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9	POWER PURCHASE AGREEMENT
10	FOR
11	LONG-TERM ENERGY AND CAPACITY
12	BETWEEN
13	ALTERNATE ENERGY SYSTEMS, INC.
14	AND
15	PACIFIC GAS AND ELECTRIC COMPANY
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19	Seller: Alternate Energy Systems, Inc.
20	<u>Location</u> : Merced County
21	Capacity: 34,000 kW
22	Energy Source: Wind
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# STANDARD OFFER #4:

# LONG-TERM ENERGY AND CAPACITY

# POWER PURCHASE AGREEMENT

# CONTENTS

8	Article			Page
9	1	QUALI	FYING STATUS	3
10	2	COMMI	TMENT OF PARTIES	4
11	3	PURCE	ASE OF POWER	5
12	4	ENERG	Y PRICE	6
13	5	CAPAC	TITY ELECTION AND CAPACITY PRICE	10
14	6	LOSS	ADJUSTMENT FACTORS	11
15	7	CURTA	ILMENT	11
16	8	RETRO	ACTIVE APPLICATION OF CPUC ORDERS	12
17	9	NOTIC	PES	12
18	10	DESIG	NATED SWITCHING CENTER	. 13
19	11	TERMS	AND CONDITIONS	13
<b>2</b> 0	12	TERM	OF AGREEMENT	14
21				
<b>2</b> 2	Appendix	A:	GENERAL TERMS AND CONDITIONS	
<b>2</b> 3	Appendix	В:	ENERGY PAYMENT OPTIONS	
24	Appendix	C:	CURTAILMENT OPTIONS	
<b>2</b> 5	Appendix	D:	AS-DELIVERED CAPACITY	
26	Appendix	E:	FIRM CAPACITY	
27	Appendix	F:	INTERCONNECTION	

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POWER PURCHASE AGREEMENT

FOR

LONG-TERM ENERGY AND CAPACITY

BETWEEN

ALTERNATE ENERGY SYSTEMS, INC.

AND

PACIFIC GAS AND ELECTRIC COMPANY

ALTERNATE ENERGY SYSTEMS, 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 <u>Facility</u> and during the <u>term of agreement</u>, its <u>Facility</u> 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.).

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

## ARTICLE 2 COMMITMENT OF PARTIES

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

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

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

### ARTICLE 3 PURCHASE OF POWER

- (a) Seller shall sell and deliver and PGandE shall purchase and accept delivery of capacity and energy at the voltage level of 70 kV.
- (b) Seller shall provide capacity and energy from its 34,000 kW Facility located at Sections 13, 14, 22 to 28, 33, 34 of Township 10 South, Range 7 East, MDB&M, or portions thereof, in Merced County.
- (c) The <u>scheduled operation</u> <u>date</u> of the <u>Facility</u> is June 15, 1985. At the end of each calendar quarter Seller shall give written notice to PGandE of any change in the <u>scheduled operation</u> <u>date</u>.
- (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.
- (e) The primary energy source for the <u>Facility</u> is wind.

<sup>\*</sup> To be determined after the completion of a detailed interconnection study.

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If Seller does not begin construction of its (f) Facility by December 31, 1985, PGandE may reallocate the transmission and/or PGandE's capacity on existing used to would have been which distribution system accommodate Seller's power deliveries to other uses. event of such reallocation, Seller shall pay PGandE for the cost of any upgrades or additions to PGandE's system necessary to accommodate the output from the Facility. installed, and shall be owned facilities additional maintained in accordance with the applicable PGandE tariff.

(g) The transformer loss adjustment factor is zero1.

#### ARTICLE 4 ENERGY PRICE

PGandE shall pay Seller for its <u>net energy output<sup>2</sup></u> under the energy payment option checked below<sup>3</sup>:

X Energy Payment Option 1 - Forecasted Energy Prices

During the <u>fixed price</u> <u>period</u>, Seller shall be

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

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

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

paid for energy delivered at prices equal to 100<sup>1</sup> percent of the prices set forth in Table B-1, Appendix B, plus 0<sup>2</sup> percent of PGandE's <u>full short-run</u> avoided operating costs.

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

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

Energy Payment Option 2 - Levelized Energy Prices

During the <u>fixed price period</u>, Seller shall be

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

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

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

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

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

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

1	Energy Payment Option 3 - Incremental Energy Rate
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3	Beginning with the date of initial energy
4	deliveries and continuing until1, Seller
5	shall be paid monthly for energy delivered at prices
6	equal to PGandE's <u>full</u> <u>short-run</u> <u>avoided</u> <u>operating</u>
7	costs, provided that adjustments shall be made annually
8	to the extent set forth in Appendix B, Energy Payment
9	Option 3.
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11	The Incremental Energy Rate Band Widths specified
12	by Seller in Table I below shall be used in determining
13	the annual adjustment, if any.
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16	<u>Table I</u>
17	Year Incremental Energy Rate Band Widths
18	(must be multiples of 100 or zero)
19	1984 1985
<b>2</b> 0	1986 1987
21	1988 1989
22	1990 1991
<b>2</b> 3	1992 1993
24	1994 1995
	1996
<b>2</b> 5	1997 1998
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Specified by Seller. Must be December 31, 1998 or prior.

