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PACIFIC GAS AND ELECTRIC COMPANY
STANDARD OFFER #4
POWER PURCHASE AGREEMENT
FOR
LONG-TERM ENERGY AND CAPACITY

Project: Grasshopper Hydroelectric Project
Location: Nelson Creek near Big Bend, Shasta County
Nameplate Rating: 1,100 kW
Seller: Henwood Associates
Energy Source: Water

MAY 1984

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STANDARD OFFER #4:
LONG-TERM ENERGY AND CAPACITY
POWER PURCHASE AGREEMENT

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LONG-TERM ENERGY AND CAPACITY
POWER PURCHASE AGREEMENT
BETWEEN
HENWOOD ASSOCIATES, INC.
AND
PACIFIC GAS AND ELECTRIC COMPANY

HENWOOD ASSOCIATES, INC. ("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 Facility¹ 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.).

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

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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 12 kV.

(b) Seller shall provide capacity and energy from its 1,100 kW ^{2/MDH} Facility located at Nelson Creek near Big Bend, Section 29, T37N, R1E, M.D.B.M., Shasta County, California.

(c) The scheduled operation date of the Facility is March 30, 1986. 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 _____ kW.¹

(e) The primary energy source for the Facility is water.

¹ To be determined upon completion of the detailed interconnection study.

^{2/MDH} Nameplate rating may be reduced based on specific equipment purchased.

ho

1 (f) If Seller does not begin construction of its
2 Facility by January 31, 1986, PGandE may reallocate the
3 existing capacity on PGandE's transmission and/or
4 distribution system which would have been used to
5 accommodate Seller's power deliveries to other uses. In the
6 event of such reallocation, Seller shall pay PGandE for the
7 cost of any upgrades or additions to PGandE's system
8 necessary to accommodate the output from the Facility. Such
9 additional facilities shall be installed, owned and
10 maintained in accordance with the applicable PGandE tariff.

11
12 (g) The transformer loss adjustment factor is _____¹.

13
14 ARTICLE 4 ENERGY PRICE

15
16 PGandE shall pay Seller for its net energy output²
17 under the energy payment option checked below³:

18
19 X Energy Payment Option 1 - Forecasted Energy Prices

20
21 _____
22 ¹ If Seller chooses to have meters placed on Seller's side of the
23 transformer, an estimated transformer loss adjustment factor of 2
24 percent, unless the Parties agree otherwise, will be applied. This
25 estimated transformer loss figure will be adjusted to a measurement
of actual transformer losses performed at Seller's request and
expense. To be determined upon completion of the detailed
interconnection study.

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

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

1 During the fixed price period, Seller shall be
2 paid for energy delivered at prices equal to sixty (60)
3 percent¹ of the prices set forth in Table B-1, Appen-
4 dix B, plus forty (40) percent² of PGandE's full
5 short-run avoided operating costs.

6
7 For the remaining years of the term of agreement,
8 Seller shall be paid for energy delivered at prices
9 equal to PGandE's full short-run avoided operating
10 costs.

11
12 If Seller's Facility is not an oil or gas-fired
13 cogeneration facility, Seller may convert from Energy
14 Payment Option 1 to Energy Payment Option 2 and be
15 subject to the conditions therein, provided that Seller
16 shall not change the percentage of energy prices to be
17 based on PGandE's full short-run avoided operating
18 costs. Such conversion must be made at least 90 days
19 prior to the date of initial energy deliveries and must
20 be made by written notice in accordance with
21 Section A-17, Appendix A.

22
23 _____ Energy Payment Option 2 - Levelized Energy Prices
24 _____

25
26 ¹ Insert either 0, 20, 40, 60, 80, or 100, at Seller's option. If
27 Seller's Facility is an oil or gas-fired cogeneration facility,
28 either 0 or 20 must be inserted.

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

1 During the fixed price period, Seller shall be
2 paid for energy delivered at prices equal to _____¹
3 percent of the levelized energy prices set forth in
4 Table B-2, Appendix B for the year in which energy
5 deliveries begin and term of agreement, plus _____²
6 percent of PGandE's full short-run avoided operating
7 costs. During the fixed price period, Seller shall be
8 subject to the conditions and terms set forth in
9 Appendix B, Energy Payment Option 2.

10
11 For the remaining years of the term of agreement,
12 Seller shall be paid for energy delivered at prices
13 equal to PGandE's full short-run avoided operating
14 costs.

15
16 Seller may convert from Energy Payment Option 2 to
17 Energy Payment Option 1, provided that Seller shall not
18 change the percentage of energy prices to be based on
19 PGandE's full short-run avoided operating costs. Such
20 conversion must be made at least 90 days prior to the
21 date of initial energy deliveries and must be made by
22 written notice in accordance with Section A-17,
23 Appendix A.

24
25 _____
26 ¹ Insert either 20, 40, 60, 80, or 100, at Seller's option.

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

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_____ 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

<u>Year</u>	<u>Incremental Energy Rate Band Widths</u> (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.

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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 fixed price period of this Agreement, except for the percentage of payments that Seller elected in Article 4 to have calculated based on PGandE's full short-run avoided operating costs. Energy Loss Adjustment Factors for all payments related to PGandE's full short-run avoided operating costs are subject to CPUC rulings for the entire term of agreement.

ARTICLE 7 CURTAILMENT

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

- Curtailment Option A - Hydro Spill and Negative Avoided Cost
- Curtailment Option B - Adjusted Price Period

The two options are described in Appendix C.

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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

1 To Seller: President
2 Henwood Associates, Inc.
3 1818 11th Street, Suite 4
4 Sacramento, CA 95814

5
6 ARTICLE 10 DESIGNATED SWITCHING CENTER

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

9 Pit 3 Powerhouse
10 Big Bend Road, Burney
11 (916) 335-2266

12 ARTICLE 11 TERMS AND CONDITIONS

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

- 15 Appendix A - GENERAL TERMS AND CONDITIONS
16 Appendix B - ENERGY PAYMENT OPTIONS
17 Appendix C - CURTAILMENT OPTIONS
18 Appendix D - AS-DELIVERED CAPACITY
19 Appendix E - FIRM CAPACITY
20 Appendix F - INTERCONNECTION

21 ARTICLE 12 TERM OF AGREEMENT

22
23 This Agreement shall be binding upon execution and
24 remain in effect thereafter for thirty (30) years¹ from the
25

26
27 ¹ The minimum contract term is 15 years and the maximum contract term
28 is 30 years.

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date of initial energy deliveries¹; 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.

HENWOOD ASSOCIATES, INC.

PACIFIC GAS AND ELECTRIC COMPANY

BY: Mark Henwood
MARK HENWOOD

BY: Nolan Daines
NOLAN H. DAINES
Vice President -

TITLE: President

TITLE: Planning and Research

DATE SIGNED: Sept 29, 1984

DATE SIGNED: 10/5/84

¹ 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.

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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

1 the date of deration or termination to the end of the term
2 of agreement.

3
4 Designated PGandE switching center - That switching
5 center or other PGandE installation identified in
6 Article 10.

7
8 Facility - That generation apparatus described in
9 Article 3 and all associated equipment owned, maintained,
10 and operated by Seller.

11
12 Firm capacity - That capacity, if any, identified as
13 firm in Article 5 except as otherwise changed as provided
14 herein.

