

July 2, 2003

Attn: Commission's Docket Office
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

RE: Docket # I.00-11-001, 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

Dear Clerk:

Enclosed for filing please find an original and five copies of the California Independent System
Operator's Opening Brief on Phase 6 in Docket # I.00-11-001. Please date stamp one copy and
return to California ISO in the self-addressed stamped envelope provided.

Thank you.

Sincerely,

Jeanne M. Solé
Regulatory Counsel

Cc: Attached Service List

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

Order Instituting Investigation into)
implementation of Assembly Bill 970 regarding) I.00-11-001
the identification of electric transmission and)
distribution constraints, actions to resolve those)
constraints, and related matters affecting the)
reliability of electric supply.)

**THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR'S OPENING BRIEF ON
PHASE 6**

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Dated: July 2, 2003

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I.00-11-001

**THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR'S OPENING BRIEF
ON PHASE 6**

In accordance with California Public Utilities Commission ("CPUC" or "Commission") Rule 75 and Judge Terkeurst's ruling on June 11, 2003, the California Independent System Operator ("CA ISO") respectfully submits its opening brief on Phase 6.

In her January 29, 2003 ruling, ("January 29 Ruling"), Judge Gottstein stated "SCE has completed the conceptual studies funded by interested wind developers in the Tehachapi region. These studies have identified the substations and lines that would be required (and their locations) to meet the potential growth of wind resources in that region. Apparently, there are 230kV and 66kV lines that will be needed for this project. As discussed at the PHC, concurrent testimony will address the project's network benefits, contribution to the goals of the Renewables Portfolio Standard ("RPS") program, project costs, as well as ratemaking issues." In statements at the commencement of the Phase 6 hearings, held June 9-11, Judge Terkeurst asked the parties to indicate "to the extent you know what you plan to ask the Commission to decide in this phase of the proceeding." Tr. (Terkeurst) at 1149: 26-28.

This opening brief sets forth: 1) an explanation of the federal cost-allocation rules that apply and must be considered by the CPUC in making a determination about cost allocation in

the context of a transmission project to interconnect Tehachapi wind generation; and 2) the CA ISO's view that the record that has been developed does not support findings on network benefits, project costs or ratemaking issues because alternatives remain to be studied.

As the CA ISO stated in response to Judge Terkeurst's question on the first day of hearings, the CA ISO had not by June 9th taken a position on the findings that should be made in this phase. The CA ISO does have a concern that whatever decisions are made by the Commission in this phase not foreclose a serious consideration of alternatives. See Tr. (Sole) at 1157-8. In light of this concern, and having participated in the proceedings, the CA ISO considers that the record does not support definitive findings on a project's network benefit, project costs or related ratemaking issues.

As the CA ISO sets forth in more detail below, given the Federal Energy Regulatory Commission ("FERC") rules for cost allocation, determinations about the project's network benefits, costs and related ratemaking issues will depend substantially on the alternative that is chosen to interconnect additional generation in the Tehachapi wind area. Since selection of the best alternative is premature, the determination of project benefits, costs and ratemaking issues is also premature.

I. FEDERAL RULES PRESCRIBE THE ALLOCATION OF TRANSMISSION COSTS.

On June 9, 2003, Judges Gottstein and Terkeurst issued a draft decision in this docket regarding procedures to implement Public Utilities Code Section 399.25 ("Draft Decision"). The Draft Decision describes generically many of the issues that are relevant to the particular case under consideration in this phase, as to federal requirements that apply with regards to the allocation of transmission costs. (The CA ISO filed comments on the Draft Decision on June 30 that set forth much of the information that follows.)

In addressing the findings that can or should be made in this phase based on the existing record, it is important to understand federal rules for the allocation of transmission costs, because, as the Draft Decision accurately suggests, given FERC's jurisdiction over the area of electric transmission, the CPUC's implementation of Public Utilities Code Section 399.25 should reflect FERC's practices.

