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TABLE OF CONTENTS

1.	Introduction.....	1
2.	WPRS Background.....	2
3.	WPRS Implementation Issues.....	4
4.	California Wind Resource Areas.....	6
5.	Staff Summary.....	7
	A. Industry Performance.....	7
	B. Industry Production and Capacity Trends.....	9
	1. Statewide.....	9
	2. Resource Areas.....	10
	3. Turbine Size.....	12
	4. Turbine Types.....	13
	5. Domestic and Foreign Turbines.....	14
	6. Ten Largest Wind Turbine Manufacturers.....	15
	7. Ten Largest Wind Project Operators.....	16
	C. Wind Project Costs.....	17
	D. Wind Operator Comments.....	18
6.	WPRS Annual Summary Tables.....	19
7.	WPRS Data.....	26
	Alphabetical List of Operators and Other Participants.....	27
	Wind Data Categories.....	28
	Altamont Pass.....	30
	Boulevard.....	53
	Carquinez Strait.....	56
	Salinas Valley.....	58
	San Geronio Pass.....	59
	Tehachapi Pass.....	80
	Appendix A. Operator Comments.....	108
	Appendix B. Non-operating Wind Projects.....	110
	Appendix C. Wind Turbine Manufacturers.....	112
	Appendix D. WPRS Regulations.....	117

## 1. INTRODUCTION

Although the wind industry is very young, it has already made a substantial impact on the California energy market; wind development in the last four years represents 14% of all new electric capacity additions. Today, California has over 1000 megawatts of wind generating capacity, and in 1985 produced enough output to meet the annual electricity needs of over 110,000 typical California homes. As a result, California has become the leader in wind development with over 95 percent of the world's total generating capacity.

Recognizing the importance of this rapidly growing industry, the California Energy Commission (CEC) has established regulations requiring all wind operators with projects rated greater than 100 kw and who sell electricity to a power purchaser, to report quarterly performance and related project information to the CEC. The Commission has used this information to complete its first year of quarterly reports for the Wind Performance Reporting system.

This annual report provides a detailed compilation of all 1985 reported data. From this data, staff have summarized wind industry performance information, wind

industry trends for production and capacity, cost information and operator comments. Additionally, tables have been included that organize the data according to statewide totals, resource areas, turbine sizes, turbine types, turbine manufacturers, project operators and domestic and foreign turbines.

It is important to recognize that the information and results from this report have limitations. First, this report only includes wind data for one year. A credible evaluation of an entire industry would require at least several years' worth of data. This is especially true for an industry such as wind which depends so heavily upon weather conditions that vary from year to year. Moreover, an operator's or manufacturer's current product may not be properly represented in the report because old and new turbine data are grouped together. Often, newer equipment will be more efficient and reliable. Further, performance data does not consider other important variables such as cost per kw, durability of the system and quality of the site's wind resource. Nonetheless, with this performance data it is possible to make some valuable observations on California's wind industry.

## 2. WPRS BACKGROUND

### What is the Wind Performance Monitoring System (WPRS)?

California law requires the California Energy Commission (CEC) to serve as a central repository in state government for the collection and dissemination of information on energy supplies. Relative to wind energy, the Commission adopted WPRS regulations on November 28, 1984. Starting in January, 1985, these regulations required all California wind operators with projects rated over 100 kw to provide quarterly wind performance reports if they sold electricity to a power purchaser. These reports include actual energy production and related project information. In addition, all California power purchasers are required to file quarterly reports documenting the power purchased from these wind operators. The CEC uses this information to produce quarterly and annual reports on wind industry performance in California.

### Why Were WPRS Regulations Developed?

WPRS regulations were instituted for several reasons. First, the industry, investors, financial community and government agencies needed actual performance information to better evaluate the status of wind technology. Second, information that would help minimize tax abuse would benefit everybody

involved in wind development: the industry would have less "bad press" and better public opinion; investors would be better able to make informed investments, and government and public monies would be allocated to increasingly better performing projects. The WPRS regulations also produce performance information that is useful for government tracking of energy supplies and thereby allow for better planning of the state's energy needs.

It was also recognized that WPRS information would be very important if federal tax credits for wind expired as expected at the end of 1985. With tax credits, project financing had been primarily venture capital from private investors who were willing to take a substantial risk on the technology due to the tax benefits they would receive. Without federal tax credits, wind development in 1986 will be driven by revenues from power sales and utilize conventional financing from institutional lenders. WPRS information will be especially needed to establish performance credibility with these institutional lenders because they will be less inclined to take risks on the technology than private investors.

What Information Do WPRS Reports Provide? WPRS quarterly reports include the following information for all wind projects in California rated at 100 kw or greater which sell electricity: turbine manufacturers, model numbers, rotor diameters and kw ratings; the number of cumulative and new turbines installed; the projected output per turbine; the output for each turbine model, and the output for the entire project.

What Information Do WPRS Quarterly Reports Not Provide? WPRS reports do not provide information on all wind activity in California. Nonoperating wind projects are not required to report performance information. By deduction, the absence of a project from WPRS reports typically indicates that the project is not selling any power. Other capacity not reported includes all turbines that do not produce electricity for sale including those turbines installed by utilities, government organizations and research facilities. Current information indicates that this capacity exceeds 30 megawatts. WPRS reports also do not include cost information for individual projects and operators. Although cost information is reported for new projects, it is only reported in aggregated form. WPRS reports are also not readily able to provide a

breakdown of new and old turbine capacity. This is because turbines are usually reported together in groups combining old and new machines. If new capacity could be analyzed separately, it would be useful for tracking the improvements that appear to be occurring with wind technology.

### 3. WPRS IMPLEMENTATION ISSUES

A number of problems were encountered and resolved this first year of reporting WPRS results. The major implementation issues addressed are discussed below.

Getting operators to initially participate. There was a longer and more difficult implementation period than expected. Most operators had to be contacted to explain the reporting process and to stress their obligation to report as established by the WPRS regulations.

Informing operators on how to fill out WPRS forms. The first reports filed by many operators had numerous errors and incorrect interpretations on how to enter data. This required further phone contact and time for operators to file corrected reports.

Validating performance data. It was originally intended that utility quarterly reports would be used to validate operator output data. However, numerous problems occurred. First, some utilities were not providing information according to a calendar quarter. Second, utility data was only provided for the operator who filed a power sales agreement. However, in many cases more than one project was being reported under a single utility contract making it difficult to

verify individual project output figures. In order to establish a more reliable validation procedure, staff added utility receipts as a voluntary additional submission item to be filed with quarterly reports. This change also added extra staff time for contacting all operators to explain this new submission item. Operator reported output figures that have agreed with either submitted utility receipts or utility reported data have been noted as validated.

Operators who filed for confidentiality. The WPRS regulations include provisions for operators to file for confidentiality. Three operators filed requests for confidentiality the first quarter. Staff reviewed these requests and evaluated their merits according to guidelines for confidentiality established by state regulations. Based on this review, all requests for confidentiality were denied. No further requests have been filed since the first quarter.

Operators who failed to file. Utility quarterly reports informed CEC staff of all wind projects rated at 100 kw or greater that were selling power and should therefore be submitting WPRS reports. Those

operators that sold power but did not report were noted as failed to file. By the end of the year, only two operators continued failing to file. All the other operators who failed to file were either no longer selling power, or were taken over by another operator who since filed WPRS reports. Staff is currently resolving the situation with the two remaining failed to file operators.

Operators who filed reports with data missing. Numerous operators filed WPRS reports with some data items missing. The most common missing data item was the projected quarterly output per turbine. Apparently, some wind projects were sold with only annual output estimates. In other cases, staff has noticed that projected quarterly output information was included, but operators only divided an annual number by four and reported the same projected output figure for each quarter. This was also a problem because these projected outputs were misinformation not representing accurate quarterly estimates based on wind resource variations. Other data was also missing to a much less degree. Staff will continue to try and work with operators to report complete information.

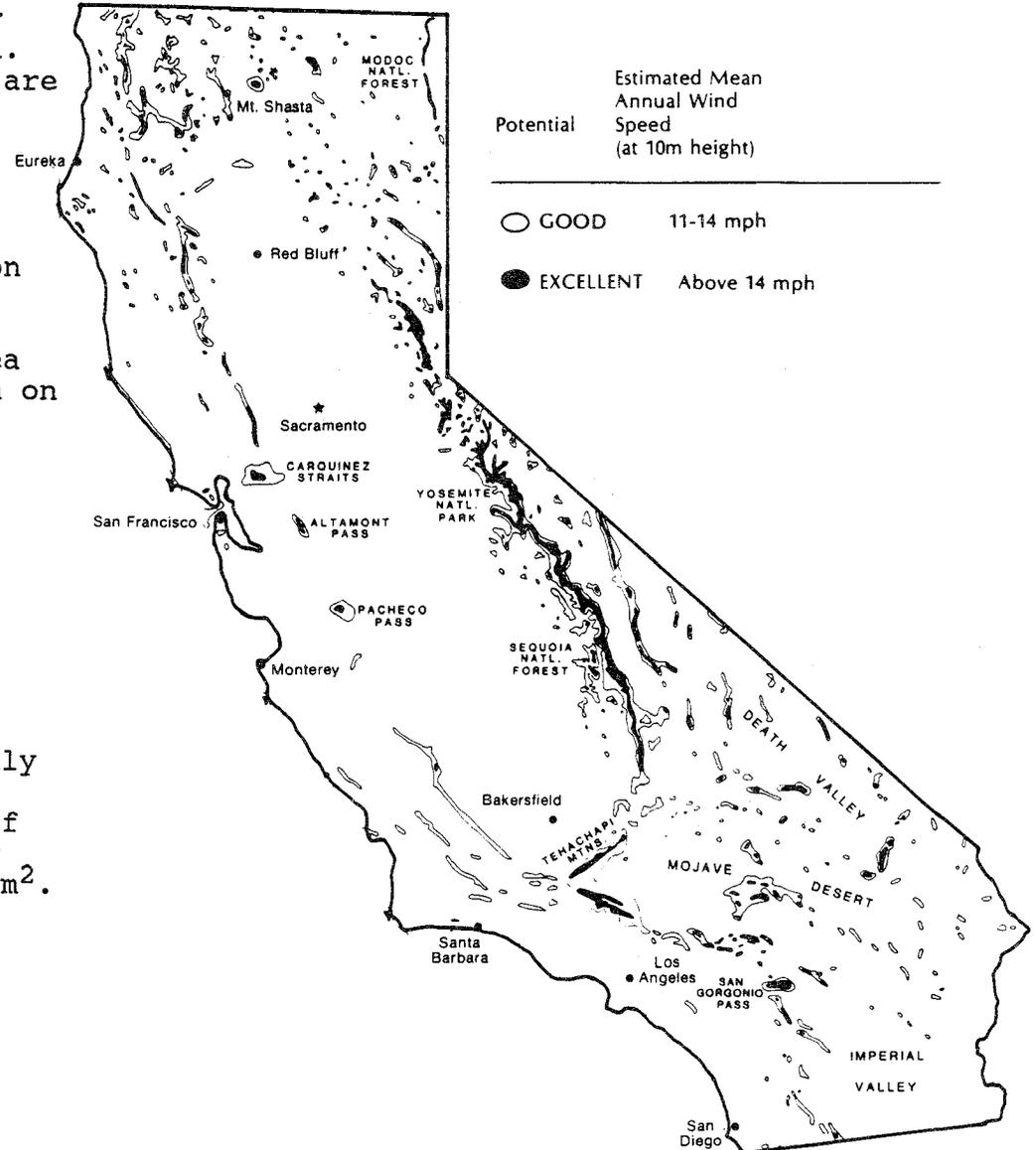
#### 4. CALIFORNIA WIND RESOURCE AREAS

The wind resource map on this page includes the geographic location and quality associated with the major wind resource areas in California. The following six resource areas are currently reporting wind project information:

- Altamont Pass
- Boulevard (resource area in San Diego County not shown on map)
- Carquinez Straits
- Salinas Valley (resource area in Monterey County not shown on map)
- San Geronio Pass
- Tehachapi Pass

Areas designated "good" are roughly equivalent to an estimated mean annual power at 10 meter height of 200 to 300 watts per square meter ( $W/m^2$ ) and excellent above  $300 W/m^2$ .

Source: A. Miller and R. Simon, "Wind Power Potential in California", San Jose State University, prepared for the CEC, May 1978.



## 5. STAFF SUMMARY

### 5.A INDUSTRY PERFORMANCE

Total Capacity. By the end of 1985, a cumulative capacity of 911 megawatts was reported to the WPRS program. This is much higher than the 858 megawatts reported in the WPRS 1985 Fourth Quarter report. The main reason for such a large increase is that additional installed capacity was reported too late to be included in quarterly reports by Flowind Corporation (45 megawatts) and Enertech Corporation (7 megawatts). This annual report includes updated quarterly information for both of these operators in the WPRS data section. Oak Creek also reported additional capacity not included in 1985 quarterly reports (33 megawatts), but their data was received too late to be included in this annual report. It should also be noted that staff's review of new 1986 data has revealed almost 50 megawatts of additional capacity that was installed before the end of 1985 but not reported until the first quarter of 1986. Apparently this capacity was not reported until 1986 because it was installed too late in 1985 to produce any measurable electricity output. Lastly, staff have been able to estimate 27 megawatts of capacity for the one operator who

has failed to file any reports, Airtricity. All of this capacity together totals approximately 1021 megawatts of wind capacity in California by the end of 1985.

Electricity Output. In 1985, the California wind industry produced approximately 671 million kwh of electricity. This is enough power to meet the annual electricity needs of over 110,000 typical California homes.

Electricity Production Percent of Projected. Although the production from California wind projects represents a substantial amount of electricity, the industry as a whole only produced 45% of the total electricity they projected they would produce during 1985. Industry observers and participants both agree that many wind developers have overstated their capabilities and provided projections that were not achievable. As this relatively new industry matures, it is expected that performance projections will improve in the future.

Capacity Factor. Capacity factors are a useful indication of performance. A capacity factor is the ratio of actual energy output (AC) to the amount of energy a

project would have produced if it operated at full rated power 24 hours a day over a given time period. There should be standardized testing of all wind turbines for a truly equal comparison, but currently there is no such program. Wind turbine ratings are based on widely varying miles per hour specifications and do not account for different blade swept areas.

Nonetheless, capacity factors are still a good indication of wind project performance. For this annual WPRS report, capacity factors have been calculated for each quarter and averaged for yearly estimates. The resulting statewide capacity factor for 1985 was 13%. This is substantially below 20 to 30% capacity factors most technical reports cite for wind turbines. The upper limit capacity factor estimated for wind technology ranges from 30 to 35%. Indeed, one project did achieve this upper limit with an annual capacity factor of 31%.

The low performance indicated for the industry as a whole is consistent with the low percent of projected electricity production. However, it appears that the statewide average performance may be adversely effected by a substantial amount of older turbines that are less reliable and less efficient

less reliable and less efficient than the turbines currently being installed. Unfortunately, with WPRS data for only one year, it was not possible to track industry improvements. However, staff does plan to disaggregate new turbine performance data in future years to evaluate performance gains by the wind industry.

It should also be noted that the capacity factors for specific projects will be lower during quarters where a substantial amount of new capacity is installed. This is because the new turbines will typically not have the advantage of a full operational quarter and time is needed for a break-in period before peak operating conditions are reached. This is particularly a factor when considering performance figures in this annual report, because wind capacity almost doubled in 1985.

5.B INDUSTRY PRODUCTION AND CAPACITY TRENDS

Statewide

As predicted, there was a tremendous surge in wind development in 1985 to take advantage of expiring federal tax credits. In fact, new capacity represented over 40% of all California wind capacity by the end of 1985. Thus, California's wind industry almost doubled in 1985. Also as expected, most of this development occurred the final quarter with over 70% of all new 1985 capacity installed during this period (Figure 1).

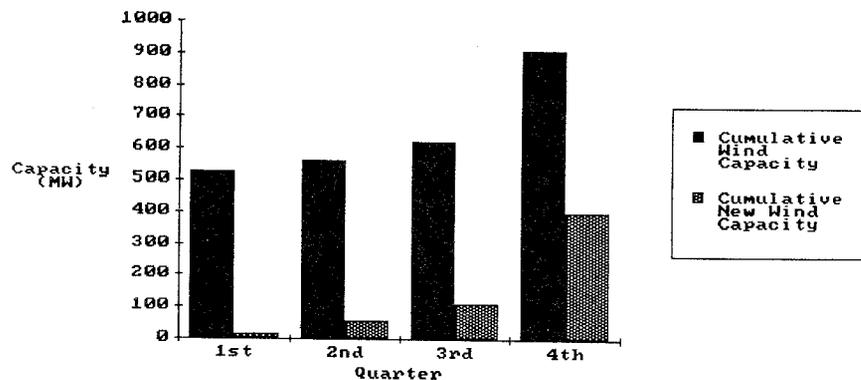


Figure 1: Statewide Wind Capacity

Wind output in 1985 was consistent with the typical California wind resource profile; low winds at the beginning and end of the year with high winds during spring and summer when the heating season creates a natural draw of cool coastal air into hot valleys and deserts. The data showed that approximately 75% of all annual output was produced in the second and third quarters of 1985 (Figure 2). The higher output for the fourth quarter than the first quarter reflects the substantial increase in wind capacity installed over the course of the year.

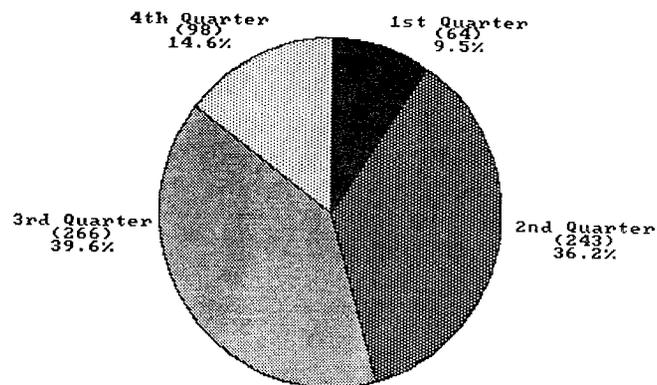


Figure 2: Statewide Output (millions of kwh)

Quarterly capacity factors were very consistent with the California wind resource profile just discussed. The capacity factors were 6%, 20%, 19% and 5% respectively for the first, second, third and fourth quarters (Figure 3). Again, the annual average statewide capacity factor was 13%.

### Resource Areas

Although wind projects are reported to WPRS for six different resource areas in California, virtually 100% of all California capacity and output occurs in three resource areas: Altamont Pass, San Gorgonio Pass and Tehachapi Pass. All three of these areas are narrow mountain passes leading into hot and dry valley or desert regions. Among these three resource areas 53% of all capacity is in the Altamont Pass. The remaining 47% of capacity is split between San Gorgonio Pass (22%) and Tehachapi Pass (25%) (Figure 4). Growth as a percent of existing capacity was highest in Tehachapi (51%) followed by San Gorgonio (48%) and Altamont (38%). Quantitatively, most new capacity was still developed in the Altamont Pass.