15
16 Firm capacity availability date - The day following
17 the day during which all features and equipment of the
18 Facility are demonstrated to PGandE's satisfaction to be
19 capable of operating simultaneously to deliver firm capacity
20 continuously into PGandE's system as provided in this
21 Agreement.

22
23 Firm capacity price - The price for firm capacity
24 applicable for the firm capacity availability date and the
25 number of years of firm capacity delivery from the firm
26 capacity price schedule, Table E-2, Appendix E.

27
28

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

4 Fixed price period - The period during which
5 forecasted or levelized energy prices, and/or forecasted
6 as-delivered capacity prices, are in effect; defined as the
7 first five years of the term of agreement if the term of
8 agreement is 15 or 16 years; the first six years of the term
9 of agreement if the term of agreement is 17, 18, or 19
10 years; or the first ten years of the term of agreement if
11 the term of agreement is anywhere from 20 through 30 years.
12

13 Forced outage - Any outage resulting from a design
14 defect, inadequate construction, operator error or a
15 breakdown of the mechanical or electrical equipment that
16 fully or partially curtails the electrical output of the
17 Facility.
18

19 Full short-run avoided operating costs -
20 CPUC-approved costs which are the basis of PGandE's
21 published energy prices. PGandE's current energy price
22 calculation is shown in Table B-5, Appendix B. PGandE's
23 published off-peak hours' prices shall be adjusted, as
24 appropriate, if Seller has selected Curtailment Option B.
25
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1 Interconnection facilities - All means required and
2 apparatus installed to interconnect and deliver power from
3 the Facility to the PGandE system including, but not limited
4 to, connection, transformation, switching, metering,
5 communications, and safety equipment, such as equipment
6 required to protect (1) the PGandE system and its customers
7 from faults occurring at the Facility, and (2) the Facility
8 from faults occurring on the PGandE system or on the systems
9 of others to which the PGandE system is directly or
10 indirectly connected. Interconnection facilities also
11 include any necessary additions and reinforcements by PGandE
12 to the PGandE system required as a result of the
13 interconnection of the Facility to the PGandE system.

14
15 Net energy output - The Facility's gross output in
16 kilowatt-hours less station use and transformation and
17 transmission losses to the point of delivery into the PGandE
18 system. Where PGandE agrees that it is impractical to
19 connect the station use on the generator side of the power
20 purchase meter, PGandE may, at its option, apply a station
21 load adjustment.

22
23 Prudent electrical practices - Those practices,
24 methods, and equipment, as changed from time to time, that
25 are commonly used in prudent electrical engineering and
26
27
28

1 operations to design and operate electric equipment lawfully
2 and with safety, dependability, efficiency, and economy.

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

8
9 Special facilities - Those additions and
10 reinforcements to the PGandE system which are needed to
11 accommodate the maximum delivery of energy and capacity from
12 the Facility as provided in this Agreement and those parts
13 of the interconnection facilities which are owned and
14 maintained by PGandE at Seller's request, including metering
15 and data processing equipment. All special facilities shall
16 be owned, operated, and maintained pursuant to PGandE's
17 electric Rule No. 21, which is attached hereto.

18
19 Station use - Energy used to operate the Facility's
20 auxiliary equipment. The auxiliary equipment includes, but
21 is not limited to, forced and induced draft fans, cooling
22 towers, boiler feed pumps, lubricating oil systems, plant
23 lighting, fuel handling systems, control systems, and sump
24 pumps.

25
26 Surplus energy output - The Facility's gross output,
27 in kilowatt-hours, less station use, and any other use by
28

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

3
4 Term of agreement - The number of years this
5 Agreement will remain in effect as provided in Article 12.

6
7 Voltage level - The voltage at which the Facility
8 interconnects with the PGandE system, measured at the point
9 of delivery.

10
11 A-2 CONSTRUCTION

12
13 A-2.1 Land Rights

14
15 Seller hereby grants to PGandE all necessary rights
16 of way and easements, including adequate and continuing
17 access rights on property of Seller, to install, operate,
18 maintain, replace, and remove the special facilities.
19 Seller agrees to execute such other grants, deeds, or
20 documents as PGandE may require to enable it to record such
21 rights of way and easements. If any part of PGandE's
22 equipment is to be installed on property owned by other than
23 Seller, Seller shall, at its own cost and expense, obtain
24 from the owners thereof all necessary rights of way and
25 easements, in a form satisfactory to PGandE, for the
26 construction, operation, maintenance, and replacement of
27 PGandE's equipment upon such property. If Seller is unable

1 to obtain such rights of way and easements, Seller shall
2 reimburse PGandE for all costs incurred by PGandE in
3 obtaining them. PGandE shall at all times have the right of
4 ingress to and egress from the Facility at all reasonable
5 hours for any purposes reasonably connected with this
6 Agreement or the exercise of any and all rights secured to
7 PGandE by law or its tariff schedules.

8
9 A-2.2 Design, Construction, Ownership, and Maintenance

10
11 (a) Seller shall design, construct, install, own,
12 operate, and maintain all interconnection facilities, except
13 special facilities, to the point of interconnection with the
14 PGandE system as required for PGandE to receive capacity and
15 energy from the Facility. The Facility and interconnection
16 facilities shall meet all requirements of applicable codes
17 and all standards of prudent electrical practices and shall
18 be maintained in a safe and prudent manner. A description
19 of the interconnection facilities for which Seller is solely
20 responsible is set forth in Appendix F, or if the
21 interconnection requirements have not yet been determined at
22 the time of the execution of this Agreement, the description
23 of such facilities will be appended to this Agreement at the
24 time such determination is made.

25
26 (b) Seller shall submit to PGandE the design and all
27 specifications for the interconnection facilities (except
28 special facilities) and, at PGandE's option, the Facility,

1 for review and written acceptance prior to their release for
2 construction purposes. PGandE shall notify Seller in
3 writing of the outcome of PGandE's review of the design and
4 specifications for Seller's interconnection facilities (and
5 the Facility, if requested) within 30 days of the receipt of
6 the design and all of the specifications for the
7 interconnection facilities (and the Facility, if requested).
8 Any flaws perceived by PGandE in the design and
9 specifications for the interconnection facilities (and the
10 Facility, if requested) will be described in PGandE's
11 written notification. PGandE's review and acceptance of the
12 design and specifications shall not be construed as
13 confirming or endorsing the design and specifications or as
14 warranting their safety, durability, or reliability. PGandE
15 shall not, by reason of such review or lack of review, be
16 responsible for strength, details of design, adequacy, or
17 capacity of equipment built pursuant to such design and
18 specifications, nor shall PGandE's acceptance be deemed to
19 be an endorsement of any of such equipment. Seller shall
20 change the interconnection facilities as may be reasonably
21 required by PGandE to meet changing requirements of the
22 PGandE system.