FERC is in the process of developing a generic generator interconnection policy. Until that policy is finalized, the FERC accepted CA ISO Tariff, as supplemented by relevant provisions in the FERC approved Transmission Owner ("TO") Tariffs, prescribes cost allocation in the context of generator interconnections to the transmission grid¹. Moreover, the CA ISO Tariff governs whether and how costs may be rolled-into the wholesale transmission Access Charge for service over the CA ISO Controlled Grid.

Pursuant to Section 5.7.5(c) of the CA ISO Tariff, a generator interconnecting to the CA ISO Controlled Grid is responsible for the costs of "planning, installing, operating and maintaining the following facilities: (i) Direct Assignment Facilities, and, if applicable, (ii) Reliability Upgrades." A "Direct Assignment Facility" is defined in the CA ISO Tariff as "[t]he transmission facilities necessary to physically and electrically interconnect a New Facility Operator to the ISO Controlled Grid at the point of interconnection." A "Reliability Upgrade" is defined as "[t]he transmission facilities, other than Direct Assignment Facilities, beyond the first point of Interconnection, necessary to interconnect a New Facility safely and reliably to the ISO Controlled Grid which would not have been necessary but for the interconnection of a New

¹ On June 4, 2002, FERC accepted (subject to refund and further proceedings in its generic proceeding on the rules for generator interconnections), Amendment 39 to the CA ISO Tariff which placed the CA ISO in the position to coordinate interconnection to the CA ISO Controlled Grid. San Diego Gas & Electric Company, 99 FERC ¶ 61, 275 (2002). Because Amendment 39 was accepted subject to further proceedings and refunds, it is possible that in the future the rules for cost allocation will change and that the changes will be retroactive to the date on which FERC made Amendment 39 effective, June 4, 2002. See San Diego Gas & Electric Company, 100 FERC ¶ 61,235 (2002).

Facility, including network upgrades necessary to remedy short circuit or stability problems resulting from the interconnection of a New Facility to the ISO Controlled Grid. Reliability Upgrades also include, consistent with [Western Electricity Coordinating Council (“WECC”)] practice, the facilities necessary to mitigate any adverse impacts a New Facility’s interconnection may have on a path’s [WECC] path rating.” CA ISO Tariff Section 5.7.5(d) provides that a “New Facility Operator may, at its own discretion, sponsor, pursuant to Section 3.2 of the ISO Tariff any Delivery Upgrades.” “Delivery Upgrades” are defined as “[t]he transmission facilities, other than Direct Assignment Facilities and Reliability Upgrades necessary to relieve constraints on the ISO Controlled Grid and to ensure the delivery of energy from a New Facility to Load.” Finally, Section 5.7.5 of the CA ISO Tariff provides that generators seeking interconnection are responsible for the cost of System Impact Studies and Facility Studies required during the course of the interconnection process.

Pursuant to Section 3.2.7.3 of the CA ISO Tariff, the costs for transmission facilities the need for which is identified through the annual transmission expansion planning process overseen by the CA ISO are recovered by the relevant Participating TO through the CA ISO’s transmission Access Charge, provided that FERC accepts inclusion of these costs in a Participating TO’s Transmission Revenue Requirement. Pursuant to CA ISO Tariff Section 7.1 and Appendix F, Schedule 3, costs for New High Voltage Transmission Facilities are rolled into the CA ISO grid-wide component of the High Voltage Access Charge that is paid by all loads using the CA ISO Controlled Grid. Exports pay the High Voltage Wheeling Access Charge that also includes this cost component. The costs for Low Voltage Transmission Facilities are

recovered through the Participating TO's TO Tariff from users within the Participating TO's Service Area.²

The need for a transmission project can be established in the annual transmission expansion planning process either on reliability or economic grounds. CA ISO Tariff Sections 3.2.1 and 3.2.1.1.3, et seq. The CA ISO determines the projects that are needed for reliability in the context of the annual transmission expansion planning process that it facilitates with the Participating TOs. See CA ISO Tariff Section 3.2.2.1 and Tr. (Sparks) at 1202. Each year, in the context of that process, the CA ISO identifies the transmission projects that are needed to maintain compliance with NERC and WECC reliability criteria, as reflected in the CA ISO Grid Planning Standards. CA ISO Tariff Section 3.2.2. The CA ISO determines the best electrical alternative to meet identified needs. CA ISO Tariff Section 3.2.1.2. Projects can also be justified on economic grounds. To demonstrate need based on economics, a Project Sponsor must show that the economic benefits of the proposed transmission addition or upgrade are expected to exceed its costs using an economic analysis that comports with CA ISO guidelines. CA ISO Tariff Section 3.2.1.1.3.1.

