

**BEFORE THE  
PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Consider )  
Annual Revisions to Local Procurement ) R.08-01-025  
Obligations and Refinements to the )  
Resource Adequacy Program )  
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**PHASE 2 JOINT PROPOSAL OF THE  
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION,  
SOUTHERN CALIFORNIA EDISON COMPANY AND SAN DIEGO GAS AND  
ELECTRIC COMPANY (“JOINT PROPONENTS”) REGARDING  
CALCULATION OF QUALIFYING CAPACITY FOR WIND AND SOLAR  
RESOURCES**

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**SUPPLEMENTAL INFORMATION TO  
JOINT PROPOSAL SUBMITTED ON JANUARY 15, 2009**

## **Supplemental Information**

In accordance with the request of the Energy Division, the Joint Proponents submit this supplemental information regarding our exceedence-based intermittent Qualifying Capacity (“QC”) proposal. The Joint Proponents believe that the data and calculations provided in this supplemental information support the reliability objective of the joint proposal. It is the understanding of the Joint Proponents that this supplemental information will be deemed an addition to the Energy Division’s February 6, 2009 Workshop Report and therefore part of the record of this proceeding.

Table 1 below presents the QC values by wind area following the Joint Proponents’ proposed methodology at the proposed 70% exceedence level. These values were developed with the assistance of the staff of the California Energy Commission. Table 1 shows that the exceedence-based QC values are lower for all wind areas than the current methodology, which represents the CAISO’s preference for a higher confidence capacity rating. Also, the data profile more closely resembles actual wind patterns across the year.

**Table 1**  
**Comparison of Qualifying Capacity Values from Joint Proponents' Proposal to Current Methodology**  
**(MW)**

Month	Exceedance or Average	Method	Livermore-Panchemo-		San Gorgonio-	Solano	Tehachapi-	Dagget-Victorville-	PGE (wind)	SCE (wind)	PGE & SCE (treated as a single region)	PGE & SCE total, calculated separately for comparison	Solar+Wind	
			Tracy	Palm Springs	Mohave		Hinkley	(Tehachapi-Mohave-Dagget-Victorville-Hinkley) as a single resource						
January	Exceedance	70% - CAISO/SCE/S DG&E Proposal	0	1	14	0	25	0	1	39	40	40	25	1 to 6 All Summer Days; 4 to 9 All Winter Days
February	Exceedance	70% - CAISO/SCE/S DG&E Proposal	0	1	15	1	27	0	3	42	45	45	27	2 to 6 All Summer Days; 4 to 9 All Winter Days
March	Exceedance	70% - CAISO/SCE/S DG&E Proposal	3	6	81	2	72	0	10	153	163	163	72	3 to 6 All Summer Days; 4 to 9 All Winter Days
April	Exceedance	70% - CAISO/SCE/S DG&E Proposal	3	5	65	9	110	119	17	175	192	192	229	4 to 6 All Summer Days; 4 to 9 All Winter Days
May	Exceedance	70% - CAISO/SCE/S DG&E Proposal	11	19	109	25	127	229	55	236	291	291	356	5 to 6 All Summer Days; 4 to 9 All Winter Days
June	Exceedance	70% - CAISO/SCE/S DG&E Proposal	11	24	165	32	103	311	67	268	334	334	415	6 to 6 All Summer Days; 4 to 9 All Winter Days
July	Exceedance	70% - CAISO/SCE/S DG&E Proposal	10	22	33	23	62	282	55	95	150	150	344	7 to 6 All Summer Days; 4 to 9 All Winter Days
August	Exceedance	70% - CAISO/SCE/S DG&E Proposal	3	11	37	18	37	287	32	74	106	106	325	8 to 6 All Summer Days; 4 to 9 All Winter Days
September	Exceedance	70% - CAISO/SCE/S DG&E Proposal	0	6	30	5	25	257	11	55	66	66	282	9 to 6 All Summer Days; 4 to 9 All Winter Days
October	Exceedance	70% - CAISO/SCE/S DG&E Proposal	0	3	29	1	32	92	4	61	65	65	124	10 to 6 All Summer Days; 4 to 9 All Winter Days
November	Exceedance	70% - CAISO/SCE/S DG&E Proposal	0	1	12	1	22	0	2	34	36	36	22	11 to 6 All Summer Days; 4 to 9 All Winter Days
December	Exceedance	70% - CAISO/SCE/S DG&E Proposal	0	1	15	1	19	0	1	34	35	35	19	12 to 6 All Summer Days; 4 to 9 All Winter Days
January	Average	Current	4	9	81	6	118	37	19	209	227	227	155	12 to 6 non-NERC Holidays
February	Average	Current	4	9	103	7	138	61	21	250	271	271	200	12 to 6 non-NERC Holidays
March	Average	Current	14	36	183	10	180	125	60	398	458	458	304	12 to 6 non-NERC Holidays
April	Average	Current	17	45	190	26	193	177	88	427	516	516	371	12 to 6 non-NERC Holidays
May	Average	Current	33	80	199	48	218	239	162	497	659	659	457	12 to 6 non-NERC Holidays
June	Average	Current	34	84	211	48	214	355	166	509	675	675	569	12 to 6 non-NERC Holidays
July	Average	Current	34	85	129	51	148	352	169	361	531	531	499	12 to 6 non-NERC Holidays
August	Average	Current	23	57	115	36	123	347	117	295	412	412	471	12 to 6 non-NERC Holidays
September	Average	Current	25	61	144	34	126	350	120	331	451	451	476	12 to 6 non-NERC Holidays
October	Average	Current	13	34	134	20	168	130	66	335	401	401	297	12 to 6 non-NERC Holidays
November	Average	Current	6	9	88	17	152	52	33	249	282	282	204	12 to 6 non-NERC Holidays
December	Average	Current	4	5	65	17	155	17	27	225	253	253	172	12 to 6 non-NERC Holidays