23
24 (c) In the event it is necessary for PGandE to
25 install interconnection facilities for the purposes of this
26 Agreement, they shall be installed as special facilities.
27
28

1 (d) Upon the request of Seller, PGandE shall provide
2 a binding estimate for the installation of interconnection
3 facilities by PGandE.
4

5 A-2.3 Meter Installation

6 (a) PGandE shall specify, provide, install, own,
7 operate, and maintain as special facilities all metering and
8 data processing equipment for the registration and recording
9 of energy and other related parameters which are required
10 for the reporting of data to PGandE and for computing the
11 payment due Seller from PGandE.
12

13 (b) Seller shall provide, construct, install, own,
14 and maintain at Seller's expense all that is required to
15 accommodate the metering and data processing equipment, such
16 as, but not limited to, metal-clad switchgear, switchboards,
17 cubicles, metering panels, enclosures, conduits, rack
18 structures, and equipment mounting pads.
19

20 (c) PGandE shall permit meters to be fixed on
21 PGandE's side of the transformer. If meters are placed on
22 PGandE's side of the transformer, service will be provided
23 at the available primary voltage and no transformer loss
24 adjustment will be made. If Seller chooses to have meters
25 placed on Seller's side of the transformer, an estimated
26 transformer loss adjustment factor of 2 percent, unless the
27 Parties agree otherwise, will be applied.
28

1 A-3 OPERATION

2
3 A-3.1 Inspection and Approval

4
5 Seller shall not operate the Facility in parallel
6 with PGandE's system until an authorized PGandE
7 representative has inspected the interconnection facilities,
8 and PGandE has given written approval to begin parallel
9 operation. Seller shall notify PGandE of the Facility's
10 start-up date at least 45 days prior to such date. PGandE
11 shall inspect the interconnection facilities within 30 days
12 of the receipt of such notice. If parallel operation is not
13 authorized by PGandE, PGandE shall notify Seller in writing
14 within five days after inspection of the reason
15 authorization for parallel operation was withheld.

16
17 A-3.2 Facility Operation and Maintenance

18
19 Seller shall operate and maintain its Facility
20 according to prudent electrical practices, applicable laws,
21 orders, rules, and tariffs and shall provide such reactive
22 power support as may be reasonably required by PGandE to
23 maintain system voltage level and power factor. Seller
24 shall operate the Facility at the power factors or voltage
25 levels prescribed by PGandE's system dispatcher or design-
26 nated representative. If Seller fails to provide reactive
27 power support, PGandE may do so at Seller's expense.

28

1 A-3.3 Point of Delivery

2
3 Seller shall deliver the energy at the point where
4 Seller's electrical conductors (or those of Seller's agent)
5 contact PGandE's system as it shall exist whenever the
6 deliveries are being made or at such other point or points
7 as the Parties may agree in writing. The initial point of
8 delivery of Seller's power to the PGandE system is set forth
9 in Appendix F.

10
11 A-3.4 Operating Communications

12
13 (a) Seller shall maintain operating communications
14 with the designated PGandE switching center. The operating
15 communications shall include, but not be limited to, system
16 paralleling or separation, scheduled and unscheduled
17 shutdowns, equipment clearances, levels of operating voltage
18 or power factors and daily capacity and generation reports.

19
20 (b) Seller shall keep a daily operations log for
21 each generating unit which shall include information on unit
22 availability, maintenance outages, circuit breaker trip
23 operations requiring a manual reset, and any significant
24 events related to the operation of the Facility.

25
26 (c) If Seller makes deliveries greater than one
27 megawatt, Seller shall measure and register on a graphic
28 recording device power in kW and voltage in kV at a location

1 within the Facility agreed to by both Parties.

2
3 (d) If Seller makes deliveries greater than one and
4 up to and including ten megawatts, Seller shall report to
5 the designated PGandE switching center, twice a day at
6 agreed upon times for the current day's operation, the
7 hourly readings in kW of capacity delivered and the energy
8 in kWh delivered since the last report.

9
10 (e) If Seller makes deliveries of greater than ten
11 megawatts, Seller shall telemeter the delivered capacity and
12 energy information, including real power in kW, reactive
13 power in kVAR, and energy in kWh to a switching center
14 selected by PGandE. PGandE may also require Seller to
15 telemeter transmission kW, kVAR, and kV data depending on
16 the number of generators and transmission configuration.
17 Seller shall provide and maintain the data circuits required
18 for telemetering. When telemetering is inoperative, Seller
19 shall report daily the capacity delivered each hour and the
20 energy delivered each day to the designated PGandE switching
21 center.

22
23 A-3.5 Meter Testing and Inspection

24
25 (a) All meters used to provide data for the
26 computation of the payments due Seller from PGandE shall be
27 sealed, and the seals shall be broken only by PGandE when
28 the meters are to be inspected, tested, or adjusted.

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

10
11 A-3.6 Adjustments to Meter Measurements

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

23
24
25 A-4 PAYMENT

26 PGandE shall mail to Seller not later than 30 days
27 after the end of each monthly billing period (1) a statement
28

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

11
12 A-5 ADJUSTMENTS OF PAYMENTS

13
14 (a) In the event adjustments to payments are
15 required as a result of inaccurate meters, PGandE shall use
16 the corrected measurements described in Section A-3.6 to
17 recompute the amount due from PGandE to Seller for the
18 capacity and energy delivered under this Agreement during
19 the period of inaccuracy.

20
21 (b) The additional payment to Seller or refund to
22 PGandE shall be made within 30 days of notification of the
23 owing Party of the amount due.

24
25 A-6 ACCESS TO RECORDS AND PGandE DATA

26
27 Each Party, after giving reasonable written notice to
28 the other Party, shall have the right of access to all

1 metering and related records including operations logs of
2 the Facility. Data filed by PGandE with the CPUC pursuant
3 to CPUC orders governing the purchase of power from
4 qualifying facilities shall be provided to Seller upon
5 request; provided that Seller shall reimburse PGandE for the
6 costs it incurs to respond to such request.

7
8 A-7 INTERRUPTION OF DELIVERIES

9
10 PGandE shall not be obligated to accept or pay for
11 and may require Seller to interrupt or reduce deliveries of
12 energy (1) when necessary in order to construct, install,
13 maintain, repair, replace, remove, investigate, or inspect
14 any of its equipment or any part of its system, or (2) if it
15 determines that interruption or reduction is necessary
16 because of PGandE system emergencies, forced outages, force
17 majeure, or compliance with prudent electrical practices;
18 provided that PGandE shall not interrupt deliveries pursuant
19 to this section in order to take advantage, or make
20 purchases, of less expensive energy elsewhere. Whenever
21 possible, PGandE shall give Seller reasonable notice of the
22 possibility that interruption or reduction of deliveries may
23 be required.

24
25 A-8 FORCE MAJEURE

26
27 (a) The term force majeure as used herein means
28 unforeseeable causes, other than forced outages, beyond the

1 reasonable control of and without the fault or negligence of
2 the Party claiming force majeure including, but not limited
3 to, acts of God, labor disputes, sudden actions of the
4 elements, actions by federal, state, and municipal agencies,
5 and actions of legislative, judicial, or regulatory agencies
6 which conflict with the terms of this Agreement.

7
8 (b) If either Party because of force majeure is
9 rendered wholly or partly unable to perform its obligations
10 under this Agreement, that Party shall be excused from
11 whatever performance is affected by the force majeure to the
12 extent so affected provided that:

13
14 (1) the non-performing Party, within two weeks
15 after the occurrence of the force majeure, gives the
16 other Party written notice describing the particulars
17 of the occurrence,

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

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

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

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

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

10 (c) In the event a Party is unable to perform due to
11 legislative, judicial, or regulatory agency action, this
12 Agreement shall be renegotiated to comply with the legal
13 change which caused the non-performance.
14

15
16 A-9 INDEMNITY

17 Each Party as indemnitor shall save harmless and
18 indemnify the other Party and the directors, officers, and
19 employees of such other Party against and from any and all
20 loss and liability for injuries to persons including
21 employees of either Party, and property damages including
22 property of either Party resulting from or arising out of
23 (1) the engineering, design, construction, maintenance, or
24 operation of, or (2) the making of replacements, additions,
25 or betterments to, the indemnitor's facilities. This
26 indemnity and save harmless provision shall apply
27 notwithstanding the active or passive negligence of the
28

1 indemnatee. Neither Party shall be indemnified hereunder
2 for its liability or loss resulting from its sole negligence
3 or willful misconduct. The indemnitor shall, on the other
4 Party's request, defend any suit asserting a claim covered
5 by this indemnity and shall pay all costs, including
6 reasonable attorney fees, that may be incurred by the other
7 Party in enforcing this indemnity.