Thus, it is important to note that under the CA ISO Tariff, interconnecting generators are only responsible for the cost of upgrades to the grid that are needed to maintain reliability. There is no requirement that anyone implement upgrades needed to assure full delivery of the output of an interconnecting generator, defined in the CA ISO Tariff as "Delivery Upgrades". Instead, generators may choose to fund such upgrades, or if it is demonstrated that such upgrades are cost-effective to ratepayers, the CA ISO could determine such upgrades to be needed.

² Amendment 27 to the CA ISO Tariff, along with certain subsequent updates, sets forth the methodology for determining the transmission Access Charge. The bulk of Amendment 27 was accepted by FERC subject to hearings and subject to refund, California Independent System Operator Corporation, 93 FERC ¶ 61, 104 (2000) and is the subject of ongoing litigation before FERC in docket ER00-2019-000.

While the CA ISO Tariff provides that interconnecting generators must pay for “Reliability Upgrades”, FERC has in a series of decisions indicated that TOs should over time credit back to interconnecting generators amounts expended by interconnecting generators for “network” upgrades. See e.g. Consumers Energy Company, 95 FERC ¶ 61,233 (2001); Removing Obstacles, 96 FERC 61,155 (2001); American Electric Power Service Corporation, 97 FERC ¶ 61,098 (2001); and Southern California Edison Company, 97 FERC ¶ 61,148 (2001). However, the matter of cost allocation for “network” upgrades is an important outstanding issue in the development by FERC of a generic generator interconnection rule. Development of such a rule is underway in FERC docket No. RM02-1-000³. Nonetheless, as the Draft Decision notes, so long as TOs are required to credit back to interconnecting generators the cost of “network” facilities, the distinction between “rolled-in” treatment, and upfront payment of “network” upgrades by interconnecting generators is primarily a matter of timing, and of who as between ratepayers and interconnecting generators bears the risk that a particular generating project will come on-line.

While Public Utilities Code Section 399.25 suggests that rolled in treatment should be sought for certain transmission facilities, in doing so it is important to consider the justification that exists under FERC rules for rolling-in transmission costs. Rolled in treatment for “network” upgrades could be consistent with existing CA ISO Tariff provisions, in cases where “network” upgrades can be shown to 1) be the best value alternative to solve existing reliability needs, or 2)

³ In that docket, the CA ISO submitted comments highlighting the fact that by requiring TOs and hence ultimately ratepayers to credit back to generators their investment in “network” upgrades, the Commission would mute price signals to generators to consider transmission system impacts in identifying the best site for their project. The CA ISO raised the concern that as a result utilities (and hence ratepayers) would be required to pay for the siting decisions of generators regardless of how costly these turn out to be in terms of impacts to the transmission system. See June 19, 2002 Comments of the California Independent System Operator Corporation on the Commission’s Notice of Proposed Rulemaking on Standardization of Generator Interconnection Agreements and Procedures at 7-9.

provide economic benefits to ratepayers (that is, the benefit of an upgrade to ratepayers exceeds its cost to ratepayers).

Further, in the context of R.01-10-024, the CPUC's proceeding on the procurement plans of the utilities, the CA ISO recently filed testimony stressing, among other points, the need for the procurement plans to address the deliverability of the resources the utilities intend to rely on to meet their customers' needs. Where it is shown that a combination of 1) additional transmission and 2) lower-cost resources that can be accessed through that transmission, is the preferred alternative to meet a utility's resource needs, rolled-in treatment of the additional transmission would be justified on economic grounds. Similarly, it can be argued that rolled-in treatment may be justified on economic grounds where additional transmission is needed to access cost-effective renewable resources and permits a utility to meet its RPS requirements in the most economic manner.