S.O. #4 May 7, 1984

## ARTICLE 6 LOSS ADJUSTMENT FACTORS

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

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

### ARTICLE 7 CURTAILMENT

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

X Curtailment Option A - Hydro Spill and Negative Avoided
Cost

\_\_\_\_ Curtailment Option B - Adjusted Price Period

The two options are described in Appendix C.

## ARTICLE 8 RETROACTIVE APPLICATION OF CPUC ORDERS

Pursuant to Ordering Paragraph 1(f) of CPUC Decision No. 83-09-054 (September 7, 1983), after the effective date of the CPUC's Application 82-03-26 decision relating to line loss factors, Seller has the option to retain the relevant terms of this Agreement or have the results of that decision incorporated into this Agreement. To retain the terms herein. Seller shall provide written notice to PGandE within 30 days after the effective date of the relevant CPUC decision on Application 82-03-26. Failure to provide such notice will result in the amendment of this Agreement to 12 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:

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

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### ARTICLE 12 TERM OF AGREEMENT

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This Agreement shall be binding upon execution and remain in effect thereafter for 30 years 1 from the date of initial energy deliveries<sup>2</sup>; 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.

ALTERNATE ENERGY SYSTEMS, INC.

PACIFIC GAS AND ELECTRIC COMPANY

TITLE: Vice President

DATE SIGNED:

Chief Generation

Planning Engineer TITLE:

DATE SIGNED:

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

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

## CONTENTS

6	Section		Page
7	A-1	DEFINITIONS	A-2
8	A-2	CONSTRUCTION	A-7
9	A-3	OPERATION	A-11
0	A-4	PAYMENT	A-14
1	A-5	ADJUSTMENTS OF PAYMENTS	A-15
2	A-6	ACCESS TO RECORDS AND PGandE DATA	A-15
3	A-7	INTERRUPTION OF DELIVERIES	A-16
4	A-8	FORCE MAJEURE	A-16
5	A-9	INDEMNITY	A-18
16	A-10	LIABILITY; DEDICATION	A-19
17	A-11	SEVERAL OBLIGATIONS	A-20
18	A-12	NON-WAIVER	A-20
19	A-13	ASSIGNMENT	A-20
20	A-14	CAPTIONS	A-21
21	A-15	CHOICE OF LAWS	A-21
<b>2</b> 2		GOVERNMENTAL JURISDICTION AND	A-21
<b>2</b> 3	A-16	AUTHORIZATION	
24	A-17	NOTICES	A-22
<b>2</b> 5	A-18	INSURANCE	A-22
ĺ	1		

### APPENDIX A

#### GENERAL TERMS AND CONDITIONS

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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.

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

<u>CPUC</u> - The Public Utilities Commission of the State of California.

Current firm capacity price - The \$/kW-year capacity price from PGandE's firm capacity price schedule effective at the time PGandE derates the firm capacity pursuant to Section E-4(b), Appendix E or Seller terminates performance under this Agreement, for a term equal to the period from

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

Designated PGandE switching center - That switching center or other PGandE installation identified in Article 10.

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

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

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

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

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

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

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

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

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

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

<u>Prudent electrical practices</u> - Those practices, methods, and equipment, as changed from time to time, that are commonly used in prudent electrical engineering and

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

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

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

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

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

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

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

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

### A-2 CONSTRUCTION

## A-2.1 Land Rights

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

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

A-2.2 Design, Construction, Ownership,

n, Ownership, and Maintenance

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

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(b) Seller shall submit to PGandE the design and all specifications for the <u>interconnection facilities</u> (except special facilities) and, at PGandE's option, the <u>Facility</u>,

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

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

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

## A-2.3 Meter Installation

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

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

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

### A-3 OPERATION

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# A-3.1 Inspection and Approval

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

# A-3.2 Facility Operation and Maintenance

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

## A-3.3 Point of Delivery

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

# A-3.4 Operating Communications

- (a) Seller shall maintain operating communications with the <u>designated PGandE switching center</u>. The operating communications shall include, but not be limited to, system paralleling or separation, scheduled and unscheduled shutdowns, equipment clearances, levels of operating voltage or power factors and daily capacity and generation reports.
- (b) Seller shall keep a daily operations log for each generating unit which shall include information on unit availability, maintenance outages, circuit breaker trip operations requiring a manual reset, and any significant events related to the operation of the <u>Facility</u>.
- (c) If Seller makes deliveries greater than one megawatt, Seller shall measure and register on a graphic recording device power in kW and voltage in kV at a location

A-12

S.O. #4 May 7, 1984

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

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

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# A-3.5 Meter Testing and Inspection

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

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

A-3.6 Adjustments to Meter Measurements

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

## A-4 PAYMENT

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

A-14 S.O. #4 May 7, 1984

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

# A-5 ADJUSTMENTS OF PAYMENTS

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

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

# A-6 ACCESS TO RECORDS AND PGandE DATA

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

S.O. #4 May 7, 1984 metering and related records including operations logs of the <u>Facility</u>. Data filed by PGandE with the <u>CPUC</u> pursuant to <u>CPUC</u> orders governing the purchase of power from qualifying facilities shall be provided to Seller upon request; provided that Seller shall reimburse PGandE for the costs it incurs to respond to such request.

