Box 11

Pacific Gas and Electric Company

223

Cogeneration and Small Power Production Quarterly Report

**Donated By:
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Third Quarter — September 1982

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PACIFIC GAS AND ELECTRIC COMPANY
COGENERATION
and
SMALL POWER PRODUCTION
QUARTERLY REPORT
to the
CALIFORNIA PUBLIC UTILITIES COMMISSION

THIRD QUARTER - SEPTEMBER 1982

This quarterly status report has been submitted pursuant to Item 4 of the CPUC Resolution No. E-1738, dated January 10, 1978, Order Directing Electric Utilities to Augment Cogeneration Projects.

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SUMMARY OF ACTIVITY

In the Third Quarter of 1982, the number of signed contracts and committed projects rose from 148 to 173, with a total estimated nominal capacity of these projects of 922 MW. Of this nominal capacity, about 168 MW is operational, and the balance is under contract for development.

Of the 173 signed contracts and committed projects, 61 were cogeneration and solid waste projects with a potential of 643 MW. PGandE also had under active discussion 28 cogeneration projects that could generate a total of 968 MW to 1,049 MW, and 10 solid waste projects with a potential of 90 MW to 95 MW.

Wind projects under contract number 84, with a generating capability of 85 MW. Also, discussions are being conducted with 17 wind projects, totaling 83 MW.

There are 23 hydroelectric projects with signed contracts and a potential of 95 MW, as well as 63 projects under active discussion for 169 MW. In addition, there are 25 hydroelectric projects, with a nominal capacity of 278 MW, that PGandE is constructing or planning to construct.

Five contracts have been signed with projects, using other types of electric power generation, capable of producing 100 MW.

A table summarizing the above information is provided as Appendix A. In tabular form, in Appendix B, are status reports as of September 30, 1982.

ENERGY PURCHASE PRICES

PGandE has published what it will pay for electric energy received from qualified cogenerators and small power producers, from November 1982 through January 1983, in the Company's Special Announcement for Cogenerators and Small Power Producers, November 1982 (Appendix C).

PGandE updates these prices every three months. The prices depend on the costs PGandE avoids by purchasing energy from these facilities.

PACIFIC GAS AND ELECTRIC COMPANY
PURCHASE PRICES (¢/kWh) FOR ENERGY FROM
COGENERATION AND SMALL POWER PRODUCTION FACILITIES
FEBRUARY 1980 THROUGH JANUARY 1983

<u>Period*</u>	<u>On- Peak**</u>	<u>Partial- Peak</u>	<u>Off- Peak</u>	<u>Average price basis: all kWh</u>
<u>Period B</u>				
Feb. '80 thru Apr. '80	4.496	4.250	3.794	4.121
<u>Period A</u>				
May '80 thru July '80	5.675	5.459	4.700	4.994
Aug. '80 thru Sept. '80	6.100	5.868	5.052	5.368
<u>Period B</u>				
Oct. '80	5.858	5.536	4.943	5.368
Nov. '80 thru Jan. '81	6.226	5.884	5.254	5.706
Feb. '81 thru Apr. '81	6.580	6.219	5.553	6.030
<u>Period A</u>				
May '81 thru Jul. '81	7.783	7.487	6.446	6.850
Aug. '81 thru Sept. '81	8.072	7.765	6.685	7.104
<u>Period B</u>				
Oct. '81	7.752	7.326	6.542	7.104
Nov. '81 thru Jan. '82	7.725	7.302	6.519	7.080
Feb. '82 thru Apr. '82	7.759	7.334	6.548	7.111
<u>Period A</u>				
May '82 thru Jul. '82	6.397	6.102	5.895	6.178
Aug. '82 thru Sept. '82	5.967+	5.692+	5.499+	5.641+
<u>Period B</u>				
Oct. '82	6.049+	5.912+	5.769+	5.854+
Nov. '82 thru Jan. '83	6.049	5.912	5.769	5.854

* Period B comprises October through April, and Period A, May through September.

** On-peak periods, the hours of heaviest demand on PGandE's electric system, are weekdays from 12:30 to 6:30 p.m., between May 1 and September 30, and from 4:30 to 8:30 p.m., the rest of the year. Off-peak periods the year-round are 10:30 p.m. to 8:30 a.m., Monday through Saturday, and all day Sundays and holidays. Partial peak periods are all other times.

+ Revised by November 1982 Special Announcement for Cogenerators and Small Power Producers.

NEW STANDARD POWER PURCHASE OFFERS

PGandE's new Standard Offers #1 (As-Delivered Capacity and Energy), #2 (Energy and Firm Capacity), and #3 (100 kW or Less), attached hereto as Appendices D, E, and F, respectively, became effective May 12, 1982. These three offers replace the 1980 offers and become PGandE's "Standard" Offers for the purchase of power from qualifying facilities (QFs)¹. PGandE originally filed these offers with the CPUC by its application (No. 82-03-26) on March 8, 1982 pursuant to ordering paragraphs 2 and 11 of CPUC Decision 82-01-103 (January 21, 1982) in OIR 2, amended them pursuant to Decision 82-04-071 (April 12, 1982) which modified Decision 82-01-103, and they became effective May 12, 1982 pursuant to ordering paragraph 6 of Decision 82-04-071. Subsequently, PGandE filed amendments to Application 82-03-26, namely the first on April 28, 1982, and a third on July 19, 1982, which amended the offers as originally filed. The offers set out here conform with these amendments.

¹ PGandE's Cogeneration Quarterly Report, First Quarter - March 1980, contains (as Attachment B thereto) a copy of the February 4, 1980 form of "power sales agreement"; the Quarterly Report, Third Quarter - September 1980, contains (as part of Attachment C thereto) a copy of the July 24, 1980 form of "power purchase agreement for hydroelectric facility (more than 100 kW)" and a copy of the July 30, 1980 form of "power purchase agreement for wind energy conversion facility (greater than 100 kW)"; and the Quarterly Report, Fourth Quarter - June 1980, contains (as Attachment C thereto) a copy of Form 79-267, April 25, 1980 form of "power purchase agreement for small power generation facilities (100 kW or less)". These are superseded by the forms set out here.

APPENDIX A

SUMMARY OF TABLES

SUMMARY OF TABLES

THIRD QUARTER - SEPTEMBER 1982

<u>Signed Contracts and Committed Projects</u>		<u>kw</u>
<u>Table</u>		
I-1	Cogeneration and Solid Waste Projects	643,290
I-2	Wind Projects greater than 100 kw	84,050
I-3	Hydroelectric Projects greater than 100 kw	94,200
I-4	Wind Projects less than 100 kw	664
I-5	Hydroelectric Projects less than 100 kw	426
I-6	Other Projects	99,804
	TOTAL	922,434 kw

<u>Under Active Discussion</u>		<u>kw Range</u>
<u>Table</u>		
II	Cogeneration Projects	968,300 - 1,048,700
III	Solid Waste Projects	89,690 - 94,690
IV	Geothermal, Industrial, and Other Power Production Projects	0
V	Federally Funded R&D and Cogeneration Projects	12,000
VI	Solar Projects	45,000
VII-1	Wind Projects greater than 100 kw	82,400
VII-2	Wind Projects less than 100 kw	249 - 272
VIII-1	Hydroelectric Projects greater than 100 kw	168,598
VIII-2	Hydroelectric Projects less than 100 kw	305
IX	Hydroelectric Projects planned to be constructed by PGandE	278,200
	TOTAL	1,644,742 - 1,730,165 kw

<u>Other</u>		
<u>Table</u>		
X	Industry-Owned Cogeneration in PGandE Service Area; and Auxiliary Power Sources Capacity Under Contract to PGandE	389,640 kw 52,063 kw
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APPENDIX B

STATUS REPORT OF PROJECTS

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Table I-1
SUMMARY OF SIGNED CONTRACTS
AND COMMITTED PROJECTS
COGENERATION AND SOLID WASTE
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>Type</u>	<u>MWe</u>	<u>Projected Date of Operation</u>
1.	Pyro Sol, Inc. - Redwood City	Electric power/steam project fueled by solid waste converted by a pyrolysis process to produce a low Btu gas	June 12, 1979 superceded by December 24, 1981	Energy Purchase	5.0	Operational
2.	Georgia Pacific Corporation - Fort Bragg	Electric power project fueled by woodwaste	June 1, 1980	Energy Purchase	10.0	Operational
3.	Optimum Energy Partners - Kern River Oil Field	Electric power/steam projects; thermally enhanced oil recovery	July 18, 1980	Capacity and Energy Purchase	66.0	Initial Phase (1.3 MW) Operational
4.	Dow Chemical USA - Pittsburg	Electric power/steam project using a gas turbine topping cycle	July 22, 1980	Energy Purchase	35.0	Operational
5.	Louisiana-Pacific Corporation - Samoa	Electric power/steam project fueled by woodwaste	July 22, 1980	Capacity and Energy Purchase	11.0	Operational
6.	California Power and Light Corporation - Madera	Electric power project fueled by biomass	October 20, 1981	Capacity and Energy Purchase	49.9	September 1984
7.	PGandE Gerber Compressor Station (line 400 Canada to California) - Gerber	Electric power project fueled by waste heat from a gas compressor	N/A	N/A	3.7	October 1982
8.	Stauffer Chemical Company - Martinez	Electric power project fueled by waste heat	August 28, 1980	Energy Purchase	2.0	Operational
9.	Paul Bunyan Lumber Company - Anderson	Electric power/steam project fueled by woodwaste	September 8, 1980	Energy Purchase	3.0	Operational
10.	Roseburg Lumber - Anderson	Electric power/steam project fueled by woodwaste	September 23, 1980	Energy Purchase	3.0	Operational
11.	City of Santa Clara - Santa Clara	Electric power project using a gas turbine topping cycle with waste heat boilers	September 30, 1980	Standby Service	5.8	Operational

Table I-1 (continued)
SUMMARY OF SIGNED CONTRACTS
AND COMMITTED PROJECTS
COGENERATION AND SOLID WASTE
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>Type</u>	<u>MWe</u>	<u>Projected Date of Operation</u>
12.	Louisiana-Pacific Corporation - Standard	Electric power/steam project fueled by woodwaste	April 7, 1982	Energy Purchase	3.0	Operational
13.	Diamond Walnut Growers Inc. - Stockton	Electric power/steam project fueled by walnut shells	October 30, 1980	Capacity and Energy Purchase	4.5	Operational
14.	University of California - Davis	Electric power/steam project using a distillate-fueled combustion turbine topping cycle	March 11, 1982	Capacity and Energy Purchase	3.5	Operational
15.	Hudson Lumber Company - Anderson	Electric power/steam project fueled by woodwaste	September 29, 1981	Capacity and Energy Purchase	6.0	October 1982
16.	Redwood Food Packing Company - Modesto	Electric power/steam project fueled by biomass	March 16, 1981	Energy Purchase	4.5	Operational
17.	Biomass Corp. - Marysville	Electric power/steam project fueled by biomass	April 20, 1981	Capacity and Energy Purchase	0.4	Not yet determined
18.	Vichy Hills Power Co. - Ukiah	Electric power project fueled by solid waste	October 22, 1981	Capacity and Energy Purchase	1.4	September 1983
19.	Superior Farming Co. - Bakersfield	Electric power/steam project fueled by biomass	May 5, 1982	Capacity and Energy Purchase	5.7	Operational
20.	Red Crown Burner Systems, Inc. - Oroville	Electric power/steam project fueled by agricultural waste	May 28, 1981	Capacity and Energy Purchase	11.0	Not yet determined
21.	Red Crown Burner Systems, Inc. - Blue Lake	Electric power project fueled by woodwaste	June 1, 1981	Capacity and Energy Purchase	11.0	Not yet determined
22.	Farmers Cooperative Gins, Inc. - Buttonwillow	Electric power project fueled by agricultural waste	February 25, 1982	Energy Purchase	1.7	Operational
23.	Paul Masson Vineyards - Saratoga	Electric power/hot water project using a reciprocating natural gas engine topping cycle	July 28, 1981	Standby Service	0.3	Operational

Table I-1 (continued)

SUMMARY OF SIGNED CONTRACTS
AND COMMITTED PROJECTS

COGENERATION AND SOLID WASTE

THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>Type</u>	<u>MWe</u>	<u>Projected Date of Operation</u>
24.	City of Turlock - Turlock	Electric power project fueled by digester gas from a waste treatment plant	September 8, 1981	Energy Purchase	0.5	Operational
25.	American Chemurgic Industries-Fields Landing	Electric power/steam project fueled by woodwaste	September 18, 1981	Capacity and Energy Purchase	3.5	October 1983
26.	University Energy/ Lockheed-Sunnyvale	Electric power/steam project using a gas/steam turbine topping cycle	March 19, 1982	Capacity and Energy Purchase	49.9	November 1983
27.	Sierra Pacific Industries - Susanville	Electric power/steam project fueled by woodwaste	September 30, 1981	Capacity and Energy Purchase	5.5	Operational
28.	RMR Associates - Madera	Electric power project fueled by biomass	November 4, 1981	Capacity and Energy Purchase	3.7	June 1984
29.	Imotek, Inc. - Sacramento	Electric power/steam project fueled by biomass	November 9, 1981	Capacity and Energy Purchase	8.5	Operational
30.	Crown Zellerbach - Antioch	Electric power/steam project using a gas turbine topping cycle	November 12, 1981	Capacity and Energy Purchase	46.0	October 1982
31.	Central Valley Bio-Energy Company - Fresno	Electric power/steam project fueled by municipal solid waste or woodwaste	November 19, 1981	Capacity and Energy Purchase	13.1	January 1984
32.	Grass Valley Group - Grass Valley	Electric power/hot water project using a diesel-fueled internal combustion engine topping cycle	December 31, 1981	Energy Purchase	1.6	Operational
33.	Marindale Dairy - Novato	Electric power project fueled by digester gas	December 3, 1981	Capacity and Energy Purchase	0.04	Operational
34.	Red Crown Burner Systems, Inc. - San Joaquin	Electric power project fueled by agricultural waste	December 9, 1981	Capacity and Energy Purchase	11.0	Not yet determined
35.	Diamond H Ranch-Covelo	Electric power project fueled by biomass	December 18, 1981	Capacity and Energy Purchase	15.0	Early 1984

Table I-1 (continued)

SUMMARY OF SIGNED CONTRACTS
AND COMMITTED PROJECTS

COGENERATION AND SOLID WASTE

THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>Type</u>	<u>MWe</u>	<u>Projected Date of Operation</u>
36.	Contra Costa County Sanitation District No. 7A - Antioch	Electric power project fueled by digester gas	January 2, 1982	Capacity and Energy Purchase	0.96	December 1982
37.	<u>1/</u>	Electric power/steam project using a gas turbine topping cycle	March 4, 1982	Capacity and Energy Purchase	0.5	October 1982
38.	Simpson Paper - Anderson	Electric power/steam project using a gas turbine topping cycle	February 8, 1982	Capacity and Energy Purchase	32.0	July 1983
39.	Union Oil Company - Contra Costa County	Electric power project fueled by waste heat	February 12, 1982	Capacity and Energy Purchase	30.0	January 1984
40.	California Pacific Forest Products - Dinuba	Electric power/steam project fueled by woodwaste	February 18, 1982	Capacity and Energy Purchase	10.0	1983
41.	Turbo Resources/TOSCO Refinery - Bakersfield	Electric power/steam project using gas turbines and a back pressure steam turbine	March 11, 1982	Capacity and Energy Purchase	48.0	July 1983
42.	Turbo Resources/Witco Refinery - Oildale	Electric power/steam project using a gas turbine topping cycle	March 11, 1982	Capacity and Energy Purchase	35.0	June 1983
43.	Continental White Cap, Inc. - Hayward	Electric power project using a toluene rankine bottoming cycle	March 30, 1982	Capacity and Energy Purchase	0.6	Operational
44.	Agro-Energy - Delano	Electric power project fueled by biomass	April 6, 1982	Capacity and Energy Purchase	12.0	June 1983
45.	American Mobile Power Corporation - Santa Barbara County	Electric power/hot water project using a gas turbine topping cycle	April 15, 1982	Capacity and Energy Purchase	1.04	June 1983
46.	Gas Recovery Systems, Inc. - Menlo Park	Electric power project fueled by methane gas recovered from a landfill	April 15, 1982	Capacity and Energy Purchase	1.0	January 1983

