

BEFORE THE CALIFORNIA ENERGY COMMISSION

In the Matter of:)
Preparation of the)
2013 Integrated Energy Policy Report)

Docket No. 13-IEP-1A

**COMMENTS FROM THE LOS ANGELES DEPARTMENT OF WATER AND
POWER (LADWP) TO THE CALIFORNIA ENERGY COMMISSION'S (Energy
Commission's or CEC's) DRAFT 2013 INTEGRATED ENERGY POLICY REPORT**

October 29, 2013

RANDY S. HOWARD
Director of Power System Planning and Development
Los Angeles Department of Water and Power
111 North Hope Street, Suite 921
Los Angeles, CA, 90012
Telephone Number: (213) 367 - 0381
Email: Randy.Howard@ladwp.com

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Pursuant to the procedures established by the Energy Commission in the notice of *Workshop and Availability of the Draft 2013 Integrated Energy Policy Report*, dated October 7, 2013, the LADWP respectfully submits these comments on the Energy Commission's draft 2013 Integrated Energy Policy Report (IEPR).

I. INTRODUCTION

The City of Los Angeles is a municipal corporation and charter city organized under the provisions of the California Constitution. LADWP is a proprietary department of the City of Los Angeles that supplies both water and power to Los Angeles residents pursuant to the Los Angeles City Charter. LADWP is a vertically integrated utility that owns generation, transmission and distribution facilities. LADWP provides safe and reliable retail electrical energy to its approximately 1.4 million customers.

The year 2020 is presenting several challenges to utilities across the state, but particularly LADWP, with a deadline to meet several mandates simultaneously. Over the next 7 years, LADWP will be making significant investments to eliminate Once-Through Cooling (OTC) from its in-basin coastal generating units, replace base-load coal resources, comply with Cap-and-Trade regulations under Assembly Bill (AB) 32, enhance Energy Efficiency offerings to the customers, offer a Feed-in-Tariff (FiT)

program, and increase its renewable energy resources to at least 33 percent of its retail sales. Each mandate is an extraordinary challenge in and of itself, and imposing them all simultaneously is a monumental undertaking. In order to minimize the cost impacts to its ratepayers and maintain the reliability of the power grid, LADWP will need to carefully and efficiently integrate the sequence of these complex activities.

The LADWP commends CEC staff for developing this comprehensive 2013 IEPR report on California's priority energy issues and appreciates this opportunity to comment on this draft IEPR document. LADWP's comments are not intended to address all issues covered by the draft IEPR.

II. COMMENTS

a. Western Interconnection Emerging Trends

Chapter 5 of the IEPR contains a Section entitled "Emerging Trends in the Western Interconnection." This Section describes the current activities at the Western Electricity Coordinating Council (WECC), including its bifurcation and the Presidential Memorandum on improved transmission siting, permitting and review.

LADWP agrees with the description of the challenges being confronted by WECC members with the WECC bifurcation, such as potential loss of direct representation and solutions geared towards transmission operator-like functions. However, it should be noted that a key concern will be the increased cost to membership dues, as the two new entities (WECC and Peak Reliability Corporation) may double or triple the cost of membership.

Further, a key element missing in the IEPR report is the emerging trend of the loss of inertia of the coal plants in the Western Interconnection. With respect to the loss

of this inertia in Arizona and other parts electrically close to California, this may impact the ability of California to sustain faults and maintain stability of the system. It will also have an impact in the distribution of flows throughout California which may also affect the baseline electrical state used to sustain system contingencies and disturbances. Although the IEPR discusses the California ISO's 2012 LTPP Track 2 Studies¹ and a joint effort by various state organizations and utilities², the IEPR needs to address this issue directly by researching current literature, requesting additional studies as necessary, and making a definite statement that the electric system in California is safeguarded against this definite trend.

b. Integration of Renewable Energy into the Power System

The IEPR provides certain hints but not enough emphasis on the tremendous operational challenge that the utilities will be facing to reach 33 percent of renewable energy by 2020, and the consideration of increasing the percentages to 40 percent and 50 percent. For example, the IEPR states briefly states that "while the amount of incremental renewable energy procured in the course of going from a 33 percent in 2020 to a 40 percent RPS in 2030 is not large, acquiring a significant share of this energy from solar resources will exacerbate the operational concerns hinted in the California ISO track 2 Study"³ and "it is questionable whether this level of development can occur without developing significant amounts of complementary resources ..."⁴.

