

SDG&E Remarks
QER Meeting in Los Angeles
Los Angeles City Hall
May 10, 2016

- **Intro:** Good afternoon. My name is Dave Geier. I am Vice President, Electric Transmission & System Engineering for San Diego Gas & Electric. We provide safe and reliable electricity and natural gas services to 3.4 million consumers in San Diego and southern Orange Counties of California. I want to thank Elizabeth Sherwood-Randall, Deputy Secretary of Energy, for inviting me to this event and providing an opportunity for energy stakeholders in Southern California to participate in the QER. It is fitting that we should gather to talk about the changing landscape of energy at this location, because nowhere is this change more rapid than here in California. We are on the cutting-edge of many important changes – from renewable energy to conservation to clean transportation. There is a leadership opportunity in front of our industry, and our nation, to chart a new course in energy. Everyone in this room can play a role in creating an energy network that is more sustainable -- and just as important -- better at serving customers. Now, using California as an example, let's talk about the change we are seeing and how this change can inform the nation about what the future holds for energy.

- **Clean Energy:** At San Diego Gas & Electric, we have launched three leadership initiatives that can help shape how energy is delivered in this country. The first area is the **transition to cleaner fuels**. SDG&E is the first investor-owned energy company to supply 33 percent of the electricity to our customers from qualifying renewable resources – well ahead of California's mandate. And SDG&E isn't stopping there. We are on track to deliver more than 40 percent clean renewable energy by 2018, and 50 percent by 2030. This achievement makes us one of the cleanest utilities in the country.

- Our customers also have gotten involved in the shift to clean energy and have installed nearly 90,000 rooftop solar installations, which can generate nearly 580 megawatts of power for their homes and businesses. And, just as important, we at SDG&E are helping to make it happen. SDG&E developed a new online application and fast track process that is making the solar interconnection procedure quick, easy and convenient, connecting customers in an average of 4-5 days and on the same day with the fast track process, which is the quickest approval time in the state. We have also developed a new technology, called the Renewable Meter Adapter, that significantly reduces the cost and enhances the efficiency of residential rooftop solar installations. It does this by connecting solar directly to the existing meter panel and bypassing the need for expensive electrical upgrades, which typically cost customers \$2,500 or more. I am proud to report that more than 3,000 Renewable Meter Adapters have been installed to date, collectively saving SDG&E customers more than \$3.5 million in construction costs.

- **Electric Vehicles:** Let me now move to the second key topic which is the **importance of embracing electric vehicles**. One of the most exciting opportunities we see for driving sustainable innovation in our communities is finding new ways to satisfy the growing demand for electric vehicles. And when I say "driving," I mean that

literally. San Diego is home to the largest concentration of electric vehicles in the nation, with approximately 20,000 plug-in electric vehicles driving on our roads. In an effort to extend our leadership position in electric vehicles, SDG&E recently received the “green light” from the CPUC to install up to 3,500 charging stations at 350 businesses and multi-family communities throughout the region.

- There are two crucial benefits to this program. The first is about expanding access. This initiative will greatly expand access to EVs for the 50 percent of our customers that live in apartments, condominiums and other multi-family communities, which currently have few if any charging stations available. This will be vital to overcoming range anxiety and ensuring we have the broad-based charging infrastructure in place to make electric vehicles the norm in our community, rather than the exception. The second vital element is how the vehicles will be charged. This pilot will efficiently integrate EVs onto the grid by encouraging customers to charge their cars when electricity supply is plentiful and energy prices are low. Our special EV rate maximizes the use of renewable energy to charge the cars and integrate all these new cars onto the grid in an orderly fashion.
- Power Your Drive is essential as we move every closer to transportation electrification. One of the best ways we have for reducing GHG emissions is promoting electric vehicles and reducing our dependence on gasoline as a transportation fuel. The transportation sector currently accounts for approximately 40% of California’s and 54% of San Diego’s total GHG emissions, so imagine the possibilities if we can reform how we power our cars and take ownership of zero-emission electric vehicles to a whole new level.
- **Grid Innovations:** The final leadership initiative that is helping our customers is **establishing a dynamic and resilient grid that can easily accommodate all this change** at the distribution level. I view the distribution grid as absolutely essential for enabling all the change we are seeing today. In this way, the electric grid serves as the innovative platform for integrating and maximizing all clean energy technologies in the community. Just as your smart phone allows you to use all of your favorite apps, the electric grid allows you to use your favorite clean energy resources. As our customers connect more solar panels, electric vehicles and eventually energy storage, we must continue to hone our skills and create a grid that is up to this great challenge.
- One project that is giving us a wealth of experience in this area is our Borrego Springs Microgrid, which uses advanced technologies such as local solar power, energy storage, and automated switching to create a more resilient and sustainable local grid. The Microgrid has already kept electricity flowing to the community during several power outages, demonstrating its potential to benefit all customers. This is believed to be the first microgrid project in the nation to leverage renewable energy, in this case a large solar field at the local level, to power an entire community during an emergency situation. In 2008, the DOE provided SDG&E with \$8 million in grants to help develop the Borrego Springs Microgrid. This acted as the seed grant that really allowed this project to get off the ground. In fact, the DOE grant allowed us to purchase a large energy storage unit (1.5 megawatt hour lithium ion battery), which was the first energy storage system in the San Diego Region. All of these achievements would not have been

possible without the DOE's vision in providing the original grant and we greatly appreciate your assistance with this project.

- We also are installing distribution synchro-phasors that use GPS clocks and sub-cycle measurements to identify the origin of any grid disturbance. Think about what that might mean when we couple this with other technologies, such as smart meters, wireless fault detectors, batteries and distribution management systems. It creates a more versatile -- and what we often times refer to as "self-aware" energy grid -- that can respond to real-time information faster to improve reliability and make the system more sustainable for all.
- **Conclusion:** We at San Diego Gas & Electric believe there is a leadership opportunity in front of our Industry -- we collectively have a unique opportunity to create a more sustainable and reliable energy future -- one that does a better job at driving benefits directly to our customers and the communities that we serve. We are ready to partner with you at every single turn on the road ahead to an increasingly sustainable and reliable energy future. Thank you and I look forward to having a productive dialogue with my fellow panelists.