Table I-1 (continued)

SUMMARY OF SIGNED CONTRACTS
AND COMMITTED PROJECTS

COGENERATION AND SOLID WASTE

THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>Type</u>	<u>MWe</u>	<u>Projected Date of Operation</u>
47.	Gas Recovery Systems, Inc. - Newby Island	Electric power project fueled by methane gas recovered from a landfill	April 15, 1982	Capacity and Energy Purchase	1.0	March 1983
48.	Pacific Carbons, Inc. - Blue Lake	Electric power/steam project using a gas turbine topping cycle	April 30, 1982	Energy Purchase	1.5	April 1983
49.	Sierra Pacific Industries - Quincy	Electric power/steam project fueled by woodwaste	May 6, 1982	Capacity and Energy Purchase	3.0	October 1982
50.	Monterey Regional Water Pollution Control Agency - Monterey	Electric power project fueled by digester gas	May 24, 1982	Energy Purchase	1.0	April 1985
51.	_____ ^{1/}	Electric power project fueled by methane gas recovered from a landfill	June 17, 1982	Capacity and Energy Purchase	1.0	July 1983
52.	_____ ^{1/}	Electric power project fueled by landfill gas	June 17, 1982	Capacity and Energy Purchase	1.0	July 1983
53.	American Mobile Power Corporation - Marina	Electric power project fueled by landfill gas	June 22, 1982	Capacity and Energy Purchase	1.3	January 1983
54.	Caterpillar Tractor Co. - San Leandro	Electric power/steam project using a gas turbine topping cycle	July 12, 1982	Energy Purchase	2.5	Operational
55.	Frontier Industries - Santa Maria	Electric power/steam project using a steam turbine topping cycle fueled by bunker fuel oil	July 12, 1982	Capacity and Energy Purchase	5.4	June 1983
56.	Chevron USA - Taft Maricopa	Electric power/steam project using a gas turbine topping cycle; enhanced oil recovery	July 22, 1982	As-delivered Capacity and Energy Purchase	10.0	Operational

Table 1-1 (continued)
 SUMMARY OF SIGNED CONTRACTS
 AND COMMITTED PROJECTS
 COGENERATION AND SOLID WASTE
 THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>Type</u>	<u>MWe</u>	<u>Projected Date of Operation</u>
57.	Chevron USA - Cymric	Electric power/steam project using a gas turbine topping cycle; enhanced oil recovery	July 22, 1982	As-delivered Capacity and Energy Purchase	10.00	Operational (5 MW) January 1983 (5 MW)
58.	Dauvergne Brothers, Inc. - Pleasanton	Electric power project fueled by solid waste	July 29, 1982	Capacity and Energy Purchase	1.00	January 1983
59.	Crown Simpson Pulp Co. - Fairhaven	Electric power/steam project fueled by biomass	August 24, 1982	As-delivered Capacity and Energy Purchase	4.00	Operational
60.	Ultrapower, Inc. - Burney	Electric power project fueled by woodwaste	September 15, 1982	Capacity and Energy Purchase	9.75	September 1984
61.	American Lignite Products Co. - lone	Electric power/steam project fueled by lignite	September 20, 1982	Capacity and Energy Purchase	14.00	January 1985
TOTAL					<u>643.29 MW</u>	

1/ Project name and location not yet authorized for release.

Table I-2
SUMMARY OF SIGNED CONTRACTS
WIND PROJECTS GREATER THAN 100 kW
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>MW</u>	<u>Projected Date of Operation</u>
1.	U.S. Windpower - Altamont Pass	Wind farm	April 30, 1981	30.00	Operational (1.5 MW) 1982 (13.5 MW) 1983 (15.0 MW)
2.	Farrell-O'Keefe Properties - Altamont Pass	Wind farm	December 22, 1981 amended August 2, 1982	16.80	Operational (2.8 MW) 1983 (14.0 MW)
3.	Aero Turbine - Solano County	Wind farm	February 3, 1982 ^{1/}	30.00	1984
4.	Wind Master, Inc - Altamont Pass	Wind farm	June 3, 1982	0.25	Operational
5.	California Wind Energy Systems - Altamont Pass	Wind farm	September 20, 1982	1.50	1982
6.	CWES Ltd. - Altamont Pass	Wind farm	September 20, 1982	1.50	1982
7.	Turbo Wind - Altamont Pass	Wind farm	September 20, 1982	4.00	1982
TOTAL				<u>84.05 MW</u>	

^{1/} Letter agreement signed. Definitive contract not yet signed.

Table I-3

SUMMARY OF SIGNED CONTRACTS

HYDROELECTRIC PROJECTS GREATER THAN 100 kW

THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Owner</u>	<u>Date Contract Signed</u>	<u>MW</u>	<u>Projected Date of Operation</u>
1.	Rollins - Below Rollins Dam on Bear River near Colfax, California	Nevada Irrigation District	June 30, 1978	11.0	Operational
2.	Pardee - Below Pardee Dam on Mokelumne River near Ione, California	East Bay Municipal Utility District	February 10, 1981	29.0 ^{1/}	1983
3.	Camanche - Below Camanche Dam on Mokelumne River near Ione, California	East Bay Municipal Utility District	February 10, 1981	11.0	1983
4.	Sly Creek - Below Sly Creek Dam on Lost Creek near Forbestown, California	Oroville - Wyandotte Irrigation District	March 26, 1981	13.0	1983
5.	Hell Hole - Below Hell Hole Dam on the Rubicon River near Foresthill, California	Placer County Water Agency	June 3, 1981	0.5	1982
6.	Iron Mountain Mines - 12 miles northeast of Redding, California	T. W. Arman/ Iron Mountain Mines, Inc.	July 20, 1981	6.2	1984
7.	Monticello - Below Monticello Dam on Putah Creek near Winters, California	Solano Irrigation District	September 1, 1981	11.5	1982
8.	Matthews - Below Matthews Dam on Mad River near Ruth, California (Trinity County)	Humboldt Bay Municipal Utility District	October 13, 1981	1.2	1982

Table I-3 (continued)
SUMMARY OF SIGNED CONTRACTS
HYDROELECTRIC PROJECTS GREATER THAN 100 kW
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Owner</u>	<u>Date Contract Signed</u>	<u>MW</u>	<u>Projected Date of Operation</u>
9.	Lake Amador - Below Lake Amador Dam near Ione, California	Jackson Valley Irrigation District and Hydro Electric Constructors	December 4, 1981	0.5	1982
10.	Trinity Alps Creek - Trinity County near Trinity Creek	George F. and Barbara Jo Mallett	January 4, 1982	0.3	Operational
11.	Bailey Creek Ranch - Battle Creek near Shingletown, California	Consolidated Hydroelec- tric, Inc.	January 28, 1982	0.8	Operational
12.	Woodward - Woodward Dam, Stanislaus County	South San Joaquin Irrigation District	February 23, 1982	2.8	Operational
13.	Parker - Snelling Road, Merced County	Merced Irrigation District	March 9, 1982	2.7	Operational
14.	City of San Luis Obispo - San Luis Obispo (Salinas Reservoir)	City of San Luis Obispo	June 1, 1982	0.8	March 1983
15.	Indian Valley Plant - near Clear Lake	Indian Valley Hydro- Electric Partnership	September 13, 1982	2.9	1983
TOTAL				<u>94.2 MW</u>	

1/ Total plant capacity after adding a new unit of approximately 10 MW.

Table I-4
SUMMARY OF SIGNED CONTRACTS
WIND PROJECTS LESS THAN 100 kW
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>Type</u>	<u>kW</u>	<u>Projected Date of Operation</u>
1.	Bloom Dairy - Petaluma	Wind-powered generator	July 15, 1980	Energy Purchase	18.0	Operational
2.	Robert P. Scheibach - Mill Valley	Wind-powered generator	September 19, 1980	Energy Purchase	1.5	Operational
3.	Slater Associates/McDonalds - Daly City	Wind-powered generator	October 17, 1980	Paralleling Agreement	10.0	Operational
4.	RIMAR/McDonalds - Daly City	Wind-powered generator	November 6, 1980	Paralleling Agreement	10.0	Operational
5.	Jens Dybdahl - Arroyo Grande	Wind-powered generator	December 1, 1980	Energy Purchase	20.0	Operational
6.	Joseph P. Richardson - Soquel	Wind-powered generator	January 5, 1981	Energy Purchase	1.5	Operational
7.	Billy C. Maher - Suisun	Wind-powered generator	February 18, 1981	Energy Purchase	10.0	Operational
8.	Harvey M. Harris - Watsonville	Wind-powered generator	April 1, 1981	Energy Purchase	1.5	Operational
9.	A. Dalton James - Orinda	Wind-powered generator	April 20, 1981	Energy Purchase	2.9	Operational
10.	Paul Dennett - Lakeport	Wind-powered generator	May 6, 1981	Energy Purchase	10.0	Operational
11.	Lee Swanson - Paso Robles	Wind-powered generator	May 7, 1981	Energy Purchase	10.0	Operational
12.	City of Fairfield - Fairfield	Wind-powered generator	May 14, 1981	Energy Purchase	25.0	Operational
13.	Joe J. Jess - Livermore	Wind-powered generator	June 18, 1981	Energy Purchase	20.0	Operational
14.	Robert S. Landing - Pleasant Hill	Wind-powered generator	June 19, 1981	Energy Purchase	10.0	Operational
15.	Donald R. Telford - Sausalito	Wind-powered generator	July 7, 1981	Energy Purchase	25.0	Operational
16.	Robert & Joyce Vieux - Livermore	Wind-powered generator	July 8, 1981	Energy Purchase	10.0	Operational
17.	Roger D. Wood - Vacaville	Wind-powered generator	July 14, 1981	Energy Purchase	1.8	Operational

Table 1-4 (continued)

SUMMARY OF SIGNED CONTRACTS

WIND PROJECTS LESS THAN 100 kW

THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>Type</u>	<u>kW</u>	<u>Projected Date of Operation</u>
18.	Peter Lemos - San Pablo	Wind-powered generator	July 15, 1981	Energy Purchase	1.8	Operational
19.	Dr. Harold N. Fogel - Concord	Wind-powered generator	July 16, 1981	Energy Purchase	10.0	Operational
20.	<u>1/</u>	Wind-powered generator	July 16, 1981	Energy Purchase	10.0	Operational
21.	Helen L. Trotter Gass - Cambria	Wind-powered generator	August 4, 1981	Energy Purchase	1.8	Operational
22.	L. E. Webb - Nipomo	Wind-powered generator	June 1, 1982	Energy Purchase	20.0	Operational
23.	<u>1/</u>	Wind-powered generator	August 16, 1981	Energy Purchase	5.0	Operational
24.	Miller Pump Company - Templeton	Wind-powered generator	September 3, 1981	Energy Purchase	20.0	Operational
25.	Peter G. Pardini - Vacaville	Wind-powered generator	September 13, 1981	Energy Purchase	10.0	Operational
25.	Marvin Schrock - Point Arena	Wind-powered generator	September 15, 1981	Energy Purchase	1.5	Operational
27.	Robert E. & Renate Johnson - Benecia	Wind-powered generator	September 18, 1981	Energy Purchase	1.5	Operational
28.	Harold G. & Donna F. Wells - Soquel	Wind-powered generator	September 23, 1981	Energy Purchase	1.5	Operational
29.	John R. Rinaudo - Pittsburg	Wind-powered generator	September 30, 1981	Energy Purchase	1.8	Operational
30.	Bertha Noll - Woodacre	Wind-powered generator	October 3, 1981	Energy Purchase	10.0	Operational
31.	Coastal Mountain Power - Arcata	Wind-powered generator	October 8, 1981	Energy Purchase	1.8	Operational
32.	Eleanor T. Harder - Carmel Valley	Wind-powered generator	October 19, 1981	Energy Purchase	1.5	Operational
33.	David L. Lafferty - Vacaville	Wind-powered generator	October 22, 1981	Energy Purchase	10.0	Operational
34.	Francine Mathers - Union City	Wind-powered generator	October 26, 1981	Energy Purchase	1.5	*
35.	<u>1/</u>	Wind-powered generator	October 29, 1981	Energy Purchase	1.5	Operational

Table I-4 (continued)
SUMMARY OF SIGNED CONTRACTS
WIND PROJECTS LESS THAN 100 kW
THIRD QUARTER - SEPTEMBER 1982

No.	Project Name and Location	Project Description	Date Contract Signed	Type	kW	Projected Date of Operation
36.	_____ 1/	Wind-powered generator	November 6, 1981	Energy Purchase	1.0	Operational
37.	Myra J. Wise - Elk	Wind-powered generator	November 11, 1981	Energy Purchase	1.0	Operational
38.	_____ 1/	Wind-powered generator	November 16, 1981	Energy Purchase	1.8	Operational
39.	_____ 1/	Wind-powered generator	November 20, 1981	Energy Purchase	4.0	Operational
40.	Scott Dagenhart - Pinole	Wind-powered generator	November 23, 1981	Energy Purchase	1.8	Operational
41.	Thomas A. Frisbie, Sr. - El Sobrante	Wind-powered generator	December 3, 1981	Energy Purchase	10.0	Operational
42.	Richard L. LaFon - Templeton	Wind-powered generator	December 6, 1981	Energy Purchase	10.0	Operational
43.	Brett Wakefield - Vallejo	Wind-powered generator	December 11, 1981	Energy Purchase	1.8	*
44.	Wallace H. Butler-Salinas	Wind-powered generator	December 14, 1981	Energy Purchase	4.0	Operational
45.	_____ 1/	Wind-powered generator	December 18, 1981	Energy Purchase	1.8	Operational
46.	_____ 1/	Wind-powered generator	December 24, 1981	Energy Purchase	1.8	Operational
47.	_____ 1/	Wind-powered generator	December 28, 1981	Energy Purchase	10.0	Operational
48.	J. S. Byers - Tomales	Wind-powered generator	December 28, 1981	Energy Purchase	4.0	Operational
49.	Great Falls Wind Energy, Inc. - Altamont Pass	Wind-powered generator	January 8, 1982	Energy Purchase	20.0	Operational
50.	Insta-Tune - Fairfield	Wind-powered generator	January 8, 1982	Energy Purchase	10.0	Operational
51.	Louis & Yvonne Greer - Tracy	Wind-powered generator	January 13, 1982	Energy Purchase	1.5	Operational
52.	California Polytechnic State University - San Luis Obispo	Wind-powered generator	January 18, 1982	Paralleling Agreement	1.5	Operational
53.	G. W. & G. L. Womack - Tracy	Wind-powered generator	February 18, 1982	Energy Purchase	4.0	Operational

Table I-4 (continued)

SUMMARY OF SIGNED CONTRACTS

WIND PROJECTS LESS THAN 100 kW

THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>Type</u>	<u>kW</u>	<u>Projected Date of Operation</u>
54.	Vassa Wysinger, Jr. - Berkeley	Wind-powered generator	March 6, 1982	Energy Purchase	1.5	Operational
55.	_____ 1/	Wind-powered generator	March 9, 1982	Energy Purchase	1.5	Operational
56.	Dahle and Lord Associates, Inc. - Kneeland	Wind-powered generator	March 12, 1982	Energy Purchase	100.0	January 1983
57.	Dennis E. and Cindy L. Amen - Eureka	Wind-powered generator	March 31, 1982	Energy Purchase	1.0	Operational
58.	Malcolm E. and Betty L. Minahen - Vallejo	Wind-powered generator	April 20, 1982	Energy Purchase	10.0	Operational
59.	_____ 1/	Wind-powered generator	April 21, 1982	Energy Purchase	4.0	Operational
60.	Everett and Bernice Hart - Banta	Wind-powered generator	April 21, 1982	Energy Purchase	4.0	Operational
61.	_____ 1/	Wind-powered generator	April 28, 1982	Energy Purchase	12.5	October 1982
62.	_____ 1/	Wind-powered generator	June 17, 1982	Energy Purchase	10.0	November 1982
63.	_____ 1/	Wind-powered generator	June 19, 1982	Energy Purchase	10.0	Operational
64.	_____ 1/	Wind-powered generator	June 26, 1982	Energy Purchase	4.0	November 1982
65.	Joseph A. Heidrick, Sr. - Woodland	Wind-powered generator	June 30, 1982	Energy Purchase	10.0	Operational
66.	Michael F. or Karen E. - Ripley - Vallejo	Wind-powered generator	June 30, 1982	Energy Purchase	4.0	October 1982
67.	J. R. Nighswonger - San Luis Obispo	Wind-powered generator	July 6, 1982	Energy Purchase	1.8	October 1982
68.	Michael A. Stenson - Nipomo	Wind-powered generator	July 7, 1982	Energy Purchase	5.0	Operational
69.	Charles Alldrin - Chico	Wind-powered generator	July 9, 1982	Energy Purchase	3.0	Operational

Table I-4 (continued)
SUMMARY OF SIGNED CONTRACTS
WIND PROJECTS LESS THAN 100 kW
THIRD QUARTER - SEPTEMBER 1982

No.	Project Name and Location	Project Description	Date Contract Signed	Type	kW	Projected Date of Operation
70.	<u>1/</u>	Wind-powered generator	July 9, 1982	Energy Purchase	10.0	Operational
71.	Alternate Energy Development International - Buellton	Wind-powered generator	August 6, 1982	As-delivered Capacity and Energy Purchase	40.0	October 1982
72.	<u>1/</u>	Wind-powered generator	August 6, 1982	As-delivered Capacity and Energy Purchase	1.8	Operational
73.	<u>1/</u>	Wind-powered generator	August 30, 1982	Energy Purchase	10.0	Operational
74.	Gregory Merwin - Sacramento Ship Channel	Wind-powered generator	August 31, 1982	As-delivered Capacity and Energy Purchase	1.8	October 1982
75.	<u>1/</u>	Wind-powered generator	August 31, 1982	Energy Purchase	10.0	Operational
76.	<u>1/</u>	Wind-powered generator	September 9, 1982	Energy Purchase	10.0	Operational
77.	<u>1/</u>	Wind-powered generator	September 9, 1982	Energy Purchase	10.0	Operational
TOTAL					<u>664.3 kW</u>	

1/ Project name and location not yet authorized for release.