The CA ISO considers that in light of the FERC jurisdictional cost-allocation rules described above, determinations about the project's network benefits, costs, and ratemaking issues are premature. In particular more information is needed about the specific characteristics of the transmission alternative that will be used to interconnect additional wind generation at Tehachapi before it is possible to determine which portion of these are "Direct Assignment Facilities", "Reliability Upgrades", "Delivery Upgrades" or transmission facilities that can be rolled into transmission rates because they are justified on reliability or economic grounds⁴.

II. THE RECORD DOES NOT SUPPORT DEFINITIVE FINDINGS ON THE PROJECT'S NETWORK BENEFITS, ITS COSTS, AND RELATED RATEMAKING ISSUES.

⁴ Moreover, as discussed above, the CPUC should be aware that determinations about the allocation of costs consistent with the CA ISO Tariff may change once FERC issues its final rule on generator interconnections.

The hearings in this phase focused on three general areas: 1) the cost-recovery framework that applies with regards to alternatives to interconnect additional Tehachapi wind generation to the CA ISO Controlled Grid; 2) whether there are alternatives to interconnect additional Tehachapi wind generation to the CA ISO Controlled Grid and when and how those should be assessed; and 3) whether there are deficiencies in the existing system that require correction such that alternatives to interconnect additional Tehachapi wind generation could be considered to have network benefits. The CA ISO's views on the cost-recovery framework that applies are set forth in the prior section of this brief. The CA ISO considers that there are several potentially viable alternatives to interconnect additional Tehachapi wind generation to the CA ISO Controlled Grid in a series of phases, and that these alternatives should be studied further before a decision is made by either the CA ISO or the CPUC regarding which is preferable. In addition, the CA ISO considers that until the best alternative is selected, it is premature to make findings about network benefits. The issues that have been experienced in the Tehachapi area may be corrected by projects that have already been identified in the annual grid planning process and are certainly unlikely to justify projects of the magnitude necessary to interconnect additional wind generation in Tehachapi.

A. There Are Alternatives to Interconnect Additional Wind Generation at Tehachapi that Should be Studied Before the Best Value Alternative is Identified.

Southern California Edison Company ("SCE" or "Edison") discussed in its Opening Testimony, a potential alternative to interconnect additional wind generation in the Tehachapi wind area. See Exh. 6-108, SCE's Opening Testimony on Tehachapi Transmission Project (Phase 6), at 12-20, and Attachments B and C. As is set forth in Mr. Sparks' testimony on behalf of the CA ISO, there are a number of alternatives that could be implemented in phases to interconnect the new Tehachapi wind generation. These should be studied further before a

decision is made about the best alternative to interconnect additional wind generation in Tehachapi. Exh. 6-100, Opening Testimony of Robert Sparks Regarding Transmission Upgrades Related to Tehachapi on Behalf of the CA ISO, at 3-5.

The alternative set forth in SCE's testimony was identified in the context of a "conceptual study" funded by potential wind developers. Exh. 6-108, SCE's Opening Testimony on Tehachapi Transmission Project (Phase 6), at 13. As SCE testified, the study was conducted without the benefit of specific power flow, transient stability, post transient voltage and short circuit duty studies. *Id.* SCE itself has not undertaken detailed studies of any other alternative, other than belated studies it attempted to introduce out of time regarding the proposed alternative identified in the CA ISO's opening testimony⁵. Tr. (Chacon) at 1348: 18-23. Moreover, SCE itself has not identified the preferred alternative to interconnect additional generation at Tehachapi. Tr. (Chacon) at 1349: 21-28. In fact, in a joint Stipulation with the CA ISO, Edison stipulated that for the CA ISO's purposes, utilities should present alternatives either in the context of a generator interconnection application submitted to the CA ISO, or in the context of the annual transmission planning process, and that alternatives should be presented to the CPUC at the time an application is submitted for a CPCN. Exh. 6-105, Stipulation of the California Independent System Operator Corporation and Southern California Edison Company.

