

**UNITED STATE OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Standardization of Small Generator)
Interconnection Agreements and Procedures) Docket No. RM02-12-000

**Comments of the California Independent System Operator Corporation on
the Commission’s Notice of Proposed Rulemaking**

The California Independent System Operator Corporation (“CA ISO”) appreciates the opportunity to provide comments¹ on the Commission’s Notice of Proposed Rulemaking on Standardization of Small Generator Interconnection Agreements and Procedures issued on July 24, 2003 (“NOPR”). The CA ISO submitted its general comments on interconnection issues in Docket RM02-1-000 on June 19, 2002. Those comments are pertinent to small Generating Units as well as large Generating Units and are incorporated herein by reference. In addition, the CAISO submitted comments on the subject of small Generating Unit Interconnection for the Advance Notice of Proposed Rulemaking (“ANOPR”) on December 20, 2002, and those comments should also be considered incorporated herein by reference. The comments below analyze issues that relate specifically to small Generating Units and the related interconnection issues as addressed in the NOPR.

¹ Capitalized terms not otherwise defined herein shall have the meaning set forth in the Master Definitions Supplement, Appendix A to the CA ISO Tariff.

I. STANDARD SMALL GENERATOR INTERCONNECTION PROCEDURES AND STANDARD SMALL GENERATOR INTERCONNECTION AGREEMENT

A. GENERAL COMMENTS

The CA ISO has participated in the Commissions ANOPR process and continues to support the need to standardize the interconnection requirements for small generators. Regarding the proposed rule, the CA ISO generally supports the specific elements except as noted in the following comments. More generally, CA ISO agrees that interconnection service does not and should not provide for transmission service. However, essential elements of any interconnection must be (1) non-discriminatory access and (2) assurance that all technical requirements necessary to ensure Control Area and grid reliability are met as a condition of interconnection service.

1. The CA ISO supports the independent entity standard for variations from this proposed rule.

The specific provisions in this NOPR that recognize flexibility for independent entities on pricing and non-pricing terms and conditions, including provisions such as use of a three-party pro forma interconnection agreement, the meaning and use of the terms “Transmission Owner” and “Transmission Provider,” and the pricing policy to apply to small Generating Unit, should remain in the Final Rule for small Generating Units,² just as Order 2003 established the

² See Fed Reg. Vol. 68 No. 160, August 19, 2003, P.49983 ¶ 80, which specifically states “With respect to an RTO or ISO, at the time its compliance filing is made, as discussed above, we propose to allow it to seek “independent entity variations” from the Final Rule pricing and non-pricing provisions. This is a balanced approach that recognizes that the RTO or ISO has different operating characteristics depending on its size and location and is less likely to act in an unduly discriminatory manner than a transmission Provider that is a market participant. The RTO or ISO therefore would have greater flexibility to customize its interconnection procedure and agreements to fit regional needs”.

independent entity standard for RTOs and ISOs. The “independent entity variations” and “regional differences rationale to accommodate variations from the Final Rule during compliance” provisions within the NOPR allow continuity in established practices and fit the spirit and intent of this NOPR, including non-discriminatory procedures that are designed to expedite the interconnection of small Generating Units that cause little or no impact on the Transmission System. Business practices that have been developed and proven workable within RTO and ISO regions, and have been approved by the Commission, should be recognized and utilized because of their effectiveness for that particular region.

For example, in California the basic roles and responsibilities for interconnection to the Transmission System are derived from CA ISO Tariff Amendment 39,³ and there is appropriate flexibility in their execution. These roles are consistent with jurisdictional boundaries, and the assignment of responsibilities makes practical sense. To summarize, the CA ISO oversees all direct Generating Unit interconnections to the CA ISO Controlled Grid and generally assigns the necessary system impact and interconnection facilities studies to the Participating Transmission Owner (“TO”) that is most familiar with the technical features related to the specific project. The relevant Participating TO manages requests for interconnection with facilities that are not a part of the

³ On April 2, 2001, the CA ISO filed its Tariff Amendment 39, which following a lengthy and substantial stakeholder process set forth the basic standards for generator interconnection that were believed to be workable and practicable in the CA ISO Market. These standards, approved by the Commission on June 4, 2002, are in effect currently in the CA ISO Tariff. See section 5.7 specifically.

