

**Remarks of FERC Chairman Jon Wellinghoff
CAISO Stakeholder Symposium
October 7, 2009**

Thank you for inviting me to speak with you this evening.

California for years has been on the leading edge -- some wags might even call it the "bleeding" edge -- of our Nation in many areas, and that is no more evident today than on vital public policy issues such as energy and climate change.

Your symposium tomorrow will address important aspects of climate change and energy, with sessions focusing on environmental stewardship, infrastructure planning, and the nuts and bolts of grid and market operations.

I commend you all for your collaboration on these critical issues. Your commitment made possible this spring's successful launch of the MRTU market redesign. While you have experienced some bumps in the road, by all accounts the launch of MRTU has been a major step forward in remedying the market flaws of the past and paving the way for market enhancements in the future.

Much as you committed yourselves to resolving challenges associated with the development and launch of MRTU, California has committed itself to a future in which clean, affordable, sustainable, and reliable energy is the everyday norm. Achieving that vision for California and our Nation will revitalize our economy, strengthen our national security, promote fuel diversity, reduce greenhouse gas emissions, and ensure reliability in the delivery of energy services.

California is a leader in pursuing these goals. Among other actions, California has acted in recent years to achieve a goal of its utilities providing 20 percent of delivered energy from renewable energy resources by 2010. Governor Schwarzenegger and the Legislature have acted to raise the bar, with the governor directing the California Air Resources Board to adopt regulations increasing California's renewable portfolio standard to 33 percent by 2020.

We at the Federal Energy Regulatory Commission are also doing our part to pursue these goals and assist California in that pursuit. As our Nation expands our use of renewable energy resources, consistent with California's renewable portfolio standard and those adopted by many other states across the country, we at FERC are working to integrate those renewable energy resources in a way that is cost effective and does not jeopardize the reliability of the grid. To that end, I have directed Commission Staff to conduct a study to determine the appropriate metrics to assess what happens to reliability when we integrate large amounts of

variable renewable generation onto the existing grid. That study, undertaken by Lawrence Berkeley National Laboratory -- just up I-80 in Berkeley -- and overseen by Commission Staff, is to be completed in March or April of next year. Our goal with that study is to inform Federal and state energy policy makers about the current limitations of the grid to accept variable renewable resources and to identify what investments we need to make in order to fully and reliably accommodate continued growth of renewable energy resources so that we can meet goals such as the 33 percent RPS goal here in California.

Of course, given our Nation's growing demand for renewable energy, we cannot, and should not, simply wait for additional information before taking steps to ensure we can reliably integrate those renewable resources into our system. Let me highlight two important issues related to the development and integration of renewable energy resources: First, the relationship between variable renewable energy resources on one hand, and demand response, energy storage, and other distributed resources on the other; and second, the importance of addressing transmission challenges on a regional and inter-regional basis.

Demand Response, Energy Storage, and Other Distributed Resources

Integrating larger amounts of renewable energy into the grid will require system operators to balance load and resources in a way that accounts for the variable nature of renewable energy resources such as wind and solar power. One important issue related to this need involves consideration of the use of demand response, energy storage, and other distributed resources to match variations.

Such resources can efficiently provide ancillary services such as regulation service. Do you know what regulation service is? I ask because I didn't even three years ago, when I joined the Commission after being in the energy business for over 25 years. It is the micro load-following service usually provided by combustion turbine gas generators that can follow the minute-by-minute variations in load with matched generation to keep the system in balance. It must be provided 24/7, and it is one of the most expensive services on the grid. The need for regulation services can dramatically increase as the amount of variable renewable resources is increased.

These ancillary services are essential to keep the system balanced and prevent it from cascading into a blackout. And it turns out that demand response, local storage, and distributed generation are among the best "dance partners" to ensure we can reliably integrate renewable energy resources into the grid. Indeed, it has been demonstrated that these distributed resources are more efficient than central station fast response natural gas fired generators at matching load variations and providing ancillary services needed to ensure reliability. They are even faster,

generally cheaper, and have a lower carbon footprint than the traditional power plant provided ancillary service.

And our Nation has a tremendous reservoir of demand response that is still largely untapped. To help find out just how big that reservoir is, the Commission this summer issued a national assessment of demand response potential out to 2019. The assessment found that the potential for peak electricity demand reductions across the country is 188 gigawatts, up to 20 percent of national peak demand. These savings, if realized, can reduce carbon emissions by over a billion tons annually.

