

April 28, 2003

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

RE: Docket # R.01-10-024, Order Instituting Rulemaking to Establish Policies and Cost Recovery Mechanisms for Generation Procurement and Renewable Resource Development

Dear Clerk:

Enclosed for filing please find an original and eight copies of the California Independent System Operator Corporation Brief on the Implementation of the Renewables Portfolio Standard in Docket# R. 01-10-024. 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

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

Order Instituting Rulemaking to Establish
Policies and Cost Recovery Mechanisms for
Generation Procurement and Renewable
Resource Development

R.01-10-024

**CALIFORNIA INDEPENDENT SYSTEM OPERATOR
BRIEF ON THE IMPLEMENTATION OF THE
RENEWABLES PORTFOLIO STANDARD**

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I. INTRODUCTION

Pursuant to Rule 75, and Administrative Law Judge (“ALJ”) Allen’s February 21, 2003 ruling, the California Independent System Operator Corporation (“CA ISO”) respectfully submits this opening brief on the implementation of the renewables portfolio standard (“RPS”). In this phase of the proceeding, the Commission is developing rules for the implementation of the RPS, in particular as to four topics: 1) developing flexible compliance mechanisms; 2) defining least-cost best fit and bid ranking criteria; 3) establishing standard contract terms and conditions; and 4) determining the market price referents. The CA ISO submitted testimony on the first three of these points. The CA ISO urges the California Public Utilities Commission (“CPUC”) to minimize to the extent possible the exacerbation of over-generation problems in developing the rules for implementation of the RPS and to consider resource deliverability. The CA ISO clarifies upfront that the CA ISO understands the RPS to be the law and fully recognizes the obligations of the CPUC, the utilities and the CA ISO to comply with the law. On the other hand, the RPS law clearly intended that implementation should encourage development of an optimal mix of renewables, through least-cost best-fit ranking. The CA ISO urges the CPUC, consistent with the law, to consider its concerns about over-generation and deliverability in developing implementation rules.

II. BACKGROUND ON THE CA ISO, OVERGENERATION AND TRANSMISSION/CONGESTION ISSUES.

The CA ISO is a non-profit public benefit corporation organized under the laws of the State of California and responsible for the reliable operation of a grid comprising the transmission systems of the investor owned utilities, San Diego Gas and Electric Company (“SDG&E”), Pacific Gas and Electric Company (“PG&E”), and Southern California Edison

Company (“SCE”) as well as a number of other utilities. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 2-3. The CA ISO is also responsible for the coordination of the competitive Ancillary Services and real-time electricity markets in California. Id. In its capacity as control area operator, the CA ISO seeks implementation of the RPS in a manner that will not exacerbate existing over-generation problems, and that properly considers the deliverability of resources.

A. Over-generation.

Over-generation occurs when supply (i.e. generation and imports) exceeds demand (loads and exports), and the ability of system operators to back down generation to balance the system is constrained. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 3. These conditions generally occur during off-peak hours during the spring and early summer seasons; id; tr. (Graves) at 2626; although records of times when the CA ISO has sought market assistance to manage over-generation situations illustrate that in some years over-generation has not been a problem, whereas in others problems can persist for periods beyond the spring, Exh. RPS-31, California Independent System Operator Late-Filed Exhibit on Over-generation. The records of when the CA ISO has sought market assistance to manage over-generation situations illustrates that the severity of the problem varies significantly by year. Exh. RPS-31, California Independent System Operator Late-Filed Exhibit on Over-generation.

Some examples of generators that system operators may have difficulties backing down in over-generation conditions include: 1) must-take generators (e.g. nuclear plants and qualifying facilities that have take or pay contracts with the utilities) that the CA ISO does not have authority to re-dispatch to reduce output; 2) generators that are already operating at minimum

load and that are likely to be needed within a time frame (i.e. to meet the next day's peak load) that does not permit a generating unit to shut down and restart; and 3) hydroelectric generators that are operating at minimum levels based on current hydro conditions (i.e. high runoff) and the only way to reduce output is to spill water. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 3.