As is set forth in the CA ISO's opening testimony, the CA ISO has identified a number of alternatives to interconnect additional generation at Tehachapi that may offer some additional

⁵ The CA ISO objected to introduction of the results of an "analysis" by Mr. Chacon of the alternatives set forth in Mr. Sparks testimony because the information was not set forth in SCE's rebuttal testimony where the CA ISO could have reviewed it and been prepared to respond. Judge Terkeurst properly did not support introduction of the information. Nonetheless, Mr. Chacon referred to the results of the "study" in response to certain questions by Ms. Solé. As Ms. Solé represented on the record, upon an overnight review of the results of the "analysis", CA ISO experts had questions about the validity of the study. Tr. (Solé) at 1371: 12-17. Accordingly, the CA ISO does not consider the "results" of Mr. Chacon's "analysis" to be in any way determinative, and remains persuaded that the alternatives it proposed in its opening testimony require further study. The CA ISO remains interested in working cooperatively with SCE, PG&E, wind developers and other interested parties to undertake a full and correct assessment of the best alternative(s) to interconnect additional wind generation at Tehachapi.

regional benefits by solving needs that are likely to develop in the future in the Pacific Gas and Electric Company (“PG&E”) system. Exh. 6-100, Opening Testimony of Robert Sparks Regarding Transmission Upgrades Related to Tehachapi on Behalf of the CA ISO, at 3-5. As Mr. Sparks explained, PG&E’s Greater Fresno Area Long Term Supply Study Final Report, dated September 24, 2002, prepared in the context of the CA ISO annual grid planning process, identified a potential need for expanding the Fresno Area transmission system within the next five to ten years. Id. at 4: 8-11; Tr. (Sparks) at 1200: 3-7. One alternative to address this need, described as Alternative 8 in the PG&E study, would be to build a switching station in Fresno at the crossing of PG&E’s Helms-Greg 230 kV lines and SCE’s Big Creek-Rector 230 kV lines (“Fresno Switching Station”), and establish a phase shifted 230 kV tie between PG&E and SCE. Exh. 6-100, Opening Testimony of Robert Sparks Regarding Transmission Upgrades Related to Tehachapi on Behalf of the CA ISO, at 4: 11-15. This could add between 300-400 MWs of capacity. Tr. (Sparks) at 1209: 3-4; Exh. 6-110, Tehachapi and San Joaquin Valley Regional Study, at CAISO-SCE-03-232. While PG&E initially selected a different alternative without considering the potential regional benefits of Alternative 8, the CA ISO believes that Alternative 8 could, in addition to addressing needs in the Fresno area, create additional transmission capacity for interconnecting new Tehachapi wind generation by tapping the new generation to the Antelope-Magunden 230 kV lines. Id. at 4: 18-23.

Further, the CA ISO believes that upgrades to the Reactor 230 kV substation proposed in SCE’s most recent transmission expansion plan could be combined with the PG&E Alternative 8 to maximize the regional benefits offered by that alternative. Id. at 4-5. In addition, the CA ISO considers that SCE and PG&E should evaluate the option of adding transmission capacity to the Tehachapi wind area by constructing a phase shifted tie-line between SCE’s Magunden 230 kV

substation, and PG&E's Bakersfield 230 kV substation which are only five miles apart. Id. at 5: 5-8. This option could add a further 300-400 MWs of capacity. Tr. (Sparks) at 1209: 17; Exh. 6-110, Tehachapi and San Joaquin Valley Regional Study, at CAISO-SCE-03-232. Finally, the CA ISO believes that it is important to assess the addition of a second circuit to the existing radial 230 kV line between the Tehachapi wind generation area and Vincent 230 kV substation (otherwise known as the Sagebrush line or the Vincent-Wilderness line). Exh. 6-100, Opening Testimony of Robert Sparks Regarding Transmission Upgrades Related to Tehachapi on Behalf of the CA ISO, at 5: 9-14; tr (Sparks) at 1205: 14-21. This option could add 500-1000 MWs of capacity to those options previously discussed. Exh. 6-110, Tehachapi and San Joaquin Valley Regional Study, at CAISO-SCE-03-232.