CA ISO Controlled Grid, and coordinates with the CA ISO regarding potential impacts to the CA ISO Controlled Grid.⁴

The rationale for these responsibilities being divided between the CA ISO and the Participating TOs was described previously in the CA ISO's general comments in Docket No. RM02-1-000⁵. The CA ISO, as part of its dual mandate to ensure non-discriminatory access to the transmission grid and maintain system reliability requirements established by the Western Electricity Coordinating Council ("WECC") and North American Electricity Reliability Council ("NERC"), must retain the ultimate responsibility for all interconnections to the ISO Controlled Grid and those Generating Units that participate in the wholesale market.⁶

The CA ISO continues to support coordination by the individual Participating TOs of the interconnection of small (and large) Generating Units to facilities other than the CA ISO Controlled Grid. Such interconnections may include interconnections to Transmission System level facilities that have not been turned over to the CA ISO by the Participating TO, or interconnection to Distribution System level facilities that are strictly the responsibility of the Utility Distribution Company ("UDC"), including those where the Interconnection Customer tends to self-provide for its own load or for operating under a UDC Tariff or power purchase agreement. In any case, the CA ISO would not operate

⁴ See comment 2 *infra*, discussing the CA ISO telemetry requirements as an area that the Participating TO should coordinate with the CA ISO.

⁵ See the General Comments of the CA ISO on interconnection in Docket No. RM02-1-000 at page 11, submitted June 19, 2002.

⁶ Distinct from *interconnection service*, the CAISO provides *transmission service* that is subject to other agreements and provisions of the CA ISO Tariff.

or control such interconnection facilities (unless they were participating in the ISO Markets).

Interconnections at the Transmission System or Distribution System level for Generating Units that do not plan to export Energy to the Transmission System are managed by the California Public Utilities Commission (“CPUC”) under procedures known as “Rule 21,” which closely resemble the screening process for small Generating Unit interconnection that is detailed within this NOPR. For these non-ISO Controlled Grid interconnections, the Participating TO or UDC has the information necessary to process the Interconnection Request, and the CA ISO is not in a position to be able to effectively coordinate interconnections to these facilities. An attempt by the CA ISO to manage or “co-manage” this interconnection process, in lieu of the Participating TO or UDC performing this function, could delay accommodation of the Interconnection Request, as well as increase the total cost of the interconnection because of disputes over jurisdiction over the facilities.

In summary, the established roles, responsibilities and practices that emanated from CA ISO Tariff Amendment 39 were developed through an extensive stakeholder process. To the extent these practices continue to benefit California and meet the needs of the region’s stakeholders, the CA ISO should have the flexibility to implement the rules for small Generating Units, much like the “independent entity” standard for pricing and non-pricing terms and conditions that the Commission approved in Order 2003. This flexibility is proving to be critical as the CA ISO develops, in close collaboration with state

agencies, an appropriate pricing policy for interconnection service that is suitable for California and meets the needs of various stakeholders. It will be important for the CA ISO to have this flexibility again in the implementation of a Small Generator Interconnection Final Rule.

2. The Final Rule should allow independent entities to specify the Reactive Power requirements for both Participating and Non-Participating Small Generators.

Unlike other areas in the United States where transmission is generally limited due to thermal factors, much of the transfer capability across the western grid and within the CA ISO Control Area is limited by voltage instability. As a result, the provision of adequate quantities of Reactive Power is an essential requirement of interconnecting generation facilities.

Reactive Power support is a unique reliability issue in the western United States due to the long transmission lines that comprise much of the Transmission System, in combination with the fact that Generating Units are generally located far from load centers. These physical characteristics create a critical need for Generating Units located throughout the system to provide Reactive Power support during periods of high load demand and for those same units to be able to absorb Reactive Power during periods of light load demand. A lack of adequate Reactive Power can result in low system voltage levels and inadequate reactive margins in pockets of the Transmission System, which can result in rapid voltage collapse.

Neither the proposed Small Generator Interconnection Procedure nor the Small Generator Interconnection Agreement in the NOPR currently describe the

Reactive Power requirements applicable to small Generating Units. Given how critically important Reactive Power is to operation of a reliable Control Area, these requirements must be proscribed? in the Small Generator Final Rule with the appropriate allowance for independent variation.

