

Decision **PROPOSED DECISION OF ALJ TERKEURST** (Mailed 3/2/2004)

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)

(See Attachment A for List of Appearances.)

**INTERIM OPINION ON TRANSMISSION NEEDS
IN THE TEHACHAPI WIND RESOURCE AREA**

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INTERIM OPINION ON TRANSMISSION NEEDS IN THE TEHACHAPI WIND RESOURCE AREA

I. Summary

The Tehachapi area contains the largest wind resource in California and, if more fully developed, could meet a significant portion of the goals for renewable energy development in California. However, existing transmission constraints in the area currently prevent new wind installations. Large-scale transmission upgrades capable of transporting power from multiple wind projects would be needed to tap the Tehachapi area's renewable potential most economically. We find 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.

We require that a collaborative study group be convened to develop a comprehensive transmission development plan for the phased expansion of transmission capabilities in the Tehachapi area. The California Independent System Operator (ISO) and Commission staff should coordinate the study group, with participation by Southern California Edison Company (SCE), Pacific Gas and Electric Company (PG&E), wind developers, and any other interested parties. We encourage the California Energy Resources Conservation and Development Commission (CEC) to participate in the collaborative study process.

Each phase of the planned Tehachapi upgrades should be a logical size and configuration based on the magnitude of the identified wind resource, engineering and cost considerations, and recognition of other factors including

regional transmission needs. Consistent with Pub. Util. Code § 399.25¹ and Decision (D.) 03-07-033, the relevant utility would fund all Tehachapi-related network transmission facilities that the Commission finds necessary to facilitate achievement of renewable power goals. While we ask the study group to address this matter, we envision that construction of each phase may be triggered by acceptance of a threshold amount of bids through the Renewable Portfolio Standard (RPS) process.

We require that SCE, acting on behalf of the study group, file a report in this proceeding within six months of the effective date of this order containing the study group's findings and recommendations. Parties may file comments and reply comments on the study group report. Based on the study group results, SCE should pursue ISO review of Tehachapi transmission upgrades and should file an application seeking a certificate of public convenience and necessity (CPCN) for the first phase of Tehachapi transmission upgrades consistent with the study group recommendations, no later than six months following submission of the study group report, unless further action in this proceeding relieves it of this obligation.

We are concerned that the problems with current transmission planning approaches may extend to the RPS process. As transmission cost adders are developed in this proceeding, transmission costs for Tehachapi wind generation projects should be based on logical, cost-effective transmission expansions rather than upgrades that are limited to the needs of specific projects that may bid in a particular year's RPS auction. Once a comprehensive transmission expansion

¹ All statutory references are to the Public Utilities Code.

plan is developed, transmission cost adders should be based on that plan. Transmission costs should be reflected on a pro rata basis in the rank ordering of individual bids. 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.

II. Procedural Background

In this phase of this proceeding, we have evaluated transmission needs and potential transmission upgrades in the Tehachapi region. The Tehachapi area was first identified during a March 13, 2001 prehearing conference (PHC) as having transmission constraints. In April 2001, SCE filed a report on transmission problems in the Tehachapi area. At a July 10, 2001 PHC, SCE was directed to send a letter to potential wind developers soliciting expressions of interest in participating in Tehachapi transmission upgrades. At a December 19, 2001 PHC, SCE agreed to prepare a developer-funded conceptual study, based on responses to that solicitation, which would evaluate line routing and develop preliminary cost estimates for Tehachapi upgrades. At a May 15, 2002 PHC, SCE reported that it was refining the conceptual study.

In a January 29, 2003 ruling, the Administrative Law Judge (ALJ) established a schedule, which was later modified, for evidentiary hearings to address the network benefits, contribution to the goals of the RPS program, costs, and ratemaking issues regarding a Tehachapi transmission project. The ALJ also directed SCE to file a schedule indicating the minimum amount of time required to prepare an application for a CPCN for Tehachapi upgrades.² The ruling also

² SCE indicated in its report filed on February 3, 2003 that the minimum time required to complete a CPCN application, including a Proponent’s Environmental Assessment, is

Footnote continued on next page

required the utilities to issue a statewide solicitation letter allowing developers to request and fund conceptual studies for transmission related to potential generation projects to address the renewable goals set forth in Senate Bill (SB) 1078.

Evidentiary hearings were held on June 9–11, 2003. SCE, the ISO, and Oak Creek Energy Systems, Inc. (Oak Creek)³ presented witnesses and filed opening and reply briefs. PG&E participated in the hearings and filed an opening brief. Oak Creek’s motion for acceptance of its late-filed reply brief is granted. This phase of the proceeding was submitted on July 24, 2003 following the receipt of reply briefs.

Concurrent with its reply brief, Oak Creek filed a motion asking the Commission to take official notice of a CEC committee report entitled “Preliminary Renewable Resource Assessment,” published on July 1, 2003 pursuant to SB 1038. No party filed a response to Oak Creek’s motion. We agree with Oak Creek that the CEC’s assessment of the wind resource potential in the Tehachapi region is relevant to the issues in this proceeding. However, rather than the preliminary committee assessment, we take official notice of the CEC’s completed assessment, entitled “Renewable Resources Development Report,”⁴ which was adopted by the CEC on November 19, 2003. The CEC’s renewable

one year. SCE explained that the time requirement is driven by the amount of time required to conduct site surveys for the project, which often can be performed only during certain times of the year when particular animal(s) or plant(s) are observable.

³ Oak Creek is a Tehachapi wind developer which participated in SCE’s 2002 conceptual study.

⁴ “Renewable Resources Development Report,” CEC Publication Number 500-03-080F, November 2003.

resources assessment underlies a transmission plan for renewable resources prepared by the Commission's Energy Division and submitted to the Legislature on December 1, 2003, as required by SB 1038.

