, however, actual costs shall include Bonneville's overhead rate applicable at the time of construction of such facilities. If final costs differ from estimated costs, the Use-of-Facilities Charge shall be adjusted, including interest, and the parties shall be compensated by recalculating all previous payments based on estimates. The resulting credit or additional amount due shall be included in the next scheduled monthly wholesale power bill prepared by Bonneville.

(c) **FUTURE UPGRADES.** The Company shall pay a proportional share of the costs for future AC Intertie remedial action scheme upgrades to support the Rated Transfer Capability of the AC Intertie above 3200 MW but equal to or less than 4800 MW (Future Upgrades) as provided below; provided, however, that such Future Upgrades are (1) jointly developed by the Study Group; (2) reasonably necessary to continue providing the same degree of AC Intertie stability as that provided at the beginning of the term hereof; and (3) approved by the Engineering Committee. The Study Group has developed plans, set forth in Appendices C and D of the BPA Third AC Intertie Remedial Action Scheme 4800 MW Requirement Documents, that are expected to provide for remedial action scheme upgrades up to an AC Intertie Rated Transfer Capability of 4800 MW.

The Company agrees to increase the Use-of-Facilities Charge specified in Exhibit B to compensate Bonneville for the Company's proportional share of



the costs of Future Upgrades. The revision to the Use-of-Facilities Charge specified in Exhibit B for Future Upgrades shall be equal to the ratio of the Company's right to AC Intertie capability pursuant to the Intertie Agreement, to the total AC Intertie Rated Transfer Capability, multiplied by the cost of investments of the Future Upgrades, and multiplied by the Composite General Plant ratio described in subsection 3(b)(3) herein. The cost of any Future Upgrades shall be added to the Use-of-Facilities Charge upon energization of such Future Upgrades.

The 4000 MW AC Intertie remedial action scheme upgrade (4000 MW Future Upgrade) was energized January 31, 1993. The AC Intertie was energized for commercial operations at 4000 MW on March 17, 1993. Upon execution of this Agreement, the Company shall pay Bonneville the sum of the monthly Use-of-Facilities Charges specified in Exhibit B for the 4000 MW Future Upgrade for the period April 1, 1993, to October 31, 1993, plus interest, as follows:

<u>4000 MW Future Upgrade Payment &amp; Interest Due</u>	
April 1, 1993 - June 30, 1993	\$ 81,417
July 1, 1993 - October 31, 1993	108,920
Interest for the period April 1, 1993 - November 30, 1993	<u>4,177</u>
Lump sum payment due Bonneville for the 4000 MW Future Upgrade	\$194,514

Beginning with the period commencing November 1, 1993, the Use-of-Facilities Charge specified in Exhibit B shall be included in the Company's wholesale power bill prepared by Bonneville.

Estimated costs shall be used to compute any revision in the Use-of-Facilities Charge as a result of Future Upgrades until the final accounting of actual costs is complete. Estimated costs shall be adjusted from time to time, if needed, to approximate the actual costs as closely as possible. Estimated and actual costs shall include interest calculated from April 1, 1993, to November 30, 1993, and Bonneville's applicable overhead rate; provided, however, actual costs shall include Bonneville's overhead rate applicable at the time of construction of such facilities. If final costs differ from estimated costs, the Use-of-Facilities Charge shall be adjusted, including interest, and the parties shall be compensated by recalculating all previous payments based on estimates. The resulting credit or additional amount due shall be included in the next scheduled monthly wholesale power bill prepared by Bonneville.

(d) Upon execution of this Agreement, the Company shall pay Bonneville the following:

- (1) payment of \$121,894 due Bonneville for the Powerhouse Upgrades pursuant to subsection 5(a); plus
- (2) payment of \$429,010 due Bonneville for the Stability Control Upgrade Use-of-Facilities Charge pursuant to subsection 5(b); plus
- (3) payment of \$194,514 due Bonneville for the 4000 MW Future Upgrade Use-of-Facilities Charge pursuant to subsection 5(c); less
- (4) the credit of \$115,509 due the Company as specified in subsection 4(a)(1).

(e) Payment of interest as described herein shall be at Bonneville's weighted average interest rate on bonds outstanding with the U.S. Treasury, and shall not be precedential to future transactions between Bonneville and the Company.

**6. OWNERSHIP.** Title to and ownership of the facilities and equipment described herein shall be as specified in subsection 4(b) and Exhibit C.

**7. OPERATION AND MAINTENANCE.**

(a) Except for Powerhouse Upgrades, Bonneville shall operate and maintain the Stability Control Upgrade and Future Upgrades up through an AC Intertie rating of 4800 MW. The Use-of-Facilities Charge includes all charges for operation and maintenance of the Stability Control Upgrade and any Future Upgrades, except as specified in subsection 7(b) below.

(b) Operation and maintenance of jointly-owned facilities at the Substations shall be in accordance with the Malin Operation and Maintenance (O&M) Trust Agreement, Contract No. 14-03-63627, and the Grizzly O&M Trust Agreement, Contract No. 14-03-73941, or their successor agreements, as appropriate.

(c) Operation and maintenance of the Powerhouse Upgrades are not provided for under this Agreement. Such operation and maintenance shall be the responsibility of the Powerhouse owners.

If the terms of this Agreement are acceptable to the Company, please indicate your approval by signing both enclosed copies and returning one copy to Bonneville with payment in the amount of \$629,909. The remaining copy is for your files.

Sincerely,

(b)(6)

Administrator

Name John S. Robertson, Acting Administrator  
(Print/Type)

ACCEPTED:

~~PORTLAND GENERAL ELECTRIC COMPANY~~

(b)(6)

By

Name Richard E. Dyer  
(Print/Type)

Title Vice President

Date 12/22/93

(PMTT-7664:P:PMT\CONTRACT\LA\_AGMT\WP3376EE.DOC)

**United States Department of Energy  
Bonneville Power Administration**

905 N. E. 11th Avenue  
Portland, Oregon 97232

Bonneville Power Administration 1993 Wholesale Power Rate Schedules and General Rate Schedule Provisions and 1993 Transmission Rate Schedules and General Transmission Rate Schedule Provisions, contained herein, were approved on an interim basis effective October 1, 1993. These rate schedules and provisions were approved by the Federal Energy Commission, United States Department of Energy, in September, 1993 (Docket Nos. EF93-2011-000, EF93-2021-000, and EF93-2041-000).

These rate schedules and provisions supersede the Administration's Wholesale Power Rate Schedules and General Rate Schedule Provisions and Transmission Rate Schedules and General Transmission Rate Schedule Provisions effective October 1, 1991.

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# **WHOLESALE POWER RATE SCHEDULES AND GENERAL RATE SCHEDULE PROVISIONS**

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**Schedule PF-93**  
**Priority Firm Power Rate**

**SECTION I. AVAILABILITY**

This schedule is available for the contract purchase of firm power or capacity to be used within the Pacific Northwest. Priority Firm Power may be purchased by public bodies, cooperatives, and Federal agencies for resale to ultimate consumers for direct consumption, construction, test and startup, and station service.

Utilities participating in the exchange under section 5(c) of the Northwest Power Act may purchase Priority Firm Power pursuant to their Residential Purchase and Sale Agreements.

In addition, BPA may make power available to those parties participating in exchange agreements which use this rate schedule as the basis for determining the amount or value of power to be exchanged.

This schedule supersedes Schedule PF-91 which went into effect on October 1, 1991. Sales under this schedule are made subject to BPA's General Rate Schedule Provisions (GRSPs).

**SECTION II. RATE**

This rate schedule includes the Preference rate and the Exchange rate. The Preference rate is available for the general requirements of public body, cooperative and Federal agency customers. The Exchange rate is available for all purchases of residential and small farm exchange power pursuant to the Residential Purchase and Sale Agreements.

**A. Preference Rate**

**1. Demand Charge**

- a. \$4.141 per kilowatt of billing demand occurring during all Peak Period hours during a billing month.
- b. No demand charge during Offpeak Period hours during a billing month.

**2. Energy Charge**

- a. 22.17 mills per kilowatthour of billing energy for the billing months September through March.
- b. 16.29 mills per kilowatthour of billing energy for the billing months April through August.

**B. Exchange Rate**

**1. Demand Charge**

- a. \$4.141 per kilowatt of billing demand occurring during all Peak Period hours during a billing month.
- b. No demand charge during Offpeak Period hours during a billing month.

**2. Energy Charge**

- a. 22.17 mills per kilowatthour of billing energy for the billing months September through March.
- b. 16.29 mills per kilowatthour of billing energy for the billing months April through August.

**SECTION III. BILLING FACTORS**

In this section, billing factors are listed for each of the following types of purchasers: computed requirements purchasers (section III.A), purchasers of residential exchange power pursuant to the Residential Purchase and Sale Agreements (section III.B), and metered requirements purchasers and those Priority Firm Power purchasers not covered by sections III.A and III.B (section III.C).

**Schedule PF-93  
(Continued)**

**A. Computed Requirements Purchasers**

Purchasers designated by BPA as computed requirements purchasers pursuant to power sales contracts shall be billed in accordance with the provisions of this subsection.

**1. Billing Demand**

The billing demand for actual, planned, and contracted computed requirements purchasers shall be the higher of the billing factors "a" and "b," below:

**a. the lower of:**

- (1) the larger of the Computed Peak Requirement or the Computed Average Energy Requirement; or
- (2) the Measured Demand, before adjustment for power factor.

**b. the lower of:**

- (1) the Computed Peak Requirement; or
- (2) 60 percent of the highest Computed Peak Requirement during the previous 11 billing months (Ratchet Demand).

**2. Billing Energy**

The billing energy for actual, planned, and contracted computed requirements purchasers shall be:

**a. for the months September through March, the sum of:**

- (1) 76 percent of the Measured Energy (excluding unauthorized increase); and

- (2) 24 percent of the Computed Energy Maximum.

**b. for the months April through August, the sum of:**

- (1) 63 percent of the Measured Energy (excluding unauthorized increase); and
- (2) 37 percent of the Computed Energy Maximum.

**B. Purchasers of Residential Exchange Power**

Purchasers buying Priority Firm Power under the terms of a Residential Purchase and Sale Agreement shall be billed as follows:

**1. Billing Demand**

The billing demand shall be the demand calculated by applying the load factor, determined as specified in the Residential Purchase and Sale Agreement, to the billing energy for each billing period.

**2. Billing Energy**

The billing energy shall be the energy associated with the utility's residential load for each billing period. Residential load shall be computed in accordance with the provisions of the purchaser's Residential Purchase and Sale Agreement.

**C. Metered Requirements Purchasers, Other Purchasers Not Covered by Sections III.A and III.B, Above**

Purchasers designated as metered requirements customers and purchasers taking or exchanging power under this rate schedule who are not otherwise covered by sections III.A and III.B shall be billed as follows:



**Schedule PF-93  
(Continued)**

**1. Billing Demand**

The billing demand shall be the Measured Demand as adjusted for power factor, unless otherwise specified in the power sales contract.

**2. Billing Energy**

The billing energy shall be the Measured Energy, unless otherwise specified in the power sales contract.

**SECTION IV. ADJUSTMENTS AND SPECIAL PROVISIONS**

**A. Power Factor Adjustment**

The adjustment for power factor, when specified in this rate schedule or in the power sales contract, shall be made in accordance with the provisions of both this section and section III.C.1 of the GRSPs. The adjustment shall be made if the average leading power factor or average lagging power factor at which energy is supplied during the billing month is less than 95 percent.

To make the power factor adjustment, BPA shall increase the billing demand by 1 percentage point for each percentage point or major fraction thereof (0.5 or greater) by which the average leading power factor or average lagging power factor is below 95 percent. BPA may elect to waive the adjustment for power factor in whole or in part.

**B. Low Density Discount (LDD)**

BPA shall apply a discount to the charges for all Priority Firm Power sold to purchasers who are eligible for an LDD. Eligibility for the LDD and the amount of the discount (3, 5, or 7 percent) shall be determined pursuant to section III.C.3 of the GRSPs.

**C. Irrigation Discount**

BPA shall apply an irrigation discount, equal to 4.71 mills per kilowatthour, to the charges for qualifying energy purchased under this rate schedule. The irrigation discount shall be applied after calculation of the LDD. The discount shall apply only to energy purchased during the billing months of April through October. Eligibility for the irrigation discount and reporting requirements shall be determined pursuant to section III.C.4 of the GRSPs.

**D. Conservation Surcharge**

The Northwest Power Planning Council has recommended that a conservation surcharge be imposed on those customers subject to such surcharge as determined by the Administrator in accordance with BPA's Policy to Implement the Council-Recommended Conservation Surcharge. The Conservation Surcharge shall be applied pursuant to section III.C.7 of the GRSPs and subsequent to any other rate adjustments.

**E. Outage Credit**

Pursuant to section 7 of the General Contract Provisions, BPA shall provide an outage credit to any purchaser for those hours for which BPA is unable to deliver the full billing demand during that billing month due to an outage on the facilities used by BPA to deliver Priority Firm Power. Such credit shall not be provided if BPA is able to serve the purchaser's load through the use of alternative facilities or if the outage is for less than 30 minutes. The amount of the credit shall be calculated according to the provisions of section III.C.2 of the GRSPs.

**F. Unauthorized Increase**

BPA shall apply the charge for Unauthorized Increase to any purchaser of Priority Firm Power

**Schedule PF-93  
(Continued)**

taking demand and energy in excess of its contractual entitlement.

Overrun" exhibit to the power sales contract; or

**1. Rate for Unauthorized Increase**

- a. 100.00 mills per kilowatthour during the billing months August through March.
- b. 57.40 mills per kilowatthour during the billing months April through July.

- (b) if such exhibit does not apply or is not a part of the purchaser's power sales contract, at the rate for Unauthorized Increase, based on the amount of energy associated with the excess demand.

**2. Calculation of the Amount of Unauthorized Increase**

Each 60-minute clock-hour integrated or scheduled demand shall be considered separately in determining the amount that may be considered an unauthorized increase. BPA first shall determine the amount of unauthorized increase related to demand and shall treat any remaining unauthorized increase as energy-related.

**a. Unauthorized Increase in Demand**

That portion of any Measured Demand during Peak Period hours, before adjustment for power factor, which exceeds the demand that the purchaser is contractually entitled to take during the billing month and which cannot be assigned:

- (1) to a class of power that BPA delivers on such hour pursuant to contracts between BPA and the purchaser; or
- (2) to a type of power that the purchaser acquires from sources other than BPA and that BPA delivers during such hour, shall be billed:
  - (a) in accordance with the provisions of the "Relief from

**b. Unauthorized Increase in Energy**

The amount of Measured Energy during a billing month which exceeds the amount of energy which the purchaser is contractually entitled to take during that month and which cannot be assigned:

- (1) to a class of power which BPA delivers during such month pursuant to contracts between BPA and the purchaser; or
- (2) to a type of power which the purchaser acquires from sources other than BPA and which BPA delivers during such month, shall be billed:
  - (a) in accordance with the provisions of the "Relief from Overrun" exhibit to the power sales contract; or
  - (b) as unauthorized increase if such exhibit does not apply or is not a part of the purchaser's power sales contract.

**G. Interim Rate Adjustment**

The Interim Rate Adjustment (IRA) described in section III.C.5 of the GRSPs shall be applied uniformly to all purchases and exchanges under

**Schedule PF-93  
(Continued)**

the PF-93 rate schedule. If the IRA triggers, it shall be applied uniformly to the demand and energy charges contained in sections II.A and II.B of this rate schedule. The IRA shall be applied in the following manner:

$[1 + (\text{IRA}\% / 100)]$  multiplied by the demand and energy charges contained in sections II.A and II.B of this rate schedule.

An additional increment of 0.047 mills per kilowatthour shall be added to the irrigation discount described in section IV.C for each percentage increase in the PF rates due to the IRA.

**H. Energy Tax Adjustment**

The Energy Tax Adjustment described in section III.C.8 of the GRSPs shall be applied as a uniform mills per kilowatthour addition to the energy charges contained in II.A.2 and II.B.2.

**I. Coincidental Billing Adjustment**

Purchasers of Priority Firm Power who are billed on a coincidental basis and who have diversity charges or diversity factors specified in their power sales contracts shall have their charges for billing demand adjusted according to the provisions of section III.C.6 of the GRSPs. Computed requirements purchasers are not subject to the Coincidental Billing Adjustment for scheduled power.

**J. Energy Return Surcharge**

Any purchaser who preschedules in accordance with sections 2(a)(4) and 2(c)(2) of Exhibit E of the power sales contract and who returns, during a single offpeak hour, more than 60 percent of the difference between that purchaser's billing demand and computed average energy requirement for the billing month shall be subject

to the following surcharge for each additional kilowatthour so returned:

1. 4.08 mills per kilowatthour for the months of April through October;
2. 1.73 mills per kilowatthour for the months of November through March.

**SECTION V. RESOURCE COST  
CONTRIBUTION**

BPA has made the following determinations:

- A. The approximate cost contribution of different resource categories to the PF-93 rate is 72.2 percent FBS and 27.8 percent Exchange.
- B. The forecasted average cost of resources available to BPA under average water conditions is 19.80 mills per kilowatthour.
- C. The forecasted cost of resources to meet load growth is 60.64 mills per kilowatthour.



**Schedule IP-93**  
**Industrial Firm Power Rate**

**SECTION I. AVAILABILITY**

This schedule is available to direct service industrial (DSI) customers for both the contract purchase of Industrial Firm Power and the purchase of Auxiliary Power if requested by the DSI customer and made available by BPA. If a DSI customer purchasing power under this rate schedule requests and BPA makes available power under another applicable wholesale rate schedule, the IP-93 rate schedule is available for that portion of power purchased not covered under the alternative rate schedule. This rate schedule supersedes Schedule IP-91 which went into effect on October 1, 1991. Sales under this schedule are made subject to BPA's General Rate Schedule Provisions (GRSPs).

**SECTION II. RATE**

The following rates shall be applied when first quartile service is provided under this rate schedule in accordance with the terms of a purchaser's Power Sales Contract dated August 25, 1981. A separate billing adjustment for the reserves provided by the purchasers of Industrial Firm Power is not contained in this rate schedule; the value of reserves credit has been included in the determination of the demand and energy charges.

Any contractual reference to the IP Premium rate shall be deemed to refer to the demand and energy charges set forth below. Any reference to the IP Standard rate shall be deemed to refer to the same demand and energy charges minus the Discount for Quality of First Quartile Service.

**A. Demand Charge**

1. \$5.112 per kilowatt of billing demand occurring during all Peak Period hours during a billing month.
2. No demand charge during Offpeak Period hours.

**B. Energy Charge**

1. 21.06 mills per kilowatthour of billing energy for the billing months September through March.
2. 17.33 mills per kilowatthour of billing energy for the billing months April through August.

**SECTION III. BILLING FACTORS**

**A. Billing Demand**

The billing demand shall be the BPA Operating Level during the Peak Period as adjusted for power factor. If there is more than one BPA Operating Level during the Peak Period within a billing month, the billing demand shall be a weighted average of the BPA Operating Levels during the Peak Period for the billing month. The BPA Operating Level is defined in section III.A.10 of the GRSPs. If BPA has agreed to serve a portion of a DSI load under an alternative rate schedule, the billing demand under the IP-93 rate schedule shall be specified in the contract initiating such arrangement.

However, if BPA has agreed, pursuant to section 4 of the DSI power sales contract, to sell Industrial Firm Power on a daily demand basis (transitional service), then BPA shall bill the purchaser in accordance with the provisions of section V.C.3 of the GRSPs.

**B. Billing Energy**

The billing energy shall be the Measured Energy for the billing month, minus any kilowatthours on which BPA assesses the charge for unauthorized increase.

However, if BPA has agreed to serve only a portion of the DSI's load under the IP rate schedule, the billing energy for the power

**Schedule IP-93  
(Continued)**

purchased under the IP rate shall be specified in the contract initiating such arrangement.

**SECTION IV. ADJUSTMENTS AND SPECIAL PROVISIONS**

**A. Discount for Quality of First Quartile Service**

**1. Application and Amount of First Quartile Discount**

If a purchaser requests discounted rate service, a discount of 0.69 mills per kilowatthour of billing energy shall be granted. This billing credit shall be applied to the monthly billing energy under section III.B for all power purchased under this rate schedule. No credit shall be applied to those purchases subject to unauthorized increase charges under section IV.D of this rate schedule.

**2. Eligibility Requirements for First Quartile Discount**

To qualify for the First Quartile Discount the purchaser must request discounted rate service in writing by April 2 of each calendar year. By virtue of making such request, the Purchaser is agreeing to accept the level and quality of First Quartile service described in section 6 of the Variable Industrial rate contract. Such acceptance includes the waiver of contract rights provided in section 6.a(2)(a) of said contract.

**B. Curtailments**

BPA shall charge the DSI for curtailments of the lower three quartiles in accordance with the provisions of section 9 of the power sales contract. BPA shall apply the demand charge in effect at the time of the curtailment in the computation of the amount of the curtailment charge. In the event that a purchaser is found to

be eligible to have a portion of their load served under an alternative rate schedule, application of the curtailment charge shall be specified in the contract instituting such arrangement.

**C. Unauthorized Increase**

**1. Rate for Unauthorized Increase**

- a. 100.00 mills per kilowatthour during billing months August through March.
- b. 57.40 mills per kilowatthour during billing months April through July.

**2. Application of the Charge**

During any billing month, BPA may assess the unauthorized increase charge on the number of kilowatthours associated with the DSI Measured Demand in any one 60-minute clock-hour, before adjustment for power factor, that exceed the BPA Operating Level for that clock-hour, regardless of whether such Measured Demand occurs during the Peak or Offpeak Period.

**D. Power Factor Adjustment**

The adjustment for power factor, when specified in this rate schedule or in the power sales contract, shall be made in accordance with the provisions of both this section and section III.C.1 of the GRSPs. The adjustment shall be made if the average leading power factor or average lagging power factor at which energy is supplied during the billing month is less than 95 percent.

To make the power factor adjustment, BPA shall increase the billing demand by 1 percentage point for each percentage point or major fraction thereof (0.5 or greater) by which the average leading power factor or average lagging power factor is below 95 percent. BPA may elect to waive the adjustment for power factor in whole or in part.

**Schedule IP-93  
(Continued)**

**E. Outage Credit**

Pursuant to section 7 of the General Contract Provisions, BPA shall provide an outage credit to any DSI for those hours for which BPA is unable to deliver the full billing demand during that billing month due to an outage on the facilities used by BPA to deliver Industrial Firm Power. Such credit shall not be provided if BPA is able to serve the DSI's load through the use of alternative facilities or if the outage is for less than 30 minutes. The amount of the credit shall be calculated according to the provisions of section III.C.2 of the GRSPs.

**F. Interim Rate Adjustment**

The Interim Rate Adjustment (IRA) described in section III.C.5 of the GRSPs shall be applied to all power purchases under the IP-93 rate schedule. If the IRA triggers, it shall be applied to the demand and energy charges, contained in sections II.A and II.B of this rate schedule, and the First Quartile Service Discount contained in section IV.A.1 of this rate schedule.

The IRA shall be applied in the following manner:

$[1 + (\text{IRA}\% / 100)]$  multiplied by the demand and energy charges contained in sections II.A and II.B of this rate schedule, and the First Quartile service discount contained in section IV.A.1 of this rate schedule.

**G. Energy Tax Adjustment**

The Energy Tax Adjustment described in section III.C.8 of the GRSPs shall be applied as a uniform mills per kilowatthour addition to the energy charges contained in section II.B.

**SECTION V. RESOURCE COST  
CONTRIBUTION**

BPA has made the following determinations:

- A. The approximate cost contribution of different resource categories to the IP-93 rate is 85.8 percent Exchange and 14.2 percent New Resources.
- B. The forecasted average cost of resources available to BPA under average water conditions is 19.80 mills per kilowatthour.
- C. The forecasted cost of resources to meet load growth is 60.64 mills per kilowatthour.





**Schedule VI-91**  
**Variable Industrial Power Rate**

**SECTION I. AVAILABILITY**

This schedule is available to DSI customers for purchases under the Power Sales Contract implementing the VI rate schedule (Variable Rate Contract) of: (1) Industrial Firm Power; and (2) Auxiliary Power if requested by the DSI customer and made available by BPA. This schedule is available only for that portion of a DSI's load used in primary aluminum reduction including associated administrative facilities, if any. By virtue of incorporation of this rate schedule and associated GRSPs in the Variable Rate Contract, DSIs electing to purchase power under this rate schedule contractually agree to the terms and conditions of this rate schedule. A DSI further agrees to waive, for that portion of their load designated to purchase power at the VI rate, all rights they might otherwise have to purchase power at the Industrial Firm Power Rate Schedule for the duration of the Variable Rate Contract. Sales under this schedule are made subject to BPA's GRSPs effective October 1, 1989, and as revised in subsequent wholesale rate filings.

**SECTION II. TERM OF THE RATE**

This rate schedule shall take effect on July 1, 1993, and shall terminate at midnight June 30, 1996.

**SECTION III. RATE**

**A. Base Rate Charges Subject to Rate Case Adjustments**

The following base rates shall be adjusted on Rate Adjustment Dates beginning October 1, 1991, following the procedures set forth in section VI.C of this rate schedule, unless the Interim Rate Adjustment triggers, at which point the rates shall be adjusted following the procedures set forth in section VI.I of this rate schedule. In addition, the Lower Rate Limit also will be subject to a biennial adjustment pursuant to section VI.B of this rate schedule. The

formula to be used in the calculation of the monthly power bill is contained in section IV. A separate billing adjustment for the value of the reserves provided by purchasers of Industrial Firm Power is not contained in this rate schedule; the value of reserves credit has been included in the determination of the Plateau Energy Charge. On July 1, 1993, the base rates, as adjusted, shall be applied to purchases by DSI customers under the Variable Rate Contract. These rates shall continue to be adjusted, as described, through June 30, 1996.

