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PACIFIC GAS AND ELECTRIC COMPANY

STANDARD OFFER #4

POWER PURCHASE AGREEMENT

FOR

LONG-TERM ENERGY AND CAPACITY

MAY 1984

STANDARD OFFER #4:

LONG-TERM ENERGY AND CAPACITY

POWER PURCHASE AGREEMENT

CONTENTS

LONG-TERM ENERGY AND CAPACITY

POWER PURCHASE AGREEMENT

BETWEEN

YUBA COUNTY WATER AGENCY

AND

PACIFIC GAS AND ELECTRIC COMPANY

YUBA COUNTY WATER AGENCY ("Seller"), and PACIFIC GAS AND ELECTRIC COMPANY ("PGandE"), referred to collectively as "Parties" and individually as "Party", agree as follows:

ARTICLE 1 QUALIFYING STATUS

Seller warrants that, at the date of first power deliveries from Seller's Facility[1] and during the term of agreement, its Facility shall meet the qualifying facility requirements established as of the effective date of this Agreement by the Federal Energy Regulatory Commission's rules (18 Code of Federal Regulations 292) implementing the Public Utility Regulatory Policies Act of 1978 (16 U.S.C.A. 796, et seq.).

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1 Underlining identifies those terms which are defined in Section A-1 of Appendix A.

ARTICLE 2 COMMITMENT OF PARTIES

The prices to be paid Seller for energy and/or capacity delivered pursuant to this Agreement have wholly or partly been fixed at the time of execution. Actual avoided costs at the time of energy and/or capacity deliveries may be substantially above or below the prices fixed in this Agreement. Therefore, the Parties expressly commit to the prices fixed in this Agreement for the applicable period of performance and shall not seek to or have a right to renegotiate such prices for any reason. As part of its consideration for the benefit of fixing part or all of the energy and/or capacity prices under this Agreement, Seller waives any and all rights to judicial or other relief from its obligations and/or prices set forth in Appendices B, D, and E, or modification of any other term or provision for any reasons whatsoever.

This Agreement contains certain provisions which set forth methods of calculating damages to be paid to PGandE in the event Seller fails to fulfill certain performance obligations. The inclusion of such provisions is not intended to create any express or implied right in Seller to terminate this Agreement prior to the expiration of the <u>term of agreement</u>. Termination of this Agreement by Seller prior to its expiration date shall constitute a breach of this Agreement and the damages expressly set forth in this

Agreement shall not constitute PGandE's sole remedy for such breach.

ARTICLE 3 PURCHASE OF POWER

(a) Seller shall sell and deliver and PGandE shall purchase and accept delivery of capacity and energy at the voltage level of 0.480 kV.

(b) Seller shall provide capacity and energy from its 150 kW [Nameplate rating of generator(s)] Facility located at Bullards Bar Dam, Yuba County, California.

(c) The scheduled operation date of the Facility is September 1, 1986 [Date]. At the end of each calendar quarter Seller shall give written notice to PGandE of any change in the scheduled operation date.

(d) To avoid exceeding the physical limitations of the interconnection facilities, Seller shall limit the Facility's actual rate of delivery into the PGandE system to 171 kW.

(e) The primary energy source for the Facility is Fish Release Hydro.

(f) If Seller does not begin construction of its Facility by January 1, 1986 [Date], PGandE may reallocate the existing capacity on PGandE's transmission and/or distribution system which would have been used to accommodate Seller's power deliveries to other uses. In the event of such reallocation, Seller shall pay PGandE for the cost of any upgrades or additions to PGandE's system necessary to accommodate the output from the Facility. Such additional facilities shall be installed, owned and maintained in accordance with the applicable PGandE tariff.

(g) The transformer loss adjustment factor is 0.98 [1].

ARTICLE 4 ENERGY PRICE

PGandE shall pay Seller for its Net Energy Output [2] under the energy payment option checked below[3]:

X Energy Payment Option 1 - Forecasted Energy Prices

During the fixed price period, Seller shall be

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1 If Seller chooses to have meters placed on Seller's side of the transformer, an estimated transformer loss adjustment factor of 2 percent, unless the Parties agree otherwise, will be applied. This estimated transformer loss figure will be adjusted to a measurement of actual transformer losses performed at Seller's request and expense.

2 Insert either "net energy output" or "surplus energy output" to show the energy sale option selected by Seller.

3 Energy Payment Option 2 is not available to oil or gas-fired cogenerators.

paid for energy delivered at prices equal to _100__[1] percent of the prices set forth in Table B-1, Appendix B, plus __0__[2] percent of PGandE's full short-run avoided operating costs.

For the remaining years of the term of agreement, Seller shall be paid for energy delivered at prices equal to PGandE's full short-run avoided operating costs.

If Seller's Facility is not an oil or gas-fired cogeneration facility, Seller may convert from Energy Payment Option 1 to Energy Payment Option 2 and be subject to the conditions therein, provided that Seller shall not change the percentage of energy prices to be based on PGandE's full short-run avoided operating costs. Such conversion must be made at least 90 days prior to the date of initial energy deliveries and must be made by written notice in accordance with Section A-17, Appendix A.

______ Energy Payment Option 2 - Levelized Energy Prices

During the fixed price period, Seller shall be

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1 Insert either 0, 20, 40, 60, 80, or 100, at Seller's option. If Seller's Facility is an oil or gas-fired cogeneration facility, either 0 or 20 must be inserted.

2 Insert the difference between 100 and the percentage selected under footnote 1 above.

paid for energy delivered at prices equal to _____[1] percent of the levelized energy prices set forth in Table B-2, Appendix B for the year in which energy deliveries begin and term of agreement, plus ______[2] percent of PGandE's full short-run avoided operating costs. During the fixed price period, Seller shall be subject to the conditions and terms set forth in Appendix B, Energy Payment Option 2.

For the remaining years of the term of agreement, Seller shall be paid for energy delivered at prices equal to PGandE's full short-run avoided operating costs.

Seller may convert from Energy Payment Option 2 to Energy Payment Option 1, provided that Seller shall not change the percentage of energy prices to be based on PGandE's full short-run avoided operating costs. Such conversion must be made at least 90 days prior to the date of initial energy deliveries and must be made by written notice in accordance with Section A-17, Appendix A.

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1. Insert either 20, 40, 60, 80, or 100, at Seller's option.

2. Insert the difference between 100 and the percentage selected under footnote 1 above.

_______ Energy Payment Option 3 - Incremental Energy Rate

Beginning with the date of initial energy deliveries and continuing until _______________[1], Seller shall be paid monthly for energy delivered at prices equal to PGandE's full short-run avoided operating costs, provided that adjustments shall be made annually to the extent set forth in Appendix B, Energy Payment Option 3.

The Incremental Energy Rate Band Widths specified by Seller in Table I below shall be used in determining the annual adjustment, if any.

Table I

Year	Incremental Energy Rate Band Widths (must be multiples of 100 or zero)
1984	_______________
1985	_______________
1986	_______________
1987	_______________
1988	_______________
1989	_______________
1990	_______________
1991	_______________
1992	_______________
1993	_______________
1994	_______________
1995	_______________
1996	_______________
1997	_______________
1998	_______________

1 Specified by Seller. Must be December 31, 1998 or prior.

After _______________, Seller shall be paid for energy delivered at prices equal to PGandE's full short-run avoided operating costs.

ARTICLE 5 CAPACITY ELECTION AND CAPACITY PRICE

Seller may elect to deliver either firm capacity or as-delivered capacity, and Seller's election is indicated below. PGandE's prices for firm capacity and as-delivered capacity are derived from PGandE's full avoided costs as approved by the CPUC.

__X__ Firm capacity - __130__ kW for __30__ years from the firm capacity availability date with payment determined in accordance with Appendix E. Except for hydro-electric facilities, PGandE shall pay Seller for capacity delivered in excess of firm capacity on an as-delivered capacity basis in accordance with As-Delivered Capacity Payment Option __n/a__ set forth in Appendix D.

OR

______ As-delivered capacity with payment determined in accordance with As-Delivered Capacity Payment Option ______ set forth in Appendix D.

ARTICLE 6 LOSS ADJUSTMENT FACTORS

Capacity Loss Adjustment Factors shall be as shown in Appendix D and Appendix E, dependent upon Seller's capacity election set forth in Article 5 of this Agreement.

Energy Loss Adjustment Factors shall be considered as unity for all energy payments related to Energy Payment Options 1 and 2 set forth in Appendix B for the entire <u>fixed price period</u> of this Agreement, except for the percentage of payments that Seller elected in Article 4 to have calculated based on PGandE's <u>full short-run avoided operating costs</u>. Energy Loss Adjustment Factors for all payments related to PGandE's <u>full short-run avoided operating costs</u> are subject to <u>CPUC</u> rulings for the entire <u>term of agreement</u>.

ARTICLE 7 CURTAILMENT

Seller has two options regarding possible curtailment by PGandE of Seller's deliveries, and Seller's selection is indicated below:

_X_ Curtailment Option A - Hydro Spill and Negative Avoided Cost

____ Curtailment Option B - Adjusted Price Period

The two options are described in Appendix C.

ARTICLE 8 RETROACTIVE APPLICATION OF CPUC ORDERS

Pursuant to Ordering Paragraph 1(f) of CPUC Decision No. 83-09-054 (September 7, 1983), after the effective date of the CPUC's Application 82-03-26 decision relating to line loss factors, Seller has the option to retain the relevant terms of this Agreement or have the results of that decision incorporated into this Agreement. To retain the terms herein, Seller shall provide written notice to PGandE within 30 days after the effective date of the relevant CPUC decision on Application 82-03-26. Failure to provide such notice will result in the amendment of this Agreement to comply with that decision.

As soon as practicable following the issuance of a decision in Application 82-03-26, PGandE shall notify Seller of the effective date thereof and its results.

ARTICLE 9 NOTICES

All written notices shall be directed as follows:

To PGandE: Pacific Gas and Electric Company
Attention: Vice President -
Electric Operations
77 Beale Street
San Francisco, CA 94106

To Seller: YUBA COUNTY WATER AGENCY
ATTN: BOARD OF DIRECTORS
P.O. BOX 1569
MARYSVILLE, CA. 95901-1569

ARTICLE 10 DESIGNATED SWITCHING CENTER

The designated PGandE switching center shall be, unless changed by PGandE:

MARYSVILLE SUBSTATION
(Name)

FOURTH AND YUBA STREET, MARYSVILLE
(Location)

(916)742-1001
(Phone number)

ARTICLE 11 TERMS AND CONDITIONS

This Agreement includes the following appendices which are attached and incorporated by reference:

Appendix A - GENERAL TERMS AND CONDITIONS

Appendix B - ENERGY PAYMENT OPTIONS

Appendix C - CURTAILMENT OPTIONS

Appendix D - AS-DELIVERED CAPACITY

Appendix E - FIRM CAPACITY

Appendix F - INTERCONNECTION

ARTICLE 12 TERM OF AGREEMENT

This Agreement shall be binding upon execution and remain in effect thereafter for 30 years[1] from the firm capacity availability date[2]; provided, however, that it shall terminate if energy deliveries do not start within five years of the execution date.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized representatives and it is effective as of the last date set forth below.

YUBA COUNTY WATER AGENCY (SELLER)	PACIFIC GAS AND ELECTRIC COMPANY
BY: Michael E. Rue	BY: Malcolm H. Furbush
MICHAEL E. RUE (Type Name)	MALCOLM H. FURBUSH (Type Name)
TITLE: CHAIRMAN, BOARD OF DIRECTORS	TITLE: Executive Vice President
DATE SIGNED: 4/16/85	DATE SIGNED: 9/3/86
	JAS

1 The minimum contract term is 15 years and the maximum contract term is 30 years.

2 Insert "firm capacity availability date" if Seller has elected to deliver firm capacity or "date of initial energy deliveries" if Seller has elected to deliver as-delivered capacity.

APPENDIX A

GENERAL TERMS AND CONDITIONS

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APPENDIX A

GENERAL TERMS AND CONDITIONS

A-1 DEFINITIONS

Whenever used in this Agreement, appendices, and attachments hereto, the following terms shall have the following meanings:

Adjusted firm capacity price - The $/kW-year purchase price for firm capacity from Table E-2, Appendix E for the period of Seller's actual performance.

As-delivered capacity - Capacity delivered to PGandE in excess of firm capacity or in lieu of a firm capacity commitment.

CPUC - The Public Utilities Commission of the State of California.

Current firm capacity price - The $/kW-year capacity price from PGandE's firm capacity price schedule effective at the time PGandE derates the firm capacity pursuant to Section E-4(b), Appendix E or Seller terminates performance under this Agreement, for a term equal to the period from the date of deration or termination to the end of the <u>term of agreement</u>.

<u>Designated PGandE switching center</u> - That switching center or other PGandE installation identified in Article 10.

<u>Facility</u> - That generation apparatus described in Article 3 and all associated equipment owned, maintained, and operated by Seller.

<u>Firm capacity</u> - That capacity, if any, identified as firm in Article 5 except as otherwise changed as provided herein.

<u>Firm capacity availability date</u> - The day following the day during which all features and equipment of the <u>Facility</u> are demonstrated to PGandE's satisfaction to be capable of operating simultaneously to deliver <u>firm capacity</u> continuously into PGandE's system as provided in this Agreement.

<u>Firm capacity price</u> - The price for <u>firm capacity</u> applicable for the <u>firm capacity availability date</u> and the number of years of <u>firm capacity</u> delivery from the <u>firm capacity price schedule</u>, Table E-2, Appendix E.

Firm capacity price schedule - The periodically published schedule of the $/kW-year prices that PGandE offers to pay for firm capacity. See Table E-2, Appendix E.

Fixed price period - The period during which forecasted or levelized energy prices, and/or forecasted as-delivered capacity prices, are in effect; defined as the first five years of the term of agreement if the term of agreement is 15 or 16 years; the first six years of the term of agreement if the term of agreement is 17, 18, or 19 years; or the first ten years of the term of agreement if the term of agreement is anywhere from 20 through 30 years.

Forced outage - Any outage resulting from a design defect, inadequate construction, operator error or a breakdown of the mechanical or electrical equipment that fully or partially curtails the electrical output of the Facility.

Full short-run avoided operating costs - CPUC-approved costs which are the basis of PGandE's published energy prices. PGandE's current energy price calculation is shown in Table B-5, Appendix B. PGandE's published off-peak hours' prices shall be adjusted, as appropriate, if Seller has selected Curtailment Option B.

Interconnection facilities - All means required and apparatus installed to interconnect and deliver power from the Facility to the PGandE system including, but not limited to, connection, transformation, switching, metering, communications, and safety equipment, such as equipment required to protect (1) the PGandE system and its customers from faults occurring at the Facility, and (2) the Facility from faults occurring on the PGandE system or on the systems of others to which the PGandE system is directly or indirectly connected. Interconnection facilities also include any necessary additions and reinforcements by PGandE to the PGandE system required as a result of the interconnection of the Facility to the PGandE system.

Net energy output - The Facility's gross output in kilowatt-hours less station use and transformation and transmission losses to the point of delivery into the PGandE system. Where PGandE agrees that it is impractical to connect the station use on the generator side of the power purchase meter, PGandE may, at its option, apply a station load adjustment.

Prudent electrical practices - Those practices, methods, and equipment, as changed from time to time, that are commonly used in prudent electrical engineering and operations to design and operate electric equipment lawfully and with safety, dependability, efficiency, and economy.

Scheduled operation date - The day specified in Article 3(c) when the Facility is, by Seller's estimate, expected to produce energy that will be available for delivery to PGandE.

Special facilities - Those additions and reinforcements to the PGandE system which are needed to accommodate the maximum delivery of energy and capacity from the Facility as provided in this Agreement and those parts of the interconnection facilities which are owned and maintained by PGandE at Seller's request, including metering and data processing equipment. All special facilities shall be owned, operated, and maintained pursuant to PGandE's electric Rule No. 21, which is attached hereto.

Station use - Energy used to operate the Facility's auxiliary equipment. The auxiliary equipment includes, but is not limited to, forced and induced draft fans, cooling towers, boiler feed pumps, lubricating oil systems, plant lighting, fuel handling systems, control systems, and sump pumps.

Surplus energy output - The Facility's gross output, in kilowatt-hours, less station use, and any other use by

Seller, and transformation and transmission losses to the point of delivery into the PGandE system.

Term of agreement - The number of years this Agreement will remain in effect as provided in Article 12.

Voltage level - The voltage at which the Facility interconnects with the PGandE system, measured at the point of delivery.

A-2 CONSTRUCTION

A-2.1 Land Rights

Seller hereby grants to PGandE all necessary rights of way and easements, including adequate and continuing access rights on property of Seller, to install, operate, maintain, replace, and remove the special facilities. Seller agrees to execute such other grants, deeds, or documents as PGandE may require to enable it to record such rights of way and easements. If any part of PGandE's equipment is to be installed on property owned by other than Seller, Seller shall, at its own cost and expense, obtain from the owners thereof all necessary rights of way and easements, in a form satisfactory to PGandE, for the construction, operation, maintenance, and replacement of PGandE's equipment upon such property. If Seller is unable to obtain such rights of way and easements, Seller shall reimburse PGandE for all costs incurred by PGandE in obtaining them. PGandE shall at all times have the right of ingress to and egress from the Facility at all reasonable hours for any purposes reasonably connected with this Agreement or the exercise of any and all rights secured to PGandE by law or its tariff schedules.

