

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

**Order Instituting Investigation into Implementation of
Assembly Bill 970 Regarding the Identification of
Electric Transmission and Distribution Constraints,
Actions to Resolve Those Constraints, and Related
Matters Affecting the Reliability of Electric Supply.**

**Investigation 00-11-001
(Filed November 2, 2000)**

COMMENTS OF

THE CALIFORNIA WIND ENERGY ASSOCIATION

AND

OAK CREEK ENERGY SYSTEMS, INC.

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Introduction

The California Wind Energy Association (“CalWEA”) and Oak Creek Energy Systems (“Oak Creek”) respectfully submit these comments on the March 2, 2004, Proposed Decision on Interim Opinion On Transmission Needs In The Tehachapi Wind Resource Area (“Proposed Decision” or “PD”).

Success of the Legislature's renewables mandate depends on least-cost transmission sufficient to bring California's renewable energy to market. Among the factors necessary for success: adequate transmission capacity, fair allocation of transmission costs, integration of the transmission planning process with the CPCN process and the bid adder processes, the need for neutrality in the design of transmission studies and the formulation of a transmission plan, recognition of the renewables potential of the Tehachapi region, and expedition of the processes for designing the plan and seeking CPCN approval.

The Proposed Decision succeeds in the difficult task of integrating these factors. Our supportive comments emphasize several of these factors and offer a few precautions. Our comments cover the following topics:

1. The Commission should take care not to ignore the benefits of transmission expansion, and should direct the study group to analyze expansion plan benefits as well as costs.
2. The PD properly recognizes the need for expedition, and establishes appropriate deadlines.
3. The PD properly recognizes the need for grouping of projects and phasing of transmission system design to accommodate Tehachapi's full potential.
4. The PD correctly required that each party bear its own costs.
5. The PD correctly required SCE to prepare a CPCN filing, but should take care not to suggest that SCE's design will be favored.
6. The PD properly finds that the Tehachapi project involves network upgrades, but the Commission should provide criteria to smooth the study committee process of identifying which upgrades are in fact network facilities.

I. The Commission should take care not to ignore the benefits of transmission expansion, and should direct the study group to analyze expansion plan benefits as well as costs.

The PD states (at p. 28):

"The study group should provide cost estimates for at least the first phase of the proposed upgrades, which may assist in the development of transmission cost adders for RPS bids."

The PD also states (at p. 8):

"While wind may be a relatively low cost renewable technology, the need to relieve transmission constraints in the Tehachapi area will tend to increase the total cost of Tehachapi power."

These statements indicate a tendency to consider upgrade costs without accounting for upgrade benefits. If benefits match or exceed costs, the need to relieve constraints will not "tend to increase the total cost of Tehachapi power." Rather, Tehachapi power will serve the dual role of helping to meet the state's renewables mandate and strengthening the state's transmission network, thereby improving electric supply reliability.

For example, the California Independent System Operator ("CA ISO") detailed the network benefits that would flow from its recommended upgrade. Not only would it enable the grid to accept Tehachapi wind power; it would also relieve the constraints on adjacent and parallel major network elements. Further, testimony indicates increased benefits when facilities are connected into a network. This synergism produces substantial benefits for all users of the grid -- not just for the wind generators and their customers.

Thus CA ISO witness Sparks stated (pp. 4-5 of his testimony, emphasis added):

"The CA ISO believes that the PG&E and SCE interconnection alternative would create transmission capacity for interconnecting additional Tehachapi wind generation by tapping the new generation to the Antelope-Magunden 230 kV lines."

"In addition, in the most recent SCE transmission expansion plan that was prepared as part of the CA ISO Annual Expansion Planning process (CAISO Controlled SCE Transmission 2003-2007 and 2012 Expansion Plan - Final Report; dated January 30, 2003), SCE has identified transmission deficiencies at Rector 230 kV substation and has proposed to loop one of the Springville-Big Creek 230 kV lines into Rector 230 kV substation. The Rector upgrades could be combined with a modified PG&E Alternative 8. Alternative 8 could be modified so that the Springville-Big Creek #4 230 kV line and one Rector-Big Creek 230 kV line are looped into the Fresno Switching Station, described above, instead of two Rector-Big Creek 230 kV lines. This modification to Alternative 8 is expected to increase system benefits beyond what PG&E documented in their analysis."