The CA ISO recognizes that over-generation conditions are not caused by a specific resource, but rather result from the totality of generation. Tr. (Graves) at 2619. Further, the CA ISO recognizes that resources and contracts that are already in place contribute to over-generation concerns, including, for example, nuclear plants, tr. (Graves) at 2631-2 and the CDWR contracts that have limited dispatchability rights, tr. (Graves) at 2618. Nonetheless, to the extent utilities are required to procure significant additional resources (renewables or otherwise) that will run during the times when over-generation concerns are most severe, without either the utilities or the CA ISO having the ability to require curtailments, over-generation concerns could be exacerbated, potentially creating reliability problems, tr. (Graves) at 2610-11, and increasing costs, tr. (Graves) at 2611.

The CA ISO tariff addresses over-generation. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 3. Section 2.3.4 of the CA ISO tariff sets out a number of sequential steps that can be taken by the CA ISO to address over-generation circumstances, including instructing scheduling coordinators to reduce their generation or import schedules on a pro-rata basis, or in more extreme circumstances, issuing mandatory dispatch instructions directing reductions for particular generating units and/or external imports. Id. Moreover, the CA ISO can in emergency circumstances direct generators that have signed Participating Generator Agreements with the CA ISO to modify their operations

as necessary to maintain reliability. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 3; tr. (Graves) at 2629.

However, as Mr. Graves explained, there are physical limitations to the steps that can be taken to address over-generation circumstances, particularly, as is often the case, if over-generation circumstances exist due to the shape of the load and the characteristics of the generating units that remain online. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 4; tr. (Graves) at 2633-2635. As Mr. Graves explained, in the Spring -- when due to the characteristics of certain hydro resources over-generation circumstances are most likely, load during the off-peak night hours, can be in the 20,000 MW range and shoot to 40,000 MW during on-peak daytime hours. Tr. (Graves) at 2634. To accommodate these swings, the CA ISO may require a significant number of thermal units to remain on-line at minimum loads in order to meet the daytime peak. Tr. (Graves) at 2633. This is because thermal units can require up to 48 hours to commence operations after being shut down. Tr. (Graves) at 2634. In these circumstances, the generation that must be on-line given the operating characteristics of nuclear plants, hydro resources, and the thermal units, can exceed load in the off-peak hours. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 3. Thus, a continued creation of circumstances that can exacerbate over-generation problems could ultimately affect reliability. See Tr. (Graves) at 2610-11.

Moreover, as Mr. Graves explained, it is preferable to avoid creating problems in the first instance, through sensible procurement and the rational operation of markets, than to address the problems through the CA ISO's authority to manage emergency circumstances after the fact. Tr. (Graves) at 2629. Finally, as Mr. Graves explained, addressing over-generation can be

costly. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 4. In severe over-generation circumstances, the CA ISO has had to pay generators not to generate, a cost that gets passed on to the scheduling coordinators that deviated from the balanced schedules they submitted to the CA ISO, and presumably to their customers. Tr. (Graves) at 2612-13.

B. Transmission/congestion issues

The CA ISO also supports consideration by the CPUC of the deliverability of resources in the implementation of the RPS, in particular whether transmission upgrades are required to interconnect and deliver the output of resources and whether resources will create and exacerbate congestion. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 5. The CA ISO has not assessed the particular transmission/congestion issues that can arise with regards to renewables procurement, but is working cooperatively with the CPUC, the utilities and stakeholders in the preparation of a transmission plan that identifies the additional transmission that could be required to achieve the state's objectives as to renewable resources.

In sum, the CA ISO supports implementation of the RPS, consistent with state law. Nonetheless, the CA ISO considers that Public Utilities Code 399.14 requires that in developing the implementation rules for the RPS, the Commission should consider and seek to minimize operational issues. The CA ISO presents its concerns regarding the over-generation problem and deliverability issues to the CPUC so that it can consider this information in developing sound implementation rules.

