

**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 Advance Notice of Proposed Rulemaking**

The California Independent System Operator Corporation (“CA ISO”) appreciates the opportunity to provide comments on the Commission’s Advance Notice of Proposed Rulemaking on Standardization of Small Generator Interconnection Agreements and Procedures issued on August 16, 2002 (“ANOPR”). The CA ISO submitted its general comments on interconnection issues in docket RM02-1-000 on June 19, 2002. Those comments are pertinent as to small generators as well as large generators and are incorporated herein by reference. In addition, these comments address issues that relate specifically to Small Generators including: the need for clear assignment of roles and responsibilities along with flexibility so that regions can assign responsibilities consistent with local requirements; the need for gross metering and telemetry so that the CA ISO can meet its responsibilities as Control Area Operator and bill for its services in accordance with accurate meter data; and the advantages of using the technical screening approach set forth in the California Rule 21 as the mechanism to establish the level of review required for particular generators.

As stated in the CA ISO’s comments in RM02-1-000, the CA ISO supports the creation of region- appropriate pro forma interconnection procedures, agreements, and services that ensure that all parties can interconnect to the grid

on a non-discriminatory basis. 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. Moreover, procedures must be consistent with the respective responsibilities and expertise of transmission owners and Regional Transmission Organizations (RTOs and ISOs). Further, the Commission's interconnection rules must be fully integrated with the economic principles underlying Commission's vision of a wholesale Standard Market Design ("SMD"), in particular locational marginal pricing ("LMP"). Thus, interconnection rules should not make generators indifferent to location.

I. It is necessary to establish clear and workable roles and responsibilities consistent with jurisdictional boundaries and to provide flexibility for the most effective business arrangements.

In order to facilitate interconnection, it is important that the respective roles and responsibilities of the entities concerned be clearly defined, consistent with jurisdictional boundaries. However, the Commission's rules on interconnection should allow sufficient flexibility in the assignment of roles and responsibilities such that the different regions can put into place the business arrangements that are most effective and practical, in light of the particular characteristics, expertise, resources and interests of the relevant players. With these principles in mind, in the context of California, the CA ISO considers that all direct interconnections to the CA ISO Controlled Grid should continue to be coordinated by the CA ISO, but with the Participating Transmission Owners ("PTOs") entering into study and interconnection agreements. Interconnections

to facilities other than the CA ISO Controlled Grid should be coordinated by the relevant PTO or Utility Distribution Company (“UDC”).

On June 4, 2002, the Commission approved Amendment No. 39 to the CA ISO Tariff, which placed the CA ISO in the central coordinating role in the context of direct interconnections to the CA ISO Controlled Grid. Amendment No. 39 recognizes, however, that the PTO that owns the facilities to which interconnection is sought also plays an important role in the interconnection process, including contracting with the owner of the resource seeking interconnection for the performance of system impact, and facility studies, undertaking much of the study work subject to the oversight and approval of the CA ISO, and ultimately entering into the interconnection agreement. Thus, the CA ISO Tariff assigns certain responsibilities to the PTOs and there are references in the CA ISO Tariff to the interconnection requirements in the relevant PTO’s Transmission Owner (“TO”) Tariff, which must also be complied with.

The rationale for this arrangement is described in the CA ISO’s comments in RM02-1-000 at page 11. The CA ISO, as the independent provider of open access to the transmission system, has ultimate responsibility for the coordination of interconnections such that it can assure prompt and non-discriminatory interconnections to the CA ISO Controlled Grid. At the same time, as the CA ISO noted in its RM02-1-000 comments, PTOs maintain responsibility for studies and entering into study and interconnection agreements such that a

duplication of staffs is avoided, since the PTOs will continue to maintain these responsibilities as to interconnections at the distribution level.

As to these roles and responsibilities, there is no rationale for treating small generators differently from large generators in the context of direct interconnections to the CA ISO Controlled Grid. In any event, it is unlikely that very small generating projects would seek direct interconnection to the CA ISO Controlled Grid primarily due to the proportionally higher costs of high voltage equipment.