III. The Tehachapi Wind Resource Area

The record indicates that just over 645 MW of wind generation is currently operational in the Tehachapi area, with about 345 MW connected to SCE's Antelope-Bailey 66 kV transmission system and just over 300 MW connected to an independently owned 230 kV radial transmission line (commonly referred to as the Sagebrush line).

The Tehachapi area has the potential to meet a significant portion of California's renewable energy goals. In its Renewable Resources Development Report, the CEC reports that the Tehachapi area contains the largest wind resource in California, with undeveloped potential of about 14,000 gigawatt-hours per year (about 4,500 megawatts (MW) of peak capacity). This is the largest renewable resource potential in California, except for solar power installations which the CEC reports are not currently cost-competitive.

In its report, the CEC crafted two "Plausible Resource Scenarios" to describe possible mixes of renewable technologies sufficient to meet the renewable development goals of SB 1078 (20% of electricity sales by 2017) and the Energy Action Plan⁵ (20% of electricity sales by 2010). These scenarios assume that the goals will be met by renewable resources located in California or near the border, and take into account technical potential data, the locations of

⁵ The Energy Action Plan was adopted in May 2003 by this Commission, the CEC, and the California Power and Conservation Financing Authority.

currently proposed projects, cost estimates, and development time. Under each scenario, 4,060 MW of new wind generation would be installed in the Tehachapi area, which would produce about 40% of the renewable generation needed to meet SB 1078 and Energy Action Plan goals.

CEC cost estimates indicate that wind generation may be the most cost competitive of the renewable energy technologies, with projections that wind generation could be cost competitive with a new combined cycle natural gas power plant by 2005. The CEC recognized, however, that its wind cost estimates, while corroborated by recent bidding experience in other states, are significantly lower than recent bids by wind developers in California. The CEC postulated that wind development may be more expensive in California than in other states due to higher land lease rates and generally stricter permitting requirements.

SCE states that its 66 kV network in the Tehachapi area is fully loaded and that SCE would need to construct new transmission facilities in order to connect any new wind generation in that area. Oak Creek reports that approximately 420 MW of Tehachapi wind projects have been successful low bidders for CEC New Renewable Resources Account awards⁶ but are waiting to construct, due primarily to a lack of feasible transmission.

We recognize that the amount and timing of Tehachapi wind development may vary significantly from that indicated in the CEC's Plausible Resource Scenarios. The amount of wind development will depend on wind projects' ability to compete in the renewables procurement process. Under the RPS program, bids will be subject to least-cost, best-fit assessments that take into

⁶ The CEC's New Renewable Resources Account funding mechanism was created by Assembly Bill 1890. Auctions were held in 1998, 2000, and 2001.

account the expected costs of transmission upgrades if needed to access the new generation. 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. The intermittent nature of wind power may also affect its least-cost, best-fit assessment. Without prejudging the outcome of the RPS process, we believe it is important that the transmission planning process does not impede the ability of wind developers to compete fairly in RPS procurement.

IV. Possible Configurations of a Tehachapi Transmission Project

SCE, the ISO, and Oak Creek presented several alternative configurations and routings of potential Tehachapi upgrades.

SCE's 2002 conceptual study developed reconnaissance-level plans for transmission upgrades sufficient to transport power from 2,500 MW of new wind generation, which is the capacity of potential projects identified by wind developers in response to SCE's 2001 solicitation. According to the results of this conceptual study, wind generation would be delivered by a 66 kV collector system to four new 230/66 kV substations. Two new 60-mile double circuit 230 kV lines would transmit the power, with one line terminating at the Pardee substation and the other at the Vincent substation. SCE estimated that this project would cost \$586 million plus right-of-way costs.

SCE's conceptual study suggested that the Tehachapi transmission upgrades be phased to meet the needs of three levels of new wind generation: (a) less than 1,140 MW (the double circuit 230 kV line to the Pardee substation, with one circuit energized initially), (b) from 1,140 MW to 1,400 MW (adding the first circuit of the double circuit 230 kV line to the Vincent substation), and

(c) more than 1,400 MW (adding the second circuit of the line to the Vincent substation).

SCE reports that, in addition to the 2,500 MW of wind generation analyzed in the 2002 conceptual study, it received requests for conceptual studies of transmission needs for an additional 770 MW of wind generation in response to its 2003 solicitation undertaken in response to the January 29, 2003 ALJ ruling. It had not performed those studies at the time of the hearings.

The ISO submits that alternative ways to connect Tehachapi wind generation should be studied before a decision is made regarding which transmission upgrades are preferable. The ISO identified several alternative configurations which it stated may provide regional transmission benefits, in particular, a needed expansion of transmission capacity in the Fresno area, which is served by PG&E. In one alternative, a new substation would be constructed where PG&E's Helms-Greg and SCE's Big Creek-Rector 230 kV lines cross, in order to establish a new phase shifted 230 kV tie between PG&E and SCE. The ISO and SCE report that this could add between 300 and 400 MW of capacity on SCE's Big Creek 230 kV system. Another option would construct a phase shifted tie-line between SCE's Magunden and PG&E's Bakersfield 230 kV substations, which are five miles apart. This alternative could add a further 300 to 400 MW of capacity. Another alternative would be to add a second circuit to the existing single-circuit Sagebrush 230 kV line, which could add 500 to 1000 MW of capacity.

