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POWER PURCHASE AGREEMENT  
FOR  
AS-DELIVERED CAPACITY AND ENERGY  
BETWEEN  
DR. RICHARD PFEIFFER AND DR. HAROLD PFEIFFER  
AND  
PACIFIC GAS AND ELECTRIC COMPANY

MAY 1984

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STANDARD OFFER #1:  
AS-DELIVERED CAPACITY AND ENERGY  
POWER PURCHASE AGREEMENT

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AS-DELIVERED CAPACITY AND ENERGY

POWER PURCHASE AGREEMENT

BETWEEN

DR. RICHARD PFEIFFER AND DR. HAROLD PFEIFFER

AND

PACIFIC GAS AND ELECTRIC COMPANY

WHEREAS, DR. RICHARD PFEIFFER AND DR. HAROLD PFEIFFER, a partnership, ("Seller"), and PACIFIC GAS AND ELECTRIC COMPANY ("PGandE"), entered into a contract on June 14, 1983, entitled "Power Purchase Agreement for As-Delivered Capacity and Energy" ("Previous Agreement"); and

WHEREAS, the Seller wishes to exercise the option it has to amend to the May 7, 1984 final form of the Standard Offer #1 Power Purchase Agreement as adapted to reflect the provisions of the California Public Utilities Commission Decision 84-03-092.

Seller and PGandE, referred to collectively as "Parties" and individually as "Party", agree as follows:

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ARTICLE 1 QUALIFYING STATUS

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

ARTICLE 2 PURCHASE OF POWER

(a) Seller shall sell and deliver and PGandE shall purchase and accept from the Facility having a nameplate rating of 300 kW located at Kosk Creek, near Big Bend, Shasta County the as-delivered capacity and energy at the voltage level of 12 kV. Seller has chosen surplus energy output<sup>2</sup> as its energy sale option. Seller may convert its energy sale option as provided in Section A-3 of Appendix A.

(b) The scheduled operation date when Seller estimates first delivery of electric energy from the Facility to

---

<sup>1</sup> Underlining identifies those terms which are defined in Section A-1 of Appendix A.

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

1 PGandE is  N/A<sup>1</sup> . At the end of each calendar quarter  
2 [Date]

3 Seller shall give to PGandE written notice of any change in  
4 the scheduled operation date.

5  
6 (c) To avoid exceeding the physical limitations of the  
7 interconnection facilities, Seller shall limit the  
8 Facility's actual rate of delivery into the PGandE system to  
9 300 kW.

10  
11 (d) The primary energy source for the Facility is  
12 hydro.

13  
14 (e) If Seller does not begin construction of its  
15 Facility by  N/A<sup>1</sup> , PGandE may reallocate the existing  
16 [Date]  
17 capacity on PGandE's transmission and/or distribution system  
18 which would have been used to accommodate Seller's power  
19 deliveries to other uses. In the event of such  
20 reallocation, Seller shall pay PGandE for the cost of any  
21 upgrades or additions to PGandE's system necessary to  
22 accommodate the output from the Facility. Such additional  
23 facilities shall be installed, owned, and maintained in  
24 accordance with the applicable PGandE tariff.

25  
26  
27 \_\_\_\_\_  
28 <sup>1</sup> Operational.

1 (f) The transformer loss adjustment factor is 0<sup>1</sup>.

2  
3 ARTICLE 3 PURCHASE PRICE

4  
5 PGandE shall pay Seller for as-delivered capacity at  
6 prices authorized from time to time by the CPUC and which  
7 are derived from PGandE's full avoided costs as approved by  
8 the CPUC. PGandE shall pay Seller for energy at prices  
9 equal to PGandE's full short run avoided operating costs as  
10 approved by the CPUC. PGandE's current as-delivered  
11 capacity price calculation is shown in Appendix C. PGandE's  
12 current energy price calculation is shown in Table A,  
13 Appendix B.

14  
15 ARTICLE 4 NOTICES

16  
17 All written notices shall be directed as follows:

18  
19 to PGandE: Pacific Gas and Electric Company  
20 Attention: Vice President -  
21 Electric Operations  
22 77 Beale Street  
23 San Francisco, CA 94106

24  
25 to Seller: Dr. Harold Pfeiffer  
26 [REDACTED]

27  
28 <sup>1</sup> 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.

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ARTICLE 5 DESIGNATED SWITCHING CENTER

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

Pit 3 Powerhouse  
Burney, CA  
(916) 335-2266

ARTICLE 6 TERMS AND CONDITIONS

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

- Appendix A - GENERAL TERMS AND CONDITIONS
- Appendix B - ENERGY PRICES
- Appendix C - AS-DELIVERED CAPACITY PRICES
- Appendix D - INTERCONNECTION

ARTICLE 7 TERM OF AGREEMENT

The effective date of this Agreement, upon execution by both Parties, shall be June 15, 1984, the date on which PGandE received notice of Seller's decision to modify its Previous Agreement to conform to PGandE's May 7, 1984 Standard Offer #1, and shall remain in effect until terminated by Seller. The Previous Agreement is superseded by this Agreement.

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IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed by their duly authorized representatives.

DR. RICHARD PFEIFFER AND  
DR. HAROLD PFEIFFER

PACIFIC GAS AND ELECTRIC COMPANY

BY: *[Signature]*  
RICHARD PFEIFFER

BY: *[Signature]*  
NOLAN H. DAINES

*[Signature]*  
HAROLD PFEIFFER

Vice President -  
TITLE: Planning and Research

TITLE: \_\_\_\_\_

DATE SIGNED: 4/9/85

DATE SIGNED: 3/10/85

Approved by \_\_\_\_\_  
*[Signature]*  
[Title]



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APPENDIX A  
GENERAL TERMS AND CONDITIONS  
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1 APPENDIX A

2 GENERAL TERMS AND CONDITIONS

3  
4 A-1 DEFINITIONS

5  
6 Whenever used in this Agreement, appendices, and  
7 attachments hereto, the following terms shall have the  
8 following meanings:

9  
10 CPUC - The Public Utilities Commission of the State  
11 of California.

12  
13 Designated PGandE switching center - That switching  
14 center or other PGandE installation identified in Article 5.

15  
16 Facility - That generation apparatus described in  
17 Article 2 and all associated equipment owned, maintained,  
18 and operated by Seller.

19  
20 Interconnection facilities - All means required and  
21 apparatus installed to interconnect and deliver power from  
22 the Facility to the PGandE system including, but not limited  
23 to, connection, transformation, switching, metering,  
24 communications, and safety equipment, such as equipment  
25 required to protect (1) the PGandE system and its customers  
26 from faults occurring at the Facility, and (2) the Facility  
27 from faults occurring on the PGandE system or on the systems  
28 of others to which the PGandE system is directly or

1 indirectly connected. Interconnection facilities also  
2 include any necessary additions and reinforcements by PGandE  
3 to the PGandE system required as a result of the intercon-  
4 nection of the Facility to the PGandE system.