# A-7 INTERRUPTION OF DELIVERIES

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

## A-8 FORCE MAJEURE

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

A-16 S.O. #4 May 7, 1984

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

- (b) If either Party because of force majeure is rendered wholly or partly unable to perform its obligations under this Agreement, that Party shall be excused from whatever performance is affected by the force majeure to the extent so affected provided that:
  - (1) the non-performing Party, within two weeks after the occurrence of the force majeure, gives the other Party written notice describing the particulars of the occurrence,
  - (2) the suspension of performance is of no greater scope and of no longer duration than is required by the force majeure,
  - efforts to remedy its inability to perform (this subsection shall not require the settlement of any strike, walkout, lockout or other labor dispute on terms which, in the sole judgment of the Party involved in the dispute, are contrary to its interest. It is understood and agreed that the settlement of strikes, walkouts, lockouts or other

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

- (4) when the non-performing Party is able to resume performance of its obligations under this Agreement, that Party shall give the other Party written notice to that effect, and
- (5) capacity payments during such periods of force majeure on Seller's part shall be governed by Section E-2(c), Appendix E.
- (c) In the event a Party is unable to perform due to legislative, judicial, or regulatory agency action, this Agreement shall be renegotiated to comply with the legal change which caused the non-performance.

### A-9 INDEMNITY

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

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

A-10 LIABILITY; DEDICATION

- (a) Nothing in this Agreement shall create any duty to, any standard of care with reference to, or any liability to any person not a Party to it. Neither Party shall be liable to the other Party for consequential damages.
- (b) Each Party shall be responsible for protecting its facilities from possible damage by reason of electrical disturbances or faults caused by the operation, faulty operation, or nonoperation of the other Party's facilities, and such other Party shall not be liable for any such damages so caused.
- (c) No undertaking by one Party to the other under any provision of this Agreement shall constitute the dedication of that Party's system or any portion thereof to the other Party or to the public or affect the status of PGandE as an independent public utility corporation or Seller as an independent individual or entity and not a

public utility.

## A-11 SEVERAL OBLIGATIONS

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

# A-12 NON-WAIVER

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

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A-13

ASSIGNMENT

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

> s.O. #4 May 7, 1984

shall be null and void. Consent for assignment shall not be withheld unreasonably. Such assignment shall include, unless otherwise specified therein, all of Seller's rights to any refunds which might become due under this Agreement.

## A-14 CAPTIONS

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

## A-15 CHOICE OF LAWS

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

# A-16 GOVERNMENTAL JURISDICTION AND AUTHORIZATION

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

A-21 S.O. #4 May 7, 1984

## A-17 NOTICES

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

## A-18 INSURANCE

# A-18.1 General Liability Coverage

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hereof, General Liability Insurance of not less than \$1,000,000 if the Facility is over 100 kW, \$500,000 if the Facility is over 100 kW, and \$100,000 if the Facility is 20 kW to 100 kW, and \$100,000 if the Facility is 20 kW or below of combined single limit or equivalent for bodily injury, personal injury, and property damage as the result of any one occurrence.

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

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

# A-18.2 Additional Insurance Provisions

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

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

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

(d) All insurance certificates<sup>1</sup>, 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

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

### APPENDIX B

## ENERGY PAYMENT OPTIONS

Energy Payment Option 1 - Forecasted Energy Prices

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

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TABLE B-1
Forecasted Energy Price Schedule

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4	Year of							
-	Energy		Forecas	sted Energ	v Prices	s*, ¢/kWh		Weighted
5	Deliv-		Period A			Period B		Annual
	1	On-Pank	Partial-Peak	Off-Peak	On-Peak	Partial-Peak	Off-Peak	Average
6	eries	Oll-Leak	raittat itum	<u> </u>				
_	1983	5.36	5.12	4.94	5.44	5,31	5.19	5.18
7	T .		5.40	5.22	5.74	5.61	5.48	5.47
ì	1984	5.66			5.83	5.69	5.56	5.55
8	1985	5.75	5.48	5.30	3.63	3.07	0.00	
ı				F F0	c 00	5.94	5.80	5.79
9	1986	5.99	5.72	5.52	6.08			6.16
	1987	6.38	6.08	5.88	6.47	6.32	6.17	
10	1988	6.94	6.62	6.39	7.03	6.87	6.71	6.70
10								
	1989	7.60	7.25	7.00	7.70	7.53	7.35	7.34
11	l l	8.12	7.74	7.48	8.23	8.04	7.85	7.84
ļ	1990		8.24	7.96	8.75	8.56	8.35	8.34
12	1991	8.64	0.24	7.50	0.75	• • • • • • • • • • • • • • • • • • • •		
			0.00	0.60	9.46	9.24	9.02	9.01
13	1992	9.33	<b>8.9</b> 0	8.60		10.00	9.76	9.75
•	1993	10.10	9.63	9.30	10.23			10.54
14	1994	10.91	10.41	10.06	11.06	10.81	10.55	10.54
14								
4.5	1995	11.79	11.25	10.87	11.96	11.68		. 11.39
15	! [	12.67	12.09	11.68	12.85	12.56	12.25	12.24
	1996		12.98	12.54	13.79	13.48	13.15	13.14
16	1997	13.61	12.90					
	1 1							

<sup>\*</sup> These prices are differentiated by the time periods as defined in Table B-4.