Oak Creek recommends that certain modifications to the transmission project developed through SCE's 2002 conceptual study be analyzed. One modification would connect the new collector substations in a ring configuration, so that all of the wind generation would have a backup path in case of circuit

failure. Other alternatives suggested by Oak Creek would connect the existing Antelope-Bailey 66 kV system to the new 230 kV system, or shift some existing load and wind generation from the existing 66 kV system to the new 230 kV system, as a means of relieving existing reliability problems.

Subsequent to the Tehachapi hearings, the utilities submitted transmission plans in another phase of this proceeding, detailing transmission upgrades that would be needed to accommodate the amounts of renewable generation identified in the CEC's Plausible Resource Scenarios developed pursuant to SB 1038. SCE reported that 500 kV rather than 230 kV transmission system upgrades would be needed to support the 4,060 MW of Tehachapi wind generation identified in the CEC's Plausible Resource Scenarios. SCE estimated that such upgrades could cost \$1.9 billion.⁷

The record demonstrates that large-scale transmission upgrades capable of transporting power from multiple wind projects will be needed if Tehachapi wind is to contribute significantly to California's renewable power goals. However, we agree with SCE and the ISO that alternative configurations have not been examined adequately to allow a determination at this time of the desired configuration of Tehachapi upgrades.

V. Application of § 399.25 and Funding of Tehachapi Transmission Upgrades

Section 399.25, implemented as part of SB 1078 effective January 1, 2003, addresses funding of transmission facilities necessary to facilitate achievement of California's renewable power goals, as follows:

⁷ These results were reported in the transmission plan for renewable resources submitted to the Legislature on December 1, 2003.

- (a) Notwithstanding any other provision in Sections 1001 to 1013, inclusive, an application of an electric corporation for a certificate authorizing the construction of new transmission facilities shall be deemed necessary to the provision of electrical service for purposes of any determination made under Section 1003 if the commission finds that the new facility is necessary to facilitate achievement of the renewable power goals established in Article 16 (commencing with Section 399.14).
- (b) With respect to a transmission facility described in subdivision (a), the commission shall take all feasible actions to ensure that the transmission rates established by the Federal Energy Regulatory Commission are fully reflected in any retail rates established by the commission. These actions shall include, but are not limited to:
 - (1) Making findings, where supported by an evidentiary record, that those transmission facilities provide benefit to the transmission network and are necessary to facilitate the achievement of the renewables portfolio standard established in Article 16 (commencing with Section 399.11).
 - (2) Directing the utility to which the generator will be interconnected, where the direction is not preempted by federal law, to seek the recovery through general transmission rates of the costs associated with the transmission facilities.
 - (3) Asserting the positions described in paragraphs (1) and (2) to the Federal Energy Regulatory Commission in appropriate proceedings.
 - (4) Allowing recovery in retail rates of any increase in transmission costs incurred by an electrical corporation resulting from the construction of the transmission facilities that are not approved for recovery in transmission rates by the Federal Energy Regulatory Commission after the commission determines that the costs were prudently incurred in accordance with subdivision (a) of Section 454.

We issued D.03-07-033 establishing procedures to implement § 399.25 on July 10, 2003, after the conclusion of hearings in this phase. We denied rehearing of D.03-07-033 in D.03-10-020.⁸

A. Positions of the Parties

Oak Creek asks that the Commission make affirmative findings pursuant to § 399.25 that Tehachapi upgrades are necessary to achieve renewable power goals and would provide benefit to the transmission network. Oak Creek claims network benefits both in correcting existing deficiencies and in accommodating new wind generation. Oak Creek points to on-going voltage/reactive power problems in the Tehachapi area which have caused both wind generation curtailments and customer outages. Oak Creek maintains that a Tehachapi project would resolve the existing deficiencies and, because Oak Creek anticipates operation in parallel with the existing grid, would enhance operation of the entire grid. Oak Creek submits that the costs of at least the first 230 kV line should be rolled-in and recovered through transmission rates. It recommends that the Commission direct SCE to submit transmission rate filings to the Federal Energy Regulatory Commission (FERC) to implement cost roll-in.

The ISO, SCE, and PG&E respond that reliability problems in the Tehachapi area are already being addressed. The ISO acknowledges that recent upgrades to the 66 kV system to provide additional reactive power (VAR) support and increase the deliverability of wind generation have not been as successful as had been hoped and that Tehachapi wind generation continues to

⁸ SCE has appealed D.03-07-033 and D.03-10-020. *Southern California Edison Company vs. Public Utilities Commission of the State of California*, No. B171050, Court of Appeal of California Second Appellate District, Division One.

be curtailed sporadically. SCE explains that it has not been able to determine the needed level of VAR support because it has lacked certain technical data regarding existing wind generation.

The ISO, SCE, and PG&E assert that the Commission should not determine at this time whether a Tehachapi project is necessary to meet renewable power goals, whether such a project would provide network benefits, or the appropriate ratemaking treatment. These parties maintain that essential information necessary for such determinations will not be available until an RPS auction is completed, winning bidders are selected, interconnection applications are submitted, detailed system impact and facilities studies are performed, and alternatives are examined. SCE recommends, however, that the Commission take this opportunity to adopt a plan for implementing what SCE calls the “protective backdrop” in § 399.25(b)(4) to ensure that a utility is able to promptly recover costs in retail rates if FERC does not approve recovery of prudently incurred costs in wholesale transmission rates.

The ISO explains that, under current policies, ratemaking treatment depends on the nature of a transmission project. If the ISO determines that a transmission network upgrade is needed for reliability or economic reasons, the transmission owner pays for the upgrade and recovers its costs through transmission rates, assuming FERC accepts inclusion of those costs in the transmission owner’s transmission revenue requirement. The ISO reports that FERC’s policy has been that generators fund transmission network upgrades necessary to accommodate interconnection of new generation projects. Transmission owners may credit back to generators the cost of such upgrades, with cost recovery within five years if the project becomes and remains operational. Generators fund transmission facilities from the generating plant to

the point of interconnection with the transmission grid (called “gen-ties”) and also fund all studies required for the interconnection process.