8
9 A-10 LIABILITY; DEDICATION

10
11 (a) Nothing in this Agreement shall create any duty
12 to, any standard of care with reference to, or any liability
13 to any person not a Party to it. Neither Party shall be
14 liable to the other Party for consequential damages.

15
16 (b) Each Party shall be responsible for protecting
17 its facilities from possible damage by reason of electrical
18 disturbances or faults caused by the operation, faulty
19 operation, or nonoperation of the other Party's facilities,
20 and such other Party shall not be liable for any such
21 damages so caused.

22
23 (c) No undertaking by one Party to the other under
24 any provision of this Agreement shall constitute the
25 dedication of that Party's system or any portion thereof to
26 the other Party or to the public or affect the status of
27 PGandE as an independent public utility corporation or
28 Seller as an independent individual or entity and not a

1 public utility.

2
3 A-11 SEVERAL OBLIGATIONS

4
5 Except where specifically stated in this Agreement to
6 be otherwise, the duties, obligations, and liabilities of
7 the Parties are intended to be several and not joint or
8 collective. Nothing contained in this Agreement shall ever
9 be construed to create an association, trust, partnership,
10 or joint venture or impose a trust or partnership duty,
11 obligation, or liability on or with regard to either Party.
12 Each Party shall be liable individually and severally for
13 its own obligations under this Agreement.

14
15 A-12 NON-WAIVER

16
17 Failure to enforce any right or obligation by either
18 Party with respect to any matter arising in connection with
19 this Agreement shall not constitute a waiver as to that
20 matter or any other matter.

21
22 A-13 ASSIGNMENT

23
24 Neither Party shall voluntarily assign its rights nor
25 delegate its duties under this Agreement, or any part of
26 such rights or duties, without the written consent of the
27 other Party, except in connection with the sale or merger of
28 a substantial portion of its properties. Any such

1 assignment or delegation made without such written consent
2 shall be null and void. Consent for assignment shall not be
3 withheld unreasonably. Such assignment shall include,
4 unless otherwise specified therein, all of Seller's rights
5 to any refunds which might become due under this Agreement.
6

7 A-14 CAPTIONS

8 All indexes, titles, subject headings, section
9 titles, and similar items are provided for the purpose of
10 reference and convenience and are not intended to affect the
11 meaning of the contents or scope of this Agreement.
12

13
14 A-15 CHOICE OF LAWS

15 This Agreement shall be interpreted in accordance
16 with the laws of the State of California, excluding any
17 choice of law rules which may direct the application of the
18 laws of another jurisdiction.
19

20
21 A-16 GOVERNMENTAL JURISDICTION AND AUTHORIZATION

22 Seller shall obtain any governmental authorizations
23 and permits required for the construction and operation of
24 the Facility. Seller shall reimburse PGandE for any and all
25 losses, damages, claims, penalties, or liability it incurs
26 as a result of Seller's failure to obtain or maintain such
27 authorizations and permits.
28

1 A-17 NOTICES

2
3 Any notice, demand, or request required or permitted
4 to be given by either Party to the other, and any instrument
5 required or permitted to be tendered or delivered by either
6 Party to the other, shall be in writing (except as provided
7 in Section E-3) and so given, tendered, or delivered, as the
8 case may be, by depositing the same in any United States
9 Post Office with postage prepaid for transmission by
10 certified mail, return receipt requested, addressed to the
11 Party, or personally delivered to the Party, at the address
12 in Article 9 of this Agreement. Changes in such designation
13 may be made by notice similarly given.

14
15 A-18 INSURANCE

16
17 A-18.1 General Liability Coverage

18
19 (a) Seller shall maintain during the performance
20 hereof, General Liability Insurance¹ of not less than
21 \$1,000,000 if the Facility is over 100 kW, \$500,000 if the
22 Facility is over 20 kW to 100 kW, and \$100,000 if the
23 Facility is 20 kW or below of combined single limit or
24 equivalent for bodily injury, personal injury, and property
25 damage as the result of any one occurrence.

26
27 ¹ Governmental agencies which have an established record of
28 self-insurance may provide the required coverage through
self-insurance.

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

6
7 (c) Such insurance, by endorsement to the
8 policy(ies), shall include PGandE as an additional insured
9 if the Facility is over 100 kW insofar as work performed by
10 Seller for PGandE is concerned, shall contain a severability
11 of interest clause, shall provide that PGandE shall not by
12 reason of its inclusion as an additional insured incur
13 liability to the insurance carrier for payment of premium
14 for such insurance, and shall provide for 30-days' written
15 notice to PGandE prior to cancellation, termination,
16 alteration, or material change of such insurance.

17
18 A-18.2 Additional Insurance Provisions

19
20 (a) Evidence of coverage described above in Section
21 A-18.1 shall state that coverage provided is primary and is
22 not excess to or contributing with any insurance or
23 self-insurance maintained by PGandE.

24
25 (b) PGandE shall have the right to inspect or obtain
26 a copy of the original policy(ies) of insurance.
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(c) Seller shall furnish the required certificates¹ and endorsements to PGandE prior to commencing operation.

(d) All insurance certificates¹, 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 fixed price period 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.

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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.

1 Energy Payment Option 2 - Levelized Energy Prices

2 Pursuant to Article 4, the energy payment calculation
3 for Seller's energy deliveries during the fixed price period
4 shall include the appropriate prices set forth in Table B-2
5 for the year in which energy deliveries begin and term of
6 agreement, multiplied by the percentage Seller has specified
7 in Article 4. If Seller has selected Curtailment Option B
8 in Article 7, the levelized off-peak hours' energy prices
9 listed in Table B-2 shall be adjusted upward by 7.7% for
10 Period A and 9.6% for Period B. The discount specified in
11 (c)(vi) below, if applicable, will be applied to the energy
12 payments during the fixed price period.
13

14 During the fixed price period, Seller shall be subject
15 to the following conditions and terms:
16

17 (a) Minimum Damages
18

19 The Parties agree that the levelized energy prices
20 which PGandE pays Seller for the energy which Seller
21 delivers to PGandE is based on the agreed value to
22 PGandE of Seller's energy deliveries during the entire
23 fixed price period. In the event PGandE does not
24 receive such full performance by reason of a
25 termination, Seller shall pay PGandE an amount based on
26 the difference between the net present values, at the
27
28

1 time of termination, of the payments Seller would
 2 receive at the forecasted energy prices in Table B-1
 3 and the payments Seller would receive at the levelized
 4 energy prices, for the remaining years of the fixed
 5 price period. This amount shall be calculated by
 6 assuming that Seller continued to generate for the
 7 remaining years of the fixed price period at a level
 8 equal to the average annual energy generation during
 9 the period of performance, and by applying the weighted
 10 annual average levelized price applicable to Seller's
 11 Facility and the weighted annual average forecasted
 12 energy prices in Table B-1 for the remaining years of
 13 the fixed price period. The following formula shall be
 14 used to make this calculation:

$$15 \quad P = \sum_{n=1}^Y \frac{(F_n)(A)(W)}{(1.15)^n} - \sum_{n=1}^Y \frac{(L)(A)(W)}{(1.15)^n}$$

16
 17
 18 where:

19
 20 P = amount due PGandE.