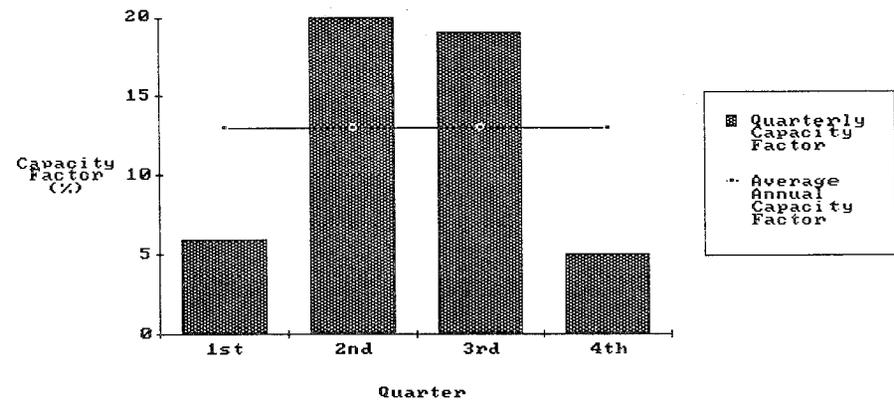


Figure 3: Statewide Capacity Factors

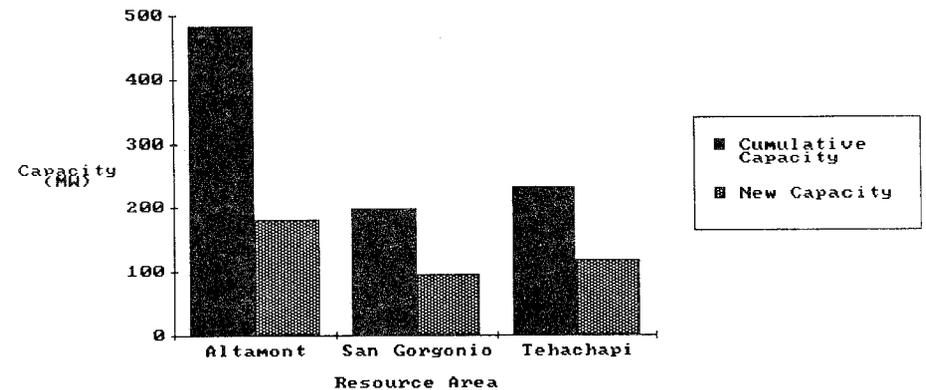
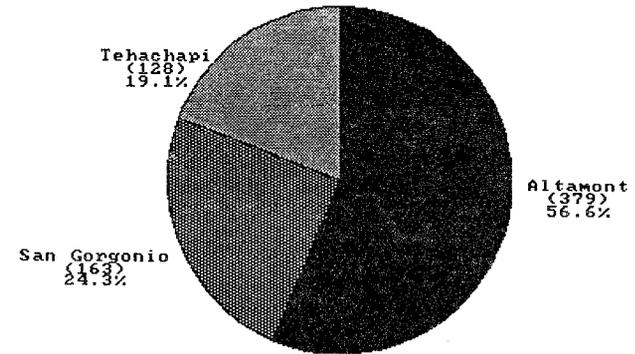
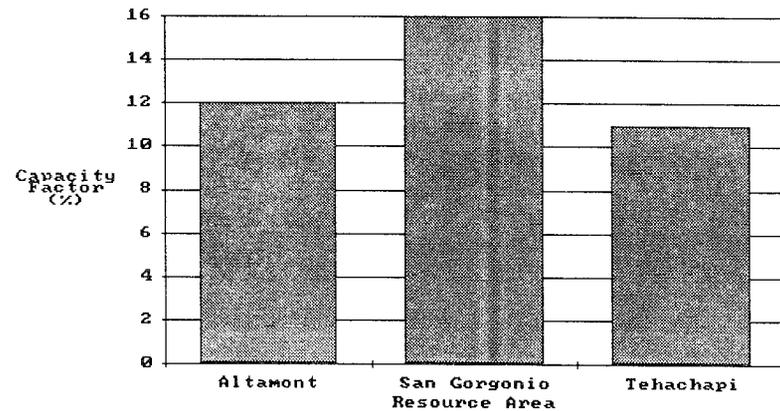


Figure 4: Resource Area Capacity

The kwh output and percent of total statewide output for each resource area are shown in Figure 5. Compared with the capacity distribution from Figure 4, Altamont (57% output vs. 53% capacity) and San Gorgonio (24% output vs. 22% capacity) produced a greater proportion of output and Tehachapi (19% output vs. 25% capacity) produced a lesser proportion of output. San Gorgonio had the highest capacity factor, 16%, of these three resource areas (Figure 6). The other two resource areas had relatively close capacity factors: 12% for Altamont and 11% for Tehachapi. It is possible that San Gorgonio's higher capacity factor could be partly attributed to the generally newer machines in this resource area. This is because many San Gorgonio wind developers met substantial delays getting local government approvals for their projects.



**Figure 5: Resource Area Output**  
(millions of kwh)



**Figure 6: Resource Area Capacity Factors**

### Turbine Size

Although many industry specialists are predicting that turbine sizes in excess of 300 kw will be the trend for future wind development, 1985 data indicates that turbines in the 51 to 100 kw size category are currently the dominant size. This turbine size accounted for two-thirds of both new and cumulative wind capacity (Figure 7). Among the remaining turbine size categories, only the 200+ kw turbines showed a dramatic growth with capacity increasing by almost 80%. The capacity percentages for all turbine size categories are: 10% for 0 to 50 kw, 67% for 51 to 100 kw, 7% for 101 to 150 kw, 3% for 151 to 200 kw and 12% for greater than 200 kw.

Capacity factors were fairly close among turbine sizes below 200 kw, but significantly lower for turbines greater than 200 kw (Figure 8). The actual capacity factors were: 13% for the 0 to 50 kw size category, 12% for the 51 to 100 kw size category, 14% for both the 101 to 150 kw and 151 to 200 kw size categories and 8% for turbines greater than 200 kw.

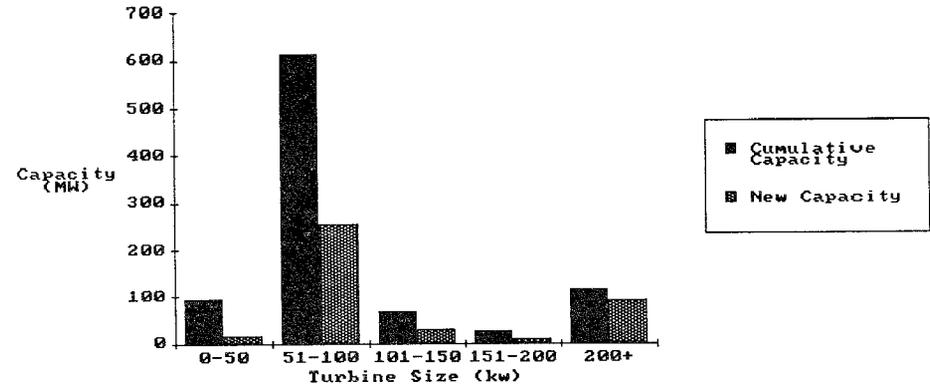


Figure 7: Capacity By Turbine Size

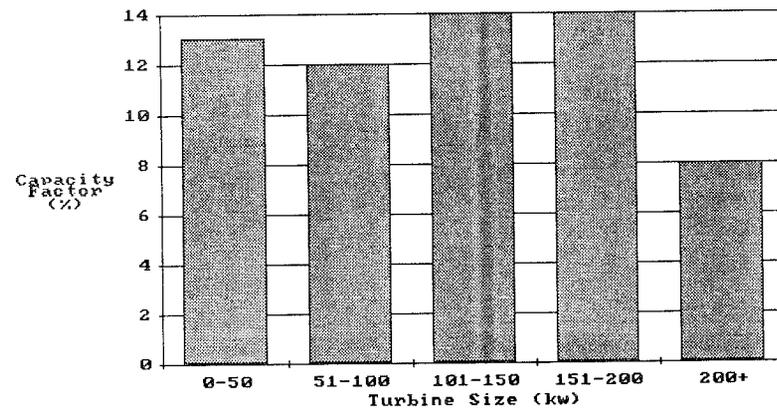


Figure 8: Capacity Factors By Turbine Size

## Turbine Types

Based on the data reported, staff was able to differentiate between horizontal and vertical axis machines, but not other important turbine characteristics such as downwind and upwind orientations, number of blades, and breaking devices. The data on turbine axis shows that the California wind industry is clearly dominated by horizontal axis machines which accounted for 89% of all capacity and 87% of new capacity (Figure 9). Comparing performance, vertical and horizontal axis turbines were very similar, both with a capacity factor of 12%. It is interesting to note however, that vertical and horizontal axis turbines have very different average sizes: the mean size for vertical axis turbines, 182 kw, is almost twice the mean size for horizontal axis turbines, 93 kw (Figure 10).

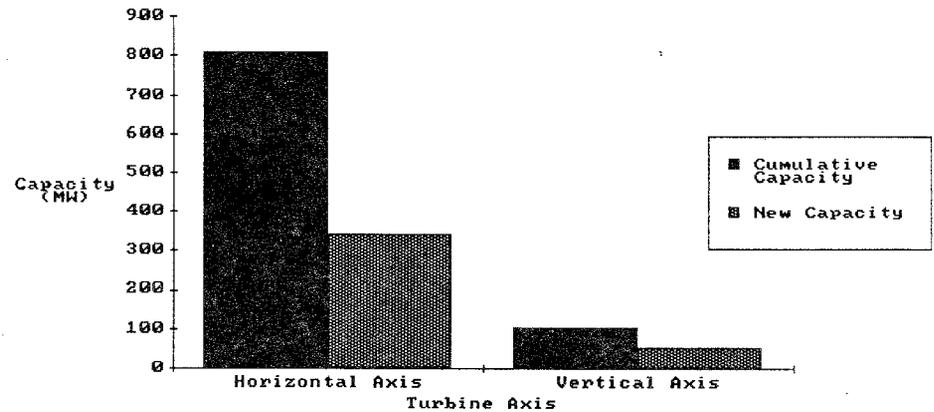


Figure 9: Capacity By Turbine Axis

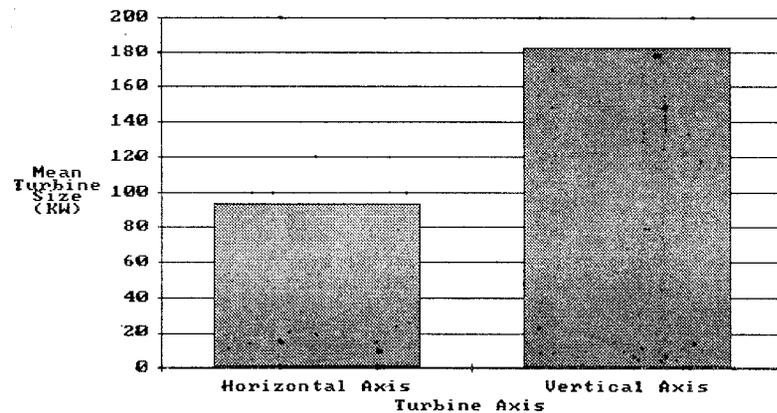


Figure 10: Mean Turbine Size By Turbine Axis

### Domestic and Foreign Turbines

There has been widespread interest in how domestic and foreign turbines compare. Relative to total California wind capacity, domestic turbines dominate with almost two-thirds of all capacity. However, data on new capacity reveals that there is a trend to reduce this gap with foreign turbines accounting for 45% of all new capacity (Figure 11). Specifically, in 1985 179 megawatts of foreign turbines were installed compared to 219 megawatts of domestic turbines. This new foreign wind capacity represents 60% of the total foreign capacity while new domestic capacity only represents 36% of total domestic capacity. Thus, foreign turbine performance data will benefit considerably from generally newer machines. In fact, foreign turbines had a capacity factor of 17% compared to 10% for domestic turbines (Figure 12).



Figure 11: Capacity for Domestic and Foreign Turbines

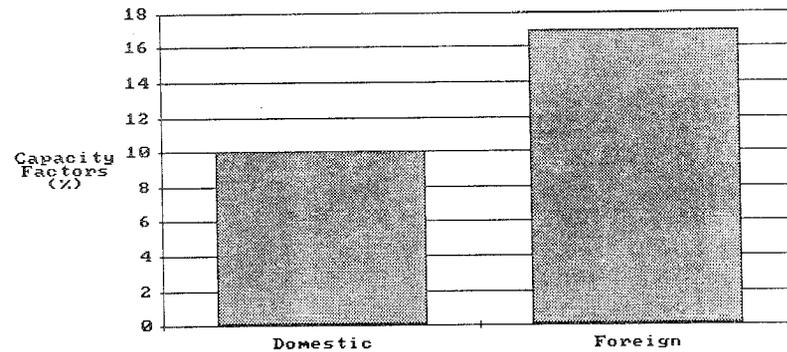


Figure 12: Capacity Factors for Domestic and Foreign Turbines

The Ten Largest Wind Turbine Manufacturers

The ten largest wind turbine manufacturers represent over 80% of the California wind generating capacity. The three largest manufacturers alone (U.S. Windpower, Fayette, and Vestas) represent over 50% of all capacity. The ten largest manufacturers and their individual generating capacities are shown in Figure 13. There is a wide range of capacity factors among these manufacturers (Figure 14). The manufacturers with the highest capacity factors are Micon (23%), Bonus (22%), Carter (19%), U.S. Windpower (17%) and Vestas (16%).

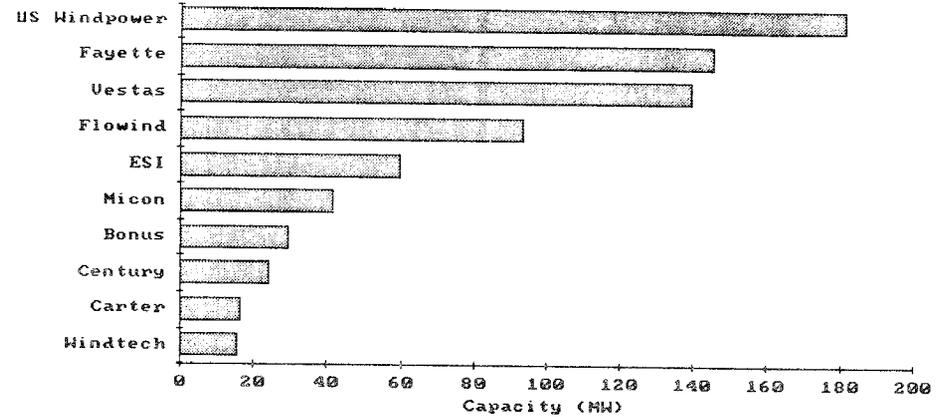


Figure 13: Capacity for 10 Largest Manufacturers

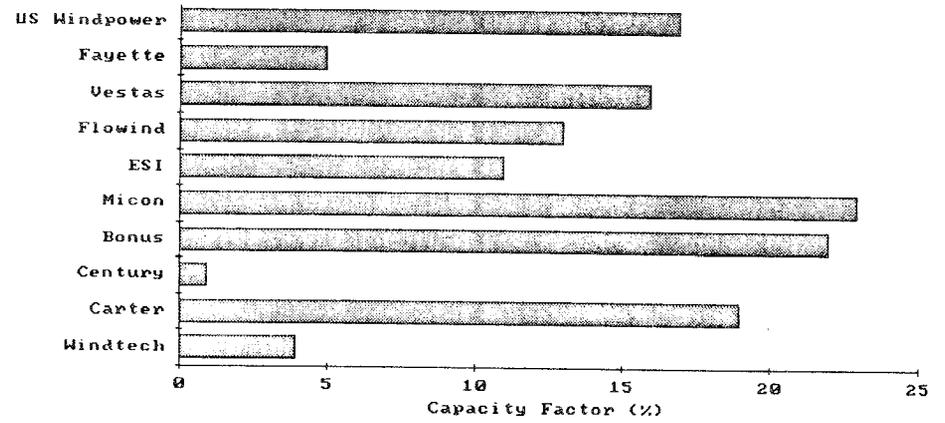


Figure 14: Capacity Factors for 10 Largest Manufacturers

The Ten Largest Wind Project Operators

Similar to the ten largest wind turbine manufacturers, the ten largest wind project operators represent over 80% of the California wind generating capacity and the three largest operators (U.S. Windpower, Fayette and Zond) represent 53% of all California capacity (Figure 15). Many of these larger project operators are also manufacturers.

Performance for the largest wind project operators, similar to the largest manufacturers, is also quite varied (Figure 16). The operators with the highest capacity factors are Seawest (22%), U.S. Windpower (17%) and Zond (15%). It should also be noted that San Gorgonio Farms, the 14th largest operator (not shown in Figures 15 and 16), had the highest capacity factor, 31%. This project is significant, because it confirms the potential of wind technology performance when a developer combines quality machines and a good wind resource site.

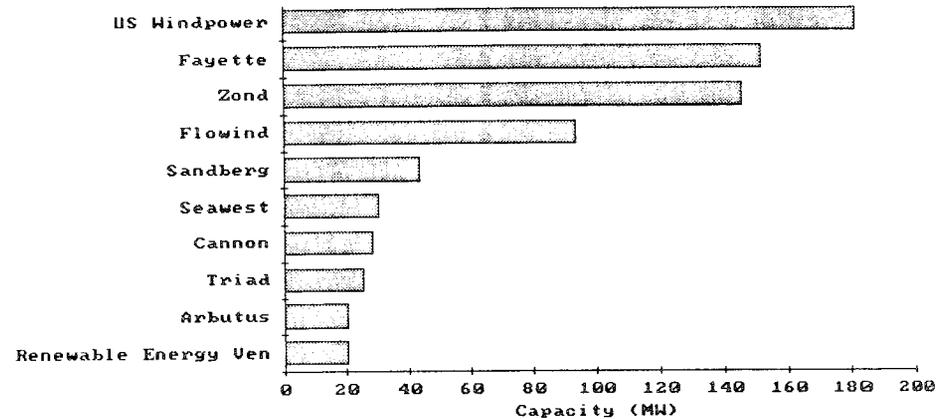


Figure 15: Capacity for 10 Largest Operators

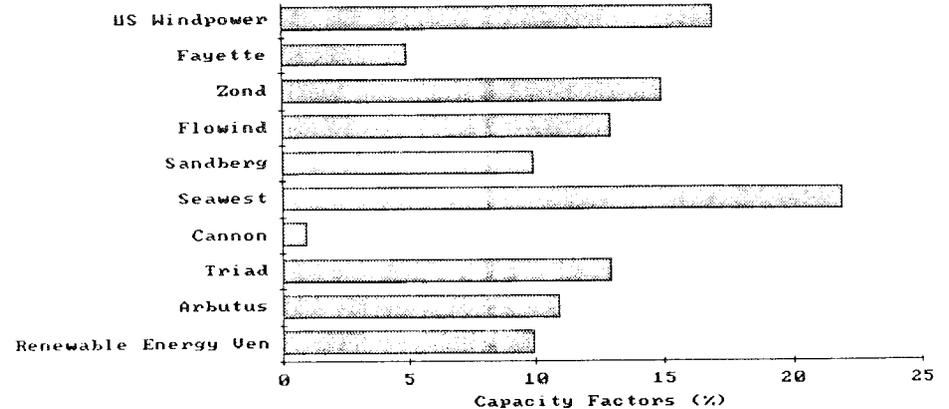


Figure 16: Capacity Factors for 10 Largest Operators

### 5.C WIND PROJECT COSTS

WPRS regulations require operators to submit cost data on all new turbines installed each reporting period. While regulations require operators to report this cost data on a specific project basis, these same regulations restrict the publication of this data to an aggregated format to ensure confidentiality.

Although operators reported 346 megawatts of new 1985 capacity, cost data was only provided for 128 megawatts of this new capacity. Staff is considering various options to resolve this reporting omission. Based on the cost data that was reported, the average weighted cost for wind projects was \$2,006/kw.

As indicated earlier, almost 50 megawatts of capacity was actually installed by the end of 1985, but not reported until the first quarter of 1986. However, since this capacity was financed in 1985, staff decided it should be considered with the other cost data reported in 1985. The average installed cost for the nonreported capacity was \$1,630/kw. Combining this cost data with the \$2,006/kw cost previously cited for reported projects lowers the average cost to \$1,887/kw for all wind projects installed in 1985.

Actual reported costs on an individual project basis varied widely from the average cost. The lowest cost reported was \$666/kw and the highest cost reported was \$2,300/kw.

5.D WIND OPERATOR COMMENTS

Comments were given by wind operators to clarify the data they gave in each of their quarterly WPRS reports. Previous reports have published these comments verbatim and should be referred to when evaluating the performance of specific wind projects. Looked at collectively, the majority of the comments explain why actual production was less than projected production and can be grouped into one of the six general comments listed in Table 1. The number of times each comment was cited each quarter and for the year are given. Note that these comments may also be applicable to other projects where operators have not submitted comments.