A-2.2 Design, Construction, Ownership, and Maintenance

(a) Seller shall design, construct, install, own, operate, and maintain all interconnection facilities, except special facilities, to the point of interconnection with the PGandE system as required for PGandE to receive capacity and energy from the Facility. The Facility and interconnection facilities shall meet all requirements of applicable codes and all standards of prudent electrical practices and shall be maintained in a safe and prudent manner. A description of the interconnection facilities for which Seller is solely responsible is set forth in Appendix F, or if the interconnection requirements have not yet been determined at the time of the execution of this Agreement, the description of such facilities will be appended to this Agreement at the time such determination is made.

(b) Seller shall submit to PGandE the design and all specifications for the interconnection facilities (except special facilities) and, at PGandE's option, the Facility, for review and written acceptance prior to their release for construction purposes. PGandE shall notify Seller in writing of the outcome of PGandE's review of the design and specifications for Seller's interconnection facilities (and the Facility, if requested) within 30 days of the receipt of the design and all of the specifications for the interconnection facilities (and the Facility, if requested). Any flaws perceived by PGandE in the design and specifications for the interconnection facilities (and the Facility, if requested) will be described in PGandE's written notification. PGandE's review and acceptance of the design and specifications shall not be construed as confirming or endorsing the design and specifications or as warranting their safety, durability, or reliability. PGandE shall not, by reason of such review or lack of review, be responsible for strength, details of design, adequacy, or capacity of equipment built pursuant to such design and specifications, nor shall PGandE's acceptance be deemed to be an endorsement of any of such equipment. Seller shall change the interconnection facilities as may be reasonably required by PGandE to meet changing requirements of the PGandE system.

(c) In the event it is necessary for PGandE to install interconnection facilities for the purposes of this Agreement, they shall be installed as special facilities.

(d) Upon the request of Seller, PGandE shall provide a binding estimate for the installation of <u>interconnection facilities</u> by PGandE.

A-2.3 Meter Installation

(a) PGandE shall specify, provide, install, own, operate, and maintain as <u>special</u> <u>facilities</u> all metering and data processing equipment for the registration and recording of energy and other related parameters which are required for the reporting of data to PGandE and for computing the payment due Seller from PGandE.

(b) Seller shall provide, construct, install, own, and maintain at Seller's expense all that is required to accommodate the metering and data processing equipment, such as, but not limited to, metal-clad switchgear, switchboards, cubicles, metering panels, enclosures, conduits, rack structures, and equipment mounting pads.

(c) PGandE shall permit meters to be fixed on PGandE's side of the transformer. If meters are placed on PGandE's side of the transformer, service will be provided at the available primary voltage and no transformer loss adjustment will be made. If Seller chooses to have meters placed on Seller's side of the transformer, an estimated transformer loss adjustment factor of 2 percent, unless the Parties agree otherwise, will be applied.

A-3 OPERATION

A-3.1 Inspection and Approval

Seller shall not operate the Facility in parallel with PGandE's system until an authorized PGandE representative has inspected the interconnection facilities, and PGandE has given written approval to begin parallel operation. Seller shall notify PGandE of the Facility's start-up date at least 45 days prior to such date. PGandE shall inspect the interconnection facilities within 30 days of the receipt of such notice. If parallel operation is not authorized by PGandE, PGandE shall notify Seller in writing within five days after inspection of the reason authorization for parallel operation was withheld.

A-3.2 Facility Operation and Maintenance

Seller shall operate and maintain its Facility according to prudent electrical practices, applicable laws, orders, rules, and tariffs and shall provide such reactive power support as may be reasonably required by PGandE to maintain system voltage level and power factor. Seller shall operate the Facility at the power factors or voltage levels prescribed by PGandE's system dispatcher or designated representative. If Seller fails to provide reactive power support, PGandE may do so at Seller's expense.

A-3.3 Point of Delivery

Seller shall deliver the energy at the point where Seller's electrical conductors (or those of Seller's agent) contact PGandE's system as it shall exist whenever the deliveries are being made or at such other point or points as the Parties may agree in writing. The initial point of delivery of Seller's power to the PGandE system is set forth in Appendix F.

A-3.4 Operating Communications

(a) Seller shall maintain operating communications with the designated PGandE switching center. The operating communications shall include, but not be limited to, system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, levels of operating voltage or power factors and daily capacity and generation reports.

(b) Seller shall keep a daily operations log for each generating unit which shall include information on unit availability, maintenance outages, circuit breaker trip operations requiring a manual reset, and any significant events related to the operation of the Facility.

(c) If Seller makes deliveries greater than one megawatt, Seller shall measure and register on a graphic recording device power in kW and voltage in kV at a location within the Facility agreed to by both Parties.

(d) If Seller makes deliveries greater than one and up to and including ten megawatts, Seller shall report to the designated PGandE switching center, twice a day at agreed upon times for the current day's operation, the hourly readings in kW of capacity delivered and the energy in kWh delivered since the last report.

(e) If Seller makes deliveries of greater than ten megawatts, Seller shall telemeter the delivered capacity and energy information, including real power in kW, reactive power in kVAR, and energy in kWh to a switching center selected by PGandE. PGandE may also require Seller to telemeter transmission kW, kVAR, and kV data depending on the number of generators and transmission configuration. Seller shall provide and maintain the data circuits required for telemetering. When telemetering is inoperative, Seller shall report daily the capacity delivered each hour and the energy delivered each day to the designated PGandE switching center.

A-3.5 Meter Testing and Inspection

(a) All meters used to provide data for the computation of the payments due Seller from PGandE shall be sealed, and the seals shall be broken only by PGandE when the meters are to be inspected, tested, or adjusted.

(b) PGandE shall inspect and test all meters upon their installation and annually thereafter. At Seller's request and expense, PGandE shall inspect or test a meter more frequently. PGandE shall give reasonable notice to Seller of the time when any inspection or test shall take place, and Seller may have representatives present at the test or inspection. If a meter is found to be inaccurate or defective, PGandE shall adjust, repair, or replace it at its expense in order to provide accurate metering.

A-3.6 Adjustments to Meter Measurements

If a meter fails to register, or if the measurement made by a meter during a test varies by more than two percent from the measurement made by the standard meter used in the test, an adjustment shall be made correcting all measurements made by the inaccurate meter for -- (1) the actual period during which inaccurate measurements were made, if the period can be determined, or if not, (2) the period immediately preceding the test of the meter equal to one-half the time from the date of the last previous test of the meter, provided that the period covered by the correction shall not exceed six months.

A-4 PAYMENT

PGandE shall mail to Seller not later than 30 days after the end of each monthly billing period (1) a statement showing the energy and capacity delivered to PGandE during on-peak, partial-peak, and off-peak periods during the monthly billing period, (2) PGandE's computation of the amount due Seller, and (3) PGandE's check in payment of said amount. Except as provided in Section A-5, if within 30 days of receipt of the statement Seller does not make a report in writing to PGandE of an error, Seller shall be deemed to have waived any error in PGandE's statement, computation, and payment, and they shall be considered correct and complete.

A-5 ADJUSTMENTS OF PAYMENTS

(a) In the event adjustments to payments are required as a result of inaccurate meters, PGandE shall use the corrected measurements described in Section A-3.6 to recompute the amount due from PGandE to Seller for the capacity and energy delivered under this Agreement during the period of inaccuracy.

(b) The additional payment to Seller or refund to PGandE shall be made within 30 days of notification of the owing Party of the amount due.

A-6 ACCESS TO RECORDS AND PGandE DATA

Each Party, after giving reasonable written notice to the other Party, shall have the right of access to all metering and related records including operations logs of the Facility. Data filed by PGandE with the CPUC pursuant to CPUC orders governing the purchase of power from qualifying facilities shall be provided to Seller upon request; provided that Seller shall reimburse PGandE for the costs it incurs to respond to such request.

A-7 INTERRUPTION OF DELIVERIES

PGandE shall not be obligated to accept or pay for and may require Seller to interrupt or reduce deliveries of energy (1) when necessary in order to construct, install, maintain, repair, replace, remove, investigate, or inspect any of its equipment or any part of its system, or (2) if it determines that interruption or reduction is necessary because of PGandE system emergencies, forced outages, force majeure, or compliance with prudent electrical practices; provided that PGandE shall not interrupt deliveries pursuant to this section in order to take advantage, or make purchases, of less expensive energy elsewhere. Whenever possible, PGandE shall give Seller reasonable notice of the possibility that interruption or reduction of deliveries may be required.

A-8 FORCE MAJEURE

(a) The term force majeure as used herein means unforeseeable causes, other than forced outages, beyond the reasonable control of and without the fault or negligence of the Party claiming force majeure including, but not limited to, acts of God, labor disputes, sudden actions of the elements, actions by federal, state, and municipal agencies, and actions of legislative, judicial, or regulatory agencies which conflict with the terms of this Agreement.

(b) If either Party because of force majeure is rendered wholly or partly unable to perform its obligations under this Agreement, that Party shall be excused from whatever performance is affected by the force majeure to the extent so affected provided that:

(1) the non-performing Party, within two weeks after the occurrence of the force majeure, gives the other Party written notice describing the particulars of the occurrence,

(2) the suspension of performance is of no greater scope and of no longer duration than is required by the force majeure,

(3) the non-performing Party uses its best efforts to remedy its inability to perform (this subsection shall not require the settlement of any strike, walkout, lockout or other labor dispute on terms which, in the sole judgment of the Party involved in the dispute, are contrary to its interest. It is understood and agreed that the settlement of strikes, walkouts, lockouts or other

labor disputes shall be at the sole discretion of the Party having the difficulty),

(4) when the non-performing Party is able to resume performance of its obligations under this Agreement, that Party shall give the other Party written notice to that effect, and

(5) capacity payments during such periods of force majeure on Seller's part shall be governed by Section E-2(c), Appendix E.

(c) In the event a Party is unable to perform due to legislative, judicial, or regulatory agency action, this Agreement shall be renegotiated to comply with the legal change which caused the non-performance.

A-9 INDEMNITY

Each Party as indemnitor shall save harmless and indemnify the other Party and the directors, officers, and employees of such other Party against and from any and all loss and liability for injuries to persons including employees of either Party, and property damages including property of either Party resulting from or arising out of (1) the engineering, design, construction, maintenance, or operation of, or (2) the making of replacements, additions, or betterments to, the indemnitor's facilities. This indemnity and save harmless provision shall apply notwithstanding the active or passive negligence of the indemnitee. Neither Party shall be indemnified hereunder for its liability or loss resulting from its sole negligence or willful misconduct. The indemnitor shall, on the other Party's request, defend any suit asserting a claim covered by this indemnity and shall pay all costs, including reasonable attorney fees, that may be incurred by the other Party in enforcing this indemnity.

A-10 LIABILITY; DEDICATION

(a) Nothing in this Agreement shall create any duty to, any standard of care with reference to, or any liability to any person not a Party to it. Neither Party shall be liable to the other Party for consequential damages.

(b) Each Party shall be responsible for protecting its facilities from possible damage by reason of electrical disturbances or faults caused by the operation, faulty operation, or nonoperation of the other Party's facilities, and such other Party shall not be liable for any such damages so caused.

(c) No undertaking by one Party to the other under any provision of this Agreement shall constitute the dedication of that Party's system or any portion thereof to the other Party or to the public or affect the status of PGandE as an independent public utility corporation or Seller as an independent individual or entity and not a public utility.

A-11 SEVERAL OBLIGATIONS

Except where specifically stated in this Agreement to be otherwise, the duties, obligations, and liabilities of the Parties are intended to be several and not joint or collective. Nothing contained in this Agreement shall ever be construed to create an association, trust, partnership, or joint venture or impose a trust or partnership duty, obligation, or liability on or with regard to either Party. Each Party shall be liable individually and severally for its own obligations under this Agreement.

A-12 NON-WAIVER

Failure to enforce any right or obligation by either Party with respect to any matter arising in connection with this Agreement shall not constitute a waiver as to that matter or any other matter.

A-13 ASSIGNMENT

Neither Party shall voluntarily assign its rights nor delegate its duties under this Agreement, or any part of such rights or duties, without the written consent of the other Party, except in connection with the sale or merger of a substantial portion of its properties. Any such assignment or delegation made without such written consent shall be null and void. Consent for assignment shall not be withheld unreasonably. Such assignment shall include, unless otherwise specified therein, all of Seller's rights to any refunds which might become due under this Agreement.

A-14 CAPTIONS

All indexes, titles, subject headings, section titles, and similar items are provided for the purpose of reference and convenience and are not intended to affect the meaning of the contents or scope of this Agreement.

A-15 CHOICE OF LAWS

This Agreement shall be interpreted in accordance with the laws of the State of California, excluding any choice of law rules which may direct the application of the laws of another jurisdiction.

A-16 GOVERNMENTAL JURISDICTION AND AUTHORIZATION

Seller shall obtain any governmental authorizations and permits required for the construction and operation of the Facility. Seller shall reimburse PGandE for any and all losses, damages, claims, penalties, or liability it incurs as a result of Seller's failure to obtain or maintain such authorizations and permits.

A-17 NOTICES

Any notice, demand, or request required or permitted to be given by either Party to the other, and any instrument required or permitted to be tendered or delivered by either Party to the other, shall be in writing (except as provided in Section E-3) and so given, tendered, or delivered, as the case may be, by depositing the same in any United States Post Office with postage prepaid for transmission by certified mail, return receipt requested, addressed to the Party, or personally delivered to the Party, at the address in Article 9 of this Agreement. Changes in such designation may be made by notice similarly given.

A-18 INSURANCE

A-18.1 General Liability Coverage

(a) Seller shall maintain during the performance hereof, General Liability Insurance[1] of not less than $1,000,000 if the Facility is over 100 kW, $500,000 if the Facility is over 20 kW to 100 kW, and $100,000 if the Facility is 20 kW or below of combined single limit or equivalent for bodily injury, personal injury, and property damage as the result of any one occurrence.

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1 Governmental agencies which have an established record of self-insurance may provide the required coverage through self-insurance.

(b) General Liability Insurance shall include coverage for Premises-Operations, Owners and Contractors Protective, Products/Completed Operations Hazard, Explosion, Collapse, Underground, Contractual Liability, and Broad Form Property Damage including Completed Operations.

(c) Such insurance, by endorsement to the policy(ies), shall include PGandE as an additional insured if the Facility is over 100 kW insofar as work performed by Seller for PGandE is concerned, shall contain a severability of interest clause, shall provide that PGandE shall not by reason of its inclusion as an additional insured incur liability to the insurance carrier for payment of premium for such insurance, and shall provide for 30-days' written notice to PGandE prior to cancellation, termination, alteration, or material change of such insurance.

A-18.2 Additional Insurance Provisions

(a) Evidence of coverage described above in Section A-18.1 shall state that coverage provided is primary and is not excess to or contributing with any insurance or self-insurance maintained by PGandE.

(b) PGandE shall have the right to inspect or obtain a copy of the original policy(ies) of insurance.

(c) Seller shall furnish the required certificates[1] and endorsements to PGandE prior to commencing operation.

(d) All insurance certificates[1], endorsements, cancellations, terminations, alterations, and material changes of such insurance shall be issued and submitted to the following:

PACIFIC GAS AND ELECTRIC COMPANY
Attention: Manager - Insurance Department
77 Beale Street, Room E280
San Francisco, CA 94106

1 A governmental agency qualifying to maintain self-insurance should provide a statement of self-insurance.

APPENDIX B

ENERGY PAYMENT OPTIONS

Energy Payment Option 1 - Forecasted Energy Prices

Pursuant to Article 4, the energy payment calculation for Seller's energy deliveries during each year of the <u>fixed price period</u> shall include the appropriate prices for such year in Table B-1, multiplied by the percentage Seller has specified in Article 4. If Seller has selected Curtailment Option B in Article 7, the forecasted off-peak hours' energy prices listed in Table B-1 shall be adjusted upward by 7.7% for Period A and 9.6% for Period B.

TABLE B-1

Forecasted Energy Price Schedule

Year of Energy Deliveries	Forecasted Energy Prices*, ¢/kWh						Weighted Annual Average
	Period A			Period B			
	On-Peak	Partial-Peak	Off-Peak	On-Peak	Partial-Peak	Off-Peak	
1983	5.36	5.12	4.94	5.44	5.31	5.19	5.18
1984	5.66	5.40	5.22	5.74	5.61	5.48	5.47
1985	5.75	5.48	5.30	5.83	5.69	5.56	5.55
1986	5.99	5.72	5.52	6.08	5.94	5.80	5.79
1987	6.38	6.08	5.88	6.47	6.32	6.17	6.16
1988	6.94	6.62	6.39	7.03	6.87	6.71	6.70
1989	7.60	7.25	7.00	7.70	7.53	7.35	7.34
1990	8.12	7.74	7.48	8.23	8.04	7.85	7.84
1991	8.64	8.24	7.96	8.75	8.56	8.35	8.34
1992	9.33	8.90	8.60	9.46	9.24	9.02	9.01
1993	10.10	9.63	9.30	10.23	10.00	9.76	9.75
1994	10.91	10.41	10.06	11.06	10.81	10.55	10.54
1995	11.79	11.25	10.87	11.96	11.68	11.40	11.39
1996	12.67	12.09	11.68	12.85	12.56	12.25	12.24
1997	13.61	12.98	12.54	13.79	13.48	13.15	13.14

* These prices are differentiated by the time periods as defined in Table B-4.

Energy Payment Option 2 - Levelized Energy Prices

Pursuant to Article 4, the energy payment calculation for Seller's energy deliveries during the fixed price period shall include the appropriate prices set forth in Table B-2 for the year in which energy deliveries begin and term of agreement, multiplied by the percentage Seller has specified in Article 4. If Seller has selected Curtailment Option B in Article 7, the levelized off-peak hours' energy prices listed in Table B-2 shall be adjusted upward by 7.7% for Period A and 9.6% for Period B. The discount specified in (c)(vi) below, if applicable, will be applied to the energy payments during the fixed price period.