* Project postponed due to local government action.

Table 1-5
SUMMARY OF SIGNED CONTRACTS
HYDROELECTRIC PROJECTS LESS THAN 100 kW
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>Type</u>	<u>kW</u>	<u>Projected Date of Operation</u>
1	Schneider Corp. - Richvale	Low-head hydroelectric facility	August 6, 1980	Energy Purchase	96	July 1983
2.	North Valley Baptist Church - Viola	Low-head hydroelectric facility	February 20, 1981	Paralleling Agreement	10	Operational
3.	Old Bell Powerhouse - Auburn	Low-head hydroelectric facility	October 27, 1981	Energy Purchase	100	1983
4.	North Valley Baptist Church - Viola	Low-head hydroelectric facility	March 25, 1982	Energy Purchase	50	Operational
5.	Edward F. Burgess - Zenia	Low-head hydroelectric facility	April 9, 1982	Energy Purchase	25	November 1982
6.	Robert W. Lee - Manton	Low-head hydroelectric facility	April 29, 1982	Energy Purchase	30	Operational
7.	<u>1/</u>	Low-head hydroelectric facility	May 3, 1982	Energy Purchase	15	Operational
8.	William R. Poulton - Shasta County	Low-head hydroelectric facility	June 25, 1982	Energy Purchase	100	June 1983
TOTAL					<u>426 kW</u>	

1/ Project name and location not yet authorized for release.

Table I-6

SUMMARY OF OTHER SIGNED POWER
PURCHASE CONTRACTS

THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>Type</u>	<u>MWe</u>	<u>Projected Date of Operation</u>
1.	First Chowchilla, Inc. - Chowchilla	Electric power project fueled by low Btu natural gas	July 31, 1981	Capacity and Energy Purchase	10.000	April 1983
2.	Transamerica DeLaval Turbine - Oakland	Electric power from a diesel test engine	February 12, 1982	Energy Purchase	7.300	Operational
3.	Geothermal Power Co., Inc. - The Geysers, Lake County	Geothermal generation facility	March 10, 1982	Capacity and Energy Purchase	2.500	March 1983
4.	Occidental Geothermal, Inc. - The Geysers, Lake County	Geothermal generation facility	March 18, 1982	Capacity and Energy Purchase	80.000	June 1984
5.	POCO Power Corporation - San Luis Obispo	Photovoltaic generation facility	June 28, 1982	Energy Purchase	0.004	Operational
TOTAL					<u>99.804 MW</u>	

Table II
COGENERATION PROJECTS UNDER ACTIVE DISCUSSION
STATUS REPORT
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Discussions Began</u>	<u>Maximum Estimated Project Size MW</u>	<u>Electric Demand MW</u>	<u>Status</u>	<u>Projected Date of Operation^{3/}</u>
1.	Louisiana-Pacific Corporation - Antioch	Electric power/steam project fueled by woodwaste	May 1977	18 - 20	14.0	L-P is developing project and has installed a new boiler. Interconnection requirements under review.	March 1983
2.	Getty Oil Company - Bakersfield	Electric power/steam project using gas turbine topping cycle; enhanced oil recovery	August 1971	280.0	50.8	Discussions ongoing for the purchase of power from Getty.	Not yet determined
3.	Louisiana-Pacific Corporation - Oroville	Electric power/steam project fueled by woodwaste	March 1977	5 - 10	6.5	Power purchase agreement sent to L-P in February 1980. L-P considering developing project.	Not yet determined
4.	TOSCO Refinery - Avon	Electric power/steam project using a topping cycle fueled by refinery fuel-gas	March 1977	96.0	50.0	TOSCO's consultant is proceeding with the detailed plant design. PGandE is performing interconnection studies. Power purchase negotiations initiated.	Mid 1984
5.	Stauffer Chemical Company - San Jose	Electric power/steam project using a gas turbine topping cycle	October 1978	12.7	6.0	Stauffer is evaluating ownership of the project. Alternative financing also being considered.	Not yet determined
6.	California and Hawaiian Sugar Company - Crockett	Electric power/steam project using a gas turbine topping cycle	January 1979	100.0	3.8	Thermonetics, Inc. is conducting feasibility study.	Not yet determined
7.	Oakland City Center - Oakland	Electric power/steam project using a gas turbine topping cycle	March 1979	6 - 30	21.4 (est.)	Feasibility report completed March 1980. The City of Oakland is in the process of selecting a project developer.	Not yet determined
8.	Napa State Hospital - Napa	Electric power/steam project using a combustion gas turbine topping cycle with waste heat boilers	September 1979	1.6 - 2.4	1.7	Initial phase is under construction (two 800 kW gas turbines). Design for second phase (one 800 kW gas turbine) is underway. Power purchase agreement being reviewed by the State.	November 1982

Table II (continued)
 COGENERATION PROJECTS UNDER ACTIVE DISCUSSION
 STATUS REPORT
 THIRD QUARTER - SEPTEMBER 1982

No.	Project Name and Location	Project Description	Date Discussions Began	Maximum Estimated Project Size MW ^{1/}	Electric Demand MW ^{2/}	Status	Projected Date of Operation ^{3/}
9.	Chevron USA - Kern River	Electric power/steam project using a steam turbine topping cycle; enhanced oil recovery	October 1980	4.5	N/A	Discussions ongoing for purchase of power.	October 1982
10.	Big Valley Lumber Co. (formerly Main Industries Lumber) - Bieber	Electric power/steam project fueled by woodwaste	July 1977	3 - 5	1.6	Discussions ongoing for purchase of power. Big Valley reviewing interconnection requirements.	July 1983
11.	Atascadero State Hospital - Atascadero	Electric power/steam project using a reciprocating engine topping cycle	March 1981	1.1	1.5	Interconnection proposal being reviewed. Discussions ongoing for purchase of power.	November 1983
12.	International Power Technology, Inc. - Sunnyvale	Electric power/steam project fueled by natural gas	November 1981	1.0	N/A	Discussions ongoing for purchase of power.	1982
13.	Getty Oil Company - McKittrick	Electric power/steam project using gas turbines with heat recovery steam generators; enhanced oil recovery	June 1981	8-12	Not yet determined	Project feasibility study completed. Discussions ongoing for purchase of power.	1983
14.	PGandE Moss 6 and 7 Gas Expander - Moss Landing	Electric power from natural gas expander turbine	June 1980	9.8	N/A	Preliminary feasibility study completed. Detailed project feasibility study to commence in the near future.	1985
15.	<u> </u> ^{4/}	Electric power/steam project using a gas turbine topping cycle	September 1980	3.0	2.4	Letter agreement prepared for signature.	December 1982
16.	<u> </u> ^{4/}	Electric power/steam project using a gas turbine topping cycle	January 1982	24-48	31.6	Letter agreement prepared for signature.	October 1985
17.	City of San Jose - San Jose	Electric power/steam project using a gas turbine	September 1981	Not yet determined	Not yet determined	PGandE has advanced funds for a feasibility study of a cogeneration project in the downtown area.	Not yet determined

Table II (continued)
 COGENERATION PROJECTS UNDER ACTIVE DISCUSSION
 STATUS REPORT
 THIRD QUARTER - SEPTEMBER 1982

No.	Project Name and Location	Project Description	Date Discussions Began	Maximum Estimated Project Size MW	Electric Demand MW	Status	Projected Date of Operation ^{3/}
18.	Shell California Production, Inc. - South Belridge Oil Field	Electric power/steam project; enhanced oil recovery	November 1981	300.0	70.0	Negotiations ongoing for the purchase of power.	January 1987
19.	^{4/}	Electric power/steam project using a gas turbine topping cycle	February 1982	0.4	N/A	Letter agreement prepared for signature.	December 1982
20.	Renewable Power Corporation - Davis	Photovoltaic cogeneration facility	May 1982	1.0	N/A	Standard Offer #1 prepared for signature.	December 1982
21.	Lassen College - Susanville	Electric power/steam project fueled by woodwaste	March 1982	1.5	N/A	Letter agreement prepared for signature.	January 1984
22.	City of Oakland and County of Alameda - Oakland	Electric power/steam project using a natural gas reciprocating engine	December 1981	1.0	Not yet determined	PGandE advanced funds for a feasi- bility study of a cogeneration project for the city and county court and jail buildings.	December 1983
23.	Stanford University - Palo Alto	Electric power/steam project using a gas turbine topping cycle	October 1981	40.0	15.8	Preliminary design stage. Negotia- tions ongoing for purchase of power.	January 1985
X 24.	Veteran's Hospital - Yountville 707-944-4000	Electric power/steam project using a gas turbine topping cycle	April 1982 <i>Mr Duvall Mr Mauck</i>	2.8	Not yet determined	Preliminary design stage. Negotia- tions ongoing for purchase of power.	Not yet determined
25.	Procter and Gamble Co. - Sacramento San Francisco	Electric power/steam project using a gas turbine topping cycle	March 1981	20-25	N/A	Procter and Gamble is conducting a detailed feasibility study.	January 1984
26.	City of Santa Clara/ International Power Technology, Inc. - Santa Clara	Electric power/steam project using a gas turbine topping cycle	June 1981	10.0	N/A	City of Santa Clara and Inter- national Power Technology have signed a Letter of Intent which will lead to an agreement to construct a cogeneration project.	Fall 1983

Table II (continued)
 COGENERATION PROJECTS UNDER ACTIVE DISCUSSION
 STATUS REPORT
 THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Discussions Began</u>	<u>Maximum Estimated Project Size MW^{1/}</u>	<u>Electric Demand MW^{2/}</u>	<u>Status</u>	<u>Projected Date of Operation^{3/}</u>
27.	PGandE, Station "T" - San Francisco	Electric power/steam project using a gas turbine topping cycle	March 1979	7.4 - 21.0	N/A	Engineering possibilities and economics under review.	Not yet determined
28.	OPC Bio-Energy Corp. - Williams	Electric power/steam project fueled by agricultural waste	September 1982	10.5	N/A	Discussions ongoing for purchase of power. Letter agreement prepared for signature.	June 1983
TOTAL				<u>968.3 - 1,048.7 MW</u>			

^{1/} All capacity available to the PGandE system.

^{2/} Maximum electric demand for the 12-month period ending December 1980.

^{3/} Subject to change and final contract agreement.

^{4/} Project name and location not yet authorized for release.

Table III
SOLID WASTE PROJECTS UNDER ACTIVE DISCUSSION
STATUS REPORT
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Discussions Began</u>	<u>Maximum Estimated Project Size MW^{1/}</u>	<u>Electric Demand MW^{2/}</u>	<u>Status</u>	<u>Projected Date of Operation^{3/}</u>
1.	Humboldt Bay Power Company - Eureka	Electric power project fueled by solid waste and woodwaste	1975	40.0	N/A	Discussions ongoing for purchase of power.	March 1985
2.	San Francisco Resource Recovery Project - Brisbane	Electric power project fueled by solid waste	1967	34 - 39	N/A	Discussions between City and County of San Francisco, Sanitary Fill Company (SFC), and PGandE on-going; PGandE has offered to purchase the electric output. Potential con- tractors now negotiating with the City and County of San Francisco. Air permit applications filed with BAAQMD in March 1982. Final EIR certified by City of Brisbane on July 14, 1982. Rezoning applica- tion to be on City of Brisbane ballot on November 2, 1982.	July 1986
3.	North San Mateo County Sanitation District - Daly City	Electric power project fueled by methane gas	1980	0.35	0.90	Feasibility study completed. Interconnection approved. Bids are out.	January 1983
4.	West County Waste-to- Energy - Richmond	Electric power project fueled by solid waste	1978	8.0	N/A	Discussions ongoing for purchase of power. Feasibility study completed. A site has been selected, and the EIR has been approved. Responses to an RFQ for possible owner/opera- tor/guarantors are due.	Late 1984
5.	Dublin/San Ramon Service District - Dublin	Electric power project using a topping cycle fueled by methane gas	April 1981	0.3	1.0	Negotiations ongoing for purchase of power. Construction underway.	August 1983
6.	City of Hayward - Hayward	Electric power project using a topping cycle fueled by methane gas	April 1981	0.6	1.0	Project feasibility study in progress.	Not yet determined

Table III (continued)
 SOLID WASTE PROJECTS UNDER ACTIVE DISCUSSION
 STATUS REPORT
 THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Discussions Began</u>	<u>Maximum Estimated Project Size MW^{1/}</u>	<u>Electric Demand MW^{2/}</u>	<u>Status</u>	<u>Projected Date of Operation^{3/}</u>
7.	Chowchilla Power Company - Chowchilla	Electric power project fueled by biomass	October 1980	5.00	4.3	Letter agreement prepared for signature.	January 1984
8.	<u> </u> ^{4/}	Electric power project fueled by digester gas	June 1982	1.05	N/A	Standard Offer #1 prepared for signature.	October 1982
9.	EBC Company - Willits	Electric power project fueled by woodwaste	May 1980	0.30	0.1	Negotiations ongoing for purchase of power.	Not yet determined
10.	<u> </u> ^{4/}	Electric power project fueled by digester gas	September 1981	0.09	N/A	Power purchase agreement prepared for signature. Digester installed.	October 1982
TOTAL				<u>89.69 - 94.69 MW</u>			

^{1/} All capacity available to the PGandE system.

^{2/} Maximum electric demand for the 12-month period ending December 1980.

^{3/} Subject to change and final contract agreement.

^{4/} Project name and location not yet authorized for release.

Table IV
GEOTHERMAL, INDUSTRIAL, AND OTHER POWER PRODUCTION PROJECTS UNDER ACTIVE DISCUSSION
STATUS REPORT
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Discussions Began</u>	<u>Maximum Estimated Project Size MW</u>	<u>Electric Demand MW</u>	<u>Status</u>	<u>Projected Date of Operation^{1/}</u>
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^{1/} Subject to change and final contract agreement.