5  
6 Net energy output - The Facility's gross output in  
7 kilowatt-hours less station use and transformation and  
8 transmission losses to the point of delivery into the PGandE  
9 system. Where PGandE agrees that it is impractical to  
10 connect the station use on the generator side of the power  
11 purchase meter, PGandE may, at its option, apply a station  
12 load adjustment.

13  
14 Prudent electrical practices - Those practices,  
15 methods, and equipment, as changed from time to time, that  
16 are commonly used in prudent electrical engineering and  
17 operations to design and operate electric equipment lawfully  
18 and with safety, dependability, efficiency, and economy.

19  
20 Special facilities - Those additions and  
21 reinforcements to the PGandE system which are needed to  
22 accommodate the maximum delivery of energy and capacity from  
23 the Facility as provided in this Agreement and those parts  
24 of the interconnection facilities which are owned and  
25 maintained by PGandE at Seller's request, including metering  
26 and data processing equipment. All special facilities shall

27  
28

1 be owned, operated, and maintained pursuant to PGandE's  
2 electric Rule No. 21, which is attached hereto.  
3

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

10  
11       Surplus energy output - The Facility's gross output,  
12 in kilowatt-hours, less station use, and any other use by  
13 the Seller, and transformation and transmission losses to  
14 the point of delivery into the PGandE system.

15  
16       Term of agreement - The period of time during which  
17 this Agreement will be in effect as provided in Article 7.  
18

19       Voltage level - The voltage at which the Facility  
20 interconnects with the PGandE system, measured at the point  
21 of delivery.  
22

23       A-2       CONSTRUCTION

24  
25       A-2.1     Land Rights  
26

27       Seller hereby grants to PGandE all necessary rights  
28 of way and easements to install, operate, maintain, replace,

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

18  
19 A-2.2 Design, Construction, Ownership, and Maintenance

20  
21 (a) Seller shall design, construct, install, own,  
22 operate, and maintain all interconnection facilities, except  
23 special facilities, to the point of interconnection with the  
24 PGandE system as required for PGandE to receive as-delivered  
25 capacity and energy from the Facility. The Facility and  
26 interconnection facilities shall meet all requirements of  
27  
28

1 applicable codes and all standards of prudent electrical  
2 practices and shall be maintained in a safe and prudent  
3 manner. A description of the interconnection facilities for  
4 which Seller is solely responsible is set forth in  
5 Appendix D or if the interconnection requirements have not  
6 yet been determined at the time of the execution of this  
7 Agreement, the description of such facilities will be  
8 appended to this Agreement at the time such determination is  
9 made.

10  
11 (b) Seller shall submit to PGandE the design and all  
12 specifications for the interconnection facilities (except  
13 special facilities) for review and written acceptance prior  
14 to their release for construction purposes. PGandE shall  
15 notify Seller in writing of the outcome of PGandE's review  
16 of the design and specifications for Seller's  
17 interconnection facilities within 30 days of the receipt of  
18 the design and all of the specifications for the  
19 interconnection facilities. Any flaws perceived by PGandE  
20 in the design and specification for the interconnection  
21 facilities will be described in PGandE's written  
22 notification. PGandE's review and acceptance of the design  
23 and specifications shall not be construed as confirming or  
24 endorsing the design and specifications or as warranting  
25 their safety, durability, or reliability. PGandE shall not,  
26 by reason of such review or lack of review, be responsible  
27 for strength, details of design, adequacy, or capacity of  
28 equipment built pursuant to such design and specifications,

1 nor shall PGandE's acceptance be deemed to be an endorsement  
2 of any of such equipment. Seller shall change the  
3 interconnection facilities as may be reasonably required by  
4 PGandE to meet changing requirements of the PGandE system.

5  
6 (c) In the event it is necessary for PGandE to  
7 install interconnection facilities for the purposes of this  
8 Agreement, they shall be installed as special facilities.

9  
10 (d) Upon the request of Seller, PGandE shall provide  
11 a binding estimate for the installation of interconnection  
12 facilities by PGandE.

13  
14 A-2.3 Meter Installation

15  
16 (a) PGandE shall specify, provide, install, own,  
17 operate, and maintain as special facilities all metering and  
18 data processing equipment for the registration and recording  
19 of energy and other related parameters which are required  
20 for the reporting of data to PGandE and for computing the  
21 payment due Seller from PGandE.

22  
23 (b) Seller shall provide, construct, install, own,  
24 and maintain at Seller's expense all that is required to  
25 accommodate the metering and data processing equipment, such  
26 as, but not limited to, metal-clad switchgear, switchboards,  
27 cubicles, metering panels, enclosures, conduits, rack  
28 structures, and equipment mounting pads.

1 (c) PGandE shall permit meters to be fixed on  
2 PGandE's side of the transformer. If meters are placed on  
3 PGandE's side of the transformer, service will be provided  
4 at the available primary voltage and no transformer loss  
5 adjustment will be made. If Seller chooses to have meters  
6 placed on Seller's side of the transformer, an estimated  
7 transformer loss adjustment factor of 2 percent, unless the  
8 Parties agree otherwise, will be applied.  
9

10 A-3 ENERGY SALE OPTIONS

11  
12 A-3.1 General

13  
14 Seller has two energy sale options, net energy output  
15 or surplus energy output. Seller has made its initial  
16 selection in Article 2(a).  
17

18 A-3.2 Energy Sale Conversion

19  
20 (a) Seller is entitled to convert from one option to  
21 the other 12 months after execution of this Agreement, and  
22 thereafter at least 12 months after the effective date of  
23 the most recent conversion, subject to the following  
24 conditions:

25 (1) Seller shall provide PGandE with a written  
26 request to convert its energy sale option.

27 (2) Seller shall comply with all applicable  
28 tariffs on file with the CPUC and contracts in effect



1 between the Parties at the time of conversion  
2 covering the existing and proposed (i) facilities  
3 used to serve Seller's premises and  
4 (ii) interconnection facilities.

5 (3) Seller shall install and operate equipment  
6 required by PGandE to prevent PGandE from serving any  
7 part of Seller's load which is served by the Facility  
8 and not under contract for PGandE standby service.  
9 At Seller's request, PGandE shall provide this  
10 equipment as special facilities.

11  
12 (b) If, as a result of an energy sales conversion,  
13 Seller no longer requires the use of interconnection  
14 facilities installed and/or operated and maintained by  
15 PGandE as special facilities under a Special Facilities  
16 Agreement, Seller may reserve these facilities, for its  
17 future use, by continuing its performance under its Special  
18 Facilities Agreement. If Seller does not wish to reserve  
19 such facilities, it may terminate its Special Facilities  
20 Agreement.