The CA ISO has not determined that any of the alternatives set forth above are preferable to the alternative described in the Conceptual Study. See Tr. (Sparks) at 1207:2-4. Rather, the CA ISO wanted to alert the Commission through its testimony that there are alternatives to the option presented by SCE that could provide regional benefits and that need to be considered. The CA ISO is concerned that SCE might not adequately review alternatives that could potentially be the best regional solutions to interconnecting additional wind at Tehachapi .

The CA ISO realizes that there are limited resources and that accordingly it is important to winnow down consideration of alternatives to options that are effective. See Tr. (Chacon) at 1252:9. However, without further study, the CA ISO is not persuaded that to date, an adequate assessment of alternatives has been undertaken by SCE. Certainly, as set forth in the joint SCE and CA ISO Stipulation, the CA ISO will require an adequate assessment of alternatives in the context of any interconnection application by wind generation developers at Tehachapi, and to the extent it can be justified based on existing reliability needs, in the context of the annual grid

planning process. See Exh. 6-105, Stipulation of the California Independent System Operator Corporation and Southern California Edison Company.

In addition, it is clear that there are timing considerations to ensure an adequate consideration of alternatives. SCE clarified both through its witness and through counsel that the environmental studies to support alternatives in a CPCN application will take roughly a year from their inception to complete. Tr. (Chacon) at 1355:20-24; and Tr. (Mackness) at 1364-66. Thus, if a CPCN application is to be submitted by next Spring, it will be necessary to undertake a review of alternatives promptly, and possibly, for SCE to submit its CPCN application before all environmental studies are finished⁶.

The CA ISO notes that it is far preferable for the review of alternatives to take place before environmental studies are undertaken to reduce the likelihood that resources will be expended evaluating the environmental impacts of alternatives that may ultimately be found to be infeasible. For example, a direction by the CPUC at this time that SCE undertake environmental studies of the alternatives presented by the CA ISO could be premature pending the outcome of full and fair studies to identify the best alternative for interconnection. This is because although they appear to be promising based on the level of study that has been undertaken to date, there is a possibility that some or all of the options presented by the CA ISO will ultimately be found to be undesirable after they have been further scrutinized. Nonetheless, timing issues associated with environmental studies should not foreclose a serious consideration of alternatives; that is, SCE should not be permitted to avoid a serious consideration of

⁶ Mr. Mackness discussed on the record the option to have SCE file supplemental environmental information about alternatives after the initial CPCN filing is made. See Tr. (Mackness) at 1153:18-28; 1154: 1-8. Mr. Mackness noted some of the disadvantages of this approach. *Id.* The CPUC will have to consider in rendering its decision in this matter how it weighs against each other 1) the need for a thorough consideration of alternatives, 2) the need for a timely CPCN filing, and 3) the disadvantages of a less than fully complete initial application by SCE. It would likely help in weighing these factors to have available the results from the utilities' RPS solicitations since these would provide information about whether and when additional generation at Tehachapi is likely to materialize.

alternatives on the grounds that the result would be delays that could stem from the need to conduct additional environmental studies.

The CA ISO on its part will do what it can to encourage SCE, PG&E and the wind developers to work cooperatively in the context of the annual grid planning process to fairly assess alternatives to address identified reliability needs. However, with regards to an assessment of alternatives to interconnect new generation at Tehachapi, there may be some challenges in obtaining funding for the study of alternatives prior to an interconnection request by new wind generators. This is because, as explained above, in the context of the interconnection of new generation pursuant to the CA ISO Tariff the new interconnecting generators should pay for System Impact and Facility Studies. CA ISO Tariff Section 5.7.5. Thus, if the analysis of alternatives is to take place before an interconnection request is sought in order to support an early filing date for the CPCN, it will be necessary for all entities to reach an agreement on a study process that is timely and has a fair allocation of the costs of the studies among the affected entities. The CA ISO would likely be prepared to support the effort with some engineering support.