This operational challenge is the most significant concern that LADWP (as well as other utilities in the State) will be facing within the next several years. Before

¹ IEPR, page 214

² Ibid, page 215

³ 2013 Integrated Energy Policy Report, page 219

⁴ Ibid, page 220

producing any proposed legislation to modify the State's Renewable Portfolio Standards (RPS), the state should address and resolve this matter before moving forward.

It is LADWP's responsibility to provide reliable energy to its owners, the ratepayers of Los Angeles. As previously reported, LADWP is aggressively pursuing the following renewable energy integration activities:

- A transmission system study to determine maximum renewable energy penetration and its potential impact on the LADWP transmission grid. Our contractor has completed LADWP base cases development, and the integration studies are in progress. The estimated completion date for these studies is December 2013.
- An operational study to determine the required amount of reserves required to integrate renewable energy, and develop mitigation plans to deal with renewable energy intermittency. Initial study results are under discussion.
- A distribution system study to determine the potential level of various levels of distributed renewable energy, and development of mitigation measures to deal with distributed renewable energy intermittency, FiT implementation, distribution voltage stability, and others issues. The estimated contract award date is February 2014.
- A system study to determine the feasibility and impacts related to the integration of renewable energy using transmission level energy storage. The estimated contract award date is February 2014.
- Pursuing work with the Electric Power Research Institute (EPRI) and the Department of Energy (DOE) to determine the state of energy storage (ES)

technology and establish performance criteria for ES equipment procurement.

Further discussions with Pacific Gas and Electric, Southern California Edison, San Diego Gas and Electric, and the Southern California Public Power Authority on the status of demonstration projects.

- Developing a scope of work for professional services to assist LADWP in ES assessment and development of an ES business plan. The estimated contract award date is aimed for February 2014).

c. Climate Change

LADWP recognizes the potential vulnerability of California's energy supply and infrastructure due to more extreme weather patterns which may include increased electricity demand, decreased snow pack and slow spring run-off, damage to coastal areas, water shortages, and higher risk of extreme events such as flooding, fires and storms⁵.

Current LADWP Activities: The City of Los Angeles (City of LA) and LADWP have taken the following steps to address these potential challenges:

- In an effort to identify potential impacts of climate change, the City of LA engaged the University of Southern California (USC) along with the Los Angeles Regional Collaborative on Climate Action and Sustainability (LARC) and other organizations to begin research into the impacts of sea level rise on the City of LA's coastal assets, resources and communities.

⁵ 2013 Integrated Energy Policy Report, pps. 204 and 207

- In December of 2011, LADWP participated in AdaptLA, a City-led, science-based and stakeholder-supported sea level rise adaptation planning effort. The AdaptLA methodology:
 - o Supports the City of LA in identifying the vulnerabilities of its coastal assets, resources and communities to sea level rise;
 - o Provides information for developing meaningful and effective adaptation strategies; and
 - o Builds on the City of LA's ongoing environmental and climate policies in GreenLA and ClimateLA.
- LADWP is participating in the City of LA's Adaptation Leadership Team. Representatives to this team have completed surveys of critical infrastructure located in coastal areas. AdaptLA Surveys were designed to identify potential vulnerabilities, adaptive capacity and consequences as they relate to sea-level rise.

LADWP Power Services findings and activities so far:

- LADWP's energy assets located in the exposure zone are not sensitive to the impacts of sea level rise, because as coastal assets, they were designed to withstand exposure to coastal flooding and erosion. All outdoor equipment is water resistant, indoor equipment has pumps, and spare equipment is kept on hand.
- The LADWP has a strong mechanism for raising funds under emergency conditions and has a sufficient workforce that provides service to the City of LA. Work crews are also located in areas outside of the City. Should emergency

situations necessitate the use of additional staff; crews can be called in to assist.