III. LEGAL AND POLICY CONSIDERATIONS

Public Utilities Code Section 345 requires the CA ISO to “ensure efficient use and reliable operation of the transmission grid consistent with achievement of planning and operating reserve criteria no less stringent than those established by the Western Systems Coordinating Council and the North American Electric Reliability Council.” Public Utilities Code Section 345.5 (a) and (b) requires the CA ISO to “conduct its operations consistent with applicable state and federal laws and consistent with the interests of the people of the state” and to “ensure the reliability of electric service and the health and safety of the public.” Public Utilities Code Section 345.5 (b) requires the CA ISO to “manage the transmission grid and related energy markets in a manner that is consistent with all of the following: (1) Making the most efficient use of available energy resources. . . . (2) Reducing, to the extent possible, overall economic cost to the state's consumers. (3) Applicable state law intended to protect the public's health and the environment. (4) Maximizing availability of existing electric generation resources necessary to meet the needs of the state's electricity consumers.” Public Utilities Code 345.5 (c) requires the CA ISO (among other items) to “consult and coordinate with appropriate state and local agencies to ensure that the Independent System Operator operates in furtherance of state law regarding consumer and environmental protection.”

The CA ISO understands the RPS as set forth in SB 1078 to be the law. Consistent with Public Utilities Code Section 345.5 (b) and (c), the CA ISO must undertake its own responsibilities consistent with the SB 1078, and must also consult and coordinate with the CPUC to ensure that it does so. The CA ISO is participating in this proceeding consistent with its obligations under Public Utilities Code Section 345.5 (b) and (c). By bringing over-generation and deliverability concerns to the attention of the CPUC at this time, the CA ISO is

hopeful that the CPUC will in its implementation of the RPS, minimize the likelihood that the RPS will result in an exacerbation of operational problems.

As the CA ISO witness clarified during the hearings, the CA ISO is not in any way suggesting that utilities be excused from complying with the RPS requirements. Tr. (Graves) at 2611. To the contrary, the CA ISO believes that its recommendations are completely consistent with SB 1078. Tr. (Graves) at 2612.

SB 1078 specifically requires the CPUC to develop “criteria for the rank ordering and selection of least-cost and best-fit renewable resources to comply with the annual California Renewables Portfolio Standard Program Obligations on a total cost basis.” This process must consider “estimates of indirect costs associated with needed transmission investments and ongoing utility expenses resulting from integrating and operating eligible renewable energy resources,” Public Utilities Code Section 399.14(a)(2)(B). SB 1078 also requires the CPUC to develop flexible rules for compliance by the utilities, Public Utilities Code 399.14(a)(2)(C); and standard contract terms and conditions, Public Utilities Code 399.14(a)(2)(D). The CA ISO is merely asking the CPUC, in undertaking these responsibilities, to seek to minimize the likelihood of exacerbating operational issues. Public Utilities Code 399.14(a)(2)(B), (C) and (D) clearly provided avenues for the CPUC to do so.

Further, the CA ISO is aware that over-generation and deliverability problems do not result from one resource, but rather arise from the totality of resources. Accordingly, the CA ISO is participating in the review of the utilities long-term plans and will highlight its concerns in that context as well. However, the CA ISO considers that it is appropriate and necessary for the CPUC to consider over-generation and deliverability concerns in the context of the implementation of the RPS requirements, as well as in the context of the broader procurement

proceeding, in order to minimize the likelihood of exacerbating existing problems. For better or worse, certain problems already exist and it is important that, to the largest extent possible, policymakers seek to avoid making them worse.

IV. LEAST COST-BEST FIT CRITERIA

As noted above, Public Utilities Code 399.14(a)(2)(B) requires the CPUC to develop “criteria for the rank ordering and selection of least-cost and best-fit renewable resources to comply with the annual California Renewables Portfolio Standard Program Obligations on a total cost basis.” This process must consider “estimates of indirect costs associated with needed transmission investments and ongoing utility expenses resulting from integrating and operating eligible renewable energy resources.” The CA ISO considers that the CPUC should give a favorable weighting to resources that do not contribute towards over-generation problems. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 5.

