

July 31, 2012

The California Energy Commission staff is pleased to submit these comments following its participation in all three working groups as well as the listening session of the Defining the Future workshop sponsored by the U.S. Department of Energy in conjunction with the Western Area Power Administration held in Folsom, California on July 26, 2012. Staff's response to select questions contained in the July 10, 2012 "Defining the Future Workshop Pre-Read Materials" are presented first, followed by the prepared remarks presented by Mr. Robert Oglesby during the listening session. All page numbers referred to in staff's responses to the three working groups are from the July 10, 2012 pre-read document.

### **WORKING GROUP #1: TRANSMISSION PLANNING AND OPERATIONS**

#### **Question 2, p. 8: What can Western do to facilitate longer term (20+) year planning in the WI?**

- Western should advocate for continued WECC TEPPC activities to develop a 20 year Transmission Plan for the Western Interconnection.
- Western should actively participate in the WECC TEPPC Scenario Planning Steering Group (SPSG) scenario planning, including staff assignment to webinars and meetings.

#### **Question 1, p. 9: What enhancements are needed to ensure that Western and other utility operators have situational awareness needed to operate reliably?**

- Western should cooperate closely with WECC in implementing the recommendations made by FERC/NERC in the Arizona – Southern California Outages on September 8, 2011 Report.
- Western should support the WECC Board in evaluating and strengthening the Reliability Coordination function it is responsible for in the Western Interconnection.
- Western should continue engagement with the WECC Planning Coordination Committee.

#### **Question 1, pg 10: What capabilities within the Western Interconnection should Western promote to enhance long-term system operations and planning?**

- Western should improve its capabilities to understand availability of efficiency improvements by customers that can benefit ratepayers and free up transmission capacity.
- Western should increase analytic ability to enhance and reduce costs of intermittent resource integration into the existing and incremental transmission and generation systems.
- Western should update analyses and understanding of highest potential renewable zones.
- Western should develop current inventory of transmission capital costs.

## **WORKING GROUP #2: DESIGN OF TRANSMISSION SERVICES**

### ***Energy Efficiency and Demand Response***

**Question i, p. 12: What state, local and Western consumer initiatives exist to increase energy efficiency and promote demand response? What state, local and Western consumer initiatives exist to support the increased use of electric vehicles?**

#### **Energy Efficiency**

- During this most recent cycle (2010-2012) the CPUC authorized \$3.1 billion of ratepayer funds to support utility programs expected to save nearly 7,000 GWh of electricity consumption, over 1,500 MW of peak load, and 150 MMTh of natural gas consumption.
- California investor-owned utilities are requesting \$2 billion in funding for energy efficiency programs for the 2013-2014 two-year transition program cycle.
- Program funding has been increasing steadily with each subsequent cycle, reflecting more aggressive efficiency targets as well as a shift away from inexpensive short-term savings toward more costly, persistent efficiency measures. Western should consider its customer utility's funding levels and policy direction for energy efficiency programs.

#### **Demand Response**

- California's Energy Action Plan II (EAP II) set a target of meeting 5% of peak demand with price responsive DR by 2007. According to the California's Clean Energy Future progress-to-plan metrics, the current level of DR is 4.9% of peak load or approximately 2,900 MW. The majority of this DR comes from traditional reliability or emergency curtailment programs with less than half coming from price-responsive programs.
- On April 19, 2012, the CPUC approved a budget of nearly \$500 million for the 2012-2014 investor-owned utility demand response programs.

**Question ii, p. 12: What services and rate structures could Western implement to support these initiatives?**

- Emergency-triggered DR resources are limited in their ability to provide the needed capacity to avoid emergency conditions because they are usually triggered too late. Western should pursue new price-based programs and other options that provide full, dispatchable integration, including faster locational dispatch, into electricity wholesale markets.
- Western should support FERC's direction to ensure comparable treatment of demand-side management with conventional generation in providing needed ancillary services for renewable resource integration.