21  
22 If Seller's energy sale conversion results in  
23 its discontinuation of its use of PGandE facilities not  
24 covered by Seller's Special Facilities Agreement, Seller  
25 cannot reserve those facilities for future use. Seller's  
26 future use of such facilities shall be contingent upon the  
27 availability of such facilities at the time Seller requests  
28 such use. If such facilities are not available, Seller

1 shall bear the expense necessary to install, own, and  
2 maintain the needed additional facilities in accordance with  
3 PGandE's applicable tariff.  
4

5 (c) PGandE shall process requests for conversion in  
6 the order received. The effective date of conversion shall  
7 depend on the completion of the changes required to  
8 accommodate Seller's energy sale conversion.  
9

10 A-4 OPERATION

11  
12 A-4.1 Inspection and Approval  
13

14 Seller shall not operate the Facility in parallel  
15 with PGandE's system until an authorized PGandE representa-  
16 tive has inspected the interconnection facilities, and  
17 PGandE has given written approval to begin parallel  
18 operation. Seller shall notify PGandE of the Facility's  
19 start-up date at least 45 days prior to such date. PGandE  
20 shall inspect the interconnection facilities within 30 days  
21 of the receipt of such notice. If parallel operation is not  
22 authorized by PGandE, PGandE shall notify Seller in writing  
23 within five days after inspection of the reason  
24 authorization for parallel operation was withheld.  
25  
26  
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28

1 A-4.2 Facility Operation and Maintenance

2  
3 Seller shall operate and maintain its Facility  
4 according to prudent electrical practices, applicable laws,  
5 orders, rules, and tariffs and shall provide such reactive  
6 power support as may be reasonably required by PGandE to  
7 maintain system voltage level and power factor. Seller  
8 shall operate the Facility at the power factors or voltage  
9 levels prescribed by PGandE's system dispatcher or  
10 designated representative. If Seller fails to provide  
11 reactive power support, PGandE may do so at Seller's  
12 expense.

13  
14 A-4.3 Point of Delivery

15  
16 Seller shall deliver the energy at the point where  
17 Seller's electrical conductors (or those of Seller's agent)  
18 contact PGandE's system as it shall exist whenever the  
19 deliveries are being made or at such other point or points  
20 as the Parties may agree in writing. The initial point of  
21 delivery of Seller's power to the PGandE system is set forth  
22 in Appendix D.

23  
24 A-4.4 Operating Communications

25  
26 (a) Seller shall maintain operating communications  
27 with the designated PGandE switching center. The operating  
28 communications shall include, but not be limited to, system

1 paralleling or separation, scheduled and unscheduled  
2 shutdowns, equipment clearances, levels of operating voltage  
3 or power factors, and daily capacity and generation reports.  
4

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

10  
11 (c) If Seller makes deliveries greater than one  
12 megawatt, Seller shall measure and register on a graphic  
13 recording device power in kW and voltage in kV at a location  
14 within the Facility agreed to by both Parties.  
15

16 (d) If Seller makes deliveries greater than one and  
17 up to and including ten megawatts, Seller shall report to  
18 the designated PGandE switching center, twice a day at  
19 agreed upon times for the current day's operation, the  
20 hourly readings in kW of capacity delivered and the energy  
21 in kWh delivered since the last report.  
22

23 (e) If Seller makes deliveries of greater than ten  
24 megawatts, Seller shall telemeter the delivered capacity and  
25 energy information, including real power in kW, reactive  
26 power in kVAR, and energy in kWh to a switching center  
27 selected by PGandE. PGandE may also require Seller to  
28 telemeter transmission kW, kVAR, and kV data depending on

1 the number of generators and transmission configuration.  
2 Seller shall provide and maintain the data circuits required  
3 for telemetering. When telemetering is inoperative, Seller  
4 shall report daily the capacity delivered each hour and the  
5 energy delivered each day to the designated PGandE switching  
6 center.

7  
8 A-4.5 Meter Testing and Inspection

9  
10 (a) All meters used to provide data for the  
11 computation of the payments due Seller from PGandE shall be  
12 sealed, and the seals shall be broken only by PGandE when  
13 the meters are to be inspected, tested, or adjusted.

14  
15 (b) PGandE shall inspect and test all meters upon  
16 their installation and annually thereafter. At Seller's  
17 request and expense, PGandE shall inspect or test a meter  
18 more frequently. PGandE shall give reasonable notice to  
19 Seller of the time when any inspection or test shall take  
20 place, and Seller may have representatives present at the  
21 test or inspection. If a meter is found to be inaccurate or  
22 defective, PGandE shall adjust, repair, or replace it at its  
23 expense in order to provide accurate metering.

24  
25 A-4.6 Adjustments to Meter Measurements

26  
27 If a meter fails to register, or if the measurement  
28 made by a meter during a test varies by more than two

1 percent from the measurement made by the standard meter used  
2 in the test, an adjustment shall be made correcting all  
3 measurements made by the inaccurate meter for (1) the actual  
4 period during which inaccurate measurements were made, if  
5 the period can be determined, or if not, (2) the period  
6 immediately preceding the test of the meter equal to  
7 one-half the time from the date of the last previous test of  
8 the meter, provided that the period covered by the  
9 correction shall not exceed six months.

10  
11 A-5 PAYMENT

12  
13 PGandE shall mail to Seller not later than 30 days  
14 after the end of each monthly billing period (1) a statement  
15 showing the kilowatt-hours delivered to PGandE during  
16 on-peak, partial-peak, and off-peak periods during the  
17 monthly billing period, (2) PGandE's computation of the  
18 payment due Seller, and (3) PGandE's check in payment of  
19 said amount. Except as provided in Section A-6, if within  
20 30 days of receipt of the statement Seller does not make a  
21 report in writing to PGandE of an error, Seller shall be  
22 deemed to have waived any error in PGandE's statement,  
23 computation, and payment, and they shall be considered  
24 correct and complete.

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A-6 ADJUSTMENTS OF PAYMENTS

(a) In the event adjustments to payments are required as a result of inaccurate meters, PGandE shall use the corrected measurements described in Section A-4.6 to recompute the amount due from PGandE to Seller for the as-delivered 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-7 ACCESS TO RECORDS AND PGandE DATA

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

A-8 CURTAILMENT OF DELIVERIES AND HYDRO SPILL CONDITIONS

(a) PGandE shall not be obligated to accept or pay for and may require Seller to interrupt or reduce deliveries

1 of as-delivered capacity and energy (1) when necessary in  
2 order to construct, install, maintain, repair, replace,  
3 remove, investigate, or inspect any of its equipment or any  
4 part of its system, or (2) if it determines that  
5 interruption or reduction is necessary because of  
6 emergencies, forced outages, force majeure, or compliance  
7 with prudent electrical practices.