Several of our Nation's organized wholesale electric markets have made significant strides in recent years to capture greater potential from demand response and other distributed resources such as energy efficiency and energy storage.

For example, demand resources are playing a significant role in PJM's forward capacity auctions. The total quantity of demand resources cleared in PJM's latest auction -- for the 2012-2013 delivery year -- was over 7,000 MW of unforced capacity. That represents about 5 percent of the total resources that cleared the market. Also, PJM's latest auction for the first time permitted energy efficiency resources to bid offers into the auction as a capacity supply. The amount of energy efficiency resources cleared in that auction was nearly 570 MW.

Similarly, one of the most notable features of the first two auctions in ISO New England's forward capacity market is the large amount of qualified and cleared capacity from demand resources. Demand resources accounted for 7 percent of the cleared capacity in the first forward capacity auction, including 2,046 MW of demand response resources and 890 MW of energy efficiency resources. In the second forward capacity auction, total cleared capacity from demand resources increased by about 500 MW and accounted for 8 percent of the total cleared capacity. Most of the demand resources in both of these auctions were existing resources. Also in both auctions, approximately two-thirds of the capacity from cleared demand resources came from active demand resources, such as real-time demand response or real-time emergency distributed generation. Most of these resources came from third-party providers, while most of the passive demand resources came from state-sponsored utility energy efficiency programs.

Experience has demonstrated how demand response can help us meet the challenges associated with the variable nature of many renewable energy resources. In February 2008, ERCOT was faced with a capacity and reserve shortage when scheduled generation was not available as expected. A large portion of the unavailable generation was due to a 900 MW drop in anticipated

wind energy. In response to that development, ERCOT quickly called up approximately 1,100 MW of loads acting as a resource, one of its demand response tools. ERCOT's ability to rapidly deploy a large amount of demand response was instrumental in its safe recovery from this event.

With respect to energy storage, the Commission recently accepted a NYISO proposal to integrate energy storage devices into its day-ahead and real-time regulation service markets. We recognized that energy storage devices can help integrate wind resources, and that their integration in the regulation service market should help NYISO meet or exceed NERC control performance criteria. A proposal to better accommodate stored energy resources in the Midwest ISO markets is also now pending at the Commission.

This should be no surprise for you here in California. You already know about the potential of demand response and other distributed resources to reliably integrate renewable energy resources into the grid. This summer, the CAISO issued a white paper entitled, "Renewable Resources and the California Electric Power Industry: System Operations, Wholesale Markets and Grid Planning." That paper noted that, along with state agencies, the CAISO and industry are mobilizing to prepare for the substantial planning, operational, technological, and market changes needed in the power sector to accommodate higher levels of renewable energy. The paper also discussed technology solutions to facilitate renewable integration, and it recognized the benefits of demand response and energy storage.

Pursuing such benefits, the CAISO has taken actions with respect to demand response in recent months. For example, in August, the Commission accepted the CAISO's Participating Load Pilot Agreements with Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company. Building on the Commission's Order No. 719, these agreements create temporary, small-scale demand response programs to test the feasibility of demand response resources providing ancillary services to the CAISO.

In addition, the CAISO Board of Governors last month approved a CAISO management proposal for a new demand resource product, the proxy demand resource, to participate in the CAISO's markets starting in April 2010. My understanding is that under the proposal, Curtailment Service Providers would bid into the energy and ancillary service markets. I also understand that the CPUC will be considering Curtailment Service Provider registration and settlement issues related to the proxy demand resource proposal, and that the proposal could be submitted to FERC by the end of this year. I look forward to reviewing the CAISO's proposal at that time.

I commend the cooperation among the CAISO, industry, other stakeholders, and

state agencies such as the CPUC that led to these actions. However, my challenge to you is to continue to work together and identify creative solutions that will do more to unlock the vast potential of demand response, energy storage, and other distributed resources. A few minutes ago, I discussed the significant progress in other regions, and I know you realize that California is playing catch-up in this area. Fortunately, California is well-positioned to make up that ground quickly, and I know that you are up for the challenge.