LADWP is also member to several Mutual Assistance Agreements that can be activated for additional support of resources.

- LADWP maintains a robust emergency asset replacement schedule of 30 to 35 years, which allows energy facilities to have a high long-term adaptive capacity. As such, new infrastructure will likely be designed with sea level rise and other environmental risks in mind. Furthermore, redundancies in the electric power system mean that the consequences of impaired coastal assets would likely not be widely felt.

LADWP Water Services findings and activities so far:

- Water assets are vulnerable to coastal flooding, and interaction with groundwater, because these conditions would make accessing these primarily underground assets extremely challenging. Erosion could also damage many of the assets.
- The system has some short-term adaptive capacity that includes pumping out water to improve access or re-routing water to other parts of the network. However, once the assets are impaired, it might be difficult to quickly bring them back into a full functioning state.

LADWP's objectives with respect to emergency preparedness, response and recovery are to maintain an organization that is capable of taking decisive action to restore and maintain water and power services to the City of LA in a safe and timely manner. The Emergency Response Plan covers the administration, mitigation, preparedness, and response and recovery efforts to respond to emergencies.

Coordination and Joint Funding Amongst the State and Utilities Can Be an Effective Long-Term Solution: Just as the 2013 IEPR states: “California cannot do it alone”⁶. Partnership between the State and utilities will be key to address climate change issues. The report rightly points out to the challenge that “[h]igher temperatures will mean more precipitation falls as rain instead of snow, with remaining snow pack melting and running off earlier in the year. The system may not be able to store sufficient water for release in high-demand periods”⁷. Therefore, additional sites of water storage may need to be constructed.

LADWP emphasizes that it is this kind of joint effort between the State and a utility that gave genesis to the LADWP Castaic Power plant (around 1175 Megawatt [MW] of dependable pumped storage capacity). The California Department of Water Resources and LADWP funded this project which not only provides massive energy storage capacity, but also provides for recreational facilities for the public. It is this same type of collaboration that is required to address some of the issues related to Climate Change.

LADWP recommends that potential joint efforts be discussed and proposed in the final 2013 IEPR Report, including action items for the State.

d. Energy Efficiency (EE) Potential and Targets

LADWP’s current EE goal is 10 percent by 2020, and whole heartily agrees with the State’s policy of being the highest priority resource to offset incremental electricity demand. The cost effectiveness is the key factor in setting incentive levels and determining which efficiency measures to include in programs. However, as previously

⁶ IEPR, page 204

⁷ Ibid, page 207

commented, LADWP's rates continue to be lower than those provided by most utilities in California and the economic downturn recovery process proceeds in a very slow pace, thus our customers may be less likely to take energy saving actions.

LADWP is in the process of updating its detailed EE Portfolio Business Plan that includes programs to address most of the items covered in the IEPR. LADWP is also working on a new EE Potential Study, which will itemize the cost-effective EE potential in our territory and guide near-term and goal decisions, which will then be added into the EE Portfolio Business Plans next year.

In general, the draft IEPR report discusses the impact of codes and standards on statewide energy savings, but does not address how these may result in reduced savings attributable to utility incentive programs. Higher appliance standards raise the baseline for efficiency, making it more difficult for utility programs to show energy savings without increasing costs. That being said, LADWP continues to support incremental code and standard amendments to increase efficient usage of electricity.

There is also no discussion in the draft IEPR of the difference between Investor Owned Utilities (IOU) and public-owned utilities (POUs) avoided costs. Avoided costs are an important factor in determining the cost effectiveness of efficiency measures. Since LADWP is a vertically integrated utility with lower avoided costs than IOUs, some IOU efficiency programs may not be cost effective for LADWP to operate and therefore, achieved energy savings may be lower.

e. Demand Response

As previously noted, LADWP recognizes that Demand Response (DR) provides various benefits to its power system, such as increased reliability, lower system costs, less impact to the environment, and an additional tool to integrate renewable energy. LADWP is currently implementing a strong DR program, initially with a 5 MW DR goal in 2013, eventually achieving 200 MW by 2020, and 500 MW by 2026. Initial efforts will focus on curtailment and direct load control, and then consider peak rebate, critical peak and real-time pricing, amongst other options.