**1. Base Variable Industrial Rate**

**a. Demand Charge**

\$5.33 per kilowatt of billing demand, as adjusted, occurring during the Peak Period during a billing month. (For the rate period beginning October 1, 1993, the demand charge shall be \$5.993 per kilowatt of billing demand.) No demand charge is applied during Offpeak Period hours.

**b. Plateau Energy Charge**

16.1 mills per kilowatthour of billing energy, as adjusted. (For the rate period beginning October 1, 1993, the plateau energy charge shall be 18.11 mills per kilowatthour of billing energy.)

**2. First Quartile Service Discount**

0.50 mills per kilowatthour of billing energy. (For the rate period beginning October 1, 1993, the First Quartile service charge shall be 0.57 mills per kilowatthour of billing energy.)

**Schedule VI-91  
(Continued)**

**3. Lower Rate Limit**

10.3 mills per kilowatthour of billing energy.  
(For the rate period beginning October 1, 1993, the lower rate limit shall be 13.31 mills per kilowatthour of billing energy.)

**4. Upper Rate Limit**

21.9 mills per kilowatthour of billing energy.  
(For the rate period beginning October 1, 1993, the upper rate limit shall be 23.91 mills per kilowatthour of billing energy.)

**B. Base Rate Parameters Subject to Annual Adjustments**

The following base rate parameters will be adjusted annually starting on July 1, 1991, and every July 1 thereafter, in accordance with the procedures contained in section VII.B. of the GRSPs. On July 1, 1993, the base rate parameters, as adjusted, shall be used in determining power bills for DSI customers purchasing power under the Variable Rate Contracts. These parameters shall continue to be adjusted as described through June 30, 1996.

**1. Lower Pivot Aluminum Price**

68.5 cents per pound.

**2. Upper Pivot Aluminum Price**

79.6 cents per pound.

**SECTION IV. FORMULA**

The Variable Industrial Power rate is a formula rate tied to the U.S. market price of aluminum. Under this rate schedule, the monthly energy charge varies in response to changes in the average price of aluminum in U.S. markets.

**A. Demand Charge**

1. The Demand Charge, as stated in section III.A.1.a of this rate schedule, remains constant over all aluminum prices. The demand charge is applied to billing demand occurring during all Peak Period hours for all billing months.
2. No demand charge during Offpeak Period hours.

**B. Energy Charge**

**1. Plateau Energy Charge**

When the monthly billing aluminum price (described in section VII.A of the GRSPs) is between the Lower Pivot Aluminum Price and the Upper Pivot Aluminum Price inclusive (as stated in sections III.B.1 and III.B.2 of this rate schedule), the monthly energy charge shall be the Plateau Energy Charge as stated in section III.A.1.b of this rate schedule.

**2. Reductions to Plateau Energy Charge**

When the monthly billing aluminum price is less than the Lower Pivot Aluminum Price, the monthly energy charge shall be the greater of:

- a. The Plateau Energy Charge -  
 $(LP - MAP) * (LS)$

where:

LP = the Lower Pivot Aluminum Price as stated in section III.B.1 of this rate schedule.

**Schedule VI-91  
(Continued)**

MAP = the monthly billing aluminum price in cents per pound determined pursuant to section VII.A of the GRSPs

LS = lower slope =  
 $\frac{1 \text{ mill per kilowatthour}}{1 \text{ cent per pound}}$

or

- b. the Lower Rate Limit as stated in section III.A.3 of this rate schedule.

**3. Increases to Plateau Energy Charge**

When the monthly billing aluminum price is greater than the Upper Pivot Aluminum Price, the monthly energy charge shall be the lesser of:

- a. The Plateau Energy Charge + (MAP - UP) \* (US)

where:

MAP = the monthly billing aluminum price in cents per pound, as determined according to section VII.A of the GRSPs.

UP = the Upper Pivot Aluminum Price as stated in section III.B.2 of this rate schedule.

US = upper slope =  
 $\frac{0.75 \text{ mills per kilowatthour}}{1 \text{ cent per pound}}$

- b. the Upper Rate Limit, as stated in section III.A.4 of this rate schedule.

**SECTION V. BILLING FACTORS**

**A. Billing Demand**

**1. Billing Demand for Customers Whose Entire BPA Load is Served at the VI Rate**

The billing demand for power purchased shall be the BPA Operating Level during the Peak Period as adjusted for power factor. If there is more than one BPA Operating Level during the Peak Period within a billing month, the billing demand shall be a weighted average of the BPA Operating Levels during the Peak Period for the billing month. The BPA Operating Level is defined in section III.A.10 of the GRSPs.

**2. Billing Demand for Customers When Only a Portion of Their Total BPA Load is Served at the Variable Rate**

The Billing Demand shall be the portion of the BPA Operating Level attributable to the VI rate as determined by the method specified in the Variable Rate Contract.

**3. Billing Demand During Periods of Transitional Service**

If BPA has agreed, pursuant to section 4 of the DSI power sales contract, to sell Industrial Firm Power on a daily demand basis (transitional service), sections V.A.1 and V.A.2 of the rate schedule shall not apply, and BPA shall bill the purchaser in accordance with the provisions of section V.C of the GRSPs.

**B. Billing Energy**

The billing energy for power purchased shall be the Measured Energy for the billing month, minus any kilowatthours on which BPA assesses the charge for unauthorized increase.

**Schedule VI-91  
(Continued)**

**SECTION VI. OTHER ADJUSTMENTS AND  
SPECIAL PROVISIONS**

**A. Lower and Upper Pivot Aluminum Prices**

Effective July 1, 1991, and every July 1 thereafter, the Lower and Upper Pivot Aluminum Prices set forth in section III.B of the rate schedule shall be adjusted following the procedures set forth in section VII.B of the GRSPs. The adjusted Lower and Upper Pivot Aluminum Prices shall supersede the Lower and Upper Pivot Aluminum Prices contained in section III.B of the rate schedule. The revised Lower and Upper Pivot Aluminum Prices shall be used for billing purposes and subsequent adjustments to the Lower and Upper Pivot Aluminum Prices.

**B. Lower Rate Limit**

On July 1, 1992, and July 1, 1994, the Lower Rate Limit as stated in section III.A.3 shall be increased by 1 mill per kilowatthour. The revised Lower Rate Limit shall supersede the Lower Rate Limit as stated in section III.A.3 of the rate schedule. This increase is in addition to rate adjustment increases in the Lower Rate Limit described in section VI.C of this rate schedule. In the event that a rate adjustment date and the annual adjustment date occur simultaneously, the Lower Rate Limit shall be adjusted first for changes in the Plateau Energy Charge pursuant to section VI.C of this rate schedule, and then increased by 1 mill per kilowatthour. The revised Lower Rate Limit shall be used for billing purposes and subsequent rate adjustments.

**C. Rate Adjustments**

The overall rate level of this rate shall be subject to adjustment in BPA's general wholesale power rate case following the procedures and directives of the Northwest Power Act. The overall rate

level consists of the Demand Charge, Plateau Energy Charge, and First Quartile Service Adjustment contained in sections III.A.1 and III.A.2; these shall be adjusted by a uniform percentage based on the percentage change in the overall rate level. The Lower and Upper Rate Limits as stated in sections III.A.3 and III.A.4 of this rate schedule shall be adjusted by an amount equal to the change, in mills per kilowatthour, in the Plateau Energy Charge. The Lower and Upper Pivot Aluminum Prices shall not be adjusted in the rate case; rather, they shall be adjusted pursuant to the procedures described in section VII.B of the GRSPs. The lower and upper slopes shall not be adjusted. The rate for unauthorized increase shall be separately determined in each rate case.

**D. Discount for Quality of First Quartile Service**

If a purchaser requests First Quartile service with other than Surplus Firm Energy Load Carrying Capability (FELCC), a discount contained in section III.A.2 of this rate schedule shall be granted. This billing credit shall be applied to the monthly billing energy under section V.B for all power purchased under this rate schedule. No credit shall be applied to those purchases subject to unauthorized increase charges under section VI.F of this rate schedule. To qualify for the First Quartile Discount, the purchaser must request discounted rate service in writing by April 2 of each calendar year. By virtue of making such request, the Purchaser is agreeing to accept the level and quality of First Quartile service described in section 6 of the Variable Industrial Rate contract. Such acceptance includes the waiver of contract rights provided in section 6.a(2)(a) of said contract.

**Schedule VI-91  
(Continued)**

**F. Unauthorized Increase**

**1. Rate for Unauthorized Increase**

- a. 100.00 mills per kilowatthour during the billing months August through March.
- b. 57.40 mills per kilowatthour during the billing months April through July.

**2. Application of the Charge**

During any billing month, BPA may assess the unauthorized increase charge on the number of kilowatthours associated with the DSI Measured Demand in any one 60-minute clock-hour, before adjustment for power factor, that exceed the BPA Operating Level for that clock-hour, regardless of whether such Measured Demand occurs during the Peak or Offpeak Period.

**G. Power Factor Adjustment**

The adjustment for power factor, when specified in this rate schedule or in the power sales contract, shall be made in accordance with the provisions of both this section and section III.C.1 of the GRSPs. The adjustment shall be made if the average leading power factor or average lagging power factor at which energy is supplied during the billing month is less than 95 percent.

To make the power factor adjustment, BPA shall increase the BPA Operating Level by 1 percentage point for each percentage point or major fraction thereof (0.5 or greater) by which the average leading power factor or average lagging power factor is below 95 percent. BPA may elect to waive the adjustment for power factor in whole or in part.

**H. Outage Credit**

Pursuant to section 7 of the General Contract Provisions, BPA shall provide an outage credit to any DSI to whom BPA is unable to deliver the full billing demand during that billing month due to an outage on the facilities used by BPA to deliver Industrial Firm Power. Such credit shall not be provided if BPA is able to serve the DSI's load through the use of alternative facilities or if the outage is for less than 30 minutes. The amount of the credit shall be calculated according to the provisions of section III.C.2 of the GRSPs.

**I. Interim Rate Adjustment**

The Interim Rate Adjustment (IRA) described in section III.C.5 of the GRSPs shall be applied to all power purchases under the rate schedule. If the IRA triggers, it shall be applied to the VI-91 rate schedule consistent with the procedures to adjust the Variable Industrial rate and the provisions of the Variable Rate Contract. A uniform adjustment will be made only if it causes demand and Plateau Energy charges and the First Quartile Service Discount to increase.

The Interim Rate Adjustment shall be applied in the following manner:

$[1 + (\text{IRA}\% / 100)]$  multiplied by the demand and Plateau energy charges contained in section III.A.1 of this rate schedule and to the First Quartile Service Discount specified in Section III.A.2 of this rate schedule.

The Lower and Upper Rate Limits stated in sections III.A.3 and III.A.4 of this rate schedule shall be adjusted by an amount equal to the change, in mills per kilowatt-hour, to the Plateau Energy charge due to application of the Interim Rate Adjustment. The adjusted rate parameters shall be used for billing purposes and supersede the rate charges subject to the adjustment contained in section III.A of this rate schedule.

**Schedule VI-91  
(Continued)**

The adjusted rate parameters shall also be used in subsequent rate adjustments pursuant to section III.B of this rate schedule and to subsequent biennial adjustments to the lower rate limit pursuant to section VI.B of this rate schedule.

**J. Energy Tax Adjustment**

The Energy Tax Adjustment described in section III.C.8 of the GRSPs shall be applied as outlined in section III.A.

**SECTION VII. RESOURCE COST  
CONTRIBUTION**

BPA has made the following determinations:

- A. The approximate cost contribution of different resource categories to the VI-91 rate is 85.8 percent Exchange and 14.2 percent New Resources.
- B. The forecasted average cost of resources available to BPA under average water conditions is 19.80 mills per kilowatthour.
- C. The forecasted cost of resources to meet load growth is 60.64 mills per kilowatthour.

**Schedule SI-93**  
**Special Industrial Power Rate**

**SECTION I. AVAILABILITY**

This rate schedule is available to any DSI purchaser using raw minerals indigenous to the region as its primary resource and qualifying for this special power pursuant to the procedures established in section 7(d)(2) of the Northwest Power Act. This schedule is available for the contract purchase of this special class of industrial power and also for the purchase of Auxiliary Power if requested by the DSI and made available by BPA. Schedule SI-93 supersedes schedule SI-91 which went into effect on October 1, 1991. Sales under this schedule are made subject to BPA's General Rate Schedule Provisions (GRSPs).

**SECTION II. RATE**

A separate billing adjustment for the value of the reserves provided by purchasers of this special class of Industrial Power is not contained in the rate schedule; the adjustment is reflected in the Special Industrial Power Rate charges.

**A. Demand Charge**

1. \$3.680 per kilowatt of billing demand occurring during all Peak Period hours during a billing month.
2. No demand charge during Offpeak Period hours.

**B. Energy Charge**

1. 20.38 mills per kilowatthour of billing energy for the billing months September through March;
2. 14.50 mills per kilowatthour of billing energy for the billing months April through August.

**SECTION III. BILLING FACTORS**

**A. Billing Demand**

The billing demand for power purchased under the Standard Special Industrial Power rate shall be the BPA Operating Level during the Peak Period as adjusted for power factor. If there is more than one BPA Operating Level during the Peak Period within a billing month, the billing demand shall be a weighted average of the Peak Period BPA Operating Levels for the billing month. The BPA Operating Level is defined in section III.A.10 of the GRSPs.

However, if BPA has agreed, pursuant to section 4 of the direct service industrial power sales contract, to sell Special Industrial Power on a daily demand basis (transitional service), BPA shall instead bill the purchaser in accordance with the provisions of section V.C of the GRSPs.

**B. Billing Energy**

The billing energy under the Special Industrial rate shall be the Measured Energy for the billing month, minus any kilowatthours on which BPA assesses the charge for unauthorized increase.

**SECTION IV. ADJUSTMENTS AND  
SPECIAL PROVISIONS**

**A. Curtailments**

BPA shall charge the DSI for curtailments in accordance with the provisions of the DSI's power sales contract. Any curtailment charge levied shall be computed using the Special Industrial Power rate.

**Schedule SI-93  
(Continued)**

**B. Unauthorized Increase Charge**

**1. Rate for Unauthorized Increase**

- a. 100.00 mills per kilowatthour during billing months August through March.
- b. 57.40 mills per kilowatthour during billing months April through July.

**2. Application of the Charge**

During any billing month, BPA may assess the unauthorized increase charge on the number of kilowatthours associated with the DSI Measured Demand in any one 60-minute clock-hour, before adjustment for power factor, that exceed the BPA Operating Level for that clock-hour, regardless of whether such Measured Demand occurs during the Peak or Offpeak Period.

**C. Power Factor Adjustment**

The adjustment for power factor, when specified in this rate schedule or in the power sales contract, shall be made in accordance with the provisions of both this section and section III.C.1 of the GRSPs. The adjustment shall be made if the average leading power factor or average lagging power factor at which energy is supplied during the billing month is less than 95 percent.

To make the power factor adjustment for service under the Special Industrial Power rate, BPA shall increase the billing demand by 1 percentage point for each percentage point or major fraction thereof (0.5 or greater) by which the average leading power factor or average lagging power factor is below 95 percent. BPA may elect to waive the adjustment for power factor in whole or in part.

**D. Outage Credit**

Pursuant to section 7 of the General Contract Provisions, BPA shall provide an outage credit to any purchaser for those hours for which BPA is unable to deliver the full billing demand during that billing month due to an outage on the facilities used by BPA to deliver Special Industrial Power. Such credit shall not be provided if BPA is able to serve the purchaser's load through the use of alternative facilities or if the outage is for less than 30 minutes. The amount of the credit shall be calculated according to the provisions of section III.C.2 of the GRSPs.

**E. Interim Rate Adjustment**

The Interim Rate Adjustment (IRA) described in section III.C.5 of the GRSPs shall be applied to all power purchases under the IP-93 rate schedule. If the IRA triggers, the SI-93 rate will be recalculated based upon the adjusted PF-93 rate, but the credit for the value of reserves will not be adjusted by the IRA. Application of the IRA shall result in a uniform adjustment applied to the demand and energy charges, contained in sections II.A and II.B of this rate schedule, and the First Quartile Service Discount contained in section IV.A.1 of this rate schedule.

The IRA shall be applied in the following manner:

$[1 + (IRA\% / 100)]$  multiplied by the demand and energy charges contained in sections II.A and II.B of this rate schedule, and the First Quartile service discount contained in section IV.A.1 of this rate schedule.

**F. Energy Tax Adjustment**

The Energy Tax Adjustment described in section III.C.8 of the GRSPs shall be applied as a uniform mills per kilowatthour addition to the energy charges contained in section III.B.



**Schedule SI-93  
(Continued)**

**SECTION V. RESOURCE COST  
CONTRIBUTION**

BPA has made the following determinations:

- A. The SI-93 rate is not based on the cost of resources.
- B. The forecasted average cost of resources available to BPA under average water conditions is 19.80 mills per kilowatthour.
- C. The forecasted cost of resources to meet load growth is 60.64 mills per kilowatthour.



**Schedule CE-93**  
**Emergency Capacity Rate**

**SECTION I. AVAILABILITY**

This schedule is available for the purchase of capacity provided the purchaser requests such capacity and BPA has determined that capacity is available for such purpose. This schedule is available when:

- A. an emergency exists on the purchaser's system, or
- B. the purchaser wishes to displace higher-cost firm capacity resources which are otherwise available to meet the purchaser's load.

This schedule supersedes Schedule CE-91 which went into effect on October 1, 1991. Sales under this schedule are made subject to BPA's General Rate Schedule Provisions.

**SECTION II. RATE**

**A. Demand Charge**

As mutually agreed by BPA and the purchaser, up to \$0.309 per kilowatt of demand per calendar day or portion thereof.

**B. Intertie Charge**

The demand charge specified above shall be increased by \$0.042 per kilowatt per day for capacity made available at the Oregon-California or Oregon-Nevada border for delivery over the Pacific Northwest-Pacific Southwest (Southern) Intertie.

**SECTION III. BILLING FACTORS**

The billing demand shall be the maximum amount requested by the purchaser and made available by BPA during a calendar day. If BPA is unable to meet subsequent requests by a purchaser for delivery at the demand previously established during such day, the

billing demand for that day shall be the lower demand which BPA is able to supply.

**SECTION IV. BILLING PERIOD**

Bills shall be rendered monthly.

**SECTION V. SPECIAL PROVISION**

Energy delivered with such capacity shall be returned to BPA within 7 days of the date of delivery and shall be returned at times and rates of delivery agreed to by both the purchaser and BPA prior to delivery. BPA may agree to accept the return energy after the normal 7 day return period provided that such delay has been mutually agreed upon prior to delivery.

**SECTION VI. RESOURCE COST CONTRIBUTION**

BPA has made the following determinations:

- A. The approximate cost contribution of different resource categories to the CE-93 rate is 85.8 percent Exchange and 14.2 percent New Resources.
- B. The forecasted average cost of resources available to BPA under average water conditions is 19.6 mills per kilowatthour.
- C. The forecasted cost of resources to meet load growth is 55.7 mills per kilowatthour.



**Schedule NR-93**  
**New Resource Firm Power Rate**

**SECTION I. AVAILABILITY**

This schedule is available for the contract purchase of firm power or capacity to be used within the Pacific Northwest. New Resource Firm Power is available to investor-owned utilities (IOUs) under net requirements contracts for resale to ultimate consumers, direct consumption, or use in construction, test and start up, and station service. New Resource Firm Power also is available to any public body, cooperative, or Federal agency to the extent such power is needed to serve any New Large Single Load. In addition, BPA may make this rate available to those parties participating in exchange agreements that use this rate schedule as the basis for determining the amount or value of power to be exchanged. This schedule supersedes Schedule NR-91 which went into effect on October 1, 1991. Sales under this schedule are made subject to BPA's General Rate Schedule Provisions (GRSPs).

**SECTION II. RATE**

**A. Demand Charge**

1. \$5.151 per kilowatt of billing demand occurring during all Peak Period hours during a billing month.
2. No demand charge during Offpeak Period hours.

**B. Energy Charge**

1. 27.56 mills per kilowatt-hour of billing energy for the billing months September through March.
2. 24.13 mills per kilowatt-hour of billing energy for the billing months April through August.

**SECTION III. BILLING FACTORS**

In this section billing factors are listed for computed requirements purchasers (section III.A), metered requirements purchasers, and those purchasers not covered by section III.A (section III.B).

**A. Computed Requirements Purchasers**

Purchasers designated by BPA as computed requirements purchasers pursuant to power sales contracts shall be billed in accordance with the provisions of this section.

**1. Billing Demand**

The billing demand for actual, planned, and contracted computed requirements purchasers shall be the higher of the billing factors "a" and "b," below:

a. the lower of:

- (1) the larger of the Computed Peak Requirement or the Computed Average Energy Requirement; or
- (2) the Measured Demand, before adjustment for power factor.

b. the lower of:

- (1) the Computed Peak Requirement; or
- (2) 60 percent of the highest Computed Peak Requirement during the previous 11 billing months (Ratchet Demand).

**Schedule NR-93  
(Continued)**

**2. Billing Energy**

The billing energy for actual, planned, and contracted computed requirements purchasers shall be:

- a. for the months September through March, the sum of:

(1) 55 percent of the Measured Energy; and

(2) 45 percent of the Computed Energy Maximum.

- b. for the months April through August, the sum of:

(1) 43 percent of the Measured Energy; and

(2) 57 percent of the Computed Energy Maximum.

**B. Metered Requirements Purchasers and Other Purchasers Not Covered By Section III.A, Above**

Purchasers designated as metered requirements customers and purchasers taking power under this rate schedule who are not otherwise covered by section III.A shall be billed as follows:

**1. Billing Demand**

The billing demand shall be the Measured Demand as adjusted for power factor, unless otherwise specified in the power sales contract. However, purchasers who previously used the Firm Energy rate schedule, FE-2, either in the computation of their power bills or in the determination of the value of an exchange account, shall not be charged for demand under this rate schedule.

**2. Billing Energy**

The billing energy shall be the Measured Energy, unless otherwise specified in the power sales contract.

**SECTION IV. ADJUSTMENTS AND SPECIAL PROVISIONS**

**A. Power Factor Adjustment**

The adjustment for power factor, when specified in this rate schedule or in the power sales contract, shall be made in accordance with the provisions of both this section and section III.C.1 of the GRSPs. The adjustment shall be made if the average leading power factor or average lagging power factor at which energy is supplied during the billing month is less than 95 percent.

To make the power factor adjustment, BPA shall increase the billing demand by 1 percentage point for each percentage point or major fraction thereof (0.5 or greater) by which the average leading power factor or average lagging power factor is below 95 percent. BPA may elect to waive the adjustment for power factor in whole or in part.

**B. Irrigation Discount**

BPA shall apply an irrigation discount, equal to 4.71 mills per kilowatthour, to the charges for qualifying energy purchased under this rate schedule. The discount shall apply only to energy purchased during the billing months of April through October. Eligibility for the irrigation discount and reporting requirements shall be determined pursuant to section III.C.4 of the GRSPs.

**Schedule NR-93  
(Continued)**

**C. Conservation Surcharge**

The Conservation Surcharge shall be applied in accordance with section III.C.7 of the GRSPs and subsequent to any other rate adjustments.

**D. Unauthorized Increase**

BPA shall apply the charge for Unauthorized Increase to any purchaser of New Resource Firm Power taking demand and/or energy in excess of its contractual entitlement.

**1. Rate for Unauthorized Increase**

- a. 100.00 mills per kilowatthour during billing months August through March.
- b. 57.40 mills per kilowatthour during billing months April through July.

**2. Calculation of the Unauthorized Increase**

Each 60-minute clock-hour integrated or scheduled demand shall be considered separately in determining the amount which may be considered an unauthorized increase. BPA shall first determine the amount of unauthorized increase related to demand and shall then treat any remaining unauthorized increase as energy-related.

**a. Unauthorized Increase in Demand**

That portion of any Measured Demand during Peak Period hours, before adjustment for power factor, that exceeds the demand which the purchaser is contractually entitled to take during the billing month and that cannot be assigned:

- (1) to a class of power which BPA delivers on such hour pursuant to

contracts between BPA and the purchaser; or

- (2) to a type of power which the purchaser acquires from sources other than BPA and which BPA delivers during such hour, shall be billed:

- (a) in accordance with the provisions of the "Relief from Overrun" exhibit to the power sales contract; or

- (b) if such exhibit does not apply or is not a part of the purchaser's power sales contract, at the rate for Unauthorized Increase, based on the amount of energy associated with the excess demand.

**b. Unauthorized Increase in Energy**

The amount of Measured Energy during a billing month that exceeds the amount of energy which the purchaser is contractually entitled to take during that month and that cannot be assigned:

- (1) to a class of power that BPA delivers during such month pursuant to contracts between BPA and the purchaser; or

- (2) to a type of power that the purchaser acquires from sources other than BPA and that BPA delivers during such month, shall be billed:

- (a) in accordance with the provisions of the "Relief from Overrun" exhibit to the power sales contract, or

**Schedule NR-93  
(Continued)**

- (b) as unauthorized increase if such exhibit does not apply or is not a part of the purchaser's power sales contract.

**E. Coincidental Billing Adjustment**

Purchasers of New Resource Firm Power who are billed on a coincidental basis and who have diversity charges or diversity factors specified in their power sales contracts shall have their charges for billing demand adjusted according to the provisions of section III.C.6 of the GRSPs. Computed requirements purchasers are not subject to the Coincidental Billing Adjustment for scheduled power.

**F. Outage Credit**

Pursuant to section 7 of the General Contract Provisions, BPA shall provide an outage credit to any purchaser for those hours for which BPA is unable to deliver the full billing demand during the billing month due to an outage on the facilities used by BPA to deliver New Resource Firm Power. Such credit shall not be provided if BPA is able to serve the purchaser's load through the use of alternative facilities or if the outage is for less than 30 minutes. The amount of the credit shall be calculated according to the provisions of section III.C.2 of the GRSPs.