Operators were given the opportunity to submit comments on their projects for inclusion in this annual report. These comments are reproduced in Appendix A.

**Table 1: Operator Comments**

<u>Operator Comment</u>	<u>Frequency Cited</u>				
	<u>1st Qtr</u>	<u>2nd Qtr</u>	<u>3rd Qtr</u>	<u>4th Qtr</u>	<u>1985 Total</u>
1. Repairs, retrofit, or automatic shut-off caused down-time.....	8	9	6	10	33
2. Less wind than expected.....	10	6	7	9	32
3. Testing/check-out phase and/or only a partial quarter of operation for newly installed turbines.....	12	5	3	10	30
4. Project shut down due to technical problems, bankruptcy, etc.....	4	5	6	6	21
5. Utility interface difficulties such as overloaded substations.....	9	3	0	0	12
6. Line and transformer losses account for differences between reported output and utility records....	0	0	0	4	4

## 6. WPRS ANNUAL SUMMARY TABLES

The tables on the following pages include aggregated data for all wind projects that have submitted 1985 quarterly reports to the California Energy Commission as part of the WPRS program. These tables summarize detailed project information included in the following WPRS data section of this report. In addition to statewide information, the summary tables were designed to provide California wind project information for different resource areas, turbine sizes, turbine types, turbine manufacturers, turbine operators and for domestic and foreign turbines. Note that the totals for the various subcategories may not always add up to the statewide totals because there were a few projects where missing data did not allow all information to be sorted completely.

WPRS DATA SUMMARY TABLE

Data Category	Cum. Capacity (kw)	New Capacity (kw)	Output (kwh)	Actual /Proj. Output (%)	Proj. Capac. Factor (%)	Actual Capac. Factor (%)	Cum. Turbines	New Turbines
Statewide								
1st Quarter	524,776	17,055	63,981,620	35	17	6	7,035	165
2nd Quarter	563,056	39,656	242,986,863	48	43	20	7,290	409
3rd Quarter	623,749	52,540	266,140,273	53	38	19	8,118	531
4th Quarter	911,444	288,461	97,794,973	33	15	5	10,914	2,827
1985 Totals	911,444	397,712	670,903,229	45	28	13	10,914	3,922
Resource Area								
Altamont								
1st Quarter	295,210	9,240	24,077,802	40	9	4	3,460	92
2nd Quarter	327,984	20,480	139,570,814	51	39	20	3,801	161
3rd Quarter	368,032	40,155	170,638,874	54	39	21	4,216	415
4th Quarter	482,441	112,409	44,757,107	49	9	4	5,175	942
1985 Totals	482,441	182,284	379,044,597	51	24	12	5,175	1,610
San Gorgonio								
1st Quarter	87,327	4,400	22,552,320	52	24	12	1,519	22
2nd Quarter	111,491	14,104	56,633,810	43	57	24	1,867	202
3rd Quarter	126,111	6,400	58,464,797	49	46	21	2,167	53
4th Quarter	198,802	70,636	24,901,832	32	21	6	2,945	778
1985 Totals	198,802	95,540	162,552,759	44	37	16	2,945	1055
Tehachapi								
1st Quarter	134,084	3,005	16,987,350	20	38	6	1,870	46
2nd Quarter	122,079	4,940	46,267,349	46	43	18	1,575	40
3rd Quarter	128,104	5,985	36,630,900	49	26	13	1,698	63
4th Quarter	229,993	104,888	27,744,397	20	26	5	2,733	1,083
1985 Totals	229,992	118,818	127,677,571	32	33	11	2,733	1,232

WPRS DATA SUMMARY TABLE

Data Category	Cum. Capacity (kw)	New Capacity (kw)	Output (kwh)	Actual /Proj. Output (%)	Proj. Capac. Factor (%)	Actual Capac. Factor (%)	Cum. Turbines	New Turbines
Turbine Size								
0 - 50 kw								
1st Quarter	83,735	410	10,603,949	33	21	6	2,103	14
2nd Quarter	70,037	212	30,591,996	37	58	20	1,794	8
3rd Quarter	79,612	870	31,816,826	37	53	19	2,123	51
4th Quarter	93,385	15,888	14,683,208	22	21	7	2,486	408
1985 Totals	93,385	17,380	87,695,979	35	38	13	2,486	481
51 - 100 kw								
1st Quarter	356,243	11,795	44,535,370	36	7	6	4,466	127
2nd Quarter	398,467	30,224	164,560,051	49	42	19	4,995	370
3rd Quarter	443,527	44,920	186,078,146	56	37	19	5,475	477
4th Quarter	611,502	167,090	67,930,288	30	14	5	7,378	1,897
1985 Totals	611,502	254,029	463,103,855	49	25	12	7,378	2,871
101 - 150 kw								
1st Quarter	37,998	0	4,853,960	31	19	6	267	0
2nd Quarter	40,202	1,420	19,333,463	59	40	22	282	10
3rd Quarter	40,202	0	17,070,127	56	38	20	282	0
4th Quarter	67,488	27,143	7,882,158	42	17	5	515	232
1985 Totals	67,488	28,563	49,139,708	50	29	14	515	242
151 - 200 kw								
1st Quarter	23,000	4,600	2,070,695	38	11	4	115	23
2nd Quarter	23,000	0	11,638,800	62	38	23	115	0
3rd Quarter	23,000	0	12,528,899	67	38	25	115	0
4th Quarter	26,280	3,280	2,906,000	55	10	5	133	18
1985 Totals	26,280	7,880	29,144,394	60	24	14	133	41

WPRS DATA SUMMARY TABLE

Data Category	Cum. Capacity (kw)	New Capacity (kw)	Output (kwh)	Actual /Proj. Output (%)	Proj. Capac. Factor (%)	Actual Capac. Factor (%)	Cum. Turbines	New Turbines
Turbine Size continued								
200+ kw								
1st Quarter	23,800	250	1,917,646	30	12	4	84	1
2nd Quarter	31,350	7,800	7,977,245	35	34	12	104	21
3rd Quarter	37,790	6,750	10,551,419	43	29	13	131	27
4th Quarter	112,610	75,060	4,393,319	14	14	2	402	272
1985 Totals	112,610	89,860	24,839,629	31	22	8	402	321
Turbine Axis								
Horizontal Axis								
1st Quarter	472,268	12,655	58,402,380	36	17	6	6,707	143
2nd Quarter	508,594	38,236	209,809,368	47	43	19	6,948	399
3rd Quarter	566,169	48,790	235,106,946	52	39	19	7,770	540
4th Quarter	810,262	245,563	82,106,917	34	15	5	10,366	2,636
1985 Totals	810,262	345,244	585,425,611	45	29	12	10,366	3,718
Vertical Axis								
1st Quarter	52,508	4,400	5,579,240	29	17	5	328	22
2nd Quarter	54,462	1,420	24,698,291	55	38	21	332	10
3rd Quarter	58,105	3,750	22,938,471	53	35	18	357	15
4th Quarter	101,003	42,898	9,469,256	27	16	4	548	191
1985 Totals	101,003	52,468	62,685,268	44	27	12	548	238

WPRS DATA SUMMARY TABLE

Data Category	Cum. Capacity (kw)	New Capacity (kw)	Output (kwh)	Actual /Proj. Output (%)	Proj. Capac. Factor (%)	Actual Capac. Factor (%)	Cum. Turbines	New Turbines
Turbine Manufacturers								
1985 Totals								
Aeroman (Eng)	12,290	12,080	1,911,833	25	39	16	323	302
Blue Max (USA)	4,000	0	1,193,101	26	13	3	80	0
Bonus (Den)	30,030	12,740	35,880,673	54	40	22	440	174
Bouma (Ger)	1,875	335	1,444,842	28	20	10	14	3
Carter (USA)	16,850	5,850	20,559,023	56	32	19	305	45
Century (USA)	24,950	0	1,209,314	-	-	1	316	0
Dynergy (USA)*	2,880	2,880	0	-	-	-	16	16
Enertech (USA)	20,225	6,880	22,511,730	44	41	19	488	148
ESI (USA)	59,617	12,840	51,176,243	30	36	11	716	104
Fayette (USA)	146,060	35,450	51,419,590	27	17	5	1,468	325
Flowind (USA)	93,703	47,668	60,250,023	46	27	13	508	214
HMZ (Belgium)	17,600	200	27,512,975	70	25	18	88	1
Howden (Scot)*	28,410	28,410	0	-	-	-	93	93
Jacobs (USA)	7,345	0	9,138,145	32	56	21	412	0
Lolland (Den)**	975	300	123,961	-	-	-	13	4
Maetecnic ( )*	900	900	0	-	-	-	6	6
Micon (Den)	41,785	21,755	46,426,598	63	37	23	587	254
Nordtank (Den)	12,025	390	19,541,941	63	32	20	185	6
Polenko (Neth)	1,500	0	1,480,586	31	36	11	15	0
Riisager (Ger)	1,170	0	421,411	22	25	4	13	0
Strm Mstr (USA)	14,365	40	8,758,737	12	27	2	310	1
US Wndpwr (USA)	181,650	89,700	190,295,783	65	26	17	2,122	897
Vawtpower (USA)	7,300	4,800	2,435,235	28	15	4	40	24
Vestas (Den)	139,629	95,975	85,523,930	38	39	16	1,789	1,119
Wenco (Switz)	500	0	0	-	-	0	5	0
Windmatic (Den)	12,605	5,975	7,152,523	40	26	12	187	85
Windshark (USA)	15,016	5,704	4,786,124	22	24	4	176	62
Windtech (USA)	16,355	3,920	5,341,103	24	31	4	212	49

\* All fourth quarter capacity not yet fully operational.

\*\* Data only reported for this manufacturer the first quarter.

WPRS DATA SUMMARY TABLE

Data Category	Cum. Capacity (kw)	New Capacity (kw)	Output (kwh)	Actual /Proj. Output (%)	Proj. Capac. Factor (%)	Actual Capac. Factor (%)	Cum. Turbines	New Turbines
Project Operators 1985 Totals								
Aeolus	435	0	538,257	-	-	14	15	0
Airtricity	-	-	8,018,855	-	-	-	-	-
Altamont Energy	11,901	0	14,392,756	44	32	14	182	0
Altech En. II	3,400	0	7,365,394	70	35	25	85	0
Amer. Divers.	17,840	0	22,292,784	61	24	15	268	0
Amer. Wind En.	4,000	0	1,170,656	26	13	3	80	0
Arbutus	20,960	8,190	15,072,400	27	37	11	310	126
Buckeye	660	660	138,677	35	22	5	30	30
CalWind Res.	715	130	910,000	44	34	15	11	2
Cannon	29,400	135	2,164,800	-	-	1	411	1
Casas del Sol	160	160	139,200	50	20	10	4	4
CTV (pre. Coram)	11,320	10,880	1,402,420	-	-	19	283	272
Desert Wind	-	-	1,214,458	-	-	-	-	-
Dollar Energy	4,400	0	638,278	8	21	2	80	0
En. Dev. & Con.	5,200	4,800	1,512,000	17	21	4	26	24
Energy Unltd.	625	0	1,037,250	52	37	19	25	8
Enertech Corp.	6,720	6,720	138,000	4	26	1	144	144
Fayette	151,544	40,934	51,419,590	27	17	5	1,516	373
Flowind	93,703	47,668	60,250,023	46	27	13	508	214
Howden*	28,410	28,410	-	-	-	-	93	93
Illinois Wind	1,500	0	1,799,290	73	19	14	5	0
Immel	150	0	335,542	-	-	26	6	0
Oak Creek	-	-	16,961,399	-	-	-	-	-
Renew. En. Ven.	20,785	0	16,042,011	26	40	10	580	0
Ridgeline	740	0	460,400	-	-	7	11	0
Sandberg	44,413	33,061	10,203,583	33	25	10	425	310

\* All capacity installed the fourth quarter was not operational in 1985.

WPRS DATA SUMMARY TABLE

Data Category	Cum. Capacity (kw)	New Capacity (kw)	Output (kwh)	Actual /Proj. Output (%)	Proj. Capac. Factor (%)	Actual Capac. Factor (%)	Cum. Turbines	New Turbines
Project Operators								
1985 Totals								
continued								
San Gorg. Farms	13,665	4,240	27,497,414	67	45	31	333	65
Seawest	31,300	1,080	58,834,333	55	40	22	606	18
TERA	8,555	0	13,702,800	49	43	18	145	0
Transworld	15,764	5,704	4,377,000	23	24	5	208	62
Triad Amer. En.	25,780	10,840	17,824,303	-	-	13	233	59
Universal Prop.*	740	-	136,150	-	-	-	11	0
U.S. Windpower**	181,650	89,700	190,295,783	65	26	17	2,122	897
Western Wind**	520	520	184,572	20	-	-	8	8
Wind Gen. Parks	250	250	312,600	62	23	14	1	1
Windland***	4,375	5,520	5,888,948	46	29	12	61	69
WindMaster	17,600	200	27,512,975	70	25	18	88	1
Windridge	1,690	0	1,440,000	45	28	9	26	0
Wind Source	2,800	1,400	1,014,934	26	27	8	49	32
Wind Watt	375	0	212,101	21	31	7	5	0
Zephyr	2,250	0	81,200	-	-	1	30	0
Zond	146,370	96,145	87,252,757	36	38	15	1,912	1,122
Domestic and Foreign Turbines								
1985 Totals								
Dom. Turbines	610,316	218,652	422,800,311	43	26	10	7,169	1,885
For. Turbines	300,949	179,060	225,330,963	49	36	17	3,745	2,047

\* This operator reported the third quarter only.

\*\* This operator began operating the second quarter.

\*\*\* New cap. exceeds cum. because this operator no longer reports some turbines.

## 7. WPRS DATA

This section of the report includes WPRS 1985 project data from all four quarters as well as totals for the entire year. The data is organized into separate sections for each resource area. Operators are listed alphabetically within each resource area section and numbered sequentially through this entire WPRS Data section. The following alphabetical listing of wind project operators and participants is keyed to these sequential numbers for quick access to specific wind industry data. After this listing, notes are provided that describe how data is reported. As mentioned earlier, it is important to remember that this data only represents performance results for one year and should not be used as the sole basis for evaluating wind projects.

## Alphabetical Listing of Wind Project Operators and Participants

The following alphabetical listing includes all operators and other participants involved in wind projects that reported 1985 data to the WPRS program. The number in parentheses following each operator and other participant refers to the sequential number location in this section.

Aeolus Wind Farms, Inc. (12A)	Howden Wind Parks, Inc. (5A)
Airtricity (18A, 30A,B)	Illinois Wind Power (39A)
Altamont Energy Corp. (1A)	Mesa Wind Developers (29A)
Altech Energy Ltd. (6E)	Natural Resource Ventures (33A)
Altech Energy Ltd., II (19A)	Oak Creek Energy Systems (40A)
Amer. Diversified Cap. Corp. (2A,B)	Pacific Wind Systems (36A,B,C)
American Wind Energy Systems (31A)	PanAero Corp. (29A)
Arbutus (32A)	Phoenix Energy, Ltd. (26A)
Buckeye International (13A)	Renewable Energy Ventures (23A,B)
California Wind Energy Systems (CWES), Ltd. (6F)	Richard T. Immel Wind Farm (14A)
CalWind Resources Inc. (33A)	Sandberg Wind Corp. (24A,B,C)
Cannon Financial Group (34A,B,C)	Seawest Energy Corp. (6A,B,C,D,E,F, 9A, 13A, 26A)
CAPCO Financial Services (18A)	TaxVest Wind Farms, Inc. (6B,C)
Carter Systems (24C)	TERA Corp. (7A)
Casas del Sol (17A)	Transworld Wind Corp. (24C, 27A,B)
Cathay Wind, Inc. (24C)	Triad American Energy (28A,B,C,D)
Coram Energy Group, Ltd. (35A,C)	Universal Properties (41A)
Coram TaxVest (35D)	U.S. Windpower (8A,B,C)
CTV Marketing (35A,B,C,D)	Ventus Energy Corp. (28B)
Desert Wind Partners (20A)	Viking-Energy 83 Ltd. (6D)
Dollar Energy Systems Corp. (36A,B,C)	Western Windfarms (9A)
Earth Energy Systems (23B)	Wind Generator Parks, Inc. (15A)
Energy Devel. and Construc. Co. (21A)	Windland, Inc. (28C, 42A)
Energy Conv. Tech., Inc. (35A,B, 37A)	WindMaster (10A,B)
Energy Unlimited, Inc. (37A)	Windridge, Inc. (43A)
Enertech Corp. (22A)	Wind Source, Inc. (44A)
Enertech Wind Systems (19A)	Windtech, Inc. (24C)
Fayette (3A,B,C,D,E,F,G,H,I,J)	Wind Watt, Inc. (16A)
Flowind Corp. (4A,B, 38A)	Zephyr Park (45A)
Grant Line Energy Corp. (1A)	Zond Systems, Inc. (11A, 29A,B, 37A, 45A,B,C,D,E,F,G,H,I)

## WIND DATA SECTION NOTES

Definitions for most of the wind data categories used in this section are provided in the WPRS regulations included in Appendix D. The discussion below includes other important notes on how data is reported in this section as well as points of clarification.

Data Missing. Some operators have submitted incomplete reporting forms. In these cases, the items not completed have been noted as "data missing". It should be noted that operators with missing data are in violation of WPRS regulations.

Electricity Produced. Individual turbine model outputs submitted by wind operators are included for each quarter along with the annual total. In addition, the annual total for the entire project follows after the data for the individual turbine models. Note that the individual turbine model outputs may not always add up to the total project output. This is because individual turbine production is usually read from meters owned by project operators, whereas the total project output is measured from utility substation meters. Line losses and calibration differences between meters should account for these differences. The validation status of output data is noted in the parentheses next to the

quarter output reported for each turbine model: "V" indicates that the data has either been validated by utility billings supplied by the operator or matched utility reported outputs; "NV" indicates operator data was not validated because it did not match any utility billings or utility reported quarterly data, and "UD" indicates that an operator did not report required WPRS information and that the output data comes from data in utility submitted quarterly reports.

Failed to File. CEC staff identified wind project operators that have not reported data but according to utility reports should have participated in the WPRS program. These operators were subsequently notified by mail of the WPRS requirements. CEC staff listed these operators with an indication that they "failed to file" if after sending notification, the identified operators either still did not respond, or did not provide CEC staff with an explanation explaining why they were not required to participate in the WPRS program.

Other Participant(s). In some cases other participants in addition to the listed project operator may be involved in a project. These other

participants could include project managers, joint venture partners, wind developers using another developer's site, etc.

Projected Quarterly Production Per Turbine. The total quarterly projected production for a specific turbine model can be determined by multiplying the "Projected Quarterly Production Per Turbine" times the "Cumulative Number of Turbines" for that turbine model. The total quarterly projected production for an entire project can be calculated by adding the projected production totals for all turbine models in a project. This total projected production can be compared to the total project "Electricity Produced" to check how close a specific project came to meeting its projected output. When making this comparison, note any new capacity and recognize that in most cases new turbines would not have had the benefit of a full operational quarter for the quarter they were installed.

Rotor ( $M^2$ ). The diameter of the rotor swept area for each wind turbine allows different wind systems to be compared independent of wind resource area. Theoretically, the power available for any wind turbine is proportional to the square of the diameter of the rotor swept area. Thus, doubling

the size of the rotor diameter should increase the power output by a factor of four.

Size (kw). For each turbine model listed, the kw size rating is followed by a miles per hour (mph) specification noted in parentheses. As noted earlier, these mph specifications vary widely for different turbine models because there is no standardized rating method.

