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California Energy Commission
Docket Office
1516 Ninth Street
Sacramento, CA 95814-5504

Dear Commission:

Docket Nos. 04-DIST-GEN-1 and 03-IEP-1

The City of San Diego would like to take this opportunity to share its views on the report *Rule 21 Working Group Recommended Changes to Interconnection Rules* [Report]. The City of San Diego [City] has participated actively in the Rule 21 Working Group and provided comments in that forum that were considered in the development of the Report. The City's comments on the Report provided below reflect views shared previously with that group.

In general, the City supports many of the recommendations included in the report. We appreciate the significant time and effort that many parties devoted to the Rule 21 Working Group and the group's efforts to reach workable solutions to complex technical issues. The City appreciates the opportunity to provide comments on the Report.

Metering Issues

The City has concerns about several metering issues raised in the Report (pp. 4-16). These concerns are as follows:

1. The need for Net Generation Output Meters [NGOMs]

2. The type of NGOM that is required to provide the IOUs with the information they need to administer tariffs

3. Who is responsible for the costs of NGOMs

4. Who owns the NGOMs.

These issues are addressed below.

Need for, Quality of, and Ownership of NGOMs

The IOUs contend that the Commission should require the installation of NGOMs for (1) all new non-NEM interconnections, and (2) all facilities with multiple generators." (p.4) In fact, SDG&E "requires NGOM on all customer generation." (p.9)

The Commission should reject the IOUs' proposals regarding the need for an across-the-board requirement for NGOMs, especially revenue-quality NGOMs. As noted in the Report, the Federal Energy Regulatory Commission [FERC] has stated clearly that a single meter at the point-of-common coupling is adequate for Qualifying Facilities [QFs] and that the CAISO is explicitly forbidden to use NGOMs for QFs. Such a prohibition on NGOMs for distributed generation [DG] facilities is a reasonable extension of FERC's existing policy.

The arguments put forward by the IOUs as to why they need metered output from DG generators are not convincing. For example, the IOUs state that revenue-quality NGOMs are needed to determine if generators meet annual efficiency targets and annual waste heat utilization targets. The IOUs also argue that revenue-quality NGOMs will provide the necessary data to calculate annual heat rates to determine if the generator qualifies for special gas rates. These calculations are not used for determining payments to generators but are instead performed to determine eligibility for participation in specific utility programs. The (lesser) degree of accuracy needed to determine program eligibility does not justify the cost of a revenue-quality meter.

Another flawed argument offered by the IOUs is that changes to California's net metering program will require the use of NGOMs. The IOUs are merely speculating. The CPUC has yet to submit a report to the legislature on the state's net metering program, and the legislature has not taken any action in response to this yet un-published report. Certainly, the IOUs can dream up multiple scenarios in which NGOMs are required. However, until the law requires such metering facilities, the Commission should continue to balance the IOUs' need to administer their tariffs against the costs that DG customers incur.

Most generators have existing meters that can meet the IOUs' data requirements. Generators should be allowed to use their existing meters to provide data to the IOUs along with a declaration certifying the accuracy of the metered data. If necessary, the IOUs should have a limited opportunity to examine and test a customer's meter in order to ensure accuracy. This is an equitable approach that would reduce generators' costs and would limit generators' concerns about confidentiality of data.

The City supports estimation of generation as a possible customer option. This approach is consistent with the IOUs' existing tariffs and should be offered to customers that do not have available space for new metering systems and do not have existing metering capable of providing accurate metered data to the IOUs. SCE rightly points out that certain customers do not favor estimation. In these cases, a metering alternative seems necessary, although the IOUs have not provided any compelling evidence supporting the need for revenue-quality meters.

The City does believe that there are certain circumstances in which NGOMs may be required. For example, Section 2827 of the Public Utilities Code outlines the basic metering provisions for NEM projects (e.g., wind projects greater than 50 kW, NEM projects under the CPUC's pilot biogas and pilot fuel cell program). In these limited cases, the City believes that the generator should have the option to provide remote metering readouts to the property line, thereby limiting the need for IOU representatives to enter the generator's facilities.

