Rulemaking:	12-03-014
Exhibit No.:	CEJA x SCE – 4
Commissioner:	Florio
ALJ:	Gamson

Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans	R.12-03-014 (Filed March 22, 2012)

Western Electricity Industry Leaders (WEIL) Letter
August 7, 2013

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA
October 28, 2013

WEIL Western Electric Industry Leaders

August 7, 2013

Dear Governors, Commissioners and Legislators:

The Western Electric Industry Leaders (WEIL) Group and our companies provide reliable electricity for millions of citizens throughout the Western United States, serving and empowering their lives each and every day. As you know, we have also been called to provide this vital service in a way that is increasingly green and sustainable, and to do so in a reliable, cost-effective manner.

In an effort to do precisely this, the electric utilities have come together with one voice to call your attention to an issue that is posing a serious challenge to our core mission to integrate large amounts of clean, renewable energy into the interconnected electric system. Namely, there is an immediate need for the new solar generators that residents are placing on the grid in ever increasing numbers to be fitted with "smart inverters" to provide the necessary voltage support for us to integrate these resources effectively and prevent costly future renovations and reliability impacts.

Allow us to explain this issue in more detail. The new, cleaner forms of renewable energy – wind and solar – tend to be intermittent by nature. If a cloud covers the sun, or the wind stops blowing, the power output of these sources can become unavailable suddenly and indefinitely. The key, then, is to integrate them onto the grid without sacrificing reliability during these unpredictable fluctuations. That is where the smart inverters will play a vital, transformative role. These simple and inexpensive devices can mitigate the voltage drops caused by the fluctuating solar generation, thus preventing potential power quality problems. However, if smart inverters are not installed, these voltage swings can potentially damage utility equipment and residents' home appliances; increase overall cost of maintaining the grid; require continued installation of larger, more expensive alternatives; and could even contribute to distributed outages.

This problem is a major concern not only for U.S. utilities and regulators, but has already caused the government of Germany, where renewable installations are particularly common, to order a mass retrofit of smart inverters on solar installations at a cost of hundreds of millions of dollars. That cost was incurred because smart inverters were never mandated during the ramp-up in solar installations that Germany encouraged to achieve clean energy goals. As more solar installations came online, the voltage fluctuations increased and the lack of smart-inverter capabilities threatened to destabilize the grid, thus requiring this expensive retrofit. Our Western utilities have the opportunity to avoid this scenario by planning ahead and installing the smart inverters before reliability is affected on our system. This will allow the smooth integration of these environmentally friendly resources while ensuring the integrity and reliability of our overall system.

Now is the time to come together to bring these clean resources onto our system in unprecedented numbers, and we at the utilities vitally need your support in doing so. By changing the state's utility commission rules to require smart inverters on all new solar installations (residential, commercial and utility scale), the entire region has the opportunity to proactively structure the green revolution in a beneficial, safe manner.

We feel that this change is well worth the small cost to the consumers who choose to use solar installations. For a solar installation costing $12,000[1], these new smart inverters will only cost about $150 more than the current inverters, approximately 1 percent of the overall cost. This is a bargain price given the expensive retrofit process in Germany.

With tens of thousands of solar arrays already installed in the region, WEIL Group member companies have studied this issue extensively and found significant improvement in power quality when smart inverters are placed on the system. A number of our companies have installed smart inverters adjacent to photovoltaic systems that were already causing voltage fluctuations on portions of their grid. Once the smart inverters were installed and operating, the utilities saw immediate and measurable improvement. This demonstrates that smart inverters are imperative to integrating large amounts of renewable energy and realizing the many environmental benefits of these resources, while maintaining the vital integrity and reliability of the system that millions of people rely on every day.

The attached documentation and reports elucidate this issue in more detail, while providing empirical support for the need for smart inverters. This issue is already being discussed by commissions throughout the region and the Federal Energy Regulatory Commission; and needs to be approved and implemented quickly in order to prevent the potential problems described in this letter. We have the opportunity to successfully address this challenge together. We are urging all of our State public service commissions and/or legislatures to act decisively on these issues to overcome any potential threats to our grid, and hence to our millions of customers. In parallel, the industry will continue to work with the applicable standards organizations, such as Underwriters Laboratories (UL) and the Institute of Electrical and Electronics Engineers (IEEE), to ensure smart inverters meet electrical safety and industry standards. Presently, some smart inverter functions meet current standards, however, utilities, inverter manufacturers and standards organizations are working to enable additional smart inverter functions to comply with the standards.

By encouraging the widespread adoption of smart inverters that promote renewable integration, America will have a safer, more efficient and greener energy system for everyone. With your support, we can realize this vision of allowing customers,

[1] The $12,000 cost is based on a 3 kW rooftop PV system costing $4/watt including installation.

technology, and renewable energy sources to come seamlessly together to create an even better, cleaner grid for our nation. Thank you for being a part of this historic transformation.

Sincerely,

Western Electric Industry Leaders Group

Donald E. Brandt, Chairman of the Board, Pres. & CEO, Arizona Public Service

Dennis P. Vermillion, Pres., Avista Utilities and Sr. Vice Pres., Avista Corp.

Kimberly J. Harris, Pres. & CEO, Puget Sound Energy

Ronald Nichols, General Manager
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Robert C. Rowe, President & CEO,
NorthWestern Energy

Michael Yackira, President & CEO, NV Energy, Inc.

A. Patrick Reiten, President & CEO, Pacific Power

Christopher P. Johns, President
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Jim Piro, President & CEO, Portland General Electric

Pat Vincent-Collawn, Chairman, Pres., & CEO
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A. Richard Walje, Pres. & CEO, Rocky Mountain Power

John Di Stasio, General Manager & CEO
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Michael Hummel, AGM, & Chief Power System Executive, Salt River Project

Michael R. Niggli, Pres. & COO, San Diego Gas & Electric

Ronald L. Litzinger, Pres., Southern California Edison

Joel Bladow, Sr. VP – Transmission
Tri-State Generation & Transmission Assn., Inc.