Table V
FEDERALLY FUNDED R&D AND COGENERATION DEMONSTRATION PROJECTS
STATUS REPORT
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Discussions Began</u>	<u>Maximum Estimated Project Size MW</u>	<u>Electric Demand MW</u>	<u>Status</u>	<u>Projected Date of Operation^{1/}</u>
1.	McClellan Air Force Base Energy Showcase - Sacramento	Electric power/steam project using coal - fired fluidized bed boilers	August 1980	12.0	N/A	Feasibility study identified several operational options for the sale of energy and capacity.	Not yet determined
			TOTAL	<u>12.0 MW</u>			

^{1/} Subject to change and final contract agreement.

Table VI
SOLAR PROJECTS UNDER ACTIVE DISCUSSION
STATUS REPORT
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Discussions Began</u>	<u>Maximum Estimated Project Size MW</u>	<u>Electric Demand MW</u>	<u>Status</u>	<u>Projected Date of Operation^{1/}</u>
1.	Roan Corporation - Carrizo Plain	Solar thermal	June 1982	15.0	N/A	Negotiations ongoing.	1983-1984
2.	Rockwell/ARCO - Carrizo Plain	Solar thermal	August 1982	30.0	N/A	Negotiations ongoing.	1986
				TOTAL	<u>45.0 MW</u>		

^{1/} Subject to change and final contract agreement.

Table VII-1
WIND PROJECTS GREATER THAN 100 kW UNDER ACTIVE DISCUSSION
STATUS REPORT
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Discussions Began</u>	<u>Maximum Estimated Project Size MW</u>	<u>Electric Demand MW</u>	<u>Status</u>	<u>Projected Date of Operation^{1/}</u>
1.	Unique Wind Investments - Altamont Pass	Wind farm	January 1982	32.45	N/A	Negotiations ongoing.	1982-1984
2.	Wind Energy Consulting - Altamont Pass	Wind farm	February 1982	6.00	N/A	Negotiations ongoing.	1982-1983
3.	West Coast Wind Power - Altamont Pass	Wind farm	February 1982	13.00	N/A	Negotiations ongoing.	1982-1983
4.	U.S. Windpower - Altamont Pass	Wind farm	April 1982	30.00	N/A	Negotiations ongoing.	1983-1984
5.	American Wind Power - Altamont Pass	Wind farm	April 1982	0.60	N/A	Negotiations ongoing.	1982
6.	The Wind Alliance - Solano County	Wind farm	May 1982	0.35	N/A	Negotiations ongoing.	1983
TOTAL				<u>82.40 MW</u>			

^{1/} Subject to change and final contract agreement.

Table VII-2

WIND PROJECTS LESS THAN 100 kW UNDER ACTIVE DISCUSSION

STATUS REPORT

THIRD QUARTER - SEPTEMBER 1982

No.	Project Name and Location	Project Description	Date Discussions Began	Maximum Estimated Project Size kW	Electric Demand kW	Status	Projected Date of Operation ^{1/}
1.	_____2/	Wind-powered generator	April 1981	100.0	N/A	Preliminary negotiations underway. Wind data collection ongoing.	Not yet determined
2.	_____2/	Wind-powered generator	April 1981	40 - 55	N/A	Preliminary negotiations underway.	June 1983
3.	_____2/	Wind-powered generator	July 1981	30.0	N/A	Preliminary negotiations underway. Interconnection being designed.	October 1982
4.	_____2/	Wind-powered generator	September 1981	1.8	N/A	Power purchase agreement prepared for signature.	October 1982
5.	_____2/	Wind-powered generator	October 1981	1.5 - 10	N/A	Preliminary negotiations underway. Awaiting funding.	November 1982
6.	_____2/	Wind-powered generator	November 1981	1.8	N/A	Power purchase agreement prepared for signature.	*
7.	_____2/	Wind-powered generator	January 1982	10.0	N/A	Interconnection being designed.	October 1982
8.	Half Moon Bay Airport - Half Moon Bay	Wind-powered generator	January 1982	20.0	N/A	Preliminary negotiations underway. Project out for bid.	November 1982
9.	_____2/	Wind-powered generator	May 1982	38.0	N/A	Preliminary negotiations underway. Machine undergoing mechanical testing. Interconnection being designed.	January 1983
10.	_____2/	Wind-powered generator	June 1982	4.0	N/A	Standard Offer #3 prepared for signature.	October 1982

Table VII-2 (continued)

WIND PROJECTS LESS THAN 100 kW UNDER ACTIVE DISCUSSION

STATUS REPORT

THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Discussions Began</u>	<u>Maximum Estimated Project Size kW</u>	<u>Electric Demand kW</u>	<u>Status</u>	<u>Projected Date of Operation</u> ^{1/}
11.	<u>2/</u>	Wind-powered generator	June 1982	1.5	N/A	Standard Offer #3 prepared for signature.	Operational
TOTAL				<u>248.6 - 272.1 kW</u>			

^{1/} Subject to change and final contract agreement.^{2/} Project name and location not yet authorized for release.

* Project postponed due to local government action.

Table VIII-1

HYDROELECTRIC PROJECTS GREATER THAN 100 kW UNDER ACTIVE DISCUSSION

STATUS REPORT

THIRD QUARTER - SEPTEMBER 1982

No.	Project Name and Location	Owner	Approximate Installed Capacity - MW	Status	Projected Date of Operation ^{1/}
1.	Sand Bar - Middle Fork Stanislaus River	Oakdale and South San Joaquin Irrigation District	15.0	Districts filed FERC license application and will prepare amendment to license application for transmission. Letter of Intent signed May 7, 1980 (updated July 10, 1981).	1986
2.	McFadden Farms - Potter Valley, California	E. J. McFadden	0.38	Under study. Negotiations ongoing for purchase of power.	1982
3.	Friant - Below Friant Dam on San Joaquin River near Madera, California	Friant Power Authority ^{2/}	25.0	Memorandum of Understanding signed December 23, 1981. Power purchase negotiations ongoing.	1985
4.	Frankenheimer - SSJID Canal System	South San Joaquin Irrigation District	5.0	Construction began in Fall 1981. PGandE has completed study on distribution line routings.	1982
5.	Fairfield - MID Canal System	Merced Irrigation District	0.9	Construction began in Fall 1981. PGandE has completed study on distribution line routings.	1982
6.	Canal Creek - MID Canal System	Merced Irrigation District	0.9	Construction began in Fall 1981. PGandE is completing study on distribution line routings.	1982
7.	Bowman Power Project - Bowman Reservoir	Nevada Irrigation District	3.0	Memorandum of Understanding being finalized in September 1982.	1986
8.	Rock Creek #2 - North Fork Feather River at Rock Creek	Oroville-Wyandotte Irrigation District	15.0	Memorandum of Understanding being negotiated.	1987

Table VIII-1 (continued)
 HYDROELECTRIC PROJECTS GREATER THAN 100 kW UNDER ACTIVE DISCUSSION
 STATUS REPORT
 THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Owner</u>	<u>Approximate Installed Capacity - MW</u>	<u>Status</u>	<u>Projected Date of Operation^{1/}</u>
9.	Georgetown Conduit - Pilot Creek near Georgetown, California	Georgetown Divide Public Utility District	1.5	Preliminary discussions ongoing.	1983
10.	Pyramid - South Fork American River at Pyramid Creek (Medley Lake)	Joseph M. Keating	0.8	Preliminary interconnection information given to developer.	1985
11.	Rock Creek - South Fork American River at Rock Creek	Joseph M. Keating	3.0	Preliminary interconnection information given to developer.	1985
12.	Sayles Flat - South Fork American River, near Strawberry, California	Joseph M. Keating	2.0	Preliminary interconnection information given to developer.	1985
13.	Ross Burgess - Bluford Creek, east of Fort Seward, Trinity County	Ross Burgess	1.3	Under study.	1983
14.	Auburn Ravine - South Canal, Placer County	Placer County Water Agency	1.8	Under study.	1985
15.	Madera Canal Drop - Madera Canal near Madera, California	Madera Irrigation District	1.8	Negotiations underway.	January 1985
16.	Kelly Ridge II - adjacent to existing Kelly Ridge P.H., South Fork Feather River	Oroville- Wyandotte Irrigation District	2.3	Negotiations underway.	January 1985
17.	Rio Bravo - Kern River, near Bakersfield, California	Olcese Water District	7.0	Negotiations underway.	1984
18.	Foottrail-Silver Fork American River, northwest of Silver Lake	Joseph M. Keating	3.2	Preliminary interconnection information given to developer.	1986

Table VIII-1 (continued)

HYDROELECTRIC PROJECTS GREATER THAN 100 kW UNDER ACTIVE DISCUSSION

STATUS REPORT

THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Owner</u>	<u>Approximate Installed Capacity - MW</u>	<u>Status</u>	<u>Projected Date of Operation^{1/}</u>
19.	Browns Valley Ditch - Yuba County	Browns Valley Irrigation District	0.25	Negotiations ongoing for purchase of power.	1984
20.	Pumpline Canal - Yuba County	Browns Valley Irrigation District	0.13	Feasibility study stage.	Not yet determined
21.	Old Powerhouse - Yuba County	Browns Valley Irrigation District	0.3	Feasibility study stage.	Not yet determined
22.	Harding Canal - Yuba County	Browns Valley Irrigation District	1.7	Feasibility study stage.	Not yet determined
23.	Virginia Ranch Dam - Yuba County	Browns Valley Irrigation District	1.0	Negotiations ongoing for purchase of power.	April 1984
24.	Baker - Kosk Creek near Big Bend, Shasta County	Dr. & Mrs. Pfeiffer	0.2	Preliminary negotiations ongoing for purchase of power.	Not yet determined
25.	Concow - near Oroville, California	Thermalito and Table Mountain Irrigation Districts	1.1	Preliminary discussions held.	1985
26.	Montgomery Creek - near PGandE Pit 7 Plant, Shasta County	Consolidated Hydroelectric, Inc.	2.1	Preliminary interconnection information given to developer.	Not yet determined
27.	Salmon Creek - Sierra County near Sierra City	Henwood Associates	0.7	Developer has been given proposal for the use of currently limited capability of PGandE system in project area.	Not yet determined

Table VIII-1 (continued)
 HYDROELECTRIC PROJECTS GREATER THAN 100 kW UNDER ACTIVE DISCUSSION
 STATUS REPORT
 THIRD QUARTER - SEPTEMBER 1982

No.	Project Name and Location	Owner	Approximate Installed Capacity - MW	Status	Projected Date of Operation ^{1/}
28.	Swift Creek - Trinity County near Trinity Center	Southern Pacific Land Company	4.6	Negotiations recently started.	Not yet determined
29.	Coffee Creek - Trinity County near Carrville	Cecil Bell	2.5	Preliminary feasibility study.	Not yet determined
30.	Horseshoe Bar - Middle Fork American River in Placer County	Horseshoe Bar Associates	4.0	Power purchase negotiations underway.	1984
31.	Ponderosa I - Ponderosa Reservoir, South Fork Feather River	Oroville - Wyandotte Irrigation District	7.7	Negotiations underway.	1986
32.	French Creek - North Fork Feather River near Lake Oroville	Oroville- Wyandotte Irrigation District	8.5	Negotiations underway.	1986
33.	Fleming Hill Conduit - Vallejo Water Treatment Plant	City of Vallejo	0.3	Negotiations underway. Letter agreement prepared for signature.	Not yet determined
34.	Scotts Flat - Deer Creek in Nevada County	Nevada Irrigation District	0.8	Preliminary discussions held.	1986
35.	Calaveras Reservoir - near Milpitas on Alameda Creek	City and County of San Francisco	1.0	Preliminary discussions held.	Not yet determined
36.	David De Mera - Dinsmore	David De Mera	0.9	Permits obtained. Interconnection being designed. Power purchase agreement expected to be signed by June 1983.	November 1983
37.	Bluff Springs - Shasta County near Manton	Donald Lee	0.1	Preliminary discussions held.	Not yet determined

Table VIII-1 (continued)
 HYDROELECTRIC PROJECTS GREATER THAN 100 kW UNDER ACTIVE DISCUSSION
 STATUS REPORT
 THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Owner</u>	<u>Approximate Installed Capacity - MW</u>	<u>Status</u>	<u>Projected Date of Operation^{1/}</u>
38.	Mud Creek - Butte County near Richardson Spring	Perry Logging Company	0.3	Preliminary discussions held.	Not yet determined
39.	Canyon Creek - El Dorado County	Robert T. Suter	0.645	Interconnection study is being defined.	Not yet determined
40.	North Yuba - Sierra County near Sierra City	Sierra County	7.5	Negotiations ongoing.	February 1986
41.	Pond & Dardanelles Creek - Placer County	Robert T. Suter	0.208	Preliminary discussions held.	1984
42.	Cedar Flat - near Burnt Ranch	Mega Hydro, Inc.	0.3	Negotiations ongoing.	December 1982
43.	AC Hydro at Roaring Creek - Shasta County near Montgomery Creek	Fred Adams	3.5	Negotiations ongoing.	1984
44.	Battle Creek - Trinity County near Carrville	Cecil E. Bell	0.55	Preliminary interconnection study completed.	Not yet determined
45.	Boyd's Hat Creek - Shasta County near Old Station	James Boyd	1.87	Preliminary interconnection study completed.	Not yet determined
46.	Clover Creek - East of Oak Run	Mega Hydro, Inc.	1.125	Preliminary interconnection study completed.	Not yet determined
47.	Deerlick Springs Resort - Trinity County near Hayfork	Deerlick Springs Resort	4.5	Preliminary discussions held. Interconnection study defined.	October 1984
48.	Digger Creek - Tehama County east of Manta	Forward Power & Energy Co., Inc.	0.6	Final interconnection scheme being prepared.	Not yet determined
49.	Goose Valley - Shasta County near Burney	Mega Hydro, Inc.	0.2	Interconnection study defined.	October 1982
50.	Kerlin Creek - Trinity County near Hyampon	VG Enterprises	0.6	Preliminary discussions held. Interconnection study defined.	December 1982
51.	Little Boulder Creek - Trinity County near Trinity Center	D.W. & L.M. Saulsberry	0.53	Interconnection study defined.	October 1983

Table VIII-1 (continued)
 HYDROELECTRIC PROJECTS GREATER THAN 100 kW UNDER ACTIVE DISCUSSION
 STATUS REPORT
 THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Owner</u>	<u>Approximate Installed Capacity - MW</u>	<u>Status</u>	<u>Projected Date of Operation^{1/}</u>
52.	Pelletreau Creek - Trinity County near Hyampon	Hyampon Valley Ranch	1.0	Preliminary discussions held. Interconnection study defined.	October 1983
53.	Poulton Ranch - Shasta County near Millville	Mega Hydro, Inc.	0.1	Interconnection study defined.	Not yet determined
54.	Big Creek - Trinity County near Hyampon	Xenophone Enterprises	4.61	Preliminary discussions held. Interconnection study defined.	October 1983
55.	Lower Haypress - Sierra County near Sierra City	Southern Pacific Land Company	4.0	Preliminary discussions held.	October 1985
56.	Middle Haypress - Sierra County near Sierra City	Southern Pacific Land Company	4.9	Preliminary discussions held.	October 1985
57.	Upper Haypress - Sierra County near Sierra City	Mac Hydro-Power Company, Inc.	1.4	Preliminary discussions held.	1985
58.	Ladies Canyon - Sierra County near Sierra City	Mac Hydro-Power Company, Inc.	2.5	Preliminary discussions held.	1985
TOTAL			<u>168.598 MW</u>		

^{1/} Subject to change and final contract agreement.

^{2/} FPA is made up of Delano-Earlimart I.D., Lindmore I.D., Lindsay-Stratmore I.D., Terra Bella I.D., and South San Joaquin Municipal Utility District.