8  
9 (b) In anticipation of a period of hydro spill  
10 conditions, as defined by the CPUC, PGandE may notify Seller  
11 that any purchases of energy from Seller during such period  
12 shall be at hydro savings prices quoted by PGandE. If  
13 Seller delivers energy to PGandE during any such period,  
14 Seller shall be paid hydro savings prices for those  
15 deliveries in lieu of prices which would otherwise be  
16 applicable. The hydro savings prices shall be calculated by  
17 PGandE using the following formula:

$$\frac{AQF - S}{AQF} \times PP$$

18  
19  
20  
21 where:

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

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



1 PP = Prices published by PGandE for purchases during other  
2 than hydro spill conditions.  
3

4 (c) PGandE shall not be obligated to accept or pay  
5 for and may require Seller with a Facility with a nameplate  
6 rating of one megawatt or greater to interrupt or reduce  
7 deliveries of as-delivered capacity and energy during  
8 periods when purchases under this Agreement would result in  
9 costs greater than those which PGandE would incur if it did  
10 not make such purchases but instead generated an equivalent  
11 amount of energy itself.  
12

13 (d) Whenever possible, PGandE shall give Seller  
14 reasonable notice of the possibility that interruption or  
15 reduction of deliveries under subsections (a) or (c), above,  
16 may be required. PGandE shall give Seller notice of general  
17 periods when hydro spill conditions are anticipated, and  
18 shall give Seller as much advance notice as practical of any  
19 specific hydro spill period and the hydro savings price  
20 which will be applicable during such period. Before  
21 interrupting or reducing deliveries under subsection (c),  
22 above, and before invoking hydro savings prices under  
23 subsection (b) above, PGandE shall take reasonable steps to  
24 make economy sales of the surplus energy giving rise to the  
25 condition. If such economy sales are made, while the  
26 surplus energy condition exists Seller shall be paid at the  
27 economy sales price obtained by PGandE in lieu of the  
28 otherwise applicable prices.

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

15 A-9 FORCE MAJEURE  
16

17 (a) The term force majeure as used herein means  
18 unforeseeable causes beyond the reasonable control of and  
19 without the fault or negligence of the Party claiming force  
20 majeure including, but not limited to, acts of God, labor  
21 disputes, sudden actions of the elements, actions by  
22 federal, state, and municipal agencies, and actions of  
23 legislative, judicial or regulatory agencies which conflict  
24 with the terms of this Agreement.  
25

26 (b) If either Party because of force majeure is  
27 rendered wholly or partly unable to perform its obligations  
28 under this Agreement, that Party shall be excused from

1 whatever performance is affected by the force majeure to the  
2 extent so affected provided that:

3  
4 (1) The non-performing Party, within two weeks  
5 after the occurrence of the force majeure, gives the  
6 other Party written notice describing the particulars  
7 of the occurrence,

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

11 (3) the non-performing Party uses its best  
12 efforts to remedy its inability to perform (this  
13 subsection shall not require the settlement of any  
14 strike, walkout, lockout, or other labor dispute on  
15 terms which, in the sole judgment of the Party  
16 involved in the dispute, are contrary to its  
17 interest. It is understood and agreed that the  
18 settlement of strikes, walkouts, lockouts, or other  
19 labor disputes shall be at the sole discretion of the  
20 Party having the difficulty), and

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

25  
26 (c) In the event a Party is unable to perform due to  
27 legislative, judicial or regulatory agency action, this  
28

1 Agreement shall be renegotiated to comply with the legal  
2 change which caused the non-performance.  
3

4 A-10 INDEMNITY  
5

6 Each Party as indemnitor shall save harmless and  
7 indemnify the other Party and the directors, officers, and  
8 employees of such other Party against and from any and all  
9 loss and liability for injuries to persons including  
10 employees of either Party, and property damages, including  
11 property of either Party, resulting from or arising out of  
12 (1) the engineering, design, construction, maintenance, or  
13 operation of or (2) the making of replacements, additions,  
14 or betterments to, the indemnitor's facilities. This  
15 indemnity and save harmless provision shall apply  
16 notwithstanding the active or passive negligence of the  
17 indemnitee. Neither Party shall be indemnified hereunder  
18 for liability or loss resulting from its sole negligence or  
19 willful misconduct. The indemnitor shall, on the other  
20 Party's request, defend any suit asserting a claim covered  
21 by this indemnity and shall pay all costs, including  
22 reasonable attorney fees, that may be incurred by the other  
23 Party in enforcing this indemnity.  
24

25 A-11 LIABILITY; DEDICATION  
26

27 (a) Nothing in this Agreement shall create any duty  
28 to, any standard of care with reference to, or any liability

1 to any person not a Party to it. Neither Party shall be  
2 liable to the other Party for consequential damages.

3  
4 (b) Each Party shall be responsible for protecting  
5 its facilities from possible damage by reason of electrical  
6 disturbances or faults caused by the operation, faulty  
7 operation, or nonoperation of the other Party's facilities,  
8 and such other Party shall not be liable for any such  
9 damages so caused.

10 (c) No undertaking by one Party to the other under  
11 any provision of this Agreement shall constitute the  
12 dedication of that Party's system or any portion thereof to  
13 the other Party or to the public nor affect the status of  
14 PGandE as an independent public utility corporation or  
15 Seller as an independent individual or entity and not a  
16 public utility.

17  
18 A-12 SEVERAL OBLIGATIONS

19  
20 Except where specifically stated in this Agreement to  
21 be otherwise, the duties, obligations, and liabilities of  
22 the Parties are intended to be several and not joint or  
23 collective. Nothing contained in this Agreement shall ever  
24 be construed to create an association, trust, partnership,  
25 or joint venture or impose a trust or partnership duty,  
26 obligation, or liability on or with regard to either Party.  
27 Each Party shall be liable individually and severally for  
28 its own obligations under this Agreement.

1 A-13 NON-WAIVER

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A-13 NON-WAIVER

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

A-14 ASSIGNMENT

Neither Party shall voluntarily assign its rights nor delegate its duties under this Agreement, or any part of such rights or duties, without the written consent of the other Party, except in connection with the sale or merger of a substantial portion of its properties. Any such assignment or delegation made without such written consent shall be null and void. Consent for assignment will 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-15 CAPTIONS

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

1 A-16 CHOICE OF LAWS

2

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

7

8 A-17 GOVERNMENTAL JURISDICTION AND AUTHORIZATION

9

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

16

17 A-18 NOTICES

18

19 Any notice, demand, or request required or permitted  
20 to be given by either Party to the other, and any instrument  
21 required or permitted to be tendered or delivered by either  
22 Party to the other, shall be in writing and so given,  
23 tendered, or delivered, as the case may be, by depositing  
24 the same in any United States Post Office with postage  
25 prepaid for transmission by certified mail, return receipt  
26 requested, addressed to the Party, or personally delivered  
27 to the Party, at the address in Article 4 of this Agreement.

28

1 Changes in such designation may be made by notice similarly  
2 given.

3  
4 A-19 INSURANCE

5  
6 A-19.1 General Liability Coverage

7  
8 (a) Seller shall maintain during the performance  
9 hereof, General Liability Insurance<sup>1</sup> of not less than  
10 \$1,000,000 if the Facility is over 100 kW, \$500,000 if the  
11 Facility is over 20 kW to 100 kW, and \$100,000 if the  
12 Facility is 20 kW or below of combined single limit or  
13 equivalent for bodily injury, personal injury, and property  
14 damage as the result of any one occurrence.