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
ALTAMONT PASS (Alameda & Contra Costa)					

1. **Altamont Energy Corp.**  
1330 Lincoln Ave., Suite 201  
San Rafael, CA 94901

A. Project: **Jess Ranch**  
Other Participant:  
Grant Line Energy Corp.

ESI-54S (H); 215;	1st	0;26	17,462	215,952 (V)
	2nd	0;26	63,538	774,748 (NV)
55 (35 mph)	3rd	0;26	63,538	628,768 (NV)
	4th	<u>0;26</u>	<u>17,462</u>	<u>145,728 (NV)</u>
	Annual	0;26	162,000	1,765,196
-----				
ESI-54S (H); 201;	1st	0;109	20,500	466,906 (V)
	2nd	0;109	72,000	2,542,970 (NV)
68 (35 mph)	3rd	0;109	72,000	2,011,766 (NV)
	4th	<u>0;109</u>	<u>20,500</u>	<u>356,560 (NV)</u>
	Annual	0;109	185,000	5,378,266
-----				
NTV 65/13 (H); 201;	1st	0;45	20,500	384,074 (V)
	2nd	0;45	72,000	2,542,970 (NV)
65 (35 mph)	3rd	0;45	72,000	2,892,720 (NV)
	4th	<u>0;45</u>	<u>20,500</u>	<u>13,797 (NV)</u>
	Annual	0;45	185,000	5,833,561
-----				

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>ALTAMONT PASS</u> (Altameda & Contra Costa)					
A. <b>Jess Ranch (cont.)</b>	Vestas V (H); 177; 67 (35 mph)	1st 2nd 3rd 4th  Annual	0;2 0;2 0;2 0;2  0;2	20,500 75,250 75,250 <u>20,500</u> 191,500	27,118 (V) 107,334 (NV) 52,361 (NV) <u>13,797 (NV)</u> 200,610
<b>Project Total:</b>					<b>13,177,633</b>

2. **American Diversified Capital Corp.**  
3200 Park Center Drive, Suite 1500  
Costa Mesa, CA 92626

A. <u>Project:</u> <b>American Diversified Wind Partners</b>	WM-14-65 (H); 154; 65 (34.7 mph)	1st 2nd 3rd 4th  Annual	0;26 0;26 0;26 0;26  0;26	6,090 31,125 63,538 <u>17,462</u> 77,430	120,355 (NV) 935,715 (V) 628,768 (V) <u>145,728 (V)</u> 1,830,566
--	--	--	--	--	---

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
ALTAMONT PASS (Alameda & Contra Costa)					
A. <b>American Diversified Wind Partners (cont.)</b>					
	WPS-20-100 (H);	1st	0;12	7,900	46,805 (NV)
	302;	2nd	0;12	50,800	475,385 (V)
	100 (29 mph)	3rd	0;12	53,600	688,324 (V)
		4th	<u>0;12</u>	<u>8,700</u>	<u>145,783 (V)</u>
		Annual	0;12	121,000	1,356,297
<b>Project Total:</b>					<b>3,186,863</b>
B. <b>Project: Windfarm II</b>					
	Bonus 65 (H);	1st	N/A	21,885	N/A
	181;	2nd	105;105	57,088	1,651,622 (V)
	65 (38 mph)	3rd	0;105	57,247	4,981,651 (V)
		4th	<u>0;105</u>	<u>22,202</u>	<u>1,671,300 (V)</u>
		Annual	105;105	158,422	8,304,573
-----					
	NTV 65;13 (H);	1st	N/A	24,170	N/A
	201;	2nd	125;125	63,050	2,171,578 (V)
	65 (35 mph)	3rd	0;125	63,226	6,549,949 (V)
		4th	<u>0;125</u>	<u>24,520</u>	<u>1,745,100 (V)</u>
		Annual	125;125	174,966	10,466,627
<b>Project Total:</b>					<b>18,771,200</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
ALTAMONT PASS (Alameda & Contra Costa)					

3. **Fayette**  
P.O. Box 1149  
Tracy, CA 95376

A. Project: **Fayette Wind Farms**

Fayette 75IS (H); 85; 75 (48 mph)	1st 2nd 3rd 4th	0;4 2;6 0;6 0;6	5,000 5,000 46,000 44,000	15,655 (V) 7,890 (V) 69,259 (V) 67,658 (V)
	Annual	2;6	100,000	160,462
-----				
Fayette 75IIS (H); 85; 75 (40 mph)	1st 2nd 3rd 4th	0;36 0;36 0;36 0;36	6,000 6,000 46,000 52,800	112,364 (V) 64,988 (V) 69,259 (V) 553,957 (V)
	Annual	0;36	110,800	800,568
-----				
Fayette 95IIS (H); 95; 95 (37 mph)	1st 2nd 3rd 4th	12;863 24;887 125;1,012 130;1,142	7,000 64,400 61,600 7,000	2,107,867 (V) 14,779,494 (V) 18,571,080 (V) 4,277,266 (V)
	Annual	291;1,142	140,000	39,735,707
-----				

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	Turbine Data:		Turbines	Projected	Electricity
	Model; Rotor (M <sup>2</sup> ); Size (kW)	Quarter; Annual	Installed New;Cum.	Production Per Turbine (kWh)	Produced (kWh)
ALTAMONT PASS (Alameda & Contra Costa)					
A. Fayette Wind Farms (cont.)					
Fayette 400kW-R (H); 374; 400 (44 mph)	1st 2nd 3rd 4th	N/A 2;2 0;2 <u>0;2</u>	30,000 276,000 264,000 <u>30,000</u>	N/A 57,065 (V) 2,303 (V) <u>0</u> (V)	
	Annual	2;2	600,000	59,368	
-----					
Micon 110;US (H); 293; 108 (33 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>8;8</u>	15,000 138,000 132,000 <u>15,000</u>	N/A N/A N/A <u>0</u> (V)	
	Annual	8;8	300,000	0	
-----					
Bonus 120;20 (H); 296; 120 (34 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>14;14</u>	15,000 138,000 138,000 <u>15,000</u>	N/A N/A N/A <u>0</u> (V)	
	Annual	14;14	300,000	0	
<b>Project Total:</b>				<b>40,756,105</b>	

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
ALTAMONT PASS (Alameda & Contra Costa)					
B. <u>Project:</u> Wind Energy Partners I	Fayette 75IIS (H); 85; 75 (40 mph)	1st 2nd 3rd 4th  Annual	0;30 0;30 0;30 <u>0;30</u>  0;30	6,000 55,200 52,800 <u>6,000</u>  120,000	44,694 (V) 355,311 (V) 388,323 (V) <u>100,990 (V)</u>  889,318
<b>Project Total:</b>					<b>889,318</b>
C. <u>Project:</u> Wind Energy Partners II	Fayette 75IIS (H); 85; 75 (40 mph)	1st 2nd 3rd 4th  Annual	0;78 0;78 0;78 <u>0;78</u>  0;78	6,000 55,200 52,800 <u>6,000</u>  120,000	172,301 (V) 517,918 (V) 1,271,453 (V) <u>266,898 (V)</u>  2,228,570
<b>Project Total:</b>					<b>2,228,570</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>ALTAMONT PASS</u> (Alameda & Contra Costa)					
D. <u>Project:</u> <b>Wind Energy Partners III</b>	Fayette 75IIS (H); 85; 75 (40 mph)	1st 2nd 3rd 4th  Annual	0;10 0;10 0;10 <u>0;10</u>  0;10	6,000 55,200 52,800 <u>6,000</u>  120,000	30,962 (V) 119,442 (V) 140,973 (V) <u>35,349 (V)</u>  326,726
-----					
	Fayette 95IIS (H); 95; 95 (37 mph)	1st 2nd 3rd 4th  Annual	0;23 0;23 0;23 <u>0;23</u>  0;23	7,000 64,400 61,600 <u>7,000</u>  140,000	57,688 (V) 451,803 (V) 552,036 (V) <u>111,469 (V)</u>  1,142,996
<b>Project Total:</b>					<b>1,469,722</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

Location/Operator/Project

ALTAMONT PASS  
(Alameda & Contra Costa)

Turbine Data:  
Model;  
Rotor (M<sup>2</sup>);  
Size (kW)

Quarter;  
Annual

Turbines  
Installed  
New;Cum.

Projected  
Production  
Per Turbine  
(kWh)

Electricity  
Produced  
(kWh)

E. Project: **Windranch  
Partners I**

Fayette 95IIS (H); 95; 95 (37 mph)	1st	0;17	7,000	52,836 (V)
	2nd	0;17	64,400	343,758 (V)
	3rd	0;17	61,600	421,121 (V)
	4th	<u>0;17</u>	<u>7,000</u>	<u>97,032 (V)</u>
	Annual	0;17	140,000	914,747

**Project Total:**

**914,747**

F. Project: **Windranch  
Partners II**

Fayette 95IIS (H); 95; 95 (37 mph)	1st	0;37	7,000	121,842 (V)
	2nd	0;37	64,400	768,181 (V)
	3rd	0;37	61,600	886,441 (V)
	4th	<u>0;37</u>	<u>7,000</u>	<u>196,621 (V)</u>
	Annual	0;37	140,000	1,973,085

**Project Total:**

**1,973,085**

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
ALTAMONT PASS (Alameda & Contra Costa)					
G. <u>Project:</u> <b>Castello Windranch</b>					
	Fayette 95IIS (H);	1st	0;8	7,000	20,361 (V)
	95;	2nd	0;8	64,400	143,692 (V)
	95 (37 mph)	3rd	0;8	61,600	168,441 (V)
		4th	<u>0;8</u>	<u>7,000</u>	<u>49,765 (V)</u>
		Annual	0;8	140,000	382,259
<b>Project Total:</b>					<b>382,259</b>
H. <u>Project:</u> <b>Wind Energy Technology Associates (WETA) I</b>					
	Fayette 400kW-R (H);	1st	0;7	30,000	0 (V)
	374;	2nd	0;7	276,000	31,719 (V)
	400 (44 mph)	3rd	0;7	264,000	439,049 (V)
		4th	<u>0;7</u>	<u>30,000</u>	<u>0 (V)</u>
		Annual	0;7	600,000	470,768
<b>Project Total:</b>					<b>470,768</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

Location/Operator/Project

ALTAMONT PASS  
(Alameda & Contra Costa)

Turbine Data:		Turbines	Projected	Electricity
Model;		Installed	Production	Produced
Rotor (M <sup>2</sup> );	Quarter;		Per Turbine	(kWh)
<u>Size (kW)</u>	<u>Annual</u>	<u>New;Cum.</u>	<u>(kWh)</u>	<u>(kWh)</u>

I. Project: Wind Energy  
Technology  
Associates  
(WETA) II

Fayette 95IIS (H);	1st	0;32	7,000	113,286 (V)
95;	2nd	0;32	64,400	744,870 (V)
95 (37 mph)	3rd	0;32	61,600	886,735 (V)
	4th	<u>0;32</u>	<u>7,000</u>	<u>163,902 (V)</u>
	Annual	0;32	140,000	1,908,793

Fayette 400kW-R (H);	1st	0;10	30,000	0 (V)
374;	2nd	13;23	276,000	117,019 (V)
400 (44 mph)	3rd	0;23	264,000	0 (V)
	4th	<u>0;23</u>	<u>30,000</u>	<u>0 (V)</u>
	Annual	13;23	600,000	117,019

**Project Total:** 2,025,812

J. Project: Wind Energy  
Technology  
Associates  
(WETA) III

Fayette 95IIS (H);	1st	N/A	7,000	N/A
95;	2nd	N/A	64,400	N/A
95 (37 mph)	3rd	N/A	61,600	N/A
	4th	<u>19;19</u>	<u>7,000</u>	<u>0 (V)</u>
	Annual	19;19	140,000	0

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
ALTAMONT PASS (Alameda & Contra Costa)					
J. Wind Energy Technology Associates (WETA) III (cont.)					
	Micon M110;US (H); 293; 108 (33 mph)	1st	N/A	15,000	N/A
		2nd	N/A	138,000	N/A
		3rd	N/A	132,000	N/A
		4th	<u>15;15</u>	<u>15,000</u>	<u>0</u> (V)
		Annual	15;15	300,000	0
-----					
	Bonus 120;20 (H); 296; 120 (29 mph)	1st	N/A	15,000	N/A
		2nd	N/A	138,000	N/A
		3rd	N/A	132,000	N/A
		4th	<u>11;11</u>	<u>15,000</u>	<u>0</u> (V)
		Annual	11;11	300,000	0
<b>Project Total:</b>					<b>0</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
ALTAMONT PASS (Altameda & Contra Costa)					
4. <b>Flowind Corporation</b> 1183 Quarry Lane Pleasanton, CA 94566					
A. <u>Project:</u> <b>Flowind I</b> <b>(Dyer Rd.)</b>					
	F17 (V); 260; 143 (44 mph)	1st 2nd 3rd 4th  Annual	0;128 0;75 0;75 0;75  0;75	52,826 98,859 112,699 52,694  317,078	1,347,225 (V) 4,196,455 (V) 3,816,636 (V) 1,008,056 (V)  10,638,372
-----					
	F19 (V); 260; 250 (38 mph)	1st 2nd 3rd 4th  Annual	0;21 0;2 N/A N/A  0;0	38,732 189,078 190,247 39,324  457,381	164,015 (V) 114,436 (V) N/A N/A  278,451
<b>Project Total</b>					<b>10,646,832</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
ALTAMONT PASS (Alameda & Contra Costa)					
B. <u>Project:</u> Flowind II (Elworthy)	F17 (V); 260; 142 (44 mph)	1st 2nd 3rd 4th  Annual	N/A 0;53 0;53 <u>20;73</u>  20;73	52,826 98,859 112,699 <u>52,694</u>  264,252	N/A 4,508,994 (V) 4,540,963 (V) <u>1,151,040 (V)</u>  10,200,997
-----					
	F19 (V); 340; 250 (38 mph)	1st 2nd 3rd 4th  Annual	N/A 0;19 0;19 <u>0;19</u>  0;19	38,732 189,078 190,247 <u>39,324</u>  418,649	N/A 2,741,406 (V) 3,976,637 (V) <u>728,160 (V)</u>  7,446,203
<b>Project Total:</b>					<b>17,647,200</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
ALTAMONT PASS (Alameda & Contra Costa)					
5. <b>Howden Wind Parks, Inc.</b> 1330 Lincoln Avenue San Rafael, CA 94901					
A. <u>Project:</u> <b>Howden Wind Park I</b>					
	HWP 330/31 (H); 755; 330 (14 mph)	1st	N/A	0	N/A
		2nd	N/A	0	N/A
		3rd	N/A	0	N/A
		4th	<u>82;82</u>	<u>0</u>	<u>0</u> (V)
		Annual	82;82	888,000	0
-----					
	HWP 750/45 (H); 1,590; 750 (15 mph)	1st	N/A	0	N/A
		2nd	N/A	0	N/A
		3rd	N/A	0	N/A
		4th	<u>1;1</u>	<u>0</u>	<u>0</u> (V)
		Annual	1;1	1,800,000	0
-----					

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>ALTAMONT PASS</u> (Alameda & Contra Costa)					
A. <b>Howden Wind Park I (cont.)</b>	HWP 60/15 (H); 177; 60 (14 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>10;10</u>	0 0 0 <u>0</u>	N/A N/A N/A <u>0 (V)</u>
		Annual	10;10	150,000	0
<b>Project Total:</b>					<b>0</b>

6. **SeaWest Energy Group**  
1660 Hotel Circle North  
Suite 400  
San Diego, CA 92108

A. <u>Project:</u> <b>SeaWest</b>	Micon 60/13 (H);	1st	0;1	17,520	11,520 (V)
<b>Energy Group,</b>	200;	2nd	0;1	59,270	37,086 (V)
<b>Inc., I</b>	60 (33 mph)	3rd	0;1	73,559	50,784 (V)
		4th	<u>0;1</u>	<u>26,107</u>	<u>16,094 (V)</u>
		Annual	0;1	176,456	115,484
<b>Project Total:</b>					<b>115,484</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> Annual	<u>Turbines</u> Installed  New;Cum.	<u>Projected</u> Production Per Turbine (kWh)	<u>Electricity</u> Produced (kWh)
ALTAMONT PASS (Alameda & Contra Costa)					
B. <u>Project:</u> TaxVest Wind Farms, Inc. 174	Micon 60/13 (H); 200; 60 (33 mph)	1st 2nd 3rd 4th	0;156 0;156 11;167 7;174	17,949 60,917 75,602 26,832	511,836 (V) 5,720,400 (V) 7,234,999 (V) 2,010,244 (V)
<u>Other Participant:</u> TaxVest Wind Farms, Inc.		Annual	18;174	181,300	15,477,479
<b>Project Total:</b>					<b>15,477,479</b>
C. <u>Project:</u> TaxVest Wind Farms, Inc. 11	Micon 60/13 (H); 200; 60 (33 mph)	1st 2nd 3rd 4th	0;11 0;11 0;11 0;11	17,949 60,917 75,602 26,832	95,953 (V) 463,321 (V) 465,971 (V) 131,899 (V)
<u>Other Participant:</u> TaxVest Wind Farms, Inc.		Annual	0;11	181,300	1,157,144 (V)
<b>Project Total:</b>					<b>1,157,144</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> Annual	<u>Turbines</u> Installed New;Cum.	<u>Projected</u> Production Per Turbine (kWh)	<u>Electricity</u> Produced (kWh)
ALTAMONT PASS (Alameda & Contra Costa)					
D. <u>Project: Viking-83</u>	Micon 60/13 (H);	1st	0;26	19,404	284,466 (V)
	200;	2nd	0;26	65,856	1,241,365 (V)
<u>Other Participant:</u>	60 (33 mph)	3rd	0;26	81,732	1,287,843 (V)
<u>Viking-Energy</u>		4th	<u>0;26</u>	<u>29,008</u>	<u>307,124 (V)</u>
83, Ltd		Annual	0;26	196,000	3,120,798
<b>Project Total:</b>					<b>3,120,798</b>
E. <u>Project: Altech Energy, Ltd.</u>	Enertech 44/40 (H);	1st	0;144	12,652	752,000 (V)
	140;	2nd	0;144	42,941	3,852,855 (V)
<u>Other Participant:</u>	40 (30 mph)	3rd	0;144	53,293	4,053,474 (V)
<u>Altech Energy Ltd.</u>		4th	<u>0;144</u>	<u>18,914</u>	<u>0 (V)</u>
		Annual	0;144	127,800	8,658,329
<b>Project Total:</b>					<b>8,658,329</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	Turbine Data: Model; Rotor (M <sup>2</sup> ); Size (kW)	Quarter; Annual	Turbines Installed New;Cum.	Projected Production Per Turbine (kWh)	Electricity Produced (kWh)
ALTAMONT PASS (Alameda & Contra Costa)					
F. <u>Project:</u> C.W.E.S. Ltd.	ESI 54 (H);	1st	0;30	18,434	240,000 (V)
	211;	2nd	0;30	62,563	933,025 (V)
<u>Other Participant:</u>	50 (30 mph)	3rd	0;30	77,645	1,039,716 (V)
California Wind		4th	0;30	27,558	207,058 (V)
Energy Systems		Annual	0;30	186,200	2,419,799
(C.W.E.S.) Ltd.					