Reactive Power and other interconnection requirements establish the technical characteristics that each interconnected Generating Unit must abide by so that each Generating Unit is operating within a range that is compatible with the operation of the applicable electrical system. Establishment of specific Reactive Power requirements, and requiring, as a condition of interconnection, that each Generating Unit follow the requirements, will provide two specific benefits to the reliable operation of the electrical system. First, Interconnection Customers will have a published set of specific requirements that ensures they procure generator facilities with the necessary technical capabilities. Secondly, specific requirements will prevent Generating Unit operators from curtailing reactive output from their units in order to maximize the real power output of their Generating Unit in real-time at the expense of the reliable operation of the system to which the unit is interconnected.

The CA ISO and the Participating TOs, that are part of the ISO Controlled Grid, have defined the necessary technical requirements that are appropriate for the reliability of the region. The Commission should require that small Generating Units interconnecting at the Transmission System level meet the Reactive Power requirements of the CA ISO Tariff and abide by Reactive Power dispatch instructions issued by the Control Area operator, and small Generating

Units interconnecting at the Distribution System level meet the Reactive Power requirements specified in the Wholesale Distribution Access Tariff of the applicable Participating TO and abide by any Reactive Power dispatch instructions issued by the Distribution System operator. Compliance with the technical interconnection requirements of an independent entity such as ISO or RTO should be specifically included in the Final Rule.

3. The terms “Transmission System” and “Distribution System” should be clearly defined in the interconnection procedures and pro forma agreement to reflect actual conditions in the CA ISO Control Area, and should not be defined in terms of rigid voltage levels.

The NOPR⁷ proposes to divide small Generating Unit Interconnection Requests into two groups that will determine the process that is applied. These groups would be determined based on the voltage of the transmission facility to which the interconnection would be made. The Commission states that it believes this approach would “assist the parties by making clear which procedure applies to a particular Interconnection Request”.⁸

However, the CAISO clearly designates which facilities are part of the ISO Controlled Grid and therefore make up the Transmission system. In its Declaratory Order, issued on October 30, 1996 in Docket EL96-48-000, the Commission noted that “the seven factor test may not be fully dispositive of the issue”⁹ as to which facilities are local distribution facilities. Further, the Commission noted that “the primary difference among the Companies in their

⁷ NOPR at ¶ 29.

⁸ NOPR at ¶ 21.

⁹ 77 FERC ¶ 61,077 at page 15-17 (1996).

characterization of the facilities as either transmission or local distribution involves the classification of facilities between 60 and 138kv. These facilities are treated by San Diego Gas & Electric Company and Pacific Gas and Electric Company as transmission and by SoCal Edison primarily as local distribution.The Companies assert that, for SoCal Edison most of these facilities are not operated in parallel with the transmission network; under normal operating conditions, all power on these facilities flows directly to load without reentering the transmission system at some other point....” Finally, the Commission stated it would make an independent determination of which facilities should be under the operational control of the CA ISO.

In its October 30, 1997 order¹⁰, the Commission found that the relevant transmission facilities that would initially form the ISO Controlled Grid had been finalized. Therefore, it granted interim Section 203 authorization for the transfer of operational control of the Companies’ transmission facilities, identified in Appendix A to the Transmission Control Agreement. The CA ISO has been operating its Controlled Grid based on this determination since it began daily operations.

Therefore, the Commission has already established which facilities are transmission, based on its seven-factor test, as set forth by the Commission in Order No. 888, and other relevant information. In the case of Southern California Edison Company, the majority of Southern California Edison Company’s 115kv facilities were not transmission and did not become a portion of the ISO

¹⁰ See 81 FERC ¶ 61,122 P.243 (1997)

Controlled Grid. Therefore, the imposition of a voltage criterion at 69kv would arbitrarily redefine the Commission's reasoned decision and cause potential conflicts and uncertainty regarding the appropriate process for Interconnection Customers.

The terms "Transmission System" and "Distribution System" are used throughout the proposed Small Generator Interconnection Procedure and Small Generator Interconnection Agreement, and a number of important requirements stem from the application of such terms. The proposed interconnection procedure and pro forma agreement also discuss a number of distinctions between "high" and "low" voltage. Given the importance of these two terms, it is essential that the Interconnection Procedure and related agreements use terms that are compatible and consistent with the physical facilities and operational realities in the applicable region of the United States. Independent ISOs and RTOs should be afforded the opportunity to structure their applicable tariffs, procedures and agreements around the distinct physical realities of the respective systems.

Southern California Edison Company provided the following proposed definitions in its August 25, 2003 Request for Rehearing and Clarification on Order No. 2003¹¹. The CAISO finds these definitions are acceptable and represent a formalization of the general definitional concepts discussed above.