- FERC Order 719 requires RTOs and ISOs to modify their market rules such that aggregated retail customers (ARCs) can bid demand response reduction directly into wholesale markets. Western should support a move away from utility-centric DR to direct wholesale market bidding through new market rules.
- Western should pursue new intra-hour scheduling pilots to deal with operational issues of integrating variable resources, such as wind generation.
- The technology assistance program of the three IOUs provide energy audits to customers with recommendations for load shedding strategies and automated control of key appliances along with energy efficiency recommendation. Western could implement a DR/EE program similar to investor-owned utility audit and technical assistance programs through their equipment loan program. Utilities could provide equipment, education and technical support to commercial and agricultural customers to install automation software and control equipment along with receiving an energy audit with efficiency improvement recommendations.
- Western could encourage and support customer utilities to perform rate analysis and customer value of service studies for the purpose of determining appropriateness of implementing dynamic rates and demand response incentive programs.
- Western could encourage and support utility implementation of advanced metering infrastructure and other smart grid projects. Rate analysis studies along with customer acceptance assessments would provide critical input to determining the scope of AMI projects for the utilities.

**Question iii, p. 13: Aside from supporting state, local and Western customer initiatives, what could Western do to support the increased use of energy efficiency and demand response in your region?**

- Western could highlight successful energy efficiency and demand response programs in California and challenge customer utilities to implement similar programs in their service territories.
- Western could conduct integrated measurement and evaluation projects across its customer utilities for both energy efficiency and demand response programs, using or building from standardized tools in use by California utilities.
- DR is not as well understood as energy efficiency, and poor customer information dilutes potential participation. Western should examine existing customer utility communication products and seek lessons learned from other jurisdictions to successfully frame expanded DR participation.
- Leadership by Western is needed to push customer utilities to include EE/DR in long-term procurement plans.

***Increased Electric Vehicle Use***

**Question 1, p. 14: To what extent should Western be proactive and examine electric vehicle incentives, whether or not the legislation passes Congress?**

- In the next three years, Western should investigate and evaluate opportunities to incentivize the adoption of vehicles to support the federal objectives of President Obama and the regional objectives of electric vehicle deployment.
- Western should evaluate the success and impact of electric vehicle deployment incentives from utilities, government, and private stakeholder within the WAPA region and report on their findings.
- Where necessary, Western should support local agencies and the WECC to ensure that adequate infrastructure exists where electric vehicles will be deployed.
- Western should work closely and coordinate work to support implementation of the Governor Brown's Executive Order on Zero Emission Vehicles.

**Question 3, p. 14: To what extent should Western explore charging station discounts, or funding for deployment of charging stations?**

- Western should coordinate the evaluation of charging infrastructure deployment with local agencies and stakeholders and coordinate with the Energy Commission, California Public Utilities Commission, Plug-in Electric Vehicle Collaborative and other regional collaboratives to maximize the benefit of any Western charging infrastructure support.
- Western should identify needed infrastructure deployment difficulties and evaluate opportunities for Western support by coordinating work with local governments in California who are developing regional electric vehicle infrastructure installation plans.
- Western should increase their knowledge of existing agencies, organizations, and stakeholders involved with the deployment of charging infrastructure in the event that legislation is passed.

**Question 4, p. 14: Would incentives for diversity management provide for greater electric vehicle deployment at a lower cost?**

- Western should support and explore opportunities to create secondary markets for vehicle batteries for use as variable resource load management.
- Western should explore working with charging infrastructure entities to determine opportunities for bundled demand response to potentially lower the cost of electric vehicle ownership.

**Question 5, p. 14: Could charging stations be integrated into Automated Generation Control systems to provide cost-effective system control?**

- Western should explore and evaluate opportunities to incorporate charging stations into Automated Generation Control systems where feasible.
- Western should research and support the setting of standards which would facilitate this integration.

**Question 6, p. 14: Should Western pursue differential pricing for charging stations that demand fast charging versus those that can defer charging in more optimal time periods?**

- Western should evaluate the impact of fast charging differential pricing on the adoption of electric vehicles.