As Mr. Graves testified, the CA ISO does not have a particular mechanism in mind. However, the CA ISO offers two approaches that can be considered by the CPUC (singly or in combination) to address potential concerns about over-generation in the weighting of resources. First, with an understanding of the time frames of greatest concern for over-generation problems, the CPUC should consider the characteristics of the resources that can be procured by the utilities, and weight these in developing its RPS implementation rules. See tr. (Graves) at 2631. As Mr. Graves explained by way of example, the CPUC could give favorable weight to the fact that solar power is unlikely to exacerbate over-generation problems because such power is unlikely to be significant during the night-time off-peak hours when over-generation problems

are of greatest concern. Tr. (Graves) at 2636. The CPUC should also give weight to whether or not resources are dispatchable, since the CA ISO in combination with the utilities can use dispatchability to reduce over-generation problems when they arise, as well as to address other real time system problems. Tr. (Graves) at 2619-20.

The CA ISO also supports consideration of deliverability issues. Again, the CA ISO does not have a specific proposal to put forward. Nonetheless, deliverability issues can be addressed, through considering the costs of these effects in the market prices used to rank resources, or through weighting in the least-cost best-fit criteria. Tr. (Graves) at 2623-25. In any event, the CA ISO does not support double counting (or double penalties) to reflect transmission/congestion related issues. Tr. (Graves) at 2325.

In sum, least-cost/best fit criteria should reflect the potential of a resource to exacerbate over-generation problems. Further, the criteria should reflect deliverability issues unless consideration of these issues is already incorporated in the RPS implementation rules in a different fashion, in which case there should not be a double penalty.

V. FLEXIBLE COMPLIANCE MECHANISMS

Public Utilities Code 399.14 (a)(2)(C) requires the CPUC to develop flexible rules for compliance with the RPS by the utilities. The parties to this proceeding have proposed various mechanisms for such flexibility while still accomplishing the requirements of SB 1078. The CA ISO favors flexible compliance criteria that will reduce the likelihood that utilities will be forced to accept additional output at the times when over-generation conditions already can be expected to occur. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 4.

VI. STANDARD TERMS AND CONDITIONS

Public Utilities Code 399.14(a)(2)(D) provides that the CPUC should develop “[s]tandard terms and conditions to be used by all electrical corporations in contracting for eligible renewable energy resources, including performance requirements for renewable generators.” As noted above, over-generation concerns are exacerbated by the existence of must-take generators that the CA ISO does not have authority to redispatch to reduce output. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 3.

Accordingly, the CA ISO supports inclusion, to the extent possible, of contract requirements that require that generators that qualify as Participating Generators under the CA ISO tariff sign a Participating Generator Agreement with the CA ISO, such that the CA ISO can redispatch these generators to prevent reliability problems. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 4. At a minimum, utilities should have the ability to dispatch generation to the extent possible, so that utilities can require reductions in output when excess generation is available, in order to reduce adverse consequences on reliability and/or economics. Tr. (Graves) at 2630-31.

In addition, the CA ISO supports a limit to the number of resources subject to “as available” or “take-or-pay” provisions, particularly as to resources that are expected to operate during off-peak periods when over-generation concerns are the greatest. Exh. RPS-4, Opening Testimony of Kevin Graves on Behalf of the California Independent System Operator, at 4.

VII. CONCLUSION

The CA ISO respectfully urges the CPUC to consider operational issues in developing its RPS implementation rules, including the potential to exacerbate over-generation and impacts on transmission and congestion as set forth herein.

Respectfully submitted,

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Date: April 28, 2003

PROOF OF SERVICE

I hereby certify that on April 28, 2003, I served by electronic and U.S. mail, the California Independent System Operator Corporation Brief on the Implementation of the Renewables Portfolio Standard in Docket # R. 01-10-024.

DATED at Folsom, California on April 28, 2003.

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