Table VIII-2

HYDROELECTRIC PROJECTS LESS THAN 100 kW UNDER ACTIVE DISCUSSION

STATUS REPORT

THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Owner</u>	<u>Approximate Installed Capacity - kW</u>	<u>Status</u>	<u>Projected Date of Operation^{1/}</u>
1.	Richard E. Akin - Placerville, California	Richard E. Akin	100	Standard Offer #3 prepared for signa- ture. Construction underway. FERC exemption granted.	October 1982
2.	F. N. Sutter, Jr. - Mill Seat Creek, Shasta County	F. N. Sutter	100	Standard Offer #3 prepared for signa- ture. Agreement on Head Water Benefit payments being developed.	September 1983
3.	<u>2/</u>	<u>2/</u>	14	Negotiations ongoing for purchase of power. Interconnection design approved.	January 1983
4.	<u>2/</u>	<u>2/</u>	37	Power purchase agreement prepared for signature.	November 1982
5.	Whale Rock Commission - San Luis Obispo	Whale Rock Commission	54	Standard Offer #3 prepared for signature.	October 1982
TOTAL			<u>305 kW</u>		

^{1/} Subject to change and final contract agreement.

^{2/} Project name, location, and owner not yet authorized for release.

Table IX
HYDROELECTRIC PROJECTS PLANNED TO BE CONSTRUCTED BY PGandE
STATUS REPORT
THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Owner</u>	<u>Approximate Installed Capacity - MW</u>	<u>Status</u>	<u>Projected Date of Operation^{1/}</u>
1.	Kerckhoff 2 - On San Joaquin River above Friant Dam near Auberry, California	PGandE	140.0	Under construction.	1983
2.	Volta 2 - On PGandE's Cross Country Canal below Volta Powerhouse near Viola, California	PGandE	1.0	Commercial operation began October 1981.	Operational
3.	Newcastle - On the west shore of the North Fork American River arm of Folsom Lake in Placer County	PGandE	11.0	Awaiting FERC license (application filed July 1981).	1985
4.	Oak Flat Powerhouse - Powerhouse at Belden Forebay Dam near Belden, California	PGandE	1.0	Awaiting FERC license (application filed December 1981).	1984
5.	Project C ^{2/}	PGandE	3.0	Application for FERC license to be filed in 1983.	1985
6.	Emigrant Gap Powerhouse - On Drum Canal using flows from Lake Valley Canal	PGandE	1.7	Awaiting FERC license (application filed July 1982).	1985
7.	Christian Valley Powerhouse - On Bear River Canal; drop into Halsey Forebay	PGandE	0.9	Awaiting FERC license (application filed July 1982).	1985
8.	Fiddler Green Powerhouse - On Wise Canal; drop into Rock Creek Reservoir	PGandE	1.0	Awaiting FERC license (application filed July 1982).	1985
9.	Mokelumne River Project Additions				
	a. Doaks Ridge Powerhouse - Powerhouse at release from Tiger Creek Regulator near Pioneer, California	PGandE	0.8	Awaiting FERC license (application filed April 1981).	1987

Table IX (continued)
 HYDROELECTRIC PROJECTS PLANNED TO BE CONSTRUCTED BY PGandE
 STATUS REPORT
 THIRD QUARTER - SEPTEMBER 1982

No.	Project Name and Location	Owner	Approximate Installed Capacity - MW	Status	Projected Date of Operation ^{1/}
9.	b. Mokelumne Powerhouse - Electra Afterbay on Mokelumne River near Jackson, California	PGandE	1.4	Awaiting FERC license (application filed April 1981).	1987
	c. West Point Powerhouse Unit 2 - near West Point, California	PGandE	7.0	Awaiting FERC license (application filed April 1981).	1987
	d. Salt Springs Powerhouse Unit 3 - near Pioneer, California	PGandE	7.6	Awaiting FERC license (application filed April 1981).	1987
	e. Mokelumne River Project Improvements	PGandE	0.0 ^{3/}	Awaiting FERC license (application filed April 1981).	1987
10.	Project I ^{2/}	PGandE	2.0	Application for FERC license to be filed in 1982.	1985
11.	Scott Powerhouse - Powerhouse at Scott Dam near Potter Valley, California	PGandE	3.0	Awaiting FERC license (application filed May 1981).	1984
12.	Rock Creek-Cresta Additions				
	a. Powerhouse at Rock Creek Dam - near Pulga, California	PGandE	1.0	Awaiting FERC license (application filed May 1981).	1987
	b. Powerhouse at Cresta Dam - near Pulga, California	PGandE	1.0	Awaiting FERC license (application filed May 1981).	1987
	c. Rock Creek Powerhouse Unit 3 - near Pulga, California	PGandE	37.0	Awaiting FERC license (application filed May 1981).	1987
	d. Cresta Powerhouse Unit 3 - near Pulga, California	PGandE	18.0	Awaiting FERC license (application filed May 1981).	1987
13.	Project K ^{2/}	PGandE	2.7	Application for FERC license to be filed in 1982.	1985

Table IX (continued)
 HYDROELECTRIC PROJECTS PLANNED TO BE CONSTRUCTED BY PGandE
 STATUS REPORT
 THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Owner</u>	<u>Approximate Installed Capacity - MW</u>	<u>Status</u>	<u>Projected Date of Operation^{1/}</u>
14.	Project L ^{2/}	PGandE	15.3	Application for FERC license to be filed in 1983.	1987
15.	Yellow Creek Diversion Project - New diversion to Belden Tunnel and Powerhouse near Belden, California	PGandE	0.0 ^{3/}	Awaiting FERC license (application filed November 1981).	1986
16.	Project N ^{2/}	PGandE	2.3	Application for FERC license to be filed in 1983.	1986
17.	Bucks Creek Project Additions - Maidu Powerhouse at Bucks Dam and Grizzly Powerhouse at Grizzly Forebay near Storrie, California	PGandE	19.5	Awaiting FERC license (application filed December 1981).	1986
18.	Chambers and Jackass Diversion Project - New Diversions to Rock Creek Tunnel and Powerhouse near Storrie, California	PGandE	0.0 ^{3/}	Awaiting FERC license (application filed December 1981).	1983
		TOTAL	<u>278.2 MW</u>		

^{1/} Subject to change and FERC approval.

^{2/} Project name and location will not be identified until regulatory applications are submitted.

^{3/} Energy only project.

Table X

SUMMARY OF
INDUSTRY-OWNED COGENERATION IN PGandE SERVICE AREA
AND
AUXILIARY POWER SOURCES CAPACITY UNDER CONTRACT TO PGandE

STATUS REPORT

THIRD QUARTER - SEPTEMBER 1982

Total Amount of Customer-Owned Cogeneration in PGandE Service Area	389,640 MW
Auxiliary Power Sources Program - Capacity Under Contract to PGandE	52,063 kW

Table XI
INACTIVE PROJECTS
STATUS REPORT
THIRD QUARTER - SEPTEMBER 1982

No.	Project Name and Location	Project Description	Date Discussions Began	Estimated Project Size MW	Date Project Became Inactive	Status
1.	Louisiana-Pacific Corporation - Rocklin	Electric power/steam project fueled by wood-waste	May 1977	5.0	August 15, 1978	Project withdrawn at L-P's request.
2.	Worthington Industries - Fresno	Electric power project fueled by solid waste	February 1978	2.9	August 11, 1978	Project withdrawn at Worthington Industries' request.
3.	<u> </u> ^{1/}	Electric power project fueled by waste heat	November 1977	11.0	March 1, 1979	Project withdrawn at request of proponent.
4.	Mobil Chemical Company - Woodland	Electric power/steam project	August 1977	4.0	September 18, 1979	Project withdrawn at request of proponent.
5.	Husky Oil Company - Cat Canyon Oil Fields near Santa Maria	Electric power/steam project using gasification process returning steam for secondary recovery of oil; or a combined cycle project	September 1976	200.0 (assumed minimum)	February 1, 1980	Husky investigating alternatives.
6.	PGandE, 77 Beale Street - San Francisco	Electric power/steam project using a gas turbine topping cycle	January 1979	0.4 - 0.7	April 1980	Project uneconomical compared with alternatives. Not currently under active consideration.
7.	California Products Company - Fresno	Electric power plant fueled by solid waste	September 1978	5.0	April 1980	Project withdrawn at request of proponent.
8.	U.S. Steel Corporation - Pittsburg	Electric power/steam project fueled by solid waste	October 1977	Not yet determined	March 1980	State Solid Waste Management Board canceled its allocated funds for the feasibility study. U.S. Steel is considering other alternatives.
9.	Harwood Products - Willits	Electric power/steam project fueled by woodwaste	October 1980	3-5	March 1981	Harwood does not wish to pursue the project at this time.

Table XI (continued)
 INACTIVE PROJECTS
 STATUS REPORT
 THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Discussions Began</u>	<u>Estimated Project Size MW</u>	<u>Date Project Became Inactive</u>	<u>Status</u>
10.	E. I. Dupont DeNemours and Company, Inc. - Antioch	Electric power/steam project using a gas turbine topping cycle	March 1979	9.1	December 1981	Dupont does not plan to consider cogeneration further at this time.
11.	Southern California Gas Company and PGandE Underground Natural Gas Storage Reservoir - Ten Section Field, Kern County	Electric power project fueled by waste heat from gas compressor	January 1980	7.7	January 1982	Project suspended. Further field development questionable.
12.	E. Bruce & Elna B. Barron - Manton, California	Low-head hydroelectric facility	January 1981	0.01	March 1982	Project proponent will not be pursuing the project at this time.
13.	Exxon/PGandE/Martin Marietta/Badger Energy, Inc. - Edison	Industrial Process Heat/Solar Thermal (Central Receiver Cogeneration)	Early 1980	15.0	March 1982	Parties involved decided not to proceed with project.
14.	Foster Farms - Livingston	Electric power/steam project fueled by agricultural waste	July 1979	8.4	March 1982	Foster Farms has postponed the project indefinitely.
15.	Pacific Lumber Company - Scotia	Electric power/steam project fueled by woodwaste	September 1978	Not yet determined	March 1982	Project withdrawn at request of proponent.
16.	Spreckels Sugar - Woodland	Electric power/steam project using a gas turbine topping cycle	December 1979	5.0	May 1982	Spreckels does not wish to pursue the project at this time.
17.	San Francisco General Hospital - San Francisco	Electric power/steam project using a gas turbine topping cycle	March 1979	2.5	May 1982	Project undergoing lengthy review by the City and County of San Francisco.
18.	Texaco, Inc. - San Ardo Oil Field	Electric power/steam project fueled by natural gas; enhanced oil recovery	Spring 1973	210 - 290	May 1982	Project suspended. Resumption of work possible pending Texaco management decision.
19.	Windfarms, Ltd. - Solano County	Wind farm	March 1981	350.0	September 1982	Windfarms, Ltd. has postponed the project indefinitely.

1/ Not identified by industry's request.

TABLE XII
 TERMINATED CONTRACTS
 STATUS REPORT
 THIRD QUARTER - SEPTEMBER 1982

<u>No.</u>	<u>Project Name and Location</u>	<u>Project Description</u>	<u>Date Contract Signed</u>	<u>Type</u>	<u>MW</u>	<u>Date Contract Terminated</u>	<u>Status</u>
1.	Warm Springs Dam - Warm Springs	Regenerative braking of downhill earth conveyor	July 29, 1980	Energy Purchase	2.0	September 25, 1981	Contract terminated at request of proponent.
2.	<u>1/</u>	Wind-powered generator	August 4, 1981	Energy Purchase	20 kW	May 7, 1982	Owner removed wind-powered generator from property. Contract terminated.
3.	American Enertech Flotation Generator - Sacramento River near Colusa, California	Hydroelectric	February 3, 1982	Energy Purchase	0.2	June 1, 1982	Project deferred indefinitely due to lack of financing.
4.	Rupert B. Adam - Nipomo Mesa	Wind-powered generator	August 1, 1981	Energy Purchase	5 kW	June 15, 1982	Owner removed wind-powered generator from property. Contract terminated.
5.	<u>1/</u>	Wind-powered generator	August 7, 1981	Energy Purchase	10 kW	June 15, 1982	Owner removed wind-powered generator from property. Contract terminated.
6.	Diamond O Ranch - Soledad	Wind-powered generator	May 11, 1981	Energy Purchase	20 kW	August 13, 1982	Owner removed wind-powered generator from property. Contract terminated.

1/ Project name and location not authorized for release.

APPENDIX C

SPECIAL ANNOUNCEMENT
for
COGENERATORS AND SMALL POWER PRODUCERS
NOVEMBER 1982

PACIFIC GAS AND ELECTRIC COMPANY

PG&E

77 BEALE STREET • SAN FRANCISCO, CALIFORNIA 94106 • (415) 781-4211 • TWX 910-372-6587

SPECIAL ANNOUNCEMENT FOR COGENERATORS AND SMALL POWER PRODUCERS NOVEMBER 1982

You requested that PGandE notify you periodically of changes in the energy prices applicable to purchases by PGandE from qualified generation facilities using cogeneration, fuels derived from biomass, woodwastes or refuse and certain renewable resources. These prices are subject to revision every three months to reflect changes in PGandE's incremental fuel costs. The following energy prices will apply to delivered energy determined from meter readings taken during November and December, 1982 and January 1983. In addition, the prices in our August 1982 Special Announcement have been revised.

	<u>Period A</u>	<u>Period B</u>
	For Meter Readings During August and September 1982	For Meter Readings During October, November and December 1982 and January 1983
ENERGY PRICES:		
I. TIME OF DELIVERY BASIS:		
On-Peak, per kWh	\$0.05967	\$0.06049
Partial-Peak, per kWh	0.05692	0.05912
Off-Peak, per kWh	0.05499	0.05769
II. SEASONAL AVERAGE PRICE BASIS:		
	\$0.05641	\$0.05854

The energy prices calculated for this quarter are again based upon PGandE's use of natural gas as its incremental fuel. They are the product of the currently effective rate for natural gas under PGandE's Schedule No. G-55, applicable to steam electric plants, and the system incremental heat rates. PGandE has adopted the recommendation of the California Public Utilities Commission (CPUC) Staff to return to the incremental heat rates developed in the 1982 General Rate Case (Decision No. 93887). These incremental heat rates were used in the energy prices in effect from May 1, 1982 to July 31, 1982 but were modified for the August 1982 announcement primarily to reflect this year's above-average hydro conditions. Retroactive payments will be made to cogenerators and small power producers who delivered energy to PGandE between

August 1, 1982 and October 31, 1982 based on the prices set forth above without further action by producers. Such payments will be made as soon as practicable along with a subsequent regular payment. October on-peak prices are very slightly reduced by this change and no net reduction in payments will result therefrom.

The calculation of the average price paid for energy has been revised from an annual average basis to a seasonal average basis, consistent with CPUC Staff recommendations. The seasonal average calculation provides weighted average energy prices separately for Period A (May-September) and Period B (October-April), rather than the former annual basis which was a composite average over the two Periods. The seasonal average prices set forth above will also apply retroactively to purchases commencing August 1, 1982. Future revisions are expected to be on a seasonal average basis.

PACIFIC GAS AND ELECTRIC COMPANY

APPENDIX D

STANDARD OFFER #1

POWER PURCHASE AGREEMENT

for

AS-DELIVERED CAPACITY AND ENERGY

PACIFIC GAS AND ELECTRIC COMPANY

STANDARD OFFER #1

POWER PURCHASE AGREEMENT

FOR

AS-DELIVERED CAPACITY AND ENERGY

MAY 1982

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

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AS-DELIVERED CAPACITY AND ENERGY
POWER PURCHASE AGREEMENT
BETWEEN

AND
PACIFIC GAS AND ELECTRIC COMPANY

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

ARTICLE 1 QUALIFYING STATUS

Seller warrants that, at the date of first power deliveries from Seller's Facility¹ and during the term of agreement, its Facility shall meet the qualifying facility requirements established as of the effective date of this Agreement by the Federal Energy Regulatory Commission's rules (18 Code of Federal Regulations 292) implementing the Public Utility Regulatory Policies Act of 1978 (16 U.S.C.A. 796, et seq.).

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 _____ kW located at _____

the as-delivered capacity and energy at the voltage level of _____ kV. Seller has chosen _____²
as its energy sale option. Seller may convert its energy sale option as provided in Section 3 of Appendix A.

b) The scheduled operation date when Seller estimates first delivery of electric energy from the Facility to PGandE is _____. At the end of each calendar quarter Seller shall give to PGandE
(Date)
written notice of any change to the scheduled operation date.

c) Seller shall limit the Facility's actual rate of delivery into the PGandE system to _____ kW.

d) The primary energy source for the Facility is _____.