During the fixed price period, Seller shall be subject to the following conditions and terms:

(a) Minimum Damages

The Parties agree that the levelized energy prices which PGandE pays Seller for the energy which Seller delivers to PGandE is based on the agreed value to PGandE of Seller's energy deliveries during the entire fixed price period. In the event PGandE does not receive such full performance by reason of a termination, Seller shall pay PGandE an amount based on the difference between the net present values, at the time of termination, of the payments Seller would receive at the forecasted energy prices in Table B-1 and the payments Seller would receive at the levelized energy prices, for the remaining years of the fixed price period. This amount shall be calculated by assuming that Seller continued to generate for the remaining years of the fixed price period at a level equal to the average annual energy generation during the period of performance, and by applying the weighted annual average levelized price applicable to Seller's Facility and the weighted annual average forecasted energy prices in Table B-1 for the remaining years of the fixed price period. The following formula shall be used to make this calculation:

$$P = \sum_{n=1}^{Y} \frac{(F_n)(A)(W)}{(1.15)^n} - \sum_{n=1}^{Y} \frac{(L)(A)(W)}{(1.15)^n}$$

where:

- P = amount due PGandE.
- Y = number of years remaining in the fixed price period.
- F_n = weighted annual average forecasted energy price in the n^{th} year after the breach, failure to perform, or expiration of security, as shown in Table B-1 for the corresponding calendar year.

L = weighted annual average levelized energy price applicable to Seller's Facility.

A = average annual energy generation by Seller during the period of performance.

n = summation index; refers to the n^{th} year following termination.

W = percent of Seller's energy payments based on the levelized energy prices, as specified in Article 4.

(b) Performance Requirements

Seller shall operate and maintain the Facility in accordance with prudent electrical practices in order to maximize the likelihood that the Facility's output as delivered to PGandE during the part of the fixed price period when the levelized price is below the forecasted price ("last part") shall equal or exceed 70% of the Facility's output during the part of the fixed price period when the levelized price is above the forecasted price ("first part"). In the event that the Facility's output during any year or series of years in the last part of the fixed price period is less than 70% of the average annual production during the first part of the fixed price period, PGandE may, at its discretion (taking into consideration events occurring during such year or series of years such as curtailment by PGandE, Seller's choice not to operate during adjusted price periods, or scheduled maintenance including major overhauls, and the probability that Seller's future performance will be adequate), either request payment from Seller or immediately draw on the security posted, up to the amount equal to $P \times \frac{A-B}{A}$, where:

P and A are as defined in Section (a) above.

B = Seller's average annual energy generation during the year or series of years in which the 70% performance requirement was not met.

PGandE shall not request payment from Seller or draw on the security posted if the Facility's output during the last part of the fixed price period falls below 70% of the average annual energy generation during the first part of the fixed price period solely because of force majeure as defined in Section A-8, Appendix A or a lack of or limited availability of the primary energy resource of the Facility, if such energy resource is wind, water, or sunlight.

(c) Security

(1) As security for amounts which Seller may be obligated to pay PGandE pursuant to Sections (a) and (b) above, Seller shall provide and maintain one or more of the following in an amount as

described in Section (c)(2) below.

(i) An irrevocable bank letter of credit delivered to and in favor of PGandE with terms acceptable to PGandE.

(ii) A payment bond providing for payment to PGandE in the event of any failure to meet the performance requirements set forth in Section (b) above or breach of this Agreement by Seller. Such bond shall be issued by a surety company acceptable to PGandE and shall have terms acceptable to PGandE.

(iii) Fully paid up, noncancellable Project Failure Insurance made payable to PGandE with terms of such policy(ies) acceptable to PGandE.

(iv) A performance bond providing for payment to PGandE in the event of any failure to meet the performance requirements set forth in Section (b) above or breach of this Agreement by Seller. Such bond shall be issued by a surety company acceptable to PGandE and shall have terms acceptable to PGandE.

(v) A corporate guarantee of payment to PGandE which PGandE deems, in its sole discretion, to provide at least the same quality of security as subsections (i) through (iv) above.

(vi) Other forms of security which PGandE does not deem to be equivalent security to those listed in subsections (i) through (v) above, and which PGandE, in its sole discretion, deems adequate. Such other forms of security may include, for example, a corporate guarantee or a lien, mortgage or deed of trust on the Facility or land upon which it is located. A 1.5% discount will be applied against the levelized energy price portion of PGandE's payments to Seller during the fixed price period if this type of security is provided.

(2) (i) Commencing 90 days prior to the scheduled operation date and continuing until December 1 of the following calendar year, security as described in Section (c)(1) above shall be in place in an amount calculated in accordance with the formula set forth in Section (a) above, assuming Seller delivered energy through the end of the following calendar year and then terminated this Agreement. For purposes of determining the

required amount of security, it shall be assumed that Seller's deliveries through the end of the following calendar year would equal R x C x H, where:

R = nameplate rating, in kW, of the Facility.

C = estimated capacity factor of the Facility, which shall be established by mutual agreement of the Parties at the time of execution of this Agreement.

H = number of hours from the scheduled operation date through the end of the following calendar year.

(ii) In the second calendar year of operation and each year thereafter until the end of the fixed price period, from December 1 through December 1 of the following year, security shall be in place in an amount calculated by the formula set forth in Section (a) above assuming Seller continued to deliver energy in each month through the end of the following calendar year, at a level equal to the average monthly energy deliveries to date, and then terminated this Agreement.

(3) Security must be maintained throughout the fixed price period as specified above. Any security with a fixed expiration date must be renewed by Seller prior to that date. If such security is not renewed at least 30 days prior to its expiration, PGandE may, at its discretion, either request payment from Seller or immediately draw on the security posted, up to the amount calculated in accordance with the formula set forth in Section (a) above.

(4) If, at any time during the fixed price period, PGandE believes Seller is in material breach of this Agreement, PGandE shall so notify Seller in writing and Seller must remedy such breach within a reasonable period of time. If Seller does not so remedy, PGandE may, at its discretion, either request payment from Seller or immediately draw upon the security posted, up to the amount calculated in accordance with the formula set forth in Section (a) above, provided that if during Seller's period to remedy, Seller disputes PGandE's conclusion that Seller is in material breach, and PGandE elects to draw upon the security, the amount drawn upon by PGandE shall be deposited in an interest earning escrow account and held in such account until the dispute is resolved in accordance with Section (c)(5) below.

(5) Upon the written request of either Party, any controversy or dispute between the Parties concerning Section (c)(4) above shall be subject to arbitration in accordance with the provisions of the California Arbitration Act, Sections 1280-1294.2 of the California Code of Civil Procedure except as provided otherwise in this section. Either Party may demand arbitration by first giving written notice of the existence of a dispute and then within 30 days of such notice giving a second written notice of the demand for arbitration.

Within ten days after receipt of the demand for arbitration, each Party shall appoint one person, who shall not be an employee of either Party, to hear and determine the dispute. After both arbitrators have been appointed, they shall within five (5) days select a third arbitrator.

The arbitration hearing shall take place in San Francisco, California, within 30 days of the appointment of the arbitrators, at such time and place as they select. The arbitrators shall give written notice of the time of the hearing to both Parties at least ten days prior to the hearing. The arbitrators shall not be authorized to alter, extend, or modify the terms of this Agreement. At the hearing, each Party shall submit a proposed written decision, and any relevant evidence may be presented. The decision of the arbitrators must consist of selection of one of the two proposed decisions, in its entirety.

The decision of any two arbitrators shall be binding and conclusive as to disputes relating to Section (c)(4) only. Upon determining the matter, the arbitrators shall promptly execute and acknowledge their decision and deliver a copy to each Party. A judgment confirming the award may be rendered by any superior court having jurisdiction. Each Party shall bear its own arbitration costs and expenses, including the cost of the arbitrator it selected, and the costs and expenses of the third arbitrator shall be divided equally between both Parties, except as provided otherwise elsewhere in this Agreement.

Pending resolution of any controversy or dispute hereunder, performance by each Party shall continue so as to maintain the status quo prior to notice of such controversy or dispute. Resolution of the controversy or dispute shall include payment of any interest accrued in the escrow account.

TABLE B-2
Levelized Energy Price Schedule

For a term of agreement of 15-16 years:

Year in Which Energy Deliveries Begin	Levelized Energy Prices*, ¢/kWh Period A On-Peak	Period A Partial-Peak	Period A Off-Peak	Period B On-Peak	Period B Partial-Peak	Period B Off-Peak	Weighted Annual Average
1983	5.76	5.50	5.31	5.85	5.71	5.58	5.57
1984	6.06	5.78	5.58	6.14	6.00	5.86	5.85
1985	6.41	6.11	5.91	6.50	6.35	6.20	6.19
1986	6.85	6.54	6.32	6.95	6.79	6.63	6.62
1987	7.37	7.03	6.79	7.47	7.30	7.13	7.12
1988	7.96	7.60	7.34	8.07	7.89	7.70	7.69

For a term of agreement of 17-19 years:

Year in Which Energy Deliveries Begin	Levelized Energy Prices*, ¢/kWh Period A On-Peak	Period A Partial-Peak	Period A Off-Peak	Period B On-Peak	Period B Partial-Peak	Period B Off-Peak	Weighted Annual Average
1983	5.90	5.63	5.44	5.98	5.84	5.71	5.70
1984	6.23	5.95	5.74	6.32	6.18	6.03	6.02
1985	6.60	6.30	6.08	6.69	6.53	6.38	6.37
1986	7.06	6.73	6.51	7.16	7.00	6.83	6.82
1987	7.60	7.25	7.00	7.70	7.53	7.35	7.34
1988	8.21	7.83	7.57	8.32	8.13	7.94	7.93

For a term of agreement of 20-30 years:

Year in Which Energy Deliveries Begin	Levelized Energy Prices*, ¢/kWh Period A On-Peak	Period A Partial-Peak	Period A Off-Peak	Period B On-Peak	Period B Partial-Peak	Period B Off-Peak	Weighted Annual Average
1983	6.49	6.20	5.98	6.58	6.43	6.28	6.27
1984	6.90	6.58	6.35	6.99	6.83	6.67	6.66
1985	7.34	7.00	6.76	7.44	7.27	7.10	7.09
1986	7.88	7.51	7.26	7.99	7.81	7.62	7.61
1987	8.49	8.10	7.82	8.61	8.41	8.21	8.20
1988	9.16	8.74	8.44	9.29	9.08	8.86	8.85

* These prices are differentiated by the time periods as defined in Table B-4.

Energy Payment Option 3 - Incremental Energy Rate

During the period specified in Article 4, annual adjustments to Seller's energy payments shall be made as described below.

At the end of each calendar year, the Derived Incremental Energy Rate (with units expressed in Btu/kWh) will be calculated as follows:

$$\text{Derived Incremental Energy Rate (DIER)} = \frac{B}{A \times C}$$

where:

A = the total kWh delivered by Seller during the calendar year, excluding any kWh delivered when Seller was asked to curtail deliveries under Curtailment Option A <u>or</u> when Seller was asked to take adjusted prices under Curtailment Option B.

B = the total dollars paid for the energy described for A above.

C = the weighted average price paid during the calendar year by PGandE's Electric Department for oil and natural gas for PGandE's fossil steam plants, expressed in \$/Btu on a gas Btu basis.

If the DIER is between the upper and lower Incremental Energy Rate Bounds specified for that year in Table B-3 for the curtailment option selected by Seller, no additional payment is due either Party.

If the DIER is below the lower Incremental Energy Rate Bound, PGandE shall pay Seller an amount calculated as follows:

$$P_S = \left(\begin{array}{l}\text{Lower Incremental}\\ \text{Energy Rate Bound}\end{array} - \text{DIER}\right)(A)(C)$$

where:

P_S = additional payment due Seller.

DIER = Derived Incremental Energy Rate.

PGandE shall add this payment to the first payment made to Seller following the calculation.

If the DIER is above the upper Incremental Energy Rate Bound, Seller shall pay PGandE an amount calculated as follows:

$$P_B = \left(\text{DIER} - \begin{array}{l}\text{Upper Incremental}\\ \text{Energy Rate Bound}\end{array}\right)(A)(C)$$

where:

P_B = amount due PGandE.

DIER = Derived Incremental Energy Rate.

This amount shall be deducted from the first payment made to Seller following the calculation. If there is any remaining amount due PGandE, PGandE may, at its option, invoice Seller with such payment due within 30 days or deduct this amount from future payments due Seller.

TABLE B-3

Forecasted Incremental Energy Rates and
Incremental Energy Rate Bounds

Curtailment Option A:

Year	Forecasted Incremental Energy Rates, Btu/kWh (a)	Incremental Energy Rate Band Width from Article 4, Btu/kWh (b)	Upper Incremental Energy Rate Bound, Btu/kWh [column (a) plus column (b)]	Lower Incremental Energy Rate Bound, Btu/kWh [column (a) minus column(b)]
1984	9,000	________	________	________
1985	9,050	________	________	________
1986	8,840	________	________	________
1987	8,850	________	________	________
1988	8,960	________	________	________
1989	8,820	________	________	________
1990	8,540	________	________	________
1991	8,540	________	________	________
1992	8,540	________	________	________
1993	8,540	________	________	________
1994	8,540	________	________	________
1995	8,540	________	________	________
1996	8,540	________	________	________
1997	8,540	________	________	________
1998	8,540	________	________	________

TABLE B-3 (continued)

Curtailment Option B:

Year	Forecasted Incremental Energy Rates, Btu/kWh (a)	Incremental Energy Rate Band Width from Article 4, Btu/kWh (b)	Upper Incremental Energy Rate Bound, Btu/kWh [column (a) plus column (b)]	Lower Incremental Energy Rate Bound, Btu/kWh [column (a) minus column(b)]
1984	9,440	________	________	________
1985	9,500	________	________	________
1986	9,280	________	________	________
1987	9,290	________	________	________
1988	9,400	________	________	________
1989	9,270	________	________	________
1990	8,970	________	________	________
1991	8,970	________	________	________
1992	8,970	________	________	________
1993	8,970	________	________	________
1994	8,970	________	________	________
1995	8,970	________	________	________
1996	8,970	________	________	________
1997	8,970	________	________	________
1998	8,970	________	________	________

TABLE B-4[1]
Time Periods

	Monday through Friday[2]	Saturdays[2]	Sundays and Holidays
Seasonal Period A (May 1 through September 30)			
On-Peak	12:30 p.m. to 6:30 p.m.		
Partial-Peak	8:30 a.m. to 12:30 p.m. 6:30 p.m. to 10:30 p.m.	8:30 a.m. to 10:30 p.m.	
Off-Peak	10:30 p.m. to 8:30 a.m.	10:30 p.m. to 8:30 a.m.	All Day
Seasonal Period B (October 1 through April 30)			
On-Peak	4:30 p.m. to 8:30 p.m.		
Partial-Peak	8:30 p.m. to 10:30 p.m. 8:30 a.m. to 4:30 p.m.	8:30 a.m. to 10:30 p.m.	
Off-Peak	10:30 p.m. to 8:30 a.m.	10:30 p.m. to 8:30 a.m.	All Day

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1 This table is subject to change to accord with the on-peak, partial-peak, and off-peak periods as defined in PGandE's own rate schedules for the sale of electricity to its large industrial customers.

2 Except the following holidays: New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day, as specified in Public Law 90-363 (5 U.S.C.A. Section 6103(a)).

TABLE B-5

ENERGY PRICES

Energy Prices Effective May 1 - July 31, 1984

The energy purchase price calculations which will apply to energy deliveries determined from meter readings taken during May, June and July 1984 are as follows:

Time Period	(a) Incremental Energy Rate[1] (Btu/kWh)	(b) Cost of Energy[2] ($/10^6 Btu)	(c) Revenue Requirement for Cash Working Capital[3] ($/kWh)	(d) Energy Purchase Price[4] (d) = [(a) x (b)] + (c) ($/kWh)
May 1 - July 31 (Period A)				
Time of Delivery Basis:				
On-Peak	13,674	5.4152	0.00041	0.07446
Partial-Peak	12,665	5.4152	0.00038	0.06896
Off-Peak	10,119	5.4152	0.00033	0.05513
Seasonal Average (Period A)	11,538	5.4152	0.00036	0.06284

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1 Incremental energy rates (Btu/kWh) for Seasonal Period A are derived from the marginal energy costs (including variable operating and maintenance expense) adopted by the CPUC in Decision No. 83-12-068 (page 339). They are based upon natural gas as the incremental fuel and weighted average hydroelectric power conditions.

2 Cost of natural gas under PGandE Gas Schedule No. G-55 effective April 18, 1984 per Advice No. 1261-G.

3 Revenue Requirement for Cash Working Capital as prescribed by the CPUC in Decision No. 83-12-068.

4 Energy Purchase Price = (Incremental Energy Rate x Cost of Energy) + Revenue Requirement for Cash Working Capital. The energy purchase price excludes the applicable energy line loss adjustment factors. However, as ordered by Ordering Paragraph No. 12(j) of CPUC Decision No. 82-12-120, this figure is currently 1.0 for transmission and primary distribution loss adjustments and is equal to marginal cost line loss adjustment factors for the secondary distribution voltage level. These factors may be changed by the CPUC in the future. The currently applicable energy loss adjustment factors are shown in Table C.

