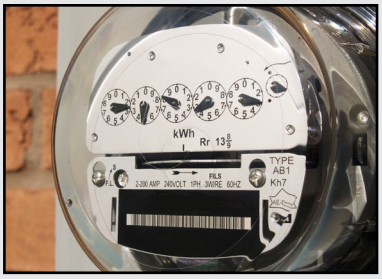
CONNECTING TO THE GRID

WHAT'S INSIDE — February 2012

FEBRUARY 2012

Vol. 15, No. 2

Editor: Laurel Varnado



ABOUT THIS NEWSLETTER

While customer-sited net metering and interconnection policies are primarily addressed at the state level, they are also becoming important on a regional basis. This newsletter has been designed to provide state-level policy updates and capture emerging regional trends. *Connecting to the Grid* is a free, electronic newsletter published each month by the Interstate Renewable Energy Council (IREC). Click here to subscribe.

The Connecting to the Grid program also gets support from the *Database of State Incentives for Renewables and Efficiency* (DSIRE), at the North Carolina Solar Center at NC State University.

Please direct comments and questions about the newsletter to Laurel Varnado at laurelv@irecusa.org

POLICY RECIPES YOU'LL WANT TO SHARE WITH A NEIGHBOR

When I'm feeling especially creative, I like to cook without the assistance of recipes. Some meals turn out surprisingly tasty; others (especially my "innovative" baking endeavors) do not. Solar policy development is like baking, you really should follow a recipe if you want it to turn out right. The reason is simple: the ingredients needed to build a "clean energy economy" are so interdependent that they should be added in the right amounts and combinations. Ideally, they would all follow a predetermined best-practices approach, more or less, to maximize their effectiveness.

Historically, states have had jurisdiction over distributed generation (DG) policies, because they generally have jurisdiction over their distribution lines. Up until fairly recently, these state policies have been created on a somewhat piecemeal and sporadic basis, leading to 50 completely different sets of DG policies. Now that we're in the midst of a renewable renaissance, you might say, it's increasingly important that we collectively develop a more standardized approach to policy adoption, in order to foster equity and efficiency in the market. Non-hardware or "balance-of-system" costs, like those associated with inefficient administrative processes, make up about half the price on a solar installation. So, streamlining these processes can really make an enormous difference for the expansion of the solar industry going forward. One recent report estimated that by streamlining interconnection, permitting and related costs, we could see a reduction of 44% or more in these non-hardware costs.

Let me provide an example. If you're reading this newsletter, you're probably familiar with the IREC model rules for net metering, interconnection and community renewables (if not, you can read them here). Think about how these model policies, and the provisions therein, work together to minimize red tape and maximize safe and reliable installations. Both the interconnection and net metering models contain simplified processes for small, inverter-based systems under 25 kW. This makes it much easier for developers to quickly and efficiently install systems on homes and small commercial, non-profit, or government buildings because it provides a consistent definition of what constitutes a small system, one that has virtually no impact on any distribution grid.

Interconnection rules usually cover the state's investor-owned utilities and state commission definitions and rule structures often follow the federal Small Generator Interconnection Procedures (SGIP). While the SGIP provides a basis for uniformity in interconnection procedures, the U.S. abounds with municipal and co-operative utilities, which often do not fall under the state's purview.

By contrast, DG permitting typically happens at the local level, but there is also an intensive effort underway to develop model rules that local governments could implement. In 2011, the Solar ABCs provided a revision of their highly useful *Expedited Permit Process for PV Systems – A Standardized Process for the Review of Small-Scale PV Systems*. Several states have also provided a model for their jurisdictions to use. Just this month, the California County Planning Directors Association released several publications, a Solar Energy Facility Permit Streamlining Guide and Model Ordinance, among others, which were the products of a concerted effort to help streamline permitting in California.

NOTE FROM THE EDITOR

Complying with a multitude of state and local policies is a costly and time-intensive endeavor for any company, especially those that work across state lines. I recently reached out to one of my industry contacts at SolarCity who corroborated this sentiment. “The next horizon for cost reduction in distributed technologies is ‘soft costs’, and standardizing administrative and safety policies nationwide is a key enabler of that. Just as all of the advances made in the Internet over the past several years are fundamentally built on a set of open standards, we feel that distributed clean energy technologies deserve and require simple, standard policies in order to better contribute to a strong electric system. SolarCity currently carries out operations in more than a dozen states and Washington, DC, and we’re very focused on these types of enabling policies,” said Colin Murchie.