In sum, the CA ISO will require an adequate consideration of alternatives in the context of an interconnection request by new wind generators in the Tehachapi area. The CA ISO has identified a number of alternatives that could provide additional capacity to new wind generation in Tehachapi while proactively addressing regional reliability needs that could arise in the future. It is these regional reliability needs that, in particular, require further study. Nonetheless, there will be a need to coordinate on timing and the funding of studies to ensure that 1) SCE's CPCN application includes feasible alternatives; 2) a CPCN application is filed in a timely manner; and

3) limited resources are focused on assessing the environmental impacts of alternatives that have been demonstrated through adequate study to be preferable.

B. The Record that Has Been Developed Does Not Provide the Basis for Determining Project Network Benefits, Costs or Ratemaking Issues.

As stated above, these hearings were intended to address, with regards to a project to interconnect additional Tehachapi wind generation, “the project’s network benefits, contribution to the goals of the Renewables Portfolio Standard (RPS) program, project costs, as well as ratemaking issues.” January 29 Ruling. However, the CA ISO does not consider that these issues can be determined based on the current record. This is because 1) it has not been demonstrated that existing reliability needs justify a project of the size needed to interconnect wind generation at Tehachapi and 2) the characteristics of the particular alternative selected could impact the degree of network benefits, project costs and, hence ratemaking issues.

1. *It has not been demonstrated that existing reliability needs justify a project of the size needed to interconnect additional wind generation at Tehachapi.*

Mr Russel and Mr. Romanowitz have attempted to show that a transmission project to interconnect additional wind generation at Tehachapi, such as the project described in the SCE Conceptual Study, provides network benefits because it would likely solve voltage support issues that have been experienced in the Tehachapi wind area. The question to be answered is not, however, whether an additional project would provide benefits to the transmission system, most well-designed transmission projects do so. Instead, as described in the first section of this brief, what must be asked is whether a project of the magnitude needed to interconnect additional wind generation at Tehachapi would be needed but-for the additional generation. The CA ISO considers the answer to this question to be no.

CA ISO witness Mr. Sparks admitted candidly that there have been past concerns about the system in the Tehachapi wind area. Mr. Sparks noted that in 1999, the Cal Cement-Rosamond line was reconductored along with a project component to increase active VARs in the area. The object was to increase the capability of the system to deliver generation reliably from the Tehachapi wind area. Tr. (Sparks) at 1177-9. Mr. Sparks admitted that the project did not achieve delivery of 305 MWs of generation as had been hoped. Tr. (Sparks) at 1179: 20-23. Mr. Sparks went on to agree that as a result, additional low cost improvements to the 66 kV system were implemented in 2000. Tr. (Sparks) at 1180: 12-22. Mr. Sparks stated that once again the results of the upgrades were disappointing. Tr. (Sparks) at 1180: 27-28; 1181: 1. Finally, Mr. Sparks admitted that it appears that wind generation at Tehachapi continues to be curtailed sporadically. Tr. (Sparks) at 1181: 14-19.

However, Mr. Sparks also made it clear that part of the reason why past projects did not have the outcome that was expected was a lack of a dynamic stability model that is needed to undertake proper studies of the level of dynamic reactive support needed at Tehachapi. Tr. (Sparks) at 1188: 17-20; 1202: 19-28. In fact, the CA ISO in the past requested that SCE conduct a dynamic stability analysis, but SCE did not do so because it lacked certain technical data, including generation and load characteristic data. Tr. (Sparks) 1202-03.

Nonetheless, the record makes it clear that notwithstanding these challenges, the CA ISO and SCE have continued to pursue improvements to the system in Techapi to address remaining concerns. For example, in the CA ISO's final comments on SCE's 2002 Transmission Expansion Plan, the CA ISO approved SCE's proposal to address on-going concerns through seeking a higher rating for the Cal-Cement-Monolith-Rosamond-Windfarm 66 kV line under high wind conditions, and encouraged SCE to continue to work with the Tehachapi wind

community to mitigate loading and voltage problems in the area. Exh. 6-612, SCE 2002 Transmission Expansion Plan, Project Specific Comments at 4.