15  
16 (b) General Liability Insurance shall include  
17 coverage for Premises-Operations, Owners and Contractors  
18 Protective, Products/Completed Operations Hazard, Explosion,  
19 Collapse, Underground, Contractual Liability, and Broad Form  
20 Property Damage including Completed Operations.

21  
22 (c) Such insurance, by endorsement to the  
23 policy(ies), shall include PGandE as an additional insured  
24 if the Facility is over 100 kW insofar as work performed by  
25

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



1 Seller for PGandE is concerned, shall contain a severability  
2 of interest clause, shall provide that PGandE shall not by  
3 reason of its inclusion as an additional insured incur  
4 liability to the insurance carrier for payment of premium  
5 for such insurance, and shall provide for 30-days' written  
6 notice to PGandE prior to cancellation, termination,  
7 alteration, or material change of such insurance.

8  
9 A-19.2 Additional Insurance Provisions

10  
11 (a) Evidence of coverage described above in Section  
12 A-19.1 shall state that coverage provided is primary and is  
13 not excess to or contributing with any insurance or  
14 self-insurance maintained by PGandE.

15  
16 (b) PGandE shall have the right to inspect or obtain  
17 a copy of the original policy(ies) of insurance.

18  
19 (c) Seller shall furnish the required certificates<sup>1</sup>  
20 and endorsements to PGandE prior to commencing operation.

21  
22 (d) All insurance certificates<sup>1</sup>, endorsements,  
23 cancellations, terminations, alterations, and material  
24  
25  
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27  
28 <sup>1</sup> A governmental agency qualifying to maintain self-insurance  
should provide a statement of self-insurance.

1 changes of such insurance shall be issued and submitted to  
2 the following:

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

APPENDIX B

ENERGY PRICES

TABLE A

Energy Prices Effective February 1 - April 30, 1985

The energy purchase price calculations which will apply to energy deliveries determined from meter readings taken during February, March, and April 1985 are as follows:

<u>Time Period</u>	(a) <u>Incremental Energy Rate<sup>1</sup></u> (Btu/kWh)	(b) <u>Cost of Energy<sup>2</sup></u> (\$/10 <sup>6</sup> Btu)	(c) <u>Revenue Requirement for Cash Working Capital<sup>3</sup></u> (\$/kWh)	(d) <u>Energy Purchase Price<sup>4</sup></u> (d) = [(a) x (b)] + (c) (\$/kWh)
February 1 - April 30 (Period B)				
Time of Delivery Basis:				
On-Peak	16,320	5.2394	0.00053	0.08604
Partial-Peak	15,689	5.2394	0.00051	0.08271
Off-Peak	11,625	5.2394	0.00038	0.06129
Seasonal Average (Period B)	13,692	5.2394	0.00045	0.07219

<sup>1</sup> 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.

<sup>2</sup> Cost of natural gas under PGandE Gas Schedule No. G-55 effective February 1, 1985 per Advice No. 1304-G.

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

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

TABLE B<sup>1</sup>  
Time Periods

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

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

<sup>2</sup> 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)).

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TABLE C  
Energy Loss Adjustment Factors<sup>1</sup>

	<u>Transmission</u>	<u>Primary Distribution</u>	<u>Secondary Distribution</u>
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

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

1 APPENDIX C

2 AS-DELIVERED CAPACITY PRICES

3  
4 Purchase Price for As-Delivered Capacity  
5 from Qualifying Facilities for 1984  
6

7 For Facilities with time-of-delivery metering and  
8 from which PGandE is contractually obligated to purchase  
9 as-delivered capacity at its annually published as-delivered  
10 capacity price, the as-delivered capacity payment for power  
11 delivered by the Facility to PGandE and accepted by PGandE  
12 is based on 100 percent of the shortage value of such power.  
13 The payment will be made at a rate which will vary by time  
14 of delivery and will be made for each kWh produced and  
15 delivered by the Facility. The as-delivered capacity  
16 purchase price is shown on Table C as a function of the  
17 interconnection voltage, and is the product of three  
18 factors:

- 19  
20 (a) The current shortage cost in each year the  
21 Facility is operating. Currently, this shortage  
22 cost, \$156 per kW-year, is the product of the  
23 annualized gas turbine cost and the Energy  
24 Reliability Index (ERI) adjustment factor, as  
25 prescribed by the CPUC in Decision No. 83-12-068  
26 (December 22, 1983). The basis for the shortage  
27 cost may be revised by the CPUC from time to  
28 time.

1 (b) A capacity loss adjustment factor. The current  
2 shortage cost is adjusted for the effect of the  
3 deliveries on PGandE's transmission and  
4 distribution losses based on the Seller's  
5 interconnection voltage level. The applicable  
6 capacity loss adjustment factors for non-remote<sup>1</sup>  
7 Facilities are presented in Table A. Capacity  
8 loss adjustment factors for remote Facilities  
9 shall be calculated individually.

10  
11 (c) An allocation factor, which accounts for the  
12 different values of as-delivered capacity in  
13 different time periods, and converts dollars per  
14 kW-year to cents per kWh. The allocation  
15 factors are presented in Table B. The time  
16 periods to which they apply are shown in  
17 Table B, Appendix B.

18  
19 For Facilities without time-of-delivery metering, the  
20 price paid for as-delivered capacity shall be 50% of the  
21 current shortage cost (a) multiplied by a capacity loss  
22 adjustment factor (b) and multiplied by a weighted average  
23 allocation factor (c).

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28 <sup>1</sup> As defined by the CPUC.

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TABLE A

Capacity Loss Adjustment Factors<sup>1</sup>  
for Non-Remote<sup>2</sup> Facilities

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

TABLE B

Allocation Factors for  
As-Delivered Capacity<sup>3</sup>

<u>With Time-of Delivery Metering</u>	<u>On-Peak (¢-yr/\$-hr)</u>	<u>Partial-Peak (¢-yr/\$-hr)</u>	<u>Off-Peak (¢-yr/\$-hr)</u>
Seasonal Period A	.10835	.02055	.00002
Seasonal Period B	.00896	.00109	.00001
<u>Without Time-of Delivery Metering</u>		<u>Weighted Average (¢-yr/\$-hr)</u>	
Seasonal Period A		.02525	
Seasonal Period B		.00144	

<sup>1</sup> The capacity loss adjustment factors for non-remote Facilities are subject to change pursuant to orders of the CPUC. The capacity loss adjustment factors for remote Facilities are determined individually.

<sup>2</sup> As defined by the CPUC.