- Transmission System - shall mean the facilities owned,

¹¹ See Rehearing Request of Southern California Edison, Docket No. RM02-1-000; Order No. 2003, August 25, 2003 at P 34.

controlled or operated by the Transmission Provider that fall under the category of transmission under the seven-factor test set forth by the Commission in Order No. 888 and that are used to provide transmission service under the Tariff. A facility that is part of a Transmission System is not part of a Distribution System although service over both Systems may be provided under one Tariff. If the seven-factor test has not been applied by the Commission to the facilities of Transmission Provider, the Transmission System shall be comprised of those facilities the costs of which are rolled into transmission rates of Network Service customers.

- Distribution System - shall mean the facilities of the Distribution Provider that fall in the category of distribution under the seven-factor test set forth by the Commission in Order No. 888. A facility that is part of a Distribution System is not part of a Transmission System although service over both Systems may be provided under one Tariff.

In summary, the ISO Control Area contains Transmission Facilities which operate at nominal voltages as low as 55 kV¹² and distribution facilities that

¹² Facilities designated as “under the Operational Control of the CA ISO” are so designated by filing and seeking Commission approval as a part of the Transmission Control Agreement (see e.g., Pacific Gas and Electric Company, et al., 80 FERC ¶ 61,128 (1997), Pacific Gas and Electric Company, et al., 81 FERC ¶ 61,122, and California Independent System Operator Corporation, 82 FERC ¶ 61,326).

operate at 115kv. To prevent confusion and be more reflective of true operational circumstances, the CA ISO proposes that the terms “Transmission System” and “Distribution System” not be defined based on rigid voltage levels proposed in the interconnection procedure and pro forma agreements. Rather, they should be defined based on the functional capabilities and characteristics of the respective system. This approach focuses on the Commission determination of whether a specific facility is a part of the "ISO Controlled Grid" to distinguish between Transmission Systems and Distribution Systems.

4. The CAISO agrees with the NOPR proposal to use a single queue per geographic area for all Interconnection Requests to the Transmission System. In addition, each Participating TO would manage a queue of interconnection requests to its respective Distribution System.

The Commission proposes that each Transmission Provider maintain a single queue per geographic area, with the Queue Position of each Interconnection Request determining the following (1) the order of performing Interconnection Studies for each Generator, if required, and (2) the Interconnection Customer’s cost responsibility for any Upgrades to the Transmission Provider’s Transmission System necessary to accommodate the Interconnection Request. See Section 7 of the NOPR.

The queue system proposed in the NOPR is consistent with the CA ISO’s existing interconnection queuing practice, which was approved by the Commission in Amendment 39 to the CA ISO Tariff. The CA ISO anticipates that, consistent with the Commissions Order 2003, this queuing practice will

continue to be utilized. Therefore, the CA ISO supports the proposal in the NOPR for a single queue for all Generating Units in the CA ISO (geographic) Control Area, regardless of size, that submit a request for interconnection to the transmission facilities that comprise the ISO Controlled Grid. The CA ISO would manage and maintain one queue for Interconnection Requests to the transmission facilities that comprise the CA ISO Controlled Grid. In addition, each Participating TO would manage a queue of Interconnection Requests to its respective Distribution System.

Small Generating Unit Interconnection Requests would be processed in conformance with the Small Generator Interconnection Procedure, including the Expedited and Super Expedited study and review processes. Studies indicating Distribution System interconnections intending to make wholesale transactions would be shared with the CA ISO as provided in Amendment 39 to the CA ISO Tariff¹³. Amendment 39 to the CA ISO Tariff provides some very specific provisions regarding the sharing of Interconnection Request information, including System Impact Study reports. These provisions have been agreed-upon by both the CA ISO and the Participating TOs and approved by the Commission. The CA ISO believes that it is essential that these same provisions be included in the Small Generation Interconnection Final Rule. The specific provisions of Section 5.7.2 of the CA ISO Tariff that should be preserved are:

5.7.2 Requests to Interconnect to the Distribution System -

¹³ Generators interconnecting to a Distribution System within the CA ISO Control Area that intend to participate in the wholesale markets and schedule Energy over the CA ISO Controlled Grid, must also meet the CA ISO New Resource Interconnection requirements.