In the case of interconnection to facilities other than the CA ISO Controlled Grid, the CA ISO supports having interconnection coordinated by the relevant PTO or UDC. Interconnections to facilities other than the CA ISO Controlled Grid could be to transmission level facilities that have not been turned over to the CA ISO's Operational Control, or to distribution level facilities. In either case, the CA ISO would not operate the facilities. In this context, the CA ISO considers that it would be best to leave coordination of interconnections with the PTO or UDC since they operate the facilities and have the detailed information and expertise associated with the facilities. Moreover, placing the CA ISO in a coordination role as to these interconnections could add unnecessary delay or result in jurisdictional disputes, as well as a duplication of efforts if PTOs and UDCs remain responsible for interconnections that are subject to retail rules, such as Rule 21 in California.

In sum, the Commission's rules should require a clear delineation of roles and responsibilities but should allow for flexibility such that particular regions can assign responsibilities in a manner that is efficient in light of local circumstances.

II. Gross metering and telemetry should be required so that the CA ISO can meet its responsibilities as Control Area Operator and bill for its services in accordance with accurate meter data.

Neither the ANOPR, nor the consensus documents address directly the telemetry and metering required for interconnection. Nonetheless, appropriate telemetry and metering are critical to allow the CA ISO to reliably operate the grid, and to assure accurate billing for services that are allocated on a gross load basis. Thus, appropriate requirements for telemetry and metering should be included in interconnection requirements. At a minimum, the interconnection rules should state that generating units must comply with the metering and telemetry requirements of the relevant Control Area Operator and Independent Transmission Provider.

The CA ISO comments in RM02-1-000 explain that the CA ISO relies on real time telemetry of the gross output of generating units within its Control Area to meet its responsibilities as Control Area operator and to assure reliability. As explained in those comments, the Western Electricity Coordinating Council ("WECC") requires the CA ISO to ensure that reserves are available for all "firm" loads within the Control Area. Behind-the-meter loads are considered "firm" loads unless they can be simultaneously curtailed in the event of a generator outage. To comply with this WECC requirement, the CA ISO Tariff requires that, as to Generating Units 10 MWs and above, Participating Generators meet

communications, telemetry and direct control requirements consistent with the CA ISO Tariff and Protocols. CA ISO Tariff Section 5.1.3(d). The CA ISO uses gross telemetry of generating units to accurately forecast its firm load for purposes of determining its Ancillary Service obligations in the Day-Ahead and Hour-Ahead scheduling processes. The CA ISO also uses gross telemetry to ensure that injections into the system match withdrawals from the system in real-time.

The Commission has recognized the CA ISO's need to obtain gross telemetry from generating units in order to meet its obligations as Control Area operator. In two recent orders, the Commission, in rejecting the need for certain generating units to enter into a Participating Generator Agreement ("PGA") with the CA ISO, nonetheless directed such generating units to provide to the CA ISO "all the information the CA ISO deems necessary to enable the CA ISO to fulfill its responsibilities as Control Area operator"¹.

Further, the CA ISO requires gross revenue quality meter data from all generating units 1 MW and above in order to accurately assess to Scheduling Coordinators, the costs that the CA ISO assesses on a gross load basis. The Commission has similarly recognized the CA ISO's need for gross metering information. In rejecting an unexecuted PGA and Meter Services Agreement ("MSA") recently, the Commission nonetheless recognized that the relevant generator had agreed to provide to the CA ISO "full information ... in order to enable the CA ISO ... to collect charges that the CA ISO Tariff provides to be billed on a gross load basis" and directed the generator to provide to the CA ISO

¹ 101 FERC ¶ 61, 227 (November 22, 2002); and 101 FERC ¶ 61,081 (October 25, 2002).

“all the information the CA ISO deems necessary to enable the CA ISO to ... collect all related necessary charges”².

The importance of setting forth appropriate metering and telemetry requirements in the context of interconnection rules is all the more important since the Commission’s rejection of PGAs and MSAs for certain generating units. Without PGAs and MSAs, alternative mechanisms must be in place to assure that generating units provide to the CA ISO the telemetry and metering information that it requires to undertake its Control Area responsibilities and to accurately allocate costs pursuant to the CA ISO Tariff. Interconnection rules are one such mechanism.

The CA ISO notes that it has tailored its metering and telemetry rules to minimize unnecessary burdens on smaller generators that do not wish to participate actively in CA ISO markets. Thus, the CA ISO does not require telemetry on generating units under 10MWs, and permits metering load net of generation, in the case of generating units under 1MW. These thresholds are intended to minimize barriers to entry for small generators that, on the one hand are unlikely individually to have a significant impact on the transmission grid and on the other hand would be disproportionately affected (given their size) by the need to provide telemetry and install gross ISO certified metering.