**Question 7, p. 14: Are there synergies between electric vehicle deployment and the integration of variable resources? Could ways be developed to store variable energy in charging stations?**

- When economically feasible, Western should evaluate the potential to utilize used EV batteries for energy storage as a mechanism for variable resource grid integration. In the short-run there is no secondary market for batteries and other competitive technologies may better fulfill energy storage requirements depending on the costs for vehicle battery refurbishment and maintenance.
- Although certain business models utilize batteries at the vehicle charging location, no such infrastructure is deployed currently and may only be applicable for niche fleet applications; therefore, Western should only research this topic if a significant business model becomes feasible for this type of application.

**Question 8, p. 14: What other technologies could be developed to aid in electric vehicle deployment? Could battery exchange technology (like 20-gallon residential use propane tanks) become a more effective means of battery charging?**

- Western should focus their support on technologies, which would lower the upfront cost of acquiring electric vehicles and the associated infrastructure.

**WORKING GROUP #3: TRANSMISSION AUTHORITIES**

**Question 4, p. 16: Are there transmission needs in your region that may be served by a § 1222 project?**

- Western and Southwestern should continue exploring the use of Section §1222 of the Energy Policy Act of 2005 in the West. In California, Section §1222 authority could be used to enhance the connections between balancing authorities as a means to further the development of remote renewable resources and the achievement of regional carbon reduction goals.

- Western and Southwestern should work closely with the Bureau of Land Management and Forest Service in the re-evaluation of the corridors designated in 2009 under Section §368 of the Energy Policy Act of 2005. In addition, Western and Southwestern should work closely with the California Energy Commission and the Bureau of Land Management to identify potential transmission corridors on federal land in California.

**JULY 26, 2012 LISTENING SESSION COMMENTS BY ROBERT OGLESBY, CALIFORNIA ENERGY COMMISSION EXECUTIVE DIRECTOR**

My name is Rob Oglesby, I am the Executive Director of the California Energy Commission. I'd like to begin with the observation that the power market administrations are an extremely important component of the western electricity system, and have an opportunity to enhance their leadership and influence in the regions they serve. We appreciate the opportunity to offer the following recommendations for consideration.

**First, pursue policies consistent with a "Loading Order" that reflects the most economical AND sustainable electricity policy.**

**California's loading order establishes energy efficiency and demand-response as the highest priority. The second priority is investment in renewable resources. Investment in new clean conventional electricity supply is the last tier in the loading order.**

**Energy efficiency** is California's most cost effective method to meet new electricity needs and is a key strategy for increasing jobs and reducing greenhouse gas emissions. In the last three decades, California's per capita electricity consumption remained relatively constant while use in the rest of the United States has increased 40 percent. During this time, California's economy has more than doubled. Also, appliance and building efficiency standards have helped customers save \$66 billion in energy costs since 1975 (both stats, 2010 dollars).

**Demand response** also has tremendous potential. The Federal Energy Regulatory Commission (FERC) analyzed demand response potential state by state, and found that California's potential for demand response is at least 17%.

**Renewable energy policy** is a cornerstone of California's approach to reducing greenhouse gas emissions in the electricity sector. California has a Renewable Portfolio Standard goal of 33 percent of statewide retail sales by 2020.

**Clean, natural gas-fired generation resources** are an essential component to meeting California's greenhouse gas reduction goals, and can address several needs, including integrating renewable energy resources, and replacing older, more polluting, less efficient, and less flexible conventional generation.

**Our second recommendation is to partner with Western Governors to implement initiatives that can lower costs of integrating intermittent energy resources into the western grid.**

A new report prepared for the Western Governors' Association stresses the need for greater cooperation among utility and public sector entities to share resources, loads and transmission in order to take advantage of least-cost strategies to integrate renewable resources. The report documents how to harness flexibility in grid operations, loads and generating plants to complement wind and solar generation.

**Our final recommendation is for you to guide the PMAs to fully participate in the current and evolving western transmission planning activities.**

The PMAs should actively participate in western transmission planning, and work to build support from affected western state load serving entities and power marketing authorities for new transmission lines identified in Western Interconnection Plans.

Thank you for your time today, and for your attention to these recommendations.