However, as previously commented, from LADWP perspective, cost effectiveness is the key factor in setting incentive levels and determining which efficiency measures to include in programs. The IEPR does not address how energy rates influence customer participation in energy efficiency programs. LADWP's rates are lower than those provided by most utilities in California, so our customers may be less likely to take energy saving actions, and thus, LADWP may achieve lower energy savings or pay higher incentives to influence customer behavior.

f. Electricity- Demand Forecast Model

The California Energy Demand 2014-2024 Revised Forecast (CED 2013 Revised) presented LADWP service area as an unmanaged forecast. While LADWP's current official forecast is a managed forecast which was prepared in Spring of 2013, LADWP is concerned that the CEC is publishing a managed forecast for the IOUs and an unmanaged forecast for the POUs, which might lead to confusion or misunderstanding down the line.

In May 2013, LADWP (in an attempt to compare the CEC preliminary forecast with its own), performed an analysis by putting LADWP's 2013 forecast into an unmanaged basis. Based on that analysis, the two forecasts were reasonably close, given the models and inputs are different. The CEC's revised forecast is higher than its preliminary forecast and this further closes the gap between the two forecasts. However, LADWP encourages the CEC's pursuit of developing hybrid econometric/end-use models. CEC's leadership can help resolve some of the issues with these models and provide a possibility of allowing the State to return to one of its original goals of using a common forecasting methodology.

Further, LADWP expects to support the CEC Electric Vehicle (EV) forecasting with accurate and available information, and will ensure that there is a clear communication channel between LADWP and the CEC EV forecasting teams. Even though the results from different models and different inputs can be close and therefore consider correct, the criterion for accepting a forecast should not be whether it is absolutely right but rather if the forecast is useful.

Finally, the IEPR presents topics for further research including estimates for load growth and other areas related to load forecasting⁸. LADWP reinstates that the following issues also be addressed or considered for research by the IEPR (or as otherwise noted):

- *Emission Allowances*: AB 32 seeks to reduce emissions to 1990 levels using a cap-and-trade scheme. Originally the program was to begin in 2012 but has

⁸ IEPR, page 220

been delayed. The program was designed to protect utilities and consumers. Ultimate impacts are unknown.

- *Electric Vehicles:* LADWP is making electric vehicles a key strategic initiative. The Forecast uses the 2011 California Energy Commission mid-level forecast for electric load growth. This forecast was developed by the California Plug-in Electric Vehicle Coalition of which LADWP is a member. Demand response strategies are intrinsic to this forecast whereas in the 2011 Forecast Demand Response strategies for electric vehicles were external to the electric vehicle forecast. Alternative forecasts for load growth from electric vehicles vary widely.
- *Energy Efficiency:* According to the State of California Strategic Plan, achieving the energy efficiency goals relies on new emerging technologies. The timing of the market availability and the adoption rates for the new technologies are unknown.
- *Smart Grid:* It is unknown when LADWP will complete its Smart Grid program. Some believe that developing a Smart Grid system is a necessary precondition towards a successful electric vehicle program. Smart Grid is an important component towards achieving energy efficiency goals in the residential sector.
- *Vacancy Factor in Residential Sector:* Vacancy rose faster than expected in the recession. Some of the vacancy rate was due to households combining and living in the same structure. Vacancy could rapidly swing lower as the economy begins to expand. The forecast has vacancy rate returning to five percent which is the long-term average by 2015.