Energy Payment Option 2 - Levelized Energy Prices

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

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

## (a) Minimum Damages

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

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

time of termination, of the payments Seller would

receive at the forecasted energy prices in Table B-1

and the payments Seller would receive at the levelized

energy prices, for the remaining years of the fixed

price period. This amount shall be calculated by

assuming that Seller continued to generate for the

remaining years of the fixed price period at a level

equal to the average annual energy generation during

the period of performance, and by applying the weighted

annual average levelized price applicable to Seller's

Facility and the weighted annual average forecasted

energy prices in Table B-1 for the remaining years of

the fixed price period. The following formula shall be

where:

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P = amount due PGandE.

used to make this calculation:

y = number of years remaining in the <u>fixed price</u> period.

 $F_n$  = weighted annual average forecasted energy price in the  $n\frac{th}{}$  year after the breach, failure to perform, or expiration of security, as shown in Table B-1 for the corresponding calendar year.

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- L = weighted annual average levelized energy price applicable to Seller's Facility.
- A = average annual energy generation by Seller during the period of performance.
- n = summation index; refers to the  $n^{\frac{th}{t}}$  year following termination.
- w = percent of Seller's energy payments based on the levelized energy prices, as specified in Article 4.

## (b) Performance Requirements

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

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

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

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

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

## (c) Security

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

> B-6 S.O. #4 May 7, 1984

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

- (ii) A payment bond providing for payment to PGandE in the event of any failure to meet the performance requirements set forth in Section (b) above or breach of this Agreement by Seller. Such bond shall be issued by a surety company acceptable to PGandE and shall have terms acceptable to PGandE.
- (iii) Fully paid up, noncancellable Project Failure Insurance made payable to PGandE with terms of such policy(ies) acceptable to PGandE.
  - (iv) A performance bond providing for payment to PGandE in the event of any failure to meet the performance requirements set forth in Section (b) above or breach of this Agreement by Seller. Such bond shall be issued by a surety company acceptable to PGandE and shall have terms acceptable to PGandE.
    - (v) A corporate guarantee of payment to PGandE which PGandE deems, in its sole discretion,

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

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

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

- R = nameplate rating, in kW, of the Facility.
- C = estimated capacity factor of the Facility, which shall be established by mutual agreement of the Parties at the time of execution of this Agreement.
- (ii) In the second calendar year of operation and each year thereafter until the end of the fixed price period, from December 1 through December 1 of the following year, security shall be in place in an amount calculated by the formula set forth in Section (a) above assuming Seller continued to deliver energy in each month through the end of the following calendar year, at a level equal to the average monthly energy deliveries to date, and then terminated this Agreement.

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

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

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

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

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

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

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

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

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## TABLE B-2 Levelized Energy Price Schedule

For	a	term	of	agreement	of	15-16	years:
-----	---	------	----	-----------	----	-------	--------

4	Which Energy			1 =	Duine*	, ¢/kWh		Weighted
5	Deliv- eries		Period A	ed Energy		Period B Partial-Peak	Off-Peak	Annual
6	Begin	On-Peak	Partial-Peak	UII-Peak	UII-FEAK	raitiai itan		
7	1983 1984 1985	5.76 6.06 6.41	5.50 5.78 6.11	5.31 5.58 5.91	5.85 6.14 6.50	5.71 6.00 6.35	5.58 5.86 6.20	5.57 5.85 6.19
9	1986 1987 1988	6.85 7.37 7.96	6.54 7.03 7.60	6.32 6.79 7.34	6.95 7.47 8.07	6.79 7.30 7.89	6.63 7.13 7.70	6.62 7.12 7.69

For a term of agreement of 17-19 years:

Year	in
Which	l
Energ	ſΥ

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Year in

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

For a term of agreement of 20-30 years:

20 Year in Which Energy

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

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

B-13

S.O. #4

May 7, 1984

Energy Payment Option 3 - Incremental Energy Rate

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

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

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

- A = the total kWh delivered by Seller during the calendar year, excluding any kWh delivered when Seller was asked to curtail deliveries under Curtailment Option A or when Seller was asked to take adjusted prices under Curtailment Option B.
- B = the total dollars paid for the energy described for A above.
- C = the weighted average price paid during the calendar year by PGandE's Electric Department for oil and natural gas for PGandE's fossil steam plants, expressed in \$/Btu on a gas Btu basis.

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

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

where:

P<sub>c</sub> = additional payment due Seller.

DIER = Derived Incremental Energy Rate.

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

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

where:

 $P_{R} = amount due PGandE.$ 

DIER = Derived Incremental Energy Rate.