21 Y = number of years remaining in the fixed price
 22 period.

23 F_n = weighted annual average forecasted energy
 24 price in the n^{th} year after the breach,
 25 failure to perform, or expiration of
 26 security, as shown in Table B-1 for the
 27 corresponding calendar year.
 28

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

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

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

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

10 (b) Performance Requirements

11
12 Seller shall operate and maintain the Facility in
13 accordance with prudent electrical practices in order
14 to maximize the likelihood that the Facility's output
15 as delivered to PGandE during the part of the fixed
16 price period when the levelized price is below the
17 forecasted price ("last part") shall equal or exceed
18 70% of the Facility's output during the part of the
19 fixed price period when the levelized price is above
20 the forecasted price ("first part"). In the event that
21 the Facility's output during any year or series of
22 years in the last part of the fixed price period is
23 less than 70% of the average annual production during
24 the first part of the fixed price period, PGandE may,
25 at its discretion (taking into consideration events
26 occurring during such year or series of years such as
27 curtailment by PGandE, Seller's choice not to operate
28

1 during adjusted price periods, or scheduled maintenance
2 including major overhauls, and the probability that
3 Seller's future performance will be adequate), either
4 request payment from Seller or immediately draw on the
5 security posted, up to the amount equal to
6 $P \times \frac{A-B}{A}$, where:

7
8 P and A are as defined in Section (a) above.

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

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

21
22
23 (c) Security

24
25 (1) As security for amounts which Seller may be
26 obligated to pay PGandE pursuant to Sections (a)
27 and (b) above, Seller shall provide and maintain
28 one or more of the following in an amount as

1 described in Section (c)(2) below.

2
3 (i) An irrevocable bank letter of credit
4 delivered to and *in favor of PGandE with
5 terms acceptable to PGandE.

6
7 (ii) A payment bond providing for payment to
8 PGandE in the event of any failure to meet
9 the performance requirements set forth in
10 Section (b) above or breach of this Agreement
11 by Seller. Such bond shall be issued by a
12 surety company acceptable to PGandE and shall
13 have terms acceptable to PGandE.

14
15 (iii) Fully paid up, noncancellable Project Failure
16 Insurance made payable to PGandE with terms
17 of such policy(ies) acceptable to PGandE.

18
19 (iv) A performance bond providing for payment to
20 PGandE in the event of any failure to meet
21 the performance requirements set forth in
22 Section (b) above or breach of this Agreement
23 by Seller. Such bond shall be issued by a
24 surety company acceptable to PGandE and shall
25 have terms acceptable to PGandE.

26
27 (v) A corporate guarantee of payment to PGandE
28 which PGandE deems, in its sole discretion,

1 to provide at least the same quality of
2 security as subsections (i) through (iv)
3 above.

4
5 (vi) Other forms of security which PGandE does not
6 deem to be equivalent security to those
7 listed in subsections (i) through (v) above,
8 and which PGandE, in its sole discretion,
9 deems adequate. Such other forms of security
10 may include, for example, a corporate
11 guarantee or a lien, mortgage or deed of
12 trust on the Facility or land upon which it
13 is located. A 1.5% discount will be applied
14 against the levelized energy price portion of
15 PGandE's payments to Seller during the fixed
16 price period if this type of security is
17 provided.

18
19 (2) (i) Commencing 90 days prior to the scheduled
20 operation date and continuing until
21 December 1 of the following calendar year,
22 security as described in Section (c)(1) above
23 shall be in place in an amount calculated in
24 accordance with the formula set forth in
25 Section (a) above, assuming Seller delivered
26 energy through the end of the following
27 calendar year and then terminated this
28 Agreement. For purposes of determining the

1 required amount of security, it shall be
2 assumed that Seller's deliveries through the
3 end of the following calendar year would
4 equal $R \times C \times H$, where:

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

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

12 H = number of hours from the scheduled
13 operation date through the end of
14 the following calendar year.
15

16 (ii) In the second calendar year of operation and
17 each year thereafter until the end of the
18 fixed price period, from December 1 through
19 December 1 of the following year, security
20 shall be in place in an amount calculated by
21 the formula set forth in Section (a) above
22 assuming Seller continued to deliver energy
23 in each month through the end of the
24 following calendar year, at a level equal to
25 the average monthly energy deliveries to
26 date, and then terminated this Agreement.
27

28

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

11
12 (4) If, at any time during the fixed price period,
13 PGandE believes Seller is in material breach of
14 this Agreement, PGandE shall so notify Seller in
15 writing and Seller must remedy such breach within
16 a reasonable period of time. If Seller does not
17 so remedy, PGandE may, at its discretion, either
18 request payment from Seller or immediately draw
19 upon the security posted, up to the amount
20 calculated in accordance with the formula set
21 forth in Section (a) above, provided that if
22 during Seller's period to remedy, Seller disputes
23 PGandE's conclusion that Seller is in material
24 breach, and PGandE elects to draw upon the
25 security, the amount drawn upon by PGandE shall be
26 deposited in an interest earning escrow account
27 and held in such account until the dispute is
28 resolved in accordance with Section (c)(5) below.

1 (5) Upon the written request of either Party, any
2 controversy or dispute between the Parties
3 concerning Section (c)(4) above shall be subject
4 to arbitration in accordance with the provisions
5 of the California Arbitration Act, Sections
6 1280-1294.2 of the California Code of Civil
7 Procedure except as provided otherwise in this
8 section. Either Party may demand arbitration by
9 first giving written notice of the existence of a
10 dispute and then within 30 days of such notice
11 giving a second written notice of the demand for
12 arbitration.

13
14 Within ten days after receipt of the demand for
15 arbitration, each Party shall appoint one person,
16 who shall not be an employee of either Party, to
17 hear and determine the dispute. After both
18 arbitrators have been appointed, they shall within
19 five (5) days select a third arbitrator.

20 The arbitration hearing shall take place in
21 San Francisco, California, within 30 days of the
22 appointment of the arbitrators, at such time and
23 place as they select. The arbitrators shall give
24 written notice of the time of the hearing to both
25 Parties at least ten days prior to the hearing.
26 The arbitrators shall not be authorized to alter,
27 extend, or modify the terms of this Agreement. At
28

1 the hearing, each Party shall submit a proposed
2 written decision, and any relevant evidence may be
3 presented. The decision of the arbitrators must
4 consist of selection of one of the two proposed
5 decisions, in its entirety.