Now, you might be thinking, how in the world are we going to do this, when there are thousands of jurisdictions in the country, if you count the 3500+ utilities, in addition to the county, city, state and federal government departments that have their own sets of regulations. This standardization process will not happen overnight, nor will it be easy, but it is not an insurmountable task. This kind of large-scale standardization effort is also not without precedent. For a similar example, you can look to the Uniform Commercial Code, which was first published in 1952, with the aim of harmonizing state laws regarding sales and commercial transactions. This was essentially a set of model rules that was adopted by all states, with tweaks from one state to the next. Sound familiar?

To help this process along, the U.S. Department of Energy launched their massive SunShot initiative last year, with the goal of reducing the total cost of solar energy systems by 75% by the end of the decade. IREC is excited to be helping achieve this SunShot vision through our regulatory and outreach work, with an eye toward helping states adopt and improve upon policies we’ve come to realize as best practices.

Diversity is great, especially when it comes to culture, ecology or, at times, my cooking. But if we’re going to achieve our renewable energy goals, we’re going to need to adopt a comprehensive strategy for renewable energy implementation, and then make it happen.

Regards,
Laurel Varnado

STATE NEWS IN DETAIL

NORTHEAST STATES

MASSACHUSETTS

On June 23, 2012, the Massachusetts Department of Public Utilities issued an order to establish a Distributed Generation Working Group. This investigation is focused on reviewing the existing distributed generation interconnection standards and application procedures to determine what changes should be implemented to ensure an efficient and effective interconnection process. This action follows more than a year's work from the DPU and interested stakeholders who are interested in improving the net metering and interconnection processes in the state.

The DPU periodically uses collaborative initiatives and working groups to reach a consensus among stakeholders that are affected by a particular issue. In fact, the DPU had originally tasked a DG Collaborative to establish uniform standards for the interconnection of distributed generation in the wake of the restructuring of the electric industry. Building on this solid foundation, the goal of the Working Group here is to determine what changes should be implemented to ensure an efficient and effective interconnection process that will foster continued growth of distributed generation in Massachusetts. The Department noted in the order that the Working Group should not endeavor to recreate or reconvene the DG Collaborative, but rather should focus on the issues that need to be addressed in order to update the existing distributed generation interconnection framework.

Source: MA DOER website

NEW YORK

On January 19, the New York State Public Service Commission decided to solicit comments on revised regulations governing residential electric submetering, a system that allows a landlord, property management firm, condominium association, homeowners association, or other multi-tenant property owner to bill tenants for individual measured electric usage.

The Commission has long-favored metering of individual dwelling units to promote energy efficiency and equity. Tenants in master-metered buildings that are not submetered do not pay for electricity based on a measurement of actual use in their apartment; instead, average electric charges are included as a component of their rent. As a result, tenants using relatively small amounts of electricity could pay proportionately more for the electricity while also subsidizing those using relatively larger amounts of electricity. In addition, tenants who make adjustments in their living patterns to reduce consumption and save energy see no benefit from this in their monthly rent.

With metering of individual dwelling units, electricity consumers pay bills based on their actual consumption. This establishes an incentive for the efficient use of electricity, provides a tool for consumers to manage their energy usage and bills, and furthers the State's energy efficiency goals. Submetering regulations were last revised in 1988.

The proposed changes to the regulations for which the Commission is seeking comments include requiring that individual units in multi-unit new construction and substantially renovated premises be directly metered by the utility unless a petition demonstrates that master metering with submetering is necessary for on-site co-generation, demand-response programs or alternative, advanced energy efficiency initiatives.

A copy of the proposed regulations may be obtained by going to the Commission's website and entering Case Number 11-M-0710 in the input box labeled "Search for Case/Matter Number". Comments are due by March 24.

Source: PSC Press Release

MID-ATLANTIC STATES

PJM TERRITORY

For the past few months the PJM Markets and Reliability Committee has been convening a Senior Net Metering Task Force to examine several cutting edge issues related to net metering and interconnection. As the PJM is a Regional Transmission Organization, rather than an individual state entity, this Task Force was essentially designed to determine whether PJM would have jurisdiction over net me-

tering systems that were producing more than the site's expected annual load, and whether it was appropriate to interfere with a state-level policy such as net metering. A requirement for net metering systems to enter the PJM queue would have a significant impact on several Mid-Atlantic states with growing net metering markets.