TABLE B-6

Energy Loss Adjustment Factors[1]

	Transmission	Primary Distribution	Secondary Distribution
Seasonal Period A (May 1 through September 30)			
On-Peak	1.0	1.0	1.0148
Partial-Peak	1.0	1.0	1.0131
Off-Peak	1.0	1.0	1.0093
Seasonal Period B (October 1 through April 30)			
On-Peak	1.0	1.0	1.0128
Partial-Peak	1.0	1.0	1.0119
Off-Peak	1.0	1.0	1.0087

1 The applicable energy loss adjustment factors may be revised pursuant to orders of the CPUC.

APPENDIX C

CURTAILMENT OPTIONS

Seller has two options regarding curtailment of energy deliveries and Seller has made its selection in Article 7. The two options are as follows:

CURTAILMENT OPTION A - HYDRO SPILL AND NEGATIVE AVOIDED COST

(a) In anticipation of a period of hydro spill conditions, as defined by the CPUC, PGandE may notify Seller that any purchases of energy from Seller during such period shall be at hydro savings prices quoted by PGandE. If Seller delivers energy to PGandE during any such period, Seller shall be paid hydro savings prices for those deliveries in lieu of prices which would otherwise be applicable. The hydro savings prices shall be calculated by PGandE using the following formula:

$$\frac{AQF - S}{AQF} \times PP \qquad (\geq 0)$$

where:

AQF = Energy, in kWh, projected to be available during hydro spill conditions from all qualifying facilities under agreements containing hydro savings price provisions.

S = Potential energy, in kWh, from PGandE hydro facilities which will be spilled if all AQF is delivered to PGandE.

PP = Prices published by PGandE for purchases during other than hydro spill conditions.

PGandE shall give Seller notice of general periods when hydro spill conditions are anticipated, and shall give Seller as much advance notice as practical of any specific hydro spill period and the hydro savings price which will be applicable during such period.

(b) PGandE shall not be obligated to accept or pay for and may require Seller with a Facility with a nameplate rating of one megawatt or greater to interrupt or reduce deliveries of energy during periods when PGandE would incur negative avoided costs (as defined by the CPUC) due to continued acceptance of energy deliveries under this Agreement. Whenever possible, PGandE shall give Seller reasonable notice of the possibility that interruption or reduction of deliveries may be required.

(c) Before interrupting or reducing deliveries under subsection (b), above, and before invoking hydro savings prices under subsection (a), above, PGandE shall take reasonable steps to make economy sales of the surplus energy giving rise to the condition. If such economy sales are made, while the surplus energy condition exists Seller shall be paid at the economy sales price obtained by PGandE in lieu of the otherwise applicable prices.

(d) If Seller is selling net energy output to PGandE and simultaneously purchasing its electrical needs from PGandE and Seller elects not to sell energy to PGandE at the hydro savings price pursuant to subsection (a) or when PGandE curtails deliveries of energy pursuant to subsection (b), Seller shall not use such energy to meet its electrical needs but shall continue to purchase all its electrical needs from PGandE. If Seller is selling surplus energy output to PGandE, subsections (a) or (b) shall only apply to the surplus energy output being delivered to PGandE, and Seller can continue to internally use that generation it has retained for its own use.

CURTAILMENT OPTION B - ADJUSTED PRICE PERIOD

(a) In each calendar year, the price which PGandE is obligated to pay Seller for energy deliveries during 1,000 off-peak hours (as defined in Table B-4, Appendix B) may be adjusted to a price equal to, but not in excess of, PGandE's available alternative source. This adjusted price shall be effective under any of the following conditions:

(i) when PGandE's energy source at the margin is not a PGandE oil- or gas-fueled plant, and PGandE can replace Seller's energy with energy from this source at a cost less than the price paid to Seller;

(ii) when PGandE would incur negative avoided costs (as defined by the <u>CPUC</u>) due to continued acceptance of energy deliveries under this Agreement; or

(iii) when PGandE is experiencing minimum system operations.

During any of the conditions described above the adjusted price may be zero.

(b) Whenever possible, PGandE shall give Seller reasonable notice of any price adjustment for energy deliveries and its probable duration.

(c) If Seller is selling <u>net energy output</u> to PGandE and simultaneously purchasing its electrical needs from PGandE and Seller elects not to sell energy to PGandE at the adjusted price, Seller shall not use such energy to meet its electrical needs but shall continue to purchase all its electrical needs from PGandE.

(d) After Seller receives notice of the probable duration of the period during which the adjusted price will be paid, Seller may elect to perform maintenance during such period and so inform the PGandE employee in charge at the <u>designated</u> <u>PGandE</u> <u>switching</u> <u>center</u> prior to the time when the adjusted price period is expected to begin. If Seller makes such election, the number of off-peak hours of probable duration quoted in PGandE's notice to Seller shall be applied to the 1,000-hour calendar year limitation set forth in this section. After an election to do maintenance, if Seller makes any deliveries of energy during the quoted probable duration period, Seller shall be paid the adjusted price quoted in its notice from PGandE without regard to any subsequent changes on the PGandE system which may alter the adjusted price or shorten the actual duration of the condition.

APPENDIX D

AS-DELIVERED CAPACITY

D-1 AS-DELIVERED CAPACITY PAYMENT OPTIONS

Seller has two options for as-delivered capacity payments and Seller has made its selection in Article 5. The two options are as follows:

AS-DELIVERED CAPACITY PAYMENT OPTION 1

PGandE shall pay Seller for as-delivered capacity at prices authorized from time to time by the CPUC. The as-delivered capacity prices in effect on the date of execution are calculated as shown in Exhibit D-1.

AS-DELIVERED CAPACITY PAYMENT OPTION 2

During the fixed price period, the as-delivered capacity prices will be calculated in accordance with Exhibit D-1 and the forecasted shortage costs in Table D-2.

For the remaining years of the term of agreement, PGandE shall pay Seller for as-delivered capacity at the higher of:

(i) prices authorized from time to time by the CPUC;

(ii) the as-delivered capacity prices that were paid Seller in the last year of the fixed price period; or

(iii) the as-delivered capacity prices in effect in the first year following the end of the fixed price period, provided that the annualized shortage cost from which these prices are derived does not exceed the annualized value of a gas turbine.

D-2 AS-DELIVERED CAPACITY IN EXCESS OF FIRM CAPACITY

The amount of capacity delivered in excess of firm capacity will be considered as-delivered capacity. This as-delivered capacity is based on the total kilowatt-hours delivered each month during all on-peak, partial-peak and off-peak hours excluding any energy associated with generation levels equal to or less than the firm capacity.

Seller has the two options listed in Section D-1 for payment for such as-delivered capacity. Seller has made its selection in Article 5.

EXHIBIT D-1

The as-delivered capacity price (in cents per kW-hr) for power delivered by the Facility is the product of three factors:

(a) The shortage cost in each year the Facility is operating. Currently, this shortage cost is $156 per kW-year.

(b) A capacity loss adjustment factor which provides for the effect of the deliveries on PGandE's transmission and distribution losses based on the Seller's interconnection voltage level. The applicable capacity loss adjustment factors for non-remote[1] Facilities are presented in Table D-1(a). Capacity loss adjustment factors for remote Facilities shall be calculated individually.

(c) An allocation factor which accounts for the different values of as-delivered capacity in different time periods and converts dollars per kW-year to cents per kWh. The current allocation factors are presented in Table D-1(b). The time periods to which they apply are shown in Table B-4, Appendix B. The allocation factors are subject to change from time to time.

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[1] As defined by the CPUC.

TABLE D-1(a)

Capacity Loss Adjustment Factors for Non-Remote[1] Facilities

Voltage Level	Loss Adjustment Factor
Transmission	.989
Primary Distribution	.991
Secondary Distribution	.991

If the Facility is remote, the capacity loss adjustment factor is ______________[2].

TABLE D-1(b)

Allocation Factors for As-Delivered Capacity[3]

	On-Peak (¢-yr/$-hr)	Partial-Peak (¢-yr/$-hr)	Off-Peak (¢-yr/$-hr)
Seasonal Period A	.10835	.02055	.00002
Seasonal Period B	.00896	.00109	.00001

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1 As defined by the CPUC. The capacity loss adjustment factors for remote Facilities are determined individually.

2 Determined individually.

3 The units for the allocation factor, ¢-yr/$-hr, are derived from the conversion of $/kW-yr into ¢/kWh as follows:

$$\frac{¢/\text{kWh}}{\$/\text{kW-yr}} = \frac{¢/\text{kW-hr}}{\$/\text{kW-yr}} = \frac{¢\text{-yr}}{\$\text{-hr}}$$

The allocation factors were prescribed by the CPUC in Decision No. 83-12-068 and are subject to change from time to time.

TABLE D-2

Forecasted Shortage Cost Schedule

Year	Forecast Shortage Cost, $/kW-Yr
1983	70
1984	76
1985	81
1986	88
1987	95
1988	102
1989	110
1990	118
1991	126
1992	135
1993	144
1994	154
1995	164
1996	176
1997	188

APPENDIX E

FIRM CAPACITY

CONTENTS

APPENDIX E

FIRM CAPACITY

E-1 GENERAL

This Appendix E establishes conditions and prices under which PGandE shall pay for firm capacity.

PGandE's obligation to pay for firm capacity shall begin on the firm capacity availability date. The firm capacity price shall be subject to adjustment as provided for in this Appendix E.

The firm capacity prices in Table E-2 are applicable for deliveries of firm capacity beginning after December 30, 1982.

E-2 PERFORMANCE REQUIREMENTS

(a) To receive full capacity payments, the firm capacity shall be delivered for all of the on-peak hours[1] in the peak months on the PGandE system, which are presently the months of June, July, and August, subject to a 20 percent allowance for forced outages in any month. Compliance with this provision shall be based on the Facility's total on-peak deliveries for each of the peak

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[1] On-peak, partial-peak, and off-peak hours are defined in Table B-4, Appendix B.

months and shall exclude any energy associated with generation levels greater than the firm capacity.

(b) If Seller is prevented from meeting the performance requirements because of a forced outage on the PGandE system, a PGandE curtailment of Seller's deliveries, or a condition set forth in Section A-7, Appendix A, PGandE shall continue capacity payments. Firm capacity payments will be calculated in the same manner used for scheduled maintenance outages.

(c) If Seller is prevented from meeting the performance requirements because of force majeure, PGandE shall continue capacity payments for ninety days from the occurrence of the force majeure. Thereafter, Seller shall be deemed to have failed to have met the performance requirements. Firm capacity payments will be calculated in the same manner used for scheduled maintenance outages.

(d) If Seller is prevented from meeting the performance requirements because of exteme dry year conditions, PGandE shall continue capacity payments. Extreme dry year conditions are drier than those used to establish firm capacity pursuant to Section E-8. Seller shall warrant to PGandE that the Facility is a hydroelectric facility and that such conditions are the sole cause of Seller's inability to meet its firm capacity obligations.

(e) If Seller is prevented from meeting the performance requirements for reasons other than those described above in Sections E-2(b), (c), or (d):

(1) Seller shall receive the reduced <u>firm capacity</u> payments as provided in Section E-5 for a probationary period not to exceed 15 months, or as otherwise agreed to by the Parties.

(2) If, at the end of the probationary period Seller has not demonstrated that the <u>Facility</u> can meet the performance requirements, PGandE may derate the <u>firm</u> <u>capacity</u> pursuant to Section E-4(b).

E-3 SCHEDULED MAINTENANCE

Outage periods for scheduled maintenance shall not exceed 840 hours (35 days) in any 12-month period. This allowance may be used in increments of an hour or longer on a consecutive or nonconsecutive basis. Seller may accumulate unused maintenance hours from one 12-month period to another up to a maximum of 1,080 hours (45 days). This accrued time must be used consecutively and only for major overhauls. Seller shall provide PGandE with the following advance notices: 24 hours for scheduled outages less than one day, one week for a scheduled outage of one day or more (except for major overhauls), and six months for a major overhaul. Seller shall not schedule major overhauls during the peak months (presently June, July and August). Seller shall make reasonable efforts to schedule or reschedule routine maintenance outside the peak months, and in no event shall outages for scheduled maintenance exceed 30 peak hours during the peak months. Seller shall confirm in writing to PGandE pursuant to Article 9, within 24 hours of the original notice, all notices Seller gives personally or by telephone for scheduled maintenance.

If Seller has selected Curtailment Option B, off-peak hours of maintenance performed pursuant to Section (d) of Curtailment Option B, Appendix C shall not be deducted from Seller's scheduled maintenance allowances set forth above.

E-4 ADJUSTMENTS TO FIRM CAPACITY

(a) Seller may increase the <u>firm capacity</u> with the approval of PGandE and receive payment for the additional capacity thereafter in accordance with the applicable capacity purchase price published by PGandE at the time the increase is first delivered to PGandE.

(b) Seller may reduce the <u>firm capacity</u> at any time prior to the <u>firm capacity availability date</u> by giving written notice thereof to PGandE. PGandE may derate the <u>firm capacity</u> in accordance with Section E-2(e) as a result of appropriate data showing Seller has failed to meet the performance requirements of Section E-2.

E-5 FIRM CAPACITY PAYMENTS

The method for calculation of firm capacity payments is shown below. As used below in this section, month refers to a calendar month.

The monthly payment for firm capacity will be the product of the Period Price Factor (PPF), the Monthly Delivered Capacity (MDC), the appropriate capacity loss adjustment factor from Table E-1 based on the Facility's interconnection voltage, and the appropriate performance bonus factor, if any, from Table E-3, plus any allowable payment for outages due to scheduled maintenance. The firm capacity price shall be applied to meter readings taken during the separate times and periods as illustrated in Table B-4, Appendix B.

The PPF is determined by multiplying the firm capacity price by the following Allocation Factors[1]:

	Allocation Factor	x	Firm Capacity Price	=	PPF ($/kW-month)
Seasonal Period A	.18540		$150		$27.810
Seasonal Period B	.01043		$150		$1.564

[1] These allocation factors were prescribed by the CPUC in Decision No. 83-12-068. All allocation factors are subject to change by PGandE based on PGandE's marginal capacity cost allocation, as determined in general rate case proceedings before the CPUC. Seasonal Periods A and B are defined in Table B-4, Appendix B.

The MDC is determined in the following manner:

(1) Determine the Performance Factor (P), which is defined as the lesser of 1.0 or the following quantity:

$$P = \frac{A}{C \times (B-S) \times (0.8^*)} \qquad (\leqq 1.0)$$

Where:

A = Total kilowatt-hours delivered during all on-peak and partial-peak hours excluding any energy associated with generation levels greater than the firm capacity.

C = Firm capacity in kilowatts.

B = Total on-peak and partial-peak hours during the month.

S = Total on-peak and partial-peak hours during the month Facility is out of service on scheduled maintenance.

(2) Determine the Monthly Capacity Factor (MCF), which is computed using the following expression:

$$MCF = P \times (1.0 - \frac{M}{D})$$

Where:

M = The number of hours during the month Facility is out of service on scheduled maintenance.

D = The number of hours in the month.

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* 0.8 reflects a 20% allowance for forced outage.

(3) Determine the MDC by multiplying the MCF by C:

MDC (kilowatts) = MCF x C

The monthly payment for <u>firm capacity</u> is then determined by multiplying the PPF by the MDC, by the appropriate capacity loss adjustment factor presented from Table E-1, and by the appropriate performance bonus factor, if any, from Table E-3.

monthly payment for <u>firm capacity</u> = PPF x MDC x capacity loss adjustment factor x performance bonus factor

Furthermore, the payment for a month in which there is an outage for scheduled maintenance shall also include an amount equal to the product of the average hourly <u>firm capacity</u> payment[1] for the most recent month in the same type of Seasonal Period (i.e., Seasonal Period A or Seasonal Period B) during which deliveries were made times the number of hours of outage for scheduled maintenance in the current month. <u>Firm capacity</u> payments will continue during the outage periods for scheduled maintenance provided that the provisions of Section E-3 are met.

During a probationary period Seller's monthly payment for <u>firm capacity</u> shall be determined by substituting for the <u>firm capacity</u>, the capacity at which

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1 Total monthly payment divided by the total number of hours in the monthly billing period.

Seller would have met the performance requirements. In the event that during the probationary period Seller does not meet the performance requirements at whatever firm capacity was established for the previous month, Seller's monthly payment for firm capacity shall be determined by substituting the firm capacity at which Seller would have met the performance requirements. The performance bonus factor shall not be applied during probationary periods.

TABLE E-1

If the Facility is non-remote[1] the firm capacity loss adjustment factors are as follows:

Voltage Level	Loss Adjustment Factor
Transmission	.989
Primary Distribution	.991
Secondary Distribution	.991

If the Facility is remote the firm capacity loss adjustment factor is 0.991 [2].

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1 As defined by the CPUC.

2 Determined individually.

TABLE E-2

Firm Capacity Price Schedule

(Levelized $/kW-year)

Firm Capacity Availability Date	Number of Years of Firm Capacity Delivery																	
(Year)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	20	25	30
1982	65	68	70	72	75	77	79	81	84	86	88	90	91	93	95	103	109	113
1983	70	73	75	78	80	83	85	88	90	92	94	96	98	100	102	110	117	122
1984	76	78	81	84	86	89	92	94	97	99	101	103	106	108	110	118	125	130
1985	81	84	87	90	93	96	99	101	104	106	109	111	113	115	118	127	134	140
1986	88	91	94	97	100	103	106	109	112	114	117	119	122	124	126	136	144	150
1987	95	98	101	105	108	111	114	117	120	123	125	128	130	133	135	146	154	160

TABLE E-3

Performance Bonus Factor

The following shall be the performance bonus factors applicable to the calculation of the monthly payments for firm capacity delivered by the Facility after it has demonstrated a firm capacity factor in excess of 85%.

DEMONSTRATED FIRM CAPACITY FACTOR (%)	PERFORMANCE BONUS FACTOR
85	1.000
90	1.059
95	1.118
100	1.176

After the Facility has delivered power during the span of all of the peak months on the PGandE system (presently June, July, and August) in any year (span),

(i) the firm capacity factor for each such month shall be calculated in the following manner:

$$\text{FIRM CAPACITY FACTOR (\%)} = \frac{F}{(N-W) \times Q} \times 100$$

Where:

F = Total kilowatt-hours delivered by Seller in any peak month during all on-peak hours excluding any energy associated with generation levels greater than the firm capacity.