NGOM Cost Responsibility

The City believes that if a generator has an NGOM available, then it should not bear any cost responsibility for additional metering unless the IOU demonstrates that the customer's NGOM does not provide reasonably accurate meter readings. In that case, the customer should have the opportunity to replace its existing meter with a new meter that meets the generally accepted quality standards for metering. Such an approach is consistent with the rules adopted for direct access customers under Rule 25.

Under Rule 25, the IOU, the energy service provider [ESP], or the customer can own the interval meter used for billing purposes. As long as the meter conforms to standards set forth in the Direct Access Standards for Metering and Meter Data, the customer is free to install and own its meters. The IOU does not have the right to impose upon the customer a meter that the IOU chooses.

Rule 25 permits testing of DA customers' meters by the IOU or the ESP/customer to ensure that meters conform to the proper standards. If, for example, the IOU requests to test the customer's meter, the customer must permit the test to go forward. However, if the test shows that the meter is in compliance with the appropriate standards, the IOU would be responsible for the costs incurred to complete the testing.

In sum, Rule 25 ensures that meters meet the necessary standards for billing data, provides an equitable approach to meter ownership, and permits periodic testing for meter accuracy while not over-burdening DA customers with excessive and unnecessary costs.

The City recommends that the IOUs — and not the DG owner — should be responsible for the cost of metering (and other interconnection equipment) on DG systems that are eligible for net energy metering. This recommendation is consistent with the State's policy encouraging the development of new renewable resources by providing financial incentives.

Combined Technology Systems

The City currently owns and operates a combined heat and power [CHP] project in conjunction with a photovoltaic [PV] project at the central police headquarters. The City plans to install additional combined technology plants at other locations. Such combined technology projects provide numerous benefits such as the increased penetration of renewable resources in SDG&E's service area. However, the City believes many barriers to development of these types of systems exist and has raised the issue of these barriers in the Rule 21 Working Group.

Exporting Power to the Grid

One such barrier—which the Report fails to adequately present and clearly define — is that at the present time net metering of the output from the NEM component of a DG plant which has both NEM and non-NEM components is not possible. Under SDG&E's current tariffs and interconnection rules, combined technology DG projects cannot deliver power to the grid and, as a result, are required to curtail generation from one of the component generators if onsite load falls below the combined output level of the generating facility.

The generator owner has two options under this scenario, neither one of which is satisfactory. The owner can curtail the PV component; this is contrary to the intent and goals of the net metering tariffs and results in reduced generation of energy by renewable sources. Alternatively, the owner can curtail output from the CHP unit. Under either option, emissions likely increase since the emissions rate of the marginal generator on the grid is likely higher than that of the CHP unit and is certainly higher than the non-existent emissions from the PV system. In addition, under the second option, overall usage of natural gas increases because the CHP unit likely has a better heat rate than the marginal generator on the grid. Neither option is a preferred outcome from the state's perspective.

The Report requests policy guidance on the issue of the appropriate level of exports a combined technology system be permitted to make to the grid. The City protested an advice letter filed by SDG&E (Establishment of Schedule NEM-CT) to implement a tariff for an NEM facility combined with a non-NEM generating facility. In the City's view, this tariff prohibits any export of distributed generation. The City re-iterates its position here and recommends that exports of power from an NEM facility be allowed when a non-NEM generator is operating.

By prohibiting the export of power from a combined technology system, customers who intend to develop combined technology systems will size them smaller than might otherwise be efficient. In turn, loads that could otherwise be served by larger, cleaner distributed generation systems would instead need to be served by less clean conventional generation from the grid. The Legislature and the Commission have expressed policies to encourage, not discourage, the development of clean distributed generation in order to enhance system reliability and reduce emissions. Assembly Bill 970 and SB 1078 express these policies and contain provisions for distributed generation incentives to promote, not discourage, the development of clean distributed generation.