In particular, the Task Force will work with the appropriate PJM personnel and others to recommend necessary modifications to tariffs, PJM manuals, and PJM business rules as well as support the scoping and conceptual design of the potential changes to settlements systems and the generator interconnection process.

Among other things, these modifications will attempt to:

- Clarify the Qualifying Facility (QF) status of certain NEMs and how that impacts their ability to sell into the wholesale market;
- Clarify the distinction, if any, between injecting excess into the grid that result in sales to the wholesale market versus injecting excess to the EDC distribution grid that result in QF "sales" to the host utility;
- Develop methodologies through which such excess generation sales of very small generators (NEMs and QFs) into the wholesale market can be accommodated within various PJM reporting systems and databases, and the PJM System Operations zonal bus models that support them, on an Aggregate Net Metering (ANM) basis;
- Review interconnection processes for very small generators and recommend potential improvements; and
- Address the concept of Virtual Net Metering (VNM) that has been raised in some state jurisdictions and how, if at all, VNMs might be accommodated within PJM tariffs, manuals, business rules, and settlement systems.

We will continue to follow these meetings and report back with any updates in the next few months. The process should conclude by June 1, 2012.

Source: PJM Task Force website

MIDWESTERN STATES

KANSAS

In early February, the McPherson, Kansas Board of Public Utilities implemented a new net metering policy, which could make a big difference for those thinking about purchasing renewable energy generators for their homes.

Beginning in February, BPU customers will be able to sell excess power back to the utility, managing the amount of energy bought from and sold to BPU through net metering.

The utility has allowed customers to sell energy generated at their homes by renewable means for some time, but the old system paid home producers based on wholesale prices, making the system unappealing to many who might otherwise install a renewable generator on their property.

Source: McPherson Sentinel

WISCONSIN

Correction: Last month we reported on a Wisconsin Public Service Commission order that strengthened the net metering offering of Northern State's Power Company of Wisconsin (NSPW, operating as Xcel Energy), by increasing its allowable system size limit. In the posting, *Connecting to the Grid* mentioned that there will be a "summer" true up for the new net metering tariff for Xcel, which is incorrect. The reconciliation is not at the beginning of summer, but on a calendar year basis. We apologize for this error.

For more information, see the Net Energy Billing Service section (Sheet E 55) of NSPW's tariffs.

SOUTHERN STATES

TEXAS

On December 23, 2011, the Texas Register published a notice under the designation of Project 39797, which proposes to implement legislation regarding third-party ownership of DG and a limited number of changes to the intent and dispute resolution provisions of the state's interconnection procedures for onsite DG.

The PUCT published proposed rules at the project link above and specified that comments were due by January 23, 2012, and reply comments were due by February 6, 2012.

Since Texas disallowed net metering in 2007, the state has seen little growth in its distributed renewable energy market and has generally been known as one of the "worst practice" states in Freeing the Grid. This docket is a significant opportunity to help reestablish distributed generation policies in the state.

WESTERN STATES

CALIFORNIA

The California Public Utilities Commission (CPUC) has struck down a controversial "network usage charge" (NUC) that would increase fees for San Diego Gas & Electric's (SDG&E) customers who own PV systems.

In a Jan. 18 decision, the CPUC ordered SDG&E to file a new rate proposal that does not include the NUC, which was deemed to be illegal.

"Development of such a rate element could affect not only SDG&E and solar customers, but also PG&E, SCE and other distributed generation and self-generation customers," wrote CPUC Commissioner Mark Ferron in the ruling. "Furthermore… I am concerned that this particular NUC charge may be inconsistent with current law, regardless of whether it is justified by cost causation principles or an analysis of the cross-subsidies inherent in current policies."

The NUC generated immediate backlash among San Diego-area solar installers, system owners and other stakeholders when it was introduced by SDG&E last fall. The utility has maintained that the fee - which is based on the average hourly amount of power exchanged between the customer and the grid - is intended to divide its operational costs among net-metered customers and non-net-metered customers more fairly.