**Project Total:**

**2,419,799**

7. **TERA Corporation**  
2150 Shattuck Avenue  
Berkeley, CA 94704

A. <u>Project:</u> Delta Energy Project (Delta I - III)	ESI-54 (H);	1st	0;58	42,400	451,231 (NV)
	211;	2nd	0;58	63,600	2,201,576 (NV)
	50 (30 mph)	3rd	0;58	63,600	2,112,540 (V)
		4th	0;58	42,400	689,507 (V)
		Annual	0;58	212,000	3,553,854

1985 WIND PERFORMANCE REPORTING SYSTEM

Location/Operator/Project	Turbine Data:		Turbines Installed New;Cum.	Projected Production Per Turbine (kWh)	Electricity Produced (kWh)
	Model; Rotor (M <sup>2</sup> ); Size (kW)	Quarter; Annual			
ALTAMONT PASS (Alameda & Contra Costa)					
A. Delta Energy Project (Delta I - III) (cont.)	ESI-54S (H); 211; 65 (30 mph)	1st	0;87	46,400	932,277 (NV)
		2nd	0;87	69,600	2,919,752 (NV)
		3rd	0;87	69,600	3,546,056 (V)
		4th	0;87	46,400	849,861 (V)
		Annual	0;87	232,000	8,247,946
<b>Project Total:</b>				<b>11,801,800</b>	

8. U.S. Windpower  
500 Sansome Street  
Suite 600  
San Francisco, CA 94111

A. Project: <u>Midway Road</u>	USW 56-50 (H); 230; 50 (22 mph) <u>Operator Comments:</u> See Appendix A Comment #1	1st	0;462	15,000	373,318 (V)
		2nd	0;413	58,500	1,444,804 (V)
		3rd	0;413	61,500	940,905 (V)
		4th	0;413	15,000	192,728 (V)
		Annual	0;413	150,000	2,951,755

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
ALTAMONT PASS (Alameda & Contra Costa)					
A. <u>Midway Road</u> (cont.)	USW 56-10 (H); 230; 100 (29 mph)	1st 2nd 3rd 4th  Annual	79,480 49,529 0;529 <u>112;641</u>  240,641	21,000 81,900 86,100 <u>21,000</u>  210,000	8,309,401 (V) 46,585,983 (V) 46,106,351 (V) <u>10,934,747 (V)</u>  111,936,482
<b>Project Total:</b>					<b>114,888,237</b>
B. <u>Project: Dyer Road</u>	USW 56-50 (H); 230; 50 (22 mph)	1st 2nd 3rd 4th  Annual	0;198 0;198 0;198 <u>0;198</u>  0;198	15,000 58,500 61,500 <u>15,000</u>  150,000	1,463,000 (V) 7,875,000 (V) 9,814,000 (V) <u>2,061,860 (V)</u>  21,213,860
<u>Operator Comments:</u> See Appendix A, Comment #1					
	USW 56-100 (H); 230; 100 (29 mph)	1st 2nd 3rd 4th  Annual	N/A N/A N/A <u>133;133</u>  133;133	21,000 81,900 86,100 <u>21,000</u>  210,000	N/A N/A N/A <u>341,240 (V)</u>  341,240
<b>Project Total:</b>					<b>21,555,100</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> Annual	<u>Turbines</u> Installed New;Cum.	<u>Projected</u> Production Per Turbine (kWh)	<u>Electricity</u> Produced (kWh)
ALTAMONT PASS (Alameda & Contra Costa)					
C. <u>Project: Vasco Road</u>	USW 56-100 (H); 230;	1st 2nd	0;189 73;262	21,000 81,900	3,128,446 (V) 13,716,000 (V)
<u>Operator Comments:</u> See Appendix A, Comment #1	100 (29 mph)	3rd 4th	295;557 180;737	86,100 21,000	26,388,000 (V) 10,620,000 (V)
		Annual		210,000	53,852,446
<b>Project Total:</b>					<b>53,852,446</b>

9. **Western Windfarms**  
2352 Research Drive  
Livermore, CA 94550

A. <u>Project: Astroseal, Battlement</u>	Micon 65/13 (H); 200;	1st 2nd	N/A N/A	29,580 126,324	N/A N/A
<u>Other Participant:</u> SeaWest Energy Group	65 (30 mph)	3rd 4th	8;8 0;8	156,600 35,496	115,204 (V) 69,368 (V)
		Annual	8;8	348,000	184,572
<b>Project Total:</b>					<b>184,572</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
ALTAMONT PASS (Alameda & Contra Costa)					
10. <b>WindMaster</b>					
Rt. I					
P.O. Box 6C					
Byron, CA 94514					
A. <u>Project:</u> <b>WindMaster</b>	HMZ 200 (H); 373; 200 (22 mph)	1st 2nd 3rd 4th  Annual	1;88 0;88 0;88 0;88  1;88	44,100 172,050 180,850 44,100  441,100	1,896,875 (V) 10,503,300 (V) 12,100,000 (V) 2,900,000 (V)  27,400,175
<b>Project Total:</b>					<b>27,400,175</b>
B. <u>Project:</u> <b>WindMaster</b>	HMZ 50 (H); 373; 200 (22 mph)	1st 2nd 3rd 4th  Annual	0;5 0;5 N/A N/A  0;5	10,000 39,000 41,000 10,000  100,000	60,360 (V) 52,440 (V) N/A N/A  112,800
<b>Project Total:</b>					<b>112,800</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

Turbine Data:  
 Model;  
 Rotor (M<sup>2</sup>);  
 Size (kW)

Quarter;  
 Annual

Turbines  
 Installed  
 New;Cum.

Projected  
 Production  
 Per Turbine  
 (kWh)

Electricity  
 Produced  
 (kWh)

Location/Operator/Project

ALTAMONT PASS  
 (Alameda & Contra Costa)

11. Zond Systems, Inc.  
 112 South Curry Street  
 Tehachapi, CA 93561

A. Project: Santa Clara

Vestas V-17 (H);  
 227;  
 93 (45 mph)

1st  
 2nd  
 3rd  
 4th

N/A  
 N/A  
 N/A

200;200

27,963  
 107,191  
 90,880  
6,991

N/A  
 N/A  
 N/A  
281 (NV)

Annual

233,025

281

**Project Total:**

**281**

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
BOULEVARD (San Diego)					
12. <b>Aeolus Wind Farms, Inc.</b> 38145 Old Hwy. 80 Boulevard, CA 92005					
A. <u>Project:</u> <b>Aeolus Wind Farms</b>	Enertech 44;25 (H); 141.2	1st 2nd 3rd 4th	0;11 0;11 0;11 0;11	data missing data missing data missing data missing	119,162 (V) 109,070 (V) 46,331 (V) 92,811 (V)
<u>Operator Comments:</u> See Appendix A Comment #9	25 (30 mph)				
		Annual	0;11	92,000	367,374
<hr/>					
	Enertech 44;40 (H); 141.2; 40 (30 mph)	1st 2nd 3rd 4th	0;4 0;4 0;4 0;4	data missing data missing data missing data missing	47,165 (V) 59,148 (V) 21,649 (V) 42,921 (V)
		Annual	0;4	110,000	170,883
<b>Project Total:</b>					<b>538,257</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	Turbine Data: Model; Rotor (M <sup>2</sup> ); <u>Size (kW)</u>	Quarter; <u>Annual</u>	Turbines Installed <u>New;Cum.</u>	Projected Production Per Turbine <u>(kWh)</u>	Electricity Produced <u>(kWh)</u>
BOULEVARD (San Diego)					
13. <b>Buckeye International</b> 1660 Hotel Circle No. Suite 400 San Diego, CA 92108					
A. <u>Project:</u> <b>California Wind Energy, Ltd.</b>	Micon 22 (H); 78; 22 (37 mph)	1st 2nd 3rd 4th	N/A 6;6 0;6 <u>24;30</u>	12,100 14,350 9,750 <u>8,300</u>	N/A 965 (V) 17,305 (V) <u>120,407 (V)</u>
<u>Other Participant:</u> SeaWest Energy Group		Annual	30;30	44,500	138,677
<b>Project Total:</b>					<b>138,677</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
BOULEVARD (San Diego)					
14. Richard T. Immel Wind Farm 3911 Via del Campo San Clemente, CA 92672					
A. <u>Project:</u> Richard T. Immel Wind Farm	Enertech 44;25 (H); 137; 25 (30 mph)	1st 2nd 3rd 4th  Annual	0;6 0;6 0;6 <u>0;6</u>  0;6	data missing data missing data missing <u>data missing</u>  data missing	96,319 83,307 70,118 <u>85,798</u>  335,542
<b>Project Total:</b>					<b>335,542</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

	Turbine Data:		Turbines	Projected	
	Model;		Installed	Production	Electricity
	Rotor (M <sup>2</sup> );	Quarter;		Per Turbine	Produced
	Size (kW)	Annual	New;Cum.	(kWh)	(kWh)

Location/Operator/Project

CARQUINEZ STRAIT  
(Solano, Contra Costa)

15. **Wind Generator Parks, Inc.**  
7 Wolfback Ridge Road  
Sausalito, CA 94965

A. Project: **Wind Generator  
Parks, Inc.**

Carter 250 (H);	1st	1;1	80,000	34,200 (V)
332.4	2nd	0;1	175,000	152,400 (V)
250 (41.5 mph)	3rd	0;1	175,000	109,800 (V)
	4th	0;1	<u>75,000</u>	<u>16,200 (V)</u>
	Annual	1;1	505,000	312,600

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**Project Total:**

**312,600**

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1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
CARQUINEZ STRAIT (Solano, Contra Costa)					
16. Wind Watt, Inc. 1320 Willow Pass Rd. Suite 520 Concord, CA 94520					
A. <u>Project:</u> Lopes Road Wind Park	Windtech 175 (H); 191; 75 (30 mph)	1st 2nd 3rd 4th  Annual	0;5 0;5 0;5 0;5  0;5	30,000 60,000 70,000 40,000  200,000	48,302 (V) 54,000 (V) 77,999 (V) 31,800 (V)  212,101
<b>Project Total:</b>					<b>212,101</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> Annual	<u>Turbines</u> Installed New;Cum.	<u>Projected</u> Production Per Turbine (kWh)	<u>Electricity</u> Produced (kWh)
SALINAS VALLEY (Monterey)					
17. Casas del Sol P.O. Box 89 Pacific Grove, CA 93950					
A. <u>Project:</u> Herbert Ranch #1	Enertech 44/40 (H);	1st	4;4	10,780	19,000 (V)
	44;	2nd	0;4	26,250	56,000 (V)
	40 (30 mph)	3rd	0;4	23,170	62,500 (V)
		4th	<u>0;4</u>	<u>9,800</u>	<u>17,000 (V)</u>
		Annual	0;4	70,000	154,500
<b>Project Total:</b>					<b>154,500</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
SAN GORGONIO PASS (Riverside)					
18. <b>Airtricity</b> 100 Commercial Way Tehachapi, CA 93561					
A. <u>Project:</u> <b>Data Missing</b>		1st	N/A	N/A	N/A
<u>Other Participant:</u>		2nd	N/A	N/A	N/A
CAPCO Financial		3rd	FAILED TO FILE		8,000 (UD)
Services		4th	FAILED TO FILE		800 (UD)
		Annual			8,800
<b>Project Total:</b>					<b>8,800</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> Annual	<u>Turbines</u> Installed New;Cum.	<u>Projected</u> Production Per Turbine (kWh)	<u>Electricity</u> Produced (kWh)
SAN GORGONIO PASS (Riverside)					
19. Altech Energy Ltd., II P.O. Box 913 North Palm Springs, CA 92258					
A. <u>Project:</u> Altech Energy Ltd, II	Enertech 44;40 (H); 141.2 40 (30 mph)	1st 2nd 3rd 4th	0;85 0;85 0;85 0;85	22,487 51,952 35,321 14,365	1,793,478 (V) 2,793,916 (V) 2,775,000 (V) 3,000 (V)
<u>Other Participant:</u> Enertech Wind Systems		Annual	0;85	124,125	7,365,394
<b>Project Total:</b>					<b>7,365,394</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
SAN GORGONIO PASS (Riverside)					
20. <b>Desert Wind Partners</b> 111 Tahquitz-McCallum Way Suite 110 Palm Springs, CA 92262					
A. <u>Project:</u> <b>Data Missing</b>		1st	<b>FAILED TO FILE</b>		1,172,858 (UD)
		2nd	N/A		N/A
		3rd	N/A		N/A
		4th	N/A		N/A
		Annual			1,172,858
<b>Project Total:</b>					<b>1,172,858</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
SAN GORGONIO PASS (Riverside)					

21. Energy Development and Construction

**Company**  
745-5th Avenue  
Suite 405  
New York, NY 10151

A. Project: **Karen Avenue  
Wind Farm**

VP-185-II (V); 288; 200 (38.5 mph)	1st 2nd 3rd 4th	2;24 0;24 0;24 2;26	61,000 145,000 105,000 49,000	144,000 (V) 1,038,000 (V) 324,000 (V) 6,000 (V)
	Annual	4;26	360,000	1,512,000

**Project Total:**

**1,512,000**

22. Enertech Corporation  
P.O. Box 913  
North Palm Springs, CA 92258

A. Project: **Windustries**

Enertech 44/40 (H); 142; 40 (30 mph)	1st 2nd 3rd 4th	N/A N/A N/A 96;96	29,400 73,000 57,000 25,000	N/A N/A N/A 46,819 (V)
	Annual	96;96	184,000	46,819

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data: Model; Rotor (M<sup>2</sup>); Size (kW)</u>	<u>Quarter; Annual</u>	<u>Turbines Installed New;Cum.</u>	<u>Projected Production Per Turbine (kWh)</u>	<u>Electricity Produced (kWh)</u>
<u>SAN GORGONIO PASS</u> (Riverside)					
A. <b>Windustries (cont.)</b>					
	Enertech 44/60	1st	N/A	36,800	N/A
	142;	2nd	N/A	91,200	N/A
	60 (35 mph)	3rd	N/A	71,300	N/A
		4th	<u>48;48</u>	<u>31,200</u>	<u>91,181 (V)</u>
		Annual	48;48	230,500	91,181
Project Total:					138,000

23. **Renewable Energy Ventures**

16311 Ventura Blvd.  
Suite 1150  
Encino, CA 91436

A. Project: **REV Wind Power  
Partners 1984-1**

Jacobs 17.5 (H);	1st	0;208	11,413	1,094,400 (V)
50;	2nd	0;208	23,781	3,278,400 (V)
17.5 (27 mph)	3rd	0;208	37,500	2,693,991 (V)
	4th	<u>0;208</u>	<u>17,800</u>	<u>782,400 (V)</u>
	Annual	0;208	90,494	7,848,191

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>SAN GORGONIO PASS</u> (Riverside)					
A. REV Wind Power Partners 1984-1 (cont.)	ESI 54-S (H); 216; 80 (40 mph)	1st 2nd 3rd 4th  Annual	0;168 0;168 0;168 <u>0;168</u>  0;168	44,700 94,900 74,300 <u>33,100</u>  247,000	2,042,400 (V) 2,988,000 (V) 1,459,760 (V) <u>566,400 (V)</u>  7,056,560
<b>Project Total:</b>					<b>14,905,751</b>
B. <u>Project: Jacoby-Kerr</u> Wind Park	Jacobs 29-20 (H); 61.36; 20 (27 mph)	1st 2nd 3rd 4th  Annual	N/A N/A 54;54 <u>0;54</u>  54;54	N/A N/A data missing <u>11,300</u>  data missing	N/A N/A * <u>342,460 (NV)</u>  data missing
<u>Other Participant:</u> Earth Energy Systems, Inc.					

\*Combined 3rd quarter production from Jacobs 29-20, Jacobs 26-17.5 @ 120; and Jacobs 26-17.5 @ 80' equals 152,694 kWh (NV).

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>SAN GORGONIO PASS</u> (Riverside)					
B. <b>Jacoby-Kerr Wind Park</b> (cont.)					
	Jacobs 26-17.5 @120' (H); 50; 17.5 (27 mph)	1st	N/A	N/A	N/A
		2nd	N/A	N/A	N/A
		3rd	16;16	data missing	*
		4th	<u>0;16</u>	<u>9,400</u>	<u>78,000 (NV)</u>
		Annual	16;16	data missing	data missing
-----					
	Jacobs 26-17.5 @80'; 50; 17.5 (27 mph)	1st	N/A	N/A	N/A
		2nd	N/A	N/A	N/A
		3rd	134;134	data missing	*
		4th	<u>0;134</u>	<u>8,400</u>	<u>715,800 (NV)</u>
		Annual	134;134	data missing	data missing
<b>Project Total:</b>					<b>1,288,954</b>

\*Combined 3rd quarter production from Jacobs 29-20, Jacobs 26-17.5 @ 120; and Jacobs 26-17.5 @ 80' equals 152,694 kWh (NV).

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
SAN GORGONIO PASS (Riverside)					
24. Sandberg Wind Corporation 31324 Via Colinas Suite 114 Westlake Village, CA 01362					
A. <u>Project:</u> Ventus Wind Park (SWC I)	VP (V); 258; 150 (32 mph)	1st 2nd 3rd 4th  Annual	0;14 0;14 0;14 <u>0;14</u>  0;14	data missing data missing data missing <u>data missing</u>  328,500	204,000 (V) 543,000 (V) 156,000 (V) <u>0 (V)</u>  903,000
<b>Project Total:</b>					<b>903,000</b>
B. <u>Project:</u> Ventus Wind Park (SWC II)	Storm Master (H); 113; 45 (33 mph)	1st 2nd 3rd 4th  Annual	0;9 0;9 0;9 <u>0;9</u>  0;9	24,637 24,637 24,637 <u>24,637</u>  98,548	0 543,000 (V) 135,000 (V) <u>66,000 (V)</u>  744,000
<b>Project Total:</b>					<b>744,000</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> Annual	<u>Turbines</u> Installed New;Cum.	<u>Projected</u> Production Per Turbine (kWh)	<u>Electricity</u> Produced (kWh)
<u>SAN GORGONIO PASS</u> (Riverside)					
C. <u>Project:Whitewater Wind Park</u> (SWC III)	WM 15S (H); 189; 65 (31.5 mph)	1st 2nd 3rd 4th Annual	0;13 0;13 0;13 <u>68;81</u> 68;81	35,587 35,587 35,587 <u>99,966</u> 206,727	149,060 (V) 310,413 (V) 582,154 (V) <u>99,966</u> (V) 1,141,593
Other Participants: Cathay Wind, Inc.; Transworld Wind; Carter Systems; Windtech, Inc.					
	WM 17S (H); 227; 95 (34 mph)	1st 2nd 3rd 4th Annual	N/A N/A N/A <u>15;15</u> 15;15	N/A N/A N/A <u>62,500</u> 250,000	N/A N/A N/A <u>0</u> (V) 0
	Riisager (H); 190; 90 (26.8 mph)	1st 2nd 3rd 4th Annual	0;13 0;13 0;13 <u>0;13</u> 0;13	49,275 49,275 49,275 <u>49,275</u> 197,100	3,821 (V) 237,495 (V) 180,095 (V) <u>0</u> 421,411

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>SAN GORGONIO PASS</u> (Riverside)					
C. <b>Whitewater Wind Park</b> (SWC III) (cont.)					
	Windshark (H); 213; 92 (33 mph)	1st 2nd 3rd 4th  Annual	0;16 0;16 0;16 <u>0;16</u>  0;16	50,370 50,370 50,370 <u>50,370</u>  201,480	17,154 (V) 265,340 (V) 152,426 (V) <u>0</u> (V)  434,920
-----					
	Carter 250 (H); 332; 250 (41.5 mph)	1st 2nd 3rd 4th  Annual	0;8 0;8 0;8 <u>20;28</u>  20;28	136,875 136,875 136,375 <u>136,375</u>  547,500	358,726 (V) 1,040,260 (V) 993,396 (V) <u>449,097</u> (V)  2,841,479
-----					
	Windtech (H); 197; 80 (35 mph)	1st 2nd 3rd 4th  Annual	0;42 0;42 0;42 <u>49;91</u>  49;91	43,800 43,800 43,800 <u>43,800</u>  175,200	927,321 (V) 938,287 (V) 1,918,662 (V) <u>358,211</u> (V)  4,142,481
-----					

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<b>SAN GORGONIO PASS</b> (Riverside)					
<b>C. Whitewater Wind Park</b> <b>(SWC III) (cont.)</b>					
	Maetecnic (H); 270; 150 (28 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>6;6</u>	N/A N/A N/A <u>data missing</u>	N/A N/A N/A <u>0 (V)</u>
		Annual	6;6	data missing	0
-----					
	Micon (H); 293; 108 (45 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>132;132</u>	N/A N/A N/A <u>data missing</u>	N/A N/A N/A <u>0 (V)</u>
		Annual	132;132	data missing	0
-----					
	Nordtank (H); 201; 65 (44 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>16;16</u>	N/A N/A N/A <u>data missing</u>	N/A N/A N/A <u>0 (V)</u>
		Annual	16;16	data missing	0
-----					

1985 WIND PERFORMANCE REPORTING SYSTEM

	Turbine Data:	Turbines	Projected	Electricity
	Model;	Installed	Production	Produced
	Rotor (M <sup>2</sup> );	Quarter;	Per Turbine	(kWh)
<u>Location/Operator/Project</u>	<u>Size (kW)</u>	<u>Annual</u>	<u>(kWh)</u>	<u>(kWh)</u>
		New;Cum.		