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

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### TABLE B-3

## Forecasted Incremental Energy Rates and Incremental Energy Rate Bounds

Curtailment Option A:

<u>Year</u>	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			
<b>19</b> 85	9,050			
1986	8,840			<u></u>
1987	8,850			
1988	8,960			
1989	8,820			
1990	8,540			
1991	8,540			
1992	8,540			
1993	8,540			
1994	8,540			
1995	8,540			
1996	8,540			
1997	8,540			
1998	8,540			

## TABLE B-3 (continued)

Curtailment Option B:

5 6 7 8	<u>Year</u>	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)]
9	1984	9,440			
10	1985	9,500			
11	1986 1987	9,280 9,290	مناو <u>ن</u> بند		
12	1988	9,400			
13	1989 1990	9,270 8,970			
14	1991	B,970			
15	1992 1993	8,970 8,970			
16	1994	8,970			
17	1995 1996	8,970 8,970			
18	1997	8,970			
19	1998	8,970			

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1		TABLE B-4 <sup>1</sup> Time Periods	_	
2		Time Period:	5	
2		Monday		Sundays and
3		through Friday <sup>2</sup>	Saturdays <sup>2</sup>	Holidays
		FIIUay	Dataroays	
4	Seasonal Period A			
5	(May 1 through September 30)			
6	On-Peak	12:30 p.m.		
١		to		
7		6:30 p.m.		
8	Partial-Peak	8:30 a.m.	8:30 a.m.	
0	Tartau aum	to	to	
9		12:30 p.m.	10:30 p.m.	
		6:30 p.m. to		•
10		10:30 p.m.		
11				
* 1	Off-Peak	10:30 p.m.	10:30 p.m.	All Day
12		to B:30 a.m.	to 8:30 a.m.	
13		6:30 a.m.	<b>5.00</b>	
10				
14	Seasonal Period B	<b>\</b>		
15	(October 1 through April 30)	,		
10	On-Peak	4:30 p.m.		
16		to		
		8:30 p.m.		
17	Partial-Peak	8:30 p.m.	8:30 a.m.	
18	il	to	to	
		10:30 p.m. 8:30 a.m.	10:30 p.m.	
19		to	•	
<b>2</b> 0		4:30 p.m.		
		10-30	10:30 p.m.	All Day
21	Off-Peak	10:30 p.m. to	to	
<b>2</b> 2		8:30 a.m.	8:30 a.m.	
42				
<b>2</b> 3		to change to so	cord with the O	n-peak,
Α.	This table is subject partial-peak, and off-	meak periods as	delined in rua:	IOE & Own reas
24	schedules for the sale	of electricity	to its large in	ndustrial

customers.

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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)).

B-19

TABLE B-5

#### **ENERGY PRICES**

### Energy Prices Effective November 1, 1984 - January 31, 1985

The energy purchase price calculations which will apply to energy deliveries determined from meter readings taken during November, December, and January are as follows:

	(a)	(b)	(c) Revenue Requirement	(d) Energy Purchase
Time Period	Incremental Energy Rate <sup>1</sup> (Btu/kWh)	Cost of Energy <sup>2</sup> (\$/10 <sup>8</sup> Btu)	for Cash Working Capital <sup>3</sup> (\$/kWh)	Price <sup>4</sup> $(d) = [(a) \times (b)] + (c)$ $(\$/kWh)$
November 1 - January 31 (Period B)				
Time of Delivery Basis:				
On-Peak Partial-Peak Off-Peak	16,320 15,689 11,625	5.4011 5.4011 5.4011	0.00053 0.00051 , 0.00038	0.08868 0.08525 0.06317
Seasonal Average (Period B)	13,692	5.4011	0.00045	0.07440

Incremental energy rates (Btu/kWh) for Seasonal Period A and Seasonal Period B 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.

Cost of natural gas under PGandE Gas Schedule No. G-55 effective October 1, 1984 per Advice No. 1285-G.

Revenue Requirement for Cash Working Capital as prescribed by the <a href="CPUC">CPUC</a> in Decision No. 83-12-068.

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 B-6.

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

The applicable energy loss adjustment factors may be revised pursuant to orders of the <a href="CPUC">CPUC</a>.

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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:

 $\frac{AOF - S}{AOF} \times PP \tag{20}$ 

where:

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

- S = Potential energy, in kWh, from PGandE hydro facilities which will be spilled if all AQF is delivered to PGandE.
- PP = Prices published by PGandE for purchases during other than hydro spill conditions.

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

- (b) PGandE shall not be obligated to accept or pay for and may require Seller with a Facility with a nameplate rating of one megawatt or greater to interrupt or reduce deliveries of energy during periods when PGandE would incur negative avoided costs (as defined by the CPUC) due to continued acceptance of energy deliveries under this Agreement. Whenever possible, PGandE shall give Seller reasonable notice of the possibility that interruption or reduction of deliveries may be required.
- (c) Before interrupting or reducing deliveries under subsection (b), above, and before invoking hydro savings prices under subsection (a), above, PGandE shall take reasonable steps to make economy sales of the surplus energy giving rise to the condition. If such economy sales are made, while the surplus energy condition exists Seller shall

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

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

## CURTAILMENT OPTION B - ADJUSTED PRICE PERIOD

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

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

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

- (ii) when PGandE would incur negative avoided costs (as defined by the CPUC) due to continued acceptance of energy deliveries under this Agreement; or
- (iii) when PGandE is experiencing minimum system operations.