**G. Energy Return Surcharge**

Any purchaser who preschedules in accordance with sections 2(a)(4) and 2(c)(2) of Exhibit E of the Power Sales contract and who returns, during a single offpeak hour, more than 60 percent of the difference between that purchaser's billing demand and estimated computed average energy requirement for the billing month shall be subject to the following surcharge for each additional kilowatthour so returned:

- 1. 4.08 mills per kilowatthour for the months of April through October; and
- 2. 1.73 mills per kilowatthour for the months of November through March.

**H. Interim Rate Adjustment**

The Interim Rate Adjustment (IRA) described in section III.C.5 of the GRSPs shall be applied to all power purchases under the NR-93 rate schedule. If the IRA triggers, it shall be applied in the following manner:

$[1 + (\text{IRA}\% / 100)]$  multiplied by the demand and energy charges contained in sections II.A and II.B of this rate schedule.

An additional increment of 0.047 mills per kilowatthour shall be added to the irrigation discount described in section IV.C for each percentage increase in the PF rates due to the IRA.

**I. Energy Tax Adjustment**

The Energy Tax Adjustment described in section III.C.8 of the GRSPs shall be applied as a uniform mills per kilowatthour addition to the energy charges contained in section II.B.

**SECTION V. RESOURCE COST  
CONTRIBUTION**

BPA has made the following determinations:

- A. The approximate cost contribution of different resource categories to the NR-93 rate is 89.7 percent Exchange and 10.3 percent New Resources.
- B. The forecasted average cost of resources available to BPA under average water conditions is 19.80 mills per kilowatthour.
- C. The forecasted cost of resources to meet load growth is 60.64 mills per kilowatthour.



**Schedule SP-93**  
**Surplus Firm Power Rate**

**SECTION I. AVAILABILITY**

This rate schedule is available for the purchase of Surplus Firm Power for the period ending September 30, 1998, including purchases under the Western Systems Power Pool (WSPP) agreements. BPA is not obligated to make power or energy available under this rate schedule if such power or energy would displace sales under the IP-93, VI-91, PF-93, or NR-93 rate schedules. Schedule SP-93 supersedes schedule SP-91 and associated General Rate Schedule Provisions (GRSPs). Sales under this schedule are made subject to BPA's GRSPs.

**SECTION II. RATE**

**A. Contract Rate**

**1. Demand Charge**

- a. For contracts that specify 12 months of service per year, \$61.812 per kilowatt per year of Contract Demand billed monthly at the rate of \$5.151 per kilowatt of Contract Demand occurring during all Peak Period hours in each billing month.
- b. For contracts that specify service for fewer than 12 months per year, the monthly demand charge shall be assessed only for the specified service months at the rate of \$5.151 per kilowatt of Billing Demand occurring during the Peak Period plus:

$$\frac{\$5.151 * (12 - \text{specified service months}) * .25}{\text{specified service months}}$$

- c. No demand charge during Offpeak Period hours.

**2. Energy Charge**

26.30 mills per kilowatthour of billing energy.

**B. Flexible Rate**

Energy charges or demand and energy charges may be specified at a higher or lower average rate as mutually agreed by BPA and the purchaser. In no case shall the rate exceed 100 percent of the fixed and variable unit costs of generation and transmission of BPA's highest cost resource including exchange resources. No resource cost determination is needed for sales at less than or equal to the Contract rate.

**C. Intertie Charge**

Rates in sections II.A and II.B that equal or exceed the Contract rate shall be increased by the following charges for transactions over the Pacific Northwest-Pacific Southwest Intertie.

1. \$.706 per kilowatt per month of billing demand and
2. 1.69 mills per kilowatthour of billing energy.

Rates in section II.B having an energy-only charge that equals or exceeds 33.36 mills per kilowatthour shall be increased by 3.11 mills per kilowatthour for transactions over the Pacific Northwest-Pacific Southwest Intertie.

**SECTION III. BILLING FACTORS**

The billing factors shall be the Measured Demand and Measured Energy, unless otherwise specified in the contract.

**Schedule SP-93  
(Continued)**

**SECTION IV. ADJUSTMENTS AND  
SPECIAL PROVISIONS**

**A. Power Factor Adjustment**

The adjustment for power factor for BPA customers that are billed for Surplus Firm Power on metered amounts, when specified in this rate schedule or in the contract, shall be made in accordance with the provisions of both this section and section III.C.1 of the GRSPs. The adjustment shall be made if the average leading power factor or average lagging power factor at which energy is supplied during the billing month is less than 95 percent.

To make the power factor adjustment, BPA shall increase the billing demand or energy by 1 percentage point for each percentage point or major fraction thereof (0.5 or greater) by which the average leading power factor or average lagging power factor is below 95 percent. BPA may elect to waive the adjustment for power factor in whole or in part.

**B. Interim Rate Adjustment**

The Interim Rate Adjustment (IRA) described in section III.C.5 of the GRSPs shall be applied uniformly to all purchases and exchanges under the SP-93 rate schedule. If the IRA triggers, it shall be applied uniformly to the demand and energy charges contained in sections II.A.1 and II.A.2 of this rate schedule.

Long-term contracts for the sale of surplus power that contain charges that escalate based on other BPA rates that are subject to the IRA will reflect the changes to those due to the IRA.

The IRA shall be applied in the following manner:

$[1 + (\text{IRA}\% / 100)]$  multiplied by the demand and energy charges contained in Sections II.A.1 and II.A.2 of this rate schedule.

**H. Energy Tax Adjustment**

The Energy Tax Adjustment described in section III.C.8 of the GRSPs shall be applied as a uniform mills per kilowatthour addition to the energy charges contained in section II.A.2.

**SECTION V. RESOURCE COST  
CONTRIBUTION**

BPA has made the following determinations:

- A. The approximate cost contribution of different resource categories to the SP-93 rate is 89.0 percent Exchange and 11.0 percent New Resources.
- B. The forecasted average cost of resources available to BPA under average water conditions is 19.80 mills per kilowatthour.
- C. The forecasted cost of resources to meet load growth is 60.64 mills per kilowatthour.

**Schedule NF-93  
Nonfirm Energy Rate**

**SECTION I. AVAILABILITY**

This schedule is available for the purchase of nonfirm energy to be used both inside and outside the United States including sales under the Western Systems Power Pool (WSPP) agreements and sales to consumers. This schedule also applies to energy delivered for emergency use under the conditions set forth in section V.A of the General Rate Schedule Provisions (GRSPs). BPA is not obligated to offer nonfirm energy to any purchaser that results in displacement of firm power purchases under BPA's Power Sales Contracts. The offer of nonfirm energy under this schedule shall be determined by BPA. Schedule NF-93 supersedes Schedule NF-91 which went into effect on October 1, 1991. Sales under this schedule are made subject to BPA's GRSPs.

**SECTION II. RATES**

The average cost of nonfirm energy is 22.41 mills per kilowatt-hour. The NF-93 rate schedule provides for upward and downward pricing flexibility from this average nonfirm energy cost. All rates and any subsequent adjustments contained in this rate schedule shall not exceed in total the NF Rate Cap defined in section IV.C of the GRSPs.

**A. Standard Rate**

The Standard rate is any offered rate not to exceed 26.89 mills per kilowatt-hour.

**B. Market Expansion Rate**

The Market Expansion rate is any offered rate below the Standard rate in effect. BPA may have one or more Market Expansion rates in effect simultaneously.

**C. Incremental Rate**

The Incremental rate is the Incremental Cost of energy plus 2.00 mills per kilowatt-hour, where

the Incremental Cost is defined as all identifiable costs (expressed in mills per kilowatt-hour) that BPA would have avoided had it not produced or purchased the energy being sold under this rate.

**D. Contract Rate**

The Contract rate is 14.26 mills per kilowatt-hour of billing energy.

**SECTION III. ADJUSTMENTS TO RATES**

**A. Guaranteed Delivery Surcharge**

A surcharge of 2.00 mills per kilowatt-hour of billing energy is applied to guaranteed delivery of nonfirm energy under the Standard rate and Market Expansion rate.

**B. Intertie Charge**

The Intertie Charge, on rate offers under any of the rates specified above, for sales of nonfirm energy scheduled for delivery over the Pacific Northwest-Pacific Southwest Intertie shall be:

1. inapplicable for rate offers of less than 22.41 mills per kilowatt-hour;
2. at the discretion of BPA, from zero through 3.11 mills per kilowatt-hour, for rate offers of 22.41 mills per kilowatt-hour; or
3. 3.11 mills per kilowatt-hour, for rate offers greater than 22.41 mills per kilowatt-hour.

**SECTION IV. BILLING FACTORS**

The billing energy for nonfirm energy purchased under this rate schedule shall be the Measured Energy unless otherwise specified by contract.

**Schedule NF-93  
(Continued)**

**SECTION V. APPLICATION AND  
ELIGIBILITY**

Any time that BPA has nonfirm energy for sale, the Standard rate, the Market Expansion rate, the Incremental rate, the Contract rate, or a combination of these rates may be in effect.

**A. Standard Rate**

The Standard rate:

1. is available for all purchases of nonfirm energy; and
2. applies to nonfirm energy purchased pursuant to the Relief from Overrun Exhibit to the power sales contract.

**B. Market Expansion Rate**

**1. Application of the Market Expansion rate**

The Market Expansion rate applies when BPA determines that all markets at the Standard rate have been satisfied and BPA offers additional nonfirm energy.

**2. Market Expansion Rate Qualification Criteria**

In order to purchase nonfirm energy at the Market Expansion rate, a purchaser must:

- a. have a displaceable resource, displaceable purchase of electricity, or
- b. be an end-user load with a displaceable alternative fuel source.

In addition, a purchaser must demonstrate one of the following:

- a. shutdown or reduction of the output of the displaceable resource in an amount equal to the amount of Market Expansion rate energy purchased; or
- b. reduction of a displaceable purchase and the output of the resource associated with that purchase, in an amount equal to the amount of Market Expansion rate energy purchased; or
- c. shutdown or reduction of the identified output of the resource(s) indirectly in an amount equal to the amount of Market Expansion rate energy purchased (for example, the purchase may be used to run a pumped storage unit); or
- d. decrease of an end-user alternate fuel source in an amount equivalent to the amount of Market Expansion rate energy purchased.

**3. Eligibility Criteria for Market Expansion rate**

- a. When only one Market Expansion rate is offered:

Purchasers qualifying under section V.B.2 who purchased nonfirm energy directly from BPA are eligible to purchase power under the Market Expansion rate offered if the decremental cost of the qualifying resource, purchase, or qualifying alternative fuel source is lower than the Standard rate in effect plus 2.0 mills per kilowatthour.

Purchasers qualifying under section V.B.2 who purchase nonfirm energy through a third party are eligible to purchase power under the Market Expansion rate offered if the cost of the qualifying alternative fuel source is

**Schedule NF-93  
(Continued)**

lower than the Standard rate in effect plus 4.0 mills per kilowatthour.

- b. When more than one Market Expansion rate is offered;

Purchasers qualifying under section V.B.2 who purchase nonfirm energy directly from BPA are eligible to purchase power under the Market Expansion rate if the decremental cost of the qualifying resource, purchase, or qualifying alternative fuel source is lower than the Standard rate in effect plus 2.00 mills per kilowatthour. The rate applicable to a purchaser shall be the highest Market Expansion rate offered that is below the purchaser's qualifying decremental cost minus 2.00 mills per kilowatthour.

Purchasers qualifying under section V.B.2 who purchase nonfirm energy through a third party are eligible to purchase power under the Market Expansion rate if the decremental cost of the qualifying alternative fuel source is lower than the Standard rate plus 4.00 mills per kilowatthour. The rate applicable to a purchaser shall be the highest Market Expansion rate offered that is below purchaser's qualifying decremental cost minus 4.0 mills per kilowatthour.

**C. Incremental Rate**

The Incremental rate applies to sales of energy:

1. that is produced or purchased by BPA concurrently with the nonfirm energy sale;
2. that BPA may at its option not produce or purchase; and

3. that has an Incremental Cost greater than the Standard rate (plus the Intertie Charge, if applicable) less 2.00 mills per kilowatthour.

**D. Contract Rate**

The Contract rate applies to contracts (except power sales contracts offered pursuant to sections 5(b), 5(c), and 5(g) of the Northwest Power Act) that refer to the Contract rate:

1. for the sale of nonfirm energy; or
2. for determining the value of energy.

**E. Western Systems Power Pool Transactions (WSPP)**

BPA may make available nonfirm energy for transactions under the WSPP agreement. WSPP sales shall be subject to the terms and conditions specified in the WSPP agreement and shall be consistent with regional and public preference. The rate for transactions under the WSPP agreement is any rate within the limits specified by the Standard, Market Expansion, and Incremental rates but may not exceed the maximum rate specified in the WSPP Agreement. The rate for WSPP sales may differ from the actual rate offered for non-WSPP transactions in any hour. The rate for WSPP transactions is independent of any other rate offered concurrently under this rate schedule outside that agreement.

**F. End-User Rate**

BPA may agree to a rate or rate formula for nonfirm energy purchases by end-users. Such rate or rate formula shall be within the limits specified for the Standard and Market Expansion rates but may differ from the actual rates offered during any hour.

**Schedule NF-93  
(Continued)**

**SECTION VI. DELIVERY**

**A. Rate of Delivery**

BPA shall determine the amount of nonfirm energy to be made available for each hour. Such determination shall be made for each applicable nonfirm energy rate.

**B. Guaranteed Delivery**

**1. Availability**

BPA will determine the amount and duration of nonfirm energy to be offered on a guaranteed basis. Such daily or hourly amounts may be as small as zero or as much as all the nonfirm energy that BPA plans to offer for sale on such days.

**2. Conditions**

Scheduled amounts of guaranteed nonfirm energy may not be changed except:

- a. when BPA and the purchaser mutually agree to increase or decrease the scheduled amounts; or
- b. when BPA must reduce nonfirm energy deliveries in order to serve firm loads because of unexpected generation or transmission losses.

**SECTION VII. ADJUSTMENTS AND  
SPECIAL PROVISIONS**

**A. Interim Rate Adjustment**

The Interim Rate Adjustment (IRA) described in section III.C.5 of the GRSPs shall be applied to the maximum standard rate under the NF-93 rate schedule. If the IRA triggers, it shall be applied to the NF-93 rate schedule. Application of the IRA shall result in a new maximum Standard

rate, contained in section II.A of this rate schedule.

The IRA shall be applied in the following manner:

$[1 + (\text{IRA} \% / 100)]$  multiplied by 26.89 mills per kilowatthour.

**B. Energy Tax Adjustment**

The Energy Tax Adjustment described in section III.C.8 of the GRSPs shall be applied as a uniform mills per kilowatthour addition to the energy charge of all purchases under the NF-93 rate.

**SECTION VIII. RESOURCE COST  
CONTRIBUTION**

BPA has made the following determinations:

- A. The approximate cost contribution of different resource categories to the average cost of nonfirm energy is 92.7 percent FBS and 7.3 percent New Resources.
- B. The forecasted average cost of resources available to BPA under average water conditions is 19.80 mills per kilowatthour.
- C. The forecasted cost of resources to meet load growth is 60.64 mills per kilowatthour.

**Schedule SS-93**  
**Share-The-Savings Rate**

**SECTION I. AVAILABILITY**

This rate schedule is available for the contract purchase of Nonfirm Energy under an experimental rate and is limited to the term of the rate experiment. Nonfirm Energy will be made available under this rate schedule for use both inside and outside the United States for the displacement of a qualifying resource, displaceable purchase of electricity, or end-user load that can be served with alternate fuel sources. This rate schedule is only available to purchasers who execute a contract with BPA specifying use of the Share-the-Savings Rate. BPA is not obligated to offer Nonfirm Energy to any purchaser that results in displacement of firm power purchases under BPA's Power Sales Contracts. Schedule SS-93 supersedes Schedule SS-91 which went into effect on October 1, 1991. Sales under this schedule are made subject to BPA's General Rate Schedule Provisions (GRSPs).

**SECTION II. RATE**

The rate shall be a formula rate based solely or in part on decremental cost information submitted by the purchaser. The rate formula and decremental cost, for purposes of establishing charges under this rate schedule, shall be defined in the applicable contract. The rate formula agreed upon by BPA and the purchaser shall in no event result in a rate higher than the NF Rate Cap defined in section IV.C of the GRSPs or lower than 1.00 mill per kilowatthour.

**SECTION III. BILLING FACTOR**

The billing energy for Nonfirm Energy purchased under this rate schedule shall be the Measured Energy unless otherwise specified in the Share-the-Savings rate contract.

**SECTION IV. APPLICATION AND ELIGIBILITY**

**A. General Requirements**

In order to purchase Nonfirm Energy under the Share-the-Savings Rate, the purchaser must:

1. have executed a contract specifying application of the Share-the-Savings Rate Schedule, and
2. have a displaceable resource, displaceable purchase of electricity, or be an end-user load with a displaceable alternate fuel source. End-user loads with alternate fuel sources may not use the Decremental Cost of a displaceable purchase of electricity to qualify for this rate.

**B. BPA Service Priority**

Offers of Nonfirm Energy under this rate schedule shall be made pursuant to the terms and conditions set forth in the Share-the-Savings rate contract. BPA will sell Nonfirm Energy under this rate schedule consistent with regional and public preference.

**SECTION V. RESOURCE COST CONTRIBUTION**

BPA has made the following determinations:

- A. The SS-93 rate is not based on the cost of BPA resources.
- B. The forecasted average cost of resources available to BPA under average water conditions is 19.80 mills per kilowatthour.
- C. The forecasted cost of resources to meet load growth is 60.64 mills per kilowatthour.





**Schedule PS-93**  
**Power Shortage Rate Schedule**

**SECTION I. AVAILABILITY**

This schedule is available inside the Pacific Northwest for the purchase of Shortage Power to a utility when a shortage exists on its system and the utility requests Shortage Power under this rate schedule, or when Shortage Power is being delivered to a utility as the result of statewide or regionwide curtailment. This schedule is also available for sales under the Share-the-Shortage agreement, or a similar substitute agreement.

This rate schedule is also available inside the Pacific Northwest when BPA arranges for purchase energy at the request of a customer.

BPA is not obligated to make Shortage Power available or broker power under this rate schedule unless specified by contract. Sales under this schedule are made subject to BPA's General Rate Schedule Provisions.

**SECTION II. RATES**

**A. Power Rate**

The power rate is any offered rate not to exceed 100.00 mills per kilowatthour. The offered rate may be specified as an energy charge only or as demand and energy charges.

**B. Brokering Rate**

The brokering rate may be up to 1.00 mill per kilowatthour for services provided when BPA arranges for energy purchases for a customer from a seller other than BPA.

**SECTION III. BILLING FACTORS**

The billing factors shall be:

**A. Power Purchases**

The factors to be used in determining the billings for power purchases under this rate schedule are as follows:

**1. Billing Demand**

The billing demand shall be the Contract Demand as specified in the contract initiating such arrangement or as mutually agreed to by the parties. Otherwise the billing demand shall be the Measured Demand as adjusted for power factor.

**2. Billing Energy**

The billing energy shall be the Contract Energy as specified in the contract initiating such arrangement or as mutually agreed to by the parties. Otherwise the billing energy shall be the Measured Energy.

**B. Brokering Services**

When BPA arranges for energy purchases at the request of a customer, the purchaser shall be billed for such services based on the total amount of kilowatthours purchased.

**SECTION IV. ADJUSTMENTS AND SPECIAL PROVISIONS**

**A. Power Factor Adjustment**

The adjustment for power factor for BPA customers that are billed for shortage power on metered amounts, when specified in this rate schedule or in the contracts, shall be made in accordance with the provisions of both this section and section III.C.1 of the GRSPs. The adjustment shall be made if the average leading power factor or average lagging power factor at

**Schedule PS-93  
(Continued)**

which energy is supplied during the billing month is less than 95 percent.

To make the power factor adjustment, BPA shall increase the billing energy by 1 percentage point for each percentage point or major fraction thereof (0.5 or greater) by which the average leading power factor or average lagging power factor is below 95 percent. BPA may elect to waive the adjustment for power factor in whole or in part.

**B. Power Brokering**

The charge for power brokering only applies to the service provided by BPA of finding purchased power for a customer from a seller other than BPA. BPA may agree to provide other services in addition to finding purchased power, but these services shall be billed separately at charges specified in the appropriate rate schedule(s) or agreement(s). Such services may include, but are not limited to, wheeling and load shaping.

**C. Share-the-Shortage Transactions**

In the event a Share-the-Shortage type agreement is executed, BPA may make shortage power available to participants under such agreement. Any transactions entered into by BPA pursuant to the Share-the-Shortage agreement shall be subject to the terms and conditions specified in that agreement. The PS-93 rate does not incorporate the agreement but the agreement controls if there is any conflict between the PS-93 rate and the agreement. The rate for transactions under the Share-the-Shortage agreement is any rate within the limits specified by the power rate but may not exceed the maximum rate specified in the agreement. The rate for Share-the-Shortage transactions is independent of any rate offered under this rate schedule for sales that do not fall under the agreement. The PS-93 power rate shall not be

available for transactions with a party who triggers the Share-the-Shortage agreement if BPA elects to meet its required service obligations under the agreement by entering into an alternative agreement.

**D. Energy Tax Adjustment**

The Energy Tax Adjustment described in section III.C.8 of the GRSPs shall be applied as a uniform mills per kilowatthour addition to the energy charge of all purchase under the PS-93 rate.

**SECTION V. RESOURCE COST  
CONTRIBUTION**

BPA has made the following determinations:

- A. The approximate cost contribution of different resource categories to the PS-93 rate is based upon the BPA's highest cost resource which currently is an FBS resource.
- B. The forecasted average cost of resources available to BPA under average water conditions is 19.80 mills per kilowatthour.
- C. The forecasted cost of resources to meet load growth is 60.64 mills per kilowatthour.

**Schedule RP-93  
Reserve Power Rate**

**SECTION I. AVAILABILITY**

This schedule is available for the purchase of power:

- A. in cases where a purchaser's power sales contract states that the rate for Reserve Power shall be applied;
- B. for which BPA determines no other rate schedule is applicable; or
- C. to serve a purchaser's firm power load in circumstances where BPA does not have a power sales contract in force with such purchaser, and BPA determines that this rate should be applied.

This rate schedule may be applied to power purchased by entities outside the United States. This rate schedule supersedes Schedule RP-91 which went into effect on October 1, 1991. Sales under this schedule are made subject to BPA's General Rate Schedule Provisions (GRSPs).

**SECTION II. RATE**

**A. Demand Charge**

- 1. \$3.640 per kilowatt of billing demand occurring during all Peak Period hours during a billing month.
- 2. No demand charge during Offpeak Period hours.

**B. Energy Charge**

25.30 mills per kilowatthour of billing energy.

**SECTION III. BILLING FACTORS**

The factors to be used in determining the billing for power purchased under this rate schedule are as follows:

**A. Billing Demand**

If applicable, the billing demand shall be the Contract Demand as specified in the power sales contract. Otherwise the billing demand shall be the Measured Demand as adjusted for power factor.

**B. Billing Energy**

The billing energy shall be the Contract Demand multiplied by the number of hours in the billing month, if use of the Contract Demand for determining billing energy is specified in the power sales contract. Otherwise the billing energy for such purchasers shall be the Measured Energy.

**SECTION IV. POWER FACTOR  
ADJUSTMENT**

The adjustment for power factor, when specified in this rate schedule or in the power sales contract, shall be made in accordance with the provisions of both this section and section III.C.1 of the GRSPs. The adjustment shall be made if the average leading power factor or average lagging power factor at which energy is supplied during the billing month is less than 95 percent.

To make the power factor adjustment, BPA shall increase the billing demand by 1 percentage point for each percentage point or major fraction thereof (0.5 or greater) by which the average leading power factor or average lagging power factor is below 95 percent. BPA may elect to waive the adjustment for power factor in whole or in part.

**SECTION V. RESOURCE COST  
CONTRIBUTION**

BPA has made the following determinations:

**Schedule RP-93  
(Continued)**

- A. The RP-93 rate is not based on the cost of resources.
- B. The forecasted average cost of resources available to BPA under average water conditions is 19.80 mills per kilowatthour.
- C. The forecasted cost of resources to meet load growth is 60.64 mills per kilowatthour.

**CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE**

This Revision No. 2 adjusts preliminary Investment amounts to reflect actual Investment amounts.

. Charges effective 0001 hours February 1, 1991:

**Stability Control Upgrade--(AC Intertie Remedial Action Scheme for 3,200 MW) <sup>1/</sup>**

Description	Work Order	Bonneville Investment (\$)	I&A <sup>2/</sup> (%)	I&A Ann Cost (\$)	Company Share (800/3200) (\$)
Bell (Comm)	827-540	\$ 51,817			
Buckle,	827-535	201,989			
Dittmer	827-518	3,194; 164			
Dittmer (TCDS Interface)	827-548	179,650			
Eastern CC	827-565	1,760,086			
Eastern CC	827-545	102,704			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,699			
Hot Springs (Comm)	827-544	11,706			
John Day	827-533	551,286			
Kennewick RS (Comm)	827-542	80,466			
Malin (Comm)	827-555	352,248			
M.Nary PH (Comm)	827-522	28,041			
Sickler (Comm)	827-539	7,814			
Summer Lake (Comm)	627-561	38,583			
Vantage (Comm)	827-541	<u>7,518</u>			
		\$6,641,809	12.45	\$826,905	\$206,726

Yearly UFT Charge = Investment x I&A x Company Share  
= \$6,641,809 x 0.1245 x (800+ 3,200)  
= \$206,726 per yr

Monthly UFT Charge = \$206,726+12  
= \$ 17,227 per mo

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/95 "Stability Control Upgrade--3200MW Upgrade AC, 4000 MW Upgrade AC, 4S00 MU Upgrade AC. Analysis of BPA investment that Benefits PGE and PP&L Based on Actual charges Through 05/30/96," prepared by Ed Doyle, BPA-FCM.

<sup>2/</sup> I&A percentage includes O&M component.

CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE

Stability Control Upgrade--(AC Intertie Remedial Action Scheme for 3,200 MW) <sup>1/</sup>

. Charges effective 0001 hours July 1, 1991:

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A <sup>2/</sup></u>	<u>I&amp;A Ann Cost</u>	<u>Company Share</u>
		(S)	( % )	(S)	(S)
Bell (Comm)	827-540	\$ 51,817			
Buckley	827-535	201,989			
Dittmer	827-518	3,194,164			
Dittmer (TCDS Interface)	827-548	179,650			
Eastern CC	e27-565	1,760,086			
Eastern CC	e27-545	102,704			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,699			
Hot Springs (Comm)	827-544	11,706			
John Day	827-533	551,286			
Kennewick RS (Comm)	827-542	80,466			
Mali. (Comm)	827-555	652,246			
McNary PH (Comm)	827-522	28,041			
Sickler (Comm)	827-539	7,814			
Summer Lake (Comm)	827-561	38,583			
Vantage (Comm)	827-541	7,518			
		<u>\$6,641,809</u>	11.99	\$796,353	\$199,088

Yearly UFT Charge = Investment x I&A x Company Share  
= \$6,641,809X 0.1199X (800+ 3,200)  
= \$199,088 per yr

Monthly UFT Charge = \$199,088+12  
= \$ 16,591 per mo

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/95 "Stability Control Upgrade--3200MW Upgrade AC, 4000 MW Upgrade AC, 4800MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/96," prepared by Ed Doyle, BPA-FCM.

<sup>2/</sup> I&A percentage includes O&M component.

CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE

Stability Control Upgrade-(AC Intertie Remedial Action Scheme for 4,000 MW)<sup>1/</sup>

. Charges effective 0001 hours April 1, 1993:

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A</u> <sup>2/</sup> (%)	<u>I&amp;A</u> Ann Cost (S) -	<u>Company Share</u> <u>(950/4000)</u> (S)
Bell (Comm)	e27-540	\$ 51,817			
BPA System Coord. <sup>3/</sup>	103-722	0			
Buckley	827-535	201,989			
Buckley <sup>4/</sup>	103-777	106,102			
Captain Jack <sup>5/</sup>	103-778	0			
Colilo <sup>6/</sup>	103-779	205,813			
Dittmer	827-518	3,194,164			
Dittmer(TCDS Interface)	827-548	179,650			
Dittmer	103-780	1,703,932			
Eastern CC	827-585	1,760,086			
Eastern CC	827-545	102,704			
Eastern CC	103-781	1,462,782			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,699			
Hot Springs (Comm)	827-544	11,706			
John Day	827-533	551,286			
John Day <sup>7/</sup>	103-784	115,975			
Kennewick RS (Comm)	827-542	80,466			
Mali. (Comm)	827-555	352,246			
McNary PH (Comm)	827-522	28,041			
Sickler (Comm)	827-539	7,814			
Slatt <sup>8/</sup>	103-788	236,795			
Summer Lake (Comm)	827-561	38,583			
Summer Lake <sup>9/</sup>	103-805	23,389			
Vantage (Comm)	827-541	7,518			
		<u>\$10,496,597</u>	11.83	\$1,241,747	\$294,915

Yearly UFT Charge = investment x I&A x Company Share  
= \$10,496,597X 0.1183X (950+ 4,000)  
= \$294,915 per yr

Monthly UFT Charge = \$294,915-12  
= \$ 24,576 per mo

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/95 "Stability Control Upgrade-3200MW Upgrade AC, 4000 MW Upgrade AC, 4800MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/96; prepared by Ed Doyle, BPA-FCM.

<sup>2/</sup> I&A percentage includes O&M component.

(Footnotes Continue)

Revision No. 2, Exhibit B, Page 4 of 10  
Contract No. DE-MS79-93BP93040  
Portland General Electric Company  
Effective April 1, 1993

(Footnotes continued)

(Note: Footnotes 8-7 below assume proration of costs between 4,000 MW and 4,800 MW based on the number of line segments for line loss logic units and control points.)

3/ Costs for this work order in the amount of \$540,454 have been spread to all other 102 and 103 RAS work orders.

4/ Thirty-three percent (1/3) of total work order in the amount of \$321,522 allocated to 4,000 MW.

5/ Charges for this work order to be paid pursuant to Intertie Agreement, Contract No. 92340, Exhibit F.

6/ Fifty percent of total work order in the amount of \$411,626 allocated to 4,000 MW.

7/ Twenty percent (1/5) of total work order in the amount of \$579,878 allocated to 4,000 MW.

8/ Twenty-five percent (1/4) of total work order in the amount of \$947,175 allocated to 4,000 MW.

9/ Bonneville and PacifiCorp equally share total work order in the amount of \$46,775. Of Bonneville's share, 100 percent is allocated to 4,000 MW.

Contract NO. DE-MS79-93BP93040



**CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE**

**Stability Control Upgrade-(AC Intertie Remedial Action Scheme for 4,000 MW)<sup>1/</sup>**

**Charges effective 0001 hours July 1, 1993:**

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A 2/</u> ( % )	<u>I&amp;A Ann Cost</u> ( \$ ) <sup>-</sup>	<u>Company Share</u> (950/4000)
		( \$ )			( \$ )
Bell (Comm)	827-540	\$ 51,817			
BPA System Chord. 3/	103-722	0			
Buckley	827-535	201,989			
Buckley 4/	103-777	106,102			
Captain Jack 5/	103-778	0			
Celilo 6/	103-779	205,813			
Dittmer	827-518	3,194,164			
Dittmer (TCDS Interface)	827-548	179,650			
Dittmer	103-780	1,703,932			
Eastern CC	827-565	1,760,086			
Eastern CC	827-545	102,704			
Eastern CC	103-781	1,462,782			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,899			
Hot Springs (Comm)	827-544	11,706			
John Day	827-533	551,286			
John Day 7/	103-784	115,975			
Kennewick RS (Comm)	827-542	80,466			
Malin (Comm)	827-555	352,246			
McNary PH (Comm)	627-522	28,041			
Sickler (Comm)	627-539	7,814			
Slatt 8/	103-788	236,795			
Summer Lake (Comm)	827-561	38,563			
Summer Lake 9/	103-805	23,369			
Vantage (Comm)	827-541	7,516			
		<u>\$10,496,597</u>	11.87	\$1,245,946	\$295,912

Yearly UFT Charge = Investment x I&Ax Company Share  
= \$10,496,597X 0.1187X (950= 4,000)  
= \$295,912 per yr

Monthly UFT Charge = \$295,912+ 12  
= \$ 24,659 per mo

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/95 "Stability Control Upgrade--3200 MW Upgrade AC, 4000 MW Upgrade AC, 4800 MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/1996," prepared by Ed Doyle, BPA-FCM.

<sup>2/</sup> I&A percentage includes O&M component.

(Footnotes Continue)

(Footnotes continued)

**(Note: Footnotes 3-7 below assume proration of costs between 4,000 MW and 4,800 MW based on the number of line segments for line loss logic units and control points.)**

**3/ Costs for this work order in the amount of \$540,454 have been spread to all other 102 and 103 RAS work orders.**

**4/ Thirty-three percent (1/3) of total work order in the amount of \$321,622 allocated to 4,000 MW.**

**5/ Charges for this work order to be paid pursuant to Intertie Agreement, Contract No. 92340, Exhibit F.**

**6/ Fifty percent of total work order i. the amount of \$411,626 allocated to 4,000 MW.**

**7/ Twenty percent (1/5) of total work order in the amount of \$579,876 allocated to 4,000 MW.**

**8/ Twenty-five percent (1/4) of total work order in the amount of \$947,178 allocated to 4,000 MW.**

**9/ Bonneville and PacifiCorp equally share total work order in the amount of \$46,778. Of Bonneville's share, 100 percent is allocated to 4,000 MW.**

CALCULATION OF CHARGES PURSUANT TO THE **UFT** RATE SCHEDULE

Stability Control Upgrade--(AC Intertie Remedial Action Scheme for 4,800 **MW**) <sup>1/</sup>

. Charges effective 0001 **hours** January 1, 1994:

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A</u> <sup>2/</sup> ( % )	<u>I&amp;A</u> Ann Cost ( \$ ) -	<u>Company Share</u> (950/4800) ( \$ )
Alvey <sup>3/</sup>	102-730	\$ 77,739			
Ashe	103-775	886,422			
Bell (Comm)	827-540	51,817			
Big Eddy	103-776	386,171			
BPA System Chord@	103-722	0			
Buckley	827-535	201,989			
Buckley	103-777	321,522			
Captain Jack <sup>5/</sup>	103-778	0			
Celilo	103-779	411,626			
Dittmer	827-518	3,194,164			
Dittmer (TCDS Interface)	827-548	179,650			
Dittmer	102-731	822,993			
Dittmer	103-780	1,703,932			
Eastern CC	827-565	1,760,086			
Eastern CC	827-545	102,704			
Eastern CC	102-732	198,720			
Eastern CC	103-781	1,462,782			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,699			
Hanford	103-773	985,609			
Hot Springs (Comm)	e27-544	11,706			
John Day	827-533	551,286			
John Day	103-784	579,877			
Kennewick RS (Comm)	827-542	80,466			
Mali. (Comm)	827-555	352,246			
Marion	103-7e6	667,900			
McNary PH (Comm)	827-522	28,041			

<sup>1/</sup> investment determined pursuant to analysis dated 09/30/95 "Stability Control Upgrade--3200 MW Upgrade AC, 4000 MW Upgrade AC, 4800 MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/96." prepared by Ed Doyle, BPA-FCM.

<sup>2/</sup> I&A percentage includes O&M component.

CALCULATION OF CHARGES (Continued)

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A</u> <sup>2/</sup>	<u>I&amp;A Ann Cost</u>	<u>Company Share (950/4800)</u>
		(S)	(%)	(S)	(S)
Sickler (Comm)	827-539	7,814			
Slatt	103-788	947,178			
Summer Lake (Comm)	827-561	38,583			
Summer Lake <sup>6/</sup>	103-805	23,389			
Vantage (Comm)	827-541	7,518			
Vantage	103-804	<u>55,548</u>			
		\$16,173,217	11.87	\$1,919,761	\$379,953
Yearly UFT Charge	= Investment x I&Ax Company Share				
	= \$16,173,217X 0.1187X (950+ 4,800)				
	= \$379,953 per yr				
Monthly UFT Charge	= \$379,953+12				
	= \$ 31,663 per m.				

<sup>2/</sup> I&A percentage includes O&M component.

<sup>3/</sup> Bonneville and PacifiCorpequally share this total work order in the amount of \$155,478, Investment amount reflects Bonneville's shine.

<sup>4/</sup> Costs for this work order in the amount of \$540,454 have been spread to all other 102 and 103 RAS work orders.

<sup>5/</sup> Charges for this work order to be paid pursuant to Intertie Agreement, Contract No. 92340, Exhibit F.

<sup>6/</sup> Bonneville and PacifiCorpequally share this total work order in the amount of \$46,775, Investment amount reflects Bonneville's share.

CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE

Stability Control Upgrade-(AC Intertie Remedial Action Scheme for 4,800 MW)<sup>1/</sup>

Charges effective 0001 hours July 1,1995:

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A</u> <sup>2/</sup>	<u>I&amp;A Ann Cost</u>	<u>Company Share</u> <u>1950/4800</u>
		(\$)	(%)	(\$)	(\$)
Alvey <sup>3/</sup>	102-730	\$ 77,739			
Ash.	103-775	886,422			
Bell (Comm)	827-540	51,817			
Big Eddy	103-776	386,171			
BPA System Coord <sup>4/</sup>	103-722	0			
Buckley	827-535	201,989			
Buckley	103-777	321,522			
Captain Jack <sup>5/</sup>	103-778	0			
Celilo	103-779	411,626			
Dittmer	827-518	3,194,164			
Dittmer (TCDS Interface)	827-548	179,650			
Dittmer	102-731	822,993			
Dittmer	103-780	1,703,932			
Eastern CC	827-565	1,760,086			
Eastern CC	827-545	102,704			
Eastern CC	102-732	198,720			
Eastern CC	103-781	1,462,782			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,699			
Hanford	103-773	985,609			
Hot Springs (Comm)	827-544	11,706			
John Day	627-533	551,286			
John Day	103-784	579,877			
Kennewick RS (Comm)	827-542	80,466			
Malin (Comm)	827-555	352,246			
Marion	103-786	667,900			
McNary PH (Comm)	827-522	28,041			

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/05 "Stability Control Upgrade--3200 MW Upgrade AC, 4000 MW Upgrade AC, 4800 MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/96," prepared by Ed Doyle, BPA-FCM

<sup>2/</sup> I&A percentage includes O&M component.

CALCULATION OF CHARGES (Continued)

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A %</u>	<u>I&amp;A Annual Cost</u>	<u>Company Share (950/4800)</u>
		(\$)	(%)	(\$)	(\$)
Sickler (Comm)	827-539	7,814			
Slatt	103-788	947,178			
Summer Lake (Comm)	827-561	38,583			
Summer Lake #/	103-805	23,389			
Vantage (Comm)	827-541	7,518			
Vantage	103-804	<u>55,548</u>			
		\$16,173,217	10.99	\$1,777,437	\$351,784

Yearly UFT Charge = Investment x I&A x Company Share  
= \$16,173,217x 0.1099x (950 ÷ 4,800)  
= \$351,784 per yr

Monthly UFT Charge = \$351,784÷12  
= \$ 29,315 per m.

2/ I&A percentage includes O&M component.

3/ Bonneville and PacificCorp equally share this total work order in the amount of \$155,478. Investment amount reflects Bonneville's share.

4/ Costs for this work order in the amount of \$640,454 have been spread to all other 102 and 103 RAS work orders.

5/ Charges for this work order to be paid pursuant to Intertie Agreement, Contract No. 92340, Exhibit F.

6/ Bonneville and PacificCorp equally share this total work order in the amount of \$45,638. Investment amount reflects Bonneville's share.

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**AUTHENTICATED**

**CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE**

This Revision No. 4 updates the Bonneville investment for AC Intertie RAS and the annual cost ratio.

**Stability Control Upgrade-(AC Intertie Remedial Action Scheme for 4800 MW)**

<u>Description</u>	<u>Work Order</u>	<u>Bonneville<sup>1</sup> Investment</u>	<u>I&amp;A<sup>2</sup></u>	<u>I&amp;A Ann Cost</u>	<u>Company Share (950/4800)</u>
		(\$) <sup>3</sup>	(%)	(\$)	(\$)
Alvey <sup>4</sup>	102-730	0			
Ashe	103-775	886,422			
Ashe	00001159	169,951			
Ashe	00105688	18,168			
Bell (Comm) <sup>4</sup>	827-540	0			
Big Eddy	103-776	187,651			
Big Eddy	00001163	384			
Big Eddy	00135484	25,846			
BPA System Coord. <sup>5</sup>	103-722	0			
Buckley	827-535	201,989			
Buckley	103-777	321,522			
Captain Jack <sup>6</sup>	103-778	0	.0887 <sup>7</sup>		
Captain Jack <sup>6</sup>	00018453	0	.0887 <sup>7</sup>		
Captain Jack <sup>6</sup>	00000392	0	.0887 <sup>7</sup>		
Captain Jack <sup>6</sup>	00135476	0	.0887 <sup>7</sup>		
Celilo	103-779	411,626			
Dittmer	827-518	3,152,317			
Dittmer (TCDS Interface)	827-548	92,137			
Dittmer	102-731	782,293			
Dittmer	103-780	1,668,132			
Dittmer	00001164	106,719			
Dittmer <sup>8</sup>	00128320	2,736,893			
Dittmer	00105690	203,721			
Dittmer	00018536	128,412			
Dittmer	00000992	37,486			
Eastern CC	827-565	1,760,086			
Eastern CC	827-545	102,704			
Eastern CC <sup>4</sup>	102-732	0			
Eastern CC	103-781	602,958			
Fort Rock (Comm)	827-562	14,880	.0887 <sup>7</sup>		
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee (230 kV)	00135480	328,736			
Gr Coulee (230 kV)	00128414	138,952			
Gr Coulee (500 kV)	00128415	76,269			
Gr Coulee (500 kV) <sup>9</sup>	00135479	244,004			
Gr Coulee RS (Comm)	827-557	9,271			
Gr Coulee RS (Comm)	00135483	24,172			

(Table Continues)

**CALCULATION OF CHARGES (Continued)**

<u>Description</u>	<u>Work Order</u>	<u>Bonneville<sup>1</sup> Investment</u>	<u>I&amp;A<sup>2</sup></u>	<u>I&amp;A Ann Cost</u>	<u>Company Share (950/4800)</u>
		(\$) <sup>3</sup>	(%)	(\$)	(\$)
Grizzly (Comm)	827-560	21,699	.0887 <sup>7</sup>		
Hanford	103-773	985,609			
Hanford	00001166	189,476			
Hanford	00105691	894,903			
Hot Springs (Comm)	827-544	11,706			
John Day	827-533	551,286			
John Day	103-784	579,877			
John Day	00000394	258,872			
John Day	00105692	396,449			
John Day	00211472	23,227			
John Day	00188308	236,315			
Keeler <sup>9</sup>	00135482	16,177			
Kennewick RS (Comm)	827-542	80,466			
Malin (Comm)	827-555	352,246	.0887 <sup>7</sup>		
Malin	00001161	32,815	.0887 <sup>7</sup>		
Malin	00000395	337,884	.0887 <sup>7</sup>		
Malin	00135477	103,656	.0887 <sup>7</sup>		
Marion	103-786	667,900			
Marion	00001157	534,478			
McNary PH (Comm)	827-522	28,041			
Munro CC <sup>8</sup>	00135474	1,808,520			
Munro CC	00105694	250,417			
Munro CC	00018537	121,171			
Munro CC	00001012	17,822			
Munro CC	00001013	3,236			
Munro CC	00001014	34,537			
Munro CC <sup>9</sup>	00001706	161			
Munro CC	00147799	50,674			
Munro CC	00189527	59,631			
Munro CC	00183359	148,887			
Raver <sup>9</sup>	00135481	89,134			
Sickler (Comm)	827-539	7,814			
Sickler	00105697	157,063			
Slatt	103-788	570,504			
Slatt	00105699	56,928			
Summer Lake (Comm)	827-561	38,583			
Summer Lake <sup>4</sup>	103-805	0			
Vantage (Comm)	827-541	7,518			
Vantage	103-804	55,548			
Vantage	00018534	374,385			
Sum of Investments with O&M included		\$23,754,025	.1434	\$3,406,327	\$674,169
Sum of Investments with O&M excluded		\$ 863,180	.0887	\$ 76,564	\$ 15,153



Yearly UFT Charge = Investment  $\times$  I&A including O&M  $\times$  Company Share  
= \$23,754,025  $\times$  0.1434  $\times$  (950  $\div$  4800)  
= \$674,169 per yr<sup>3</sup>

= Investment  $\times$  I&A excluding O&M  $\times$  Company Share  
= \$863,180  $\times$  0.0887  $\times$  (950  $\div$  4800)  
= \$15,153 per yr<sup>3</sup>

Total Yearly UFT Charge = \$674,169 + \$15,153  
= \$689,322

Monthly UFT Charge = \$689,322  $\div$  12  
= \$57,443 per mo<sup>3</sup>

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<sup>1</sup> New investments added in this Revision No. 4 were determined from a comprehensive analysis of all work orders from July 1, 1999 through August 2009 of all the locations listed in the exhibit, to determine which work orders were for AC Intertie RAS and fell within the contract requirements for inclusion in the UFT Exhibit A. The review team consisted of members from the following groups; RAS and Data Systems group (TECR), Asset and Workload Planning group (TPW), Technical Operations group (TOT), Customer Service Engineering group (TPC), and the Contract Administration group (KSC). Total investment dollars for work orders added to Revision No. 4 were obtained from the office of Asset Accounting (FRP).

<sup>2</sup> I&A percentage includes O&M component. Percentage taken from Bonneville's "Annual Cost Ratio Table – 5 year Average of Fiscal Years 2002 to 2006" effective September 30, 2007. The percentage used is taken from Weighted Average – General Plant, Column 10. The exceptions are those I&A percentages where the O&M component is excluded. In those cases the percentage is taken from Weighted Average – General Plant, Column 9.

<sup>3</sup> Total dollar amounts, per work order, have been rounded to ensure 12 equal whole dollar monthly payments.

<sup>4</sup> Retirement of equipment related to this work order has resulted in \$0 worth of investment remaining under this work order.

<sup>5</sup> Pursuant to Exhibit B Revision No. 2, where charges were effective July 1, 1993, costs for this work order in the amount of \$540,454 were spread to all other 102 and 103 RAS work orders at that time.

<sup>6</sup> Charges for this work order to be paid pursuant to Intertie Agreement, Contract No. 92340, Exhibit F.

<sup>7</sup> I&A percentages for the Captain Jack, Fort Rock, Grizzly and Malin Substations exclude the O&M component because O&M is billed under a separate agreement for each of these facilities.

<sup>8</sup> 70% of total work order comprises the AC Intertie Remedial Action Scheme portion.

<sup>9</sup> 50% of total work order comprises the AC Intertie Remedial Action Scheme portion.

DE-MS79-94BP94333

**SECOND AMENDED AND RESTATED MIDPOINT-MERIDIAN TRANSMISSION  
AGREEMENT**

**executed by the  
UNITED STATES OF AMERICA  
DEPARTMENT OF ENERGY  
acting by and through the  
BONNEVILLE POWER ADMINISTRATION  
and  
PACIFICORP**

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This Second Amended and Restated Midpoint-Meridian Transmission Agreement (“Agreement”) executed March 24, 2023, by the UNITED STATES OF AMERICA, Department of Energy, acting by and through the BONNEVILLE POWER ADMINISTRATION (“Bonneville”), and PacifiCorp (“PacifiCorp”), a corporation organized and existing under the laws of the State of Oregon, (hereinafter referred to individually as “Party” and collectively as “Parties.”

WITNESSETH

WHEREAS on June 1, 1994, the Parties entered into the Midpoint-Meridian Transmission Agreement (Contract No. DE-MS79-94BP94333), hereinafter referred to as the “1994 Midpoint-Meridian Agreement.” The 1994 Midpoint-Meridian Agreement superseded and replaced the Midpoint-Medford Transmission Agreement (Contract No. DE-MS79-79BP90091), as amended, and incorporated terms set forth in an Agreement of Principles, dated May 28, 1993, which provided, among other things, for the revision of certain terms and conditions in the Intertie Agreement (Contract No. DE-MS79-86BP92299) and the Midpoint-Medford Agreement; and

WHEREAS the Parties have entered into the AC Intertie Agreement (Contract No. DE-MS79-94BP94332), as amended, which hereinafter is referred to as “AC Intertie Agreement” which replaces and supersedes the Intertie Agreement; and

WHEREAS PacifiCorp has constructed and owns a 500 kV transmission line from Midpoint Substation to Meridian Substation (“Midpoint-Meridian Line”), to transmit electric power and energy from resources which it owned or which were under construction by PacifiCorp, as of September 2, 1977, in Wyoming and adjacent states (“PacifiCorp’s Eastern System”) to the Pacific Northwest; and

WHEREAS the Midpoint-Meridian Line consists of three segments hereinafter referred to as “Midpoint-Summer Lake Line”, “Summer Lake-Malin Line” and “Malin-Meridian Line”; and

WHEREAS PacifiCorp has constructed a 500 kV transmission line from the interconnection with Bonneville at Alvey Substation to Meridian Substation (“Alvey-Meridian Line”) which is jointly owned by PacifiCorp and Bonneville; and

WHEREAS the Midpoint-Meridian Line is interconnected with the Alvey-Meridian Line at Meridian Substation; and

WHEREAS the Midpoint-Meridian Line is interconnected with the Federal Transmission System and the AC Intertie; and

WHEREAS the Midpoint-Meridian Line is interconnected with the California-Oregon Transmission Project at Captain Jack Substation; and

WHEREAS Bonneville has constructed a 500 kV transmission line from the Government’s Buckley Substation to its Summer Lake Substation (“Buckley-Summer Lake Line”) to interconnect with PacifiCorp’s Midpoint-Meridian Line at Summer Lake Substation; and

WHEREAS under Section 5 of the 1994 Midpoint-Meridian Agreement, Bonneville agreed to provide PacifiCorp transmission service over the Federal Transmission System and to provide additional transmission services to PacifiCorp at times of abnormal operations of the Midpoint-Summer Lake Line and the Summer Lake-Malin Line ("Midpoint-Malin Line"); and

WHEREAS under Section 4 of the 1994 Midpoint-Meridian Agreement, the Parties agreed to exchange rights to capacity in the Buckley-Summer Lake Line and Summer Lake-Malin Line; the amounts PacifiCorp scheduled over the Buckley-Summer Lake Line were subject to the terms of the Exchange Agreement (Contract No. 14-03-29245) as amended ("Exchange Agreement"), which provided, among other things, for points of delivery, scheduling arrangements and an energy exchange account; and

WHEREAS the Parties have entered into the Malin Operation and Maintenance Trust Agreement (Contract No. 14-03-62876), as amended (which hereinafter is referred to as "Operation and Maintenance Agreement") and which provides, among other things, for the operation and maintenance of certain facilities at Malin Substation; and

WHEREAS on November 30, 2021, Bonneville and PacifiCorp entered into Tables 232, 233, 234, 235, 236, 239 of Point-to-Point Contract No. 04TX-11722, as such contract may be amended from time to time, which replaced and superseded the transmission services provided under Section 5 and associated terms, conditions and exhibits of the 1994 Midpoint-Meridian Agreement; and

WHEREAS on December 1, 2021, to reflect the aforementioned conversion of service under Section 5 and associated terms, conditions and exhibits and to retain Section 4 of the 1994 Midpoint-Meridian Agreement, the Parties entered into the Amended and Restated Midpoint-Meridian Agreement, ("First Amended and Restated Midpoint-Meridian Agreement"); and

WHEREAS, on January 18, 2022, Bonneville, PacifiCorp, and Idaho Power Company entered into a non-binding Term Sheet, Contract No. 22TX-17207, ("B2H Term Sheet") regarding the proposed Boardman to Hemingway Transmission Project ("B2H Project"), which, in addition to other terms, described Bonneville and PacifiCorp's intent to replace PacifiCorp's rights to capacity in the Buckley-Summer Lake Line in Section 4 of the First Amended and Restated Midpoint-Meridian Agreement with Point-to-Point service provided by Bonneville to PacifiCorp; and

WHEREAS the Parties negotiated the contracts agreed as necessary that were contemplated in the B2H Term Sheet, including this Second Amended and Restated Midpoint-Meridian Agreement and related Point-to-Point tables in Point-to-Point Contract No. 04TX-11722; and

WHEREAS, on March 24, 2023, Bonneville and PacifiCorp entered into Tables 250, 251, 252, 253, 254, and 255 of Point-to-Point Contract No. 04TX-11722, which replaces and supersedes the rights to capacity in the Buckley-Summer Lake Line provided to PacifiCorp under Section 4(a) and associated terms and conditions of the First Amended and Restated Midpoint-Meridian Agreement; and

WHEREAS the Parties desire to supersede and replace the First Amended and Restated Midpoint-Meridian Agreement with this Second Amended and Restated Midpoint-Meridian Agreement to reflect the aforementioned conversion of service under Section 4(a) of the First Amended and Restated Midpoint-Meridian Agreement to Bonneville point-to-point service; and

WHEREAS Bonneville is authorized pursuant to law to dispose of electric power and energy generated at various Federal hydroelectric projects in the Pacific Northwest, or acquired from other resources, to construct and operate transmission facilities, to provide transmission and other services, and to enter into agreements to carry out such authority.