6 The decision of any two arbitrators shall be
7 binding and conclusive as to disputes relating to
8 Section (c)(4) only. Upon determining the matter,
9 the arbitrators shall promptly execute and
10 acknowledge their decision and deliver a copy to
11 each Party. A judgment confirming the award may
12 be rendered by any superior court having
13 jurisdiction. Each Party shall bear its own
14 arbitration costs and expenses, including the cost
15 of the arbitrator it selected, and the costs and
16 expenses of the third arbitrator shall be divided
17 equally between both Parties, except as provided
18 otherwise elsewhere in this Agreement.
19

20 Pending resolution of any controversy or dispute
21 hereunder, performance by each Party shall
22 continue so as to maintain the status quo prior to
23 notice of such controversy or dispute. Resolution
24 of the controversy or dispute shall include
25 payment of any interest accrued in the escrow
26 account.
27

28

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						Weighted Annual Average
	Period A			Period B			
	On-Peak	Partial-Peak	Off-Peak	On-Peak	Partial-Peak	Off-Peak	
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						Weighted Annual Average
	Period A			Period B			
	On-Peak	Partial-Peak	Off-Peak	On-Peak	Partial-Peak	Off-Peak	
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						Weighted Annual Average
	Period A			Period B			
	On-Peak	Partial-Peak	Off-Peak	On-Peak	Partial-Peak	Off-Peak	
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.

1 Energy Payment Option 3 - Incremental Energy Rate

2
3 During the period specified in Article 4, annual
4 adjustments to Seller's energy payments shall be made as
5 described below.

6
7 At the end of each calendar year, the Derived
8 Incremental Energy Rate (with units expressed in Btu/kWh)
9 will be calculated as follows:

10
11 Derived Incremental Energy Rate (DIER) = $\frac{B}{A \times C}$

12 where:

13
14 A = the total kWh delivered by Seller during the
15 calendar year, excluding any kWh delivered
16 when Seller was asked to curtail deliveries
17 under Curtailment Option A or when Seller was
18 asked to take adjusted prices under
19 Curtailment Option B.

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

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

27
28

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

5
6 If the DIER is below the lower Incremental Energy Rate
7 Bound, PGandE shall pay Seller an amount calculated as
8 follows:

9
10
$$P_S = (\text{Lower Incremental Energy Rate Bound} - \text{DIER})(A)(C)$$

11 where:

12 P_S = additional payment due Seller.

13 DIER = Derived Incremental Energy Rate.

14
15 PGandE shall add this payment to the first payment made to
16 Seller following the calculation.

17
18 If the DIER is above the upper Incremental Energy Rate
19 Bound, Seller shall pay PGandE an amount calculated as
20 follows:

21
22
$$P_B = (\text{DIER} - \text{Upper Incremental Energy Rate Bound})(A)(C)$$

23 where:

24 P_B = amount due PGandE.

25 DIER = Derived Incremental Energy Rate.

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

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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	_____	_____	_____

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TABLE B-3 (continued)

Curtailement 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	_____	_____	_____

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TABLE B-4¹
Time Periods

	<u>Monday through Friday²</u>	<u>Saturdays²</u>	<u>Sundays and Holidays</u>
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

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)).

28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

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 (\$/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

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.

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TABLE B-6
Energy Loss Adjustment Factors¹

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

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

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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:

$$\frac{AQF - S}{AQF} \times PP \quad (20)$$

where:

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

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

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

6
7 PGandE shall give Seller notice of general periods when
8 hydro spill conditions are anticipated, and shall give
9 Seller as much advance notice as practical of any specific
10 hydro spill period and the hydro savings price which will be
11 applicable during such period.

12
13 (b) PGandE shall not be obligated to accept or pay for
14 and may require Seller with a Facility with a nameplate
15 rating of one megawatt or greater to interrupt or reduce
16 deliveries of energy during periods when PGandE would incur
17 negative avoided costs (as defined by the CPUC) due to
18 continued acceptance of energy deliveries under this
19 Agreement. Whenever possible, PGandE shall give Seller
20 reasonable notice of the possibility that interruption or
21 reduction of deliveries may be required.

22
23 (c) Before interrupting or reducing deliveries under
24 subsection (b), above, and before invoking hydro savings
25 prices under subsection (a), above, PGandE shall take
26 reasonable steps to make economy sales of the surplus energy
27 giving rise to the condition. If such economy sales are
28 made, while the surplus energy condition exists Seller shall

1 be paid at the economy sales price obtained by PGandE in
2 lieu of the otherwise applicable prices.

3
4 (d) If Seller is selling net energy output to PGandE
5 and simultaneously purchasing its electrical needs from
6 PGandE and Seller elects not to sell energy to PGandE at the
7 hydro savings price pursuant to subsection (a) or when
8 PGandE curtails deliveries of energy pursuant to subsection
9 (b), Seller shall not use such energy to meet its electrical
10 needs but shall continue to purchase all its electrical
11 needs from PGandE. If Seller is selling surplus energy
12 output to PGandE, subsections (a) or (b) shall only apply to
13 the surplus energy output being delivered to PGandE, and
14 Seller can continue to internally use that generation it has
15 retained for its own use.

16
17 CURTAILMENT OPTION B - ADJUSTED PRICE PERIOD

18
19 (a) In each calendar year, the price which PGandE is
20 obligated to pay Seller for energy deliveries during 1,000
21 off-peak hours (as defined in Table B-4, Appendix B) may be
22 adjusted to a price equal to, but not in excess of, PGandE's
23 available alternative source. This adjusted price shall be
24 effective under any of the following conditions:

25
26 (i) when PGandE's energy source at the margin
27 is not a PGandE oil- or gas-fueled plant, and PGandE

1 can replace Seller's energy with energy from this
2 source at a cost less than the price paid to Seller;

3
4 (ii) when PGandE would incur negative avoided
5 costs (as defined by the CPUC) due to continued
6 acceptance of energy deliveries under this Agreement;
7 or

8
9 (iii) when PGandE is experiencing minimum system
10 operations.

11
12 During any of the conditions described above the
13 adjusted price may be zero.

14
15 (b) Whenever possible, PGandE shall give Seller
16 reasonable notice of any price adjustment for energy
17 deliveries and its probable duration.

18
19 (c) If Seller is selling net energy output to PGandE
20 and simultaneously purchasing its electrical needs from
21 PGandE and Seller elects not to sell energy to PGandE at the
22 adjusted price, Seller shall not use such energy to meet its
23 electrical needs but shall continue to purchase all its
24 electrical needs from PGandE.

25
26 (d) After Seller receives notice of the probable
27 duration of the period during which the adjusted price will
28 be paid, Seller may elect to perform maintenance during such

1 period and so inform the PGandE employee in charge at the
2 designated PGandE switching center prior to the time when
3 the adjusted price period is expected to begin. If Seller
4 makes such election, the number of off-peak hours of
5 probable duration quoted in PGandE's notice to Seller shall
6 be applied to the 1,000-hour calendar year limitation set
7 forth in this section. After an election to do maintenance,
8 if Seller makes any deliveries of energy during the quoted
9 probable duration period, Seller shall be paid the adjusted
10 price quoted in its notice from PGandE without regard to any
11 subsequent changes on the PGandE system which may alter the
12 adjusted price or shorten the actual duration of the
13 condition.

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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

1 higher of:

2
3 (i) prices authorized from time to time by the
4 CPUC;

5
6 (ii) the as-delivered capacity prices that were
7 paid Seller in the last year of the fixed
8 price period; or

9
10 (iii) the as-delivered capacity prices in effect in
11 the first year following the end of the fixed
12 price period, provided that the annualized
13 shortage cost from which these prices are
14 derived does not exceed the annualized value
15 of a gas turbine.

16
17 D-2 AS-DELIVERED CAPACITY IN EXCESS OF FIRM CAPACITY

18
19 The amount of capacity delivered in excess of firm
20 capacity will be considered as-delivered capacity. This
21 as-delivered capacity is based on the total kilowatt-hours
22 delivered each month during all on-peak, partial-peak and
23 off-peak hours excluding any energy associated with
24 generation levels equal to or less than the firm capacity.