N = Total on-peak hours during the month.

W = Total on-peak hours during the peak month that the Facility is out of service on scheduled maintenance.

Q = Firm capacity in kilowatts.

(ii) the arithmetic average of the above firm capacity factors shall be determined for that span,

(iii) the average of the above arithmetic average firm capacity factors for the most recent span(s), not to exceed 5, shall be calculated and shall become the Demonstrated Firm Capacity Factor.

To calculate the performance bonus factor for a Demonstrated Firm Capacity Factor not shown in Table E-3 use the following formula:

$$\text{Performance Bonus Factor} = \frac{\text{Demonstrated Firm Capacity Factor (\%)}}{85\%}$$

SECTIONS E-6 THROUGH E-10 SHALL APPLY ONLY TO HYDROELECTRIC PROJECTS

E-6 DETERMINATION OF NATURAL FLOW DATA

Natural flow data shall be based on a period of record of at least 50 years and which includes historic critically dry periods. In the event Seller demonstrates that a natural flow data base of at least 50 years would be unreasonably burdensome, PGandE shall accept a shorter period of record with a corresponding reduction in the averaging basis set forth in Section E-8. Seller shall determine the natural flow data by month by using one of the following methods:

Method 1

If stream flow records are available from a recognized gauging station on the water course being developed in the general vicinity of the project, Seller may use the data from them directly.

Method 2

If directly applicable flow records are not available, Seller may develop theoretical natural flows based on correlation with available flow data for the closest adjacent and similar area which has a recognized gauging station using generally accepted hydrologic estimating methods.

E-7 THEORETICAL OPERATION STUDY

Based on the monthly natural flow data developed under Section E-6 a theoretical operation study shall be prepared by Seller. Such a study shall identify the monthly capacity rating in kW and the monthly energy production in kWh for each month of each year. The study shall take into account all relevant operating constraints, limitations, and requirements including but not limited to --

(1) Release requirements for support of fish life and any other operating constraints imposed on the project;

(2) Operating characteristics of the proposed equipment of the <u>Facility</u> such as efficiencies, minimum and maximum operating levels, project control procedures, etc.;

(3) The design characteristics of project facilities such as head losses in penstocks, valves, tailwater elevation levels, etc.; and

(4) Release requirements for purposes other than power generation such as irrigation, domestic water supply, etc.

The theoretical operation study for each month shall assume an even distribution of generation throughout the month unless Seller can demonstrate that the <u>Facility</u> has water storage characteristics. For the study to show monthly capacity ratings, the <u>Facility</u> shall be capable of operating during all on-peak hours in the peak months on the PGandE system, which are presently the months of June, July, and August. If the project does not have this capability throughout each such month, the capacity rating in that month of that year shall be set at zero for purposes of this theoretical operation study.

E-8 DETERMINATION OF AVERAGE DRY YEAR CAPACITY RATINGS

Based on the results of the theoretical operation study developed under Section E-7, the average dry year capacity rating shall be established for each month. The average dry year shall be based on the average of the five years of the lowest annual generation as shown in the theoretical operation study. Once such years of lowest annual generation are identified, the monthly capacity rating is determined for each month by averaging the capacity ratings from each month of those years. The <u>firm capacity</u> shown in Article 5 shall not exceed the lowest average dry year monthly capacity ratings for the peak months on the PGandE system, which are presently the months of June, July, and August.

E-9 INFORMATION REQUIREMENTS

Seller shall provide the following information to PGandE for its review:

(1) A summary of the average dry year capacity ratings based on the theoretical operation study as provided in Table E-4;

(2) A topographic project map which shows the location of all aspects of the <u>Facility</u> and locations of stream gauging stations used to determine natural flow data;

(3) A discussion of all major factors relevant to project operation;

(4) A discussion of the methods and procedures used to establish the natural flow data. This discussion shall be in sufficient detail for PGandE to determine that the methods are consistent with those outlined in Section E-6 and are consistent with generally accepted engineering practices; and

(5) Upon specific written request by PGandE, Seller's theoretical operation study.

E-10 ILLUSTRATIVE EXAMPLE

(1) Determine natural flows - These flows are developed based on historic stream gauging records and are compiled by month, for a long-term period (normally at least 50 years or more) which covers dry periods which historically occurred in the 1920's and 30's and more recently in 1976 and 77. In all but unusual situations this will require application of hydrological engineering methods to records that are available, primarily from the USGS publication "Water Resources Data for California".

(2) Perform theoretical operation study - Using the natural flow data compiled under (1) above a theoretical operation study is prepared which determines, for each month of each year, energy generation (kWh) and capacity rating (kW). This study is performed based on the <u>Facility's</u> design, operating capabilities, constraints, etc., and should take into account all factors relevant to project

operation. Generally such a study is done by computer which routes the natural flows through project features, considering additions and withdrawals from storage, spill past the project, releases for support of fish life, etc., to determine flow available for generation. Then the generation and capacity amounts are computed based on equipment performance, efficiencies, etc.

(3) Determine average dry year capacity ratings - After the theoretical project operation study is complete the five years in which the annual generation (kWh) would have been the lowest are identified. Then for each month, the capacity rating (kW) is averaged for the five years to arrive at a monthly average capacity rating. The firm capacity is then set by the Seller based on the monthly average dry year capacity ratings and the performance requirements of this appendix. An example project is shown in the attached completed Table E-4.

EXAMPLE
TABLE E-4

Summary of Theoretical Operation Study

Project: New Creek 1

Water Source: West Fork New Creek

Mode of Operation: Run of the river

Type of Turbine: Francis Design Flow: 100 cfs Design Head: 150 feet

Operating Characteristics[1]:

	Flow (cfs)	Head (feet) Gross	Head (feet) Net	Output (kW)	Efficiency (%) Turbine	Efficiency (%) Generator
Normal Operation	100	160	150	1,120	90	98
Maximum Operation	110	160	148	1,150	85	98
Minimum Operation	30	160	155	290	75	98

Average Dry Year Operation - Based on the average of the following lowest generation years: 1930, 1932, 1934, 1949, 1977.

Month	Energy Generation (kWh)	Capacity Output (kW)	Percent of Total Hours Operated
January	855,000	1,150	100
February	753,000	1,120	100
March	818,000	1,100	100
April	727,000	1,010	100
May	699,000	940	100
June	612,000	850	100
July	484,000	650	100
August	305,000	410	100
September	245,000	340	100
October	148,800	200	100
November	468,000	650	100
December	595,000	800	100

Maximum firm capacity: 410 kW

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1 If Facility has a variable head, operating curves should be provided.

E-11 MINIMUM DAMAGES

(a) In the event the firm capacity is derated or Seller terminates this Agreement, the quantity by which the firm capacity is derated or the firm capacity shall be used to calculate the payments due PGandE in accordance with Section (d).

(b) Seller shall be invoiced by PGandE for all amounts due under this section. Payment shall be due within 30 days of the date of invoice.

(c) If Seller does not make payments pursuant to Section (b), PGandE shall have the right to offset any amounts due it against any present or future payments due Seller.

(d) Seller shall pay to PGandE:

(i) an amount equal to the difference between (a) the firm capacity payments already paid by PGandE, based on the original term of agreement and (b) the total firm capacity payments which PGandE would have paid based on the period of Seller's actual performance using the adjusted firm capacity price. Additionally, Seller shall pay interest, compounded monthly from the date the excess capacity payment was made until the date

Seller repays PGandE, on all overpayments, at the published Federal Reserve Board three months' Prime Commercial Paper rate; plus

(ii) a sum equal to the amount by which the <u>firm capacity</u> is being terminated or derated times the difference between the <u>current firm capacity price</u> on the date of termination or deration for a term equal to the balance of the <u>term of agreement</u> and the <u>firm capacity price</u>, multiplied by the appropriate factor shown in Table E-5 below. In the event that the <u>current firm capacity price</u> is less than the <u>firm capacity price</u>, no payment under this subsection (ii) shall be due either Party.

TABLE E-5

Amount of Firm Capacity Terminated or Derated	Factor
1,000 kW or under	0.25
over 1,000 kW through 10,000 kW	0.75
over 10,000 kW through 25,000 kW	1.00
over 25,000 kW through 50,000 kW	3.00
over 50,000 kW through 100,000 kW	4.00
over 100,000 kW	5.00

APPENDIX F

INTERCONNECTION

CONTENTS

F-1 INTERCONNECTION TARIFFS

(The applicable tariffs in effect at the time of execution of this Agreement shall be attached.)

Rate Schedules AIP and S-1
Electric Rules 2 and 21

RULE No. 2
DESCRIPTION OF SERVICE

A. GENERAL

1. The type of service available at any particular location should be determined by inquiry at the Utility's local office.
2. Alternating-current service will be regularly supplied at a frequency of approximately 60 Hertz (cycles per second).
3. In areas where a certain standard secondary voltage is presently being served to one or more customers, an applicant applying for new service in such areas may be required by the Utility to receive the same standard voltage supplied to existing customers.
4. All electric service described in this rule is subject to the conditions in the applicable rate schedule and other pertinent rules.
5. It is the responsiblity of the applicant to ascertain and comply with the requirements of governmental authorities having jurisdiction.
6. Service to an applicant is normally established at one delivery point, through one meter, and at one voltage class. Other arrangements for service at multiple service delivery points, or for services at more than one voltage class, are permitted only where feasible and with the approval of the Utility. For purposes of this rule, distribution service voltage classes, delta or wye connected, are described as:
   a. 0-300 volt source, single- or three-phase.
   b. 301-600 volt source, three-phase.
   c. 601-3000 volt source, three-phase
   d. 3001-5000 volt source, three-phase.
   e. 5001-15,000 volt source, three-phase.
   f. 15,001-25,000 volt source, three-phase.
7. New direct-current (d-c) or two-phase service is not available. Direct-current service and two-phase service is supplied only to existing customers who continue to operate existing d-c or two-phase equipment. Such service is being gradually replaced by standard alternating-current service.

B. SERVICE DELIVERY VOLTAGES

1. Following are the standard service voltages normally available, although not all of them are or can be made available at each service delivery point:

Distribution Voltages			Transmission Voltages
Single-phase Secondary	Three-phase Secondary	Three-phase Primary	Three-phase
120/240, 3-wire	240/120, 4-wire	2400, 3-wire	60,000, 3-wire
120/208, 3-wire	240, 3-wire*	4160, 3-wire	70,000, 3-wire
	208Y/120, 4-wire	4160Y/2400, 4-wire	115,000, 3-wire
	480, 3-wire	12,000, 3-wire	230,000, 3-wire
	480Y/277, 4-wire	12,000Y/6930, 4-wire	
		17,200, 3-wire	
		20,780, 3-wire	
		20,780Y/12000, 4-wire	

*Limited availability, consult the Utility.

2. The following non-standard distribution voltages exist in certain limited areas but their use is not being expanded and they are gradually being replaced with an appropriate standard voltage listed in Section B.1:
   a. 4,800 volts, 3-wire
   b. 22,900 volts, 3-wire
   c. 44,000 volts, 3 -wire
3. All voltages referred to in this rule and appearing in some rate schedules are nominal service voltages at the service delivery point. The Utility's facilities are designed and operated to provide sustained service voltage at the service delivery point, but the voltage at a particular service delivery point, at a particular time, will vary within fully satisfactory operating range limits established in Section C.

*4954-2646-2755-2756-1067-E

(continued)

RULE No. 2

DESCRIPTION OF SERVICE

(Continued)

C. VOLTAGE AND FREQUENCY CONTROL

1. Customer Service Voltages

a. Under all normal load conditions, the Utility's distribution circuits will be operated so as to maintain secondary service voltage levels to customers within the service voltage ranges specified below:

Nominal Two-Wire And Multi-Wire Service Voltage	Minimum Voltage To All Services	Maximum Service Voltage On Residential And Commercial Distribution Circuits		Maximum Service Voltage On Agricultural And Industrial Distribution Circuits
		Class A	Class B	
120	114	120	126	126
208	197	208	218	218
240	228	240	252	252
277	263	277	291	291
480	456	480	504	504

(1) For purposes of energy conservation, the Utility's distribution voltage will be regulated to the extent practicable to maintain service voltage on residential and commercial distribution circuits within the minimum and maximum voltages specified above for Class A circuits.

(2) The Utility shall file annually with the California Public Utilities Commission a list of residential and commercial distribution circuits that cannot be operated within the minimum and maximum voltages for Class A circuits. These circuits shall be regulated to the extent practicable to maintain service voltage within the minimum and maximum voltages for Class B circuits and whenever possible within the minimum and maximum voltages for Class A Circuits.

b. Exceptions to Voltage Limits

Voltage may be outside the limits specified when the variations:

(1) Arise from the temporary action of the elements.

(2) Are infrequent momentary fluctuations of a short duration.

(3) Arise from service interruptions.

(4) Arise from temporary separation of parts of the system from the main system.

(5) Are from causes beyond the control of the Utility.

c. It must be recognized that, because of conditions beyond the control of the Utility or customer, or both, there will be infrequent and limited periods when sustained voltages outside of the service voltage ranges will occur. Utilization equipment may not operate satisfactorily under these conditions, and protective devices may operate to protect the equipment.

d. The sustained service delivery voltages are subject to minor momentary and transient voltage excursions which may occur in the normal operation of the Utility's system. Subject to the limitations of C.1.a. above, the voltage balance between phases will be maintained by the Utility as close as practicable to 2½% maximum deviation from the average voltage between the three phases.

e. Where the operation of the applicant's equipment requires unusually stable voltage regulation or other stringent voltage control beyond that supplied by the Utility in the normal operation of its system, the applicant, at his own expense, is responsible for installing, owning, operating, and maintaining any special or auxiliary equipment on the load side of the service delivery point as deemed necessary by the applicant.

f. The applicant shall be responsible for designing and operating his service facilities between the service delivery point and the utilization equipment to maintain proper utilization voltage at the line terminals of the utilization equipment.

(continued)

Rule No. 2

DESCRIPTION OF SERVICE

(Continued)

C. VOLTAGE AND FREQUENCY CONTROL (Continued)

2. **Customer Utilization Voltages:**
   a. All customer-owned utilization equipment must be designed and rated in accordance with the following utilization voltages specified by the American National Standard C84.1 if customer equipment is to give fully satisfactory performance:

Nominal Utilization Voltage	Minimum Utilization Voltage	Maximum Utilization Voltage
120	110	125
208	191	216
240	220	250
277	254	289
480	440	500

   b. The differences between service and utilization voltages are allowances for voltage drop in customer wiring. The maximum allowance is 4 volts (120 volt base) for secondary service.

   c. Minimum utilization voltages from American National Standard C84.1 are shown for customer information only as the Utility has no control over voltage drop in customer's wiring.

   d. The minimum utilization voltages shown in a. above, apply for circuits supplying lighting loads. The minimum secondary utilization voltages specified by American National Standard C84.1 for circuits not supplying lighting loads are 90 percent of nominal voltages (108 volts on 120 volt base) for normal service.

   e. Motors used on 208 volt systems should be rated 200 volts or (for small single-phase motors) 115 volts. Motors rated 230 volts will not perform satisfactorily on these systems and should not be used. Motors rated 220 volts are no longer standard, but many of them were installed on existing 208 volt systems on the assumption that the utilization voltage would not be less than 187 volts (90 percent of 208 volts).

3. **Frequency:**
   The Utility will exercise reasonable diligence and care to regulate and maintain its frequency within reasonable limits but does not guarantee same.

RULE No. 2

DESCRIPTION OF SERVICE

(Continued)

D. GENERAL LOAD LIMITATIONS

1. Single-Phase Service

a. Single-phase service normally will be three-wire, 120/240 volts (or three-wire 120/208 volts at certain locations as now or hereafter established by the Utility) where the size of any single motor does not exceed 7½ horsepower (10 horsepower at the option of the Utility). For any single-phase service, the maximum demand as determined by the Utility is limited to the capability of a 100 kva transformer unless otherwise approved by the Utility. If the load requires a transformer installation in excess of 100 kva, the service normally will be three-phase.

b. In locations where the Utility maintains a 120/208 volt secondary system, 3-wire single-phase service normally shall be limited to that which can be supplied by a main switch or service entrance rating of 200 amperes. Single-phase loads in these locations in excess of that which can be supplied by a 200 ampere main switch or service entrance rating normally will be supplied with a 208Y/120-volt, three-phase, 4-wire service.

2. Three-Phase Service (2,000 volts or less)

Nominal Voltage	Minimum Load Requirements	Maximum Demand Load Permitted
a. Secondary service normally available from overhead primary distribution systems:		
208Y/120	Demand load justifies a 75 kva transformer	1,000 kva
240	5 hp, 3-phase connected	500 kva
240/120	5 hp, 3-phase connected	500 kva
480	30 kva, 3-phase demand	3,000 kva
480Y/277	30 kva, 3-phase demand	3,000 kva
b. Secondary service from underground primary distribution systems (where the Utility maintains existing 3-phase primary circuits):		
208Y/120	Demand load justifies a 75 kva transformer	1,000 kva
240	10 hp, 3-phase connected	500 kva
240/120	10 hp, 3-phase connected	500 kva
480Y/277	Demand load justifies a 75 kva transformer	3,000 kva
c. Secondary service from underground network systems (only in portions of downtown San Francisco and Oakland):		
208Y/120	—None—	2,000 kva
480Y/277	1,200 kva demand load	As required

d. Where three-phase service is supplied, the Utility reserves the right to use single-phase transformers connected open-delta or closed-delta, or three-phase transformers.

e. Three-phase service will be supplied on request for installations aggregating less than the minimums listed above but not less than 3 hp, three-phase, where existing transformer capacity is available. If three-phase service is not readily available, or for service to loads less than 3 hp, service shall be provided in accordance with either Section H or I of this rule regarding Connected Load Ratings and Special Facilities.

f. Three-phase metering for one service voltage supplied to installations on one premises at one delivery location normally is limited to a maximum of a 4,000 ampere service rating. Metering for larger installations, or installations having two or more service switches with a combined rating in excess of 4,000 amperes, or service for loads in excess of the maximum demand load permitted, may be installed provided approval of the Utility has been first obtained as to the number, size, and location of switches, circuits, transformers and related facilities. Service supplied to such approved installations in excess of one 4,000 ampere switch or breaker at one service delivery point may be totalized for billing purposes.