NOW, THEREFORE, the Parties hereto mutually agree as follows;

1. Definition and Explanation of Terms.

- (a) "AC Intertie" means Bonneville's rights in the alternating current ("AC") transmission facilities for transferring power and energy between Oregon and California as follows: two 500 kV lines extending from John Day Substation to Malin Substation and to the California-Oregon Border; portions of John Day, Grizzly, and Malin Substations and the Sand Springs, Fort Rock, and Sycan Compensation Stations; a portion of the Buckley-Summer Lake 500 kV transmission line and associated substations; portions of the Buckley-Marion and Marion-Alvey 500 kV transmission lines and associated facilities; Bonneville's capacity rights in the Summer Lake-Malin 500 kV transmission line; Bonneville's share of ownership of the Alvey-Dixonville and Dixonville-Meridian 500 kV transmission lines; portions of the Alvey, Dixonville, Meridian and Captain Jack Substations; the 500 kV transmission line extending from Captain Jack Substation to the California-Oregon Border; and any modifications, improvements, or additions to such facilities.
- (b) "Federal Transmission System" means transmission facilities owned by Bonneville.

2. Term of Agreement. This Agreement shall be effective and shall supersede the First Amended and Restated Midpoint-Meridian Agreement upon satisfaction of all of the following conditions: (a) execution by the Parties; (b) approval or acceptance of this Agreement for filing without change by the Federal Energy Regulatory Commission for a term coincident with the AC Intertie Agreement; (c) satisfaction of all conditions precedent in the Joint Purchase and Sale Agreement ("JPSA") between PacifiCorp and Idaho Power Company to transfer certain transmission facilities related to the Boardman to Hemingway Transmission Project ("B2H Project") in accordance with the terms of the JPSA, including the development, construction and energization of the B2H Project; and (d) satisfaction of all conditions precedent in Point-to-Point Contract No. 04TX-11722, Tables 250, 251, 252, 253, 254, and 255 in accordance with the terms thereof. Upon termination of this Agreement, all liabilities accrued hereunder shall be and are hereby preserved until satisfied.

3. [Intentionally Omitted.]

4. Right to Use Transmission Capacity.

- (a) Summer Lake-Malin. During the term hereof, Bonneville shall have the use of 1000 megawatts of bi-directional scheduling capability above PacifiCorp's 1000 megawatts of capability in the Summer Lake-Malin Line. Such rights of use shall include PacifiCorp's terminal facilities in the Summer Lake and Malin Substations. PacifiCorp shall be responsible for the capital and annual costs of two 500 kV line terminal positions at Summer Lake Substation, including two power circuit breakers, and the additions required at Malin Substation in accordance with the Operation and Maintenance Agreement; provided, however, that Bonneville will operate all such equipment at PacifiCorp's expense. Bonneville shall be responsible for all other facilities at Summer Lake and, with other owners of the AC Intertie, for the facilities to connect Buckley to the AC Intertie. Use of the capacity in the Summer Lake-Malin Line by Bonneville shall be subject to availability, as determined by PacifiCorp, and shall be subject to payment and loss provisions agreed upon by the Parties. The Parties shall be compensated for balancing authority area electric power losses pursuant to Section 8 of the AC Intertie Agreement.
- (b) [Intentionally Omitted]
- (c) Bonneville's Right to Obtain Additional Summer Lake-Midpoint Capacity. During the term of this Agreement, Bonneville shall have the option to acquire up to 400 megawatts of eastbound firm scheduling rights over the Midpoint-Summer Lake Line and an option to tap such line to serve loads and for interregional transfers. If Bonneville exercises its option to acquire up to 400 megawatts of eastbound firm scheduling rights over the Midpoint-Summer Lake Line, Bonneville shall pay PacifiCorp based upon PacifiCorp's then-effective applicable FERC filed tariff for firm transmission services. If Bonneville exercises this option, during periods when the eastbound capability of the Midpoint-Summer Lake Line is reduced, Bonneville's eastbound scheduling rights shall be reduced pro-rata with such reduction. However, during periods when transfer capability is reduced, PacifiCorp shall provide Bonneville the right to use PacifiCorp's capability not required for PacifiCorp's firm need, as determined by PacifiCorp, at no additional cost. In the event Bonneville wishes to tap the Midpoint-Summer Lake Line, Bonneville and PacifiCorp shall mutually develop the plan of service for such tap. Such tap shall not degrade or reduce PacifiCorp's East to West transfer capability on the Midpoint-Malin Line or reduce PacifiCorp's Load Carrying Capability as defined in the AC Intertie Agreement. Unless otherwise mutually agreed, Bonneville shall be responsible for all costs associated with any such tap. Unless otherwise mutually agreed, such tap shall not increase Bonneville's eastbound transfer rights on the Midpoint-Summer Lake Line.

5. Transmission of Electric Power and Energy.

- (a) [Intentionally Omitted]

- (b) [Intentionally Omitted]
  - (c) [Intentionally Omitted]
  - (d) [Intentionally Omitted]
  - (e) [Intentionally Omitted]
  - (f) PacifiCorp shall not transmit electric power and energy west to east over the Midpoint-Meridian Line, or any segment thereof, in a manner which will adversely impact the operation of the Federal Transmission System or the AC Intertie. The determination of an adverse impact shall be made by Bonneville.
6. Scheduling. Unless otherwise agreed by the Parties, schedules for electric energy and losses under Section 4(a) shall be in accordance with AC Intertie scheduling practices. Schedules for electric energy and losses under Section 4(c) shall be in accordance with PacifiCorp's scheduling practices and Open Access Transmission Tariff.
7. Notices. Any notice or other communication related to this Agreement shall be delivered in person, or with proof of receipt by email, facsimile, First Class mail or overnight delivery service. Notices are effective on the date received. Either Party may change the contact information by providing notice to the other Party as provided below:

**To PacifiCorp:**

825 NE Multnomah Street, Suite 1600  
Portland, OR 97232  
Transmission Services  
Attention: Rick Vail  
Title: Vice President  
Phone: (503) 813-6938

Email: Richard.Vail@pacificorp.com

**To Bonneville Power Administration:**

Attention: Transmission Account  
Executive for PacifiCorp — TSE/TPP-2  
Phone: (360) 619-6016  
Fax: (360) 619-6940  
Email: txsalescontracts@bpa.gov

**By First Class Mail:**

Bonneville Power Administration  
P.O. Box 61409  
Vancouver, WA 98666



8. Assignment. This Agreement is binding on any successors and permitted assigns of the Parties. Neither Party may transfer or assign this Agreement, in whole or in part, without the other Party's prior written consent (which consent shall not be unreasonably withheld, conditioned or delayed), except that, after thirty (30) days written notice to the other Party, either Party may assign this Agreement to any: (i) affiliate, (ii) successor in interest, or (iii) corporation or any other business entity acquiring all or substantially all of the assets of the assigning Party.
9. Choice of Law and Forum. This Agreement shall be interpreted, construed, enforced and implemented pursuant to Federal law. The forum for litigation arising from this contract shall exclusively be a Federal court of the United States, unless the Parties agree to pursue alternative dispute resolution.
10. Reactive Power. The Parties shall jointly plan and operate their systems so that the flow of reactive power accompanying or resulting from deliveries of electric power and energy hereunder will not adversely affect the system of either Party.
11. Termination of Agreement. The Parties agree that the 1994 Midpoint-Meridian Transmission Agreement superseded and terminated in its entirety the Midpoint-Medford Agreement, Contract No. DE-MS79-79BP90091, that the First Amended and Restated Midpoint-Meridian Agreement superseded and terminated in its entirety the 1994 Midpoint-Meridian Transmission Agreement, and that this Agreement is superseding and terminating in its entirety the First Amended and Restated Midpoint-Meridian Agreement; provided, however, that any liabilities incurred under the Midpoint-Medford Agreement, the 1994 Midpoint-Meridian Transmission Agreement, or the First Amended and Restated Midpoint-Meridian Agreement are hereby preserved until satisfied.
12. Rules of Interpretation. The Parties agree that each Party fully participated in the drafting of each provision of this Agreement. The rule of law interpreting ambiguities against the drafting Party shall not be applicable or utilized in resolving any dispute over the meaning or intent of this Agreement or any of its provisions.
13. Amendments. The Parties may by mutual agreement amend this Agreement through a written instrument signed by authorized representatives of each Party. Notwithstanding the forgoing, neither Party relinquishes its rights under applicable law.
14. Relationship of the Parties. Neither Party is the agent or principal of the other, nor are they partners or joint venturers. Each Party agrees that it will not represent that, in performing its obligations hereunder, it acts in the capacity of agent or principal of the other Party, nor that it is a partner or joint venturer with the other Party with respect to the subject matter of this Agreement.
15. Section Headings. Section headings and subheadings appearing in this Agreement are inserted for convenience only and are not to be construed as interpretations of text.
16. Several Obligations. Except where specifically stated in this Agreement, the duties, obligations and liabilities of the Parties are intended to be several and not joint or collective.

17. Waivers. No waiver of any provision or breach of this Agreement shall be effective unless such waiver is in writing and signed by the waiving Party, and any such waiver shall not be deemed a waiver of any other provision of this Agreement or any other breach of this Agreement.
18. Dispute Resolution. In the event that either Party has a dispute that arises out of this Agreement, such Party shall provide the other Party with written notice of the dispute, which will be referred to a designated senior representative for each Party for resolution on an informal basis as promptly as practicable after receipt of the notice of dispute by the other Party. In the event the designated representatives are unable to resolve the dispute within thirty (30) calendar days of the other Party's receipt of the notice of dispute, such dispute may, upon mutual agreement of the Parties, be submitted to arbitration. In the event the Parties do not agree to submit such dispute to arbitration, each Party may exercise whatever rights and remedies it may have at law. Each Party shall be responsible for its own costs incurred.
19. Signatures. This Agreement may be executed in several counterparts, all of which taken together will constitute one single agreement, and may be executed by electronic signature and delivered electronically. The Parties have executed this Agreement as of the last date indicated below.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement.

PACIFICORP

By: Rick Vail Digitally signed by Rick Vail  
Date: 2023.03.24 09:41:18  
-07'00'

Title: Vice President

If opting out of the electronic signature:

By:

Name: \_\_\_\_\_  
*(Print/Type)*

Title: \_\_\_\_\_

Date: \_\_\_\_\_

UNITED STATES OF AMERICA

Department of Energy  
Bonneville Power Administration

By: ERIC CARTER Digitally signed by ERIC CARTER  
Date: 2023.03.24 07:53:01 -07'00'

Title: Senior Transmission Account Executive

Document Certified By:

(b)(6)

Revision No. 3, Exhibit B, Page 1 of 2  
Contract No. DE-MS79-93BP93040  
Portland General Electric Company  
Effective 2400 hours  
June 30, 1999

Date: 8-12-99

### **CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE**

This Revision No. 3 updates the annual cost ratio.

#### **Stability Control Upgrade—(AC Intertie Remedial Action Scheme for 4,800 MW) <sup>1/</sup>**

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A <sup>2/</sup></u>	<u>I&amp;A Ann Cost</u>	<u>Company Share (950/4800)</u>
		(\$)	(%)	(\$)	(\$)
Alvey <sup>1/</sup>	102-730	\$ 77,739			
Ashe	103-775	886,422			
Bell (Comm)	827-540	51,817			
Big Eddy	103-776	386,171			
BPA System Coord <sup>1/</sup>	103-722	0			
Buckley	827-535	201,989			
Buckley	103-777	321,522			
Captain Jack <sup>1/</sup>	103-778	0			
Celilo	103-779	411,626			
Dittmer	827-518	3,194,164			
Dittmer (TCDS Interface)	827-548	179,650			
Dittmer	102-731	822,993			
Dittmer	103-780	1,703,932			
Eastern CC	827-565	1,760,086			
Eastern CC	827-545	102,704			
Eastern CC	102-732	198,720			
Eastern CC	103-781	1,462,782			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,699			
Hanford	103-773	985,609			
Hot Springs (Comm)	827-544	11,706			
John Day	827-533	551,286			
John Day	103-784	579,877			
Kennewick RS (Comm)	827-542	80,466			
Malin (Comm)	827-555	352,246			
Marion	103-786	667,900			
McNary PH (Comm)	827-522	28,041			

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/95 "Stability Control Upgrade--3200 MW Upgrade AC, 4000 MW Upgrade AC, 4800 MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/96," prepared by Ed Doyle, BPA-FCM.

<sup>2/</sup> I&A percentage includes O&M component.

Revision No. 3, Exhibit B, Page 2 of 2  
Contract No. DE-MS79-93BP93040  
Portland General Electric Company  
Effective 2400 hours  
September 30, 1997

# **CALCULATION OF CHARGES (Continued)**

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A</u> <sup>2/</sup>	<u>I&amp;A Ann Cost</u>	<u>Company Share (950/4800)</u>
		(\$)	(%)	(\$)	(\$)
Sickler (Comm)	827-539	7,814			
Slatt	103-788	947,178			
Summer Lake (Comm)	827-561	38,583			
Summer Lake <sup>5/</sup>	103-805	23,389			
Vantage (Comm)	827-541	7,518			
Vantage	103-804	<u>55,548</u>			
		\$16,173,217	0.091	\$1,471,763	\$291,286

Yearly UFT Charge = Investment × I&A × Company Share  
= \$16,173,217 × 0.091 × (950 ÷ 4,800)  
= \$291,286 per yr

Monthly UFT Charge = \$291,286 ÷ 12  
= \$ 24,274 per mo

<sup>2/</sup> I&A percentage includes O&M component. Based on 96, 97, and 98 averages. Composite plant Column 7.

<sup>3/</sup> Bonneville and PacifiCorp equally share this total work order in the amount of \$155,478. Investment amount reflects Bonneville's share.

<sup>4/</sup> Costs for this work order in the amount of \$540,454 have been spread to all other 102 and 103 RAS work orders.

<sup>5/</sup> Charges for this work order to be paid pursuant to Intertie Agreement, Contract No. 92340, Exhibit F.

<sup>6/</sup> Bonneville and PacifiCorp equally share this total work order in the amount of \$45, 638. Investment amount reflects Bonneville's share.

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**AUTHENTICATED**

**CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE**

This Revision No. 4 updates the Bonneville investment for AC Intertie RAS and the annual cost ratio.

**Stability Control Upgrade-(AC Intertie Remedial Action Scheme for 4800 MW)**

<u>Description</u>	<u>Work Order</u>	<u>Bonneville<sup>1</sup> Investment</u>	<u>I&amp;A<sup>2</sup> (%)</u>	<u>I&amp;A Ann Cost</u> (\$)	<u>Company Share (400/4800)</u> (\$)
Alvey <sup>4</sup>	102-730	0	.0887 <sup>5</sup>		
Ashe	103-775	886,422			
Ashe	00001159	169,951			
Ashe	00105688	18,168			
Bell (Comm) <sup>6</sup>	827-540	0			
Big Eddy	103-776	187,651			
Big Eddy	00001163	384			
Big Eddy	00135484	25,846			
BPA System Coord. <sup>7</sup>	103-722	0			
Buckley	827-535	201,989			
Buckley	103-777	321,522			
Captain Jack <sup>4</sup>	103-778	0	.0887 <sup>5</sup>		
Captain Jack <sup>8</sup>	00018453	0	.0887 <sup>5</sup>		
Captain Jack	00000392	351,671	.0887 <sup>5</sup>		
Captain Jack	00135476	110,889	.0887 <sup>5</sup>		
Celilo	103-779	411,626			
Dittmer	827-518	3,152,317			
Dittmer (TCDS Interface)	827-548	92,137			
Dittmer	102-731	782,293			
Dittmer	103-780	1,668,132			
Dittmer	00001164	106,719			
Dittmer <sup>9</sup>	00128320	2,736,893			
Dittmer	00105690	203,721			
Dittmer	00018536	128,412			
Dittmer	00000992	37,486			
Eastern CC	827-565	1,760,086			
Eastern CC	827-545	102,704			
Eastern CC <sup>6</sup>	102-732	0			
Eastern CC	103-781	602,958			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee (230 kV)	00135480	328,736			
Gr Coulee (230 kV)	00128414	138,952			
Gr Coulee (500 kV)	00128415	76,269			
Gr Coulee (500 kV) <sup>10</sup>	00135479	244,004			
Gr Coulee RS (Comm)	827-557	9,271			
Gr Coulee RS (Comm)	00135483	24,172			

(Table Continues)

**CALCULATION OF CHARGES (Continued)**

<u>Description</u>	<u>Work Order</u>	<u>Bonneville<sup>1</sup> Investment</u>	<u>I&amp;A<sup>2</sup></u>	<u>I&amp;A Ann Cost</u>	<u>Company Share</u>
		<u>(\$)<sup>3</sup></u>	<u>(%)</u>	<u>(\$)</u>	<u>(400/4800)</u>
Grizzly (Comm)	827-560	21,699			
Grizzly <sup>11</sup>	103-783	278,527			
Hanford	103-773	985,609			
Hanford	00001166	189,476			
Hanford	00105691	894,903			
Hot Springs (Comm)	827-544	11,706			
John Day	827-533	551,286			
John Day	103-784	579,877			
John Day	00000394	258,872			
John Day	00105692	396,449			
John Day	00211472	23,227			
John Day	00188308	236,315			
Keeler <sup>10</sup>	00135482	16,177			
Kennewick RS (Comm)	827-542	80,466			
Malin (Comm)	827-555	352,246	.0887 <sup>5</sup>		
Malin	00001161	32,815	.0887 <sup>5</sup>		
Malin	00000395	337,884	.0887 <sup>5</sup>		
Malin	00135477	103,656	.0887 <sup>5</sup>		
Marion	103-786	667,900			
Marion	00001157	534,478			
McNary PH (Comm)	827-522	28,041			
Munro CC <sup>9</sup>	00135474	1,808,520			
Munro CC	00105694	250,417			
Munro CC	00018537	121,171			
Munro CC	00001012	17,822			
Munro CC	00001013	3,236			
Munro CC	00001014	34,537			
Munro CC <sup>10</sup>	00001706	161			
Munro CC	00147799	50,674			
Munro CC	00189527	59,631			
Munro CC	00183359	148,887			
Raver <sup>10</sup>	00135481	89,134			
Sickler (Comm)	827-539	7,814			
Sickler	00105697	157,063			
Slatt	103-788	570,504			
Slatt	00105699	56,928			
Summer Lake (Comm)	827-561	38,583			
Summer Lake <sup>12</sup>	103-805	0			
Vantage (Comm)	827-541	7,518			
Vantage	103-804	55,548			
Vantage	00018534	374,385			
Sum of Investments with O&M included		\$24,069,131	.1434	\$3,451,513	\$287,626
Sum of Investments with O&M excluded		\$ 1,289,161	.0887	\$ 114,349	\$ 9,529

Yearly UFT Charge = Investment  $\times$  I&A including O&M  $\times$  Company Share  
= \$24,069,131  $\times$  0.1434  $\times$  (400  $\div$  4800)  
= \$287,626 per yr<sup>3</sup>

= Investment  $\times$  I&A excluding O&M  $\times$  Company Share  
= \$1,289,161  $\times$  0.0887  $\times$  (400  $\div$  4800)  
= \$9,529 per yr<sup>3</sup>

Total Yearly UFT Charge = \$287,626 + \$9,529  
= \$297,155

Monthly UFT Charge = \$297,155  $\div$  12  
= \$24,763 per mo<sup>3</sup>

<sup>1</sup> New investments added in this Revision No. 4 were determined from a comprehensive analysis of all work orders from July 1, 1999 through August 2009 of all the locations listed in the exhibit, to determine which work orders were for AC Intertie RAS and fell within the contract requirements for inclusion in the UFT Exhibit A. The review team consisted of members from the following groups; RAS and Data Systems group (TECR), Asset and Workload Planning group (TPW), Technical Operations group (TOT), Customer Service Engineering group (TPC), and the Contract Administration group (KSC). Total investment dollars for work orders added to Revision No. 4 were obtained from the office of Asset Accounting (FRP).

<sup>2</sup> I&A percentage includes O&M component. Percentage taken from Bonneville's "Annual Cost Ratio Table – 5 year Average of Fiscal Years 2002 to 2006" effective September 30, 2007. The percentage used is taken from Weighted Average – General Plant, Column 10. The exceptions are those I&A percentages where the O&M component is excluded. In those cases the percentage is taken from Weighted Average – General Plant, Column 9.

<sup>3</sup> Total dollar amounts, per work order, have been rounded to ensure 12 equal whole dollar monthly payments.

<sup>4</sup> Costs for this work order shared by the Parties pursuant to section 6(d) of this Agreement.

<sup>5</sup> I&A percentages for the Alvey, Captain Jack and Malin Substations exclude the O&M component because O&M is billed under a separate agreement for each of these facilities.

<sup>6</sup> Retirement of equipment related to this work order has resulted in \$0 worth of investment remaining under this work order.

<sup>7</sup> Pursuant to Exhibit B Revision No. 2, where charges were effective July 1, 1993, costs for this work order in the amount of \$540,454 were spread to all other 102 and 103 RAS work orders at that time.

<sup>8</sup> Costs of this work order shared by Bonneville and PacifiCorp at time work was performed.

<sup>9</sup> 70% of total work order comprises the AC Intertie Remedial Action Scheme portion.

<sup>10</sup> 50% of total work order comprises the AC Intertie Remedial Action Scheme portion.

<sup>11</sup> Bonneville and Portland General Electric cost share this work order in the amount of \$371,369, 75/25, respectively. Bonneville's 75 percent share reflected herein.

<sup>12</sup> Costs for this work order to be shared by the Parties pursuant to section 4(a) of this Agreement.

# CALCULATION OF CHARGES PURSUANT TO THE **UFT** RATE SCHEDULE

This Revision No. 2 adjusts preliminary investment amounts to reflect actual investment amounts.

Stability Control Upgrade--(AC Intertie Remedial Action Scheme for 3,200 **MW**)<sup>1/</sup>

. Charges effective **0001 hours** February 1, 1991:

<u>Description</u>	<u>Work Order</u>	<u>Investment</u> (S)	<u>I&amp;A</u> <sup>2/</sup> (%)	<u>I&amp;A Ann Cost</u> (S)	<u>Company Share (300/3200)</u> (S)
Dell (Comm)	827-540	\$ 51,817			
Buckley	827-535	201,989			
Dittmer	827-518	3,194,164			
Dittmer (TCDS Interface)	827-548	179,650			
Eastern CC	827-585	1,760,086			
Eastern CC	827-545	102,704			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,699			
Hot Springs (Comm)	827-544	11,706			
John Day	827-533	551,286			
Kennewick RS (Comm)	827-542	80,466			
Malin (Comm)	827-555	352,246			
M.Nary PH (Comm)	827-522	28,041			
Sickler (Comm)	827-539	7,814			
Summer Lake (Comm)	827-561	38,583			
Vantage (Comm)	827-541	<u>7,518</u>			
		\$6,641,809	12.45	\$826,905	\$77,522

Yearly UFT Charge = Investment x I&Ax Company Share  
= \$8,641,809X 0.1245X (300+ 3200)  
= \$77,522 peryr

Monthly UFT Charge = \$77,522+12  
= \$6,460 per mo

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/95 "Stability Control Upgrade--3200 MW Upgrade AC, 4000 MW Upgrade AC, 4800 MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/96," prepared by Ed Doyle, BPA - FCM.

<sup>2/</sup> I&A percentage includes O&M component.



CALCULATION OF CHARGES PURSUANT TO THE **UFT** RATE SCHEDULE

Stability Control Upgrade-(AC Intertie Remedial Action Scheme for 3,200 **MW**) <sup>1/</sup>

. Charges effective 0001 hours July 1, 1991:

<u>Description</u>	<u>Work Order</u>	<u>Investment</u> (S)	<u>I&amp;A</u> <sup>2/</sup> (%)	<u>I&amp;A</u> Ann Cost (S)	<u>Company Share (300/3200)</u> (S)
Bell (Comm)	827-540	\$ 51,817			
Buckley	827-535	201,989			
Dittmer	827-518	3,194,164			
Dittmer(TCDS Interface)	627-548	179,650			
Eastern CC	827-565	1,760,086			
Eastern CC	827-545	102,704			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,699			
Hot Springs (Comm)	827-544	11,706			
John Day	827-533	551,286			
Kennewick RS (Comm)	827-542	80,466			
Mali. (Comm)	827-555	352,246			
McNary PH (Comm)	827-522	28,041			
Sickler (Comm)	827-539	7,814			
Summer Lake (Comm)	827-561	38,583			
Vantage (Comm)	827-541	<u>7,518</u>			
		\$6,641,809	11.99	\$796,353	74,658
Yearly UFT Charge	= Investment x I&A x Company Share = \$6,641,809X 0.1189X (300+ 3200) = \$74,658 per yr				
Monthly UFT Charge	= \$74,658+12 = \$6,222 per mo				

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/95 "Stability Control Upgrade--3200 MW Upgrade AC, 4000 MW Upgrade AC, 4800 MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/96," prepared by Ed Doyle, BPA FCM.