SAN GORGONIO PASS  
(Riverside)

C. **Whitewater Wind Park**  
(SWC III) (cont.)

Dynergy 180 (H);	1st	N/A	N/A	N/A
data missing;	2nd	N/A	N/A	N/A
180 (37 mph)	3rd	N/A	N/A	N/A
	4th	<u>16;16</u>	<u>data missing</u>	<u>0</u> (V)
	Annual	16;16	data missing	0

**Project Total:**

**8,981,884**

25. **San Gorgonio Farms**  
21515 Hawthorne Blvd.  
Suite 1059  
Torrance, CA 90503

A. Project: **San Gorgonio Farms**  
**Wind Park**

Carter 25 kW;	1st	0;200	13,600	2,011,621 (V)
75;	2nd	0;200	38,800	4,274,557 (V)
25 (26 mph)	3rd	0;200	17,360	3,621,656 (V)
	4th	<u>0;200</u>	<u>16,240</u>	<u>1,607,606</u> (V)
	Annual	0;200	86,000	11,515,440

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>SAN GORGONIO PASS</u> <u>(Riverside)</u>					
A. San Gorgonio Farms Wind Park (cont.)					
	Bonus 65 kW;	1st	0;44	47,600	1,020,082 (V)
	176;	2nd	0;44	114,800	3,502,895 (V)
	65 (33 mph)	3rd	0;44	60,760	3,533,211 (V)
		4th	<u>0;44</u>	<u>56,840</u>	<u>1,544,752 (V)</u>
		Annual	0;44	280,000	9,600,940
-----					
	Micon 60/13;	1st	0;7	47,600	264,767 (V)
	201;	2nd	0;7	114,800	544,799 (V)
	60 (33 mph)	3rd	0;7	60,760	489,202 (V)
		4th	<u>0;7</u>	<u>56,840</u>	<u>318,391 (V)</u>
		Annual	0;7	280,000	1,617,159
-----					
	Bonus 65 kW;	1st	0;14	47,600	455,781 (V)
	176;	2nd	0;14	114,800	1,223,566 (V)
	65 (33 mph)	3rd	0;14	60,760	1,015,729 (V)
		4th	<u>22;36</u>	<u>56,840</u>	<u>451,854 (V)</u>
		Annual	22;36	280,000	3,146,930
-----					

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> Annual	<u>Turbines</u> Installed New;Cum.	<u>Projected</u> Production Per Turbine (kWh)	<u>Electricity</u> Produced (kWh)
<u>SAN GORGONIO PASS</u> (Riverside)					
A. <b>San Gorgonio Farms</b> <b>Wind Park (cont.)</b>					
	Micon 60/13; 201; 65 (33 mph)	1st 2nd 3rd 4th	0;3 5;8 3;11 <u>34;45</u>	47,600 114,800 60,760 <u>56,840</u>	85,264 (V) 468,179 (V) 680,970 (V) <u>472,522 (V)</u>
		Annual	42;45	280,000	1,706,935
-----					
	Bonus 120 (H); 296; 120 (40 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>1;1</u>	N/A N/A N/A <u>data missing</u>	N/A N/A N/A <u>2,325 (V)</u>
		Annual	1;1	440,000	2,325
<b>Project Total:</b>					<b>27,589,729</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
SAN GORGONIO PASS (Riverside)					
26. <b>SeaWest Energy Group</b> 1660 Hotel Circle North Suite 400 San Diego, CA 92108					
A. <u>Project:</u> <b>Phoenix Energy Associates</b>	Micon 60/13 (H); 200; 60 (33 mph)	1st 2nd 3rd 4th	0;130 0;130 0;130 0;130	41,574 90,496 65,520 26,410	2,749,500 (V) 8,641,970 (V) 7,820,822 (V) 3,336,000 (V)
<u>Other Participant:</u> Phoenix Energy, Ltd.		Annual	0;130	224,000	22,548,292
-----					
	Enertech 44;40 (H); 140; 40 (30 mph)	1st 2nd 3rd 4th	0;90 0;90 0;90 0;90	27,283 59,388 42,988 17,331	1,099,800 (V) 1,882,030 (V) 2,355,178 (V) 0 (V)
		Annual	0;90	146,990	5,337,008
<b>Project Total:</b>					<b>27,885,300</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
SAN GORGONIO PASS (Riverside)					

27. **Transworld Wind Corporation**  
777 E. Tahquitz-McCallum Way  
Suite 333  
Palm Springs, CA 92262

A. <u>Project:</u> <b>Maeva I, Maeva II</b>	Windshark 80 (H);	1st	data missing	15,875	702,000 (V)
	210;	2nd	0;98	58,250	1,365,000 (V)
	80 (33.6 mph)	3rd	0;98	38,375	714,000 (V)
		4th	<u>0;98</u>	<u>12,500</u>	<u>372,000 (V)</u>
		Annual	0;98	125,000	3,153,000

**Project Total:**

**3,153,000**

B. <u>Project:</u> <b>Cabazon</b>	Storm Master (H);	1st	data missing	data missing	4,800 (UD)
	data missing;	2nd	0;43	data missing	0 (V)
	40 (60 mph)	3rd	0;43	data missing	0 (V)
		4th	<u>0;43</u>	<u>data missing</u>	<u>25,796 (V)</u>
		Annual	0;43	data missing	30,596

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> Annual	<u>Turbines</u> Installed New; Cum.	<u>Projected</u> Production Per Turbine (kWh)	<u>Electricity</u> Produced (kWh)
<u>SAN GORGONIO PASS</u> (Riverside)					
B. Cabazon (cont.)					
	Wenco (H);	1st	0;5	data missing	0 (V)
	data missing;	2nd	0;5	data missing	0 (V)
	100 (data missing)	3rd	0;5	data missing	0 (V)
		4th	0;5	data missing	0 (V)
		Annual	0;5	data missing	0
-----					
	Windshark 92 (H);	1st	N/A	26,670	N/A
	210;	2nd	37;37	97,860	180,000 (V)
	92 (40 mph)	3rd	15;52	64,470	1,464,000 (V)
		4th	10;62	21,000	256,204 (V)
		Annual	62;62	210,000	1,900,204
<b>Project Total:</b>					<b>1,930,800</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; <u>Rotor (M<sup>2</sup>);</u> <u>Size (kW)</u>	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
SAN GORGONIO PASS (Riverside)					

28. **Triad American Energy**  
2 Civic Plaza  
Suite 200  
Newport Beach, CA 92660

A. <u>Project:</u> <b>Triad American</b> <b>Energy - Traid I</b>	ESI 54S (H);	1st	0;40	data missing	576,000 (V)
	213;	2nd	0;40	data missing	1,251,000 (V)
	80 (40 mph)	3rd	23;63	data missing	1,964,400 (V)
		4th	<u>0;63</u>	<u>data missing</u>	<u>762,000 (V)</u>
		Annual	23;63	180,000	4,553,400

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**Project Total: 4,533,400**

B. <u>Project:</u> <b>Triad American</b>  <u>Other Participant:</u> <u>Ventus Energy Corporation</u>	ESI 54S (H);	1st	0;90	data missing	1,257,120 (V)
	213;	2nd	0;90	data missing	3,409,303 (V)
	80 (40 mph)	3rd	0;90	data missing	3,486,000 (V)
		4th	<u>0;90</u>	<u>data missing</u>	<u>1,347,000 (V)</u>
		Annual	0;90	220,000	9,499,423

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**Project Total: 9,499,423**

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>SAN GORGONIO PASS</u> (Riverside)					
C. <u>Project:</u> <b>Triad American</b> <b>Energy - Triad III</b>	ESI 54 (H); 213; 80 (40 mph)	1st 2nd 3rd 4th  Annual	25;25 13;38 0;38 0;38  38;38	data missing data missing data missing data missing  210,000	226,310 (V) 526,640 (V) 854,129 (V) 347,566 (V)  1,954,645
<u>Other Participant:</u> Windland, Inc.					
-----					
	ESI 80 (H); 476; 250 (40 mph);	1st 2nd 3rd 4th  Annual	N/A 6;6 0;6 0;6  6;6	N/A data missing data missing data missing  532,000	N/A 340,500 (V) 391,338 (V) 210,047 (V)  941,885
<b>Project Total:</b>					<b>2,896,530</b>
D. <u>Project:</u> <b>Triad VII</b>	ESI 80 (H); 476; 250 (40 mph)	1st 2nd 3rd 4th  Annual	N/A N/A 12;12 24;36  data missing	N/A N/A data missing data missing  1,968,000	N/A N/A 906,000 (V) 1,062,000 (V)  1,968,000
<b>Project Total:</b>					<b>1,968,000</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
SAN GORGONIO PASS (Riverside)					

29. **Zond Systems, Inc.**  
112 S. Curry Street  
Tehachapi, CA 93561

A. <u>Project:</u> <b>Zond-PanAero</b> <b>Windsystems</b> <b>Partners I and II</b>	Vestas V-15 (H);	1st	0;300	24,671	6,410,340 (V)
	184;	2nd	0;300	94,697	13,469,171 (V)
	65 (35 mph)	3rd	0;300	80,616	10,500,013 (V)
		4th	<u>0;300</u>	<u>20,828</u>	<u>5,614,201 (V)</u>
		Annual	0;300	220,812	35,993,725

Other Participant:  
Mesa Wind Developers,  
PanAero Corporation

Vestas V-15 (H); 184; 65 (35 mph)	1st	N/A	N/A	N/A
	2nd	160;160	93,062	2,871,229 (V)
	3rd	0;160	79,225	7,110,013 (V)
	4th	<u>0;160</u>	<u>20,469</u>	<u>3,516,116 (V)</u>
	Annual	160;160	192,756	13,497,358

**Project Total:** **49,491,083**

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	Turbine Data:		Turbines Installed <u>New;Cum.</u>	Projected Production Per Turbine (kWh)	Electricity Produced (kWh)
	<u>Model;</u> <u>Rotor (M<sup>2</sup>);</u> <u>Size (kW)</u>	<u>Quarter;</u> <u>Annual</u>			
<u>SAN GORGONIO PASS</u> (Riverside)					
B. <u>Project: Painted Hills</u>					
	Vestas V-15 (H);	1st	N/A	45,487	N/A
	177;	2nd	N/A	82,473	N/A
	65 (35 mph)	3rd	N/A	51,226	N/A
		4th	<u>61;61</u>	<u>33,372</u>	<u>31,853 (NV)</u>
		Annual	61;61	212,558	31,853
<hr/>					
	Vestas V-17 (H);	1st	N/A	53,547	N/A
	227;	2nd	N/A	97,084	N/A
	93 (35 mph)	3rd	N/A	60,302	N/A
		4th	<u>170;170</u>	<u>39,284</u>	<u>22,427 (NV)</u>
		Annual	170;170	250,217	22,427
<hr/>					
<b>Project Total:</b>					<b>54,280</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	Turbine Data:		Turbines	Projected	Electricity
	Model;	Quarter;	Installed	Production	Produced
	<u>Rotor (M<sup>2</sup>);</u>	<u>Annual</u>	<u>New;Cum.</u>	<u>Per Turbine</u>	<u>(kWh)</u>
	<u>Size (kW)</u>			<u>(kWh)</u>	
<u>TEHACHAPI</u> (Kern)					

30. **Airtricity**  
100 Commercial Way  
Tehachapi, CA 93561

A. Project: **Airtricity Wind Park**

1st	FAILED TO FILE	257,200 (UD)
2nd	FAILED TO FILE	962,000 (UD)
3rd	FAILED TO FILE	790,800 (UD)
4th	FAILED TO FILE	<u>863,600 (UD)</u>
Annual		2,873,600

**Project Total:**

**2,873,600**

B. Project: **Airtricity Wind  
Park-Mojave**

1st	N/A	N/A	N/A
2nd	FAILED TO FILE	1,248,000 (UD)	
3rd	FAILED TO FILE	2,600,816 (UD)	
4th	FAILED TO FILE	<u>1,956,000 (UD)</u>	
Annual		5,804,816	

**Project Total:**

**5,804,816**

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>TEHACHAPI</u> (Kern)					
31. <b>American Wind Energy Systems</b> P.O. Box 6257 Tehachapi, CA 93561					
A. <u>Project:</u> <b>Liberty Wind Park</b>					
	Blue Max 50 (H); 117; 50 (30 mph)	1st 2nd 3rd 4th	0;80 0;80 0;80 <u>0;80</u>	17,500 24,500 10,500 <u>17,500</u>	184,432 (NV) 406,104 (V) 368,600 (V) <u>211,520 (V)</u>
		Annual	0;80	70,000	1,170,656
<b>Project Total:</b>					<b>1,170,656</b>

32. <b>Arbutus</b> 4041 MacArther Blvd. Suite 230 Newport, CA 92660					
A. <u>Project:</u> <b>Pajuela Peak Wind Park</b>					
	Windtech 175 (H); 250; 75 (35 mph)	1st 2nd 3rd 4th	0;109 0;109 0;109 <u>0;81</u>	65,000 54,000 34,500 <u>69,500</u>	250,100 (V) 630,040 (V) 0 (V) <u>0 (V)</u>
		Annual	0;81	223,000	880,140

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>TEHACHAPI</u> <u>(Kern)</u>					
A. <b>Pajuela Peak Wind Park</b> (cont.)	Bonus 65/13 (H); 225; 65 (45 mph)	1st 2nd 3rd 4th	4;107 0;107 8;115 <u>114;229</u>	71,500 55,000 26,500 <u>72,500</u>	1,972,300 (V) 4,980,360 (V) 4,456,400 (V) <u>2,783,200 (V)</u>
		Annual	126;229	225,500	14,192,260
<b>Project Total:</b>					<b>15,072,400</b>

33. **CalWind Resources Inc.**  
20969 Ventura Blvd.  
Suite 222  
Woodland Hills, CA 91364

A. <u>Project:</u> <b>Wind Resource I</b>	NTV 65/13 (H); 201;	1st 2nd	2;11 0;11	36,860 78,470	130,000 (V) 368,000 (V)
<u>Other Participant:</u> Natural Resource Ventures	65 (35 mph)	3rd 4th	0;11 <u>0;11</u>	40,090 <u>34,580</u>	232,000 (V) <u>180,000 (V)</u>
		Annual	0;11	190,000	910,000
<b>Project Total:</b>					<b>910,000</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> Annual	<u>Turbines</u> Installed  New;Cum.	<u>Projected</u> Production Per Turbine (kWh)	<u>Electricity</u> Produced (kWh)
TEHACHAPI (Kern)					
34. Cannon Financial Group 6920 Miramar Road Suite 304 San Diego, CA 92121					
A. <u>Project:</u> Cannon 1982 Phase I Program	Storm Master 12 (H); 113; 40 (38 mph)	1st 2nd 3rd 4th  Annual	0;85 0;85 0;85 0;85  0;85	data missing data missing data missing data missing  122,040	2,000 (NV) 6,400 (NV) 1,600 (V) 1,200 (V)  11,200
<b>Project Total:</b>					<b>11,200</b>
B. <u>Project:</u> Cannon 1983 Phase II Windpark Program	CT 6000 (H); 117; 75 (30 mph)	1st 2nd 3rd 4th  Annual	0;60 0;60 0;60 0;60  0;60	data missing data missing data missing data missing  220,000	0 (V) 300 (V) 0 (V) 0 (V)  300

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	Turbine Data: Model; Rotor (M <sup>2</sup> ); Size (kW)	Quarter; <u>Annual</u>	Turbines Installed <u>New;Cum.</u>	Projected Production Per Turbine <u>(kWh)</u>	Electricity Produced <u>(kWh)</u>
<u>TEHACHAPI</u> (Kern)					
B. Cannon 1983 Phase II Windpark Program (cont.)	Windtech 175 (H); 197; 75 (35 mph)	1st 2nd 3rd 4th  Annual	0;5 0;5 0;5 <u>0;5</u>  0;5	data missing data missing data missing <u>data missing</u>  220,000	0 3,700 (V) 1,600 (V) <u>0</u>  5,300
<b>Project Total:</b>					<b>5,600</b>
C. <u>Project:</u> Cameron Ridge Windpark Program	CT 9000 (H); 117; 100 (37 mph)	1st 2nd 3rd 4th  Annual	0;50 0;50 0;50 <u>0;50</u>  0;50	data missing data missing data missing <u>data missing</u>  266,000	283,364 (V) 696,244 (V) 37,292 (V) <u>0</u> (V)  1,016,900
	CT 6000 (H); 117; 75 (30 mph)	1st 2nd 3rd 4th  Annual	0;206 0;206 0;206 <u>0;206</u>  0;206	data missing data missing data missing <u>data missing</u>  220,000	160,495 (V) 31,619 (V) 0 (V) <u>0</u> (V)  192,114

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
TEHACHAPI (Kern)					
C. Cameron Ridge Windpark Program (cont.)	Bouma 200 (H); 314; 135 (40 mph)	1st 2nd 3rd 4th  Annual	0;4 0;4 0;4 1;5  1;5	data missing data missing data missing data missing  450,000	90,141 (V) 388,137 (V) 286,709 (V) 174,000 (V)  938,987
<b>Project Total:</b>					<b>2,148,001</b>

35. CTV Marketing  
401 E. Ocean Blvd.  
Suite 204  
Long Beach, CA 90802

A. Project: **Coram Energy  
Group**  
  
Other Participant:  
Energy Conversion  
Technology, Inc.  
Coram Energy Group, Ltd.