Because a large Tehachapi project would be far more expensive than needed to correct existing reliability problems, the ISO and SCE assert that there is no reliability-based justification for rolling costs of such upgrades into transmission rates. The ISO recognizes, however, that rolled-in treatment may be justified if a project allows a utility to meet its RPS requirements in the most economic manner.

SCE takes the position that developers should pre-fund any Tehachapi upgrades used to connect new wind generation so that ratepayers and utility shareholders do not bear the financial risks. SCE maintains that this approach is consistent with FERC policy for network upgrades needed due to new generation. SCE also suggests that FERC may classify Tehachapi upgrades as gen-tie rather than network facilities, with a resultant requirement of developer funding. SCE points out that FERC classified transmission facilities to Diablo Canyon, Morrow Bay, and Moss Landing generation as gen-ties even though the transmission facilities provide network loop configurations.

B. Discussion

Section 399.25 provides for utility funding of transmission facilities that the Commission determines are necessary to facilitate achievement of renewable power goals. In D.03-07-033, we explained that § 399.25 applies to network transmission facilities and not to gen-ties used to connect generation projects to the transmission network.

SCE’s assertion, made for the first time in its briefs, that the entirety of a Tehachapi transmission project may be deemed to be a gen-tie and thus ineligible for § 399.25 funding is not credible. A gen-tie is associated with a

single generation project and is constructed to connect that project to network transmission facilities. The 66 kV collector lines contemplated in SCE's 2002 conceptual study to connect wind installations to the new substations may be gen-ties. However, the higher voltage portions of the contemplated Tehachapi upgrades used to carry power from multiple wind projects would properly be classified as network transmission facilities and thus would be eligible for § 399.25 funding if such upgrades are found to be necessary to facilitate achievement of renewable power goals.

It would be premature to determine based on the record before us that Tehachapi upgrades are necessary to facilitate achievement of renewable power goals and thus would qualify for § 399.25 funding. It must still be established that the Tehachapi resource potential, while large, can be developed in a way that is cost-competitive, taking into account transmission costs, and that Tehachapi projects are consistent with a best-fit procurement strategy. As contemplated in D.03-07-033, the appropriate forum for consideration of whether a Tehachapi transmission project is necessary to facilitate the achievement of renewable power goals is that project's CPCN proceeding. Consideration of whether Tehachapi upgrades would provide benefit to the transmission network, as contemplated by § 399.25(b)(1), is also best left to the relevant CPCN proceeding.

Section 399.25 requires that a CPCN or Permit to Construct (PTC) application be deemed necessary to the provision of electrical service if the Commission finds that the transmission project is necessary to facilitate achievement of renewable power goals. In D.03-07-033, we determined that the Commission will make such findings in the applicable CPCN or PTC proceeding, based on the results of the RPS procurement process and General Order 131-D

considerations of alternatives to the proposed project. Because a determination that a transmission project is needed would be mandated if the Commission finds the project necessary to facilitate achievement of renewable power goals, a separate assessment of whether the project brings reliability or economic benefits would not be required for certification purposes. Thus, the issues raised in Rulemaking (R.) 04-01-026 regarding the assessment of reliability or economic need for new transmission projects do not pertain to findings of need pursuant to § 399.25.⁹

Contrary to some parties' assertions, a requirement pursuant to § 399.25 of utility funding of Tehachapi upgrades would not be inconsistent with FERC's current interconnection policies and would not trespass on FERC jurisdiction over interconnection agreements. FERC's Order 2003,¹⁰ issued after the conclusion of hearings in this phase, provides independent transmission providers, such as the ISO, flexibility regarding their interconnection and pricing provisions, subject to FERC approval.¹¹ In both Order 2003 and in its white paper issued in its Standard Market Design rulemaking, FERC has invited the formation of Regional State Committees, which would have policy input and some decision-making authority over their ISOs or RTOs. FERC contemplates

⁹ In R.04-01-026, we are examining the ISO's methodology for assessing reliability need for new transmission projects and whether the Commission should defer to the ISO's assessment of whether a new transmission project is needed for reliability or economic reasons.

¹⁰ Docket No. RM02-1-000, Order No. 2003, 104 FERC ¶ 61,103, July 24, 2003.

¹¹ FERC explained that this flexibility is appropriate based on its view that an ISO or Regional Transmission Organization (RTO) is less likely than a transmission provider that is a market participant to act in an unduly discriminatory manner.

that, among other things, Regional State Committees would establish criteria for the determination of which transmission system upgrades, including those required for generation interconnections, should be participant-funded and which should not.¹² We are exploring the establishment of a Regional State Committee for California and will take all needed actions, as directed by § 399.25, to obtain FERC approval of the inclusion in transmission rates of costs of transmission facilities funded by the utilities pursuant to § 399.25.

We decline to establish general policies at this time, as SCE requests, regarding how § 399.25(b)(4) would be implemented if FERC denies cost recovery for transmission projects funded pursuant to § 399.25. Whether FERC would deny such cost recovery is speculative at best, in light of the flexibility FERC has provided independent transmission providers and its stated willingness to allow Regional State Committees to determine which transmission system upgrades should be funded by their ISOs or RTOs. Further, if FERC were to disallow such transmission costs, the appropriate way to reflect such costs in retail rates may depend on the specific facts of the situation. We see no need to develop generic procedures for implementing § 399.25(b)(4) at this time.