<sup>2/</sup> I&A percentage includes O&M component.

CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE

Stability Control Upgrade-(AC Intertie Remedial Action Scheme for 4,000 MW) <sup>1/</sup>

Charges effective 0001 hours April 1, 1993:

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A <sup>2/</sup></u>	<u>I&amp;A Ann Cost</u>	<u>Company Share (400/4000)</u>
		(\$)	(%)	(\$)	(\$)
Bell (Comm)	827-540	\$ 51,817			
BPA System Coord. <sup>3/</sup>	103-722	0			
Buckley	e27-535	201,989			
Buckley <sup>4/</sup>	103-777	106,102			
Captain Jack <sup>5/</sup>	103-778	0			
Celilo <sup>6/</sup>	103-779	205,813			
Dittmer	827-518	\$3,194,164			
Dittmer(TCDS Interface)	827-548	179,650			
Dittmer	103-7eo	1,703,932			
Eastern CC	827-585	1,760,086			
Eastern CC	827-545	102,704			
Eastern CC	103-781	1,462,782			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,699			
Grizzly <sup>7/</sup>	103-783	139,263			
Hot Springs (Comm)	827-544	11,706			
John Day	e27-533	551,286			
John Day <sup>8/</sup>	103-784	115,975			
Kennewick RS (Comm)	827-542	80,466			
Malin (Comm)	827-555	352,246			
M.Nary PH (Comm)	827-522	28,041			
Sickler (Comm)	827-539	7,814			
Slat <sup>9/</sup>	103-788	236,795			
Summer Lake (Comm)	827-561	38,583			
Summer Lake <sup>10/</sup>		0			
Vantage (Comm)	827-541	<u>7,518</u>			
		\$10,612,471	11.99	\$1,272,435	\$127,244
Yearly UFT Charge	= Investment x I&A x Company Share				
	= \$10,612,471 X 0.1199X (400+ 4000)				
	= \$127,244 per yr				
Monthly UFT Charge	= \$127,244+12				
	= \$10,604 per mo				

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/95 "Stability Control Upgrade--3200 MW Upgrade AC, 4000 MW Upgrade AC, 4800 MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/96," prepared by Ed Doyle, BPA FCM.

<sup>2/</sup> I&A percentage includes O&M component (Footnotes Continue)

(Footnotes continued)

(Note: Footnotes 3-7 below assume proration of costs between 4,000 MW and 4,800 MW based on the number of line segments for line loss logic units and control points.)

3/ Costs for this work order in the amount of \$640,454 have been spread to all other 102 and 103 RAS work orders.

4/ Thirty-three percent (1/3) of total work order in the amount of \$321,522 allocated to 4,000 MW.

5/ Costs for this work order to be shared by the Parties pursuant to section 6(d) of this Agreement.

6/ Fifty percent of total work order in the amount of \$411,626 allocated to 4,000 MW.

7/ Bonneville and PGE share this work order in the amount of \$371,369 75/25, respectively. Of Bonneville's share, 50 percent is allocated to 4,000 MW.

8/ Twenty percent (1/5) of total work order in the amount of \$679,876 allocated to 4,000 MW.

9/ Twenty-five percent (1/4) of total work order in the amount of \$947,178 allocated to 4,000 MW.

10/ Costs for this work order to be shared by the Parties pursuant to section 4(a) of this Agreement.

CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE

Stability Control Upgrade-(AC Intertie Remedial Action Scheme for 4,000 MW)<sup>1/</sup>

Charges effective 0001 hours July 1, 1993:

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A</u> <sup>2/</sup>	<u>I&amp;A Ann Cost</u>	<u>Company Share (400/4000)</u>
		(\$)	(%)	(\$)	(\$)
Bell (Comm)	S27-540	\$ 51,517			
BPA System Cored. <sup>3/</sup>	103-722	0			
Buckley	S27-535	201,989			
Buckley <sup>4/</sup>	103-777	106,102			
Captain Jack <sup>5/</sup>	103-778	0			
Celilo <sup>6/</sup>	103-779	205,813			
Dittmer	S27-51S	3,194,164			
Dittmer (TCDS Interface)	S27-54S	179,650			
Dittmer	103-7s0	1,703,932			
Eastern CC	S27-565	1,760,086			
Eastern CC	S27-545	102,704			
Eastern CC	103-7s1	1,462,752			
Fort Rock (Comm)	S27-562	14,880			
Gr Coulee (Comm)	S27-526	27,889			
Gr Coulee RS (Comm)	S27-557	9,271			
Grizzly (Comm)	S27-560	21,699			
Grizzly <sup>7/</sup>	103-783	139,263			
Hot Springs (Comm)	827-544	11,706			
John Day	S27-533	551,256			
John Day <sup>8/</sup>	103-7s4	115,975			
Kennewick RS (Comm)	S27-542	80,466			
Mali. (Comm)	827-555	352,246			
McNary PH (Comm)	S27-522	28,041			
Sickler (Comm)	S27-539	7,814			
Slatt <sup>9/</sup>	103-788	236,795			
Summer Lake (Comm)	S27-561	35,583			
Summer Lake <sup>10/</sup>	103-805	0			
vantage (Comm)	827-541	7,518			
		<u>\$10,612,471</u>	11.57	\$1,259,700	\$125,970

Yearly UFT Charge = Investment x I&A x Company Share)  
= \$10,612,471 X 0.1187X (400+ 4000)  
= \$125,970 per yr

Monthly UFT Charge = \$125,970+12  
= \$10,498 per m.

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/95 "Stability Control Upgrade. -3200 MW Upgrade AC. 4000 MW Upgrade AC. 4800 MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/96," prepared by Ed Doyle, BPA. FCM.

<sup>2/</sup> I&A percentage includes O&M component. (Footnotes continue)

(Footnotes continued)

**(Note: Footnotes 3-7 below assume proration of costs between 4,000 MW and 4,800 MW based on the number of line segments for line loss logic units and control points.)**

**3/** Costs for this work order in the amount of \$540,454 have been spread to all other 102 and 103 RAS work orders.

**4/** Thirty-three percent (1/3) of total work order in the amount of \$321,522 allocated to 4,000 MW.

**5/** Costs for this work order to be shared by the Parties pursuant to section 6(d) of this Agreement.

**6/** Fifty percent of total work order in the amount of \$411,626 allocated to 4,000 MW.

**7/** Bonneville and PGE share this work order in the amount of \$371,369 75/25, respectively. Of Bonneville's share, 50 percent is allocated to 4,000 MW.

**8/** Twenty percent (1/5) of total work order in the amount of \$579,876 allocated to 4,000 MW.

**9/** Twenty-five percent (1/4) of total work order in the amount of \$947,178 allocated to 4,000 MW.

**10/** Costs for this work order to be shared by the Parties pursuant to section 4(a) of this Agreement.

CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE

Stability Control Upgrade-(AC Intertie Remedial Action Scheme for **4,800 MW**)<sup>1/</sup>

. Charges effective 0001 hours January 1, 1994

	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A</u> <sup>2/</sup>	<u>I&amp;A Ann Cost</u>	<u>Company Share (400/4800)</u>
		(\$)	(%)	(\$)	(\$)
Alvey <sup>3/</sup>	102-730	0			
Ashe	103-775	886,422			
Bell (Comm)	827-540	51,817			
Big Eddy	103-776	386,171			
BPA System Coord. <sup>4/</sup>	103-722	0			
Buckley	827-535	201,989			
Buckley	103-777	321,522			
Captain Jack <sup>5/</sup>	103-778	0			
Celilo	103-779	411,626			
Dittmer	827-518	3,194,164			
Dittmer(TCDS Interface)	827-548	179,650			
Dittmer	102-731	822,993			
Dittmer	103-780	1,703,932			
Eastern CC	e27-565	1,760,086			
Eastern CC	827-545	102,704			
Eastern CC	102-732	198,720			
Eastern CC	103-781	1,462,782			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,699			
Grizzly <sup>6/</sup>	103-783	278,527			
Hanford	103-773	985,609			
Hot Springs (Comm)	e27-544	11,706			
John Day	e27-533	551,286			
John Day	103-784	579,877			
Kennewick RS (Comm)	827-542	80,466			
Malin (Comm)	827-555	352,246			
Marion	103-786	667,900			
McNary PH (Comm)	827-522	28,041			
Sickler (Comm)	827-539	7,814			
Slatt	103-788	947,178			

(Table continues)

CALCULATION OF CHARGES (Continued)

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A</u> <sup>2/</sup>	<u>I&amp;A Ann Cost</u>	<u>Company Share (400/4s00)</u>
		(\$)	(%)	(\$)	(\$)
Summer Lake (Comm)	S27-561	38,583			
Summer Lake <sup>1/</sup>	103-s05	0			
Vantage (Comm)	S27-541	7,51s			
Vantage	103-s04	55,54s			
		\$16,350,616	11.s7	\$1,940,s1s	\$161,735

Yearly UFT Charge = Investment x I&Ax Company Share  
= \$16,350,616X 0.11S7 X (400 ÷ 4,S00)  
= \$161,735 per yr

Monthly UFT Charge = \$161,735+12  
= \$13,47S per mo

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/05 "Stability Control Upgrade--3200MW Upgrade AC, 4000 MW Upgrade AC, 4800 MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/96." prepared by Ed Doyle, BPA FCM.

<sup>2/</sup> I&A percentage includes O&M component.

<sup>3/</sup> Costs for this work order shared by the Parties pursuant to section 6(d) of this Agreement.

<sup>4/</sup> Costs for this work order in the amount of \$540,464 have been spread to all other 102 and 103 RAS work orders.

<sup>5/</sup> Costs for this work order to be shared by the Parties pursuant to section 6(d) of this Agreement.

<sup>6/</sup> Bonneville and Portland General Electric cost share this work order in the amount of 6371,369 75/25, respectively. Bonneville's 75 percent share reflected herein.

<sup>7/</sup> Costs for this work order to be shared by the Parties pursuant to section 4(a) of this Agreement.

CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE

Stability Control Upgrade-(AC Intertie Remedial Action Scheme for 4800 MW)<sup>1/</sup>

. Charges effective 0001 hours July 1, 1995

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A</u> <sup>2/</sup>	<u>I&amp;A Ann Cost</u>	<u>Company Share</u> <u>(400/4s00)</u>
		(\$)	(%)	(\$)	(\$)
Alvey <sup>3/</sup>	102-730	0			
Ashe	103-775	556,422			
Bell (Comm)	827-540	51,817			
Big Eddy	103-776	366,171			
BPA System Coord. <sup>4/</sup>	103-722	0			
Buckley	S27-535	201,959			
Buckley	103-777	321,522			
Captain Jack <sup>5/</sup>	103-778	0			
Celilo	103-779	411,626			
Dittmer	S27-51S	3,194,164			
Dittmer(TCDS Interface)	S27-54S	179,650			
Dittmer	102-731	522,993			
Dittmer	103-7s0	1,703,932			
Eastern CC	S27-565	1,760,056			
Eastern CC	S27-545	102,704			
Eastern CC	102-732	198,720			
Eastern CC	103-781	1,462,752			
Fort Rock (Comm)	S27-562	14,ss0			
Gr Coulee(Comm)	S27-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,699			
Grizzly <sup>6/</sup>	103-7s3	275,527			
Hanford	103-773	955,609			
Hot Springs (Comm)	S27-544	11,706			
John Day	S27-533	551,256			
John Day	103-7s4	579,577			
Kennewick RS (Comm)	S27-542	50,466			
Malin (Comm)	S27-555	352,246			
Marion	103-7S6	667,900			
McNary PH (Comm)	S27-522	25,041			
Sickler(Comm)	S27-539	7,514			
Slatt	103-7ss	947,17s			

(Table continues)



CALCULATION OF CHARGES (Continued)

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A</u> <sup>2/</sup>	<u>I&amp;A Ann Cost</u>	<u>Company Share</u> (400/4800)
		(\$)	(%)	(\$)	(\$)
Summer Lake (Comm)	827-561	3s, 5s3			
Summer Lake <sup>1/</sup>	103-805	0			
Vantage (Comm)	S27-541	7,518			
Vantage	103-s04	55,54s			
		\$16,350,616	10.99	\$1,796,933	\$149,744

Yearly UFT Charge = Investment x I&A x Company Share  
= \$16,350,616 x 0.1099 x (400 ÷ 4800)  
= \$149,744 per yr

Monthly UFT Charge = \$149,744 ÷ 12  
= \$12,479 per mo

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/95 'Stability Control Upgrade. -3200 MW Upgrade AC, 4000 MW Upgrade AC, 4800 MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/96; prepared by Ed Doyle, BPA FCM.

<sup>2/</sup> I&A percentage includes O&M component.

<sup>3/</sup> Costs for this work order shared by the Parties pursuant to section 6(d) of this Agreement.

<sup>4/</sup> Costs for this work order in the amount of \$540,454 have been spread to all other 102 and 103 RAS work orders.

<sup>5/</sup> Costs for this work order to be shared by the Parties pursuant to section 6(d) of this Agreement.

<sup>6/</sup> Bonneville and Portland General Electric cost share this work order in the amount of \$371,359 75/25, respectively. Bonneville's 75 percent share reflected herein.

<sup>7/</sup> Costs for this work order to be shared by the Parties pursuant to section 4(a) of this Agreement.

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Document Certified By:

(b)(6)

Date: 8-12-99

Revision 3, Exhibit B, Page 1 of 2  
Contract No. DE-MS79-93BP93039  
PacifiCorp  
Effective 2400 hours  
June 30, 1999

### **CALCULATION OF CHARGES PURSUANT TO THE UFT RATE SCHEDULE**

This Revision No. 3 updates the annual cost ratio.

#### **Stability Control Upgrade—(AC Intertie Remedial Action Scheme for 4800 MW) <sup>1/</sup>**

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u>	<u>I&amp;A <sup>2/</sup></u>	<u>I&amp;A Ann Cost</u>	<u>Company Share (400/4800)</u>
		(\$)	(%)	(\$)	(\$)
Alvey <sup>3/</sup>	102-730	0			
Ashe	103-775	886,422			
Bell (Comm)	827-540	51,817			
Big Eddy	103-776	386,171			
BPA System Coord. <sup>4/</sup>	103-722	0			
Buckley	827-535	201,989			
Buckley	103-777	321,522			
Captain Jack <sup>5/</sup>	103-778	0			
Celilo	103-779	411,626			
Dittmer	827-518	3,194,164			
Dittmer (TCDS Interface)	827-548	179,650			
Dittmer	102-731	822,993			
Dittmer	103-780	1,703,932			
Eastern CC	827-565	1,760,086			
Eastern CC	827-545	102,704			
Eastern CC	102-732	198,720			
Eastern CC	103-781	1,462,782			
Fort Rock (Comm)	827-562	14,880			
Gr Coulee (Comm)	827-526	27,889			
Gr Coulee RS (Comm)	827-557	9,271			
Grizzly (Comm)	827-560	21,699			
Grizzly <sup>6/</sup>	103-783	278,527			
Hanford	103-773	985,609			
Hot Springs (Comm)	827-544	11,706			
John Day	827-533	551,286			
John Day	103-784	579,877			
Kennewick RS (Comm)	827-542	80,466			
Malin (Comm)	827-555	352,246			
Marion	103-786	667,900			
McNary PH (Comm)	827-522	28,041			
Sickler (Comm)	827-539	7,814			
Slatt	103-788	947,178			

**(Table continues)**

Revision 3, Exhibit B, Page 2 of 2  
Contract No. DE-MS79-93BP93039  
PacifiCorp  
Effective 2400 hours  
June 30, 1999

# **CALCULATION OF CHARGES (Continued)**

<u>Description</u>	<u>Work Order</u>	<u>Bonneville Investment</u> (\$)	<u>I&amp;A</u> <sup>2/</sup> (%)	<u>I&amp;A Ann Cost</u> (\$)	<u>Company Share (400/4800)</u> (\$)
Summer Lake (Comm)	827-561	38,583			
Summer Lake <sup>7/</sup>	103-805	0			
Vantage (Comm)	827-541	7,518			
Vantage	103-804	<u>55,548</u>			
		\$16,350,616	0.091	\$1,487,906	\$123,,992
Yearly UFT Charge	= Investment × I&A × Company Share				
	= \$16,350,616 × 0.091 × (400 ÷ 4800)				
	= \$123,992 per yr				
Monthly UFT Charge	= \$123,992 ÷ 12				
	= \$10,333 per mo				

<sup>1/</sup> Investment determined pursuant to analysis dated 09/30/95 "Stability Control Upgrade--3200 MW Upgrade AC, 4000 MW Upgrade AC, 4800 MW Upgrade AC. Analysis of BPA Investment that Benefits PGE and PP&L Based on Actual Charges Through 05/30/96," prepared by Ed Doyle, BPA - FCM.

<sup>2/</sup> I&A percentage includes O&M component. Based on 96, 97, and 98 averages, composite plant Column 7.

<sup>3/</sup> Costs for this work order shared by the Parties pursuant to section 6(d) of this Agreement.

<sup>4/</sup> Costs for this work order in the amount of \$540,454 have been spread to all other 102 and 103 RAS work orders.

<sup>5/</sup> Costs for this work order to be shared by the Parties pursuant to section 6(d) of this Agreement.

<sup>6/</sup> Bonneville and Portland General Electric cost share this work order in the amount of \$371,369 75/25, respectively. Bonneville's 75 percent share reflected herein.

<sup>7/</sup> Costs for this work order to be shared by the Parties pursuant to section 4(a) of this Agreement.



**Department of Energy**

Bonneville Power Administration  
P.O. Box 491  
Vancouver, Washington 98666-0491

TRANSMISSION BUSINESS LINE

August 12, 1999

In reply refer to: TM/DITT2

Mr. Dave Corey  
Transmission Account Manager  
PacifiCorp  
700 N.E. Multnomah Suite 550  
Portland, OR 97232

Dear Mr. Corey:

Enclosed is Revision No. 3 Exhibit B to Contract No. DE-MS79-93BP93039 (RAS Agreement) between the Bonneville Power Administration Transmission Business Line (BPA/TBL), and PacifiCorp. This revision updates the annual cost ratio effective July 1, 1999.

If you have any questions or comments please contact me at (360) 418-8293 or Russ Paulsrude, Transmission Contracts, at (360) 418-8276.

Sincerely,

(b)(6)

Clifford C. Perigo  
Senior Transmission Account Executive  
Transmission Marketing & Sales

	A	B	C	D	E	F
1	Facility:	Grizzly Substation	Slatt Substation			
2	Work Order Number:	00548198	00512538			
3	Total from Schedule C:	\$237,897	\$993,939			
4	Exhibit F, BPA % Owned (left hand column) <sup>1/</sup> :	100%	100%			
5	Exhibit F, % Applied to PNWAC (right hand column) <sup>2/</sup> :	100%	17%			
6	Intertie Contract Proration <sup>3/</sup> :					
7	Other Proration <sup>4/</sup> :					
8	Exhibit F, Station General <sup>5/</sup> :	No	Yes			
9	Schedule C Total After Proration:	\$237,897	\$165,657			
10	Customer % applied from Exhibit G					
11	Avangrid	\$2,855	\$1,988			
12	PacifiCorp	\$2,141	\$1,491			
13	Puget	\$27,596	\$19,216			
14	Seattle	\$10,943	\$7,620			
15	Tacoma	\$2,617	\$1,822			
16	(b)(4)					
17	Amount for cost sharing percentage note (formula that includes 20.8%) in Schedule C	\$49,482	\$34,457			
18	Check totals	\$237,897	\$165,657			
19	Exhibit G					
20	Customer	Percentage				
21	Avangrid	0.0120				
22	PacifiCorp	0.0090				
23	Puget	0.1160				
24	Seattle	0.0460				
25	Tacoma	0.0110				
26	(b)(4)					
27	Total	0.2080				
28						
29	1/ Percent (%) BPA Owned (left hand column of Exhibit F) reflects BPA's ownership share of each project and is included here for reference only, as row 3 above reflects only BPA's Cost Share of the project. As applicable, the percentage on row 3, above, is the cost percentage after the PacifiCorp/PGE costs are removed.					
30	2/ Percent (%) Applicable to Pacific NW AC Intertie (right hand column of Exhibit F) is also listed at the top of Exhibit I, Schedule C.					
31	3/ Intertie Contract Proration refers to contracts with PacifiCorp and PGE only. In some cases the intertie cost proration is reflected in the Exhibit F to the specific Schedule C.					
32	4/ Other Proration occurs when a project supports both intertie and non-intertie uses. Examples include replacing multiple breakers at a substation where only a subset of the replacements support the Intertie, Station General replacements, or work on a line that is part Network and part Intertie. In such cases a prorated share of the project costs are assigned to the Capacity Owners.					
33	5/ Station General refers to elements in a substation that are not attributable to specific pieces of power equipment. Examples include control houses, water/drainage systems, fences, and yard rock. If the substation supports both the Network and Intertie, the portion allocated to the Capacity Owners is shown above as "Other Proration."					
34	This information was made available to Capacity Owners on April 11, 2024, and contains information not sourced directly from BPA financial statements.					

Project Work Order: 00512538  
 Project Short Description: SLAT: SS Upgrade  
 Project Facility: Slatt Substation  
 Exhibit F Section: B.14. Slatt 500 KV  
 Percent of Project cost applied to PNW AC Intertie: 17%<sup>1</sup>  
 In Service Date: 4/28/2023  
 Work Order Completion Date: 7/11/2023  
 Work Order Status: COMPLETE  
 Contract Section 9(b)(2)(B) Date: 10/11/2024

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$672,712	\$675,933	-	\$675,933	\$3,221
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$336,356	\$263,386	-	\$263,386	(\$72,970)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$77,702	\$30,075	-	\$30,075	(\$47,627)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$24,544	
<b>E. Total Replacement Costs and Reinforcement Costs</b> (Lines 1 + 2 + 3 + 4)	5	\$1,086,770	\$969,395	\$0	\$993,939	(\$117,375)

**Notes:**

1. This Work Order will be subject to proration so that 16.67% (2/12) of the cost will be applicable to Capacity Owners which reflects 2 out of the 12 terminals being applicable to the Intertie.
2. Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The adjusted actual of \$993,939 reflects the total costs from Fiscal years 2020-2023.
3. Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is 16.67% x 20.8% x \$993,939 = \$34,457 to be allocated pro rata among Capacity Owners.

This information was made available to Capacity Owners on 04/11/2024 and contains information not sourced directly from BPA financial statements.

**Work Order 00512538**  
**Work Order Completion Date 07/11/2023**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
7/1/2023	3/31/2024		275	\$969,395	\$24,544.05
7/1/2023	7/30/2023	3.315%	30		2,641.27
7/31/2023	8/30/2023	3.331%	31		2,742.49
8/31/2023	9/29/2023	3.408%	30		2,715.37
9/30/2023	10/30/2023	3.369%	31		2,773.77
10/31/2023	11/29/2023	3.374%	30		2,688.28
11/30/2023	12/30/2023	3.378%	31		2,781.18
12/31/2023	1/30/2024	3.356%	31		2,763.07
1/31/2024	3/31/2024	3.357%	61		5,438.62
			<u>275</u>		<u>24,544.05</u>

**Equipment Removal Cost Summary**

\$1,128.29 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$924.83 is direct cost and \$203.46 is indirect and overhead cost.

- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

Project Work Order: 00548198  
 Project Short Description: GRIZ: Environmental Oil Cleaning System Upgrade  
 Project Facility: Grizzly Substation  
 Exhibit F Section: B.8. Grizzly 500 KV  
 Percent of Project cost applied to PNW AC Intertie: 100%  
 In Service Date: 11/30/2023  
 Work Order Completion Date: 11/9/2023  
 Work Order Status: COMPLETE  
 Contract Section 9(b)(2)(B) Date: 2/9/2025

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$201,085	\$197,211	-	\$197,211	(\$3,874)
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$100,543	\$33,163	-	\$33,163	(\$67,380)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$15,228	\$4,235	-	\$4,235	(\$10,993)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$3,287	
<b>E. Total Replacement Costs and Reinforcement Costs</b>						
(Lines 1 + 2 + 3 + 4)	5	\$316,856	\$234,610	\$0	\$237,897	(\$82,246)

**Notes:**

1. The BPA ownership share for this equipment is 100%.
2. Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The adjusted actual of \$237,897 reflects the total costs from Fiscal years 2022-2024.
3. Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is  $100\% \times 20.8\% \times \$237,897 = \$49,482$  to be allocated pro rata among Capacity Owners.

This information was made available to Capacity Owners on 04/11/24 and contains information not sourced directly from BPA financial statements.



**Work Order 00548198**  
**Work Order Completion Date 11/09/2023**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
11/1/2023	3/31/2024		152	\$234,610	\$3,286.96
11/1/2023	11/29/2023	3.374%	29		628.92
11/30/2023	12/30/2023	3.378%	31		673.09
12/31/2023	1/30/2024	3.356%	31		668.71
1/31/2024	3/31/2024	3.357%	61		1,316.24
			<u>152</u>		<u>3,286.96</u>

**Equipment Removal Cost Summary**

\$25,261.04 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$18,954.98 is direct cost and \$6,306.06 is indirect and overhead cost.

- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

		Sycan 500 kV Compensation Station
Facility:	Slatt Substation	
Work Order Number:	00534702	00557835
Total from Schedule C:	\$164,429	\$16,611
Exhibit F, % Applied to PNWAC (Left hand column) <sup>1/</sup> :	100%	65%
Exhibit F, % Applied to PNWAC (right hand column) <sup>2/</sup> :	17%	100%
Intertie Contract Proration <sup>3/</sup> :		
Other Proration <sup>4/</sup> :		
Exhibit F, Station General <sup>5/</sup> :	Yes	Yes
Schedule C Total After Proration:	\$27,405	\$16,611
Customer % applied from Exhibit G		
Avangrid	\$329	\$199
PacifiCorp	\$247	\$149
Puget	\$3,179	\$1,927
Seattle	\$1,261	\$764
Tacoma	\$301	\$183
(b)(4)		
Amount for cost sharing percentage note (formula that includes 20.8%) in Schedule C	\$5,700	\$3,455
Check totals	\$27,405	\$16,611
Exhibit G		
Customer	Percentage	
Avangrid	0.0120	
PacifiCorp	0.0090	
Puget	0.1160	
Seattle	0.0460	
Tacoma	0.0110	
(b)(4)		
Total	0.2080	

1/ **Percent (%) BPA Owned** (left hand column of Exhibit F) reflects BPA's ownership share of each project and is included here for reference only, as row 3 above reflects only BPA's Cost Share of the project. As applicable, the percentage on row 4, above, is the cost percentage after the PacifiCorp/PGE costs are removed.

<sup>2/</sup> **Percent (%) Applicable to Pacific NW AC Intertie** (right hand column of Exhibit F) is also listed at the top of Exhibit I, Schedule C.

<sup>3/</sup> **Intertie Contract Proration** refers to contracts with PacifiCorp and PGE only. In some cases the intertie cost proration is reflected in the Exhibit F to the specific Schedule C.

<sup>4/</sup> **Other Proration** occurs when a project supports both intertie and non-intertie uses. Examples include replacing multiple breakers at a substation where only a subset of the replacements support the Intertie, Station General replacements, or work on a line that is part Network and part Intertie. In such cases a prorated share of the project costs are assigned to the Capacity Owners.

<sup>5/</sup> **Station General** refers to elements in a substation that are not attributable to specific pieces of power equipment. Examples include control houses, water/drainage systems, fences, and yard rock. If the substation supports both the Network and Intertie, the portion allocated to the Capacity Owners is shown above as "Other Proration."

This information was made available to Capacity Owners on August 22, 2023 and contains information not sourced directly from BPA financial statements.

Project Work Order: 00557835  
 Project Short Description: Emergency Replacement of Station Service Automatic Transfer Switch  
  
 Project Facility: Sycan 500 kV Compensation Station  
 Exhibit F Section: B.15. Sycan 500 kV Compensation Station  
 Percent of Project cost applied to PNW AC Intertie: 100%  
 In Service Date: 12/30/2022  
 Work Order Completion Date: 11/22/2022  
 Work Order Status: COMPLETE  
 Contract Section 9(b)(2)(B) Date: 2/22/2024

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$3,900	11,623.02	-	\$11,623	\$7,723
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$1,950	4,554.93	-	\$4,555	\$2,605
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$98	45.76	-	\$46	(\$52)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$387	
<b>E. Total Replacement Costs and Reinforcement Costs</b>						
(Lines 1 + 2 + 3 + 4)	5	\$5,948	\$16,224	\$0	\$16,611	\$10,276

**Notes:**

1. BPA owns 65% of the equipment covered by this project. The costs shown above reflect only BPA's share. Please see Exhibit F, Section B.15.
2. Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The adjusted actual of \$16,611 reflects the total costs from Fiscal years 2022 - 2023
- 3 Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is 100% x 20.8% x \$16,611 = \$3,455 to be allocated pro rata among Capacity Owners.

This information was made available to Capacity Owners on 8/22/23 and contains information not sourced directly from BPA financial statements.

**Work Order 00557835**  
**Work Order Completion Date 11/22/2022**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
11/1/2022	7/31/2023		273	\$16,224	\$387.00
11/1/2022	11/29/2022	3.049%	29		39.30
11/30/2022	12/30/2022	3.068%	31		42.27
12/31/2022	1/30/2023	3.108%	31		42.83
1/31/2023	2/27/2023	3.114%	28		38.76
2/28/2023	3/30/2023	3.243%	31		44.69
3/31/2023	4/29/2023	3.262%	30		43.50
4/30/2023	5/30/2023	3.255%	31		44.85
5/31/2023	7/31/2023	3.295%	62		90.80
			<u>273</u>		<u>387.00</u>

**Equipment Removal Cost Summary**

\$2,283.70 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$1,871.88 is direct cost and \$411.82 is indirect and overhead cost.

- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

Project Work Order: 00534702  
 Project Short Description: Upgrade Oil Cleaning System  
 Project Facility: Slatt Substation  
 Exhibit F Section: B.14. Slatt 500 kV  
 Percent of Project cost applied to  
     PNW AC Intertie: 17%<sup>1</sup>  
 In Service Date: 9/30/2022  
 Work Order Completion Date: 9/27/2022  
 Work Order Status: COMPLETE  
 Contract Section 9(b)(2)(B) Date: 12/27/2023

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$138,537	137,023.46	-	\$137,023	(\$1,514)
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$69,269	20,978.58	-	\$20,979	(\$48,290)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$7,756	1,810.57	-	\$1,811	(\$5,945)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$4,617	
<b>E. Total Replacement Costs and Reinforcement Costs</b>						
(Lines 1 + 2 + 3 + 4)	5	\$215,561	\$159,813	\$0	\$164,429	(\$55,749)

**Notes:**

1. This Work Order will be subject to proration so that 16.67% of the cost will be applicable to Capacity Owners which reflects 2 out of the 12 terminals being applicable to the Intertie.
2. Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The adjusted actual of \$164,429 reflects the total costs from Fiscal years 2021-2023.
3. Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is 16.67% x 20.8% x \$164,429 = \$5,700 to be allocated pro rata among Capacity Owners.

This information was made available to Capacity Owners on 8/22/2023 and contains information not sourced directly from BPA financial statements.

**Work Order 00534702**  
**Work Order Completion Date 09/27/2022**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
9/1/2022	7/31/2023		334	\$159,813	\$4,616.51
9/1/2022	9/29/2022	3.005%	29		381.56
9/30/2022	10/30/2022	3.017%	31		409.50
10/31/2022	11/29/2022	3.049%	30		400.49
11/30/2022	12/30/2022	3.068%	31		416.42
12/31/2022	1/30/2023	3.108%	31		421.85
1/31/2023	2/27/2023	3.114%	28		381.76
2/28/2023	3/30/2023	3.243%	31		440.18
3/31/2023	4/29/2023	3.262%	30		428.47
4/30/2023	5/30/2023	3.255%	31		441.81
5/31/2023	7/31/2023	3.295%	62		894.47
			<u>334</u>		<u>4,616.51</u>

**Equipment Removal Cost Summary**

\$0.00 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$0.00 is direct cost and \$0.00 is indirect and overhead cost.

- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

<b>Facility:</b>	Sycan Compensation Station	Malin Substation	Ashe-Marion No. 2	Bakeoven Compensation Station
<b>Work Order Number:</b>	<b>00423664</b>	<b>00483020</b>	<b>00531669</b>	<b>00520275</b>
<b>Total from Schedule C:</b>	\$2,193,586	\$186,187	\$67,366	\$48,429
<b>Exhibit F, BPA % Owned (left hand column):</b> <sup>1</sup>	100%	100%	100%	100%
<b>Exhibit F, % Applied to PNWAC (right hand column):</b> <sup>2/</sup>	100%	100%	25%	100%
<b>Intertie Contract Proration</b> <sup>3/</sup>				
<b>Other Proration</b> <sup>4/</sup>				
<b>Exhibit F, Station General</b> <sup>5/</sup>	No	Yes	No	Yes
<b>Schedule C Total After Proration:</b>	<b>\$2,193,586</b>	<b>\$186,187</b>	<b>\$16,842</b>	<b>\$48,429</b>
<b>Customer % applied from Exhibit G</b>				
Avangrid	\$26,323	\$2,234	\$202	\$581
PacifiCorp	\$19,742	\$1,676	\$152	\$436
Puget	\$254,456	\$21,598	\$1,954	\$5,618
Seattle	\$100,905	\$8,565	\$775	\$2,228
Tacoma	\$24,129	\$2,048	\$185	\$533
<b>(b)(4)</b>				
Amount for cost sharing percentage note (formula that includes 20.8%) in Schedule C	\$456,266	\$38,727	\$3,503	\$10,073
<b>Check totals</b>	<b>\$2,193,586</b>	<b>\$186,187</b>	<b>\$16,842</b>	<b>\$48,429</b>
<b>Exhibit G</b>				
<b>Customer</b>	<b>Percentage</b>			
Avangrid	0.0120			
PacifiCorp	0.0090			
Puget	0.1160			
Seattle	0.0460			
Tacoma	0.0110			
<b>(b)(4)</b>				
<b>Total</b>	<b>0.2080</b>			

**Footnotes**

1/ Percent (%) BPA Owned (left hand column of Exhibit F) reflects BPA's ownership share of each project and is included here for reference only, as row 3 above reflects only BPA's Cost Share of the project. As applicable, the percentage on row 4, above, is the cost percentage after the PacifiCorp/PGE costs are removed.

2/ Percent (%) Applicable to Pacific NW AC Intertie (right hand column of Exhibit F) is also listed at the top of Exhibit I, Schedule C.

3/ Intertie Contract Proration refers to contracts with PacifiCorp and PGE only. In some cases the intertie cost proration is reflected in the Exhibit F to the specific Schedule C.

4/ Other Proration occurs when a project supports both intertie and non-intertie uses. Examples include replacing multiple breakers at a substation where only a subset of the replacements support the Intertie, Station General replacements, or work on a line that is part Network and part Intertie. In such cases a prorated share of the project costs are assigned to the Capacity Owners.

5/ Station General refers to elements in a substation that are not attributable to specific pieces of power equipment. Examples include control houses, water/drainage systems, fences, and yard rock. If the substation supports both the Network and Intertie, the portion allocated to the Capacity Owners is shown above as "Other Proration."

This information was made available to Capacity Owners on 04/15/22 and contains information not sourced directly from BPA financial statements.

Project Work Order: 00423664  
 Project Short Description: Replace Disconnect Switches in Sycon Bank No. 1  
 Project Facility: Sycon Compensation Station  
 Exhibit F Section: B.15. Sycon 500 kV Compensation Station  
 Percent of Project cost applied to PNW AC Intertie: 100%  
 In Service Date: 11/6/2020  
 Work Order Completion Date: 2/16/2021  
 Work Order Status: COMPLETE  
 Contract Section 9(b)(2)(B) Date: 5/16/2022

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$1,518,450	1,582,245	-	\$1,582,245	\$63,795
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$759,225	523,185	-	\$523,185	(\$236,040)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$231,019	21,322	-	\$21,322	(\$209,697)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$66,834	
<b>E. Total Replacement Costs and Reinforcement Costs</b> (Lines 1 + 2 + 3 + 4)	5	\$2,508,694	\$2,126,753	\$0	\$2,193,586	(\$381,942)

**Notes:**

- Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The adjusted actual of \$2,193,586 reflects the total costs from Fiscal years 2016-2021.
- Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is 100% x 20.8% x \$2,193,586 = \$456,266 to be allocated pro rata among Capacity Owners.

This information was made available to Capacity Owners on 04/15/22 and contains information not sourced directly from BPA financial statements.



**Work Order 00423664**  
**Work Order Completion Date 02/16/2021**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
2/1/2021	3/31/2022		424	\$2,126,753	\$66,833.66
2/1/2021	2/27/2021	2.651%	27		4,170.59
2/28/2021	3/30/2021	2.660%	31		4,804.71
3/31/2021	4/29/2021	2.684%	30		4,691.67
4/30/2021	5/30/2021	2.686%	31		4,851.68
5/31/2021	6/29/2021	2.648%	30		4,628.75
6/30/2021	7/30/2021	2.602%	31		4,699.95
7/31/2021	8/30/2021	2.651%	31		4,788.46
8/31/2021	9/29/2021	2.717%	30		4,749.36
9/30/2021	10/30/2021	2.755%	31		4,976.31
10/31/2021	11/29/2021	2.757%	30		4,819.28
11/30/2021	12/30/2021	2.758%	31		4,981.73
12/31/2021	1/30/2022	2.759%	31		4,983.54
1/31/2022	2/16/2022	2.757%	17		2,730.93
2/17/2022	2/27/2022	2.755%	11		1,765.79
2/28/2022	3/31/2022	2.784%	32		5,190.91
			<u>424</u>		<u>66,833.66</u>

**Equipment Removal Cost Summary**

- \$148,668.68 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$110,124.95 is direct cost and \$38,543.73 is indirect and overhead cost.
- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

Project Work Order: 00483020  
 Project Short Description: Upgrade Oil Cleaning System  
 Project Facility: Malin Substation  
 Exhibit F Section: B.10. Malin 500 kV  
 Percent of Project cost applied to PNW AC Intertie: 100%  
 In Service Date: 9/30/2021  
 Work Order Completion Date: 6/4/2021  
 Work Order Status: COMPLETE  
 Contract Section 9(b)(2)(B) Date: 9/4/2022

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$144,347	133,295	-	\$133,295	(\$11,052)
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$72,174	46,815	-	\$46,815	(\$25,359)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$14,419	1,954	-	\$1,954	(\$12,465)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$4,123	
<b>E. Total Replacement Costs and Reinforcement Costs</b> (Lines 1 + 2 + 3 + 4)	5	\$230,940	\$182,064	\$0	\$186,187	(\$48,876)

**Notes:**

- Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The adjusted actual of \$186,187 reflects the total costs from Fiscal years 2020-2021.
- Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is  $100\% \times 20.8\% \times 186,187 = \$38,727$  to be allocated pro rata among Capacity Owners.
- Exhibit F does not specify percentages for Station General at Malin. Cost sharing for Station General is determined on a case by case basis to reflect how the project supports the AC Intertie.

This information was made available to Capacity Owners on 04/15/22 and contains information not sourced directly from BPA financial statements.

**Work Order 00483020**  
**Work Order Completion Date 06/04/2021**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
6/1/2021	3/31/2022		304	\$182,064	\$4,122.88
6/1/2021	6/29/2021	2.648%	29		383.04
6/30/2021	7/30/2021	2.602%	31		402.35
7/31/2021	8/30/2021	2.651%	31		409.92
8/31/2021	9/29/2021	2.717%	30		406.58
9/30/2021	10/30/2021	2.755%	31		426.01
10/31/2021	11/29/2021	2.757%	30		412.56
11/30/2021	12/30/2021	2.758%	31		426.47
12/31/2021	1/30/2022	2.759%	31		426.62
1/31/2022	2/16/2022	2.757%	17		233.79
2/17/2022	2/27/2022	2.755%	11		151.16
2/28/2022	3/31/2022	2.784%	32		444.38
			<u>304</u>		<u>4,122.88</u>

**Equipment Removal Cost Summary**

- \$15,894.44 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$11,773.66 is direct cost and \$4,120.78 is indirect and overhead cost.
- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

**Project Work Order:** 00520275  
**Project Short Description:** Emergency Replacement of Station Service Automatic Transfer Switch  
**Project Facility:** Bakeoven Compensation Station  
**Exhibit F Section:** B.2. Bakeoven 500 kV Compensation Station  
**Percent of Project cost applied to PNW AC Intertie:** 100%  
**In Service Date:** 7/30/2021  
**Work Order Completion Date:** 5/10/2021  
**Work Order Status:** LABOR COMPLETE  
**Contract Section 9(b)(2)(B) Date:** 8/10/2022

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$55,000	35,456	-	\$35,456	(\$19,544)
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$27,500	11,429	-	\$11,429	(\$16,071)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$2,064	366	-	\$366	(\$1,698)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$1,178	
<b>E. Total Replacement Costs and Reinforcement Costs</b> (Lines 1 + 2 + 3 + 4)	5	\$84,564	\$47,252	\$0	\$48,429	(\$37,313)

**Notes:**

- Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The adjusted actual of \$48,429 reflects the total costs from Fiscal years 2020-2021.
- Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is  $100\% \times 20.8\% \times \$48,429 = \$10,073$  to be allocated pro rata among Capacity Owners.

This information was made available to Capacity Owners on 04/15/22 and contains information not sourced directly from BPA financial statements.

**Work Order 00520275**  
**Work Order Completion Date 05/10/2021**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
5/1/2021	3/31/2022		335	\$47,252	\$1,177.76
5/1/2021	5/30/2021	2.686%	30		104.32
5/31/2021	6/29/2021	2.648%	30		102.84
6/30/2021	7/30/2021	2.602%	31		104.42
7/31/2021	8/30/2021	2.651%	31		106.39
8/31/2021	9/29/2021	2.717%	30		105.52
9/30/2021	10/30/2021	2.755%	31		110.56
10/31/2021	11/29/2021	2.757%	30		107.07
11/30/2021	12/30/2021	2.758%	31		110.68
12/31/2021	1/30/2022	2.759%	31		110.72
1/31/2022	2/16/2022	2.757%	17		60.68
2/17/2022	2/27/2022	2.755%	11		39.23
2/28/2022	3/31/2022	2.784%	32		115.33
			<u>335</u>		<u>1,177.76</u>

**Equipment Removal Cost Summary**

- \$655.79 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$485.77 is direct cost and \$170.02 is indirect and overhead cost.
- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

**Project Work Order:** 00531669  
**Project Short Description:** Emergency Enhancement of Right of Way Access Near Tower 150/1  
**Project Facility:** Ashe-Marion No. 2  
**Exhibit F Section:** A.3. 500 kV Double Circuit between Buckley and Marion that supports the Buckley-Marion No. 1 and the Ashe-Marion No. 2 500 kV Circuits (Str. No. 1/3 to Marion, 159 km)

**Percent of Project cost applied to**  
**PNW AC Intertie:** 25%  
**In Service Date:** 9/30/2021  
**Work Order Completion Date:** 6/7/2021  
**Work Order Status:** LABOR COMPLETE  
**Contract Section 9(b)(2)(B) Date:** 9/7/2022

	Line	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
	No.					
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$130,000	48,592	-	\$48,592	(\$81,408)
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$65,000	17,007	-	\$17,007	(\$47,993)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$3,320	275	-	\$275	(\$3,045)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$1,492	
<b>E. Total Replacement Costs and Reinforcement Costs</b>						
(Lines 1 + 2 + 3 + 4)	5	\$198,320	\$65,875	\$0	\$67,366	(\$132,446)

**Notes:**

- Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The adjusted actual of \$67,366 reflects the total costs for Fiscal year 2021.
- Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is 25% x 20.8% x \$67,366 = \$3,503 to be allocated pro rata among Capacity Owners.

This information was made available to Capacity Owners on 04/15/22 and contains information not sourced directly from BPA financial statements. information not sourced directly from BPA Financial Statements.

**Work Order 00531669**  
**Work Order Completion Date 06/07/2021**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
6/1/2021	3/31/2022		304	\$65,875	\$1,491.74
6/1/2021	6/29/2021	2.648%	29		138.59
6/30/2021	7/30/2021	2.602%	31		145.58
7/31/2021	8/30/2021	2.651%	31		148.32
8/31/2021	9/29/2021	2.717%	30		147.11
9/30/2021	10/30/2021	2.755%	31		154.14
10/31/2021	11/29/2021	2.757%	30		149.27
11/30/2021	12/30/2021	2.758%	31		154.31
12/31/2021	1/30/2022	2.759%	31		154.36
1/31/2022	2/16/2022	2.757%	17		84.59
2/17/2022	2/27/2022	2.755%	11		54.69
2/28/2022	3/31/2022	2.784%	32		160.78
			<u>304</u>		<u>1,491.74</u>

**Equipment Removal Cost Summary**

- \$0.00 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$0.00 is direct cost and \$0.00 is indirect and overhead cost.
- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

	A	B	C	D	E
1	Facility:	Sycan Compensation Station	John Day-Grizzly No. 2		
2	Work Order Number:	00423657	00367761		
3	Total from Schedule C:	\$5,395,026	\$2,097,282		
4	Exhibit F, BPA % Owned (left hand column):	100%	100%		
5	Exhibit F, % Applied to PNWAC (right hand column) <sup>1/</sup> :	100%	100%		
6	Intertie Contract Proration <sup>2/</sup> :				
7	Other Proration <sup>3/</sup> :				
8	Exhibit F, Station General <sup>4/</sup> :	Yes	No		
9	Schedule C Total After Proration:	\$5,395,026	\$2,097,282		
10	Customer % applied from Exhibit G				
11	Avangrid	\$64,740	\$25,167		
12	PacifiCorp	\$48,555	\$18,876		
13	Puget	\$625,823	\$243,285		
14	Seattle	\$248,171	\$96,475		
15	Tacoma	\$59,345	\$23,070		
16	(b)(4)				
17	Amount for cost sharing percentage note (formula that includes 20.8%) in Schedule C	\$1,122,164	\$436,235		
18	Check totals	\$5,395,026	\$2,097,282		
19	Exhibit G				
20	Customer	Percentage			
21	Avangrid	0.0120			
22	PacifiCorp	0.0090			
23	Puget	0.1160			
24	Seattle	0.0460			
25	Tacoma	0.0110			
26	(b)(4)				
27	Total	0.2080			
28	Footnotes				
29	<sup>1/</sup> Percent (%) BPA Owned (left hand column of Exhibit F) reflects BPA's ownership share of each project and is included here for reference only, as row 3 above reflects only BPA's Cost Share of the project. As applicable, the percentage on row 4, above, is the cost percentage after the PacifiCorp/PGE costs are removed.				
30	<sup>2/</sup> Percent (%) Applicable to Pacific NW AC Intertie (right hand column of Exhibit F) is also listed at the top of Exhibit I, Schedule C.				
31	<sup>3/</sup> Intertie Contract Proration refers to contracts with PacifiCorp and PGE only. In some cases the intertie cost proration is reflected in the Exhibit F to the specific Schedule C.				
32	<sup>4/</sup> Other Proration occurs when a project supports both intertie and non-intertie uses. Examples include replacing multiple breakers at a substation where only a subset of the replacements support the Intertie, Station General replacements, or work on a line that is part Network and part Intertie. In such cases a prorated share of the project costs are assigned to the Capacity Owners.				
33	<sup>5/</sup> Station General refers to elements in a substation that are not attributable to specific pieces of power equipment. Examples include but are not limited to: control houses, water/drainage systems, fences, and yard rock. If the substation supports both the Network and Intertie, the portion allocated to the Capacity Owners is shown above as "Other Proration."				
34	This information was made available to Capacity Owners on 12/8/21 and contains information not sourced directly from BPA financial statements.				



Project Work Order: 00367761  
 Project Short Description: Ground Wire Replacement for Towers 13/5-23/1  
 Project Facility: John Day-Grizzly No. 2  
 Exhibit F Section: A.3. John Day-Grizzly  
 No. 2 500 kV

Percent of Project cost applied to  
 PNW AC Intertie: 100%  
 In Service Date: 10/23/2020  
 Work Order Completion Date: 1/11/2021  
 Work Order Status: COMPLETE  
 Contract Section 9(b)(2)(B) Date: 4/11/2022

	Line	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
	No.					
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$1,664,782	1,534,843	-	\$1,534,843	(\$129,939)
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$832,391	461,339	-	\$461,339	(\$371,052)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$366,270	50,927	-	\$50,927	(\$315,343)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$50,173	
<b>E. Total Replacement Costs and Reinforcement Costs</b>						
(Lines 1 + 2 + 3 + 4)	5	\$2,863,443	2,047,109	\$0	\$2,097,282	(\$816,334)

**Notes:**

- Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The adjusted actual of \$2,097,282 reflects the total costs from Fiscal years 2015-2021.
- Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is 100% x 20.8% x \$2,097,282 = \$436,235 to be allocated pro rata among Capacity Owners.

This information was made available to Capacity Owners on 12/8/21 and contains information not sourced directly from BPA financial statements.

**Work Order 00367761**  
**Work Order Completion Date 01/11/2021**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
1/1/2021	11/30/2021		334	\$2,047,108	\$50,173.29
1/1/2021	1/30/2021	2.651%	30		4,459.82
1/31/2021	2/27/2021	2.651%	28		4,162.50
2/28/2021	3/30/2021	2.660%	31		4,624.52
3/31/2021	4/29/2021	2.684%	30		4,515.83
4/30/2021	5/30/2021	2.686%	31		4,670.82
5/31/2021	6/29/2021	2.648%	30		4,455.33
6/30/2021	7/30/2021	2.602%	31		4,523.94
7/31/2021	8/30/2021	2.651%	31		4,609.13
8/31/2021	9/29/2021	2.717%	30		4,571.50
9/30/2021	10/30/2021	2.755%	31		4,789.95
10/31/2021	11/30/2021	2.755%	31		4,789.95
				334	50,173.29

**Equipment Removal Cost Summary**

\$299,589.35 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$236,452.42 is direct cost and \$63,136.93 is indirect and overhead cost.

- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

Sched C Dec 8 notice B Shares\_QA\_TN completion Interest

Project Work Order: 00423657  
 Project Short Description: Upgrading Equipment Associated with Sycan Bank No. 1  
 Project Facility: Sycan Compensation Station  
 Exhibit F Section: B.15. Sycan 500 kV Compensation Station  
 Percent of Project cost applied to PNW AC Intertie: 100%  
 In Service Date: 11/6/2020  
 Work Order Completion Date: 12/15/2020  
 Work Order Status: COMPLETE  
 Contract Section 9(b)(2)(B) Date: 3/15/2022

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$5,707,621	\$3,807,742		\$3,807,742	(\$1,899,879)
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$2,853,811	\$1,377,619		\$1,377,619	(\$1,476,192)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$865,002	\$69,048		\$69,048	(\$795,954)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$140,617	
<b>E. Total Replacement Costs and Reinforcement Costs</b>						
(Lines 1 + 2 + 3 + 4)	5	\$9,426,434	\$5,254,409	\$0	\$5,395,026	(\$4,172,025)

**Notes:**

1. The August 17, 2018 email regarding billing stated TBD Sycan 1 was combined into WO 423702. It should have stated "Combined into Work Order #00423657".
2. Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The adjusted actual of \$5,395,026 reflects the total costs from Fiscal years 2016-2021.
3. Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is 100% x 20.8% x \$5,395,026 = \$1,122,164 to be allocated pro rata among Capacity Owners.