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(continued)

RULE No. 2

DESCRIPTION OF SERVICE

(Continued)

D. GENERAL LOAD LIMITATIONS (Continued)

3. Three-Phase Service (over 2000 volts)

a. Following are three-phase voltages that are transformed from higher existing primary distribution voltages and provided only as isolated services for a single applicant where the applicant's demand load justifies, as determined by the Utility, the installation of the minimum size transformer bank used by the Utility:

Nominal Voltage	Minimum Size Bank Installed	Maximum Demand Load Permitted
2,400 (See Note 1)	500 kva	5,000 kva
4,160 (See Note 1)	500 kva	5,000 kva
12,000 (See Notes 1 and 2)	1,000 kva	10,000 kva

b. Following are the standard primary voltages one of which may be available without transformation from existing primary distribution lines in the area:

4,160	100 kva	4,000 kva
12,000 (See Note 1)	500 kva	12,000 kva
17,200	500 kva	15,000 kva
20,780	500 kva	20,000 kva

Note 1 — Not available in the network areas in portions of downtown San Francisco and Oakland.

Note 2 — Not available where existing primary is 17,200 volts.

c. Applicants with minimum demand loads of 4,000 kva may elect to take delivery at the available transmission voltage and provide their own substation facilities. The availability of transmission voltages shall be determined by the Utility. Where a substation on an applicants' property is supplied from a transmission voltage source, the metering may be installed, at the Utility's option, on the secondary side of the transformers with a flat allowance of 2% made for transformer losses unless otherwise measured.

d. For its operating convenience and necessity, the Utility may elect to supply an applicant whose demand load is in excess of 2,000 kva from a substation on the applicant's premises supplied from a transmission source. Refer to Rule 16 for addional information regarding transformers located on the applicant's premises.

e. Three-phase service outside the limits of Section D.3 may be available but only if feasible and approved by the Utility.

f. The Utility reserves the right to change its distribution or transmission voltage to another standard service voltage when, in its judgment, it is necessary or advisable for economic reasons or for proper service to its customers. Where a customer is receiving service at the voltage being changed, the customer then has the option to receive service at the new voltage or to accept service through transformers to be supplied by the Utility at a location on the customer's premises in accordance with the Utility's requirements.

4. Load Balance

The applicant must balance his demand load as nearly as practicable between the two sides of a three-wire single-phase service and between all phases of a three-phase service. The difference in amperes between any two phases at the customer's peak load should not be greater than 10% or 50 amperes (at the service delivery voltage), whichever is greater; except that the difference between the load on the lighting phase of a four-wire delta service and the load on the power phase may be more than these limits. It will be the responsibility of the customer to keep his demand load balanced within these limits.

(continued)

RULE No. 2

DESCRIPTION OF SERVICE

(Continued)

E. PROTECTIVE DEVICES

1. It shall be the applicant's responsibility to furnish, install, inspect and keep in good and safe condition at his own risk and expense, all appropriate protective devices of any kind or character, which may be required to properly protect the applicant's facilities. The Utility shall not be responsible for any loss or damage occasioned or caused by the negligence, or wrongful act of the applicant or of any of his agents,' employees or licensees in omitting, installing, maintaining, using, operating or interfering with any such protective devices.

2. It shall be the applicant's responsibility to select and install such protective devices as may be necessary to coordinate properly with the Utility's protective devices to avoid exposing other customers to unnecessary service interruptions.

3. It shall be the applicant's responsibility to equip his three-phase motor installations with appropriate protective devices, or use motors with inherent features, to completely disconnect each such motor from its power supply, giving particular consideration to the following:

   a. Protection in each set of phase conductors to prevent damage due to overheating in the event of overload.

   b. Protection to prevent automatic restarting of motors or motor driven machinery which has been subjected to a service interruption and, because of the nature of the machinery itself or the product it handles, cannot safely resume operation automatically.

   c. Open-phase protection to prevent damage due to overheating in the event of loss of voltage on one phase.

   d. Reverse-phase protection where appropriate to prevent uncontrolled reversal of motor rotation in the event of accidental phase reversal. (Appropriate installations would include, but are not limited to, motors driving elevators, hoists, tramways, cranes, pumps, conveyors, etc.)

4. The available short-circuit current varies from one location to another, and also depends on the ultimate design characteristics of the Utility's supply and service facilities. Consult the Utility for the ultimate maximum short-circuit current at each service termination point.

5. Where an applicant proposes to use a ground-fault sensing protective system which would require special Utility-owned equipment, such a system may be installed only where feasible and with written approval of the Utility.

6. Any non-Utility-owned emergency standby or other generation equipment that can be operated to supply power to facilities that are also designed to be supplied from the Utility's system shall be controlled with suitable protective devices by the applicant to prevent parallel operation with the Utility's system in a fail-safe manner, such as the use of a double-throw switch to disconnect all conductors, except where there is a written agreement or service contract with the Utility permitting such parallel operation.

(continued)

RULE No. 2

DESCRIPTION OF SERVICE

(Continued)

F. INTERFERENCE WITH SERVICE

1. General

The Utility reserves the right to refuse to serve new loads or to continue to supply existing loads of a size or character that may be detrimental to the Utility's operations or to the service of its customers. Any customer who operates or plans to operate any equipment such as, but not limited to, pumps, welders, saw mill apparatus, furnaces, compressors or other equipment where the use of electricity is intermittent, causes intolerable voltage fluctuations, or otherwise causes intolerable service interference, must reasonably limit such interference or restrict the use of such equipment upon request by the Utility. The customer is required either to provide and pay for whatever corrective measures are necessary to limit the interference to a level established by the Utility as reasonable, or avoid the use of such equipment, whether or not the equipment has previously caused interference.

2. Harmful Wave Form

Customers shall not operate equipment that superimposes a current of any frequency or wave form upon the Utility's system, or draws current from the Utility's system of a harmful wave form, which causes interference with the Utility's operations, or the service to other customers, or inductive interference to communication facilities.

3. Customer's Responsibility

Any customer causing service interference to others must diligently pursue and take timely corrective action after being given notice and a reasonable time to do so by the Utility. If the customer does not take timely corrective action, or continues to operate the equipment causing the interference without restriction or limit, the Utility may, without liability, after giving 5 days written notice to customer, either install and activate control devices on its facilities that will temporarily prevent the detrimental operation, or discontinue electric service until a suitable permanent solution is provided by the customer and it is operational.

4. Motor Starting Current Limitations

a. The starting of motors shall be controlled by the customer as necessary to avoid causing voltage fluctuations that will be detrimental to the operation of the Utility's distribution or transmission system, or to the service of any of the Utility's customers.

b. If the starting current for a single motor installation exceeds the value listed in Table 1, and the resulting voltage disturbance causes or is expected to cause detrimental service to others, reduced voltage starters or other suitable means must be employed, at the customer's expense, to limit the voltage fluctuations to a tolerable level, except as otherwise provided under subsections 4.d., 4.e., 4.f., and 4.g.

c. The starting current shall be considered to be the current defined in Note 2 of Table 1. At its option, the Utility may determine the starting current of a motor by test, using a stop ammeter with not more than 15% overswing, or an oscillograph, disregarding the value shown for the first 10 cycles after energizing the motor.

d. Where service conditions permit, subject to Utility approval, motor starters may be deferred in the original installation. The Utility may later order the installation of a suitable starter or other devices when it has been determined that the operation of the customer's motors interfere with service to others. Also, the Utility may require starting current values lower than those set forth herein where conditions at any point on its system require such reduction to avoid interference with service to other customers.

e. In the case of room and unitary air conditioners, heat pumps or other complete unit equipment on which the nameplate rating is expressed in kva input and not in hp output, the nameplate kva input rating shall be considered to be the hp rating for use of Table 1. If the nameplate does not show kva input, then it may be determined for single-phase motors by taking the product of the running input line current in amperes times the input voltage rating divided by 1000. For three-phase motors, multiply this product by the square root of three (1.73).

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(continued)

RULE No. 2

DESCRIPTION OF SERVICE

(Continued)

F. INTERFERENCE WITH SERVICE (Continued)

4. Motor Starting Current Limitations (Continued)

f. The starting current values in Table 1 apply only to the installation of a single motor. Starters may be omitted on the smaller motors of a group installation when their omission will not result in a starting current in excess of the allowable starting current of the largest motor of the group. Where motors start simultaneously, they will be treated as a single unit equal to the sum of their individual starting currents.

g. The Utility may limit the maximum size and type of any motor that may be operated at any specific location on its system to that which will not be detrimental to the Utility's system operations or to the service of its customers, as determined by the Utility.

h. Where the design or operation of the customer's motor is such that unequal starting currents flow in the Utility's service conductors, the largest starting current in any one set of phase conductors shall be considered the motor starting current.

i. For installations of motors where the equipment is started automatically by means of float, pressure, or thermostat devices, such as with pumps or wind machines for frost protection, irrigation pumps or other similar installations, the Utility may require the customer to install, at his own expense and in accordance with the Utility's operating requirements, suitable pre-set time-delay devices to stagger the automatic connection of load to the supply system and to prevent simultaneous start-up for any reason.

TABLE 1
NORMAL MAXIMUM ALLOWABLE MOTOR STARTING CURRENTS
ALTERNATING-CURRENT MOTORS

Rated HP Output	Single-Phase Voltage Motor Rating (Service Voltage)	Three-Phase Voltage Motor Rating (Service Voltage)		
	230v(240v)	200v(208v)	230v(240v)	460v(480v)
2	60 amps	—	—	—
3	80	74 amps	64 amps	32 amps
5	120	106	92	46
7½	170	146	127	63
10	—	186	162	81
15	—	267	232	116
20	—	347	302	151
25	—	428	372	186
30	—	508	442	221
40	—	669	582	291
50	—	830	722	361
60	—	—	—	431
75	—	—	—	536
100	—	—	—	711

Over 100 — See Note 3.

Table 1 Notes:

1. See Section F.4. for details on the use of this table.
2. Motor starting current is defined as the steady state current taken from the supply line with the motor rotor or rotors locked, with all other power consuming components, including a current-reducing starter, if used, connected in the starting position, and with rated voltage and frequency applied.
3. The applicant shall consult the Utility for design criteria information for selecting suitable starting equipment for three-phase a-c motors not shown on Table 1, for d-c motors supplied directly from existing d-c systems, and for motors that operate at higher voltage ratings.

*4954-2646-2765-2756-1067-E

(continued)

RULE No. 2

DESCRIPTION OF SERVICE

(Continued)

G. POWER FACTOR

When lighting devices, such as neon, fluorescent, luminous gaseous, mercury vapor, and other lighting equipment having low power factors are served on street lighting or area lighting schedules, the customer shall provide, at his own expense, power factor corrective equipment to increase the power factor of each complete lighting device to not less than 90 percent.

H. CONNECTED LOAD RATINGS

1. The connected load is the sum of the rated capacities of all of the customer's electric utilization equipment that is served through one metering point and that may be operated at the same time, computed to the nearest one-tenth of a horsepower, kilowatt or kilovolt-ampere. Motors will be counted at their nameplate ratings in horsepower output and other devices at their nameplate input ratings in kw or kva, except that resistance welders will be rated in accordance with the section of this rule regarding "Welder Service". Unless otherwise stated in the rate schedule, conversions between horsepower, kw and/or kva ratings will be made on a one-to-one basis.
2. The normal operating capacity rating of any motor or other device may be determined from the nameplate rating. Where the original nameplate has been removed or altered, the manufacturer's published rating may be used or the rating determined by test at the expense of the customer.
3. Motor-generator sets shall be rated at the nameplate rating of the alternating-current drive motor of the set.
4. a. X-ray equipment shall be rated at the maximum nameplate kva input operating at the highest rated output amperes. If the kva input rating is not shown, it will be determined for single-phase loads by taking the product of the amperes input rating times the input voltage rating divided by 1000. For three-phase equipment, multiply this product times the square root of three (1.73).

   b. Where X-ray equipment is separately metered and supplied from a separate transformer installed by the Utility to serve the X-ray installation only, the kva rating of the Utility's transformer or the total X-ray equipment input capacity, whichever is smaller, will be considered the load for billing purposes.
5. Where a customer operates a complete unit of equipment connected for three-phase service but consisting of single-phase components which cannot be readily reconnected for single-phase service, the Utility shall consider the connected load of such a unit as three-phase load.
6. Where a customer has, or expects to have, permanently-connected, three-phase load that is used infrequently or for short durations, such as, but not limited to, equipment for fire pumps, frost protection, flood control, emergency sirens or other similar installations which make it impractical to record proper demands on a monthly basis for billing purposes, the customer may, for his own reasons and with Utility approval, guarantee an appropriate billing demand or connected three-phase load for billing purposes in order to reserve suitable capacity in the Utility's facilities.

I. SPECIAL FACILITIES

1. The Utility normally installs only those standard facilities which it deems are necessary to provide regular service in accordance with the tariff schedules. Where the applicant requests the Utility to install special facilities and the Utility agrees to make such an installation, the additional costs thereof shall be borne by the applicant, including such continuing ownership costs as may be applicable.
2. Special facilities are (a) facilities requested by an applicant which are in addition to or in substitution for standard facilities which the Utility would normally provide for delivery of service at one point, through one meter, at one voltage class under its tariff schedules, or (b) a pro rata portion of the facilities requested by an applicant, allocated for the sole use of such applicant, which would not normally be allocated for such sole use. Unless otherwise provided by the Utility's filed tariff schedules, special facilities will be installed, owned and maintained or allocated by the Utility as an accommodation to the applicant only if acceptable for operation by the Utility and the reliability of service to the Utility's other customers is not impaired.

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(continued)

RULE NO. 2 - DESCRIPTION OF SERVICE (Continued)

I. SPECIAL FACILITIES (Continued)

3. Special facilities will be installed under the terms and conditions of a contract in the form on file with the Commission. Such contract will include, but is not limited to, the following terms and conditions:

   a. Where new facilities are to be installed for applicant's use as special facilities, the applicant shall advance to the Utility the estimated additional installed cost of the special facilities over the estimated cost of standard facilities. At the Utility's option, the Utility may finance the new facilities.

   b. A monthly cost of ownership charge shall be paid by applicant for the special facilities:

TYPE OF FACILITY	FINANCING	MONTHLY CHARGE
TRANSMISSION (60 kV and over)*	Customer	0.70% of the amount advanced
	Utility	2.15% of the additional cost
DISTRIBUTION	Customer	1.30% of the amount advanced
	Utility	2.55% of the additional cost

   c. Where existing facilities are allocated for applicant's use as special facilities, the applicant shall pay a monthly charge. This monthly charge shall be based on the estimated installed cost of that portion of the existing facilities which is allocated to the customer.

   d. Where the Utility determines the collection of continuing monthly ownership charges is not practicable, the applicant will be required to make an equivalent one-time payment in lieu of the monthly cost of ownership charges.

   e. All monthly ownership charges shall be reviewed and re-filed with the Commission when changes occur in the Utility's cost of providing such service.

J. WELDER SERVICE

1. RATING OF WELDERS - Electric welders will be rated for billing purposes as follows:

   a. MOTOR-GENERATOR ARC WELDERS - The horsepower rating of the motor driving a motor-generating type arc welder will be taken as the horsepower rating of the welder.

   b. TRANSFORMER ARC WELDERS - Nameplate maximum kVa input (at rated output amperes) will be taken as the rating of transformer type arc welders.

   c. RESISTANCE WELDERS - Resistance welder ratings will be determined by multiplying the welder transformer nameplate rating (at 50% duty cycle) by the appropriate factor listed below:

TYPE OF WELDER	TRANSFORMER NAMEPLATE RATING @ 50% Duty Cycle**	FACTOR: Company Owned Distrib. Transf.	FACTOR: Customer Owned Distrib. Transf.
(1) Rocker Arm, Press or Projection Spot	20 kVa or less	.60	.50
(2) Rocker Arm or Press Spot	Over 20 kVa		
Projection Spot	21 to 75 kVa, Inclusive	.80	.60
Flash or Butt	100 kVa or over		
Seam or Portable Gun	All sizes		
(3) Flash or Butt	67 to 100 kVa, Inclusive	***	***
(4) Projection Spot	Over 75 kVa	1.20	.90
Flash or Butt	66 kVa or less		

*For the purposes of applying the special transmission facilities charge, special transmission facilities are those facilities included in the "100 series" of the standard PGandE system of accounts (FERC Account Nos. 352-359).

**The kVa rating of all resistance welders to which these rating procedures are applied must be at or equivalent to 50% duty cycle operation. Duty cycle is the percent of the time welding current flows during a given operating cycle. If the operating kVa nameplate rating is for some other operating duty cycle, then the thermally equivalent kVa rating at 50% duty cycle must be calculated.

***Each flash or butt welder in this group will be rated at 80 kVa where distribution transformer is owned by the Company or 60 kVa where distribution transformer is owned by the customer.