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

- (b) Whenever possible, PGandE shall give Seller reasonable notice of any price adjustment for energy deliveries and its probable duration.
- and simultaneously purchasing its electrical needs from PGandE and Seller elects not to sell energy to PGandE at the adjusted price, Seller shall not use such energy to meet its electrical needs but shall continue to purchase all its electrical needs from PGandE.
- (d) After Seller receives notice of the probable duration of the period during which the adjusted price will be paid, Seller may elect to perform maintenance during such

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

C-5 S.O. #4 May 7, 1984

### APPENDIX D

### AS-DELIVERED CAPACITY

## D-1 AS-DELIVERED CAPACITY PAYMENT OPTIONS

Seller has two options for <u>as-delivered capacity</u> 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 <u>as-delivered capacity</u> at prices authorized from time to time by the <u>CPUC</u>. The <u>as-delivered capacity</u> prices in effect on the date of execution are calculated as shown in Exhibit D-1.

# AS-DELIVERED CAPACITY PAYMENT OPTION 2

During the <u>fixed price period</u>, the <u>as-delivered</u> 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

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1 2	higher of:	
3	(i) prices authorized from time to time by the	
4	CPUC;	
5		
6	(ii) the <u>as-delivered</u> 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 <u>fixed</u>	
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	
<b>2</b> 0	capacity will be considered as-delivered capacity. This	
21		
<b>2</b> 2	delivered each month during all on-peak, partial-peak and	
<b>2</b> 3	off-peak hours excluding any energy associated with	
24	generation levels equal to or less than the firm capacity.	
<b>2</b> 5		
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27	payment for such as-delivered capacity. Seller has made its	
28	selection in Article 5.	

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

- (a) The shortage cost in each year the <u>Facility</u> is operating. Currently, this shortage cost is \$156 per kW-year.
- (b) A capacity loss adjustment factor which provides for the effect of the deliveries on PGandE's transmission and distribution losses based on the Seller's interconnection voltage level. The applicable capacity loss adjustment factors for non-remote¹ Facilities are presented in Table D-1(a). Capacity loss adjustment factors for remote Facilities shall be calculated individually.
- (c) An allocation factor which accounts for the different values of <u>as-delivered capacity</u> in different time periods and converts dollars per kw-year to cents per kwh. The current allocation factors are presented in Table D-1(b). The time periods to which they apply are shown in Table B-4, Appendix B. The allocation factors are subject to change from time to time.

As defined by the <u>CPUC</u>.

### 1 2 TABLE D-1(a) Capacity Loss Adjustment Factors 3 for Non-Remote¹ Facilities 4 Loss Adjustment Factor 5 Voltage Level .989 6 Transmission .991 7 Primary Distribution .991 Secondary Distribution 8 9 If the Facility is remote, the capacity loss adjustment 10 factor is \_\_\_\_\_ 11 12 13 TABLE D-1(b) 14 Allocation Factors for As-Delivered Capacity3 15 16 $\frac{\text{On-Peak}}{(\not \text{e-yr/$-hr})} \quad \frac{\text{Partial-Peak}}{(\not \text{e-yr/$-hr})} \quad \frac{\text{Off-Peak}}{(\not \text{e-yr/$-hr})}$ 17 .02055 .10835 18 Seasonal Period A .00109 Seasonal Period B .00896 19 **2**0 21 As defined by the CPUC. The capacity loss adjustment factors for **2**2 remote Facilities are determined individually. 23 2 Determined individually. 24 The units for the allocation factor, ¢-yr/\$-hr, are derived from ∵ 3 the conversion of \$/kW-yr into #/kWh as follows: 25 $\frac{\cancel{\epsilon}/\text{kWh}}{\$/\text{kW-yr}} = \frac{\cancel{\epsilon}/\text{kW-hr}}{\$/\text{kW-yr}} = \frac{\cancel{\epsilon}-\text{yr}}{\$-\text{hr}}$ 26 27 The allocation factors were prescribed by the CPUC in Decision

28

No. 83-12-068 and are subject to change from time to time. D-4

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S.O. #4 May 7, 1984

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### TABLE D-2

# Forecasted Shortage Cost Schedule

Year	Forecast Shortage Cost, \$/kW-Yr
1983	70
1984	76
1985	81
1986	88
1987	95
1988	102
1989	110
1990	118
1991	126
1992	135
1993	144
199 <del>4</del>	154
1995	164
1996	176
1997	188

### 1 APPENDIX E 2 FIRM CAPACITY 3 4 CONTENTS 5 6 Section 7 GENERAL E-1 PERFORMANCE REQUIREMENTS 8 E-2 SCHEDULED MAINTENANCE 9 E-3 ADJUSTMENTS TO FIRM CAPACITY 10 E-4 FIRM CAPACITY PAYMENTS 11 E-5 DETERMINATION OF NATURAL FLOW DATA 12 E-6 THEORETICAL OPERATION STUDY 13 E-7 DETERMINATION OF AVERAGE DRY 14 E-8 YEAR CAPACITY RATINGS 15 INFORMATION REQUIREMENTS E-9 16 ILLUSTRATIVE EXAMPLE E-10 17 MINIMUM DAMAGES E-11 18 19 **2**0 21 **2**2 **2**3 24 **2**5 26 27 28

Page

E-2

E-2

E-4

E-5

E-6

E-12

E-13

E-15

E-15

E-16

E-19

### APPENDIX E

### FIRM CAPACITY

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E-1GENERAL

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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. 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

receive full capacity payments, the 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 any month. outages in percent allowance for forced Compliance with this provision shall be based on the Facility's total on-peak deliveries for each of the peak

