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CALIFORNIA ENERGY COMMISSION

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In the matter of:) Docket No. 16-IEPR-01
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 Preparation of the)
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 2016 Integrated Energy Policy Report Update)
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2016 Integrated Energy Policy Report Update Final Scoping Order

The California Energy Commission's Integrated Energy Policy Report Lead Commissioner, Karen Douglas, establishes the scope and general schedule for the *2016 Integrated Energy Policy Report Update (2016 IEPR Update)*. Text of the *2016 IEPR Update Scoping Order* follows.

Background

Senate Bill 1389 (Bowen and Sher, Chapter 568, Statutes of 2002) requires the Energy Commission to "conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices." These assessments and forecasts are used to develop recommendations for energy policies that conserve state resources, protect the environment, provide reliable energy, enhance the state's economy, and protect public health and safety. The Energy Commission includes these energy policy recommendations in its biennial Integrated Energy Policy Report that is issued in odd-numbered years.

SB 1389 also requires the Energy Commission to prepare an update in alternate years to provide a progress report on issues raised in the biennial IEPR or to identify new energy issues that have arisen during the intervening year (Public Resources Code, Section 25302, Subd. (d)). The *2016 IEPR Update* will fulfill that requirement.

Pursuant to Public Resources Code Section 25300(d), "The Legislature further finds and declares that timely reporting, assessment, forecasting, and data collection activities are essential to serve the information and policy development needs of the Governor, the Legislature, public agencies, market participants, and the public."

Scope of the 2016 Integrated Energy Policy Report Update

California continues to be a leader in advancing bold solutions to address climate change, promoting energy efficiency, reducing greenhouse gas emissions, furthering usage of renewable energy, and ensuring the state has a safe and reliable electricity and thermal gas system. On April 29, 2015, Governor Edmund G. Brown Jr. signed Executive Order B-30-15, establishing a new statewide goal to reduce greenhouse gas emissions 40 percent below 1990 levels by 2030. In his 2015 inaugural address, he called for 50 percent of

California's electricity to be sourced from renewable energy, 50 percent reduction in petroleum use primarily in cars and trucks, doubled efficiency savings in existing buildings, cleaner heating fuels, reduced short lived climate pollutants such as methane, F-gas and black carbon, and natural resource management practices that incorporate carbon storage actions. The Clean Energy and Pollution Reduction Act of 2015 (Senate Bill 350, DeLeón, Statutes 2015, Chapter 547) (SB 350) subsequently codified reducing California's greenhouse gas emissions 40 percent below 1990 levels and two of the Governor's goals for reducing carbon emissions: increasing renewable electricity procurement to 50 percent by 2030, and doubling energy efficiency savings for both electricity and natural gas by 2030.

The *2016 IEPR Update* will review actions underway to implement Governor Brown's January 6, 2016, emergency proclamation on methane emissions from Aliso Canyon, including reliability assessments, action plans, and studies on public safety, health, and long term implications for natural gas infrastructure. The *2016 IEPR Update* will also look at the ongoing transformation of the electricity generation system that has been driven by California's climate and related environmental goals, and the resulting changes in the environmental performance of the system; progress in implementing Executive Order B-30-15, with a focus on the climate adaptation requirements; and continue work on several topics from the *2015 IEPR*, as described below. Each of these topics will require coordination and partnerships with federal, state, and local agencies, as well as other stakeholders.

1. Natural Gas and Aliso Canyon Storage Facility Gas Leak Response

On October 23, 2015, a significant natural gas leak was detected at Southern California Gas' Aliso Canyon natural gas storage facility. On January 6, 2016, Governor Edmund G. Brown Jr. issued an Emergency Proclamation building on "months of regulatory and oversight action from seven state agencies mobilized to protect public health, oversee SoCalGas actions to stop the Aliso Canyon leak, track methane emissions, ensure worker safety, safeguard energy reliability and address any other problems stemming from the leak". The Proclamation specifically called on the Energy Commission, California Public Utilities Commission, and the California Independent System Operator to work together and "take all actions necessary to ensure the continued reliability of natural gas and electric supplies during the moratorium on gas injections into Aliso Canyon." The most immediate issue is maintaining gas system reliability for core customers for the rest of the winter. The next concern is electric system reliability for this summer, and both gas and electric system reliability for next winter and beyond in the event injections into Aliso Canyon cannot resume.

In response to Assembly Bill 1257 (Bocanegra, Chapter 749, Statutes of 2013), and in furtherance of the state's energy goals, the Energy Commission staff delivered to the Legislature *Strategies to Maximize the Benefits Obtained from Natural Gas as an Energy Source* in November 2015. This report explored the strategies and options for using natural gas, immediate gas infrastructure challenges, and identified strategies to maximize its benefits. In implementing SB 1371 (Leno, Chapter 525, Statutes of 2014), the California Public Utilities Commission received reports in May 2015 from regulated gas corporations about gas leak management practices and any gas leaks. Updated reports are due in May 2016.