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

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

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



TABLE C

Payment for As-Delivered Capacity  
from Non-Remote<sup>1</sup> Qualifying Facilities

(The product of the current shortage  
cost (a), the capacity loss adjustment  
factor (b), and the allocation factor (c))

	<u>Transmission Voltage</u>		<u>Primary Distribution Voltage</u>	
	<u>Seasonal Period A</u> (¢/kWh)	<u>Seasonal Period B</u> (¢/kWh)	<u>Seasonal Period A</u> (¢/kWh)	<u>Seasonal Period B</u> (¢/kWh)
<u>With Time-of Delivery Metering</u>				
Time of Delivery				
On-Peak	16.717	1.382	16.750	1.385
Partial-Peak	3.171	0.168	3.177	0.169
Off-Peak	0.003	0.002	0.003	0.002
<u>Without Time-of Delivery Metering</u>				
Weighted Average	1.948	0.111	1.952	0.111
			<u>Secondary Distribution Voltage</u>	
			<u>Seasonal Period A</u> (¢/kWh)	<u>Seasonal Period B</u> (¢/kWh)
<u>With Time-of Delivery Metering</u>				
Time of Delivery				
On-Peak			16.750	1.385
Partial-Peak			3.177	0.169
Off-Peak			0.003	0.002
<u>Without Time-of Delivery Metering</u>				
Weighted Average			1.952	0.111

<sup>1</sup> As defined by the CPUC.

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APPENDIX D  
INTERCONNECTION

CONTENTS

<u>Section</u>		<u>Page</u>
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D-2	POINT OF DELIVERY LOCATION SKETCH	D-3
D-3	INTERCONNECTION FACILITIES FOR WHICH SELLER IS RESPONSIBLE	D-4

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D-1 INTERCONNECTION TARIFFS

The applicable tariff follows on the succeeding pages.

RULE NO. 21 -- NONUTILITY-OWNED PARALLEL GENERATION

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

A. GENERAL

1. The type of interconnection and voltage available at any location and the Utility's specific interconnection requirements shall be determined by inquiry at the Utility's local office.
2. The Utility's distribution and transmission lines which are an integral part of its overall system are distinguished by the voltages at which they are operated. Distribution lines are operated at voltages below 60 kv and transmission lines are operated at voltages 60 kv and higher.
3. The Power Producer (Producer) shall ascertain and be responsible for compliance with the requirements of all governmental authorities having jurisdiction.
4. The Producer shall sign the Utility's written form of power purchase agreement or parallel operation agreement before connecting or operating a generating source in parallel with the Utility's system.
5. The Producer shall be fully responsible for the costs of designing, installing, owning, operating and maintaining all interconnection facilities defined in Section B.1.
6. The Producer shall submit to the Utility, for the Utility's review and written acceptance, equipment specifications and detailed plans for the installation of all interconnection facilities to be furnished by the Producer prior to their purchase or installation. The Utility's review and written acceptance of the Producer's equipment specifications and detailed plans shall not be construed as confirming or endorsing the Producer's design or as warranting the equipment's safety, durability or reliability. The Utility shall not, by reason of such review or lack of review, be responsible for strength, details of design adequacy, or capacity of equipment built pursuant to such specifications, nor shall the Utility acceptance be deemed an endorsement of any such equipment.
7. No generating source shall be operated in parallel with the Utility's system until the interconnection facilities have been inspected by the Utility and the Utility has provided written approval to the Producer.
8. Only duly authorized employees of the Utility are allowed to connect Producer-installed interconnection facilities to, or disconnect the same from, the Utility's overhead or underground lines.

B. INTERCONNECTION FACILITIES

1. GENERAL: Interconnection facilities are all means required, and apparatus installed, to interconnect the Producer's generation with the Utility's system. Where the Producer desires to sell power to the Utility, interconnection facilities are also all means required, and apparatus installed, to enable the Utility to receive power deliveries from the Producer. Interconnection facilities may include, but are not limited to:
  - a. connection, transformation, switching, metering, communications, control, protective and safety equipment; and
  - b. any necessary additions to and reinforcements of the Utility's system by the Utility.
2. METERING
  - a. A Producer desiring to sell power to the Utility shall provide, install, own and maintain all facilities necessary to accommodate metering equipment specified by the Utility. Such metering equipment may include meters, telemetering (applicable where deliveries to the Utility exceed 10 MW) and other recording and communications devices as may be required for the reporting of power delivery data to the Utility. Except as provided for in Section B.2.b following, the Utility shall provide, install, own and maintain all metering equipment as special facilities in accordance with Section F.

(Continued)

Advice Letter No. 1025-E  
Decision No. 83-10-093

Issued By  
**W. M. Gallavan**  
Vice-President  
Rates and Economic Analysis  
D-2 (a)

Date Filed May 21, 1984  
Effective June 20, 1984  
Resolution No. \_\_\_\_\_

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

B. INTERCONNECTION FACILITIES (continued)

2. METERING

- b. The Producer may at its option provide, install, own and maintain current and potential transformers rated above 600 volts and a non-revenue type graphic recorder where applicable. Such metering equipment, its installation and maintenance shall all be in conformance with the Utility's specifications.
- c. The Utility's meters shall be equipped with detents to prevent reverse registration so that power deliveries to and from the Producer's equipment can be separately recorded.

3. CONTROL, PROTECTION AND SAFETY EQUIPMENT

- a. GENERAL: The Utility has established functional requirements essential for safe and reliable parallel operation of the Producer's generation. These requirements provide for control, protective and safety equipment to:
  - (1) sense and properly react to failure and malfunction on the Utility's system;
  - (2) assist the Utility in maintaining its system integrity and reliability; and
  - (3) protect the safety of the public and the Utility's personnel.
- b. Listed below are the various devices and features generally required by the Utility as a prerequisite to parallel operation of the Producer's generation:

CONTROL, PROTECTION AND SAFETY EQUIPMENT GENERAL REQUIREMENTS<sup>1</sup>

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

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

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

<sup>2</sup>This is a transformer interconnected with no other Producers and serving no other Utility customers. Although the dedicated transformer is not a requirement for generators rated 10 kw or less, its installation is recommended by the Utility.

<sup>3</sup>This is a requirement for synchronous and other types of generators with stand-alone capability. For all such generators, the Utility will also require the installation of "reclose blocking" features on its system to block certain operations of the Utility's automatic line restoration equipment.

(Continued)

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

B. INTERCONNECTION FACILITIES (continued)

4. UTILITY SYSTEM ADDITIONS AND REINFORCEMENTS

- a. Except as provided for in Section B.5, all additions to and reinforcements of the Utility's system necessary to interconnect with and receive power deliveries from the Producer's generation will be provided, installed, owned and maintained by the Utility as special facilities in accordance with Section F. Such additions and reinforcements may include the installation of a Utility distribution or transmission line extension or the increase of capacity in the Utility's existing distribution or transmission lines. The Utility shall determine whether any such additions or reinforcements shall include an increment of additional capacity for the Utility's use in furnishing service to its customers. If so, then the costs of providing, installing, owning and maintaining such additional capacity shall be borne by the Utility and/or its customers in accordance with the Utility's applicable tariffs on file with and authorized by the California Public Utilities Commission (Commission).
- b. The Producer shall advance to the Utility its estimated costs of performing a preliminary or detailed engineering study as may be reasonably required to identify any Producer related Utility system additions and reinforcements. Where such preliminary or detailed engineering study involves analysis of the Utility's transmission lines (60 kv and higher), the Utility shall complete its study within twelve calendar months of receiving all necessary plans and specifications from the Producer.