VI. Transmission Planning for the Tehachapi Area

A. Positions of the Parties

The ISO, SCE, and PG&E take the position that a Tehachapi transmission project should proceed using established procedures, with project design finalized only after wind projects have submitted interconnection requests and have committed to fund the transmission upgrades. These parties

¹² Order 2003 at ¶ 698.

contemplate the following sequence: an RPS auction is held, least-cost, best-fit resources are determined, winning bidders are selected, and developers submit interconnection applications. Each generation project submitting an interconnection application would then be assigned a place in the ISO interconnection queue, and the generator or the transmission owner would perform system impact and facilities studies to identify needed transmission upgrades based on the generator's place in the ISO queue. If Tehachapi upgrades are found to be needed for winning bids that have submitted interconnection agreements, SCE would then prepare and file a CPCN application.

These parties maintain that new utility-funded transmission into the Tehachapi area would be a waste of ratepayer money if Tehachapi wind generators do not win RPS bids and build their projects. PG&E asserts that the proposed sequencing would not impede wind development, arguing that a developer likely will be able to finance its generation project once it has won an RPS bid and has a power contract, and that construction of a generator's project may proceed while transmission is being built.

Oak Creek argues that current transmission planning processes stymie wind development and that SB 1078 and SB 1038 intended to change the process for interconnecting renewable resources. Oak Creek submits that a wind project-by-wind project approach to transmission planning does not recognize the large amount of wind potential in a concentrated area which could be accessed by both PG&E and SCE. Oak Creek maintains further that the current transmission planning approach would delay completion of needed transmission facilities and would not allow wind developers to develop projects on the timeline demanded by the Legislature in SB 1078.

Oak Creek asserts that the Tehachapi resource potential provides a sufficient basis for planning comprehensive transmission upgrades, with phases built as needed. Oak Creek maintains that there is no practical or legal need to wait for RPS bid results to proceed with Tehachapi upgrades, since most of the upgrades would not be wind project-specific, with only gen-tie lines specific to individual wind projects. Oak Creek states that the view that a Tehachapi upgrade should not go forward until there are winning RPS bids makes sense only if one believes that none of the winning bids will come from the Tehachapi region. Oak Creek maintains that the CEC's heavy reliance on Tehachapi wind in its Plausible Resource Scenarios disproves this belief. Pointing to the routine use of cost projections in rate cases based on future test years, Oak Creek argues that regulation does not insist on certainty and that it is inappropriate to delay Tehachapi upgrades until there is certainty regarding which wind projects will use the added transmission capacity.

Oak Creek recommends that the Commission create a study group consisting of SCE, PG&E, the ISO, and wind developers, and chaired by the ISO. The study group would address transmission needs of the entire Tehachapi region rather than individual wind projects, and would produce either a consensus plan for the needed upgrades or a list of alternative plans. Each plan would provide a phased approach, which could correct existing transmission deficiencies and provide transmission for specified increments of new wind generation. Oak Creek recommends that the study group complete its work within four months and that SCE be required to submit a CPCN application within four months after completion of the study group process. If the study group does not produce a consensus plan, SCE's CPCN application would be required to include each of the study group's alternative plans. The

Commission's CPCN order would make the findings required by § 399.25. SCE's obligation to construct the upgrades would be contingent upon the identification of winning RPS bids in a minimum amount consistent with each plan increment. Oak Creek concludes that its approach would create the equivalent of a "batched" result without requiring the generators or SCE to engage in difficult group formation activities. It would also allow the RPS bidding process and the CPCN process to proceed in parallel rather than serially.

SCE and PG&E oppose Oak Creek's suggestion that transmission planning procedures be modified for Tehachapi wind generation, asserting that, in enacting SB 1078, the Legislature made no distinction among types of renewable generation and did not grant special consideration to any specific geographic area. These parties submit that preferential treatment for Tehachapi developers would be unfair and detrimental to developers in other areas.

SCE contends that planning a Tehachapi transmission project in the absence of interconnection applications and developers willing to fund the project would be difficult, if not impossible, under current interconnection tariffs. SCE points out that its interconnection process does not preclude generators from coordinating together, filing one interconnection application, and agreeing among themselves how to share transmission upgrade costs. SCE maintains, however, that it cannot unilaterally postpone and batch the processing of interconnection applications, cannot share one applicant's information with other generators without prior consent, and cannot mandate cost sharing arrangements counter to its tariffs. SCE argues further that the Commission has no jurisdiction to require batch processing since FERC has jurisdiction over interconnection applications.

SCE states that it supports regional transmission planning but that the Commission should not require a separate Tehachapi study group process. SCE points out that it is required to study alternatives in conjunction with a CPCN application and argues that the proper forum for Commission consideration of alternatives is the CPCN application and related hearings.¹³ SCE also explains that the ISO considers alternative transmission arrangements as part of its review of proposed transmission projects. SCE commits that it will study alternative Tehachapi configurations described by other parties in this phase, but cautions that such alternatives may not appear in the CPCN application if they are found to be inferior to other alternatives.

SCE maintains that a CPCN application cannot be completed in four months as Oak Creek requests. SCE reports that it has begun environmental studies based on the 2002 conceptual study, to expedite preparation of a CPCN application. However, environmental assessments could take a minimum of a year to complete if other routes are chosen. In addition, SCE states that, before a CPCN application could be filed, it would need to know, among other things, project sponsors, the specific amount and location of the proposed generation, electrical characteristics of the new generating facilities, and the results of system impact and facilities studies. Detailed rights-of-way reviews, identification of technical and routing alternatives, and mitigation measures would also be

¹³ SCE points to a stipulation it reached with the ISO, agreeing that (1) utilities present transmission alternatives for ISO consideration in the context of either a generator interconnection application or the annual transmission expansion planning process and (2) alternatives should be presented to the Commission through a CPCN application.

required. SCE states that potential line routes and substation locations could change depending upon which wind projects actually go forward.