Any request by a New Facility Operator to connect at distribution level voltage will be processed, as applicable, pursuant to the Wholesale Distribution Access Tariff of the Interconnecting PTO or CPUC Rule 21; provided, however, that the New Facility Operator shall be required to mitigate any adverse impact on reliability on the ISO Controlled Grid in accordance with Section 5.7.5. In addition, each Interconnected PTO will provide to the ISO a copy of the System Impact Study used to determine the impact of a New Facility on the Distribution System and the ISO Controlled Grid pursuant to a request to interconnect under the applicable Wholesale Distribution Access Tariff.

The CA ISO requests that the Commission not require that the determination of interconnection process be based on the interconnecting system voltage, but rather that the determination be based on whether the facilities are defined as transmission or distribution. Alternatively, the Commission should allow an independent entity to define a variation that is appropriate for the region.

5. The CA ISO proposes to apply the interconnection process in its Large Generator Interconnection Compliance Filing to all Generating Units seeking interconnection during the interim period until the Commission issues its Final Rule in this proceeding and the CA ISO Small Generator Interconnection Compliance Filing is accepted.

The CA ISO observes that there is a necessary period of time for the Commission to consider comments from parties and then issue its final order regarding small Generating Unit interconnection rules. In addition, the CA ISO

intends to file modifications to its existing tariff as part of its compliance with Order 2003 for the interconnection of large Generating Units. As a result, the issue arises as to which set of standards will be applicable to small Generating Units seeking interconnection during this interim period.

The CA ISO is currently processing all Generating Unit Interconnection Requests to the ISO Controlled Grid using the procedures approved by the Commission in Amendment 39 to the CA ISO Tariff. These procedures delineate the roles and responsibilities of the Interconnection Customer, CA ISO, and the Participating TOs. The procedures include an opportunity for the Interconnection Customer to request expedited interconnection procedures following the System Impact Study. The Participating TOs currently process requests for interconnection to the Distribution System, or Transmission system level not under ISO Operational Control, for Generating Units intending to participate in the wholesale market using the PTOs' respective Wholesale Distribution Access Tariffs approved by the Commission, or the Rule 21 process for non-exporting Generating Units as approved by the CPUC. Under the current process, the CA ISO and Participating TOs share information and study results, as applicable, and coordinate their efforts to ensure that interconnections are achieved without adverse impacts to the ISO Controlled Grid. The process has been working well in the CA ISO Control Area.

Until such time that the Small Generator Interconnection Procedure becomes a Final Rule and any CA ISO Compliance Filing is accepted by the Commission, there will be a period of time where the CA ISO will be guided by

either its existing Tariff Amendment. 39, or the soon-to-be enacted Large Generation Interconnection Procedure. The CA ISO hereby takes this opportunity to advise the Commission of the approach that it proposes to take regarding the processing of Interconnection Requests to the CA ISO Controlled Grid during the transition from the Amendment 39 procedure to Large Generator Interconnection Procedure, and the Small Generator Interconnection Procedure.

Specifically, the CA ISO proposes to use the interconnection process approved by the Commission in CA ISO Tariff Amendment 39 for all Interconnection Requests to the CA ISO Controlled Grid until such time as the CA ISO Large Generator Interconnection Procedure Compliance Filing becomes effective. From that point forward, the CA ISO will use the Large Generator Interconnection Process for all Generating Units requesting interconnection to the ISO Controlled Grid until such time as the Commission issues a Final Rule on the Small Generator Interconnection Procedure and any CA ISO Small Generator Interconnection Compliance Filing is accepted by the Commission and made effective.

6. The CA ISO Control Area reliability will benefit from telemetry data from all small Generating Units.

The CA ISO, as a Control Area operator responsible for meeting and maintaining regional reliability standards established by the WECC and NERC, must have adequate, real-time visibility of the performance and status of all Generating Units within the ISO Control Area to ensure reliable operation of its share of the western United States electrical grid.

As viewed from the CAISO Market perspective, three types of Generating Units are of concern: 1) those that directly participate in the wholesale market and become a CA ISO Participating Generator; 2) those that operate under a pre-existing power purchase agreement with a Participating TO or UDC that the CA ISO must honor, and 3) those that self-provide local (i.e., on-site or “over-the-fence”) load or operate under a Participating TO or UDC net metering Tariff.