(continued)

RULE No. 2

DESCRIPTION OF SERVICE

(Continued)

J. WELDER SERVICE (Continued)

1. Rating of Welders (Continued)

d. Ratings prescribed by a, b, and c above, normally will be determined from nameplate data or from data supplied by the manufacturer. If such data are not available or are believed by either the Utility or customer to be unreliable, the rating will be determined by test at the expense of the customer.

e. If established by seals approved by the Utility, the welder rating may be limited by the sealing of taps which provide capacity greater than the selected tap and/or by the interlocking lockout of one or more welders with other welders.

f. When conversion of units is required for tariff application, one welder kva will be taken as 1 horsepower for tariffs stated on a horsepower basis and one welder kva will be taken as 1 kilowatt for tariffs stated on a kilowatt basis.

2. Billing of Welders

Welders will be billed at the regular rates and conditions of the tariffs on which they are served, subject to the following provisions:

a. Connected Load Type of Schedule
Welder load will be included as part of the connected load with ratings as determined under Section 1, above, based on the maximum load that can be connected at any one time, and no allowance will be made for diversity between welders.

b. Demand Metered Type of Schedule
Where resistance welders are served on these schedules, the computation of diversified resistance welder load shall be made as follows:

Multiply the individual resistance welder ratings, as prescribed in Sections 1.c. to 1.f. inclusive, above, by the following factors and adding the results thus obtained:

1.0 times the rating of the largest welder
0.8 times the rating of the next largest welder
0.6 times the rating of the next largest welder
0.4 times the rating of the next largest welder
0.2 times the ratings of all additional welders

If this computed diversified resistance welder load is greater than the metered demand, the diversified resistance welder load will be used in lieu of the metered demand for rate computation purposes.

3. Use of Welders Through Residential Service
Any welder exceeding 3 kva capacity at 50% duty cycle supplied through a residential service requires advance approval by the Utility.

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RULE NO. 21

PARALLEL GENERATION — NON-UTILITY-OWNED

This describes the minimum operation, metering and interconnection requirements for any generating source or sources paralleled with the Utility's electric system. Such source or sources may include, but are not limited to, hydroelectric generators, wind-turbine generators, steam or gas driven turbine generators and photovoltaic systems.

A. GENERAL

1. The type of interconnection and voltage available at any location and the Utility's specific interconnection requirements shall be determined by inquiry at the Utility's local office.
2. The Power Producer (Producer) shall ascertain and be responsible for compliance with the requirements of all governmental authorities having jurisdiction.
3. The Producer shall sign a written power purchase agreement or parallel operation agreement that is in the form on file with and authorized by the California Public Utilities Commission (Commission) before connecting or operating a generating source in parallel with the Utility's system.
4. The Producer shall be fully responsible for the costs of designing, installing, owning, operating and maintaining all interconnection facilities defined in Section B.1. herein.
5. The Producer shall submit to the Utility, for the Utility's review and written acceptance, equipment specifications and detailed plans for the installation of all interconnection facilities to be furnished by the Producer prior to their purchase or installation. The Utility's review and written acceptance of the Producer's equipment specifications and detailed plans shall not be construed as confirming or endorsing the Producer's design or as warranting the equipment 's safety, durability or reliability. The Utility shall not, by reason of such review or lack of review, be responsible for strength, details of design adequacy, or capacity of equipment built pursuant to such specifications, nor shall the Utility's acceptance be deemed an endorsement of any such equipment.
6. No generating source shall be operated in parallel with the Utility's system until the interconnection facilities have been inspected by the Utility and the Utility has provided written approval to the Producer.
7. Only duly authorized employees of the Utility are allowed to connect the Producer's interconnection facilities to, or disconnect the same from, the Utility's overhead or underground electric system.

B. INTERCONNECTION FACILITIES

1. **General**

   Interconnection facilities are all means required, and apparatus installed, to interconnect the Producer's generation with the Utility's system. Where the Producer desires to sell power to the Utility, interconnection facilities are also all means required, and apparatus installed, to enable the Utility to receive power deliveries from the Producer. Interconnection facilities may include, but are not limited to:

   a. connection, transformation, switching, metering, communications, control, protective and safety equipment; and

   b. any necessary additions and reinforcements to the Utility's system by the Utility.

2. **Metering**

   a. A Producer desiring to sell power to the Utility shall provide, install, own and maintain all facilities necessary to accommodate metering equipment required and specified by the Utility. Such metering equipment shall include meters, telemetering, and other recording and communications devices as may be required for the reporting of power delivery data to the Utility, and for computing payments due the Producer from the Utility. The Utility shall provide, install. own, operate and maintain the metering equipment as special facilities in accordance with Section F herein. The Utility shall, however, grant the Producer the option to provide, install. own, operate and maintain the recording device necessary where the Producer is required to report daily power delivery data to the Utility.

   b. Meters shall be equipped with detents to prevent reverse registration so that deliveries to and from the Producer's equipment can be separately recorded.

(continued)

RULE NO. 21

PARALLEL GENERATION — NON-UTILITY-OWNED

(Continued)

B. INTERCONNECTION FACILITIES (Continued)

3. **Control, Protection and Safety Equipment**

a. **General**
The Utility has established functional requirements essential for safe and reliable parallel operation of the Producer's generation. These requirements provide for control, protective and safety equipment to:
1) sense and properly react to failure and malfunction on the Utility's system;
2) assist the Utility in maintaining its system integrity and reliability; and
3) protect the safety of the public and the Utility's personnel.

b. Listed below are the various devices and features generally required by the Utility as a prerequisite to parallel operation of the Producer's generation:

CONTROL, PROTECTION AND SAFETY EQUIPMENT GENERAL REQUIREMENTS[1]

Device or Feature	GENERATOR SIZE 10 kW or Less	11 kW to 40 kW	41 kW to 100 kW	101 kW to 400 kW	401 kW to 1,000 kW	Over 1,000 kW
Dedicated Transformer[2]		X	X	X	X	X
Interconnection Disconnect Device	X	X	X	X	X	X
Generator Circuit Breaker	X	X	X	X	X	X
Over-voltage Protection	X	X	X	X	X	X
Under-voltage Protection			X	X	X	X
Under/Over-frequency Protection	X	X	X	X	X	X
Ground Fault Protection			X	X	X	X
Over-current Relay w/Voltage Restraint					X	X
Synchronizing[3] (Manual or Automatic)	Manual	Manual	Manual	Manual	Manual	Automatic
Voltage and Power Factor Regulation					X	X

c. **Disconnect Device**
The Producer shall provide, install, own and maintain the interconnection disconnect device required by Section B.3.b. herein at a location readily accessible to the Utility. Such device shall normally be located near the Utility's meter or meters for sole operation by the Utility. The interconnection disconnect device and its precise location shall be specified by the Utility. At the Producer's option and request, the Utility shall provide, install, own and maintain the disconnect device on the Utility's system as special facilities in accordance with Section F herein.

4. **Utility System Additions and Reinforcements**
Where the Utility determines that additions to or reinforcements of its system are required to accommodate or maintain parallel operation of the Producer's generation, such reinforcements or additions will be treated as special facilities in accordance with Section F herein.

[1] Detailed requirements are specified in the Utility's current operating, metering and equipment protection publications, as revised from time to time by the Utility and available to the Producer upon request. For a particular generator application, the Utility will furnish its specific control, protective and safety requirements to the Producer after the exact location of the generator has been agreed upon and the interconnection voltage level has been established.

[2] This is a transformer interconnected with no other Producers and serving no other Utility customers. Although the dedicated transformer is not a requirement for generators rated 10 kW or less, its installation is recommended by the Utility.

[3] This is a requirement for synchronous generators and for induction generators designed to operate similarly to synchronous generators. For all such generators, the Utility will also require the installation of "reclose blocking" features on its system to block certain operations of the Utility's automatic line restoration equipment.

(continued)

RULE NO. 21

PARALLEL GENERATION — NON-UTILITY-OWNED

(Continued)

C. ELECTRIC SERVICE FROM THE UTILITY

If the Producer requires regular, supplemental, interruptible or stand-by service from the Utility, the Producer shall enter into separate contractual arrangements with the Utility in accordance with the Utility's applicable electric tariffs on file with and authorized by the Commission.

D. OPERATION

1. Jurisdiction of the Utility's System Dispatcher
   The Producer's generation while operating in parallel with the Utility's system is at all times under the jurisdiction of the Utility's system dispatcher. The system dispatcher shall normally delegate such control to the Utility's designated switching center.

2. Communications
   The Producer shall maintain telephone service from the local telephone company to the location of the Producer's generation. In the event such location is remote or unattended, telephone service shall be provided to the nearest building normally occupied by the Producer's generator operator. The Utility and the Producer shall maintain operating communications through the Utility's designated switching center.

3. Generator Log
   The Producer shall at all times keep and maintain a detailed generator operations log. Such log shall include, but not be limited to, information on unit availability, maintenance outages, circuit breaker trip operations requiring manual reset and unusual events. The Utility shall have the right to review the Producer's log.

4. Reporting Abnormal Conditions
   The Utility shall advise the Producer of abnormal conditions which the Utility has reason to believe could affect the Utility's operating conditions or procedures. The Producer shall keep the Utility similarly informed.

5. Power Factor and Voltage Control
   The Producer shall operate and maintain its generation and related equipment according to prudent electrical practices and shall provide reactive power support as may be reasonably required by the Utility to maintain its voltage level and power factor. The Utility may require: 1) capacitors to correct induction generator outputs to near unity; and 2) an excitation system for synchronous generators capable of continuously controlling the output power factor to between 90% lagging and 95% leading within a voltage range of ±5% of rated voltage. If the Producer is unable, unwilling or fails to provide such reactive support, the Utility may provide, install, own and maintain power factor and voltage control devices on the Utility's system as special facilities in accordance with Section F herein.

E. INTERFERENCE WITH SERVICE AND COMMUNICATION FACILITIES

1. General
   The Utility reserves the right to refuse to connect to any new equipment or to remain connected to any existing equipment of a size or character that may be detrimental to the Utility's operations or service to its customers.

2. The Producer shall not operate equipment that superimposes upon the Utility's system a voltage or current which causes interference with the Utility's operations, service to the Utility's customers or interference to communication facilities. If the Producer causes service interference to others, the Producer must diligently pursue and take corrective action at the Producer's expense after being given notice and reasonable time to do so by the Utility. If the Producer does not take timely corrective action, or continues to operate the equipment causing the interference without restriction or limit, the Utility may, without liability, disconnect the Producer's equipment from the Utility's system until a suitable permanent solution provided by the Producer is operational at the Producer's expense.

(continued)

RULE NO. 21

PARALLEL GENERATION — NON-UTILITY-OWNED

(Continued)

F. SPECIAL FACILITIES

1. Where the Producer requests the Utility to furnish interconnection facilities or where it is necessary to reinforce or make additions to the Utility's system and the Utility agrees to do so, such facilities shall be deemed to be special facilities and the costs thereof shall be borne by the Producer, including such continuing ownership costs as may be applicable.

2. Special facilities are (a) facilities requested by the Producer which the Utility does not normally furnish under its tariff schedules, (b) a pro rata portion of the facilities requested by the Producer, allocated for the sole use of such Producer, which would not normally be allocated for such sole use; and (c) facilities which are necessary additions to or reinforcements of the Utility's system to accommodate the maximum delivery of power from any Producer desiring to sell power to the Utility. Unless otherwise provided by the Utility's filed tariff schedules, special facilities will be installed, owned and maintained or allocated by the Utility as an accommodation to the Producer only if acceptable for operation by the Utility and the reliability of service to the Utility's customers is not impaired.

3. Where new facilities are to be installed for the Producer's use as special facilities, the Producer shall advance to the Utility the estimated installed cost of the special facilities. At the Producer's option, and where such Producer's generation is a qualifying facility[4] and the Producer has established credit worthiness to the Utility's satisfaction, the Utility shall finance those special facilities it deems to be removable and reusable equipment. Such equipment shall include, but not be limited to, transformation, disconnection and metering equipment. Special facilities provided under either of the foregoing arrangements are subject to the monthly charge as set forth in Section I of the Utility's electric Rule No. 2 (Description of Service) on file with and authorized by the Commission.

4. Where existing facilities are allocated for the Producer's use as special facilities, the Producer shall pay the monthly charge applicable to such special facilities as set forth in Section I of the Utility's electric Rule No. 2.

5. Where either the Producer or the Utility determines that the payment or collection of continuing monthly charges is not practicable, the Producer shall be required to make an equivalent one-time payment in lieu of the monthly charges.

6. Special facilities will be installed under the terms and conditions of an agreement in the form on file with and authorized by the Commission.

[4] A qualifying facility is one which meets the requirements established by the Federal Energy Regulatory Commission's rules (18 Code of Federal Regulations 292) implementing the Public Utility Regulatory Policies Act of 1978 (16 U.S.C.A. 796, et seq.).

RULE NO. 21 -- NONUTILITY-OWNED PARALLEL GENERATION (Cont'd.)

F. SPECIAL FACILITIES (continued)

d. Where the Producer elects to install and deed to the Utility an extension of the Utility's distribution or transmission lines for use as special facilities in accordance with Section B.5, the Utility's estimate of the installed cost of such extension shall be subject to the monthly ownership charge applicable to customer-financed special facilities as set forth in Section I of the Rule No. 2.

4. Where payment or collection of continuing monthly ownership charges is not practicable, the Producer shall be required to make an equivalent one-time payment in lieu of such monthly charges.

5. Costs of special facilities borne by the Producer may be subject to downward adjustment when such special facilities are used to furnish permanent service to a customer of the Utility. This adjustment will be based upon the extension allowance or other such customer allowance which the Utility would have utilized under its then applicable tariffs if the special facilities did not otherwise exist. In no event shall such adjustment exceed the original installed cost of that portion of the special facilities used to serve a new customer. An adjustment, where applicable, will consist of a refund applied to the Producer's initial payment for special facilities and/or a corresponding reduction of the ownership charge.

G. EXCEPTIONAL CASES: Where the application of this rule appears impractical or unjust, the Producer may refer the matter to the Commission for special ruling or for the approval of special conditions.

H. INCORPORATION INTO POWER PURCHASE AGREEMENTS: Pursuant to Decision No. 83-10-093, if in accordance with Section A.4 the Producer enters into a written form of power purchase agreement with Utility, a copy of the Rule No. 21 in effect on the date of execution will be appended to, and incorporated by reference into, such power purchase agreement. The Rule appended to such power purchase agreement shall then be applicable for the term of the Producer's power purchase agreement with the Utility. Subsequent revisions to this rule shall not be incorporated into the rule appended to such power purchase agreement.

SCHEDULE NO. A-1 -- GENERAL SERVICE

APPLICABILITY: This schedule is applicable to single-phase or polyphase alternating current service, or to a combination. This schedule is not available for service for which Schedule No. A-21 or A-22 is applicable. This schedule is not applicable to residential service except as noted below.

TERRITORY: The entire territory served.

RATES:

SINGLE-PHASE SERVICE: The energy charge shown below. MINIMUM CHARGE: $1.75 per month, but not less than $1.50 per month per kVA of connected welder load plus the Adjustment Rate shown below times the kilowatthours used during the month shall be added.

POLYPHASE* SERVICE (Designated Schedule No. A-1P on Bills): The energy charge as shown below plus $1.25 per meter per month. MINIMUM CHARGE: $3.00 per month, but not less than $1.50 per month per kVA of connected welder load and per horsepower of polyphase connected load plus the Adjustment Rate shown below times the kilowatt hours used during the month shall be added.

	Per Meter Per Month
ENERGY CHARGE (per kWh):	$.09547

ENERGY CHARGE COMPONENTS: The Energy Charges include the following Energy Charge Components:

BASE RATES (do not vary with time period or time of day):	
Base Energy Charge	$.04871
Annual Energy Rate	.00385
Conservation Financing Adjustment	.00009
Solar Financing Adjustment	.00008
Residential Conservation Service Adjustment	.00004
Base Rate Subtotal	.05277

ADJUSTMENT RATES:	
Energy Cost Adjustment Clause	$.04242
**Steel Surcharge Adjustment Clause	.00016
CPUC Reimbursement Fee	.00012
Adjustment Rate Subtotal	.04270

SPECIAL CONDITIONS:

1. For customers who use service for only part of the year, this schedule is applicable only on annual contract.

2. Additional meters on residential premises (whether single-family or for residential usage incidental to the operation of the premises as a multifamily accommodation) may be supplied under this schedule or Schedule No. D-1.

*Three-phase, except that, in some localities, two-phase service is available to existing customers only.
**The Steel Surcharge Adjustment Clause (SSAC) rate is not applicable to public agencies.

SCHEDULE NO. S-1 -- STAND-BY SERVICE

APPLICABILITY: This schedule is applicable to stand-by or breakdown service to customers whose premises are regularly supplied, in whole or in part, with electric energy from a privately owned source of supply; to auxiliary service to customers who at times take service (by means of a double-throw switch) from another public Utility; and to other electric service where the Utility must provide reserve capacity and stand ready at all times to supply electricity, but where the use of electric service is not of a usual, regular or continuous character.

TERRITORY: The entire territory served.

RATES:

	Per Meter Per Month
MINIMUM CHARGE (in addition to any other Minimum Charge)	$5.00
STAND-BY CHARGE (per kW of Contract Capacity): (Subject to voltage adjustment as provided in Special Condition 11)	
Where customer's plant or other source employs Cogeneration Technology or utilizes Renewable Resources as the energy source (as defined in Special Condition 13)	$0.80
All other service	$1.00
STAND-BY CHARGE per kW of Contract Capacity, excess off peak service .... (Subject to voltage adjustment as provided in Special Condition 11)	$0.40
REACTIVE DEMAND CHARGE (in addition to Stand-by Charge) per kVar of maximum reactive demand	$0.15

DEMAND AND ENERGY CHARGES (in addition to Stand-by Charge):
The Regular Schedule Applicable (see Special Condition 1) including the Customer Charge, if any, the minimum charges, Energy Cost Adjustment and all other provisions of said schedules.