Aeroman 12.5;40 (H); 123; 40 (27 mph)	1st 2nd 3rd 4th  Annual	0;11 2;13 12;25 2;27  16;27	data missing data missing data missing data missing  160,000	181,171 (V) 391,581 (V) 481,022 (V) 341,446 (V)  1,395,220	
<b>Project Total:</b>					<b>1,395,220</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>TEHACHAPI</u> (Kern)					
B. <u>Project: Coram TaxVest</u> <u>Windfarms</u>	Aeroman 12.5 (H); 123; 40 (27 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>100;100</u>	data missing data missing data missing <u>data missing</u>	N/A N/A N/A <u>0</u> (V)
<u>Other Participant:</u> Energy Conversion Technology, Inc.		Annual	100;100	160,000	0
<b>Project Total:</b>					<b>0</b>
C. <u>Project: Coram TaxVest</u> <u>Windfarms</u>	Aeroman 12.5 (H); 123; 40 (27 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>47;47</u>	data missing data missing data missing <u>data missing</u>	N/A N/A N/A <u>7,200</u> (V)
<u>Other Participant:</u> Coram Energy Group, Ltd.		Annual	47;47	160,000	7,200
<b>Project Total:</b>					<b>7,200</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
TEHACHAPI (Kern)					
D. <u>Project:</u> Coram TaxVest Windfarms	Aeroman 12.5 (H); 123; 40 (27 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>109;109</u>	data missing data missing data missing <u>data missing</u>	N/A N/A N/A <u>0</u> (V)
<u>Other Participant:</u> Coram TaxVest		Annual	109;109	160,000	0
<b>Project Total:</b>					<b>0</b>

36. **Dollar Energy Systems Corp.**  
140 Marine View Drive  
Solano Beach, CA 92075

A. <u>Project:</u> Mariah I	Storm Master 12-4 (H); 78.5; 40 (35 mph)	1st 2nd 3rd 4th	0;20 0;20 0;20 <u>0;20</u>	19,000 33,000 13,000 <u>15,000</u>	0 (V) 0 (V) 0 (V) <u>0</u> (V)
<u>Other Participant:</u> Pacific Wind Systems		Annual	0;20	80,000	0
<b>Project Total:</b>					<b>0</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> Annual	<u>Turbines</u> Installed New;Cum.	<u>Projected</u> Production Per Turbine (kWh)	<u>Electricity</u> Produced (kWh)
<u>TEHACHAPI</u> (Kern)					
B. <u>Project: Mariah II</u>	Storm Master	1st	0;40	26,000	20,083 (V)
	12-5 (H);	2nd	0;40	46,000	137,395 (V)
<u>Other Participant:</u>	78.5;	3rd	0;40	18,000	96,707 (V)
<u>Pacific Wind Systems</u>	60 (45 mph)	4th	<u>0;40</u>	<u>18,000</u>	<u>56,142 (V)</u>
		Annual	0;40	108,000	310,327
<b>Project Total:</b>					<b>310,327</b>
C. <u>Project: Mariah III</u>	Storm Master	1st	0;20	26,000	0 (V)
	12-4 (H);	2nd	0;20	33,000	194,000 (V)
<u>Other Participant:</u>	78.5;	3rd	0;20	18,000	99,893 (V)
<u>Pacific Wind Systems</u>	60 (45 mph)	4th	<u>0;20</u>	<u>15,000</u>	<u>35,058 (V)</u>
		Annual	0;20	92,000	328,951
<b>Project Total:</b>					<b>328,951</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; <u>Rotor (M<sup>2</sup>);</u> <u>Size (kW)</u>	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>TEHACHAPI</u> (Kern)					
37. <b>Energy Unlimited, Inc.</b> 2 Aldwyn Center Villanova, PA 19085					
A. <u>Project:</u> <b>Windy Flats '82 and</b> <b>Mountain Wind '83</b>	Carter 25 KW (H); 74.75; 25 (25 mph)	1st 2nd 3rd 4th  Annual	0;25 0;25 0;25 <u>0;25</u>  0;25	27,774 23,320 12,464 <u>16,472</u>  80,030	213,364 (V) 368,900 (V) 243,469 (V) <u>211,517 (V)</u>  1,037,250
<u>Other Participant:</u> Zond Systems, Inc.					
<b>Project Total:</b>					<b>1,037,250</b>

38. <b>Flowind Corporation</b> 1183 Quarry Lane Pleasanton, CA 94566					
A. <u>Project:</u> <b>Flowind Cameron</b> <b>Ridge</b>	F17 (V); 260; 142 (44 mph)	1st 2nd 3rd 4th  Annual	0;127 10;137 0;137 <u>24;161</u>  34;161	64,907 146,275 120,979 <u>61,300</u>  393,461	3,212,594 (V) 9,696,877 (V) 8,249,585 (V) <u>5,546,737 (V)</u>  26,705,793

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> Annual	<u>Turbines</u> Installed New;Cum.	<u>Projected</u> Production Per Turbine (kWh)	<u>Electricity</u> Produced (kWh)
<u>TEHACHAPI</u> (Kern)					
A. <b>Flowind Cameron Ridge (cont.)</b>	F19 (V); 340; 250 (38 mph)	1st 2nd 3rd 4th	0;20 0;20 15;35 <u>145;180</u>	95,529 204,963 168,145 <u>84,362</u>	507,406 (V) 1,859,123 (V) 1,854,415 (V) <u>1,029,263 (V)</u>
		Annual	160;180	552,999	5,250,207
<b>Project Total:</b>					<b>31,956,000</b>

39. **Illinois Wind Power**  
666 N. Lakeshore Drive  
Suite 423  
Chicago, IL 60611

A. <u>Project:</u> <b>Illinois Wind Power</b>	ESI 80 (H); 467; 300 (40 mph)	1st 2nd 3rd 4th	0;5 0;5 0;5 <u>0;5</u>	90,000 155,000 155,000 <u>90,000</u>	353,000 (V) 576,899 (V) 583,996 (V) <u>285,395 (V)</u>
<u>Other Participants:</u> Energy Conversion Technology, Inc.		Annual	0;5	490,000	1,799,290
<b>Project Total:</b>					<b>1,799,290</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> Annual	<u>Turbines</u> Installed New;Cum.	<u>Projected</u> Production Per Turbine (kWh)	<u>Electricity</u> Produced (kWh)
TEHACHAPI (Kern)					
40. <b>Oak Creek Energy Systems</b> P.O. Box 469 Tehachapi, CA 93561					
A. <u>Project:</u> <b>Oak Creek Energy Systems</b>	Carter (H); 75; 25 (data missing)	1st 2nd 3rd 4th  Annual	0;65  FAILED TO FILE FAILED TO FILE FAILED TO FILE	data missing  FAILED TO FILE FAILED TO FILE FAILED TO FILE	160,924 (NV)
				<u>76,000</u>	
	Blue Max (H); 108; 50 (data missing)	1st 2nd 3rd 4th  Annual	0;33  FAILED TO FILE FAILED TO FILE FAILED TO FILE	data missing  FAILED TO FILE FAILED TO FILE FAILED TO FILE	26,197 (NV)
				<u>143,000</u>	
	Vestas (H); 200; 65 (data missing)	1st 2nd 3rd 4th  Annual	0;7  FAILED TO FILE FAILED TO FILE FAILED TO FILE	data missing  FAILED TO FILE FAILED TO FILE FAILED TO FILE	128,210 (NV)
				<u>180,000</u>	

1985 WIND PERFORMANCE REPORTING SYSTEM

Location/Operator/Project

Turbine Data:  
 Model;  
 Rotor (M<sup>2</sup>);  
 Size (kW)

Quarter;  
 Annual

Turbines  
 Installed  
 New;Cum.

Projected  
 Production  
 Per Turbine  
 (kWh)

Electricity  
 Produced  
 (kWh)

TEHACHAPI  
 (Kern)

A. Oak Creek Energy Systems  
 (cont.)

Bonus (H); 200; 65 (data missing)	1st 2nd 3rd 4th	0;51	data missing FAILED TO FILE FAILED TO FILE FAILED TO FILE	766,649 (NV)
	Annual		<u>180,000</u>	

Nordtank (H); 200; 65 (data missing)	1st 2nd 3rd 4th	0;66	data missing FAILED TO FILE FAILED TO FILE FAILED TO FILE	1,303,188 (NV)
	Annual		<u>180,000</u>	

Micon (H); 200; 65 (data missing)	1st 2nd 3rd 4th	1;17	data missing FAILED TO FILE FAILED TO FILE FAILED TO FILE	327,162 (NV)
	Annual		<u>180,000</u>	

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>TEHACHAPI</u> (Kern)					
A. Oak Creek Energy Systems (cont.)	Lolland (H); 184; 75 (data missing)	1st 2nd 3rd 4th  Annual	4;13  FAILED TO FILE FAILED TO FILE FAILED TO FILE	data missing    207,000	144,684 (NV)
<hr/>					
<b>Project Total:</b>		1st 2nd 3rd 4th  Annual			2,696,090 (NV) 5,557,600 (UD) 6,309,600 (UD) <u>3,398,400 (UD)</u>  17,961,690
<hr/>					
41. Universal Properties 9460 Wilshire Blvd. Suite 617 Beverly Hills, CA 90212					
A. Project: <u>Ridgeline Wind Farm</u>	ESI 54 (H); 213; 50 (3 mph)	1st 2nd 3rd 4th  Annual	0;10 0;10 0;10 <u>0;10</u>	data missing data missing data missing <u>data missing</u>	128,750 (V) 195,500 (V) 135,150 (V) <u>0 (V)</u>  459,400
<hr style="border-top: 1px dashed black;"/>					

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
TEHACHAPI (Kern)					
A. <b>Ridgeline Wind Farm (cont.)</b>	ESI 80 (H); data missing 240 (40 mph)	1st 2nd 3rd 4th  Annual	0;1 0;1 0;1 <u>0;1</u>  0;1	data missing data missing data missing <u>data missing</u>  data missing	0 (V) 0 (V) 0 (V) <u>0 (V)</u>  0
<b>Project Total:</b>					<b>459,400</b>

42. **Windland, Inc.**  
2141 Palomar Airport Rd.  
Ste. 360  
Carlsbad, CA 92008

A. <u>Project:</u> <b>Windland</b>	Storm Master 12 Series 4 (H); 113; 40 (42 mph)	1st 2nd 3rd 4th  Annual	0;10 0;10 0;10 <u>0;10</u>  0;10	18,000 36,000 18,000 <u>18,000</u>  90,000	4,769 (V) 16,945 (V) 0 (V) <u>0 (V)</u>  21,714
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1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
TEHACHAPI (Kern)					
A. Windland (cont.)					
	Carter 25 (H);	1st	10;25	15,300	225,852 (V)
	77;	2nd	0;25	30,700	419,505 (V)
	25 (30 mph)	3rd	14;39	15,300	493,005 (V)
		4th	<u>0;39</u>	<u>15,300</u>	<u>302,031 (V)</u>
		Annual	0;39	76,600	1,440,393
<hr/>					
	Carter 250 (H);	1st	0;12	120,000	500,299 (V)
	332;	2nd	0;12	240,000	969,478 (V)
	250 (38 mph)	3rd	0;12	120,000	1,250,328 (V)
		4th	<u>0;12</u>	<u>120,000</u>	<u>612,757 (V)</u>
		Annual	0;12	600,000	3,332,862
<hr/>					
	<b>Project Total:</b>				<b>4,794,969</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	Turbine Data:		Turbines Installed <u>New;Cum.</u>	Projected Production Per Turbine <u>(kWh)</u>	Electricity Produced <u>(kWh)</u>
	Model; Rotor (M <sup>2</sup> ); Size (kW)	Quarter; <u>Annual</u>			

TEHACHAPI  
(Kern)

43. **Windridge, Inc.**  
406 E. Tehachapi Blvd.  
Tehachapi, CA 93561

A. Project: **Willowind**

Windmatic 15 S (H);	1st	0;26	data missing	0 (V)
189;	2nd	0;26	38,974	468,119 (V)
65 (34 mph)	3rd	0;26	35,585	506,000 (V)
	4th	<u>0;26</u>	<u>47,447</u>	<u>446,000 (V)</u>
	Annual	0;26	122,006	1,420,119

Windtech 175 (H);	1st	0;4	data missing	0 (V)
196;	2nd	0;4	data missing	19,881 (V)
75 (38 mph)	3rd	N/A	N/A	N/A
	4th	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
	Annual	N/A		19,881

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**Project Total:** **1,440,000**

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1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>TEHACHAPI</u> (Kern)					
44. <b>Wind Source, Inc.</b> 187 E. Wilbur Rd. Suite 6 Thousand Oaks, CA 91360					
A. <u>Project:</u> <b>Cache Creek</b> <b>Wind Farm</b>					
	Aeroman (H); 12.5; 40 (27 mph)	1st 2nd 3rd 4th  Annual	0;10 0;10 0;10 <u>30;40</u>  30;40	21,000 42,000 56,000 <u>21,000</u>  140,000	66,767 (V) 167,604 (NV) 145,765 (NV) <u>129,277 (NV)</u>  509,413
-----					
	Bouma (H); 16; 100 (54 mph)	1st 2nd 3rd 4th  Annual	0;4 0;4 0;4 <u>2;6</u>  2;6	30,000 60,000 80,000 <u>30,000</u>  200,000	15,500 (V) 98,519 (NV) 86,423 (NV) <u>72,860 (NV)</u>  273,302
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1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>TEHACHAPI</u> (Kern)					
A. Cache Creek Wind Farm (cont.)	Bouma (H); 20; 200 (63 mph)	1st 2nd 3rd 4th  Annual	0;3 0;3 0;3 <u>0;3</u>  0;3	48,750 97,500 130,000 <u>48,750</u>  325,000	29,820 (V) 97,500 (NV) 104,899 (NV) <u>0 (NV)</u>  232,219
<b>Project Total:</b>					<b>505,521</b>

45. Zephyr Park, Ltd.  
18 Eastwood Court  
Oakland, CA 94611

A. <u>Project:</u> Zephyr Park Ltd.	Windtech 175 (H); 197; 75 (50 mph)	1st 2nd 3rd 4th  Annual	0;30 0;30 0;30 <u>0;30</u>  0;30	data missing data missing data missing <u>data missing</u>  data missing	16,400 (V) 34,400 (V) 25,200 (V) <u>5,200 (V)</u>  81,200
<u>Operator Comments:</u> See Appendix A Comment #2					
<b>Project Total:</b>					<b>81,200</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>TEHACHAPI</u> (Kern)					
46. <b>Zond Systems, Inc.</b> 112 So. Curry Street Tehachapi, CA 93561					
A. <u>Project:</u> <b>Victory Garden</b> <b>Feeder 0</b>	Storm Master 12 (H); 113; 40 (40 mph)	1st 2nd 3rd 4th  Annual	0;47 0;47 1;48 0;47  1;47	47,600 40,600 22,400 <u>35,420</u>  146,000	3,296 (V) 12,968 (V) 13,976 (V) <u>18,635 (NV)</u>  48,875
<b>Project Total:</b>					<b>48,875</b>
B. <u>Project:</u> <b>Victory Garden</b> <b>Feeder 1</b>	Polenko 18 (H); 254; 100 (35 mph)	1st 2nd 3rd 4th  Annual	0;15 0;15 0;15 0;15  0;15	108,129 92,228 50,884 <u>66,785</u>  318,026	291,379 (V) 502,584 (V) 393,609 (NV) <u>293,014 (NV)</u>  1,480,586

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u> <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>TEHACHAPI</u> <u>(Kern)</u>					
<b>B. Victory Garden Feeder 1</b>					
(cont.)					
	Storm Master 12	1st	0;24	47,600	0 (V)
	S02,S03,S04 (H);	2nd	0;24	40,600	0 (V)
	113;	3rd	N/A	22,400	N/A
	40 (40 mph)	4th	N/A	<u>29,400</u>	<u>N/A</u>
		Annual	N/A	140,000	0
-----					
	Vestas V-15 (H);	1st	0;66	81,953	1,040,514 (V)
	184;	2nd	0;66	69,901	2,135,048 (V)
	65 (35 mph)	3rd	0;58	38,566	966,766 (NV)
		4th	<u>0;58</u>	<u>50,618</u>	<u>1,056,351 (NV)</u>
		Annual	0;58	240,986	5,198,679
-----					
	Wind-Matic 14S (H);	1st	0;30	72,541	297,469 (V)
	165;	2nd	0;30	61,873	905,090 (V)
	65 (35 mph)	3rd	0;30	34,137	479,572 (NV)
		4th	<u>0;30</u>	<u>44,805</u>	<u>499,833 (NV)</u>
		Annual	0;30	213,356	2,181,964
-----					
<b>Project Total:</b>					<b>8,861,229</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	Turbine Data: Model; Rotor (M <sup>2</sup> ); Size (kW)	Quarter; <u>Annual</u>	Turbines Installed  <u>New;Cum.</u>	Projected Production Per Turbine <u>(kWh)</u>	Electricity Produced <u>(kWh)</u>
<u>TEHACHAPI</u> (Kern)					
C. <u>Project:</u> <b>Victory Garden</b>	Vestas V-15	1st	0;5	72,171	113,850 (V)
	Group 1 (H);	2nd	0;5	61,558	191,763 (V)
	184;	3rd	0;5	33,963	141,302 (V)
	65 (35 mph)	4th	<u>0;5</u>	<u>44,756</u>	<u>127,768 (NV)</u>
		Annual	0;5	212,448	574,683
-----					
	Vestas V-15	1st	0;75	81,953	246,721 (V)
	Group 2 (H);	2nd	0;75	69,901	2,772,122 (V)
	184;	3rd	0;75	38,566	1,717,931 (V)
	65 (35 mph)	4th	<u>0;75</u>	<u>50,618</u>	<u>1,610,593 (NV)</u>
		Annual	0;75	241,038	6,347,367
-----					
	Vestas V-15	1st	0;13	81,953	246,721 (V)
	Group 3 (H);	2nd	0;13	69,901	463,580 (V)
	184;	3rd	0;13	38,566	295,319 (V)
	65 (35 mph)	4th	<u>0;13</u>	<u>50,618</u>	<u>286,163 (NV)</u>
		Annual	0;13	241,038	1,291,783
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1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>TEHACHAPI</u> (Kern)					
C. <b>Victory Garden Feeder 2</b> (cont.)	Vestas V-15 Group 4 (H); 184; 65 (35 mph)	1st 2nd 3rd 4th	0;2 0;2 0;2 0;2	81,953 69,901 38,566 50,618	26,181 (V) 463,580 (V) 31,960 (V) 31,027 (NV)
		Annual	0;2	241,038	552,748
<b>Project Total:</b>					<b>8,766,581</b>
D. <u>Project:</u> <b>Victory Garden</b> <b>Feeder 3</b>	Vestas V-15 (H); 184; 65 (35 mph)	1st 2nd 3rd 4th	0;110 0;110 0;97 0;97	72,171 61,558 33,963 44,576	1,605,831 (V) 3,656,029 (V) 2,033,682 (V) 1,307,198 (NV)
		Annual	0;97	212,268	8,602,704
<b>Project Total:</b>					<b>8,602,740</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

Location/Operator/Project

TEHACHAPI  
(Kern)

Turbine Data:  
Model;  
Rotor (M<sup>2</sup>);  
Size (kW)

Quarter;  
Annual

Turbines  
Installed  
New;Cum.

Projected  
Production  
Per Turbine  
(kWh)

Electricity  
Produced  
(kWh)

E. Project: **Victory Garden  
Feeder 5**

Vestas V-15 (H); 184; 65 (35 mph)	1st	0;74	72,171	721,940 (V)
	2nd	0;74	61,558	2,521,112 (V)
	3rd	0;86	33,963	1,690,348 (V)
	4th	<u>0;86</u>	<u>44,576</u>	<u>1,635,044 (NV)</u>
	Annual	0;86	212,268	6,568,444

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Vestas V-15 (H); 184; 65 (35 mph)	1st	N/A	64,906	N/A
	2nd	N/A	55,361	N/A
	3rd	0;1	30,544	11,416 (V)
	4th	<u>0;1</u>	<u>40,089</u>	<u>21,751 (NV)</u>
	Annual	0;1	190,900	33,167

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Vestas V-17 (H); 227; 90 (35 mph)	1st	0;2	82,569	26,076 (V)
	2nd	0;4	70,427	117,428 (V)
	3rd	0;4	38,356	140,479 (V)
	4th	<u>0;4</u>	<u>50,999</u>	<u>137,843 (NV)</u>
	Annual	0;4	242,351	421,826

**Project Total:**

**7,023,437**

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	Turbine Data:		Turbines	Projected	Electricity
	Model; Rotor (M <sup>2</sup> ); Size (kW)	Quarter; Annual	Installed New;Cum.	Production Per Turbine (kWh)	Produced (kWh)
<u>TEHACHAPI</u> (Kern)					
F. <u>Project: Victory Garden</u> <u>Feeder 6</u>	Vestas V-15 (H); 184; 65 (35 mph)	1st 2nd 3rd 4th Annual	0;19 0;19 6;25 <u>1;26</u> 7;26	72,171 61,558 33,963 <u>44,576</u> 212,268	121,066 (V) 340,242 (V) 344,040 (V) <u>484,973 (NV)</u> 1,290,321
	Wind-Matic 15S (H); 184; 65 (35 mph)	1st 2nd 3rd 4th Annual	0;7 0;7 0;7 <u>2;9</u> 2;9	53,848 45,929 25,340 <u>33,259</u> 158,376	23,715 (V) 71,997 (V) 75,917 (V) <u>71,956 (NV)</u> 243,585
	Vestas V-15 (H); 184; 65 (45 mph)	1st 2nd 3rd 4th Annual	N/A 8;8 7;15 <u>4;19</u> 19;19	64,906 55,361 30,544 <u>40,089</u> 190,900	N/A 84,565 (V) 333,166 (V) <u>370,503 (NV)</u> 788,234

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
TEHACHAPI (Kern)					
F. <b>Victory Garden Feeder 6</b> (cont.)	Vestas V-17 (H); 227; 93 (35 mph)	1st 2nd 3rd 4th  Annual	N/A N/A N/A <u>5;5</u>  5;5	data missing data missing data missing <u>data missing</u>  data missing	N/A N/A N/A <u>666 (NV)</u>  666
<b>Project Total:</b>					<b>2,322,806</b>
G. <u>Project:</u> <b>Victory Garden Feeder 8</b>	Storm Master (H); 113; 40 (40 mph)	1st 2nd 3rd 4th  Annual	N/A N/A 0;24 <u>0;24</u>  0;24	32,760 54,180 17,640 <u>35,420</u>  140,000	N/A N/A 0 (NV) <u>84,273 (NV)</u>  84,273
	Vestas V-15 (H); 184; 65 (35 mph)	1st 2nd 3rd 4th  Annual	N/A N/A 0;8 <u>0;8</u>  0;8	81,953 69,901 38,566 <u>50,618</u>  241,031	N/A N/A 153,909 (NV) <u>175,403 (NV)</u>  329,312
<b>Project Total:</b>					<b>413,585</b>

1985 WIND PERFORMANCE REPORTING SYSTEM

<u>Location/Operator/Project</u>	<u>Turbine Data:</u> Model; Rotor (M <sup>2</sup> ); Size (kW)	<u>Quarter;</u> <u>Annual</u>	<u>Turbines</u> <u>Installed</u>  <u>New;Cum.</u>	<u>Projected</u> <u>Production</u> <u>Per Turbine</u> <u>(kWh)</u>	<u>Electricity</u> <u>Produced</u> <u>(kWh)</u>
<u>TEHACHAPI</u> (Kern)					
H. <u>Project:</u> <b>Victory Garden --</b>	Vestas V-17 (H);	1st	N/A	55,809	N/A
	227;	2nd	N/A	92,300	N/A
	93 (35 mph)	3rd	N/A	30,051	N/A
		4th	<u>140;140</u>	<u>60,340</u>	<u>38,277 (NV)</u>
		Annual	140;140	238,500	38,277
-----					
	Vestas V-17 (H);	1st	N/A	55,809	N/A
	227;	2nd	N/A	92,300	N/A
	93 (35 mph)	3rd	N/A	30,051	N/A
		4th	<u>102;102</u>	<u>60,340</u>	<u>133,861 (NV)</u>
		Annual	102;102	238,500	133,861
-----					
	Vestas V-17 (H);	1st	N/A	55,809	N/A
	227;	2nd	N/A	92,300	N/A
	93 (35 mph)	3rd	N/A	30,051	N/A
		4th	<u>98;98</u>	<u>60,340</u>	<u>300,723 (NV)</u>
		Annual	98;98	238,500	300,723
-----					

1985 WIND PERFORMANCE REPORTING SYSTEM

Location/Operator/Project

TEHACHAPI  
(Kern)

Turbine Data:  
Model;  
Rotor (M<sup>2</sup>);  
Size (kW)

Quarter;  
Annual

Turbines  
 Installed  
New;Cum.