ARTICLE 3 PURCHASE PRICE

PGandE shall pay Seller for as-delivered capacity and energy at prices authorized from time to time by the CPUC.

ARTICLE 4 NOTICES

All written notices shall be directed as follows:

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

to Seller: _____

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

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

ARTICLE 5 DESIGNATED SWITCHING CENTER

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

(Name)

(Location)

(Phone number)

ARTICLE 6 TERMS AND CONDITIONS

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

Appendix A - POWER PURCHASE GENERAL TERMS AND CONDITIONS

Appendix B - INSURANCE

ARTICLE 7 TERM OF AGREEMENT

This Agreement shall be binding upon execution and remain in effect for _____ years from the date of execution. Seller may terminate this Agreement at any time by giving 30 days prior written notice to PGandE.

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

(SELLER)

PACIFIC GAS AND ELECTRIC COMPANY

BY: _____

BY: _____

(Type Name)

(Type Name)

TITLE: _____

TITLE: _____

DATE SIGNED: _____

DATE SIGNED: _____

APPENDIX A
AS-DELIVERED CAPACITY AND ENERGY
POWER PURCHASE GENERAL TERMS AND CONDITIONS

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APPENDIX A

POWER PURCHASE GENERAL TERMS AND CONDITIONS

A-1. DEFINITIONS

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

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

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

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

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

Net energy output - The gross output the Facility produces in kilowatt-hours, less station use and transformation and transmission losses to the point of delivery into the PGandE system.

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

Special facilities - Those parts of the interconnection facilities furnished by PGandE at Seller's request and those additions and reinforcements to the PGandE system which are needed to accommodate Seller's maximum delivery of power from the Facility as provided in Article 2(c) of this Agreement. All special facilities shall be furnished pursuant to PGandE's electric tariff (Rule No. 21) by separate agreement.

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

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

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

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

A-2. CONSTRUCTION

A-2.1 Land Rights

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

A-2.2 Design, Construction, Ownership, and Maintenance

a) Seller shall design, construct, install, own, and maintain interconnection facilities, except metering equipment as provided in section A-2.3, to the point of interconnection with the PGandE system as required for PGandE to receive as-delivered capacity and energy from the Facility. The interconnection

facilities shall be of a size to accommodate as-delivered capacity and energy designated in Article 2(c) of this Agreement. The Facility and interconnection facilities shall meet all requirements of applicable codes and prudent electrical practices and shall be managed in a safe and prudent manner.

b) Seller shall submit all specifications necessary for the design of the interconnection facilities to PGandE for review and written acceptance prior to their release for construction purposes. PGandE's review and acceptance of these specifications shall not be construed as confirming or endorsing the design 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 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.

A-2.3 Meter Installation

a) PGandE shall specify, provide, own, install, and maintain all metering 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) PGandE may require Seller at Seller's expense to install, at a location within the Facility agreed to by both Parties, secondary displays for metering data, to enable Seller to make daily telephone reports of the hourly readings of power and the daily readings of energy delivered into the PGandE system.

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

A-3. ENERGY SALE OPTIONS

A-3.1 General

Seller has two energy sale options, namely (1) net energy output, or (2) surplus energy output. Seller has made its initial selection in Article 2(a).

A-3.2 Energy Sale Conversion

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

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

(2) Seller shall comply with all applicable tariffs on file with the CPUC and contracts in effect between the Parties at the time of conversion covering the existing and proposed (i) facilities used to serve Seller's premises and (ii) interconnection facilities.

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

b) PGandE shall not be required to remove or reserve capacity of facilities made idle by Seller's energy sale conversion and may dedicate such facilities at any time to serve other customers or to interconnect with other electric power sources.

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

A-4. OPERATION

A-4.1 Inspection and Approval

Seller shall not operate the Facility in parallel with PGandE's system until an authorized PGandE representative has inspected the interconnection facilities and has given written approval to begin parallel operation.

A-4.2 Facility Operation and Maintenance

Seller shall operate and maintain its Facility according to prudent electrical practices and shall provide such reactive power support as may be reasonably required by PGandE to maintain system voltage level

and power factor. Synchronous generators shall be capable of operating at any power factor between 90% lagging and 95% leading. Induction generators may be required to have reactive capability equivalent to that of a similar size synchronous generator. Seller shall operate the Facility at the power factors or levels of voltage 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-4.3 Point of Delivery

Seller shall deliver the energy at the point where Seller's electrical conductors contact PGandE's existing system or at such other point as the Parties may agree in writing.

A-4.4 Operating Communications

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

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

c) If Seller makes deliveries greater than one megawatt, Seller shall measure and register on a graphic recorder power in kW and voltage in kV at the metering location.

d) If Seller makes deliveries greater than one and up to and including ten megawatts, Seller shall report to the designated PGandE switching center, once a day prior to 3 a.m. for the previous day's operation, the hourly readings in kW of capacity delivered and the daily energy in kWh delivered.

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

f) At Seller's expense, PGandE shall specify, install, maintain, and operate equipment required for telemetering and data processing. Seller shall provide and maintain the data circuits required for telemetering. When telemetering is inoperative, Seller shall report daily the capacity delivered each hour and the energy delivered each day to the designated PGandE switching center.

A-4.5 Meter Testing and Inspection

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

b) PGandE shall, at its expense, inspect and test all meters upon their installation and annually thereafter. If requested by Seller, PGandE shall inspect or test a meter more frequently, but the expense of such inspection or test shall be paid by Seller. 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-4.6 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-5. PAYMENT

PGandE shall mail to Seller not later than 30 days after the end of each monthly billing period (1) a statement showing the kilowatt-hours delivered to PGandE during on-peak, partial-peak and off-peak periods during the previous monthly billing period, (2) PGandE's computation of the payment due Seller and (3) PGandE's check in payment of said amount. 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-6. ADJUSTMENTS OF PAYMENTS

a) In the event adjustments to payments are required as a result of corrected measurements made by inaccurate meters, PGandE shall use the corrected measurements described in Paragraph 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

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.

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

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 as-delivered capacity and energy during periods when purchases under this Agreement would result in costs greater than those which PGandE would incur if it did not make such purchases but instead generated an equivalent amount of energy itself.

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

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

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.

d) Whenever possible, PGandE shall give Seller reasonable notice of the possibility that interruption or reduction of deliveries under subsections (a) or (b), above, may be required. 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. Before interrupting or reducing deliveries under subsection (b), above, and before invoking hydro savings prices under subsection (c) 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.

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 (i) the engineering, design, construction, maintenance, or operation of or (ii) the making of replacements, additions, or betterments to, the indemnitor's facilities. This indemnity and save harmless provision shall apply notwithstanding the active or passive negligence of the indemnitee. Neither Party shall be indemnified hereunder for 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 nor affect the status of PGandE as an independent public utility corporation or Seller as an independent individual or entity and not a public utility.

A-11. SEVERAL OBLIGATIONS

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

A-12. NON-WAIVER

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

A-13. ASSIGNMENT

Neither Party shall voluntarily assign its rights nor delegate its duties under this Agreement, or any part of such rights or duties, without the written consent of the other Party, except in connection with the sale or merger of a substantial portion of its properties. Any such assignment or delegation made without such written consent shall be null and void. Consent for assignment 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-14. CAPTIONS

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

A-15. CHOICE OF LAWS

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

A-16. GOVERNMENTAL JURISDICTION AND AUTHORIZATION

Seller warrants that the Facility and interconnection facilities, except special facilities, shall at all times conform to all applicable laws and regulations, and Seller shall obtain any governmental authorizations and permits required for the construction and operation thereof. If at any time Seller does not hold such authorizations and permits, PGandE may refuse to accept deliveries of power hereunder.

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 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 4 of this Agreement. Changes in such designation may be made by notice similarly given.

APPENDIX B

INSURANCE

B-1. WORKERS' COMPENSATION

Seller shall furnish PGandE a certificate of workers' compensation or self-insurance indicating compliance with the Labor Code of California, including Employer's Liability insurance with a minimum of \$2,000,000 for injury or death of any one person. This certificate should provide 30-day written notice to PGandE prior to cancellation, termination, alteration, or material change of such insurance.

B-2. COMPREHENSIVE GENERAL AND COMPREHENSIVE AUTOMOBILE LIABILITY COVERAGE

a) Seller shall maintain during the performance hereof, Comprehensive General Liability and Comprehensive Automobile Liability of not less than \$3,000,000 combined single limit or equivalent for bodily injury, personal injury, and property damage as the result of any one occurrence.

b) Comprehensive General Liability shall include coverage for Premises-Operations, Owners and Contractors Protective, Products/Completed Operations Hazard, Explosion, Collapse, Underground, Contractual Liability, and Broad Form Property Damage including Completed Operations. Comprehensive Automobile Liability shall include coverage for Owned, Hired, and Non-Owned automobiles.

c) Such insurance, by endorsement to the policy(ies), shall include PGandE as an additional insured 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-day written notice to PGandE prior to cancellation, termination, alteration, or material change of such insurance.

B-3. ADDITIONAL INSURANCE PROVISIONS

a) Evidence of coverage described above in Sections B-1 and B-2 shall state that coverage provided is primary and is not excess to or contributing with any insurance or self-insurance maintained by PGandE.

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

c) Seller shall furnish the required certificates and endorsements to PGandE prior to commencing performance hereof.

d) All insurance certificates, 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 of Insurance
77 Beale Street, Room E-280
San Francisco, CA 94106

PACIFIC GAS AND ELECTRIC COMPANY

PURCHASE PRICE

FOR

AS-DELIVERED CAPACITY

FROM

QUALIFYING FACILITIES

MARCH 1982

PURCHASE PRICE
FOR
AS-DELIVERED CAPACITY
FROM
QUALIFYING FACILITIES

For Facilities for which time-of-delivery metering is installed and from which PGandE does not have a commitment for firm capacity of a specific amount, the as-delivered capacity payment for power delivered by the Facility to PGandE and accepted by PGandE is based on 100% of the shortage value of such power. The payment will be made in cents per kWh, will vary by time of delivery, and be paid for each kWh produced and delivered by the Facility. The as-delivered capacity payment in cents per kilowatt-hour is the product of three factors:

(a) The current shortage cost in each year the Facility is operating. Currently, this shortage cost, \$73 per kW year, is estimated to be the annual capacity cost of a gas turbine, as prescribed by the California Public Utilities Commission (CPUC) in OIR-2 Decision No. 82-01-103 (January 21, 1982). The basis for the shortage cost estimates may be revised by the CPUC from time to time.

(b) A capacity loss adjustment factor. The current shortage cost is adjusted 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 are presented in Table A.

(c) An allocation factor, which accounts for the different values of as-delivered capacity in different time periods. The allocation factors are presented in Table B. The time periods to which they apply are shown in Table C.

For Facilities for which time-of-delivery metering is not installed, the price paid for all as-delivered capacity shall be 50% of factor (a) multiplied by factor (b) and a weighted average allocation factor reflecting Period A or Period B.

PACIFIC GAS AND ELECTRIC COMPANY

TABLE A

CAPACITY LOSS ADJUSTMENT FACTORS*

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

TABLE B

ALLOCATION FACTORS

FOR

AS-DELIVERED CAPACITY

	<u>Peak</u>	<u>Partial Peak</u>	<u>Off-Peak</u>
Period A	.09982	.01635	.00000
Period B	.02023	.00306	.00001

* Measured at system peak, 1983.

TABLE C

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

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

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

PACIFIC GAS AND ELECTRIC COMPANY

PURCHASE PRICE

FOR

ENERGY

FROM

QUALIFYING FACILITIES

MARCH 1982

PURCHASE PRICE FOR ENERGY
FROM
QUALIFYING FACILITIES

PGandE shall pay Seller for energy delivered by Seller and accepted by PGandE, at prices which will be based on PGandE's average quarterly cost of incremental fuel and adjusted to reflect the effect of such deliveries on PGandE's avoided transmission and distribution losses.* This quarterly price shall be published by PGandE as prescribed by the California Public Utilities Commission. The energy prices so established shall be applied for months as follows:

TABLE A

<u>Average Cost Quarter Used</u>	<u>Months to Which Energy Price Applies</u>
September - November	January - March
December - February	April - June
March - May	July - September
June - August	October - November

Energy prices will be applied to meter readings taken during the months indicated in the right-hand column above. These prices will be differentiated by the time periods as defined in Table B.

* The applicable loss adjustment factors for energy are displayed in Table C.

TABLE B

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

TABLE C

LOSS ADJUSTMENT FACTORS**
FOR ENERGY

	<u>Transmission</u>	<u>Distribution</u>
<u>Summer</u>		
Peak	.987	.989
Partial-Peak	.989	.986
Off-Peak	.994	.981
<u>Winter</u>		
Peak	.986	.988
Partial-Peak	.994	.992
Off-Peak	1.001	.994

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

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

** These factors apply to the PGandE system which includes a reasonable mix of QFs in 1983.

APPENDIX E

STANDARD OFFER #2

POWER PURCHASE AGREEMENT

for

FIRM CAPACITY AND ENERGY

PACIFIC GAS AND ELECTRIC COMPANY

STANDARD OFFER #2

POWER PURCHASE AGREEMENT

FOR

FIRM CAPACITY AND ENERGY

MAY 1982

STANDARD OFFER #2:
FIRM CAPACITY AND ENERGY
POWER PURCHASE AGREEMENT

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FIRM CAPACITY AND ENERGY
POWER PURCHASE AGREEMENT
BETWEEN

AND
PACIFIC GAS AND ELECTRIC COMPANY

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

ARTICLE 1 QUALIFYING STATUS

Seller warrants that, at the date of first power deliveries from Seller's Facility¹ and during the term of agreement, its Facility shall meet the qualifying facility requirements established as of the effective date of this Agreement by the Federal Energy Regulatory Commission's rules (18 Code of Federal Regulations 292) implementing the Public Utility Regulatory Policies Act of 1978 (16 U.S.C.A. 796, et seq.).

ARTICLE 2 PURCHASE OF POWER

a) Seller shall sell and deliver and PGandE shall purchase and accept delivery of firm capacity and energy at the voltage level of _____ kV as indicated below--

1. Contract capacity - _____ kW; and
2. Energy - _____.²

Seller may convert its energy sale option as provided in Section A-3 of Appendix A.

b) Seller shall provide the firm capacity and energy set forth above from its _____ kW Facility located at _____
[Nameplate rating of generator(s)] _____

c) The scheduled operation date of the Facility is _____ (Date)

At the end of each calendar quarter Seller shall give written notice to PGandE of any change to the scheduled operation date.

- d) Seller shall limit the Facility's actual rate of delivery into the PGandE system to _____ kW.
- e) The primary energy source for the Facility is _____

ARTICLE 3 PURCHASE PRICE

a) PGandE shall pay Seller for firm capacity under option no. _____ set forth in Appendix C and for energy at prices authorized from time to time by the CPUC.

b) PGandE's obligation to pay for Seller's contract capacity shall commence as of the actual operation date. The applicable contract capacity price shall be the higher of \$ _____ per kilowatt per year or the capacity price published by PGandE in a successor to Table C of Appendix C and effective as of the actual operation date. The contract capacity price shall be subject to adjustment as provided for in Appendix D.

ARTICLE 4 NOTICES

All written notices shall be directed as follows:

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

to Seller: _____

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

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

ARTICLE 5 DESIGNATED SWITCHING CENTER

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

(Name)

(Location)

(Phone number)

ARTICLE 6 TERMS AND CONDITIONS

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

- Appendix A - POWER PURCHASE GENERAL TERMS AND CONDITIONS
- Appendix B - INSURANCE
- Appendix C - FIRM CAPACITY PRICE SCHEDULE
- Appendix D - ADJUSTMENT OF CAPACITY PAYMENTS IN THE EVENT OF TERMINATION OR REDUCTION

ARTICLE 7 TERM OF AGREEMENT

This Agreement shall be binding upon execution and remain in effect for _____ years from the actual operation date. Seller may terminate this Agreement at any time by giving six months prior written notice to PGandE subject to the provisions of Appendix D.