This information was made available to Capacity Owners on 12/8/21 and contains information not sourced directly from BPA financial statements.

**Work Order 00423657**  
**Work Order Completion Date 12/15/2020**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
12/1/2020	11/30/2021		365	\$5,254,409	\$140,616.62
12/1/2020	12/30/2020	2.652%	30		11,452.87
12/31/2020	1/30/2021	2.651%	31		11,828.80
1/31/2021	2/27/2021	2.651%	28		10,684.07
2/28/2021	3/30/2021	2.660%	31		11,869.97
3/31/2021	4/29/2021	2.684%	30		11,591.00
4/30/2021	5/30/2021	2.686%	31		11,988.82
5/31/2021	6/29/2021	2.648%	30		11,435.71
6/30/2021	7/30/2021	2.602%	31		11,611.81
7/31/2021	8/30/2021	2.651%	31		11,830.48
8/31/2021	9/29/2021	2.717%	30		11,733.89
9/30/2021	10/30/2021	2.755%	31		12,294.60
10/31/2021	11/30/2021	2.755%	31		12,294.60
				365	140,616.62

**Equipment Removal Cost Summary**

\$744,861.52 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$560,638.74 is direct cost and \$184,222.78 is indirect and overhead cost.

- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

<b>Facility:</b>	Alvey Substation	John Day-Grizzly No. 2
<b>Work Order Number:</b>	00506478	00546962
<b>Total from Schedule C:</b>	\$123,669	\$138,805
<b>Exhibit F, BPA % Owned (left hand column) <sup>1</sup></b>	50%	100%
<b>Exhibit F, % Applied to PNWAC (right hand column) <sup>2</sup></b>	100%	100%
<b>Intertie Contract Proration <sup>3</sup></b>		
<b>Other Proration <sup>4</sup></b>		
<b>Exhibit F, Station General <sup>5</sup></b>	Yes	No
<b>Schedule C Total After Proration:</b>	<b>\$123,669</b>	<b>\$138,805</b>
<b>Customer % applied from Exhibit G</b>		
Avangrid	\$1,484	\$1,666
PacifiCorp	\$1,113	\$1,249
Puget	\$14,346	\$16,101
Seattle	\$5,689	\$6,385
Tacoma	\$1,360	\$1,527
(b)(4)		
Amount for cost sharing percentage note (formula that includes 20.8%) in Schedule C	\$25,723	\$28,871
<b>Check totals</b>	<b>\$123,669</b>	<b>\$138,805</b>
<b>Exhibit G</b>		
<b>Customer</b>	<b>Percentage</b>	
Avangrid	0.0120	
PacifiCorp	0.0090	
Puget	0.1160	
Seattle	0.0460	
Tacoma	0.0110	
(b)(4)		
<b>Total</b>	<b>0.2080</b>	

1/ **Percent (%) BPA Owned** (left hand column of Exhibit F) reflects BPA's ownership share of each project and is included here for reference only, as row 3 above reflects only BPA's Cost Share of the project. As applicable, the percentage on row 4, above, is the cost percentage after the PacifiCorp/PGE costs are removed.

2/ **Percent (%) Applicable to Pacific NW AC Intertie** (right hand column of Exhibit F) is also listed at the top of Exhibit I, Schedule C.

3/ **Intertie Contract Proration** refers to contracts with PacifiCorp and PGE only. In some cases the intertie cost proration is reflected in the Exhibit F to the specific Schedule C.

4/ **Other Proration** occurs when a project supports both intertie and non-intertie uses. Examples include replacing multiple breakers at a substation where only a subset of the replacements support the Intertie, Station General replacements, or work on a line that is part Network and part Intertie. In such cases a prorated share of the project costs are assigned to the Capacity Owners.

5/ **Station General** refers to elements in a substation that are not attributable to specific pieces of power equipment. Examples include control houses, water/drainage systems, fences, and yard rock. If the substation supports both the Network and Intertie, the portion allocated to the Capacity Owners is shown above as "Other Proration."

This information was made available to Capacity Owners on December 29, 2022 and contains information not sourced directly from BPA financial statements.

Project Work Order: 00506478  
 Project Short Description: Security Enhancements  
 Project Facility: Alvey Substation  
 Exhibit F Section: B.1. Alvey 500 kV Switchyard  
 Percent of Project cost applied to  
 PNW AC Intertie: 100%  
 In Service Date: 12/17/2021  
 Work Order Completion Date: 1/5/2022  
 Work Order Status: COMPLETE  
 Contract Section 9(b)(2)(B) Date: 4/5/2023

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$1,040,582	916,630.78	826,599.48	\$90,031	(\$950,551)
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$520,291	302,188.44	272,507.55	\$29,681	(\$490,610)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$80,333	8,084.05	7,290.04	\$794	(\$79,539)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$3,162	
<b>E. Total Replacement Costs and Reinforcement Costs</b>						
(Lines 1 + 2 + 3 + 4)	5	\$1,641,206	1,226,903.27	1,106,397.06	\$123,669	(\$1,520,700)

**Notes:**

- Pursuant to Contract No. DE-MS-94BP94332, BPA owns 50% of the equipment covered by this project and the costs shown reflect only BPA's share.
- Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The adjusted actual of \$123,669 reflects the total costs from Fiscal years FY2020 to FY2022.
- Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is 100% x 20.8% x \$123,669 = \$25,723 to be allocated pro rata among Capacity Owners.

This information was made available to Capacity Owners on December 29, 2022 and contains information not sourced directly from BPA financial statements.

**Work Order 00506478**  
**Work Order Completion Date 01/05/2022**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
1/1/2022	11/30/2022		334	\$120,506	\$3,162.30
1/1/2022	1/30/2022	2.759%	30		273.27
1/31/2022	2/16/2022	2.757%	17		154.74
2/17/2022	2/27/2022	2.755%	11		100.05
2/28/2022	3/30/2022	2.784%	31		284.94
3/31/2022	4/29/2022	2.791%	30		276.44
4/30/2022	5/30/2022	2.797%	31		286.27
5/31/2022	6/29/2022	2.818%	30		279.11
6/30/2022	7/30/2022	2.870%	31		293.74
7/31/2022	8/30/2022	2.885%	31		295.27
8/31/2022	9/29/2022	3.005%	30		297.63
9/30/2022	10/30/2022	3.017%	31		308.78
10/31/2022	11/30/2022	3.049%	31		312.06
			<u>334</u>		<u>3,162.30</u>

**Equipment Removal Cost Summary**

\$1,574.77 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$1,080.42 is direct cost and \$494.35 is indirect and overhead cost.

- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

Project Work Order: 00546962  
 Project Short Description: Overhead ground wire replacement  
 Project Facility: John Day-Grizzly No. 2  
 Exhibit F Section: A.10. John Day-Grizzly No. 2 500 kV  
 Percent of Project cost applied to PNW AC Intertie: 100%  
 In Service Date: 4/7/2022  
 Work Order Completion Date: 5/27/2022  
 Work Order Status: COMPLETE  
 Contract Section 9(b)(2)(B) Date: 8/27/2023

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$119,340	99,425.60	-	\$99,426	(\$19,914)
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$59,670	36,777.78	-	\$36,778	(\$22,892)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$2,297	264.24	-	\$264	(\$2,033)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$2,337	
<b>E. Total Replacement Costs and Reinforcement Costs</b>						
(Lines 1 + 2 + 3 + 4)	5	\$181,307	136,467.62	\$0	\$138,805	(\$44,839)

**Notes:**

- Pursuant to Contract No. DE-MS-94BP94332, BPA owns 100% of the equipment covered by this project.
- Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The adjusted actual of \$138,805 reflects the total costs from Fiscal years 2021 - 2023.
- Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is 100% x 20.8% x \$138,805 = \$28,871 to be allocated pro rata among Capacity Owners.

This information was made available to Capacity Owners on December 29, 2022 and contains information not sourced directly from BPA financial statements.



**Work Order 00546962**  
**Work Order Completion Date 05/27/2022**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
5/1/2022	11/30/2022		214	\$136,468	\$2,336.96
5/1/2022	5/30/2022	2.797%	30		313.73
5/31/2022	6/29/2022	2.818%	30		316.08
6/30/2022	7/30/2022	2.870%	31		332.64
7/31/2022	8/30/2022	2.885%	31		334.38
8/31/2022	9/29/2022	3.005%	30		337.06
9/30/2022	10/30/2022	3.017%	31		349.68
10/31/2022	11/30/2022	3.049%	31		353.39
			<u>214</u>		<u>2,336.96</u>

**Equipment Removal Cost Summary**

\$4,686.77 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$3,421.00 is direct cost and \$1,265.77 is indirect and overhead cost.

- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

	A	B	C	D	E	F
1	Facility:	Fort Rock Compensation Station	Chief Joseph Substation	Sycan Compensation Station		
2	Work Order Number:	00356244	00420153	00483190		
3	Total from Schedule C:	\$175,082	\$332,608	\$63,731		
4	Exhibit F, BPA % Owned (left hand column) <sup>1/</sup> :	100%	100%	65%		
5	Exhibit F, % Applied to PNWAC Intertie (right hand column) <sup>2/</sup> :	100%	100%	100%		
6	Intertie Contract Proration <sup>3/</sup> :					
7	Other Proration <sup>4/</sup> :		8.33%			
8	Exhibit F, Station General <sup>5/</sup> :	Yes	No	Yes		
9	Schedule C Total After Proration:	\$175,082	\$27,717	\$63,731		
10	Customer % applied from Exhibit G					
11	Avangrid	\$2,101	\$333	\$765		
12	PacifiCorp	\$1,576	\$249	\$574		
13	Puget	\$20,310	\$3,215	\$7,393		
14	Seattle	\$8,054	\$1,275	\$2,932		
15	Tacoma	\$1,926	\$305	\$701		
16	(b)(4)					
17	Amount for cost sharing percentage note (formula that includes 20.8%) in Schedule C	\$36,417	\$5,765	\$13,256		
18	Check totals	\$175,082	\$27,717	\$63,731		
19	Exhibit G					
20	Customer	Percentage	Percentage	Percentage		
21	Avangrid	0.0120	0.0120	0.0120		
22	PacifiCorp	0.0090	0.0090	0.0090		
23	Puget	0.1160	0.1160	0.1160		
24	Seattle	0.0460	0.0460	0.0460		
25	Tacoma	0.0110	0.0110	0.0110		
26	(b)(4)					
27	Total	0.2080	0.2080	0.2080		
28	Footnotes					
29	<sup>1/</sup> BPA Percent (%) owned (left hand column of Exhibit F) reflects BPA's ownership share of each project and is included here for reference only, as row 3 above reflects only BPA's Cost Share of the project. As applicable, the percentage on row 4, above, is the cost percentage after the PacifiCorp/PGE costs are removed. If cell D4 is shaded and in italics, it means the Exhibit F percentage does not need to be applied to this cost share calculation.					
30	<sup>2/</sup> Percent (%) applied to Pacific NW AC Intertie (right hand column of Exhibit F) is also listed at the top of Exhibit I, Schedule C.					
31	<sup>3/</sup> Intertie Contract Proration refers to contracts with PacifiCorp and PGE only. In some cases the intertie cost proration is reflected in the Exhibit F to the specific Schedule C.					
32	<sup>4/</sup> Other Proration occurs when a project supports both intertie and non-intertie uses. Examples include replacing multiple breakers at a substation where only a subset of the replacements support the Intertie, Station General replacements, or work on a line that is part Network and part Intertie. In such cases a prorated share of the project costs are assigned to the Capacity Owners.					
33	<sup>5/</sup> Station General refers to elements in a substation that are not attributable to specific pieces of power equipment. Examples include but are not limited to: control houses, water/drainage systems, fences, and yard rock. If the substation supports both the Network and Intertie, the portion allocated to the Capacity Owners is shown above as "Other Proration."					
34						
35	This information is being released externally by BPA on 01/30/2020 as an ad hoc report or analysis generated for a specific purpose. The information provided is based upon data found in agency financial information but may not be found verbatim in an external standard financial report or other agency financial information release.					

Project Work Order: 00356244  
 Project Short Description: Fort Rock: Replace Analog Transfer Trip Equipment  
 Project Facility: Fort Rock Compensation Station  
 Exhibit F Section: B.7. Fort Rock 500 kV Compensation Station  
 Percent of Project cost applied to PNW AC Intertie: 100%  
 In Service Date: 9/24/2018  
 Work Order Completion Date: 9/24/2018  
 Work Order Status: CLOSED  
 Contract Section 9(b)(2)(B) Date: 12/25/2019

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$167,215	128,288.81	15,077.77	\$113,211	(\$54,004)
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$25,650	57,712.69	6,782.97	\$50,930	\$25,280
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$83,608	4,265.36	501.31	\$3,764	(\$79,843)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$7,177	
<b>E. Total Replacement Costs and Reinforcement Costs</b>						
(Lines 1 + 2 + 3 + 4)	5	\$276,473	\$190,267	\$22,362	\$175,082	(\$108,568)

**Notes:**

- Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The Adjusted Actual of \$175,082 reflects the total costs from Fiscal years FY 2014 - FY 2017.
- Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is  $100\% \times 20.8\% \times \$175,082 = \$36,417$  to be allocated pro rata among Capacity Owners.

This information is being released externally by BPA on 1/30/2020 as an ad hoc report or analysis generated for a specific purpose. The information provided is based upon data found in Agency Financial Information but may not be found verbatim in an External Standard Financial Report or other Agency Financial Information release.

E Rowley, L S O'Neil, C Navor  
W.O. 00356244

Schedule C

**Work Order 00356244**  
**Work Order Completion Date 09/24/2018**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
9/1/2018	12/17/2019		473	\$167,905	\$7,177.41
9/1/2018	9/29/2018	3.301%	29		440.37
9/30/2018	10/30/2018	3.247%	31		463.04
10/31/2018	11/29/2018	3.259%	30		449.75
11/30/2018	12/12/2018	3.280%	13		196.15
12/13/2018	12/30/2018	3.280%	18		271.59
12/31/2018	1/30/2019	3.361%	31		479.29
1/31/2019	2/27/2019	3.368%	28		433.81
2/28/2019	3/30/2019	3.376%	31		481.43
3/31/2019	4/29/2019	3.378%	30		466.18
4/30/2019	5/30/2019	3.375%	31		481.29
5/31/2019	6/29/2019	3.366%	30		464.52
6/30/2019	7/30/2019	3.347%	31		477.30
7/31/2019	8/30/2019	3.317%	31		473.02
8/31/2019	9/29/2019	3.248%	30		448.24
9/30/2019	10/6/2019	3.218%	7		103.62
10/7/2019	10/30/2019	3.218%	24		355.28
10/31/2019	11/29/2019	3.172%	30		437.75
11/30/2019	12/17/2019	3.077%	18		254.78
			<u>473</u>		<u>7,177.41</u>

**Equipment Removal Cost Summary**

\$5,749.54 worth of retirement charges are included in the Adjusted Actuals column of the main billing sheet for this Work Order. Of this amount, \$3,484.57 is direct cost and \$2,264.97 is indirect and overhead cost.

- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

Project Work Order: 00420153  
 Project Short Description: Replace Potential Transformers  
 Project Facility: Chief Joseph Substation  
 Exhibit F Section: B.5. Chief Joseph Substation  
 Percent of Project cost applied to PNW AC Intertie: 100%  
 In Service Date: 12/31/2018  
 Work Order Completion Date: 3/13/2019  
 Work Order Status: COMPLETE  
 Contract Section 9(b)(2)(B) Date: 6/13/2020

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$244,128	237,558.03	-	\$237,558	(\$6,570)
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$122,064	\$2,165.43	-	\$82,165	(\$39,899)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$22,443	4,338.58	-	\$4,339	(\$18,105)
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$8,546	
<b>E. Total Replacement Costs and Reinforcement Costs</b>						
(Lines 1 + 2 + 3 + 4)	5	\$388,635	\$324,062	\$0	\$332,608	(\$64,573)

**Notes:**

1. This Work Order will be prorated 8.33% to reflect that 50% of the work order is associated with Bus Section 2 at the Chief Joseph Sub. Within Bus Section 2, only 1 of the 6 terminals is applicable to the Intertie (16.67%).
2. Pursuant to Sec. 13(c)(3) costs are tracked by fiscal year for each work order. The Adjusted Actual of \$332,608 reflects the total costs from Fiscal years 2016-2019.
3. Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is  $100\% \times 50\% \times 16.67\% \times 20.8\% \times \$332,608 = \$5,765$  to be allocated pro rata among Capacity Owners.

This information is being released externally by BPA on 01/30/2020 as an ad hoc report or analysis generated for a specific purpose. The information provided is based upon data found in Agency Financial Information but may not be found verbatim in an External Standard Financial Report or other Agency Financial Information release.

E Rowley, L S O'Neil, J Guillard  
W.O. 00420153

Schedule C

**Work Order 00420153**  
**Work Order Completion Date 03/13/2019**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
3/1/2019	12/17/2019		292	\$324,062	\$8,546.40
3/1/2019	4/29/2019	3.378%	60		1,799.42
4/30/2019	5/30/2019	3.375%	31		928.86
5/31/2019	6/29/2019	3.366%	30		896.46
6/30/2019	7/30/2019	3.347%	31		921.30
7/31/2019	8/30/2019	3.317%	31		912.94
8/31/2019	9/29/2019	3.248%	30		865.11
9/30/2019	10/6/2019	3.218%	7		200.00
10/7/2019	10/30/2019	3.218%	24		685.70
10/31/2019	11/29/2019	3.172%	30		844.87
11/30/2019	12/17/2019	3.077%	18		491.74
			<u>292</u>		<u>8,546.40</u>

**Equipment Removal Cost Summary**

\$15,578.94 worth of retirement charges are included in the Adjusted Actuals column of the main billing sheet for this Work Order. Of this amount, \$9,922.89 is direct cost and \$5,656.05 is indirect and overhead cost.

- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for the work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset then BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.

Project Work Order: 00483190  
 Project Short Description: Replace Battery  
 Project Facility: Sycan Compensation Station, Bank No. 3  
 Exhibit F Section: B.15. Sycan 500 kV Compensation Station  
 Percent of Project cost applied to PNW AC Intertie: 100%  
 In Service Date: 1/31/2019  
 Work Order Completion Date: 2/25/2019  
 Work Order Status: COMPLETE  
 Contract Section 9(b)(2)(B) Date: 5/25/2020

	Line No.	Forecast	Actual	Less General Plant	Adjusted Actuals	Difference
<b>III. Replacement Costs and Reinforcement Costs</b>						
<b>A. Direct Cost</b>						
Direct Costs of Replacements and Reinforcements	1	\$87,514	40,567.29		\$40,567	(\$46,947)
<b>B. Indirect Cost and Overhead Costs</b>						
Indirect Costs and Overhead Costs of Replacements and Reinforcements	2	\$43,757	20,709.47		\$20,709	(\$23,048)
<b>C. AFUDC</b>						
AFUDC of Replacements and Reinforcements	3	\$387	660.09		\$660	\$273
<b>D. Interest</b>						
Interest Costs of Replacements and Reinforcements (Interest Calculated without plant costs)	4				\$1,794	
<b>E. Total Replacement Costs and Reinforcement Costs</b>						
(Lines 1 + 2 + 3 + 4)	5	\$131,658	\$61,937	\$0	\$63,731	(\$69,721)

**Notes:**

1. BPA owns 65% of the equipment covered by this project. The costs shown above reflect only BPA's share. Please see Exhibit F, Section B.15.
2. Pursuant to Sec. 13(c)(3), for each work order, costs are tracked by fiscal year. The Adjusted Actual of \$63,731 reflects the total costs from Fiscal year 2019.
3. Cost sharing percentage x Capacity Owner share of BPA cost x Line E Adjusted Actuals = Capacity Owners' share of project cost. For this project the calculation is  $100\% \times 20.8\% \times \$63,731 = \$13,256$  to be allocated pro rata among Capacity Owners.

This information is being released externally by BPA on 01/30/2020 as an ad hoc report or analysis generated for a specific purpose. The information provided is based upon data found in Agency Financial Information but may not be found verbatim in an External Standard Financial Report or other Agency Financial Information release.

**Work Order 00483190**  
**Work Order Completion Date 02/25/2019**

**Interest Calculation**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
2/1/2019	12/17/2019		320	\$61,937	\$1,793.73
2/1/2019	3/30/2019	3.376%	58		332.24
3/31/2019	4/29/2019	3.378%	30		171.96
4/30/2019	5/30/2019	3.375%	31		177.53
5/31/2019	6/29/2019	3.366%	30		171.34
6/30/2019	7/30/2019	3.347%	31		176.09
7/31/2019	8/30/2019	3.317%	31		174.49
8/31/2019	9/29/2019	3.248%	30		165.35
9/30/2019	10/6/2019	3.218%	7		38.22
10/7/2019	10/30/2019	3.218%	24		131.05
10/31/2019	11/29/2019	3.172%	30		161.48
11/30/2019	12/17/2019	3.077%	18		93.98
			<u>320</u>		<u>1,793.73</u>

**Equipment Removal Cost Summary**

\$7,839.29 worth of retirement charges are included in the adjusted actuals column of the main billing sheet for this Work Order. Of this amount, \$5,046.34 is direct cost and \$2,792.95 is indirect and overhead cost.

- A separate Schedule C will be provided in the Operating Plan for each Replacement and Reinforcement. The amounts shown in the attached correspondence are for this work order. Each customer will be billed its pro rata share of the total adjusted actual.
- Forecasts of Replacement Costs and Reinforcement Costs will be provided. Capacity Owners shall be billed for Replacements and Reinforcements using actual cost pursuant to section 9(b)(2)(B).
- Allowance for Funds Used During Construction (AFUDC) represents the estimated cost of interest on financing the construction of all BPA capital projects or BPA portion of capital projects. In instances where BPA owns a portion of the asset, BPA will only apply AFUDC to its portion of the asset.
- Expected In-Service Date as used in Schedule C is the expected date of completion of the referenced work. If the In Service Date is in the future, it is a forecast and subject to change due to delays such as weather or material availability.
- Complete status as used in Schedule C is an accounting status used by BPA rather than construction status.



**Interest Calculation**  
**PacifiCorp**  
**9/30/2020-5/31/2022**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
9/30/2020	5/31/2022		609	(\$8,850)	-\$399.10
9/30/2020	10/30/2020	2.652%	31		(19.93)
10/31/2020	11/29/2020	2.651%	30		(19.28)
11/30/2020	12/30/2020	2.652%	31		(19.93)
12/31/2020	1/30/2021	2.651%	31		(19.92)
1/31/2021	2/27/2021	2.651%	28		(18.00)
2/28/2021	3/30/2021	2.660%	31		(19.99)
3/31/2021	4/29/2021	2.684%	30		(19.52)
4/30/2021	5/30/2021	2.686%	31		(20.19)
5/31/2021	6/29/2021	2.648%	30		(19.26)
6/30/2021	7/30/2021	2.602%	31		(19.56)
7/31/2021	8/30/2021	2.651%	31		(19.93)
8/31/2021	9/29/2021	2.717%	30		(19.76)
9/30/2021	10/30/2021	2.755%	31		(20.71)
10/31/2021	11/29/2021	2.757%	30		(20.05)
11/30/2021	12/30/2021	2.758%	31		(20.73)
12/31/2021	1/30/2022	2.759%	31		(20.74)
1/31/2022	2/16/2022	2.757%	17		(11.36)
2/17/2022	2/27/2022	2.755%	11		(7.35)
2/28/2022	3/30/2022	2.784%	31		(20.93)
3/31/2022	3/31/2022	2.791%	1		(0.68)
4/1/2022	5/31/2022	2.791%	61		(41.28)
			<u>609</u>		<u>(399.10)</u>

This information was made available to Capacity Owners on May 24, 2022 and is sourced from the BP-20 Rate Case data; and from BPA Transmission Services Balance Sheets dated September 30, 2021 and it also contains information not sourced from BPA financial statement.

**Interest Calculation**  
**PacifiCorp**  
**9/30/2021-5/31/2023**

<b>From</b>	<b>To</b>	<b>%</b>	<b>Days</b>	<b>Amount</b>	<b>Interest</b>
9/30/2021	5/31/2023		609	(\$3,421)	(\$168.00)
9/30/2021	10/30/2021	2.755%	31		(8.00)
10/31/2021	11/29/2021	2.757%	30		(7.75)
11/30/2021	12/30/2021	2.758%	31		(8.01)
12/31/2021	1/30/2022	2.759%	31		(8.02)
1/31/2022	2/16/2022	2.757%	17		(4.39)
2/17/2022	2/27/2022	2.755%	11		(2.84)
2/28/2022	3/30/2022	2.784%	31		(8.09)
3/31/2022	4/29/2022	2.791%	30		(7.85)
4/30/2022	5/30/2022	2.797%	31		(8.13)
5/31/2022	6/29/2022	2.818%	30		(7.92)
6/30/2022	7/30/2022	2.870%	31		(8.34)
7/31/2022	8/30/2022	2.885%	31		(8.38)
8/31/2022	9/29/2022	3.005%	30		(8.45)
9/30/2022	10/30/2022	3.017%	31		(8.77)
10/31/2022	11/29/2022	3.049%	30		(8.57)
11/30/2022	12/30/2022	3.068%	31		(8.91)
12/31/2022	1/30/2023	3.108%	31		(9.03)
1/31/2023	2/27/2023	3.114%	28		(8.17)
2/28/2023	3/30/2023	3.243%	31		(9.42)
3/31/2023	3/31/2023	3.262%	1		(0.31)
4/1/2023	5/31/2023	3.262%	61		(18.65)
			<u>609</u>		<u>(168.00)</u>

This information was made available to Capacity Owners on May 31, 2023 and is sourced from the BP-22 Rate Case data; and from BPA Transmission Services Balance Sheets dated September 30, 2022 and it also contains information not sourced from BPA financial statement.