May 7, 1984

On-peak, partial-peak, and off-peak hours are defined in Table B-4, Appendix B. E-2 S.O. #4

- (b) If Seller is prevented from meeting the performance requirements because of a forced outage on the PGandE system, a PGandE curtailment of Seller's deliveries, or a condition set forth in Section A-7, Appendix A, PGandE shall continue capacity payments. Firm capacity payments will be calculated in the same manner used for scheduled maintenance outages.
- (c) If Seller is prevented from meeting the performance requirements because of force majeure, PGandE shall continue capacity payments for ninety days from the occurrence of the force majeure. Thereafter, Seller shall be deemed to have failed to have met the performance requirements. Firm capacity payments will be calculated in the same manner used for scheduled maintenance outages.
- (d) If Seller is prevented from meeting the performance requirements because of exteme dry year conditions, PGandE shall continue capacity payments. Extreme dry year conditions are drier than those used to establish firm capacity pursuant to Section E-8. Seller shall warrant to PGandE that the Facility is a hydroelectric facility and that such conditions are the sole cause of Seller's inability to meet its firm capacity obligations.

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- (1) Seller shall receive the reduced <u>firm</u> capacity payments as provided in Section E-5 for a probationary period not to exceed 15 months, or as otherwise agreed to by the Parties.
- (2) If, at the end of the probationary period Seller has not demonstrated that the <u>Facility</u> can meet the performance requirements, PGandE may derate the <u>firm</u> capacity pursuant to Section E-4(b).

### E-3 SCHEDULED MAINTENANCE

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

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

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

### E-4 ADJUSTMENTS TO FIRM CAPACITY

- (a) Seller may increase the <u>firm capacity</u> with the approval of PGandE and receive payment for the additional capacity thereafter in accordance with the applicable capacity purchase price published by PGandE at the time the increase is first delivered to PGandE.
- (b) Seller may reduce the <u>firm capacity</u> at any time prior to the <u>firm capacity availability date</u> by giving written notice thereof to PGandE. PGandE may derate the <u>firm capacity</u> in accordance with Section E-2(e) as a result of appropriate data showing Seller has failed to meet the performance requirements of Section E-2.

### E-5 FIRM CAPACITY PAYMENTS

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

The monthly payment for <u>firm capacity</u> 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 <u>Facility's</u> 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 <u>firm capacity price</u> 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 <u>firm capacity</u> price by the following Allocation Factors<sup>1</sup>:

	Allocation Factor	×	Firm Capacity Price	=	PPF (\$/kW-month)
Seasonal Period A	.18540				
Seasonal Period B	.01043				

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.

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The MDC is determined in the following manner:

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

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

Where:

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

C = Firm capacity in kilowatts.

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

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

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

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

Where:

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

D = The number of hours in the month.

E-7 S.O. #4 May 7, 1984

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<sup>\* 0.8</sup> reflects a 20% allowance for forced outage.

(3) Determine the MDC by multiplying the MCF by C: MDC  $(kilowatts) = MCF \times C$ 

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

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

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

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

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

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

#### TABLE E-1

If the <u>Facility</u> is non-remote<sup>1</sup> the <u>firm</u> <u>capacity</u> loss adjustment factors are as follows:

Voltage LevelLoss Adjustment FactorTransmission.989Primary Distribution.991Secondary Distribution.991

If the <u>Facility</u> is remote the <u>firm capacity</u> loss adjustment factor is \_\_\_\_\_\_2.

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As defined by the CPUC.

Determined individually.

TABLE E-2

# Firm Capacity Price Schedule

(Levelized \$/kW-year)

Firm
Capacity
Avail-
ability
Date

# Number of Years of Firm Capacity Delivery

(Year)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	<u>15</u>	20	<u>25</u>	3.0
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

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Performance Bonus Factor

The following shall be the performance bonus factors applicable to the calculation of the monthly payments for <a href="firm">firm</a> capacity delivered by the <a href="Facility">Facility</a> after it has demonstrated a <a href="firm">firm</a> 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 <u>Facility</u> 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 <u>firm capacity</u> factor for each such month shall be calculated in the following manner:

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 <u>firm capacity</u>.

E-11 S.O. #4 May 7, 1984

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 = Demonstrated Firm Capacity Factor (%) 85%
19	$\Theta$
20	
2	1
2	SECTIONS E-6 THROUGH E-10 SHALL APPLY ONLY TO HYDROELECTRIC
2	3 PROJECTS
2	
2	E-6 DETERMINATION OF NATURAL FLOW DATA
2	26 of record
2	Natural flow data shall be based on a period of record
2	of at least 50 years and which includes historic critically
	E-12 S.O. #4 May 7, 1984

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

Method 1

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

#### Method 2

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

# E-7 THEORETICAL OPERATION STUDY

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

E-13 S.O. #4 May 7, 1984

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

- (1) Release requirements for support of fish life and any other operating constraints imposed on the project;
- (2) Operating characteristics of the proposed equipment of the <u>Facility</u> such as efficiencies, minimum and maximum operating levels, project control procedures, etc.;
- (3) The design characteristics of project facilities such as head losses in penstocks, valves, tailwater elevation levels, etc.; and
- (4) Release requirements for purposes other than power generation such as irrigation, domestic water supply, etc.