Generating Units that directly sell their output at wholesale in the CA ISO Markets are required by the CA ISO Tariff to execute a Participating Generator Agreement and agree to operate under the terms of the CA ISO Tariff. The CA ISO Tariff and implementing technical requirements require Participating Generators to provide real-time telemetry¹⁴ directly to the CA ISO for (a) Generating Units with a rated capacity equal to or greater than 1 MW and participating in the CA ISO Ancillary Service markets; and (b) all Generating Units with a rated capacity equal to or greater than 10 MW that participate only in the Energy and Supplemental Energy Markets. Additionally, the CA ISO Metered Subsystem Agreement requires each MSS Operator to provide real-time telemetry to the CA ISO from all of the Generating Units that comprise its metered subsystem. CA ISO believes all of these requirements should continue to apply in the context of small Generating Units.

¹⁴ Telemetry means those systems and functions related to acquiring instantaneous measurements of the operating condition of a Generating Unit and its associated interconnecting equipment, and transmitting such data to the Control Area operator on a repetitive real-time (approximately every 4 seconds) or near real-time (at least every 10 minutes) basis. The specific requirements for telemetered data from a Generating Unit are a function of its size, its impact on the Transmission System reliability, and the services it may elect to provide in a wholesale market environment.

For Generating Units that operate under a power purchase agreement with a Participating TO or UDC, and are scheduled in the wholesale market by the Participating TO or UDC, the Participating TO or UDC should have an obligation to provide the Control Area operator with real-time telemetry for these Generating Units. Many such units are large enough that the units significantly affect operation of the ISO Controlled Grid and the ISO Control Area. In many cases, the CA ISO does not receive real-time telemetry for such Generating Units. In other cases, the Participating TO or UDC currently provides real-time telemetry on a voluntary basis. The CA ISO believes that the requirement for the Participating TO or UDC to provide real-time telemetry to the Control Area operator should be formalized and a reasonable set of criteria established. Such criteria should be based on the size of the generating facility and how it ultimately connects to the CA ISO Controlled Grid. Real-time telemetry should be provided on a basis comparable with how the Generating Unit output is scheduled in the CA ISO wholesale Energy market.

For Generating Units less than 10 MW that first connect to a Distribution System, real-time telemetry provided by the Participating TO or UDC could be an aggregate of measurement values, provided the Participating TO or UDC schedules the output from such units on a comparable aggregated basis. For a Generating Unit that is directly connected to the CA ISO Controlled Grid and does not provide real-time telemetry to the interconnecting Participating TO or UDC, the Generator should be obligated to meet the CA ISO Direct Telemetry Standards applicable to Participating Generators (technical standards that should

apply regardless of participation status) and provide such real-time telemetry directly to the CA ISO.

Generating Units that self-provide energy to their own load or operate under a Participating TO or UDC net metering Tariff and are not scheduled with the CA ISO currently are not required to provide telemetry to the CA ISO. For Generating Units less than 10 MW in rated capacity, such treatment should continue. However, for larger generating facilities of this nature, the Participating TO, UDC, or the Generator itself should be required to provide adequate real-time telemetry to the Control Area operator.¹⁵ This requirement is of paramount importance when such Generating Units connect directly to the CA ISO Controlled Grid.

In summary, to allow the CA ISO to better maintain reliability and meet regional reliability requirements, the CA ISO requests that the Commission require a Participating TO or UDC to provide real-time telemetry values to the Control Area operator where the Participating TO or UDC already has or obtains real-time telemetry of an interconnected Generating Unit covered by an Existing Contract with that Participating TO, for Generating Units with a rated capacity equal to or greater than 1 MW, including Generating Units that are connected to the Distribution System or the Transmission System. This additional real-time telemetry will allow the CA ISO to better manage the Transmission System and

¹⁵ The Commission has recognized the need for the Control Area operator to have real-time telemetry data from larger generating facilities not otherwise subject to the requirements of the CA ISO Tariff. In fact, in two cases, California Independent System Operator, Docket No. ER02-2043-000, et al. P.6 ¶ 21 (2002) and California Independent System Operator Docket No. ER02-1834-001 Order on Rehearing, ¶ 12 (2002), the Commission held that these two large generating facilities should provide reliability data to the CA ISO even though the Commission found they were not Participating Generators.

meet its reliability maintenance obligations as a Control Area operator by providing important data that has been available, but not uniformly provided to the CA ISO.

7. The Commission should sponsor and encourage forums and mechanisms to promote alternative technologies or pilot programs to minimize potential barriers to entry for small Generating Units associated with the legitimate telemetry needs for ISOs, RTOs, and other Control Area operators.