"Further, PG&E's Bakersfield 230 kV substation and SCE's Magunden 230 kV

substation are located only about 5 miles apart. SCE and PG&E should evaluate the feasibility of constructing a phase shifted tie-line between those two substations for the purpose of increasing transmission capacity for exports from the Tehachapi wind generation area."

As the CA ISO testimony demonstrates, different expansion plans provide different levels of network benefits. The Commission should therefore explicitly direct the study group to analyze and quantify the network benefits as well as the costs of the plans that they consider and recommend.

In addition, as the PD addresses the topic of bid adders, we urge the Commission to remember that transmission upgrades have benefits as well as costs. Pending before the Judge in Phase 8 of this proceeding is the argument of CalWEA that (a) benefits must be calculated along with costs to arrive at a net bid adder (which could show zero or negative costs); and that (b) there is a reasonable basis for finding that benefits will equal or exceed costs, thus obviating special procedures to calculate cost.

II. The PD properly recognizes the need for expedition, and establishes appropriate deadlines.

The PD correctly found that existing transmission constraints in the Tehachapi area currently prevent wind installations. Finding of Fact 4. The PD also recognizes that Tehachapi's potential warrants a distinct approach -- expedited, systemically planned, participatory and objectively led. The PD thus found that

". . . "business as usual" transmission planning approaches, which would plan and size Tehachapi transmission upgrades based solely on transmission needs of generation projects that have submitted interconnection requests, is unlikely to achieve the most cost-effective size, configuration, or timing of Tehachapi upgrades."

The PD thus rejects SCE's and PG&E's proposal to await the outcome of the RPS process before developing transmission plans or developing applications for CPCNs. SCE and PG&E contended that they should have to design upgrades only in response to applications for interconnections under the FERC tariff, filed by winning bidders on a project-by-project basis.

The PD set a tight (six month) deadline for a collaborative group study, ordered SCE to continue environmental work needed to support a CPCN filing for the initial phase of its Tehachapi conceptual plan and ordered SCE to be prepared to file a CPCN within six months after completing the study. Finding of Fact 19.

The Commission should adopt these deadlines. Deadlines distinguish the voluntary from the mandatory. Deadlines also convert subjective, private judgments about priorities to objective, public obligations. The resistance Tehachapi wind has encountered requires these changes.

Supporting the PD's call for expedition is the fact that a good deal of the study work proposed by the ALJ has already been initiated. A Tehachapi Transmission Conceptual Facility Study ("Tehachapi CFS" or "TCFS") has already been performed by Southern California Edison ("SCE" or "Edison") at the expense of wind generators. According to the TCFS, Edison expects future Tehachapi wind generators, with an ultimate capacity amounting to 2,500 MW, to be interconnected to three or four new 230/66 kV substations through 66 kV collector lines. Each substation will be designed to gather power from wind generators located on up to ten 66 kV circuits. The exact number of 66 kV circuits that will extend from each 230/66 kV substation toward the wind farm sites will depend upon the installed capacity of the wind generation at each

site.

In addition, SCE has prepared a plan to accommodate 4,000 MW of Tehachapi wind capacity for the December 2003 CPUC Report to the Legislature: Electric Transmission Plan for Renewable Resources in California and, under R.04-01-026, the CA ISO is developing a "Transmission Economic Assessment Methodology" for evaluating transmission upgrades using Path 26 as a case study. Much of what remains to be done, then, is to put these studies and methodologies together, analyze the costs and benefits of each, and recommend the plans that best serve the needs of the transmission system and ratepayers, while meeting RPS goals.

III. The PD properly recognizes the need for grouping of projects and phasing of transmission system design to accommodate Tehachapi's full potential.

The PD correctly identifies the need for grouping and phasing:

"The current transmission planning process evaluates transmission needs on a project-by-project basis for new generation projects that have progressed to the point of submitting interconnection requests. This approach may be well-suited for large generation projects or for projects that are not sited near other new projects. However, it is seriously flawed for the Tehachapi area and potentially for any other areas where generation from multiple relatively small projects would be transported most economically over shared transmission upgrades. The current transmission planning approach impedes identification and timely construction of the most cost-effective Tehachapi upgrades."