SCE argues that inclusion of multiple transmission plans in a CPCN application, as Oak Creek suggests, would waste “vast amounts” of ratepayer dollars, because such an approach would require separate environmental and engineering studies for each plan and the required alternatives for each plan, to the extent they do not overlap.

The ISO agrees with Oak Creek that Tehachapi upgrades should be phased to match the development of additional wind in the Tehachapi area. It also supports Oak Creek’s recommendation that a study group of relevant parties be created to assess Tehachapi transmission alternatives, stating that this recommendation is largely consistent with the ISO witness’ recommendation that SCE, PG&E, and the ISO undertake a joint analysis of alternatives including linkage with the PG&E transmission system. Because of concerns that SCE might not adequately consider regional alternatives, the ISO maintains that studies of alternatives should be undertaken cooperatively with an adequate opportunity for input by all affected entities. The ISO believes that a review of alternatives should take place before environmental studies are undertaken, in order to avoid spending resources to evaluate the environmental impacts of alternatives that may ultimately be found to be infeasible for other reasons. Because the ISO’s tariff provides that interconnecting generators pay for system impact and facility studies, the ISO states that, if an analysis of alternatives takes place before an interconnection request, there would have to be agreement on the allocation of study costs.

During the hearings, Oak Creek raised what it called a “Catch 22” or “chicken-egg” concern regarding the RPS process if developers must include

estimates of transmission costs in their RPS bids but the transmission provider does not estimate transmission costs until after an RPS bid is selected and an interconnection application submitted. However, Oak Creek recognized in its opening brief that the requirement established in D.03-06-071 that proxy transmission costs be developed for bidders without completed cost estimates is responsive to this concern.

B. Discussion

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.

SCE asserts that wind generators could coordinate to file a single interconnection application for multiple generation projects, pointing out that a group of wind developers joined together to sponsor and fund SCE's 2002 conceptual study. However, a joint undertaking for construction of major transmission upgrades would be much more complicated and could entail significantly more risk than co-sponsoring conceptual studies. As an example, if one member of a developer consortium dropped out, this could raise questions about whether the transmission project design would have to be redone for the remaining developers. With developer funding, as SCE advocates, the remaining members could be required to pay more than anticipated for their respective

shares of the upgrades. While utility funding of § 399.25 projects alleviates this latter concern, a requirement that Tehachapi developers enter into consortia to sponsor transmission upgrades could still impede timely development of cost-effective transmission upgrades.

SCE maintains that it could not unilaterally choose to batch process interconnection applications. We note, however, that FERC's new standard interconnection agreement appears to allow batch processing, in that it would allow a transmission provider to establish what it calls a "queue cluster window" for conducting interconnection system impact studies.¹⁴ Thus, any impediment to batch processing appears to lie in existing interconnection tariffs rather than in FERC policies.

The design of transmission upgrades based on batch processing of generation projects, whether initiated voluntarily by developers or undertaken pursuant to tariffed provisions as provided in FERC's new standard interconnection agreement, would appear to be an improvement over the current project-by-project approach. However, even on a batched basis, transmission planning for resource-rich areas such as the Tehachapi region that focuses only on the transmission needs of projects that have submitted interconnection requests would still be sub-optimal because it would not take advantage of economies that would be realized if transmission upgrades are sized to meet multi-year transmission needs as additional generation is constructed.

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

¹⁴ Order 2003 at ¶¶ 153-156.

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 § 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.

We agree with the ISO and Oak Creek that the comprehensive transmission development plan should provide for a phased expansion. Rather than being tailored to a pre-specified group of generation projects, each phase would reflect the next logical expansion step, and may be sufficient to meet transmission needs of several years' RPS bid winners. Without prejudging the outcome of the study group process, we note that 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.

We require that a collaborative study group be convened to produce the comprehensive development plan for phased expansion of transmission capability in the Tehachapi area. The ISO and Commission staff should coordinate the study group, with participation by SCE, PG&E, wind developers, and any other interested parties. We encourage the CEC to participate in the collaborative study process. We envision the study group to function in a manner similar to the Southwest Transmission Expansion Planning (STEP) process.

The study group should commence its work immediately, without waiting for RPS solicitations, the submission of interconnection agreements, or the filing of a CPCN application. Study group work may be informed by the RPS process, to the extent RPS results become available during the group's efforts.

The study group should assess a full range of alternative configurations for Tehachapi upgrades, including SCE's 2002 conceptual study results, alternatives identified in this phase, SCE's transmission plan submitted in the phase of this proceeding related to the SB 1038 renewables transmission plan, and any other alternatives that the study group may develop. It should take a regional approach, looking, e.g., at alternatives that could connect the SCE and PG&E systems as the ISO has suggested. The study group should assess the

extent to which each alternative configuration would assist in the transport of power to companies other than SCE in order to meet their RPS goals. This is a particularly important consideration since SCE may meet its RPS goals before other companies do, and may not itself need to procure all of the cost-effective Tehachapi power that may become available.

The study group should develop a phased plan which, ultimately, could accommodate the full Tehachapi wind resource potential identified by the CEC. Initial project design should be responsive to any unresolved reliability concerns of the existing transmission system. Transmission line routes and substation locations should be informed by currently proposed wind projects but should also be designed to accommodate other wind development in the area, based on knowledge regarding desirable wind locations. In its recommendations, the study group should identify the demarcation between gen-ties and network transmission facilities to the extent feasible.

We urge the study group to develop a single proposed transmission development plan, at least for initial portions of the phased upgrades. If a consensus does not emerge, the study group should explain clearly the factors that would influence a choice among any alternative proposals it makes.