Many PV proponents, however, asserted that the NUC would wreak havoc with PV system economics - making systems unaffordable, essentially freezing the local solar market and setting a dangerous precedent for other U.S. utilities.

For NUC opponents, the murky legal status of the fee turned out to be key to what it is at least a temporary victory.

In its ruling, the CPUC cited a section of the code that prohibits utilities from creating a "new charge" that would increase costs for customer-generators.

"While the NUC rate would apply to both customer-generators and those who are not customer-generators, it would apply differently to customer-generators, who would pay the charge on both incoming and outgoing power under SDG&E's proposal," Ferron wrote. "By contrast, the non-generator customer would pay a NUC only on incoming power."

Sanjay Ranchod, director of government affairs and senior counsel at SolarCity, says the CPUC's ruling is consistent with California law. He adds that it also "reflects the positions of consumers, businesses, public agencies, and others across the state that formed a broad coalition to oppose the proposed charge."

SDG&E's new, NUC-less rate proposal must be submitted by Feb. 17. The utility said it will follow orders, but reiterated its stance on the issue.

"The fact that net energy metering customers are being subsidized by non-solar customers is not sustainable in the long term," Lee Schavrien, senior vice president of finance, regulatory and legislative affairs for SDG&E, said in a statement.

Schavrien added that SDG&E hopes both the CPUC and the California legislature will continue to work toward a solution for "cross-subsidies" and other rate-structure issues for solar-owning customers.

Source: Solar Industry Magazine

IDAHO

On February 10, Idaho regulators asserted that they have primary jurisdiction over proposed power sales agreements between Idaho Power Company and two Idaho-based wind projects that want to sell their output to Idaho Power customers in Oregon where the developers can receive higher rates.

The projects are qualifying facilities under the provisions of the federal PURPA law, which requires regulated electric utilities such as Idaho Power to buy output from small-power producers. The amount the utility pays the developer, called an avoided-cost rate, is based on the cost the utility avoids by buying from the small-power producer and not generating the power itself or buying it from another source. All of the costs associated with PURPA power are passed on to customers.

Because Idaho Power customers (95 percent in Idaho and 5 percent in Oregon) would end up paying Oregon's higher avoided-cost rate, Idaho Power sought a declaratory order from the Idaho Public Utilities Commission that would assert Idaho eligibility requirements and rates over the projects rather than Oregon's. In Idaho, the projects are too large to qualify for the state published rate meaning the project developers and the utility would have to negotiate an avoided-cost rate based on a formula approved by the commission. In Oregon, the projects do qualify for that state's published rate.

In response to Idaho Power's petition, the commission ruled that both the Idaho commission and the Public Utility Commission of Oregon have jurisdiction over PURPA transactions, but that the Idaho commission, given the location of the projects and their desire to interconnect with Idaho Power, has primary jurisdiction. "Given the facts

of this case, we find that Idaho is the more appropriate jurisdiction to exercise authority" over the transactions, the commission said. "However, we cannot and will not order the projects to submit themselves to this commission's jurisdiction."

State commissions cannot compel projects to sell their output to a specific utility. However, to be able to compel a utility to buy from it, a small-power producer must either sell directly to the utility it interconnects with or request that the directly interconnected utility transmit the output to any other electric utility. In this case, the developers request that the projects' output be wheeled to the same utility, but only to its customers in Oregon, in order to qualify for that state's higher published rate. "The projects seek to interconnect with Idaho Power in Idaho and compel the same utility to transmit the output for delivery to a substation located in another state that has preferable avoided-cost rates," the commission said, which is not permissible under Federal Energy Regulatory Commission (FERC) regulations.

Idaho Power claimed the Boise-based developers of both projects attempted to "cherry pick" a different jurisdiction's rates for its Idaho projects. "This is a blatant attempt to manipulate and avoid the Idaho commission's rates, rules and regulations that are designed to implement PURPA and protect Idaho Power's customers," the company stated.

The developers argued the commission is prohibited by federal law from regulating qualifying PURPA projects and does not have authority to restrict the projects' access to markets. Doing so, the developers argued, would violate the Commerce Clause by restricting the projects' access to markets outside Idaho.