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

(SELLER)

PACIFIC GAS AND ELECTRIC COMPANY

BY: _____

BY: _____

(Type Name)

(Type Name)

TITLE: _____

TITLE: _____

DATE SIGNED: _____

DATE SIGNED: _____

APPENDIX A
FIRM CAPACITY AND ENERGY
POWER PURCHASE GENERAL TERMS AND CONDITIONS

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APPENDIX A

POWER PURCHASE GENERAL TERMS AND CONDITIONS

A-1. DEFINITIONS

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

Actual operation 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 power continuously into PGandE's system as provided in this Agreement.

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

Capacity sale reduction - A reduction in the amount of capacity provided or to be provided under this Agreement.

Contract capacity - That capacity identified in Article 2(a) except as otherwise changed as provided herein.

Contract capacity price - The \$/kW-year price set forth in Article 3(b).

Contract termination - The early termination of this Agreement.

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

Current firm capacity price - The \$/kW-year capacity price from the firm capacity price schedule published by PGandE at the time of termination or reduction of contract capacity, for a term equal to the balance of the term of agreement.

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

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

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

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.

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

Minimum requirements - Operating requirements which must be met by Seller as set forth in Paragraph C-2 of Appendix C.

Net energy output - The gross output the Facility produces in kilowatt-hours, less station use and transformation and transmission losses to the point of delivery into the PGandE system.

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

Scheduled operation date - The day specified in Article 2(c) when the Facility is, by Seller's estimate, expected to produce electric energy that will be available for delivery to PGandE.

Special facilities - Those parts of the interconnection facilities furnished by PGandE at Seller's request and those additions and reinforcements to the PGandE system which are needed to accommodate the maximum delivery of power from the Facility as provided in Article 2(d) of this Agreement. All special facilities shall be furnished pursuant to PGandE's electric tariff (Rule No. 21) by a separate agreement.

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

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

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

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

A-2. CONSTRUCTION

A-2.1 Land Rights

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

A-2.2 Design, Construction, Ownership, and Maintenance

a) Seller shall design, construct, install, own, and maintain interconnection facilities, except metering equipment as provided in Section A-2.3, to the point of interconnection with the PGandE system as required for PGandE to receive firm capacity and energy from the Facility. The interconnection facilities shall be of a size to accommodate firm capacity and energy designated in Article 2(d) of this Agreement. The Facility and interconnection facilities shall meet all requirements of applicable codes and all standards of prudent electrical practices and shall be managed in a safe and prudent manner.

b) Seller shall submit to PGandE all specifications for the interconnection facilities and, at PGandE's option, the Facility, for review and written acceptance prior to their release for construction purposes. PGandE's review and acceptance of these specifications shall not be construed as confirming or endorsing the design 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 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.

A-2.3 Meter Installation

a) PGandE shall specify, provide, own, install, and maintain all metering 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) PGandE may require Seller at Seller's expense to install, at a location within the Facility agreed to by both Parties, secondary displays for metering data, to enable Seller to make daily telephone reports of the hourly readings of power and the daily readings of energy delivered into the PGandE system.

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

A-3. ENERGY SALE OPTIONS

A-3.1 General

Seller has two energy sale options, namely (1) net energy output, or (2) surplus energy output. Seller has made its initial selection in Article 2(a).

A-3.2 Energy Sale Conversion

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

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

(2) Seller shall comply with all applicable tariffs on file with the CPUC and contracts in effect between the Parties at the time of conversion covering the existing and proposed (i) facilities used to serve Seller's premises and (ii) interconnection facilities.

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

(4) If the energy sale conversion results in a capacity sale reduction, the provisions in Appendix D shall apply.

b) PGandE shall not be required to remove or reserve capacity of facilities made idle by Seller's energy sale conversion and may dedicate such facilities at any time to serve other customers or to interconnect with other electric power sources.

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

A-4. OPERATION

A-4.1 Inspection and Approval

Seller shall not operate the Facility in parallel with PGandE's system until an authorized PGandE representative has inspected the interconnection facilities and has given written approval to begin parallel operation.

A-4.2 Facility Operation and Maintenance

Seller shall operate and maintain its Facility according to prudent electrical practices and shall provide such reactive power support as may be reasonably required by PGandE to maintain system voltage level and power factor. Synchronous generators shall be capable of operating at any power factor between 90% lagging and 95% leading. Induction generators may be required to have reactive capability equivalent to that of a similar size synchronous generator. Seller shall operate the Facility at the power factors or levels of voltage 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-4.3 Point of Delivery

Seller shall deliver the energy at the point where Seller's electrical conductors contact PGandE's existing system or at such other point as the Parties may agree in writing.

A-4.4 Operating Communications

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

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

c) If Seller makes deliveries greater than one megawatt, Seller shall measure and register on a graphic recorder power in kW and voltage in kV at the metering location.

d) If Seller makes deliveries greater than one and up to and including ten megawatts, Seller shall report to the designated PGandE switching center, once a day prior to 3 a.m. for the previous day's operation, the hourly readings in kW of capacity delivered and the daily energy in kWh delivered.

e) If Seller makes deliveries of greater than ten megawatts, Seller shall telemeter the delivered power and energy information, including capacity 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.

f) At Seller's expense, PGandE shall specify, install, maintain, and operate equipment required for telemetering, and data processing. 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.

g) If Seller provides dispatchable capacity greater than ten megawatts pursuant to Option 1 in Appendix C, Seller may be required by PGandE to provide telemetering and control equipment to allow the Facility to respond to system load frequency requirements on digital control from the designated PGandE switching center.

A-4.5 Meter Testing and Inspection

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

b) PGandE shall, at its expense, inspect and test all meters upon their installation and annually thereafter. If requested by Seller, PGandE shall inspect or test a meter more frequently, but the expense of such inspection or test shall be paid by Seller. 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-4.6 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-5. PAYMENT

PGandE shall mail to Seller not later than 30 days after the end of each monthly billing period (1) a statement showing the capacity and energy delivered to PGandE during on-peak, partial-peak, and off-peak periods during the previous monthly billing period, (2) PGandE's computation of the payment due Seller, and (3) PGandE's check in payment of said amount. 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-6. ADJUSTMENTS OF PAYMENTS

a) In the event adjustments to payments are required as a result of corrected measurements made by inaccurate meters, PGandE shall use the corrected measurements described in Paragraph A-4.6 to recompute the amount due from PGandE to Seller for the firm 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

Each Party, after giving reasonable written notice to the other Party, shall have the right of access to all metering and related records including operations logs of the Facility.

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 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 emergencies, forced outages, force majeure, operating conditions on its system, or compliance with prudent electrical practices.

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 purchases under this Agreement would result in costs greater than those which PGandE would incur if it did not make such purchases but instead generated an equivalent amount of energy itself.

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

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

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.

d) Whenever possible, PGandE shall give Seller reasonable notice of the possibility that interruption or reduction of deliveries under subsections (a) or (b), above, may be required. 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. Before interrupting or reducing deliveries under subsection (b), above, and before invoking hydro savings prices under subsection (c) 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.

A-9. FORCE MAJEURE

a) The term force majeure as used herein means unforeseeable causes, other than forced outages, beyond the reasonable control of and without the fault or negligence of the Party claiming force majeure, including but not limited to, acts of God, labor disputes, sudden actions of the elements, and actions by federal, state, municipal, or any other government agency.

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, and

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

A-10. 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 (i) the engineering, design, construction, maintenance, or operation of or (ii) the making of replacements, additions, or betterments to, the indemnitor's facilities. This indemnity and save harmless provision shall apply notwithstanding the active or passive negligence of the indemnitee. Neither Party shall be indemnified hereunder for its liability or loss resulting from its sole negligence or willful misconduct. The indemnitor shall, on the other Party's request, defend any suit asserting a claim covered by this indemnity and shall pay all costs, including reasonable attorney fees, that may be incurred by the other Party in enforcing this indemnity.

A-11. 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-12. 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-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 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-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.

A-16. 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-17. GOVERNMENTAL JURISDICTION AND AUTHORIZATION

Seller warrants that the Facility and interconnection facilities, except special facilities, shall at all times conform to all applicable laws and regulations, and Seller shall obtain any governmental authorizations and permits required for the construction and operation thereof. If at any time Seller does not hold such authorizations and permits PGandE may refuse to accept deliveries of power hereunder.

A-18. 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 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 4 of this Agreement. Changes in such designation may be made by notice similarly given.

APPENDIX B

INSURANCE

B-1. WORKERS' COMPENSATION

Seller shall furnish PGandE a certificate of workers' compensation or self-insurance indicating compliance with the Labor Code of California, including Employer's Liability insurance with a minimum of \$2,000,000 for injury or death of any one person. This certificate should provide 30-day written notice to PGandE prior to cancellation, termination, alteration, or material change of such insurance.

B-2. COMPREHENSIVE GENERAL AND COMPREHENSIVE AUTOMOBILE LIABILITY COVERAGE

a) Seller shall maintain during the performance hereof, Comprehensive General Liability and Comprehensive Automobile Liability of not less than \$3,000,000 combined single limit or equivalent for bodily injury, personal injury, and property damage as the result of any one occurrence.

b) Comprehensive General Liability shall include coverage for Premises-Operations, Owners and Contractors Protective, Products/Completed Operations Hazard, Explosion, Collapse, Underground, Contractual Liability, and Broad Form Property Damage including Completed Operations. Comprehensive Automobile Liability shall include coverage for Owned, Hired, and Non-Owned automobiles.

c) Such insurance, by endorsement to the policy(ies), shall include PGandE as an additional insured 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-day written notice to PGandE prior to cancellation, termination, alteration, or material change of such insurance.

B-3. ADDITIONAL INSURANCE PROVISIONS

a) Evidence of coverage described above in sections B-1 and B-2 shall state that coverage provided is primary and is not excess to or contributing with any insurance or self-insurance maintained by PGandE.

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

c) Seller shall furnish the required certificates and endorsements to PGandE prior to commencing performance hereof.

d) All insurance certificates, 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 of Insurance
77 Beale Street Room E-280
San Francisco, CA 94106

APPENDIX C
FIRM CAPACITY PRICE SCHEDULE

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APPENDIX C

FIRM CAPACITY PRICE SCHEDULE

C-1 GENERAL

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

To qualify for firm capacity payments

- (1) Outages for scheduled maintenance shall not occur within the first 6 months.
- (2) Outages for scheduled maintenance shall not occur within Period A or the first month of Period B (as defined in Table A), unless otherwise agreed to in writing by PGandE.
- (3) Seller shall give PGandE's system dispatcher not less than six months prior written notice of any scheduled maintenance.
- (4) The outage periods for scheduled maintenance shall not exceed a total 35 days in any 12-month period.

C-2 MINIMUM PERFORMANCE REQUIREMENTS

To receive capacity payments the Facility must meet the following requirements:

- (1) The contract capacity shall be available¹ for all of the on-peak hours² in the peak months on the PGandE system, which are presently the months of June, July, and August, subject to a 20 percent allowance for forced outages in any month. Compliance with this provision shall be based on the Facility's total on-peak availability¹ for each of the peak months and shall exclude any energy associated with generation levels greater than the contract capacity.
- (2) If Seller selects option 1, the contract capacity shall be dispatchable throughout the year, subject to a 20 percent monthly allowance for forced outages and the allowances for scheduled maintenance outages. Except during the peak months on the PGandE system, Seller may accumulate and apply the 20 percent allowance for forced outages for any consecutive three month period. Dispatchability means that the Facility is operable and can be called upon at anytime to deliver capacity at any level up to the full contract capacity. Seller shall demonstrate that the Facility is fueled by a reliable fuel supply and adequate fuel storage is available to deliver power as requested by PGandE's system dispatcher.

C-3 FAILURE TO MEET MINIMUM PERFORMANCE REQUIREMENTS

a) Except when caused by a forced outage or force majeure, if Seller fails to meet the minimum performance requirements set forth in section C-2 -

- (1) PGandE may immediately suspend the payment of the capacity charges for a probationary period not to exceed 15 months, or as otherwise agreed to by the Parties.
- (2) If Seller meets or demonstrates to PGandE that it can meet its minimum requirements during the probationary period, PGandE shall pay Seller all capacity payments suspended during the probationary period, and reinstate regular capacity payments.
- (3) If Seller fails to meet its minimum requirements during the probationary period, PGandE may derate the contract capacity to the greater of the capacity actually delivered when the minimum requirements were not met, or the capacity at which the Seller is reasonably likely to meet the minimum requirements. In either case, the quantity by which the capacity is reduced shall be considered terminated without prescribed notice as provided in section D-3 of Appendix D.

b) Seller shall not receive capacity payments for any month during which failure to meet the minimum performance requirements was caused by forced outage.

¹ For purposes of payment Option 1, "available" means either dispatchable by PGandE or actually delivered to PGandE. For purposes of Option 2, "available" means actually delivered to PGandE.

² On-peak, partial-peak, and off-peak hours are defined in Table A.

c) If Seller is prevented from meeting the minimum performance requirements because of a forced outage on the PGandE system, PGandE shall continue capacity payments. Under option 2, capacity payments will be calculated in the same manner used for scheduled maintenance outages.

d) If deliveries are interrupted or reduced because of force majeure PGandE shall continue capacity payments for ninety days from the occurrence of the force majeure. If Seller has chosen option 2 as a method for capacity payments, payments due during a period of interruption or reduction by reason of force majeure shall be calculated in the same manner used for scheduled maintenance outages.

C-4 ADJUSTMENTS TO CONTRACT CAPACITY

a) Seller may increase the contract capacity 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 contract capacity at any time by giving notice thereof to PGandE. PGandE may reduce the contract capacity as a result of appropriate tests, studies, or prior performance. The amount by which the contract capacity is reduced shall be deemed a capacity sale reduction under Appendix D.

c) Either Party may request, when it reasonably appears that the capacity of the Facility may have changed for any reason, that a new contract capacity be determined.

C-5 PAYMENT OPTIONS

Seller has two options for calculation of capacity payments and Seller has made its selection in Article 3(a). As used below in this section, month refers to a calendar month. The two options are as follows:

Option 1

(Equal Payment in Dollars per Kilowatt per Month)

The monthly payment for capacity will be one-twelfth of the product of the contract capacity price set forth in Article 3(b), multiplied by the contract capacity and by the appropriate loss adjustment factor. The loss adjustment factors for non-remote facilities based on the Facility's interconnection voltage are presented in Table B.

Capacity payments will continue during scheduled maintenance outages provided that such payments shall not be made for more than a total of 35 days in any 12-month period.

Option 2

(Charge in Dollars per Kilowatt per Month)

The monthly payment for capacity will be the product of the Period Price Factor (PPF), the Monthly Delivered Capacity (MDC), and the appropriate loss adjustment factor, plus any allowable payment for outages due to scheduled maintenance. The loss adjustment factors for non-remote Facilities are based on the Facility's interconnection voltage and are presented in Table B. Firm capacity prices shall be applied to meter readings taken during the separate times and periods as illustrated in Table A of this Appendix.

The PPF is determined by multiplying the contract capacity price as set forth in Article 3(b) by the following Option 2 Allocation Factors³:

$$\text{Option 2 Allocation Factor (1/month)} \times \frac{\text{Contract Capacity Price}}{\text{Price } (\$/\text{kW})} = \frac{\text{PPF}}{(\$/\text{kW-month})}$$

Period A	.16477	_____	_____
Period B	.02515	_____	_____

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:

$$P = \frac{A}{C \times (B-S) \times (0.8^4)} \quad (\leq 1.0)$$

³ 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. Periods A and B are defined in Table A of this Appendix.

⁴ 0.8 reflects a 20% allowance for forced outage.

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

C = Contract capacity in Kilowatts

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

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

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

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

Where:

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

D = The number of days in the month.

- 3) Determine the MDC by multiplying the MCF by C;

$$MDC \text{ (kilowatts)} = MCF \times C$$

The monthly payment for capacity is then determined by multiplying the proper PPF determined above by MDC.

$$(\$) = PPF \times MDC$$

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 daily capacity payment for the most recent month during which deliveries were made and the number of days of outage for scheduled maintenance in the current month. Capacity payments will continue during the outage periods for scheduled maintenance provided that such charges shall not be made for more than a total of 35 days in any 12-month period.