In sum, as in the case of interconnection rules for larger generators, the CA ISO considers that the interconnection rules for small generators in California should include requirements for providing to the CA ISO gross telemetry and gross metering. At a minimum, the commission’s standard rules should require

² 101 FERC ¶ 61, 227 (November 22, 2002).

generating units to comply with the telemetry and metering requirements of the applicable Control Area Operator and the Independent Transmission Provider. Since it must approve the tariffs of Independent Transmission Providers, the Commission can ensure that the telemetry and metering requirements of these entities do not unnecessarily burden smaller generating units.

III. Special rules are not necessary for small generators seeking direct interconnection to the CA ISO Controlled Grid.

The ANOPR does not distinguish between the rules for interconnection to transmission facilities and the rules for interconnection to distribution facilities. The CA ISO considers, however, that there is no need to develop special rules for small generating units for purposes of interconnection to the CA ISO Controlled Grid.

The CA ISO Controlled Grid is comprised of the transmission facilities turned over to the operational control of the CA ISO. Consistent with Order 888, and Commission orders approving the transfer of operational control from the transmission owners to the ISO³, the Transmission Control Agreement (“TCA”) between the ISO and PTOs provides that each PTO shall place under the CA ISO’s operational control the transmission lines and associated facilities forming the part of the transmission network that it owns or to which it has Entitlements. See TCA section 4.1.1. The TCA excludes from facilities subject to CA ISO operational control facilities that are “(i) directly assignable radial lines and associated facilities interconnecting generation . . . and (ii) lines and associated facilities classified as ‘local distribution’ facilities in accordance with FERC’s

³ 61 Fed. Reg. 21,540 (May 10, 1996); 77 FERC ¶ 61,204 (November 26, 1996); and 81 FERC ¶ 61,122 (October 30, 1997).

applicable technical and functional test ..." TCA section 4.1.1. As a result, the CA ISO is comprised primarily of facilities 60kV and above. Moreover, the CA ISO Controlled Grid is overwhelmingly a highly networked system.

It is unlikely that very small generating units will seek to interconnect directly to the CA ISO Controlled Grid because of the relatively high cost of the physical hardware required to interconnect at the voltages that comprise the CA ISO Controlled Grid. Thus, generators seeking to interconnect to the CA ISO Controlled Grid are generally larger sophisticated entities. Moreover, given the highly networked nature of the CA ISO Controlled Grid, the effects of an interconnection will in most cases be sufficiently complex to warrant study.

The CA ISO considers that there is only one category of generating units seeking interconnection to the CA ISO Controlled Grid that may consistently require little if any study and these are generating units that are sized and configured to preclude net exports on to the grid. In all other cases, given the sophisticated nature of the entities that would likely seek to interconnect to the CA ISO Controlled Grid, and the intricate nature of the likely system impacts, the CA ISO believes there are potential reliability impacts from putting into place special expedited procedures for any generating units seeking to interconnect to the CA ISO Controlled Grid. (In fact, the consensus procedures filed on November 11, 2002, appear to recognize that extra expedited procedures should not apply in the case of interconnections to the transmission system as interconnecting generators having a point of common coupling on a transmission line are disqualified from extra expedited treatment.)

Further, the provisions enacted in pursuant to Amendment 39 already provide for a prompt process for interconnections for all generating units seeking to interconnect to the CA ISO Controlled Grid. CA ISO Tariff Section 5.7. These new tariff provisions have clearly specified aggressive timelines for all interconnections. The new provisions specifically allow interconnecting generating units to request expedited interconnection. CA ISO Tariff Section 5.7.3.1. The provisions also require that in determining what additional system impact studies if any are required in the context of a proposed new interconnection, the CA ISO and the PTO “utilize, to the extent possible, existing transmission studies.” CA ISO Tariff Section 5.7.4.2.1. Thus, the new provisions already ensure that generating units having a minimal impact on the CA ISO Controlled Grid can interconnect expeditiously.