The *2016 IEPR Update* will compile the best available scientific information on both methane leakage and public safety from the natural gas system as stated in the *2015 IEPR*,

and potential mitigation measures. It will also develop and document the interagency response to the well leak at the Aliso Canyon underground natural gas storage facility ordered by the Governor. The immediate focus of the *2016 IEPR Update* will be the development of reliability assessments and action plans. These assessments will culminate in the final *2016 IEPR Update* that will summarize the various analyses and results of hearings, including the operational safety and potential health risks, methane emissions, supply reliability for gas and electricity demand in California, and may begin the discussion of the role of storage facilities and natural gas infrastructure in the state's long-term greenhouse gas reduction strategies, as outlined in the Governor's order.

The *2016 IEPR Update* workshops on interagency assessments, action plans, and studies for Aliso Canyon will begin in April 2016 in Southern California, with subsequent joint public agency workshops to take place throughout 2016 and likely into 2017. Assessments and action plans will be addressed in the following sequence:

1. Summary of the interagency reliability assessment and actions taken to ensure energy reliability in winter 2016;
2. Interagency assessment and action plan to maintain reliability of electrical and natural gas supplies in summer 2016 given the moratorium on gas injections into the Aliso Canyon gas storage facility and Southern California Gas' reliance on that field to support gas-fired electric generation in the Los Angeles Basin;
3. Interagency assessment and action plan to maintain reliability of natural gas and electrical supplies for winter 2017 assuming no reinjection at Aliso Canyon;
4. Assessment of long-term solutions to provide reliable natural gas and electricity service in the Los Angeles Basin if Aliso Canyon is not available or has limited availability;
5. Summary of Division of Oil, Gas, and Geothermal Resources' comprehensive review of the safety of the storage wells and air quality of the surrounding community, and the Office of Environmental Health Hazard Assessment's scientific and medical expert review of public health concerns and protections from the gas leak;
6. Interagency report requested in Governor Brown's emergency proclamation on the Aliso Canyon gas leak regarding the long-term viability and role of natural gas storage facilities and infrastructure given the State's long-term greenhouse gas reduction strategies. The report should address operational safety and potential health risks, methane emissions, supply reliability for gas and electricity demand in California, and the role of storage facilities and natural gas infrastructure in the state's long-term greenhouse gas reduction strategies. This report is due six months after Division of Oil, Gas, and Geothermal Resources' assessment of the cause of the natural gas well leak and is likely to span across both 2016 and 2017 IEPR.

The natural gas leak at the Aliso Canyon storage facility underscores the need for an interagency (drawing from their available analyses), multi-year assessment of the issues involved in California's reliance on natural gas infrastructure to meet the state's greenhouse gas emission goals and the Governor's Executive Order B-30-15.

2. Environmental Performance of Electricity Generation System

California's greenhouse gas policies, in conjunction with related policies such as the state's renewables portfolio standard, the Emission Performance Standard, the phase-out of electricity generation facilities using once-through cooling, and an increase of smaller and community-based distributed energy resources, have resulted in very significant changes to the state's electricity generation system. The *2016 IEPR Update* will review these changes and assess their effect on the environmental performance of the generation system across a range of factors, including greenhouse gas emissions, air quality, land use, and impacts to natural resources, with reference to the *2005 Environmental Performance Report*.

The analysis will also look at emerging technologies and approaches that may have the potential to support the state's long-term greenhouse gas goals by providing low-carbon electricity generation and grid support services, with a focus on approaches or technologies that may present environmental or permitting complexities that would benefit from consideration in this report, including off-shore wind, large scale storage technologies, power-to-gas technologies, and next generation renewable energy technologies.

The analysis will also follow up on Recommendation #7 from the Strategic Transmission Investment Planning Chapter in the *2015 IEPR* which recommends that the state develop a set of right-sizing policies through the *2016 IEPR Update* process and informed by the Renewable Energy Transmission Initiative 2.0.

3. Climate Adaptation and Resiliency

The *2016 IEPR Update* will report on current actions to implement Governor Brown's Executive Order B-30-15 as related to the electricity system. These actions include coordinated interagency efforts to identify adaptation needs in the electricity sector, a review of current climate adaptation scenario research and climate science, an overview of the climate adaptation policy landscape including federal actions, investor-owned and publicly owned utility activities, and tools and approaches to identify vulnerability and increase resiliency of the energy system to climate impacts.