The commission disagreed, stating "sound public policy suggests that the Idaho commission should exercise primary jurisdiction over the two transactions. Western Desert and Tumbleweed are projects located within Idaho seeking to interconnect with Idaho Power's Idaho service territory. The costs associated with PURPA transactions – regardless of the jurisdiction approving the agreements and avoided-cost rates – are borne primarily by Idaho ratepayers as compared to Oregon ratepayers."

A full text of the commission's order, along with other documents related to this case, is available on the commission's Web site at www.puc.idaho.gov. Click on "File Room" and then on "Electric Cases" and scroll down to Case No. IPC-E-11-14. Parties to the case may petition for reconsideration by no later than March 2.

Source: Idaho PUC Press Release

WASHINGTON

On December 21, 2011, the Washington Utilities and Commission Transportation Commission (UTC) filed a Pre-proposal Statement of Inquiry (CR-101) to consider revising the state's interconnection standards. The Commission issued a notice and invited written comments regarding changes commenters would like to see in the rules by January 30, 2012.

The CR-101, as filed with the Code Reviser, is available for inspection on the Commission's website at www.utc.wa.gov/112133.

Background: In the spring of 2011, the Washington House Technology, Energy, and Communications Committee requested that the Commission conduct an interim study on the potential for distributed generation in the territories of investor-owned electric utilities. In Docket UE-110667, the Commission developed a set of policy recommendations based upon that study, including a recommendation that the Commission initiate a rulemaking to consider changes to the rules for interconnecting with utility electric systems (WAC 480-108).

In 2006, the Commission adopted two sets of rules (WSR 06-07-017, codified in WAC 480-108) addressing electrical standards to ensure safety and reliability, and responsibility for the costs of interconnection. During the Commission's interim study in the summer of 2011, many commenters suggested that technological advances made some of the current requirements redundant, such as the requirements for an external disconnect switch and additional insurance. In addition, modifications to the system capacity sizes reflected in the two sets of rules may enable streamlined or simplified interconnection requirements for larger systems. The Commission intends to focus this rulemaking specifically on requirements in the existing rules that may no longer be necessary due to technological changes, impose a significant burden on interconnection, and that, if modified, would reduce the costs for interconnection and accelerate the development of distributed generation systems, without unduly shifting costs between ratepayers or classes.

Source: Docket UE 112133

OTHER STATES

ALASKA

On February 8, 2012, the Regulatory Commission Of Alaska provided notice that Golden Valley Electric As-

sociation (GVEA) is seeking approval of a tariff revision for its non-standard Experimental Renewable Resource Purchase (EERP) Program contract with Alaska Environmental Power, LLC (AEP). The contract with AEP (1) limits GVEA's ability to terminate the contract for convenience or in compliance with an order of the Commission, and (2) expands GVEA's discretion to waive certain insurance requirements that AEP must maintain under the contract following an initial two-year review period. GVEA has requested an effective date of March 16, 2012, for the proposed revisions.

GVEA filed its Experimental Renewable Resource Purchase (ERRP) Program with the Commission under TA189-13. The Commission approved the TA189-13 filing in Letter Order # L0800560, dated November 24, 2008 (Letter Order). Sheet No. 142 is being revised because AEP and GVEA have recently agreed to an expanded nameplate capacity for the project.' Comments are due on this tariff revision by March 9, 2012.

For more information, search for matter number TA228-13 on the RCA website.

MISCELLANEOUS NEWS

DOE Energy Storage Hub announced

On February 7, U.S. Secretary of Energy Steven Chu announced plans to launch a new Energy Innovation Hub for advanced research on batteries and energy storage with an investment of up to $120 million over five years. The hub, which will be funded at up to $20 million in fiscal year 2012, will focus on accelerating research and development of electrochemical energy storage for transportation and the electric grid. The interdisciplinary research and development through the new Energy Innovation Hub will help advance cutting-edge energy storage and battery technologies that can be used to improve the reliability and the efficiency of the electrical grid, to better integrate clean, renewable energy technologies as part of the electrical system, and for use in electric and hybrid vehicles that will reduce the nation's dependence on foreign oil.

Energy Innovation Hubs are designed to bring together teams of scientists and engineers across intellectual disciplines to rapidly accelerate scientific discoveries and shorten the path from laboratory innovation to technological development and commercial deployment of critical energy technologies. The hubs are part of the Obama Administration's broad-based clean energy research strategy aimed at harnessing American innovation to achieve needed breakthroughs in important energy technologies to grow the clean energy economy and generate new clean energy jobs.