The study group should assess how much wind capacity each phase of the proposed upgrades could transport. The study group should develop recommendations regarding the procedures whereby each phase of the upgrades would be triggered, e.g., the receipt of winning RPS bids of specified magnitudes. We expect that this issue would be addressed further in assessing the need for Tehachapi upgrades in the context of the subsequent CPCN application(s). We contemplate that CPCN applications would be filed in an

orderly fashion in anticipation of the receipt of winning RPS bids that would need the capacity of each phase of the proposed upgrades.

As components of a comprehensive Tehachapi transmission development plan, separate transmission projects may emerge which would require separate CPCN applications. Particularly if SCE and PG&E transmission systems are interconnected as the ISO suggests, different entities may own different portions of the upgrades. If a new transmission line is contemplated as a separate phase of Tehachapi development, that line would require a separate CPCN application. To comply with California Environmental Quality Act (CEQA) requirements, a Proponent's Environmental Assessment accompanying a CPCN application should contemplate the maximum reasonably foreseeable buildout for the utility-owned assets, e.g., a double circuit line even if only one circuit is planned to be energized initially and even if the CPCN application requests authorization for only the first circuit. The study group should address how long it would take for the anticipated transmission owner to prepare and file each of the needed CPCN applications based on the study group recommendations.

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. We note that work has begun in this proceeding on development of transmission cost adders for the first RPS auction. It is not our intent that RPS auctions be delayed pending study group results.

The study group should address whether the transmission planning approach adopted for the Tehachapi area should also apply in other areas of the state with renewable resources. We note that the transmission plan for renewable resources prepared by Energy Division indicates a need for new high

voltage transmission lines in several counties if renewables development proceeds consistent with the CEC's Plausible Resource Scenarios.

Wind developers paid the cost of SCE's 2002 conceptual study, and the ISO and SCE suggest that wind generators should also be required to pay the cost of further studies of this nature. Oak Creek recommends to the contrary that study group costs be recoverable from all customers since all customers benefit from the state renewable mandate. Consistent with our understanding regarding the STEP process, each participant in the study group should bear its own costs.

The study group should prepare a report containing its findings and recommendations. SCE should file the study group report in this proceeding within six months following the effective date of this order, with service to all parties. All parties may file comments on the study group report within 21 days after SCE files it, and may file reply comments within 14 days after initial comments are due, as specified in this order.

SCE reports that it has commenced work on environmental studies that would be required for a CPCN application based on its 2002 conceptual study. That work should continue, in anticipation of filing a CPCN application for the first phase of Tehachapi upgrades consistent with study group recommendations. Based on the study group results, SCE should pursue ISO review of Tehachapi transmission upgrades and should file a CPCN application for the first phase of Tehachapi transmission upgrades consistent with the study group recommendations no later than six months following submission of the study group report, unless further action in this proceeding relieves it of this obligation.

Oak Creek recommends that the Commission adopt an expedited CPCN process for transmission or distribution facilities that may be necessitated

by a specific generator but that are not considered to be a gen-tie, with a requirement that SCE file a CPCN application for such construction within four months of receiving a written request from a generator. We will not impose a four-month time limit on the filing of such a CPCN application, since environmental studies may require a year to complete, as SCE has explained. Nor can we bypass or shortcut CEQA requirements as Oak Creek suggests. We do expect SCE to proceed expeditiously with preparation of CPCN applications, whether in response to study group recommendations or upon individual developer request.

We agree with SCE that Tehachapi wind development should not receive special treatment in the RPS process, in that the costs of needed transmission upgrades should not be masked or other steps taken to give Tehachapi developers an unfair advantage. However, the problems we have identified with current transmission planning extend to the RPS process. Improper inflation of transmission costs assigned to projects in the Tehachapi area, or other similarly situated areas, could impede such projects' ability to compete fairly in the RPS process and could skew the least-cost, best-fit ranking, to the detriment of both developers and consumers.

As transmission cost adders are considered and developed in this proceeding, transmission costs assigned to Tehachapi wind generation projects should be based on logical, cost-effective transmission expansions rather than upgrades that are limited to the needs of specific projects that may bid in a particular year's RPS auction. Once a comprehensive transmission expansion plan is developed, transmission cost adders should be based on that plan. Transmission costs should be reflected on a pro rata basis in the rank ordering of individual bids, since assessing upgrade costs to the first generator whose output

may trigger a need for the upgrade could impede development of a cost-effective resource area. The pro rata costs would reflect the portion of the total increase in transmission capacity that would be used by the generation project. For a phased expansion, all wind projects that would use transmission capacity created by one phase would be assigned the pro rata cost for that phase. 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.

VII. Comments on Proposed Decision

The proposed decision of the ALJ in this matter was mailed to the parties in accordance with § 311(d) and Rule 77.1 of the Commission Rules of Practice and Procedure. Comments were filed on _____ and reply comments were filed on _____.

VIII. Assignment of Proceeding

Loretta M. Lynch is the Assigned Commissioner and Charlotte F. TerKeurst is the assigned ALJ in this proceeding.

Findings of Fact

1. Oak Creek filed a motion for acceptance of its late-filed reply brief in this phase of this proceeding.
2. Oak Creek filed a motion asking the Commission to take official notice of a CEC committee report entitled “Preliminary Renewable Resource Assessment.” The CEC’s completed assessment is entitled “Renewable Resources Development Report” and was adopted by the CEC on November 19, 2003.
3. The Tehachapi area contains the largest wind resource area in California and, if more fully developed, could meet a significant portion of the goals for renewable energy development in California.