- *Vacancy Factor in Commercial Sector:* High vacancy factor is expected to remain more persistent in the commercial sector as models for delivery of services change, especially in retail. The rise of big-box retail stores and the Internet have crowded out the small retail shop owner over the past twenty years. There is a smaller need for a physical presence.
- *Panama Canal Widening:* Panama is widening its canal to accommodate the modern larger container ships. It is expected to be completed by 2014. Eastern seaports are also dredging to allow the larger container ships to dock. Currently the larger container ships dock in Los Angeles and Long Beach and the goods are shipped by rail to the East Coast. A decline in this business will hurt the Los Angeles economy and similar effects could be felt along the entire west coast. Wholesale Trade and Transportation represent about ten percent of the employment in Los Angeles County.

g. Strategic Transmission Investment Plan

LADWP believes that developing an estimate of the land (acreage) for renewable projects would provide certainty in permit timing and cost under the federal and California Endangered Species Acts, and will eventually avoid or minimize environmental impacts.

Further, in several drafts of the Transmission Technical Group, the Department of Defense unequivocally eliminated the wind projects, not allowing any discussion or alternatives to meet their constraint and the need for wind generation. LADWP believes that it is unnecessary to limit the options to develop renewable energy, and a

combination of wind and solar projects will be a very effective way of overcoming the intermittency of the renewable resources.

h. Natural Gas

On page 19 of the IEPR, the preliminary staff forecast indicates fairly flat gas prices after 2015, which gradually rise over the forecast period. By 2025, prices are forecast to range from \$4.25 to \$6.00 per million British thermal units, as compared to a 2013 price of \$3.50 per million British thermal units. The Energy Commission expects to adopt the final natural gas forecast in December 2013.

LADWP has been following the natural gas safety proceedings and monitoring the potential rate impacts. Based on LADWP's experience, the delivery price will increase, but this is only due to the transportation component increases. The pipeline charges will go up but gas prices will seek their own level depending on economic and other forces. The additional pipeline charges may eventually stabilize after the initial replacement and inspection takes place. Meanwhile, LADWP has adopted a program for protecting our gas costs from price volatility through financial hedging, and place particular importance on gas supply management.

i. Transportation Energy

The LADWP is actively promoting the benefits of Electric Vehicles (EV) through its public outreach, collaboration with various agencies and groups such as the EV Collaborative, and discounted EV electric rates. LADWP is aggressively supporting EV charging infrastructure by working with other City Departments to expedite permitting, installation of new and upgraded public chargers, and through the "Charge-Up LA!" rebate for installation of residential chargers.

The IEPR recommends that the CEC, in conjunction with other State organizations “evaluate and recommend to the governor and Legislature options to use State, federal, or other mechanisms to optimally configure existing incentives and explore strategies to leverage the value of carbon credits ...”⁹ LADWP fully supports this strategy, and will seek extensions for State support and incentives for electric vehicles and charging infrastructure. Specifically, the IEPR should encourage continued “soft” incentives such as High-Occupancy Vehicle (HOV) lane access for Zero-Emissions Vehicles (ZEV), preferred parking, work place charging incentives, and other means to promote adoption of these vehicles.

The IEPR should also expand the support for electrification beyond EV technology. LADWP is implementing the electric vehicle charging station concept and continues to pursue the electrification of ships (commonly referred to as Alternative Maritime Power [AMP]) and other Port and Airport ground transportation vehicles. The same methodology that applies to metering electric vehicles applies to ships that would otherwise burn fossil fuels while docked in the port of Los Angeles. Just like electric vehicles, LADWP encourages the use of AMP through discounted electric rates. The CEC and the IEPR, should add more emphasis towards the overall electrification of California’s transportation systems.

j. CEC Certification of RPS Projects

Under the revised State Renewable Portfolio Standard (RPS) program, the CEC is required to certify POU projects as “RPS Eligible” if it deems them to meet the definition of a “renewable electrical generating facility” as defined in Section 25741 of

⁹ IEPR, page 201

the Public Resources Code (PRC), and satisfies the supplemental criteria as set forth in Section 399.12 (e). The CEC verifies project compliance through the RPS Eligibility Guidebook (Guidebook), which is currently being revised to incorporate changes made by Senate Bill (SB) 2 (1X) and Assembly Bill (AB) 2196. As these changes are being implemented, entities are proceeding with procurement of renewable energy resources without the certainty that the CEC would certify such projects as “RPS Eligible.”