25
26 Seller has the two options listed in Section D-1 for
27 payment for such as-delivered capacity. Seller has made its
28 selection in Article 5.

EXHIBIT D-1

1
2
3 The as-delivered capacity price (in cents per kW-hr)
4 for power delivered by the Facility is the product of three
5 factors:

6
7 (a) The shortage cost in each year the Facility
8 is operating. Currently, this shortage cost is \$156
9 per kW-year.

10
11 (b) A capacity loss adjustment factor which
12 provides for the effect of the deliveries on PGandE's
13 transmission and distribution losses based on the
14 Seller's interconnection voltage level. The applicable
15 capacity loss adjustment factors for non-remote¹
16 Facilities are presented in Table D-1(a). Capacity
17 loss adjustment factors for remote Facilities shall be
18 calculated individually.

19
20 (c) An allocation factor which accounts for the
21 different values of as-delivered capacity in different
22 time periods and converts dollars per kW-year to cents
23 per kWh. The current allocation factors are presented
24 in Table D-1(b). The time periods to which they apply
25 are shown in Table B-4, Appendix B. The allocation
26 factors are subject to change from time to time.

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28 ¹ As defined by the CPUC.

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TABLE D-1(a)
Capacity Loss Adjustment Factors
for Non-Remote¹ Facilities

<u>Voltage Level</u>	<u>Loss Adjustment Factor</u>
Transmission	.989
Primary Distribution	.991
Secondary Distribution	.991

If the Facility is remote, the capacity loss adjustment factor is 2 ³.

TABLE D-1(b)
Allocation Factors
for As-Delivered Capacity³

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

-
- ¹ As defined by the CPUC. The capacity loss adjustment factors for remote Facilities are determined individually.
 - ² To be determined upon completion of the detailed interconnection study for the Facility.
 - 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.

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TABLE D-2

Forecasted Shortage Cost Schedule

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

APPENDIX E
FIRM CAPACITY

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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 hours¹ 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

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

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

3 (b) If Seller is prevented from meeting the
4 performance requirements because of a forced outage on the
5 PGandE system, a PGandE curtailment of Seller's deliveries,
6 or a condition set forth in Section A-7, Appendix A, PGandE
7 shall continue capacity payments. Firm capacity payments
8 will be calculated in the same manner used for scheduled
9 maintenance outages.
10

11 (c) If Seller is prevented from meeting the
12 performance requirements because of force majeure, PGandE
13 shall continue capacity payments for ninety days from the
14 occurrence of the force majeure. Thereafter, Seller shall
15 be deemed to have failed to have met the performance
16 requirements. Firm capacity payments will be calculated in
17 the same manner used for scheduled maintenance outages.
18

19 (d) If Seller is prevented from meeting the
20 performance requirements because of extreme dry year condi-
21 tions, PGandE shall continue capacity payments. Extreme dry
22 year conditions are drier than those used to establish firm
23 capacity pursuant to Section E-8. Seller shall warrant to
24 PGandE that the Facility is a hydroelectric facility and
25 that such conditions are the sole cause of Seller's
26 inability to meet its firm capacity obligations.
27

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

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

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

12
13 E-3 SCHEDULED MAINTENANCE

14 Outage periods for scheduled maintenance shall not
15 exceed 840 hours (35 days) in any 12-month period. This
16 allowance may be used in increments of an hour or longer on
17 a consecutive or nonconsecutive basis. Seller may
18 accumulate unused maintenance hours from one 12-month period
19 to another up to a maximum of 1,080 hours (45 days). This
20 accrued time must be used consecutively and only for major
21 overhauls. Seller shall provide PGandE with the following
22 advance notices: 24 hours for scheduled outages less than
23 one day, one week for a scheduled outage of one day or more
24 (except for major overhauls), and six months for a major
25 overhaul. Seller shall not schedule major overhauls during
26 the peak months (presently June, July and August). Seller
27 shall make reasonable efforts to schedule or reschedule
28

1 routine maintenance outside the peak months, and in no event
2 shall outages for scheduled maintenance exceed 30 peak hours
3 during the peak months. Seller shall confirm in writing to
4 PGandE pursuant to Article 9, within 24 hours of the
5 original notice, all notices Seller gives personally or by
6 telephone for scheduled maintenance.

7
8 If Seller has selected Curtailment Option B, off-peak
9 hours of maintenance performed pursuant to Section (d) of
10 Curtailment Option B, Appendix C shall not be deducted from
11 Seller's scheduled maintenance allowances set forth above.

12 E-4 ADJUSTMENTS TO FIRM CAPACITY

13
14 (a) Seller may increase the firm capacity with the
15 approval of PGandE and receive payment for the additional
16 capacity thereafter in accordance with the applicable
17 capacity purchase price published by PGandE at the time the
18 increase is first delivered to PGandE.

19
20 (b) Seller may reduce the firm capacity at any time
21 prior to the firm capacity availability date by giving
22 written notice thereof to PGandE. PGandE may derate the
23 firm capacity in accordance with Section E-2(e) as a result
24 of appropriate data showing Seller has failed to meet the
25 performance requirements of Section E-2.
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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 Factors¹:

	Allocation Factor	x	<u>Firm Capacity Price</u>	=	PPF (\$/kW-month)
Seasonal Period A	.18540		_____		_____
Seasonal Period B	.01043		_____		_____

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.

1 The MDC is determined in the following manner:

2 (1) Determine the Performance Factor (P), which is
3 defined as the lesser of 1.0 or the following quantity:
4 *

5
$$P = \frac{A}{C \times (B-S) \times (0.8^*)} \quad (\leq 1.0)$$

6
7 Where:

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

12 C = Firm capacity in kilowatts.

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

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

18 (2) Determine the Monthly Capacity Factor (MCF), which
19 is computed using the following expression:
20

21
$$MCF = P \times \left(1.0 - \frac{M}{D}\right)$$

22
23 Where:

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

26 D = The number of hours in the month.

27
28 * 0.8 reflects a 20% allowance for forced outage.

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

2 MDC (kilowatts) = MCF x C

3
4 The monthly payment for firm capacity is then
5 determined by multiplying the PPF by the MDC, by the
6 appropriate capacity loss adjustment factor presented from
7 Table E-1, and by the appropriate performance bonus factor,
8 if any, from Table E-3.

9
10 monthly payment = PPF x MDC x capacity loss x performance
11 for firm capacity adjustment factor bonus factor

12 Furthermore, the payment for a month in which
13 there is an outage for scheduled maintenance shall also
14 include an amount equal to the product of the average hourly
15 firm capacity payment¹ for the most recent month in the same
16 type of Seasonal Period (i.e., Seasonal Period A or Seasonal
17 Period B) during which deliveries were made times the number
18 of hours of outage for scheduled maintenance in the current
19 month. Firm capacity payments will continue during the
20 outage periods for scheduled maintenance provided that the
21 provisions of Section E-3 are met.

22
23 During a probationary period Seller's monthly
24 payment for firm capacity shall be determined by
25 substituting for the firm capacity, the capacity at which

26
27 ¹ Total monthly payment divided by the total number of hours in the
28 monthly billing period.