...

"Construction of a new transmission upgrade in the Tehachapi region following each RPS auction to meet just the needs of that year's winning bidders could result in piecemeal transmission additions, thus inflating total transmission costs and potentially increasing environmental impacts. To the extent this approach needlessly increases Tehachapi transmission costs, Tehachapi projects would be at an unfair disadvantage and potentially could be priced out of the RPS process. In addition, the total cost of renewables procurement could increase to the detriment of consumers."

"We conclude that transmission planning for the Tehachapi area, and potentially for other areas with similar characteristics, should be modified to avoid these deleterious outcomes. In order for upgrades in the Tehachapi area to be most cost-effective and least environmentally disruptive, a comprehensive Tehachapi transmission development plan should be prepared. This plan should provide for an orderly and logical expansion of the transmission system based on the magnitude of the wind resource identified by the CEC, engineering and cost considerations, and recognition of other relevant factors including regional transmission needs. Consistent with sec. 399.25, the relevant utilities would fund all Tehachapi-related network transmission facilities that the Commission finds necessary to facilitate achievement of renewable power goals. Rather than giving an unfair benefit to Tehachapi generators, as SCE claims, a comprehensive transmission development plan will correct existing flaws that may impede the cost-effective development of renewable projects in the Tehachapi area."

This discussion is distilled in Finding of Fact 12, that

"[e]ven on a batched basis, transmission planning for the Tehachapi region that focuses only on the transmission needs of projects that have submitted interconnection requests would be sub-optimal because it would not take advantage of the economies that could be obtained through transmission upgrades sized to meet multi-year transmission needs as additional generation is constructed."

This finding thus rejects SCE's contention that wind generators should be required to form their own clusters of related projects and file joint applications requesting a single, coordinated study of their interconnections. Putting the entire burden on the wind generators to organize logical studies of cost-effective upgrades would be especially difficult to negotiate because it would require the wind generators to put aside their relative priorities in the interconnection queue and ignores competitive differences associated with lower cost bids versus favorable queue position. The PD properly cites FERC's Order 2003 to support the transmission owner's obligation on Large Generator Interconnection Procedures that permits the transmission provider to group wind

generators into clusters for analysis of transmission requirements.¹

The Finding then provides a logical basis for the scope of study, as discussed in Finding 15. Finding 15 states that the comprehensive Tehachapi transmission development plan should

¹ In addition, in Order 2003-A, the rehearing order, the Commission again emphasized the benefits of clustering:

We also reiterate that we strongly encourage the use of clustering. The principal benefit of studying Interconnection Requests in clusters is that it allows the Transmission Provider to better coordinate Interconnection Requests with its overall transmission planning process, and, as a result, achieve greater efficiency in both the design of needed Network Upgrades and in the use of its planning resources. Sometimes, one generating facility interconnecting alone would not require a substantial upgrade to the Transmission System, but when clustered with others, a costly upgrade may be required. We clarify that the Transmission Provider may allocate the cost of the common upgrades for clustered Interconnection Requests and that Queue Position has no bearing on cost allocation for clustered Interconnection Requests.

Order 2003-A, 106 FERC ¶ 61,220 (Mar. 5, 2004) at para. 120.

provide for a phased expansion, in which each phase reflects the next logical step and may be sufficient to meet transmission needs of several years' RPS bid winners. This finding correctly obligates the ISO and transmission owners to look beyond the currently proposed projects "to accommodate other wind development in the area, based on knowledge regarding desirable wind locations." Requiring a utility to look ahead for the public's interest is the essence of a public utility regulation. The application of this principle to the renewables sector is apt. The PD also takes care to apply this principle to the "plan." Coupled with the PD's other requirement that the Commission staff and the ISO lead the process, Finding 15 provides reasonable assurance that conflicts between a transmission owner's interests and public interest will be aired and addressed.