However, these processes have not flowed smoothly. For example, currently all biomethane and small hydro (>30Mws and <40MWs) requests for certification from LADWP are pending approval at the CEC. These outstanding applications and related issues need to be resolved so that utilities have the certainty that their procurement transactions and existing resources count towards that utility’s RPS compliance.

Further, there has been an overall “fixation” with certification on POU historical resources that has diverted the focus of the CEC from other important aspects that still need to be resolved, such as:

- Verification of the Procurement Content Categories for projects;
- Process to request a compliance waiver;
- CEC and the California Air Resources Board (CARB) penalty process;
- Procurement Claim verification; etc.

The LADWP will continue to participate in the RPS proceedings to hopefully drive change in the process to focus more on encouraging compliance with the RPS rather than overly scrutinizing POUs on RPS claims.

k. Additional Clarifications to the IEPR

The IEPR states that “the Barren Ridge project will provide additional transmission capacity to access 1,000 MW of wind, solar, and other renewable resources LADWP’s expo expected in-service date is 2016”¹⁰. However, LADWP’s Integrated Resource Plan¹¹ indicates that the Barren Ridge project will allow for access for up to 1400 MWs of renewables.

- The IEPR Reports states the following: “LADWP OTC units will have to comply with the SWRCB policy. Scattergood 1-2 (358 MW, end of 2024), Haynes 1-2 (444 MW, end of 2029), and the Harbor combined-cycle (215 MW, end of 2029)...”¹². Please modify the paragraph as follows:

“LADWP OTC units will have to comply with the SWRCB policy. Scattergood 1-2 (358 MW, end of ~~2024~~2020), Haynes 1-2 (444 MW, end of ~~2029~~2024), and the Harbor Units 1, 2 and 5 (215 MW, end of ~~2029~~2026)” and add “Haynes Units 8, 9, and 10 (600 MW by 2029).” Please note these are target dates.

- LADWP would like to point out that on page 119 of the report, there is a reference to Valley Electric Association (VEA) and the interconnection to LADWP’s Mead substation, LADWP would like to make a correction to the statement. LADWP does not own Mead substation; the Western Area Power Administration (WAPA) is the owner of Mead substation.

¹⁰ IEPR, page 108

¹¹ LADWP Power Integrated Resource Plan, dated December 3, 2012. Page 15: Barren Ridge Switching Station.

¹² IEPR, page 217

III. CONCLUSIONS

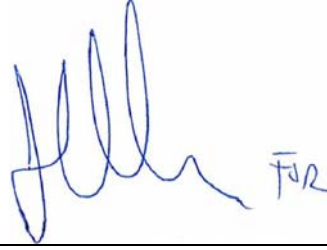
As LADWP stated during the IEPR workshops and in these comments, each mandate and activity being pursued by LADWP presents an extraordinary challenge in and of itself. The mandates are interrelated, and imposing them all at once poses a monumental challenge. In order to minimize the cost impacts and maintain the reliability of the power grid, LADWP will need to carefully integrate the sequence of these complex activities.

LADWP would like to emphasize that, like many other utilities, it needs to resolve key issues before reaching 33 percent of renewable energy by 2020. These key issues include determining: (i) the maximum renewable energy penetration levels while maintaining the reliable operation of its Bulk Power and distribution systems, (ii) the most effective Energy Storage systems to complement the integration of renewable resources, and (iii) levels of energy reserves required to integrate renewable energy reliably into the power system.

LADWP appreciates the opportunity to provide these comments and to describe its efforts as it transforms itself and welcomes the opportunity to continue working with the Energy Commission staff in these proceedings going forward.

Dated: October 29, 2012

Respectfully submitted,



By: _____

RANDY S. HOWARD
Director of Power System Planning and
Development
Los Angeles Department of Water and Power
111 N. Hope St., Suite 921
Los Angeles, CA, 90012
Telephone Number (213) 367 – 0381
Email: Randy.Howard@ladwp.com