SPECIAL CONDITIONS:

1. REGULAR SCHEDULE APPLICABLE: Stand-by service, either alone or in combination with other load throught the same meter, shall be billed in conjunction with that rate schedule which would be applicable to customer's total load including that portion of customer's load for which stand-by service is provided.

2. ALLOWANCE FOR CUSTOMER'S PLANT MAINTENANCE: After a customer has been connected to Utility's system under this schedule and its plant has been in operation for a period of six months, for that portion of the Contract Capacity that may be out of service for scheduled maintenance in the months of February, March, April and/or November, such outages up to 30 consecutive days per calendar year will be ignored for the purposes of determining demand charges under the Regular Schedule Applicable. This allowance shall be made only if the customer submits to the Utility (a) 90 days' prior notice of intent to perform maintenance and (b) records showing to the satisfaction of the Utility what part of the load on the Utility's system in any of the aforementioned months was due to such scheduled maintenance. The Utility, at its sole option, may defer customer's scheduled maintenance subsequent to which deferral an outage for maintenance will be allowed in accordance herewith. Notice of such deferral, if any, shall be given by the Utility not less than 60 days prior to customer's scheduled outage, except in event of an emergency. Where maintenance is performed during a part of one or more of these months, this provision shall apply only during that part. One allowance each calendar year for a partial outage of maintenance for each unit of a multiple unit source or pair of outages of up to 72 hours, for each of one or more units, to remove and replace all or a portion of customer's source shall be made in accordance with the foregoing during the months specified.

(Continued)

SCHEDULE NO. S-1 -- STAND-BY SERVICE (Cont'd.)

SPECIAL CONDITIONS: (Continued)

3. EXPERIMENTAL ALLOWANCE FOR UNCONVENTIONAL GENERATION: Regardless of other stand-by requirements and charges therefore, there shall be no minimum or stand-by charges hereunder for any class of service for up to 300 kW of unconventional generation. Unconventional generation is electric generation by wind power; solar heat, either direct conversion or steam; steam where the energy source is rubbish, animal waste or other waste fuel not a fossil fuel or a derivation thereof; tidal or wave energy; geothermal energy; and such other sources as the Utility may permit for this allowance from time to time. Service under this allowance is subject to all other applicable provisions of this schedule and tariff, including a service contract. This special condition is experimental and its application may be terminated by the Utility at its sole option at any time. Upon notice to customers of such termination, this special condition will remain in effect as to customers then served hereunder for a period of 60 calendar months thereafter.

4. PARALLEL OPERATION: Any customer served hereunder may operate its generating plant in parallel with Utility's system if customer's plant is constructed and operated in accordance with Utility's requirements. However, a customer who operates its plant in parallel must assume responsibility for protecting the Utility and other parties from damage resulting from negligent operation of the customer's facilities, except where the damage results from the Utility's requirements. The Utility will provide at its expense the normal metering equipment for the size and type of load served. The Utility will provide at the customer's expense other metering equipment on both the service and the alternate source as determined to be necessary by the Utility. Meters installed hereunder shall not allow reverse registration.

5. CIRCUIT BREAKER SETTING: Where a circuit breaker is used to limit the maximum load upon the Utility's system, the Contract Capacity may be based upon the setting of such circuit breaker, in which case it will be 80% of the load in kVa at which the circuit breaker will open instantaneously. Such circuit breaker setting will not be reduced during the contract period, but may be increased upon request of the customer and the signing of a new 3-year contract.

6. DEMAND: When the Utility's service is used for stand-by (either alone or in combination with other load through the same meter) and the customer submits to the Utility records showing to the satisfaction of the Utility what part of the load on the Utility's system in any month was due to scheduled shutdown, forced shutdown or failure of customer's plant (or other source) or a portion thereof for which a stand-by charge is being paid, then the Contract Capacity used to determine charges hereunder in that month will be reduced by a number of kilowatts equal to the number of kilowatts of metered demand caused by such shutdown or failure and for which a demand charge under the Regular Schedule Applicable (in excess of the stand-by charge) is paid in that month. Increases in metered demand resulting from abnormal Utility system operation will be ignored for the purpose of determining demand charges under the Regular Schedule Applicable during the first hour after the event causing such demand.

7. CONTRACT: This schedule is applicable only on a 3-year contract when stand-by service is first rendered in any instance and year by year thereafter. If the customer at any time increases the capacity of the customer's plant (or other source) or increases the connected load served therefrom, the customer shall promptly so notify the Utility and the Contract Capacity shall be redetermined under the provisions of Special Condition 8 below to be applicable for the month in which such increase occurs and thereafter for so long as such contract shall remain in force or until such contract is again changed in accordance with the provisions hereof.

8. LIMITATION ON CONTRACT CAPACITY SERVED: Stand-by service to new or increased loads is limited to the Utility's ability to serve such loads without jeopardizing service to existing customers on rate schedules providing for firm service, including stand-by service. In the event stand-by service to any load or combination of loads is refused by the Utility, the Utility shall notify the Public Utilities Commission of the State of California (Commission) in writing, setting forth for the full particulars of the matter. Stand-by service to any installation of over 25,000 kilowatts or of an unusual character will require a special contract which shall be subject to approval of the Commission.

(Continued)

SCHEDULE NO. S-1 -- STAND-BY SERVICE (Cont'd.)

SPECIAL CONDITIONS: (Continued)

9. CONTRACT CAPACITY: The Contract Capacity to be used for billing under the above rates shall be as set forth in the customer's contract for service. For new or revised contracts under Special Condition 7 above, the Contract Capacity shall be numerically equal to the lesser of (a) the normal rated capacity of the customer's generating facilities at unity power factor plus similarly rated capcity from any source other than the Utility's system, (b) the maximum amount of connected load in kVa which can be served simultaneously from the customer's generating plant plus capacity from any source other than the Utility's system, or (c) 80% of the circuit breaker setting as provided under Special Condition 5 above.

10. REACTIVE DEMAND: When the customer's plant (or other source) is operated in parallel with the Utility's system, the customer will so design and operate his facilities that the reactive current requirements of the portion of the customer's load supplied from the customer's plant (or other source) are not supplied at any time from the Utility's system. In the event customer places a reactive demand on the Utility in any month in excess of 0.1 kVar per kW of Contract Capacity, the Reactive Demand Charge shall be effective that month and each month thereafter until the customer demonstrates to the Utility's satisfaction that adequate correction has been provided.

11. VOLTAGE ADJUSTMENT: The above stand-by charges are applicable without adjustment for voltage when delivery is made at transmission voltage (60 kV and above). When delivery is made at the standard primary distribution voltage at 2 kV or above available in the area from the utility's distribution line or, where the Utility has elected to supply service at a standard primary distribution voltage from a transmission line, for its operating convenience, from Utility-owned transformers on the customer's property, the above charges for any month will be increased by 10¢ per kW of contract capacity. When (a) delivery is made at less than 2 kV, or (b) when delivery is made by means of Utility-owned transformers at a distribution voltage other than a standard primary distribution voltage, or (c) when delivery is made at a voltage that requires more than one stage of transformation from transmission voltage, the above charges for any month will be increased by 25¢ per kW of contract capacity.

The Utility retains the right to change its line voltage at any time, after reasonable advance notice to any customer affected by such change, and such customer then has the option to change his system so as to receive service at the new line voltage or to accept service through transformers to be supplied by Utility subject to the voltage adjustment above.

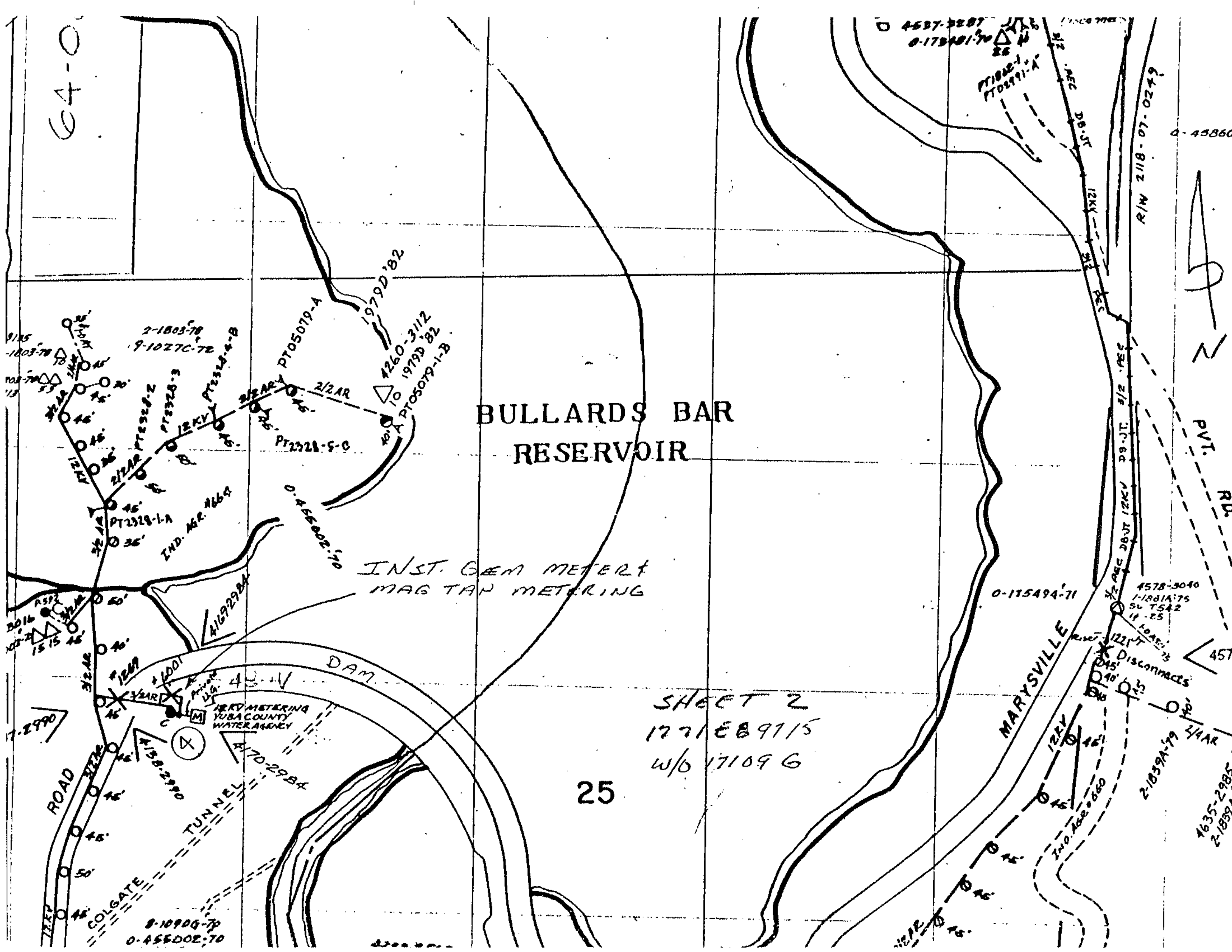
12. EXCESS OFF PEAK SERVICE: Excess off-peak stand-by service is available only where the Regular Schedule Applicable is Schedule No. A-22 or A-23 and applies to service which is provided only during the off peak periods specified therein and which is in excess of other stand-by service, if any.

13. DEFINITIONS:

(a) CO-GENERATION TECHNOLOGY -- The use for the generation of electricity of exhaust system, waste steam, heat, or resultant energy from an industrial, commercial, or manufacturing plant or process, or the use of exhaust steam, waste steam, or heat from a thermal powerplant for an industrial, commercial, or manufacturing plant or process.

(b) RENEWABLE RESOURCE -- Those sources of energy which are not diminished by use for electric generation, including wind power; solar heat, either direct conversion or steam; steam where the energy source is rubbish, animal waste or other waste fuel not a fossil fuel or a derivation thereof; tidal or wave energy; and geothermal energy. The use of renewable resources may or may not employ Co-generation Technology.

F-2 POINT OF DELIVERY LOCATION SKETCH



BULLARDS BAR
RESERVOIR
MARYSVILLE
PVT. RD.
ROAD
DAM
COLGATE TUNNEL
25
SHEET 2
1771 E8 91/5
W/O 17109 G
INST. GEM METER &
MAG TAP METERING
YUBA COUNTY WATER AGENCY
Disconnects
12KV
R/W 2118-07-0249
PT05079-A
PT05079-1-B
4260-3112
1979D '82
PT2328-1-A
PT2328-5-C
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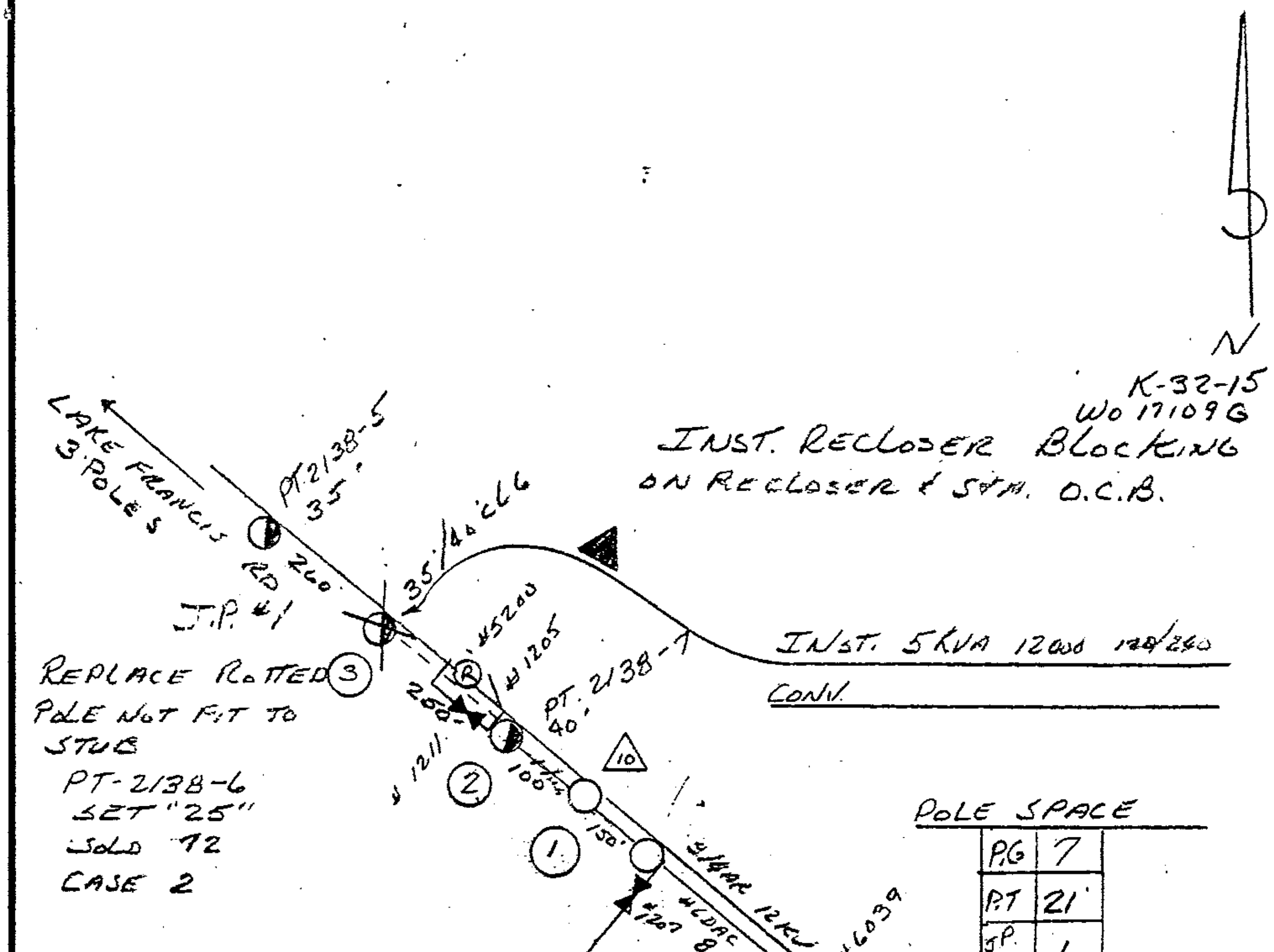
4578-3040



SUMMER INT. ~~WINTER~~
INSL. DIST. B C D
LTG. AREA 1 2
VOLT. AREA 2 3
LOADING L I H
FIRE AREA

LOC.	I R	KVA	MAKE	SERIAL NO.	VOLTAGE	NEW OLD	SP CON	COORDINATE NO.	EST. DEMAND/DATA
3	I				12000 120/240			222218761083	N/A

APPROVED BY

REV.	DATE	DESCRIPTION	GM	DWN.	CHKD.	SUPV.	APVD.

GM
SUPV.
DSGN.
DWN.
CHKD.
O.K.
DATE SCALE

YUBA COUNTY WATER AGENCY
CO-GENERATION

PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

B/M
DWG. LIST
SUPSDS
SUPSD BY
SHEET NO. 1-2 SHEETS
DRAWING NUMBER REV.
MICROFILM

F-3 INTERCONNECTION FACILITIES FOR WHICH SELLER IS RESPONSIBLE

- Step down Transformer (12000V/480V).
- 12 KV ground fault detection scheme.
- Low-side disconnect switch (visually open and lockable).
- Metering housing and sockets w/conduit.