While advancing the current understanding and underlying science around energy storage, the role of the new hub will be to develop radically new scientific approaches, including the exploration of new materials, devices, systems and novel approaches for transportation and utility-scale storage. The hub should foster new energy storage designs and develop working, scalable prototype devices that demonstrate radically new approaches for electrochemical storage, overcoming current manufacturing limitations through innovation to reduce complexity and cost. The ultimate goal will be to surpass the current technical limits for electrochemical energy storage and reduce the risk level enough for industry to further develop the innovations discovered by the hub and deploy these new technologies into the marketplace.

Letters of Intent to apply are due on March 1, 2012 with full applications due on May 31, 2012. Universities, national laboratories, nonprofit organizations, and private firms are eligible to compete and are encouraged to form partnerships when submitting their proposals. The award selection is expected this summer.

UPCOMING EVENTS

Solar Power-Gen Conference & Expo
February 14-16
Long Beach, CA

NSTAR Interconnection and Net Metering Seminar
February 22
Westwood, MA

PV America West
March 18-20, 2012
Jose, CA

Have a renewable energy event you'd like us to list? Let us know.

This will be the fourth such hub established by the Department since 2010. Other hubs include the Joint Center for Artificial Photosynthesis, which focuses on advanced research to develop fuels directly from sunlight; the Consortium for Advanced Simulation of Light Water Reactors, which is seeking to improve nuclear reactors through sophisticated computer-based modeling and simulation; and the Greater Philadelphia Innovation Cluster for Energy-Efficient Buildings, which is working to achieve major breakthroughs in energy efficient building design. Information on the existing hubs can be found on the Energy Innovation Hubs website: http://energy.gov/hubs.

Source: Energy.gov

NREL building grid connection laboratory

The U.S. Department of Energy's National Renewable Energy Laboratory (NREL) is building electrically interconnected laboratories as part of its Energy Systems Integration Facility (ESIF) in Golden, Colorado.

The facility will enable research partners to plug in and test new energy technologies on real and simulated power systems before hooking the technologies to the grid.

The adaptability of the facility can be attributed to the Research Electrical Distribution Bus (REDB), which will function as a power integration circuit capable of connecting multiple sources of energy, interconnecting laboratories and experiments. This will allow NREL and its partners to test and simulate what happens when components, such as solar inverters, are connected to the grid.

"Each lab in ESIF has its own niche with different kinds of equipment and functionality fostering research on all aspects of energy integration," says Greg Martin, electrical engineer at NREL. "There is nowhere else where you can bring in a piece of equipment, connect it up and be testing in a matter of days."

The REDB is made up of two ring buses for AC current and two ring buses for DC current and will serve as the backbone for all of NREL's energy systems integration testing.

"You can think of the ESIF equipped with the REDB as a place where you can bring your equipment, and with our real-time simulation tools, we can make your equipment think that it is connected electrically to another piece of equipment, a utility distribution feeder, or even the grid," says Bill Kramer, acting group manager for distributed energy systems integration at NREL.

A supervisory control and data acquisition (SCADA) system will be a key element to testing power systems and components at the ESIF. The system will serve as the computer control system for the REDB and will also provide high-resolution data output. The SCADA system will support a large visualization screen in the control room, allowing researchers and partners to watch the experiment in real time.

Source: Renew Grid

FAIR USE NOTICE
This newsletter may contain copyrighted material, the use of which has not always been specifically authorized by the copyright owner. We are making such material available in our efforts to advance understanding of energy, economic, scientific and related issues, et cetera.

We believe this constitutes a "fair use" of any such copyrighted material as provided for in section 107 of the U.S. Copyright Law. In accordance with Title 17 U.S.C. Section 107, the material in the newsletter is distributed without profit to those who have expressed a prior interest in receiving the included information for research and educational purposes.

See www.law.cornell.edu/uscode/html/uscode17/usc_sec_17_00000107----000-.html for more information on "fair use." If you wish to use copyrighted material from this newsletter for purposes of your own that go beyond "fair use," you must obtain permission from the copyright owner.

DISCLAIMER
Connecting to the Grid is a compilation of news and regulatory events from across North America. Connecting to the Grid is not a legal document and users should not place any legal reliance upon its content.