Projected  
 Production  
 Per Turbine  
(kWh)

Electricity  
 Produced  
(kWh)

H. **Victory Garden -- 33 East**  
(cont.)

Vestas V-17 (H); 227; 93 (35 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>60;60</u>	55,809 92,300 30,051 <u>60,340</u>	N/A N/A N/A <u>410,344</u>
	Annual	60;60	238,500	410,344

**Project Total:**

**883,205**

I. **Project: Victory Garden --**  
K Site

Vestas V-15 (H); 184; 65 (35 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>42;42</u>	data missing data missing data missing <u>data missing</u>	N/A N/A N/A <u>386 (NV)</u>
	Annual	42;42	data missing	386

Vestas V-17 (H); 227; 93 (35 mph)	1st 2nd 3rd 4th	N/A N/A N/A <u>55;55</u>	data missing data missing data missing <u>data missing</u>	N/A N/A N/A <u>9 (NV)</u>
	Annual	55;55	data missing	9

**Project Total:**

**395**

APPENDIX A  
OPERATOR COMMENTS

1. Comment from: U. S. Windpower Inc.: Midway, Dyer and Vasco Roads

The average distribution of wind energy resources in Altamont Pass and the average number of 56-100's in USW's operating base during 1985 were:

	Average # of 56-100 Turbines Installed	Percent of Total Annual Energy
1st Qtr.	604	10%
2nd Qtr.	712	40%
3rd Qtr.	919	40%
4th Qtr.	1251	10%

- o The average number of turbines installed during 1985, weighted for resources availability is 838.
- o Total 1985 energy production for the 56-100 was 166,128,168 kWh.
- o Total per machine production (166,128,168 - 838) was 198,244 kWh or 94% of the 210,000 kWh projected.
- o Internally USW uses the number of turbines installed at the beginning of each month to compute per turbine energy. This is because preoperational testing and the timing of financing often result in an interval between completion of construction and the time

turbines actually begin operation. Using this this monthly (vs. quarterly) approach, the 56-100's produce 207,000 kWh on average for 1985, 99% of total projected energy output.

2. Comment from: Zephyr Park Lt.: Zephyr Wind-farm.

The Windtech wind turbines originally installed in 1983 have experienced numerous problems. Zephyr has conducted extensive repairs to those turbines. In addition, several turbines have been retrofitted and tested in an attempt to identify a viable retrofit that can be applied to all of the units. Zephyr plans to install an additional 40 turbines in its Tehachapi facility, but does not plan to utilize Windtech turbines in that expansion.

3. Comment from: Altamont-American Partners, Ltd.

Machines are in the process of being repaired. They will become operational and be brought back on line approximately May 1, 1986.

4. Comment from: Alternative Energy Developments, International

We have not been involved with wind turbines for a year and a half and are no longer in business as A.E.D.I.

5. Comment from: Pacheco Wind Park, Inc.: Pacheco Wind Park

Appendix A

5. The windfarm has been shut down for approximately two years, during which time bankruptcy proceedings have ensued. A reorganization plan has been submitted by the original investors, who intend to recommission the wind farm at the earliest possible date.

6. Comment from: West Coast Wind Power

No operating turbines installed. Operations have ceased. No kilowatt hours have been produced during the reporting quarters.

7. Comment from: WindMaster: WindMaster

A fire on May 11, 1985 damaged the switch gear. As of yet, it has not been replaced, pending settlement from insurance company. We expect to start these units back up in March of 1986.

APPENDIX B

Non-Operating Wind Projects

The following list of wind projects are currently not being operated by any wind operator. The power purchaser reports submitted to the CEC show that no electricity was bought from any of these projects during this reporting quarter. If any party begins to operate one of these projects, and subsequently receives payments for electricity from a wind power purchaser, then they will become responsible for filing regular quarterly WPRS reports.

The name of these projects, their resource area, previous operator, current contact (if different than previous operator), quarters they did not operate in 1985, and reference for any comments submitted is given below:

<u>Project Name</u>	<u>Resource Area/County</u>	<u>Previous Operator</u>	<u>Current Contact</u>	<u>Quarters Not Operating</u>	<u>Operator's Comments</u>
1. Altamont-American Partners, Ltd.	Altamont Pass Alameda County	Altamont-American Partners, Ltd. 12760 High Bluff Dr., Suite #370 San Diego, CA 92103	Same	1st; 2nd; 3rd; 4th;	See Appendix A, Comment #3
2. Alternative Energy Developments, International	Salinas Valley Monterey County	Alternative Energy Development International 1349 N. Oliver Dr Ventura, CA 93001	Same	1st; 2nd; 3rd; 4th;	See Appendix A, Comment #4
3. Desert Wind Partners	San Geronio Pass Riverside Co.	Desert Wind Partners Address unknown	Same	2nd; 3rd; 4th	None
4. Pacheco Wind Park (Previously GE3)	Pacheco Pass Merced County	Aura Energy Systems, Inc. 22 Battery Street Suite 300 San Francisco, CA 94111	West Wind Industries P.O. Box 1705 Davis, CA 95617	1st; 2nd; 3rd; 4th;	See Appendix A, Comment #5

Appendix B

<u>Project Name</u>	<u>Resource Area/County</u>	<u>Previous Operator</u>	<u>Current Contact</u>	<u>Quarters Not Operating</u>	<u>Operator's Comments</u>
5. Wind Coast Wind Power	Altamont Pass Alameda County	West Coast Wind Power 601 California St Suite 2100 San Francisco CA 94108	Same	1st; 2nd; 3rd; 4th;	See Appendix A, Comment #6
6. Wind Master	Altamont Pass Contra Costa County	Wind Master Rt. 1 P.O. Box 6C Byron, CA 94514	Same	3rd; 4th;	See Appendix A, Comment #7
7. Ridgeline Windfarm	Tehachapi Pass Kern County	Universal Proper- ties, Inc. 9460 Wilshire Blvd. Suite 617 Beverly Hills, CA 90212	Zond Systems, Inc. 1125 S. Curry Street Tehachapi, CA 93561	4th	None

APPENDIX C  
WIND TURBINE MANUFACTURERS

This appendix contains the name, address, and phone number of all manufacturers and/or distributors of wind turbines installed in California wind projects as reported for WPRS.

<u>MANUFACTURER/DISTRIBUTOR</u>	<u>TURBINE BRAND NAME(S)</u>
1. Airtricity 151 Kalmus Drive Costa Mesa, CA 92626  Phone: (714) 546-5217	1. Windmatic (WM)
2. American M.A.N. West Coast Office 303 Hegenberger Road, Ste. 402 Oakland, CA 94621  Phone: (415) 430-0754	2. Aeroman
3. Arizona Micro-Utilities, Inc. 1890 E. Greenway Tempe, AZ 85282  Phone: (602) 839-7709	3. Wenco
4. Automatic Power Inc. P.O. Box 230738 Houston, TX 77223  Phone: (713) 228-5208	4. Aeroman
5. Blue Max "No longer in business"	5. Blue Max
6. Bonus 444 West Ocean Blvd., Ste. 1102 Long Beach, CA 90802  Phone: (213) 436-8651	6. Bonus

<u>MANUFACTURER/DISTRIBUTOR</u>	<u>TURBINE BRAND NAME(S,</u>
7. Bouma Wind Turbines P.O. Box 79483 Houston, TX 77024  Phone: (713) 222-0742	7. Bouma
8. Carter Wind Systems, Inc. Box 405 A Burkburnett, TX 76354  Phone: (817) 569-2238	8. Carter
9. Century Design, Inc. 3635 Afton Road San Diego, CA 92123  Phone: (619) 292-1212	9. Century (CT)
10. Danish Wind Turbines P.O. Box 14 DK. 4900 Nakskov DENMARK	10. Lolland
11. Earth Energy Systems I 2720 Fernbrook Lane Minneapolis, MI 55441  Phone: (612) 829-1933	11. Jacobs
12. Enertech Corporation 379 Earhart Way Livermore, CA 94550  Phone: (415) 449-7227	12. Enertech

<u>MANUFACTURER/DISTRIBUTOR</u>	<u>TURBINE BRAND NAME(S)</u>
13. Energy Sciences, Inc. 6591 Sierra Lane Dublin, CA 94568  Phone: (415) 833-0400	13. ESI
14. Fayette Manufacturing Corp. P.O. Box 1149 Tracy, CA 95376  Phone: (415) 443-2929	14. Fayette
15. Flowind Corporation 21414 68th Avenue, South Kent, WA 98032  (206) 872-8500	15. Flowind (F)
16. GE3 "No longer in business"	16. Wind Turbo
17. HMZ Belgium N.V. Rellestraat 3 Industrie Zone 5 3800 Sint-Truiden BELGIUM	17. HMZ
18. Holec Power Systems, Inc. P.O. Box 2227 Livermore, CA 94550  Phone: (415) 449-9960	18. Polenko
19. James Howden and Company 195 Scotland Street Glasgow G5 8PJ SCOTLAND	19. HWP

<u>MANUFACTURER/DISTRIBUTOR</u>	<u>TURBINE BRAND NAME(S)</u>
20. International Dynergy Systems, Inc. 777 E. Taquitz-McCallum, #333 Palm Springs, CA 92262  Phone: (714) 849-5766	20. Windshark, Dynergy
21. Maetecnic 1600 Orange Street Alhambra, CA 91803-1622  Phone: (818) 284-5875	21. Maetecnic
22. Micon Energy Systems 1660 Hotel Circle, Ste. 400 San Diego, CA 92108  Phone: (619) 297-8066	22. Micon
23. Nordtank, Inc. 860 Via de la Paz, Ste. D-3 Pacific Palisades, CA 90272  Phone: (213) 459-8543	23. Nordtank (NTV)
24. Scandia Wind, Inc. 42625 N. Sierra Hwy. Lancaster, CA 93534  Phone: (805) 945-0611	24. Riisager
25. U.S. Windpower 500 Sansome Street, Ste. 600 San Francisco, CA 94111  Phone: (415) 398-3825	25. U.S. Windpower (USW)

<u>MANUFACTURER/DISTRIBUTOR</u>	<u>TURBINE BRAND NAME(S)</u>
26. Vawtpower, Inc. 134 Rio Rancho Drive Rio Rancho, NM 87124  Phone: (505) 892-9463	26. Vawtpower (VP)
27. Vestas North American Ltd. P.O. Box 276 Tehachapi, CA 93561  Phone: (805) 822-6839	27. Vestas
28. Wind Power Systems 9279 Cabot Drive San Diego, CA 92126  Phone: (619) 578-0241	28. Storm Master
29. Windtech Inc. P.O. Box 837 Glastonbury, CT 06033  Phone: (203) 659-3786	29. Windtech

APPENDIX D  
REGULATIONS  
CALIFORNIA ADMINISTRATIVE CODE  
TITLE 20, CHAPTER 2, SUBCHAPTER 3, ARTICLE 4

WIND PROJECT PERFORMANCE REPORTING SYSTEM

Adopted  
November 28, 1984

### 1381 Title and Purpose.

The purpose of this article is to specify performance reporting requirements for operators of specified wind energy projects and for entities which purchase electricity from the projects and to identify requirements for the Commission to publish the information.

Authority cited: Sections 25213 and 25218(e),  
Public Resources Code Reference: Sections  
25216.5(d), 25601(c), and 25605, Public Resources  
Code.

### 1382 Definitions.

For the purposes of this article, the following definitions shall apply unless the Commission has clearly indicated otherwise in these regulations:

- (a) "Contingency Costs": the costs which may be paid by investors after the initial investment, but which are not paid out of project revenues. Contingency costs may include such costs as turbine repairs or annual insurance fees paid during the reporting year.
- (b) "Cumulative Number of Turbines Installed": the cumulative total number of turbines of a given model installed by the end of the reporting period.
- (c) "Electricity Produced (kWh)": the total kilowatt hours actually produced by all of the turbines of a particular turbine model contained within the wind project where the electricity is delivered to a wind power purchaser for sale during the reporting period.

- (d) "Name of Wind Project": the name used for the project in any prospectus, offering memorandum, or sales literature.
- (e) "Number of Turbines Installed During Reporting Period": the number of additional turbines installed during the calendar quarter of the reporting period.
- (f) "Project Cost": the total cost of the turbines installed during the reporting period. Project cost includes all debt and equity investment in the project (including non-recourse notes) and should be comparable to the project cost shown in the offering memorandum, prospectus or sales literature published by the developer.
- (g) "Projected Annual Production Per Turbine (kWh)": the annual average kWh production, by model, predicted by the developer in its prospectus, offering memorandum, or sales literature. This figure may be revised annually prior to the first reporting quarter of each year and shall be based upon average site specific wind distributions and the wind turbine power curves.
- (h) "Projected Quarterly Production Per Turbines (kWh)": the quarterly breakdown of the Projected Annual Production Per Turbine.
- (i) "Rotor (M<sup>2</sup>)": The rotor swept area in square meters for each turbine model.
- (j) "Size (kW)": the turbine manufacturer's published kW rating at a specific miles per hour (mph) with wind speed shown in parentheses.

- (k) "Turbine Model": the common or manufacturer's name for the turbine if that is a commonly used term for the model of a specific rotor (M<sup>2</sup>) and size (kW).
- (l) "Wind Power Purchaser": any electricity utility or other entity which purchases electricity from a wind project, as defined in this section.
- (m) "Wind Project": one or more wind turbine generators installed in California with a combined rated capacity of 100 kW or more, the electricity from which is sold to another party.
- (n) "Wind Project Operator": any developer or operator who directly receives payments for electricity from the wind power purchaser.

Authority cited: Sections 25213 and 25218(e), Public Resources Code Reference: Sections 25216.5(d), 25601(c), and 25605, Public Resources Code.

#### 1383 Reporting Period

For the purpose of this article, and unless otherwise indicated, the reporting period shall be each calendar quarter, beginning with the first quarter following the effective date of this article. Quarterly reports filed pursuant to this article shall be submitted not later than the forty-fifth day following the close of each reporting period. Reports shall be deemed submitted as of the date of postmark, provided that the report is properly and legibly completed.

Authority cited: Sections 25213 and 25218(e), Public Resources Code Reference: Sections 25216.5(d), 25601(c), and 25605, Public Resources Code.

#### 1384 Requirements to File

The information required by this article shall be submitted to the Commission by wind project operators and wind power purchasers. Reports shall be made on forms prescribed by order of the Commission and according to instructions accompanying the forms. A copy of the wind project prospectus, offering memorandum, and other sales literature shall accompany the initial report. All reports must be verified by a responsible official of the firm filing the report. Requests for confidentiality may be filed pursuant to 20 Cal. Admin. Code section 2501 et. seq.

Authority cited: Sections 25213 and 25218(e) Public Resources Code Reference: Sections 25216.5(d), 25601(c), and 25605, Public Resources Code.

#### 1385 Information Requirements: Wind Project Operators

Each operator firm submitting information pursuant to the provisions of the article shall include the following:

- (1) Name of wind project
- (2) Name and address of operator
- (3) Name and phone number of contact person at operator's firm
- (4) Operator's name as shown on power purchase contract (if different than 2 above)
- (5) Name of wind power purchaser
- (6) Purchase contract number
- (7) Resource area and county
- (8) Dates of reporting period

- (9) Turbine model
- (10) Cumulative number of turbines installed
- (11) Number of turbines installed during reporting period
- (12) Rotor (M<sup>2</sup>)
- (13) Size (kW) at stated wind speed
- (14) Project cost
- (15) Additional project contingency costs for which investors may be responsible
- (16) Projected quarterly production per turbine (kWh)
- (17) Projected annual production per turbine (kWh)
- (18) Electricity produced (kWh)
- (19) Turbine manufacturer's name and address
- (20) Operator comments, if any

Authority cited: Sections 25213 and 25218(e),  
Public Resources Code Reference: Sections  
25216.5(d), 25601(c), and 25605, Public Resources  
Code.

1386 Information Requirement: Wind Power Purchaser

Each wind power purchaser submitting information pursuant to the provisions of this article shall include the following:

- (1) Name of purchaser's firm
- (2) Name and phone number of contact person at purchaser's firm
- (3) Date of report
- (4) Name of wind project operator
- (5) Number of contract with wind project operator
- (6) kWh's produced during reporting period
- (7) Dates of reporting period
- (8) The maximum MW's which the operator can deliver to the purchaser as specified in the power sales agreement.
- (9) Purchaser comments, if any

Authority cited: Sections 25213 and 25218(e),  
Public Resources Code Reference: Sections  
25216.5(d), 25601(c), and 25605, Public  
Resources Code.

1387 Publication of Data

The Commission staff shall compile and distribute, on a quarterly basis, the information reported by wind project operators and purchasers. Cost data will be published by the Commission in an aggregated form to the extent necessary to assure confidentiality. The final publication of each year shall combine the performance data for that year. The publication shall designate the name of any wind project operator from whom performance data is not received.

Authority cited: Sections 25213 and 25218(e),  
Public Resources Code Reference: Sections  
25216.5(d), 25601(c), and 25605, Public  
Resources Code.

1388 Failure to Provide Information

The Commission may, after notifying any person of the failure to provide information pursuant to this article, take such action to secure the information as is authorized by any provision of law, including, but not limited to, Public Resources Code section 25900.

Authority cited: Sections 25213 and 25218(e),  
Public Resources Code Reference: Sections  
25216.5(d), 25601(c), and 25605(e), and 25900,  
Public Resources Code.

1389 Exemptions

Operators of wind projects of less than 100 kW  
rated capacity or operators who do not offer  
electricity for sale are exempt from this article.

Authority cited: Sections 25213 and 25218(e),  
Public Resources Code Reference: Sections  
25216.5(d), 25601(c), and 25605, Public Resources  
Code.