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

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

## E-9 INFORMATION REQUIREMENTS

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

- (1) A summary of the average dry year capacity ratings based on the theoretical operation study as provided in Table E-4;
- (2) A topographic project map which shows the location of all aspects of the <u>Facility</u> and locations of stream gauging stations used to determine natural flow data;
- (3) A discussion of all major factors relevant to project operation;

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- (4) A discussion of the methods and procedures used to establish the natural flow data. This discussion shall be in sufficient detail for PGandE to determine that the methods are consistent with those outlined in Section E-6 and are consistent with generally accepted engineering practices; and
- (5) Upon specific written request by PGandE, Seller's theoretical operation study.

# E-10 ILLUSTRATIVE EXAMPLE

- flows These (1) Determine natural flows developed based on historic stream gauging records and are compiled by month, for a long-term period (normally at least periods which which covers dry more) years or historically occurred in the 1920's and 30's and more recently in 1976 and 77. In all but unusual situations this will require application of hydrological engineering methods to records that are available, primarily from the USGS publication "Water Resources Data for California".
- (2) Perform theoretical operation study Using the natural flow data compiled under (1) above a theoretical operation study is prepared which determines, for each month of each year, energy generation (kWh) and capacity rating (kW). This study is performed based on the Facility's design, operating capabilities, constraints, etc., and should take into account all factors relevant to project

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

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

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Project: New Creek 1

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Water Source: West Fork New Creek

Mode of Operation: Run of the river

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

Operating Characteristics 1:

	Flow (cfs)	Head (1 Gross	Net	Output (kW)	Efficiency (%) 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 February March April May June July August September October November	855,000 753,000 818,000 727,000 699,000 612,000 484,000 305,000 245,000 148,800 468,000	1,150 1,120 1,100 1,010 940 850 650 410 340 200 650	100 100 100 100 100 100 100 100 100
December	595,000	800	100

Maximum firm capacity: 410 kW

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

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

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

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

#### Seller shall pay to PGandE: (d)

equal to the difference amount between (a) the firm capacity payments already paid by PGandE, based on the original term of agreement and (b) the total firm capacity payments which PGandE would have paid based on the period of Seller's actual performance using the adjusted firm capacity price. Additionally, Seller shall pay interest, compounded monthly from the date the excess capacity payment was made until the date Seller repays PGandE, on all overpayments, at the published Federal Reserve Board three months' Prime Commercial Paper rate; plus

(ii) a sum equal to the amount by which the 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

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

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2		APPENDIX F	
3		INTERCONNECTION	
4			
5		CONTENTS	
6	<u>Section</u>		Page
7	F-1	INTERCONNECTION TARIFFS	F-2
8	F-2	POINT OF DELIVERY LOCATION SKETCH	F-3
9	F-3	INTERCONNECTION FACILITIES FOR WHICH	F-4
10		SELLER IS RESPONSIBLE	
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12			
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### F-1 INTERCONNECTION TARIFFS

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

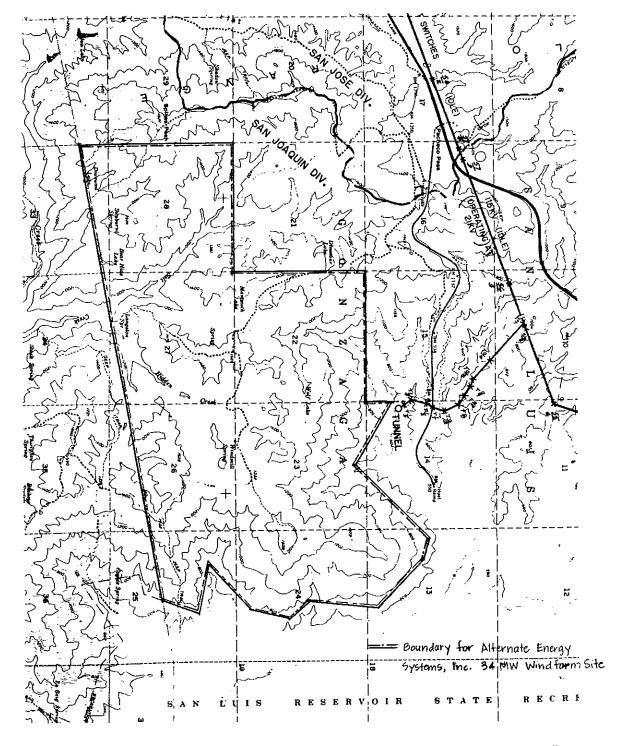
S.O. #4 May 7, 1984

### F-2 POINT OF DELIVERY LOCATION SKETCH

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(This sketch shall be appropriately modified after the initial point of delivery of Seller's power to the PGandE system has been determined.)



# F-3 INTERCONNECTION FACILITIES FOR WHICH SELLER IS RESPONSIBLE

(In accordance with Section A-2.2(a), since the <u>interconnection facilities</u> for which Seller is solely responsible have not been determined at the time of execution of this Agreement, the description of such facilities shall be appended at the time such determination is made.)