As a leader in harnessing the potential of renewable energy resources, California could also make itself a leader in demonstrating how demand response, energy storage, and distributed generation can make integration of renewable energy resources not only reliable, but efficient and cost-effective. Fully opening wholesale electric markets here in California to these distributed resources, and to energy efficiency, will make it easier to meet your renewable portfolio standard in two substantial and significant ways: First, by reducing the total delivered energy on which that standard is based; and second, by efficiently matching renewable energy resources with distributed resources to smooth variations in resource output. In this way, the two types of resources can complement each other as "dance partners" to ensure a stable and reliable grid, but only if you offer opportunities in the CAISO market for them to do so.

Transmission Development

The second important issue I want to highlight is that while many states have established renewable energy goals on their own, the challenges associated with developing and reliably integrating renewable energy resources are best addressed on a regional or inter-regional basis. This issue is illustrated graphically by reference to transmission, which former Senate Energy Committee Chairman Bennett Johnston has rightly described as the Achilles heel of renewable energy development.

Historically, our Nation's electric utilities transported fuels to generate electricity at plants located near load centers. And delivering that central station power to local distribution loads remains an important task for our transmission grid. Yet we now are asking that system to do more -- much, much more. Many of our Nation's renewable energy resources are located far from both consumers and existing transmission facilities, and those resources cannot be moved. The tremendous, and largely untapped, potential of these renewable energy resources means little unless we can reliably integrate them into the grid and deliver their output to consumers in a cost-effective manner.

The need to reliably move large amounts of renewable energy is only one of the challenges we now face with respect to our transmission system. I, therefore,

believe that we need a national policy commitment to develop a reliable and robust transmission grid. I also believe, and I have told Congress, that such a commitment should involve action on the closely related issues of planning, siting, and cost allocation. Each of these issues reinforces the importance of regional and inter-regional approaches to transmission development.

Transmission Planning

Historically, the main goal of the electric industry was to plan for reliable energy services at least cost. We called this goal "Least-Cost Utility Planning" back in 1983, when, as Nevada's Consumer Advocate, I wrote one of the Nation's first comprehensive utility planning statutes.

Events over the past quarter-century require us to broaden how we view that goal, however. Planning must recognize the security and economic benefits of using renewable energy to reduce our reliance on foreign sources of energy, as well as the costs of what today remain externalities, such as carbon and heat emissions. And it must do so while ensuring that the system operates reliably and we serve the consumer at a reasonable economic and societal cost.

Toward these ends, planning efforts increasingly must look beyond the needs of a single utility or even a single state. Related to such efforts, effective regional and inter-regional transmission planning will improve reliability, reduce congestion, increase the deliverability of existing power supplies, and identify investments necessary to integrate significant potential sources of energy that are constrained by a lack of adequate transmission capacity or facilities, while promoting efficient use of available and often limited potential transmission corridors.

The need for regional and inter-regional transmission planning is clear. The Commission recognized this in February 2007 when Order No. 890 required open, transparent, and coordinated regional transmission planning, and further required evaluation in that planning of demand resources on a comparable basis to other resources. You in the West have recognized it, too. You have some promising efforts under way, such as California's Renewable Energy Transmission Initiative and the Western Governors Association's Western Renewable Energy Zones Initiative. Those efforts highlight the importance of broad groups of stakeholders working together with appropriate state officials to identify needs and priorities, as well as plans to move forward on those priorities in a timely manner.

Finally, Congress has recognized the need for regional and inter-regional transmission planning. Earlier this year, Congress included in the American Recovery and Reinvestment Act \$80 million for the Department of Energy to conduct, in consultation with the Commission, a thorough resource assessment for

each interconnection to facilitate improved transmission planning. It is my understanding that the Western Governors are applying for a portion of those funds to conduct West-wide planning. In that regard, I would offer two observations. First, California and the CAISO must be an integral part of that effort, if they are not already. Second, the interconnect-wide planning effort should consider the establishment of a dedicated working group to address distributed resource planning issues and the integration and coordination of plans to develop demand response, energy efficiency, and distributed generation resources throughout the region.