5. PRODUCER-INSTALLED UTILITY-OWNED LINE EXTENSIONS: The Producer may at its option provide and install an extension of the Utility's distribution or transmission lines where required to complete the Producer's interconnection with the Utility. Such extension shall be installed by contractors approved by the Utility and in accordance with its design and specifications. The Producer shall pay the Utility its estimated costs of design, administration and inspection as may be reasonably required to assure such extension is installed in compliance with the Utility's requirements. Upon final inspection and acceptance by the Utility, the Producer shall transfer ownership of the line extension to the Utility where thereafter it shall be owned and maintained as special facilities in accordance with Section F. This provision does not preclude the Producer from installing, owning and maintaining a distribution or transmission line extension as part of its other Producer-owned interconnection facilities.

6. COSTS OF FUTURE UTILITY SYSTEM ALTERATIONS: The Producer shall be responsible for the costs of only those future Utility system alterations which are directly related to the Producer's presence or necessary to maintain the Producer's interconnection in accordance with the Utility's applicable operating, metering and equipment publication in effect when the Producer and the Utility entered into a written form of power purchase agreement. Alterations made at the Producer's expense shall specifically exclude increases of existing line capacity necessary to accommodate the other Producers or Utility customers. Such alterations may, however, include relocation or undergrounding of the Utility's distribution or transmission lines as may be ordered by a governmental authority having jurisdiction.

7. ALLOCATION OF THE UTILITY'S EXISTING LINE CAPACITY: For two or more Producers seeking to use an existing line, a first come, first served approach shall be used. The first Producer to request an interconnection shall have the right to use the existing line and shall incur no obligation for costs associated with future line upgrades needed to accommodate other Producers or customers. The Utility's power purchase agreement shall specify the date by which the Producer must begin construction. If that date passes and construction has not commenced, the Producer shall be given 30 days to correct the deficiency after receiving a reminder from the Utility that the construction start-up date has passed. If construction has not commenced after the 30-day corrective period, the Utility shall have the right to withdraw its commitment to the first Producer and offer the right to interconnect on the existing line to the next Producer in order. If two Producers establish the right of first-in-time simultaneously, the two Producers shall share the costs of any additional line upgrade necessary to facilitate their cumulative capacity requirements. Costs shall be shared based on the relative proportion of capacity each Producer will add to the line.

(Continued)

Advice Letter No. 1025-E  
Decision No. 83-10-093

Issued By  
W. M. Gallavan  
Vice-President

Date Filed May 21, 1983  
Effective June 20, 1983  
Resolution No. \_\_\_\_\_

Rates and Economic Analysis  
D-2(c)

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

- C. **ELECTRIC SERVICE FROM THE UTILITY:** If the Producer requires regular, supplemental, interruptible or standby service from the Utility, the Producer shall enter into separate contractual arrangements with the Utility in accordance with the Utility's applicable electric tariffs on file with and authorized by the Commission.
- D. **OPERATION**
1. **PREPARALLEL INSPECTION:** In accordance with Section A.7, the Utility will inspect the Producer's interconnection facilities prior to providing it with written authorization to commence parallel operation. Such inspection shall determine whether or not the Producer has installed certain control, protective and safety equipment to the Utility's specifications. Where the Producer's generation has a rated output in excess of 100 kw, the Producer shall pay the Utility its estimated costs of performing the inspection.
  2. **JURISDICTION OF THE UTILITY'S SYSTEM DISPATCHER:** The Producer's generation while operating in parallel with the Utility's system is at all times under the jurisdiction of the Utility's system dispatcher. The system dispatcher shall normally delegate such control to the Utility's designated switching center.
  3. **COMMUNICATIONS:** The Producer shall maintain telephone service from the local telephone company to the location of the Producer's generation. In the event such location is remote or unattended, telephone service shall be provided to the nearest building normally occupied by the Producer's generator operator. The Utility and the Producer shall maintain operating communications through the Utility's designated switching center.
  4. **GENERATOR LOG:** The Producer shall at all times keep and maintain a detailed generator operations log. Such log shall include, but not be limited to, information on unit availability, maintenance outages, circuit breaker trip operations requiring manual reset and unusual events. The Utility shall have the right to review the Producer's log.
  5. **REPORTING ABNORMAL CONDITIONS:** The Utility shall advise the Producer of abnormal conditions which the Utility has reason to believe could affect the Utility's operating conditions or procedures. The Producer shall keep the Utility similarly informed.
  6. **POWER FACTOR:** The Producer shall furnish reactive power as may be reasonably required by the Utility.
    - a. The Utility reserves the right to specify that generators with power factor control capability, including synchronous generators, be capable of operating continuously at any power factor between 95 percent leading (absorbing vars) and 90 percent lagging (producing vars) at any voltage level within  $\pm 5.0$  percent of rated voltage. For other types of generators with no inherent power factor control capability, the Utility reserves the right to specify the installation of capacitors by the Producer to correct generator output to near 95 percent leading power factor. The Utility may also require the installation of switched capacitors on its system to produce reactive support equivalent to that provided by operating a synchronous generator of the same size between 95 percent leading and 90 percent lagging power factor.
    - b. Where either the Producer or the Utility determines that it is not practical for the Producer to furnish the Utility's required level of reactive power or when the Utility specifies switched capacitors in its system pursuant to Section D.6.a, the Utility will provide, install, own and maintain the necessary devices on its system in accordance with Section F.
- E. **INTERFERENCE WITH SERVICE AND COMMUNICATION FACILITIES**
1. **GENERAL:** The Utility reserves the right to refuse to connect to any new equipment or to remain connected to any existing equipment of a size or character that may be detrimental to the Utility's operations or service to its customers.

(Continued)

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

E. INTERFERENCE WITH SERVICE AND COMMUNICATION FACILITIES (continued)

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

F. SPECIAL FACILITIES

1. Where the Producer requests the Utility to furnish interconnection facilities or where it is necessary to make additions to or reinforcements of the Utility's system and the Utility agrees to do so, such facilities shall be deemed to be special facilities and the costs thereof shall be borne by the Producer, including such continuing ownership costs as may be applicable.
2. Special facilities are (a) those facilities installed at the Producer's request which the Utility does not normally furnish under its tariff schedules, or (b) a prorata portion of existing facilities requested by the Producer, allocated for the sole use of such Producer, which would not normally be allocated for such sole use. Unless otherwise provided by the Utility's filed tariff schedules, special facilities will be installed, owned and maintained or allocated by the Utility as an accommodation to the Producer only if acceptable for operation by the Utility and the reliability of service to the Utility's customers is not impaired.
3. Special Facilities will be furnished under the terms and conditions of the Utility's "Agreement for Installation or Allocation of Special Facilities for Parallel Operation of Nonutility-owned Generation and/or Electrical Standby Service" (Form 79-280, effective June 1984) and its Appendix A, "Detail of Special Facilities Charges" (Form 79-702, effective June 1984). Prior to the Producer signing such an agreement, the Utility shall provide the Producer with a breakdown of special facilities costs in a form having detail sufficient for the information to be reasonably understood by the Producer. The special facilities agreement will include, but is not limited to, a binding quotation of charges to the Producer and the following general terms and conditions:
  - a. Where facilities are installed by the Utility for the Producer's use as special facilities, the Producer shall advance to the Utility its estimated installed cost of the special facilities. The amount advanced is subject to the monthly ownership charge applicable to customer-financed special facilities as set forth in Section 1 of the Utility's Rule No. 2.
  - b. At the Producer's option, and where such Producer's generation is a qualifying facility<sup>4</sup> and the Producer has established credit worthiness to the Utility's satisfaction, the Utility shall finance those special facilities it deems to be removable and reusable equipment. Such equipment shall include, but not be limited to, transformation, disconnection and metering equipment.
  - c. Existing facilities allocated for the Producer's use as special facilities and removable and reusable equipment financed by the Utility in accordance with Section F.3.b are subject to the monthly ownership charge applicable to Utility-financed special facilities as set forth in Section 1 of Rule 2.