To better manage and operate a reliable system, it is important that Control Area operators receive adequate real-time telemetry from all Generating Units within their Control Area. However, owners of small Generating Units contend that requiring such units to provide real-time telemetry consistent with the comprehensive standards that a large Generating Unit must meet is very expensive for small Generating Unit and constitutes a barrier to interconnection with the system, and, as such, should not be required. The CA ISO suggests that there are reasonable accommodations that can be made to lessen the financial impact for small Generating Units to provide the necessary telemetry, while still accommodating the Control Area operator's basic requirements for real-time data needed to reliably manage the system.

The Commission should not preclude the imposition of a requirement that small Generating Units provide real-time, or near real-time, telemetry to the Control Area operator. New technologies and service options¹⁶ are available that

¹⁶ The CA ISO identified technologies and service providers that could support the telemetry requirements for small Generating Units and proposed reasonable telemetry standards as part of its Aggregated Distributed Generation Pilot Program approved by the Commission.

can allow small Generating Units to provide the necessary real-time data on an economical basis.

To facilitate the provision of real-time telemetry from small Generating Units, the CA ISO suggests that it would be reasonable for an ISO, RTO, or Control Area operator to participate in efforts to explore and develop such technologies and services to reduce the barriers that small Generating Units might otherwise encounter in providing real-time telemetry to the Control Area operator. The Commission should allow the CA ISO and other Control Area operators to work with others to facilitate the application of new technologies and services for providing real-time telemetry from small Generating Units with the ultimate goal being the reduction of some of the costs that a small Generating Unit would otherwise bear. The Commission should consider sponsoring and encouraging forums and mechanisms to promote alternative technologies or pilot programs to minimize potential barriers to entry for small Generating Units.

For example, there currently are companies in the market that can aggregate data from small Generating Units, and, for a reasonable fee, provide that data to the Control Area operator within 10 minutes of real-time. This level of data update periodicity is acceptable to the CA ISO from a risk perspective for Generating Units with a rated capacity of less than 10 MW. Moreover, specific data points required from a small Generating Unit could be significantly reduced in appropriate circumstances from the data points required from a large Generating Unit.

The CA ISO supports the development of new technologies and new approaches to obtain reliability data. However, the CA ISO cautions the Commission to carefully consider the manner by which such new technologies are developed. The CA ISO recommends that all new technologies be developed in a careful and deliberate manner; an approach that will ensure that the use of new technologies is consistent with and supports established reliability criteria. To achieve that outcome, the CA ISO urges the Commission to consider coordinating with the Department of Energy (“DOE”), NERC and other entities in the industry to develop and further the reliable use of new technologies that can enhance the efficient use of the grid.

The process for adoption of new technology clearly requires a more coordinated approach than mere incentives, however. Promising technologies must be identified, in some cases encouraged, beta tested, and the results made publicly available so that additional entities are encouraged to adopt successful improvements. The industry already undertakes collaborative work to promote these types of efforts under the auspices of a variety of organizations including the Electric Power Research Institute (“EPRI”). Nonetheless, the results of EPRI programs may be limited to EPRI members, or in some cases to the entities that participate in and fund the program. Thus, there may be a role for the Federal Agencies, including the DOE and the Commission, to cooperate with industry and the reliability councils (NERC and the regional councils) on programs to stimulate the development of, identify, test and disseminate broadly information regarding new technologies.

A coordinated approach is required to expeditiously distinguish between meritorious efforts and efforts that are ill advised and will not ensure that all aspects of the cycle for encouraging adoption of promising technologies are addressed in an effective sequence. The Commission may want to hold workshops to discuss further a coordinated approach with the DOE, the reliability councils and industry.

B. COMMENTS ON SPECIFIC ISSUES RAISED IN THE NOPR

1. Generating Units need to be measured and processed in the interconnection procedure based on the Nameplate Capacity of the facility.

The NOPR requests comment on the proper basis for determining the megawatt size of Generating Units requesting interconnection. Within the context of this request, it is first necessary to define what constitutes a Generating Unit. The CA ISO Tariff clearly defines a Generating Unit.¹⁷

The Commission should require that Generators be processed according to the real power Nameplate Capacity of an individual Generating Unit, or the sum of the real power Nameplate Capacities of all the Generating Units within an aggregation or at a given plant, site or facility, where such units are interconnected to the system at the same point. For example, a wind farm consisting of one hundred 1.5 MW Generating Units which connect to the system

¹⁷ An individual electric generator and its associated plant and apparatus whose electrical output is capable of being separately identified and metered or a Physical Scheduling Plant that, in either case, is: (a) located within the CA ISO Control Area, (b) connected to the CA ISO Controlled Grid, either directly or via interconnected transmission or distribution facilities, and (c) that is capable of producing and delivering net Energy (Energy in excess of a generating station's internal power requirements).

at a single point should constitute a single 150 MW Generating Unit with respect to its interconnection processing.