Also, Mr. Sparks testified that new 230 kV facilities would not need to be added in the Tehachapi area, but-for the addition of new generation in the area. Tr. (Sparks) at 1204: 13-14. As Mr. Sparks explained, if the latest approach to address the problems in Tehachapi fails to correct existing issues, there are several potentially lower-cost options than a new 230 kV facility that could effectively solve remaining problems. Id. As Mr. Sparks explained, if no new generation is added in the Tehachapi wind area, adding a 230 kV facility would be more than what is necessary. Id. Mr. Sparks stressed that all of the alternatives proposed for study by the CA ISO were proposed specifically to interconnect additional generation. Tr. (Sparks) at 1205.

Moreover, as Mr. Sparks explained, the mere fact that wind generation may continue to have to be curtailed in the Tehachapi wind area in certain conditions does not result in a violation of reliability criteria. Tr. (Sparks) at 1187: 5-10. In fact, the CA ISO has deemed it acceptable to trip wind generation “on under voltage, assuming everything settles out in the end.” Tr. (Sparks) at 1187: 11-14. On a case-by-case basis even tripping of load may be acceptable provided it does not occur as a result of a single (“N-1”) contingency. Tr. (Sparks) at 1187: 21-26; 1188: 1-2.

Thus, the record does not support a finding that a 230 kV project is needed but-for the addition of more generation in the Tehachapi wind area. But-for additional generation, lower-cost alternatives are available to address any reliability problems that remain in Tehachapi. Moreover, any remaining issues would likely be best addressed by the creation of an appropriate dynamic stability model so that the most effective low-cost solutions to any on-going problems can be identified accurately.

2. *The characteristics of the particular alternative selected could impact the degree of network benefits, project costs and, hence ratemaking.*

Two of the options proposed for assessment by the CA ISO to interconnect new generation at Tehachapi address issues identified in the context of the CA ISO annual transmission planning process. As to these options, it may be possible to demonstrate that at least a component of the facilities needed to interconnect new generation are also needed irrespective of the interconnection of new generation.

However, the degree to which an option includes components that may address reliability issues unrelated to the new generation depends very much on the particular alternative being considered. Thus, it is premature to determine the degree of network benefits a project to interconnect wind generation at Tehachapi may provide until all the alternatives are adequately studied. Similar concerns arise as to project costs. Moreover, as described in the initial section of this brief, ratemaking depends on the particular characteristics of a project, and whether the project or components of it can be considered “Direct Assignment Facilities”, “Reliability Upgrades”, “Delivery Upgrades” or transmission facilities that can be rolled into transmission rates because they are justified on reliability or economic grounds.

The CA ISO notes moreover that ratemaking issues will also have to consider timing issues. For example, in the case of Alternative 8 to address needs in Fresno, it is likely that if the alternative were used to interconnect additional generation in Tehachapi, the date to proceed with the project would have to be accelerated. This fact would have to be considered in determining what portion of the project should be paid for up-front by interconnecting generators, and what portion, if any, should legitimately be rolled into transmission rates.

The CA ISO notes finally that there will likely be economic issues that will also have to be reviewed in considering whether rolling in the cost of a transmission project or a portion thereof can be justified. As is explained in the first section of this brief, it may be possible to provide an economic justification for projects that allow utilities to serve load more cost-effectively by accessing lower cost resources, including, potentially, lower cost renewable resources that are needed for the utility to meet its obligations under the RPS. However, these questions can only be answered after reviewing the specific facts regarding specific proposed transmission projects, and the economics of the specific generation that is to be accessed by such projects.

In sum, the degree of network benefits, project costs, and hence ratemaking issues will likely vary among alternatives to interconnect additional wind generation in Tehachapi. Accordingly, it is premature to make binding determinations regarding these questions.

III. CONCLUSION.

The CA ISO considers that all alternatives must be studied before an alternative is selected to interconnect additional generation in the Tehachapi area. Because of this, and because different alternatives have different characteristics, it is premature to determine network benefits, project costs and ratemaking issues.

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PROOF OF SERVICE

I hereby certify that on July 2, 2003, I served by electronic and U.S. mail, of the California Independent System Operator's Opening Brief on Phase 6 in Docket # I.00-11-001.

DATED at Folsom, California on July 2, 2003.

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