Comments of Michael R. Peevey before IEEE – Power Engineering Society October 17, 2006

Good evening. I'm pleased to be here today to talk about the efforts we are making in California to meet our state's growing energy needs.

There are two very different paths that the state can go down when it comes to our energy future. The first involves continuing to invest in conventional energy infrastructure to support a growing population. The second involves the choices I prefer --- to invest in clean energy infrastructure that will help improve the quality of life for existing and new Californians in the next quarter-century. Our state has now chosen the latter course.

Actually, we began to make fundamental choices several years ago. The lack of coherent energy policy in California after the energy crisis brought together colleagues at the PUC, the California Energy Commission and the California Power Authority, and we wrote the state's Energy Action Plan in 2003.

This innovative new idea became conventional wisdom in the span of about 1-1/2 years. This document was created in order to develop an overall energy strategy where none existed in the state. We had emerged from the crisis of 2000, but were without direction on many energy policy

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issues. We knew what not to do, but were not acting strategically about what we should do to improve California's energy future. We updated the Energy Action Plan this past October in recognition that the plan is a living document that must be evaluated regularly.

The most important aspect of the Energy Action Plan is the concept of a "loading order" for energy resource procurement. In that loading order, we defined energy efficiency as our first priority. Implicit in that priority was also demand response or price-responsive demand. After efficiency, the next priority is renewable energy. After the kilowatt-hour that is never used, the one produced with renewable energy is our secondhighest priority. Finally, our intent was that only after we had exhausted all cost-effective energy efficiency, demand response, and renewable energy, would we look to conventional generation and transmission infrastructure investment to meet our remaining needs.

To my surprise, this "loading order" concept was not at all contentious among the agencies; it has also now become conventional wisdom in California, endorsed by the governor and most businesses. Not so in other parts of the country. My point is that investment in development of technologies fits in with a more comprehensive framework we have here in California for prioritizing clean energy technologies first.

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Global climate change is the most pressing threat to our environmental future. As energy users and producers, we must recognize the effects of greenhouse gas emissions into our atmosphere and the resulting global warming that is occurring. The heat storm we had this past July--that strained our electrical system and set records for peak loads—might just be a precursor of what's to come. As our state's population and energy needs grow, we won't be able to rely on solutions from the past, namely building more fossil-fuel-fired generation, to meet all of our needs. Instead, we will need to focus on energy efficiency, demand response and renewables. I want to make California a leader in this arena and to establish a benchmark for other states and nations to follow.

Let me share with you some of our recent accomplishments:

California Solar Initiative

- In January, we adopted the California Solar Initiative that will:
 - Provide nearly \$3 billion in incentives over 10 years
 - Finance the installation of photovoltaic and other solar technologies on both existing and new buildings.
- Last month we put into place the rules and procedures for implementation of this breakthrough initiative.
 - Our hope is to have 3,000 MW in place by 2017.

- Senate Bill 1, signed by the governor last month, made some changes to the California Solar Initiative, but mostly left intact the program's goals. SB 1:
 - Requires municipal utility participation in reaching the 3,000 MW goal.
 - Increases the net metering cap to 2.5 percent.
 - Allows CSI costs to be charged on usage below 130% of baseline.

Greenhouse Gas

- In March of this year, we opened a rulemaking with the intent to develop a load-based cap on greenhouse gas (GHG) emissions for the major IOUs, as well as for non-utility load serving entities that provide electric power to customers within these respondents' service territories. Over the longer term, we also intend to develop a GHG limitation program that includes emissions from the natural gas sector, as the requisite emission reporting and certification protocols become available.
- We continue to collaborate with the Governor's Climate Action Team and to coordinate our rulemaking policies with the administration's GHG reduction policies and goals.
- The governor has called for the reduction of California's emission of greenhouse gases to 1990 levels by 2020.

- Two significant pieces of legislation were signed into law by the governor last month that will help meet these targets.
- The first is Senate Bill 1368 (Perata).
 - It requires the PUC to develop a greenhouse gas performance standard by February 1, 2007.
 - Applies to all procurement of electricity by load-serving entities—so it covers our electricity consumption, not just our electricity production.
 - It requires our sister agency, the Energy Commission, to develop a greenhouse gas performance standard for municipal utilities, consistent with the PUC's standard, by June 30, 2007.
 - It sets the standard at a rate of emissions no higher than a combined cycle natural gas power plant.

With this legislation, California provides clear guidance to load serving entities for energy procurement.

- The second is Assembly Bill 32 (Nunez), known as the Global Warming Solutions Act of 2006.
 - It requires mandatory reporting and verification of greenhouse gas emissions to the Air Resources Board (ARB) by January 1, 2008.
 - It requires ARB to establish a greenhouse gas cap and reduction measures by January 1, 2011.

- It specifically requires ARB to adopt a greenhouse gas emissions limit equivalent to 1990 levels by 2020—in accordance with the governor's directive.
- It authorizes ARB to include a market-based mechanism such as "cap and "trade" for meeting the cap.