Improving transmission planning is also integral to Congress's continuing consideration of energy and climate change legislation. I have urged Congress to not be distracted by the false choice between so-called "bottom-up" and "top-down" planning models. Any new transmission planning requirements should be harmonized with, rather than supplant, regional, state, and local planning efforts. It is indisputable that we need local and sub-regional planning and coordination to address issues such as smaller upgrades that must proceed in a timely way, without awaiting regional or inter-regional review. But to achieve greater benefits and efficiencies, we need a structure that coordinates on an inter-regional basis. This structure could facilitate, for example, the development of facilities to transport power from areas rich in renewable energy resources to load centers -- be they in California, Nevada, Arizona, or elsewhere -- and the deployment of appropriate levels of distributed resources for cost-effective load reduction and renewable integration.

Transmission Siting

Allow me to touch only briefly on transmission siting. I recognize and respect the long-standing role of the states in the performance of this function. Nonetheless, under limited and appropriate circumstances, transmission developers should have recourse to federal siting authority at the Commission. Such authority would be helpful even if limited only to situations in which states have had an opportunity to address a proposal for transmission development in the first instance and to transmission facilities that are primarily for moving renewable energy.

Cost Allocation

Finally, the Commission's responsibility to ensure that jurisdictional transmission rates are just, reasonable, and not unduly discriminatory or preferential includes setting rates by which transmission developers recover the costs of new transmission facilities.

As the Commission recognized in Order No. 890, the manner in which we allocate

costs of new transmission is critical to how new lines are developed. We also noted in Order No. 890 that we weigh several factors in considering disputes over cost allocation: (1) whether a cost allocation proposal fairly assigns costs among participants, including those who cause the costs to be incurred and those who otherwise benefit from them; (2) whether a cost allocation proposal provides adequate incentives to construct new transmission; and (3) whether state authorities and other participants generally support a cost allocation proposal. These factors inform how the Commission ensures that transmission costs are allocated fairly and encourages regions to work together to develop cost allocation mechanisms that garner wide support.

Commission Staff explored topics related to the effectiveness of existing cost allocation methods at a series of conferences last month in Phoenix, Atlanta, and Philadelphia. We are reviewing the comments we heard at those conferences, and we will provide everyone with an additional opportunity for comment on these issues.

I note that cost allocation issues are -- not surprisingly -- a relevant consideration in the development of new transmission facilities for moving renewable energy to consumers. As I stated earlier, renewable energy resources are often found in large quantities at dispersed locations remote from load centers. For this reason, there are often significant costs associated with building the transmission facilities needed to deliver power from such resources. Compelling a resource developer or host utility to bear all of the cost of these transmission facilities, regardless of benefits to others, will make it less likely that these resources will be developed. That result may not be consistent with either meeting a region's needs in the most cost-effective way or ensuring that the region's and the states' renewable energy goals are met.

I would like to recognize the CAISO's leadership on this issue. In April 2007, the Commission approved an innovative CAISO proposal designed to overcome a primary cost allocation barrier to funding transmission for efficient renewable energy resource development. Where specified ratepayer protections and other criteria are satisfied, the CAISO provides for rolling in the costs of interconnection facilities for location-constrained resources to all users of its system. Each generator that interconnects is then responsible for paying its pro rata share of the going-forward costs of the line. Highlighting the CAISO's innovation, the Commission invited similar proposals from other transmission providers and specifically indicated that such proposals need not be limited to the CAISO footprint. No other transmission providers have responded to our invitation, yet I maintain that the CAISO's example is one starting point for addressing real and distinctive challenges associated with developing our Nation's renewable energy resources. That challenge is evident in renewable projects that plan to develop

renewable resources outside of CAISO, but desire to have costs of transmission infrastructure for delivery from those resources to California customers allocated under CAISO processes. I urge the CAISO to address this challenge by initiating a dialog on these expressed needs to develop creative solutions that are cost-effective and equitable for all consumers in the region.

Conclusion

I leave you with two challenges tonight. The first is to scale markets for demand response and other distributed resources in the CAISO to reduce loads, save consumers money, improve the integration of renewable energy resources and the reliability of the electric system, and reduce your carbon footprint. The second is to continue development of creative solutions to transmission infrastructure cost allocation issues that allow for the development of cost-effective renewable energy resources both in California and throughout the West.

Thank you again for inviting me to speak with you this evening and, more importantly, for your continued willingness to bring stakeholders together to seek creative solutions to our energy challenges that will improve the lives of consumers in California, throughout the West, and ultimately around the globe on this continually shrinking planet.