The data in Table 1 are QC results on a wind area basis. At a given exceedence level, the wind area QC will generally be greater than the sum of individual resource QCs at the same exceedence level due to the diversification of the risk of each resource not generating during peak periods.

The Joint Proponents' initial filing provided a means to allocate this diversity benefit across individual resources within a wind area. Following the initial filing, the Joint Proponents worked with the California Energy Commission to refine the calculation procedure to fairly allocate diversity benefits. The resulting procedure, which is more detailed than the procedure described in the initial filing, is as follows:

For each wind area for each month:

1. Calculate the 70% exceedence QC for each resource in the wind area for each of the three years of the data period. These are referred to as the **Initial QCs** for each resource; set aside.
2. Calculate the 70% exceedence QC for the entire wind area for each year of the data period; these are the **Wind Area QCs**. *Table 1 contains the average of these annual Wind Area QCs for each wind area.*
3. Calculate the diversity factor for each wind area for each year of the data period. The diversity factor is the Wind Area QC divided by the sum of all Initial QCs for that month; a value greater than 1.0 implies a positive diversity benefit. These are the **Annual Diversity Factors** for each wind area; set aside.
4. Calculate the percentage of nameplate capacity by dividing Wind Area QC by total nameplate capacity for each year of the data period. These are the **Annual Wind Area % Nameplate Ratings**; set aside.
5. Calculate the future QC for each resource by multiplying each year's **Initial QC** (from step #1) by that year's **Annual Diversity Factor** (from step #3); this is the **Annual Calculated QC** for each resource.
6. If there are less than three years of data, estimate the resource's QC for the missing year(s) by multiplying the resource nameplate capacity by the **Annual Wind Area % Nameplate Rating** (from step #4); this is the **Annual Estimated QC**.
7. For each resource, average the **Annual Calculated QCs** and **Annual Estimated QCs** (if any) together. This average is the **Final QC** for each resource that would be used for the following year's Resource Adequacy requirements.