Renewables

- California has the most ambitious renewable portfolio standard in the country. Fong Won from PG&E has told me on more than one occasion that meeting our renewables goal is the one thing that keeps him up at night. With persistence like that, I'm confident that we can meet our targets.
 - In the first Energy Action Plan, we set a goal of accelerating the 20 percent renewables target from 2017 to 2010. And I'm pleased to report that SB 107, signed by the governor last month, codifies this goal in state law.
 - Our investor-owned utilities are making progress to attaining this target and we are now identifying the steps necessary to meet even higher goals beyond 2010, such as Governor Schwarzenegger's goal of 33 percent of electricity sales by 2020. We intend that our increasing reliance on renewable resources within California and from the western region will help mitigate energy impacts on climate change and the environment.

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Transmission Lines

- In the past, the Commission had been the target of criticism for moving slowly in approving new transmission links and upgrades to bottlenecks. No more.
- Besides allowing the upgrade to Path 15 (on schedule and under budget), the Commission majority has voted to upgrade PG&E's Jefferson-Martin 230 kV line, SDG&E's Mission-Miguel line, and SCE's Viejo System project. Since 2001 we have approved over 10,000 MW of transmission expansion projects, and are working much more closely with the ISO to coordinate decision making on the need for additional upgrades and new projects.
- SDG&E currently has before us an application for its Sunrise Powerlink transmission line which is expected to run 150 miles between the Imperial Valley and San Diego.
- The transmission line is proposed to be a 500 kV line and several 230 kV lines that would have the capacity to import up to 1,000 megawatts of electricity.
- The Palo Verde Devers 500 kV line and the Tehachapi line are also transmission projects under our consideration that could increase the availability of clean energy in the state.

Technology: Advanced Metering and Broadband over Powerlines

- Technology has become commonplace in our lives and there is no reason why the electric utilities should not implement new technologies to improve their network operation and offer customers enhanced services.
- I'm pleased that all the major utilities are making progress for the statewide installation of advanced metering infrastructure (AMI), though some utilities are further along than others.
- This summer we approved PG&E's AMI plan and the roll-out has already begun. SDG&E is next, having already evaluated some of the technologies, already beginning a pilot on broadband over power lines, and submitting a complete business case to the Commission. Southern California Edison has chosen to take a different approach. Rather than look to off-the-shelf technology, Edison is deciding whether they might prefer to build their own meter rather than buy a preexisting device.
- In addition to providing real-time use data and remote meter reading, AMI offers an opportunity to provide for a third Internet pathway into the home. Earlier in the year, we took action to foster the deployment of broadband over power lines by adopting guidelines for electric utilities and other companies that wish to develop BPL. Broadband over power line service uses the electric utilities' power lines to carry broadband signals into a consumer's home, thus

solving the "last mile" problem and increasing choice for consumers in Internet broadband providers.

Natural Gas / LNG

Let me now turn to natural gas. To ensure reliable, long-term natural gas supplies to California at reasonable rates, we must reduce or moderate demand for natural gas. Because natural gas is becoming more expensive, and because much of electricity demand growth is expected to be met by increases in natural gas-fired generation, reducing consumption of electricity and diversifying electricity generation resources are significant elements of plans to reduce natural gas demand and lower consumers' bills.

But California must also promote infrastructure enhancements, such as additional pipeline and storage capacity, and diversify supply sources to include liquefied natural gas (LNG). Opponents to LNG have put forth persuasive but incomplete arguments regarding the need for LNG. I've long said that LNG will help to increase supply and thereby moderate price for California. To argue that we don't need LNG terminals given our energy efficiency and renewable goals is a risk I'm not willing to take.

For LNG, we have required the California natural gas utilities to file open access tariffs, which provide firm access to natural gas supplies from LNG terminals or from pipelines. We also recently approved stricter natural gas quality standards. By establishing natural gas quality rules now, we provide LNG providers the certainty they need in order to begin procuring new supplies. The first LNG receipt point has been established in southern California at Otay Mesa, with deliveries expected in 2008.

CalCEF

I'm especially pleased with the progress we have made with the California Clean Energy Fund (CalCEF).

- This fund was created as a result of the PG&E bankruptcy settlement.
- The private sector has lagged in making investments in clean energy companies, creating a gap in California's commercialization of new energy technologies. CalCEF was created to help solve this problem.
- CalCEF has already made several investments already in earlystage companies, as well as taking a leadership role in fostering energy efficiency.
- On April 12, the nation's first academic center dedicated to energy efficiency was established at UC Davis—funded by a \$1 million challenge grant from the CalCEF. The UC Davis

Energy Efficiency Center goal is to quickly accelerate deployment of energy-saving technologies.

In conclusion, we've done a lot, but much remains to be done. Through the deployment of the energy action plan and the codification of our policies in legislation, I'm confident that California's energy policy will remain on course.

California is a national and international leader on many issues. My hope is that our efforts on combating global warming will yield great benefits to the US environment and economy, and around the world. For rapidly growing countries like China and India, I want us to provide both policy models and technologies that will support sustainable growth, so newfound prosperity does not come at the cost of environmental degradation.

Thank you.