The PD also correctly identifies the link between logical transmission expansion plans and accurate bid adjustments. The PD would assign to a bidder an adjustment based on the net cost or benefit associated with that bidder's pro rata share of a network upgrade which will serve not only that bidder but other projects. See Finding 20. This approach thus combines efficient planning and logical cost allocation. The Commission should adopt it.

The PD also stated (at 25-26):

"it may be prudent to begin with relatively small transmission projects with relatively short lead times, proceeding to larger, more expensive phases with longer lead times if warranted by procurement results. The record was not developed sufficiently to make such a determination, but the interconnection of PG&E and SCE transmission systems, as suggested by the ISO, may be a logical, cost-effective first step that would allow wind development to proceed while larger, longer-lead time transmission upgrades are pursued."

The signatories to this pleading have come to the same conclusion, and urge the Commission to so direct the study committee.

Finally, by requiring the planning to address "the magnitude of the wind resource identified by the CEC," the PD assures that no reasonable potential will be left unaddressed. There will remain the limits imposed by the bidding process and the bid adjustment process, but the field within which those analyses and comparisons occur will be the field consisting of the full Tehachapi potential.

IV. The PD correctly required that each party bear its own costs.

Finding 17 states that each participant in the study group should fund its own costs. Supporting this finding is the fact that all ratepayers will benefit from the Tehachapi reinforcements, especially to the extent that the reinforcements include interconnections of the systems of SCE and PG&E where the 230 kV lines from SCE's Big Creek cross those from PG&E's Helm Pumped Storage project. (This interconnection was recommended by the ISO and will parallel a portion of Path 15/Path 26 and add to the transfer capability between Northern and Southern California.) Since all Californians and the WECC as a whole will benefit from such reinforcements, it is appropriate for the transmission owners and the ISO, along with projects, to bear their respective costs.

The Commission should clarify, however, the meaning of the requirement that each party bears its own costs. Specifically, if it is necessary for one of the transmission owners to do a study, the transmission owner bears the cost of the study. A transmission owner should not resist doing a study on grounds of cost. Given the possibility of resistance and delay, the Commission should provide a means of swift resolution to disputes over whether a study is necessary. Each of these disputes should not have to go to the Commission; instead an ALJ should be tasked to rule

"on the spot."

V. The PD correctly required SCE to prepare a CPCN filing, but should take care not to suggest that SCE's design will be favored.

Finding 19 requires SCE to continue preparing a CPCN application for Tehachapi transmission upgrades, in anticipation of study group recommendations. The PD correctly insists that the CPCN process move forward now to reduce delays later.

The Commission should make clear, however, that this requirement is not intended to favor the design SCE offered in this proceeding, involving expensive front-end-loaded upgrades on new rights-of-way. The ISO's concept, in contrast, would (1) exploit the opportunities for upgrading the Sagebrush line that already interconnects existing Tehachapi wind generation to the grid and (2) route some of the Tehachapi lines northward toward a new SCE interconnection with PG&E, increasing the capacity of Path 26 by providing a new parallel circuit between Vincent and Midway.

VI. The PD properly finds that the Tehachapi project involves network upgrades, but the Commission should provide criteria to smooth the study committee process of identifying which upgrades are in fact network facilities.

Finding 7 states that the portions of the Tehachapi upgrades used to carry power from multiple wind projects would properly be classified as network transmission facilities. The PD further points out (at p.25) that "consistent with sec. 399.25, the relevant utilities would fund all Tehachapi-related network transmission facilities that the Commission finds necessary to facilitate achievement of renewable power goals."

The PD appeared to assign to the study committee the task of distinguishing between

network upgrades and non-network facilities. See p. 27. The Commission should know that this subject is a source of continuing tension, one in which SCE and other utilities have been subject to numerous complaints and other proceedings before FERC. It will not work well to assume that this tension will dissipate within the study process. Instead, the Commission should seek to make generic findings now as to the types of facilities that constitute network upgrades. The study committee then can apply these generic findings to specific facilities, thereby limiting disputes.

For example, FERC has found that a facility is a network facility “if located at or beyond the point at which the generator connects to the grid.” Oak Creek witness Whitfield Russell offered the following examples:

Upgrades to Pardee, Vincent, and Antelope Substations.

Replacement of existing transmission lines between Antelope and Pardee, and Antelope and Vincent.