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

(Continued)

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

F. SPECIAL FACILITIES (continued)

- d. Where the Producer elects to install and deed to the Utility an extension of the Utility's distribution or transmission lines for use as special facilities in accordance with Section B.5, the Utility's estimate of the installed cost of such extension shall be subject to the monthly ownership charge applicable to customer-financed special facilities as set forth in Section I of the Rule No. 2.
  4. Where payment or collection of continuing monthly ownership charges is not practicable, the Producer shall be required to make an equivalent one-time payment in lieu of such monthly charges.
  5. Costs of special facilities borne by the Producer may be subject to downward adjustment when such special facilities are used to furnish permanent service to a customer of the Utility. This adjustment will be based upon the extension allowance or other such customer allowance which the Utility would have utilized under its then applicable tariffs if the special facilities did not otherwise exist. In no event shall such adjustment exceed the original installed cost of that portion of the special facilities used to serve a new customer. An adjustment, where applicable, will consist of a refund applied to the Producer's initial payment for special facilities and/or a corresponding reduction of the ownership charge.
- G. EXCEPTIONAL CASES: Where the application of this rule appears impractical or unjust, the Producer may refer the matter to the Commission for special ruling or for the approval of special conditions.
- H. INCORPORATION INTO POWER PURCHASE AGREEMENTS: Pursuant to Decision No. 83-10-093, if in accordance with Section A.4 the Producer enters into a written form of power purchase agreement with Utility, a copy of the Rule No. 21 in effect on the date of execution will be appended to, and incorporated by reference into, such power purchase agreement. The Rule appended to such power purchase agreement shall then be applicable for the term of the Producer's power purchase agreement with the Utility. Subsequent revisions to this rule shall not be incorporated into the rule appended to such power purchase agreement.

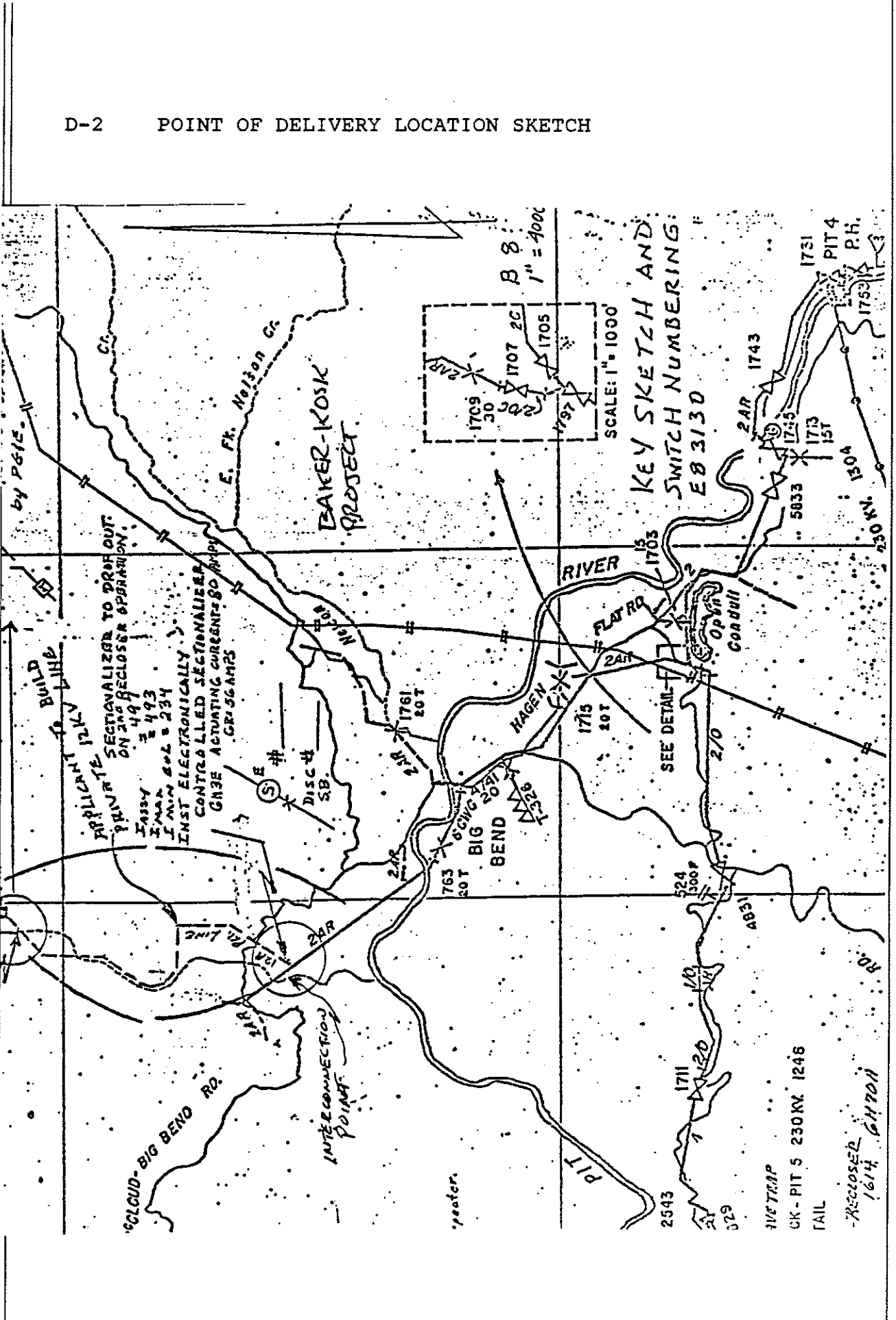
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D-2 POINT OF DELIVERY LOCATION SKETCH

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D-3 INTERCONNECTION FACILITIES FOR WHICH SELLER IS RESPONSIBLE

The following interconnection facilities have been installed by PGandE for Seller pursuant to a Special Facilities Agreement. Seller's responsibility for these facilities is in accordance with the terms and conditions of that Special Facilities Agreement.

- 40 foot wood pole
- Sectionalizer
- 130 feet of 12 kV conductor
- Primary metering