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

10 TABLE E-1

11
 12 If the Facility is non-remote¹ the firm capacity loss
 13 adjustment factors are as follows:
 14

<u>Voltage Level</u>	<u>Loss Adjustment Factor</u>
Transmission	.989
Primary Distribution	.991
Secondary Distribution	.991

15
 16
 17
 18
 19
 20 If the Facility is remote the firm capacity loss adjustment
 21 factor is _____².

22
 23
 24 _____
 25 1 As defined by the CPUC.
 26 2 Determined individually.

28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

TABLE E-2

Firm Capacity Price Schedule
(Levelized \$/kW-year)

Firm Capacity Avail-ability Date

Number of Years of Firm Capacity Delivery

<u>(Year)</u>	<u>Number of Years of Firm Capacity Delivery</u>																	
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>
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.

1 N = Total on-peak hours during the month.

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

5 Q = Firm capacity in kilowatts.

6
7 (ii) the arithmetic average of the above firm capacity
8 factors shall be determined for that span,

9
10 (iii) the average of the above arithmetic average firm
11 capacity factors for the most recent span(s), not to exceed
12 5, shall be calculated and shall become the Demonstrated
13 Firm Capacity Factor.

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

17
18 Performance Bonus Factor = $\frac{\text{Demonstrated Firm Capacity Factor (\%)}}{85\%}$

19
20
21 SECTIONS E-6 THROUGH E-10 SHALL APPLY ONLY TO HYDROELECTRIC
22 PROJECTS

23
24
25 E-6 DETERMINATION OF NATURAL FLOW DATA

26 Natural flow data shall be based on a period of record
27 of at least 50 years and which includes historic critically
28

1 dry periods. In the event Seller demonstrates that a
2 natural flow data base of at least 50 years would be
3 unreasonably burdensome, PGandE shall accept a shorter
4 period of record with a corresponding reduction in the
5 averaging basis set forth in Section E-8. Seller shall
6 determine the natural flow data by month by using one of the
7 following methods:

8
9 Method 1

10
11 If stream flow records are available from a recognized
12 gauging station on the water course being developed in the
13 general vicinity of the project, Seller may use the data
14 from them directly.

15
16 Method 2

17
18 If directly applicable flow records are not available,
19 Seller may develop theoretical natural flows based on
20 correlation with available flow data for the closest
21 adjacent and similar area which has a recognized gauging
22 station using generally accepted hydrologic estimating
23 methods.

24
25 E-7 THEORETICAL OPERATION STUDY

26
27 Based on the monthly natural flow data developed under
28 Section E-6 a theoretical operation study shall be prepared

1 by Seller. Such a study shall identify the monthly capacity
2 rating in kW and the monthly energy production in kWh for
3 each month of each year. The study shall take into account
4 all relevant operating constraints, limitations, and
5 requirements including but not limited to --

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

8 (2) Operating characteristics of the proposed
9 equipment of the Facility such as efficiencies, minimum and
10 maximum operating levels, project control procedures, etc.;

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

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

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

1 E-8 DETERMINATION OF AVERAGE DRY YEAR CAPACITY RATINGS

2
3 Based on the results of the theoretical operation study
4 developed under Section E-7, the average dry year capacity
5 rating shall be established for each month. The average dry
6 year shall be based on the average of the five years of the
7 lowest annual generation as shown in the theoretical
8 operation study. Once such years of lowest annual
9 generation are identified, the monthly capacity rating is
10 determined for each month by averaging the capacity ratings
11 from each month of those years. The firm capacity shown in
12 Article 5 shall not exceed the lowest average dry year
13 monthly capacity ratings for the peak months on the PGandE
14 system, which are presently the months of June, July, and
15 August.

16
17 E-9 INFORMATION REQUIREMENTS

18
19 Seller shall provide the following information to
20 PGandE for its review:

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

24 (2) A topographic project map which shows the location
25 of all aspects of the Facility and locations of stream
26 gauging stations used to determine natural flow data;

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

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

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

9
10 E-10 ILLUSTRATIVE EXAMPLE

11
12 (1) Determine natural flows - These flows are
13 developed based on historic stream gauging records and are
14 compiled by month, for a long-term period (normally at least
15 50 years or more) which covers dry periods which
16 historically occurred in the 1920's and 30's and more
17 recently in 1976 and 77. In all but unusual situations this
18 will require application of hydrological engineering methods
19 to records that are available, primarily from the USGS
20 publication "Water Resources Data for California".

21
22 (2) Perform theoretical operation study - Using the
23 natural flow data compiled under (1) above a theoretical
24 operation study is prepared which determines, for each month
25 of each year, energy generation (kWh) and capacity rating
26 (kW). This study is performed based on the Facility's
27 design, operating capabilities, constraints, etc., and
28 should take into account all factors relevant to project

1 operation. Generally such a study is done by computer which
2 routes the natural flows through project features,
3 considering additions and withdrawals from storage, spill
4 past the project, releases for support of fish life, etc.,
5 to determine flow available for generation. Then the
6 generation and capacity amounts are computed based on
7 equipment performance, efficiencies, etc.
8

9 (3) Determine average dry year capacity ratings -
10 After the theoretical project operation study is complete
11 the five years in which the annual generation (kWh) would
12 have been the lowest are identified. Then for each month,
13 the capacity rating (kW) is averaged for the five years to
14 arrive at a monthly average capacity rating. The firm
15 capacity is then set by the Seller based on the monthly
16 average dry year capacity ratings and the performance
17 requirements of this appendix. An example project is shown
18 in the attached completed Table E-4.
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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 firm capacity is being terminated or derated times the difference between the current firm capacity price on the date of termination or deration for a term equal to the balance of the term of agreement and the firm capacity price, multiplied by the appropriate factor shown in Table E-5 below. In the event that the current firm capacity price is less than the firm capacity price, no payment under this subsection (ii) shall be due either Party.

TABLE E-5

<u>Amount of Firm Capacity Terminated or Derated</u>	<u>Factor</u>
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

1 E-11 MINIMUM DAMAGES

2
3 (a) In the event the firm capacity is derated or
4 Seller terminates this Agreement, the quantity by which the
5 firm capacity is derated or the firm capacity shall be used
6 to calculate the payments due PGandE in accordance with
7 Section (d).

8
9 (b) Seller shall be invoiced by PGandE for all amounts
10 due under this section. Payment shall be due within 30 days
11 of the date of invoice.

12
13 (c) If Seller does not make payments pursuant to
14 Section (b), PGandE shall have the right to offset any
15 amounts due it against any present or future payments due
16 Seller.

17
18 (d) Seller shall pay to PGandE:

19
20 (i) an amount equal to the difference
21 between (a) the firm capacity payments already
22 paid by PGandE, based on the original term of
23 agreement and (b) the total firm capacity payments
24 which PGandE would have paid based on the period
25 of Seller's actual performance using the adjusted
26 firm capacity price. Additionally, Seller shall
27 pay interest, compounded monthly from the date the
28 excess capacity payment was made until the date

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 Characteristics¹:

	Flow (cfs)	Head (feet)		Output (kW)	Efficiency (%)	
		Gross	Net		Turbine	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

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

APPENDIX F
INTERCONNECTION

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1 F-1 INTERCONNECTION TARIFFS

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3 (The applicable tariffs in effect at the time of
4 execution of this Agreement shall be attached.)
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F-2 POINT OF DELIVERY LOCATION SKETCH¹

¹ To be determined upon completion of the detailed interconnection study for the Facility.