New 230 kV transmission lines between Pardee, Vincent, Antelope, and Substations 1, 2, 3 and 4, and including any new right of way.

New 230/66 kV Substations 1, 2, 3 and 4, including all facilities in these substations, and the land for these substations.

Potential interconnection of existing facilities (the Antelope-Bailey 66 kV system) to the new system, including any upgrades to such facilities.

Direct Testimony at 15-16. Witness Russell further explained that

"the major characteristic of reliable network facilities is that it is a part of a looped system. A looped system is one having redundant potential load flow paths in which the energy flow can reverse direction and flow the opposite way into the grid in the event of an opening of one segment of the loop."

He then explained that “[t]he Tehachapi project satisfies this standard,” because of the

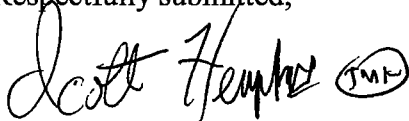
looping configuration that “provides backup transmission capacity during contingency outages.” Thus, “[f]or an outage of the 230 kV circuit Pardee-Antelope, power can flow from Pardee to Antelope using Tehachapi lines: Pardee – Substation 1 - Substation 4- Vincent-Antelope.”

The Commission should make specific findings now that the facilities listed above, at least, constitute network facilities, so as to expedite the study committee process.

Conclusion

For the foregoing reasons, the undersigned parties respectfully request the Commission to adopt the Proposed Decision, with the clarifications and modifications set forth above.

Respectfully submitted,



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March 22, 2004

APPENDIX

CalWEA's Proposed Findings of Fact and Conclusions of Law

Findings of Facts

The Commission should modify its findings of facts as follows:

5. SCE, the ISO, and Oak Creek have presented several alternative configurations and routings of potential Tehachapi transmission upgrades. These alternative plans provide different benefits.

17. It is reasonable for each participant in the study group to fund its own costs. If it is necessary for one of the transmission owners to do a study, it is reasonable for the transmission owner to bear the cost of the study, with the Administrative Law Judge expeditiously settling any disputes.

19. It is reasonable to require that SCE continue preparation of a CPCN application for Tehachapi transmission upgrades in anticipation of study group recommendations and without favoring the SCE design offered in this proceeding, and to establish a requirement that SCE file a CPCN application for the first phase of Tehachapi upgrades no later than six months following submission of the study group report, unless further action in this proceeding relieves it of this obligation.

20. It is reasonable to require that transmission cost adders developed for RPS purposes for Tehachapi wind generation projects be based on logical, cost-effective transmission expansions, take transmission benefits into account, and be reflected in individual bids on a pro rata basis, because this approach will improve the reasonableness of Tehachapi transmission cost adders, make the RPS results more consistent across resource areas and over time, and avoid “free rider” problems.

Conclusions of Law

The Commission should modify its conclusions of law as follows:

6. Transmission planning for the Tehachapi area should be modified to provide for an orderly, logical, and phased expansion of the transmission system based on the magnitude of the wind resource identified by the CEC, engineering and cost considerations, and recognition of other relevant factors including regional transmission needs and the network benefits associated with alternative expansion plans.

8. Each participant in the study group should fund its own costs. If it is necessary for one of the transmission owners to do a study, the transmission owner should bear the cost of the study. Parties should submit any disputes to the Administrative Law Judge for swift resolution.

9. SCE should continue preparation of a CPCN application for Tehachapi transmission upgrades

in anticipation of study group recommendations, but without favoring the design it initially offered in this proceeding.

11. Transmission cost adders developed for RPS purposes for Tehachapi wind generation projects should be based on logical, cost-effective transmission expansions, should take transmission benefits into account, and should be reflected in individual bids on a pro rata basis.

Certificate of Service

I hereby certify that I have this day served a copy of the

Comments of the California Wind Energy Association and Oak Creek Energy Systems, Inc.

on all known parties to I.00-11-001 by sending a copy via electronic mail and by mailing a properly addressed copy by first-class mail with postage prepaid to each party named in the official service list without an electronic mail address.

Executed on March 22, 2004, at San Francisco, California.


Parashita Marschall