Finally, the CA ISO is devoting substantial resources to implementing the new Amendment 39 interconnection provisions effectively, and to adhering to the aggressive new timelines contained therein. The CA ISO is concerned that introducing different procedures for small generating units at this time could delay rather than expedite interconnections to the CA ISO Controlled Grid by diverting resources from the current concerted effort to hone the new process which was carefully designed to be fair to all generators, prompt and predictable. An additional consideration is that the CA ISO, as the independent provider of transmission service, has no incentive to treat small generators unfairly. Rather, as the entity charged with maintaining reliability in California, the CA ISO has

every incentive to process interconnection requests promptly consistent with ensuring that interconnections do not threaten system reliability.

In sum, the CA ISO considers that it is unnecessary and could be counterproductive to change the CA ISO's recently approved interconnection provisions to "accommodate" small generators. All parties appear to recognize that interconnections to transmission facilities should not be eligible for extra expedited treatment. Moreover, the new tariff provisions already provide for a prompt interconnection process, particularly where early studies indicate minimal impacts to the CA ISO Controlled Grid.

IV. Screens for expedited treatment should assure that reliability is not compromised.

As the Control Area operator, the entity responsible for system reliability in California, and the operator of the CA ISO Controlled Grid, the CA ISO has an interest in ensuring that all interconnections to the interconnected grid are processed in a manner that assures overall system reliability. Interconnections at the distribution level can have impacts on the transmission system, which is why Amendment 39 includes a requirement that PTOs must, in the cases of interconnections pursuant to Wholesale Distribution Tariffs, provide to the CA ISO with a copy of the System Impact Study used to determine the impact of a new facility on the CA ISO Controlled Grid. CA ISO Tariff section 5.7.2.

Accordingly, even if interconnection requirements for small generators are not applicable for interconnections to the CA ISO Controlled Grid, the CA ISO has a substantial interest in ensuring that these requirements adequately safeguard

reliability without unduly burdening small generators and discouraging interconnections.

The ANOPR suggests two thresholds for interconnection requirements applicable to small generators, 20 MW for treatment as a small generator and 2 MW for extra expedited treatment. In stakeholder negotiations which followed the issuance of the ANOPR, the emphasis on blanket thresholds based on MWs has been replaced by a more sophisticated screening process whereby the technical characteristics of a project rather than its mere size dictate the level of technical review. The CA ISO heartily supports this approach.

The CA ISO supports the objective to minimize barriers to interconnection for small generators. On the other hand, as the entity responsible for maintaining reliability, the CA ISO considers that it is imperative that the interconnection process adequately assure reliability. This benefits all customers of the interconnected grid including small generators that are already interconnected and small generators that will seek to interconnect in the future.

The CA ISO is supportive of the screening process that is used in California under Rule 21 to determine the projects that qualify for expedited interconnection treatment. The Rule 21 process, which has been heavily borrowed from in the consensus documents submitted on November 12, 2002, provides expedited treatment for projects that meet certain technical requirements. These technical requirements assure that expedited treatment is only afforded to projects that have a minimal impact on the grid. In such cases, expedited interconnection treatment is appropriate. This system is far preferable

to a threshold for expedited treatment that is based solely on size. While size can affect the likely impact of an interconnecting generator on the grid, its particular technical characteristics and its size relative to the system in the precise location where it seeks to interconnect are far more relevant.

Thus, the CA ISO wholly supports in concept the screening process adopted in the consensus documents. The CA ISO was concerned about the blanket threshold approach proposed in the ANOPR, because it would allow certain interconnections with minimal or no technical review of their impact on the grid. The approach set forth in the consensus documents is far preferable.

V. Conclusion.

The CA ISO respectfully submits its comments on the ANOPR. The CA ISO 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. 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 generators indifferent to location.

Further the CA ISO urges the Commission to: 1) clearly establish the respective roles and responsibilities of affected parties with flexibility to allow for optimal business arrangements; 2) require that generating units supply the relevant Control Area operator with the metering and telemetry information it requires to undertake its Control Area responsibilities and to accurately bill for its

services; 3) recognize that special procedures for small generators could be counter productive in the case of interconnections to the CA ISO Controlled Grid; and 4) require technical screens, rather than arbitrary MW thresholds, to qualify generating units for expedited interconnection treatment.

Respectfully submitted,

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Date: December 20, 2002



December 20, 2002

Magalie Roman Salas, Secretary
Federal Energy Regulatory Commission
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**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 Advance Notice of Proposed Rulemaking. Thank you for your attention to this filing.

Respectfully submitted,

Jeanne M. Solé
Counsel for the California Independent
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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Folsom, CA, on this 20th day of December, 2002.

Jeanne M. Solé