

**Written Statement of Marcie Edwards, LADWP General Manager to the
Quadrennial Energy Review, Stakeholder Meeting
May 10, 2016**

**Panel #1: Bulk Power Generation and Transmission: How Can We Plan, Build, and
Operate the Appropriate Amount for Future Needs?**

First of all, thank you for allowing me the opportunity to address you today. Your interest and clear commitment is appreciated. The topic of the role of the Bulk Power system is a vast one. It's a topic where almost every aspect is deserving of a multipage thesis in and of itself. But I will save you from that, and will keep my remarks somewhat narrow, and begin instead with a few reminders of the value of the Bulk Power system overall.

For one, its diversity of fuel sources and facility locational diversity spreads out, as opposed to concentrates, risk for the electric grid and its customers.

As one example, look at what is happening to the economy in Venezuela as a result of their dependency on hydropower, now that the drought has starved them of that fuel. I've heard anecdotally they are down to a two day work week, as there is simply insufficient energy to power their economy. And look how the risk profiles in Southern California have recently changed---Southern California has been increasingly dependent on natural gas fuel in order to provide the grid integration services necessary to support the march towards 20%, 33%, 50% and the ultimate desire on the part of many for 100% renewable power. But increasing dependency on a single fuel such as natural gas results in increasing risk, particularly when the largest gas storage facility in the Western United states is now unavailable.

Bulk power facilities also act as a price hedge. Many are fully depreciated or cost effective as a result of economies of scale, and act to hold costs down for consumers in an era where technology is moving quickly, but by no means inexpensively.

Bulk power facilities also promote regional connectivity, and that too creates opportunity to participate in broader energy markets.

Bulk power facilities also provide flexibility in operations which promotes power system reliability. Personally, having been in this business for almost 40 years, having been a steam plant operator, a power grid operator, and ultimately a utility general manager, I think this is the most important role of a bulk power system; being the backbone that helps to keep the lights on.

But planning and building new bulk power facilities is tricky---they are costly, and often rely on long term predictable revenue streams in order to gain financing. And there is a notable lack of predictability in our industry, stemming from a variety of factors.

An example of just one aspect of unpredictability surrounding bulk power system investments: Has technology solved the renewable integration issues? Is clean power no longer intermittent; is it scalable, and cost effective, such that it can replace the older, centralized facilities? And when would that happen, with the secondary question being the price tag? In short, are those investing in the bulk power system today risking stranding their investment? Being made less important by decentralized generation being installed on the distribution grid, or some other unexpected technological advancement? Personally, I think the answer will be different all across the country, and there should be room in the policy framework to allow for that. Think for a moment of the wildly diverse participants in the energy market, the makeup of owners/operators, differing jurisdictions, very different philosophies, and taking into consideration the magnitude and sunk costs associated with past investments. In short, despite the fact we are all engaged in some aspect of generating, transmitting, and distributing the commodity of electricity, our industry is by no means a one size fits all.

Here in California, we have been referred to as the living laboratory. Like many, I see it more as trying to rebuild the energy plane while in mid-flight. We have multiple planning models, cost allocation methods, and utility operational models in California, and they are ALL subject to shifting financial, regulatory, legislative, market, and technological direction. And planning for new generation or new transmission is not a simple engineering/cost based exercise, but instead is far more complex and involves many, many more stakeholders than the processes did historically. I'm not suggesting that including more interests is not a good thing—but the involvement of profit beneficiaries, increasingly strident NIMBYism, the concerns of ratepayers, environmental interests who may prefer other alternatives, regulatory/legislative bodies who want their specific policy platforms realized, social and environmental justice issues, and, very importantly, the speed of rapidly evolving technology—these interests can create broad differences in the development of a clear value proposition for bulk power investments. And that lack of clarity, which can also be referred to as a lack of predictability, can lead to an underinvestment in bulk power right when we need it as a hedge to maintain power system stability, help hold costs down, create greater regional opportunities, and help our industry transition in whatever ways prevailing interests want it to.

Help at a federal level, in my view, would look like the following. A broader empowering of local interests as the best reflection of the specific needs/interests of that community. An acceptance that unintended consequences can inadvertently stem from federal policy—and therefore, adding risk management tools to that process would be prudent. As one example, policies that project the desired policy objectives without being overly proscriptive, or policies

that include off ramps or openers to address the unexpected. A recognition that many of the national energy markets are really far more complex administrative constructs than actual markets; we seem to be adding bureaucracy with more the appearance of competition than the reality. Help us with developing research and development options, and not by selecting specific technologies or companies or fuels. I would offer that valuable energy policy would facilitate the development of new technologies through independent institutes and schools, as opposed to an overreliance on information gleaned from those that stand to make a tidy profit. Finally, federal policies should recognize and reflect the fact that new technology costs will plummet, and not mandate that so much of the investments be made at the top of the cost curve.

With that, I will conclude my opening remarks. Thank you again for being here today, and for the privilege of sharing my thoughts with you.

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