Other Tariff Administration Issues

The Report identifies and discusses four solutions (described as scenarios) to tariff administration issues for combined technology systems (pp.32-34). The Rule 21 Working Group agrees that there are no technical barriers to implementation of any of the solutions. (In fact, the Rule 21 Working Group has developed initial concepts for performing the individual interconnection reviews that would be needed to implement Scenarios 2-4.) Thus, the Commission should consider economic efficiency and equity issues in evaluating the different approaches for metering and tariff administration of combined technology systems.

In Scenario 1, the non-NEM generator is tripped offline if the combined output from the NEM and non-NEM units exceed onsite load. This is a poor solution which will result in either undersizing the non-NEM unit or significant increases in O&M costs for the non-NEM unit due to excessive start-up and shut-downs and increases in fuel consumption to supply process heat to the owner of the facility. Gas consumption will also increase for the overall grid because the marginal generator on the grid will operate more to supply energy that could otherwise have been generated by the non-NEM generator.

The City believes that Scenarios 2-4 are preferred to Scenario 1. It is important to note that Scenarios 2 and 3 are both likely to occur. As noted above, the City has an existing project that would be fall under Scenario 2. The City also has plans to develop a combined DG facility with both PV and biogas generation. This would fall under Scenario 3. The Commission should clarify that a combined technology DG system with multiple units eligible for NEM should be allowed. There are no technical barriers to implementation of such systems and, consistent with the Energy Action Plan's Loading Order and the draft decision in the CPUC's Rulemaking R.04-04-003, renewable resources are the preferred generating resource for the state.

Concerning combined technology DG systems in which one of the generators is not eligible for NEM, the City believes that Scenario 2 provides the best balance between economic efficiency and equity issues. As noted in the Report, unrestricted exports from the combined technology DG unit (as envisioned in Scenario 4) would increase utility costs and would likely not increase the amount of renewable energy generated by the combined technology DG system. In addition, if a generator is interested in developing a facility that delivers power to the grid in all hours, the generator has other options such as developing a QF and establishing a power sales agreement with the local IOU, possibly using the Standard Offer No. 1 contract. For properly sized DG systems, Scenario 2 gives the developer of a combined technology system the proper economic incentive to develop a renewable component, and it provides parity with other developers of renewable DG facilities. It also encourages the "right-sizing" of the non-NEM component of the DG system.

It is worth noting that under the current NEM tariffs, an eligible PV generator can be sized at twice the onsite load and still not have any net power deliveries to the grid over the year (assuming that the customer's loads during the night are equal to the customer's loads during daylight hours). Even if this assumption is not true and the customer's loads at night are not as large as the customer's loads during the day, any excess generation from the PV unit is delivered to the IOU at no cost, thereby reducing the IOU's cost of purchased power. This "free" power would benefit all ratepayers, along with the added benefits of increasing the amount of power generated by renewable sources.

Finally, the City believes that the Commission should consider the benefits of combined technology DG projects in its recommendations regarding cost responsibility for interconnection review fees or study costs, costs of interconnection facilities or utility distribution system upgrades. All customers of the local utility benefit from the installation of combined technology DG systems. These benefits are provided by DG systems that are eligible for NEM. Non-NEM eligible DG projects provide different types of benefits to customers. These benefits were

weighed and balanced when the legislature established the NEM and DG incentive programs. Combined technology DG plants provide similar benefits and in fact may allow for development of renewable DG in areas in which renewable generation might not be cost-effective. For these reasons, the City believes that the costs of interconnection studies and infrastructure improvements should be borne by all customers, not just the developer of the combined technology DG system. This is a fair and equitable allocation of costs to those that benefit from these technologies.

Conclusion

The City looks forward to following up with the Energy Commission regarding these comments and the Report. The City appreciates the efforts of all those involved in the Rule 21 Working Group and the preparation of the Report.

Sincerely yours,

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