The real power “Nameplate Capacity” should be used to determine the size of Generators requesting interconnection because it is synonymous with the NERC Generation Availability Data System (“GADS”) term “Gross Maximum Capacity¹⁸,” which is widely used and accepted term in the electric power industry, and represents the intended or expected output capability of the Generating Unit based on the manufacturer’s design. It is also a value that is established and known prior to the Generating Unit going into operation.

2. Multiple Generating Units with a single point of interconnection should be treated as a single project in the study queue.

The NOPR requests comment on the treatment of projects with multiple Generating Units with a single point of interconnection to the same electrical node on the grid such as might occur with a multi-unit wind farm or multi-unit cogeneration facilities. A generator should not be able to arbitrarily reduce or mask the real power output capability of a collection Generating Units which connect to the same point on the system by subdividing the units within a facility, plant, or site to circumvent the intent of the interconnection procedure.

Otherwise, developers may want to use the small Generating Unit process, for example, to permit a 30 MW facility as one 20 MW Generating Unit and one 10 MW Generating Unit to circumvent the interconnection procedure applicable to large Generating Units.

¹⁸ Gross Maximum Capacity in the NERC GADS system means – the gross power level that a unit can sustain during a given period if there are no equipment, operating, or regulatory restrictions.

The Commission should require that such projects be treated as a single project in the study queue.

II. CONCLUDING REMARKS.

The CA ISO respectfully submits its comments on the NOPR. The CA ISO also refers the Commission to its June 19, 2002 comments on interconnection issues in Docket RM02-1-000, which set out the CA ISO's general views about interconnection issues, and its comments on the ANOPR provided on December 20, 2002. These comments stress that the foundation for region-appropriate pro forma procedures must be based on sound reliability, operational and economic principles, yet be sufficiently flexible to allow for varying business arrangements and innovation and that the Commission's interconnection rules should not make Generating Units indifferent to location.

Further, the CA ISO urges the Commission to; (a) provide the CA ISO with flexibility to implement the rules for small Generating Units much like the "independent entity" standard for pricing and non-pricing terms and conditions that the Commission approved in Order 2003 for Large Generating Units, including technical requirements such as Reactive Power support and appropriate "breakpoints" (Transmission versus Distribution System) for determining the grouping and process to apply to Interconnection Requests; (b) continue its determination that Control Area operators should receive reliability data, and facilitate innovative solutions that will minimize potential barriers to entry for small Generating Units that result from the provision of telemetry data; (c) acknowledge the use of a single queue per geographic area for all

Interconnection Requests to the Transmission System, and the CA ISO recommendation for which interconnection rules shall apply for interconnection requests until the Small Generator Interconnection Final Rule is filed and made effective by the Commission; and (d) support the CA ISO proposed use of Nameplate Capacity as the appropriate measure to determine the size of a Generating Unit requesting interconnection, and treating multiple Generating Units with a single point of interconnection as a single project in the study queue.

The CA ISO thanks the Commission for this opportunity to submit these comments on the standardized interconnection documents for small Generating Units.

Respectfully submitted,

Gene L. Waas
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California Independent System Operator
Corporation
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Counsel for the California Independent
System Operator Corporation

Date: October 3, 2003



October 3, 2003

The Honorable Magalie Roman Salas
Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

**Re: Standardization of Small Generator Interconnection
Agreements and Procedures, Docket No. RM02-12-000**

Dear Secretary Salas:

Enclosed please find an electronic filing in the above-captioned proceeding of the Comments of the California Independent System Operator Corporation on the Commission's Notice of Proposed Rulemaking. Thank you for your attention to this filing.

Respectfully submitted,

Gene L. Waas
Counsel for the California Independent
System Operator Corporation
(916) 608-7049

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the Comments of the California Independent System Operator Corporation on the Commission's Notice of Proposed Rulemaking upon each person designated on the official service list compiled by the Secretary in the above-captioned proceeding.

Dated at Folsom, CA, on this 3rd day of October, 2003.

Gene L. Waas