TABLE A

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

Period B
(October 1 to April 30)

On-Peak	4:30 p.m. to 8:30 p.m.		
Partial-Peak	8:30 p.m. to 10:30 p.m. 8:30 a.m. to 4:30 p.m.	8:30 a.m. to 10:30 p.m.	
Off-Peak	10:30 p.m. to 8:30 a.m.	10:30 p.m. to 8:30 a.m.	All Day

PACIFIC GAS AND ELECTRIC COMPANY

TABLE B

Capacity Loss Adjustment Factors
for Non-Remote Facilities

<u>Interconnection Voltage</u>	<u>Loss Adjustment Factor</u>
Transmission	.989
Distribution	.991

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

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

TABLE C

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

Operation Date Year	Life of Contract																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	20	25	30
1982	73	59	47	43	40	38	38	38	39	44	48	52	55	58	61	72	79	84
1983	44	32	30	29	28	29	30	32	39	44	48	52	56	59	62	73	81	87
1984	18	21	23	23	24	27	30	37	44	49	54	58	62	65	68	80	88	94
1985	26	26	25	27	29	33	42	49	56	61	65	69	73	76	79	91	99	105
1986	26	25	27	30	35	46	55	62	68	73	77	81	85	88	91	103	111	118
1987	24	28	32	38	52	62	70	77	82	87	91	95	98	101	104	116	125	132

The following sections shall apply only to hydroelectric projects

C-6 DETERMINATION OF NATURAL FLOW DATA

Natural flow data shall be based on a period of record of at least 50 years and which includes historic critically dry periods. In the event Seller demonstrates that a natural flow data base of at least 50 years would be unreasonably burdensome, PGandE shall accept a shorter period of record with a corresponding reduction in the averaging basis set forth in section C-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 to compile the natural flow data to determine the theoretical project operation.

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.

C-7 THEORETICAL PROJECT OPERATION STUDY

Based on the monthly natural flow data developed under Section C-6 a theoretical operation study shall be prepared by Seller. Such a study shall identify the monthly capacity rating in kW and the monthly energy production in kWh. 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 Facility 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 during each month shall assume an even distribution of generation throughout the month unless Seller can demonstrate that the Facility will be dispatchable. For the study to show monthly capacity ratings, the Facility shall be capable of operating during all on-peak hours in the peak months on PGandE's area system, which are presently the months of June, July, and August. If the project does not have this capability throughout a month, the capacity rating and energy generation in that month of that year shall be set at zero for purposes of this theoretical operation study.

C-8 DETERMINATION OF AVERAGE DRY YEAR CAPACITY RATINGS

Based on the results of the theoretical project operation study developed under Section C-5, the average dry year capacity rating shall be established for each month. The average dry year shall be based on the

average of the five years of the lowest annual generation as shown from the minimum 50-year natural flow data or mutually agreed upon by the Parties. Once such years of lowest annual generation are identified, the monthly capacity rating is determined for each month by averaging the capacity ratings from each month of those years. The contract capacity shown on Article 2(a) shall not exceed the lowest monthly capacity ratings for the peak months on the PGandE system, which are presently the months of June, July and August.

C-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 D;
- (2) A topographic project map which shows the location of all aspects of the Facility and locations of stream gauging stations used to determine natural flow data;
- (3) A discussion of all major factors relevant to project operation; and
- (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 C-6 and are consistent with generally accepted engineering practices.

Upon written request by PGandE, Seller shall allow PGandE to review Seller's theoretical operation study.

C-10 ILLUSTRATIVE EXAMPLE

- 1) Determine natural flows - These flows are developed based on historic stream gauging records and are compiled by month, for a long-term period (normally at least 50 years or more) which covers dry periods which historically occurred in the 1920's and 30's and more recently in 1976 and 77. In all but very unique situations this will require application of hydrological engineering methods to records that are available, primarily from the USGS. Water Resources Data for California. Methods 1 and 2 of Section C-5 of the Power Purchase Agreement contemplate this process of compiling natural flow data.
- 2) Perform Theoretical Project Operation Study - Using the natural flow data compiled under (1) above a theoretical project 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.
- 3) Determine Average Dry Year Capacity Ratings - After the theoretical project operation study is complete the five years in which the annual generation (kWh) was 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 contract capacity is then set by the Seller based on the average dry year capacity ratings and the minimum requirements of Appendix C. An example project is shown in the attached completed Table D.

TABLE D
(1 of 2)
Theoretical Project Operation Summary

Project: New Creek 1 Dispatchable: Yes ☐ No ☒
 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: 2/

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

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

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

Maximum Contract Capacity: 410 kW

^{1/} For this to be less than 100%, Facility must be dispatchable.

^{2/} If Facility has a variable head, operating curves should be provided.

TABLE D
(2 of 2)
THEORETICAL PROJECT OPERATION SUMMARY

Project: _____ Dispatchable: Yes _____ No _____
 Water Source: _____
 Mode of Operation: _____
 Type of Turbine: _____ Design Flow _____ Design Head _____

Operating Characteristics: ^{2/}

	Flow (cfs)	Head (feet) Gross Net	Output (kW)	Efficiency (%) Turbine Generator
Normal Operation				
Maximum Operation				
Minimum Operation				

Average Dry Year Operation - Based on the average of the following lowest generation years: _____, _____, _____, _____, _____.

Month	Energy Generation (kWh)	Capacity Output (kW)	Percent of Total Hours Operated ^{1/}
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
Maximum Contract Capacity:	_____		

^{1/} For this to be less than 100%, Facility must be dispatchable.
^{2/} If Facility has a variable head, operating curves should be provided.

APPENDIX D
ADJUSTMENT OF CAPACITY PAYMENTS
IN THE EVENT OF TERMINATION OR REDUCTION

CONTENTS

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APPENDIX D

ADJUSTMENT OF CAPACITY PAYMENTS IN THE EVENT OF TERMINATION OR REDUCTION

D-1 GENERAL PROVISIONS

a) This Appendix shall be applicable in the event there is a contract termination or a capacity sale reduction and Seller is receiving capacity payments.

b) The Parties agree that the amount which PGandE pays Seller for the capacity which Seller makes available to PGandE is based on the agreed value to PGandE of Seller's performance of capacity obligations during the full period of the term of agreement. The Parties further agree that in the event PGandE does not receive such full performance by reason of a contract termination or a capacity sale reduction:

- (1) PGandE shall be deemed damaged by reason thereof,
- (2) it would be impracticable or extremely difficult to fix the actual damages to PGandE resulting therefrom,
- (3) the refunds and payments as provided in sections D-2 and D-3, as applicable, are in the nature of adjustments in capacity prices and liquidated damages, and not a penalty, and are fair and reasonable, and
- (4) such refunds and payments represent a reasonable endeavor by the Parties to estimate a fair compensation for the reasonable losses that would result from such termination or reduction.

c) In the event of a capacity sale reduction, the quantity by which the contract capacity is reduced shall be used to calculate the payments due PGandE in accordance with sections D-2 and D-3, as applicable.

d) Seller shall be invoiced by PGandE for all refunds and payments due under this Appendix and the special facilities agreement.

e) If Seller does not make payments pursuant to paragraph D-1(d), PGandE shall have the right to offset any amounts due it against any present or future payments due Seller.

f) Notices of termination shall be made in accordance with section A-18 of Appendix A.

D-2 TERMINATION WITH PRESCRIBED NOTICE

In the event Seller terminates this entire Agreement, or all or part of the contract capacity thereof, with the following prescribed written notice:

Amount of <u>Contract Capacity</u> Terminated or Reduced	Length of Notice Required
1,000 kW or under	3 months
1,001 to 9,999 kW	9 months
10,000 to 25,000 kW	12 months
25,001 to 50,000 kW	36 months
50,001 to 100,000 kW	48 months
over 100,000 kW	60 months

Then the following provisions shall apply:

- (1) With respect to the amount by which the contract capacity is reduced, Seller shall refund to PGandE an amount equal to the difference between 1) the capacity payments already paid by PGandE, based on the original term of agreement and 2) the total capacity payments which PGandE would have paid based on the period of Seller's actual performance using the adjusted capacity price. Additionally Seller shall pay interest, compounded monthly, on all outstanding overpayments, at the prime rate in effect on the first of each month as published from time to time by Bank of America.
- (2) From the date the termination notice is received to the date of actual termination, PGandE shall make capacity payments based on the adjusted capacity price for the amount of contract capacity being terminated.
- (3) PGandE shall continue to pay for the amount of contract capacity not being terminated, if any, at the original contract capacity price.

D-3 TERMINATION WITHOUT PRESCRIBED NOTICE

a) If Seller terminates this Agreement, or all or a part of the contract capacity thereof, without the notice prescribed in paragraph D-2, the provisions prescribed in section D-2 will all apply. Additionally:

b) Seller shall pay PGandE a one-time payment equal to the amount of contract capacity being terminated times the difference between the current capacity price on the date of termination for a term equal to the balance of the term of agreement and the contract capacity price, pro-rated for the length of notice given, if any, by multiplying by one minus the ratio of the actual number of months notice given to the prescribed length of notice (as set forth in paragraph D-2). In the event that the current firm capacity price is less than the contract capacity price, no payment under this paragraph D-3 shall be due either Party.

APPENDIX F

STANDARD OFFER #3

POWER PURCHASE AGREEMENT

for

AS-DELIVERED CAPACITY AND ENERGY

from

FACILITIES OF 100 KILOWATTS OR LESS

PACIFIC GAS AND ELECTRIC COMPANY

STANDARD OFFER #3

POWER PURCHASE AGREEMENT

FOR

AS-DELIVERED CAPACITY AND ENERGY

FROM

FACILITIES OF 100 KILOWATTS OR LESS

MAY 1982

AS-DELIVERED CAPACITY AND ENERGY
FROM
FACILITIES OF 100 KILOWATTS OR LESS

POWER PURCHASE AGREEMENT
BETWEEN

AND
PACIFIC GAS AND ELECTRIC COMPANY

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

1. Seller states that its facility located at _____ and described as Make _____, Model _____, Serial No. _____, fuel or energy source _____, and having a nameplate output rating of _____ kW, _____ volts, _____ phase, 60 hertz will be ready to deliver power for sale on or about _____.
2. PGandE shall pay Seller for as-delivered capacity and energy, on and after the date PGandE gives its written approval for parallel operation, at prices authorized from time to time by the California Public Utilities Commission (CPUC).
3. Seller shall pay for designing, installing, operating, and maintaining the facility in accordance with all applicable laws and regulations and shall comply with PGandE's electric tariff (Rule No. 21).
4. Seller shall deliver the as-delivered capacity and energy at the agreed point of interconnection with PGandE's system as shown in Appendix A.
5. PGandE shall, at its expense, furnish and install a standard watt-hour meter (and current transformers if required) in a meter socket and enclosure equipment provided and installed by Seller at or near the point of interconnection. At Seller's option and expense, PGandE shall furnish and install a time-of-delivery meter pursuant to a separate special facilities agreement referred to in PGandE's electric tariff (Rule No. 21).
6. Seller shall (i) maintain the facility and interconnection facilities, except facilities installed by PGandE, in conformance with all applicable laws and regulations, (ii) obtain any governmental authorization and permits required for the construction and operation thereof, and (iii) manage the facility and interconnection facilities in a safe and prudent manner. If at any time Seller does not hold such authorizations and permits, PGandE may refuse to accept deliveries of power hereunder.
7. (a) PGandE may enter Seller's premises (a) to inspect at any reasonable times Seller's protective devices and read or test meters, and (b) to disconnect, without notice, the interconnection facilities if, in PGandE's opinion, a hazardous condition exists and such immediate action is necessary to protect persons, or PGandE's facilities, or other customers' facilities from damage or interference caused by Seller's facility, or lack of properly operating protective devices.
(b) PGandE shall not be obligated to accept or pay for and may require Seller to interrupt or reduce deliveries of as-delivered capacity and energy 1) when necessary in order to construct, install, maintain, repair, replace, remove, investigate, or inspect any of its equipment or part of its system, or 2) if it determines that curtailment, interruption, or reduction is necessary because of emergencies, forced outages, force majeure, operating conditions on its system, or compliance with prudent electrical practices.
(c) In anticipation of a period of hydro spill conditions, as defined by the CPUC, PGandE may notify Seller that any purchases of energy from Seller during such period shall be at hydro savings prices quoted by PGandE. If Seller delivers energy to PGandE during any such period, Seller shall be paid hydro savings prices for those deliveries in lieu of prices which would otherwise be applicable. The hydro savings prices shall be calculated by PGandE using the following formula:

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

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.

(d) Whenever possible, PGandE shall give Seller reasonable notice of the possibility that interruption or reduction of deliveries under subsections (a) or (b), above, may be required. 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. Before interrupting or reducing deliveries under subsection (b), above, and before invoking hydro savings prices under subsection (c) 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.

8. 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 damages, including property of either Party, resulting from or arising out of (i) the engineering, design, construction, maintenance, or operation of or (ii) the making of replacements, additions, or betterments to, the indemnitor's facilities. This indemnity and save harmless provision shall apply notwithstanding the active or passive negligence of the indemnitee. Neither Party shall be indemnified for 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.
9. Each Party shall be responsible for protecting its facilities from possible damage by reason of the 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.
10. This Agreement shall be in effect when signed by the Seller and PGandE for an initial term of one year and shall remain in effect thereafter month to month unless terminated by either Party on 30 (thirty) days advance written notice to the other.
11. Any notice required under this Agreement shall be in writing and mailed at 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 below. Changes in such designation may be made by notice similarly given.

All written notice shall be directed as follows:

to PGandE: Pacific Gas and Electric Company
Attention: Manager - Commercial Department
77 Beale Street
San Francisco, CA 94106

to Seller: _____

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

Appendix A - POINT OF INTERCONNECTION LOCATION SKETCH
Appendix B - INSURANCE

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

(SELLER)

BY: _____

(Type Name)

TITLE: _____

DATE SIGNED: _____

Mailing Address: _____

PACIFIC GAS AND ELECTRIC COMPANY

BY: _____

(Type Name)

TITLE: _____

DATE SIGNED: _____

APPENDIX A

POINT OF INTERCONNECTION LOCATION SKETCH

(check one)

Seller has chosen to sell PGandE ☐ Net Energy Output
☐ Surplus Energy Output

APPENDIX B

INSURANCE

B-1. WORKERS' COMPENSATION

Seller shall furnish PGandE a certificate of workers' compensation or self-insurance indicating compliance with the Labor Code of California, including Employer's Liability insurance with a minimum of \$2,000,000 for injury or death of any one person. This certificate should provide 30-day written notice to PGandE prior to cancellation, termination, alteration, or material change of such insurance.

B-2. COMPREHENSIVE GENERAL AND COMPREHENSIVE AUTOMOBILE LIABILITY COVERAGE

a) Seller shall maintain during the performance hereof, Comprehensive General Liability and Comprehensive Automobile Liability of not less than \$3,000,000 combined single limit or equivalent for bodily injury, personal injury, and property damage as the result of any one occurrence.

b) Comprehensive General Liability shall include coverage for Premises-Operations, Owners and Contractors Protective, Products/Completed Operations Hazard, Explosion, Collapse, Underground, Contractual Liability, and Broad Form Property Damage including Completed Operations. Comprehensive Automobile Liability shall include coverage for Owned, Hired, and Non-Owned automobiles.

c) Such insurance shall provide for 30-day written notice to PGandE prior to cancellation, termination, alteration, or material change of such insurance.

B-3. ADDITIONAL INSURANCE PROVISIONS

a) Evidence of coverage described above in Sections B-1 and B-2 shall state that coverage provided is primary and is not excess to or contributing with any insurance or self-insurance maintained by PGandE.

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

c) Seller shall furnish the required certificates and endorsements to PGandE prior to commencing performance hereof.

d) All insurance certificates, 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 of Insurance
77 Beale Street, Room E-280
San Francisco, CA 94106