4. Existing transmission constraints in the Tehachapi area currently prevent new wind installations.

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

6. Large-scale transmission upgrades capable of transporting power from multiple wind projects will be needed if Tehachapi wind is to contribute significantly to California's renewable power goals.

7. The portions of Tehachapi upgrades used to carry power from multiple wind projects would properly be classified as network transmission facilities.

8. FERC has provided independent transmission providers such as the ISO flexibility regarding their interconnection and pricing provisions, subject to FERC approval.

9. FERC has invited the formation of Regional State Committees, which would have policy input and some decision-making authority over independent transmission providers such as the ISO. FERC contemplates that, among other things, Regional State Committees would establish criteria for the determination of which transmission system upgrades should be participant-funded and which should not.

10. Current transmission planning processes would plan and size Tehachapi transmission upgrades based solely on transmission needs of generation projects that have submitted interconnection requests and have committed to provide up-front funding for the transmission upgrades.

11. A requirement that Tehachapi developers enter into consortia to sponsor transmission upgrades could impede timely development of cost-effective transmission upgrades.

12. Even 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.

13. To the extent current planning methods needlessly increase 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.

14. In order for transmission upgrades in the Tehachapi area to be most cost-effective and least environmentally disruptive, it is reasonable to require a comprehensive Tehachapi transmission development plan to provide for an orderly and logical expansion of the transmission system.

15. It is reasonable for the comprehensive Tehachapi transmission development plan to provide for a phased expansion, in which each phase reflects the next logical expansion step and may be sufficient to meet transmission needs of several years' RPS bid winners.

16. It is reasonable to require that a collaborative study group, coordinated by the ISO and Commission staff and with participation by all interested parties, develop a comprehensive development plan for the phased expansion of transmission capability in the Tehachapi area, as described in Section VI.B of this order.

17. It is reasonable for each participant in the study group to fund its own costs.

18. It is reasonable to require that the study group prepare and SCE, acting on behalf of the study group, file a report within six months of the effective date of this order containing the study group's findings and recommendations.

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 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 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

1. The motion of Oak Creek for acceptance of its late-filed reply brief should be granted.

2. Official notice should be taken of the CEC's "Renewable Resources Development Report."

3. Pub. Util. Code § 399.25 provides for utility funding of network transmission facilities that the Commission determines are necessary to facilitate achievement of renewable power goals.

4. Because they would be network transmission facilities, the portions of Tehachapi upgrades used to carry power from multiple wind projects would be

eligible for § 399.25 funding if the Commission finds that such upgrades are necessary to facilitate achievement of renewable power goals.

5. A requirement pursuant to § 399.25 for utility funding of Tehachapi upgrades would not be inconsistent with FERC's current interconnection policies and would not trespass on FERC jurisdiction over interconnection agreements.

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.

7. A collaborative study group, coordinated by the ISO and Commission staff and with participation by all interested parties, should develop a comprehensive development plan for the phased expansion of transmission capability in the Tehachapi area, as described in Section VI.B of this order.

8. Each participant in the study group should fund its own costs.

9. SCE should continue preparation of a CPCN application for Tehachapi transmission upgrades in anticipation of study group recommendations.

10. SCE should file a CPCN application for the first phase of Tehachapi upgrades consistent with the study group recommendations no later than six months following submission of the study group report, unless further action in this proceeding relieves it of this obligation.

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

INTERIM ORDER

IT IS ORDERED that:

1. The motion of Oak Creek Energy Systems, Inc. for acceptance of its late-filed reply brief in this proceeding is granted.

2. Official notice is taken of the “Renewable Resources Development Report” adopted by the California Energy Resources Conservation and Development Commission (CEC) on November 19, 2003.

3. Transmission planning for the Tehachapi area shall 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.

4. Consistent with Pub. Util. Code § 399.25 and Decision 03-07-033, an electric corporation that obtains a certificate authorizing the construction of new Tehachapi network transmission facilities that the Commission finds necessary to facilitate achievement of renewable power goals shall fund the construction of such facilities.

5. The California Independent System Operator (ISO) and Commission staff shall convene and coordinate a collaborative study group to develop a comprehensive transmission development plan for the phased expansion of transmission capability in the Tehachapi area, consistent with the guidance in Section VI.B of this order.

6. Each participant in the study group shall fund its own costs.

7. The study group shall prepare and Southern California Edison Company (SCE) shall file a report containing the study group’s findings and recommendations in this proceeding, with service on all parties, within six

months of the effective date of this order. Parties may file initial comments on the study group report, with service on all parties, within 21 days after it is filed. Parties may file reply comments regarding the study group report, with service on all parties, within 14 days after initial comments are due. Parties shall file the study group report, comments, and reply comments in paper form but may serve them on the service list in electronic form, pursuant to Rule 2.3(b) in the Commission Rules of Practice and Procedure. Parties shall serve paper format copies, in addition to electronic copies if made available, on the Assigned Commissioner and the assigned Administrative Law Judge, anyone on the Appearances and State Service portions of the service list who does not have a valid e-mail address, and any other party requesting paper format copy. If a party serves a filed document electronically, it shall e-mail courtesy copies to the entire service list, including those appearing on the list as "Information Only."

8. SCE shall file an application seeking a certificate of public convenience and necessity for the first phase of Tehachapi transmission upgrades consistent with the study group's recommendations within six months following filing of the study group report unless further action in this proceeding relieves it of this obligation.

9. Transmission cost adders developed for Renewable Portfolio Standard purposes for Tehachapi wind generation projects shall be based on logical, cost-effective transmission expansions not tied to specific projects, with the costs reflected on a pro rata basis in the rank ordering of individual bids.

This order is effective today.

Dated _____, at San Francisco, California.

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