4. Electricity Forecast and Reliability Update

As part of ongoing efforts by the Energy Commission, California Public Utilities Commission, and the California Independent System Operator to improve the process alignment of the state's energy planning efforts, the Energy Commission committed to update the California Energy Demand Forecast in each IEPR update cycle. The 2016 update of the California Energy Demand Forecast will include a limited update to the most recently adopted forecast to incorporate the latest economic and demographic projections, another year of historical peak and consumption data, and any needed corrections.

The Energy Commission will also more broadly assess changes needed in the forecast methodology to reflect provisions of SB 350 and Assembly Bill 802 (Williams, Chapter 590, Statutes of 2015). SB 350 codified two of the Governor's goals for reducing carbon emissions: increasing renewable electricity procurement to 50 percent by 2030, and doubling energy efficiency savings for both electricity and natural gas by 2030. Future iterations of the electricity demand forecast need to include greater emphasis on detailed,

localized, and sector-specific analysis of energy demand trends, including hourly loads. The Energy Commission will also continue to work with the California Independent System Operator and the California Public Utilities Commission to understand potential impacts to the forecast from the traditional hour of peak demand being pushed later in the day by continuing behind-the-meter photovoltaic adoption and increasing electric vehicle charging. A more granular analysis is needed to support the state's policy goals including setting, assessing, and advancing energy efficiency and renewable energy goals put forward in SB 350. As noted in the *2015 IEPR*, AB 802 clarifies the Energy Commission's authority to collect energy usage data needed to support implementation of the various provisions in the bill. As a result, the Energy Commission will build its capabilities to manage and provide rigorous analysis of the data in support of energy demand forecasts.

The *2016 IEPR Update* will also discuss ongoing efforts to maintain resource adequacy and reliability in Southern California given challenges with the closure of the San Onofre Nuclear Generating Station and the State Water Resources Control Board's policy to phase out the use of once-through cooling in power plants, as well as the moratorium on gas injections into the Aliso Canyon Natural Gas Storage Facility.

5. Nuclear Energy

The *2016 IEPR Update* will consider the potential greenhouse gas benefits of Diablo Canyon Power Plant but also take into account the broader issues associated with nuclear power, such as waste, seismicity, and safety.

2016 Integrated Energy Policy Report Update Schedule

The Lead Commissioner directs the Energy Commission staff to use the following general schedule. As workshop topics and dates are finalized, the Energy Commission will post notices on its website and notify stakeholders at least 10 days in advance of each workshop date. The schedule will be posted and regularly updated at http://energy.ca.gov/2016_energypolicy/.

Task/Event	Date(s)
Final Scoping Order released	March 2016
Public workshops on specific topics	April 2016 – December 2016
Release draft <i>2016 IEPR Update</i>	September 2016
IEPR workshop on draft report	October 2016
Release final <i>2016 IEPR Update</i>	January 2017
Adopt <i>2016 IEPR Update</i>	February 2017

Participation in the Integrated Energy Policy Report Proceeding

Policy recommendations contained in the *2016 IEPR Update* will be based on the record developed during the proceeding, including data and technical analyses by the staff and stakeholders. Analysis and information developed in other proceedings at the Energy Commission and by other agencies will be incorporated as appropriate. Participants should

use the IEPR docket number 16-IEPR-01 and associated dockets when submitting information for the Lead Commissioner's consideration which are as follows:

- 16-IEPR-01 - General/Scope
- 16-IEPR-02 - Natural Gas
- 16-IEPR-03 - Environmental Performance of Electricity Generation System
- 16-IEPR-04 - Climate Adaptation and Resiliency
- 16-IEPR-05 - Electricity Demand Forecast
- 16-IEPR-06 - Southern California Electricity Infrastructure Reliability
- 16-IEPR-07 - Nuclear

The Lead Commissioner encourages the active participation of all interested and affected participants because public input is essential to ensure a complete and thorough record. As in previous proceedings, the Lead Commissioner recognizes that close coordination with federal, state, local, and other agencies is critical to identifying and addressing energy infrastructure and related environmental challenges. The Lead Commissioner directs staff to continue working with these agencies to ensure their participation in this proceeding.

The Energy Commission's Public Adviser's Office provides the public assistance in participating in Energy Commission activities. If you would like information on how to participate in this proceeding, please contact the Public Adviser, Alana Mathews, at (916) 654-4489 or toll free at (800) 822-6228, by FAX at (916) 654-4493, or by e-mail at PublicAdviser@energy.ca.gov.

The service list for the *2016 IEPR Update* and associated key topic proceedings is handled electronically. Notices and documents for these proceedings are posted to the Energy Commission website at www.energy.ca.gov/2016_energypolicy/. When new information is posted, an e-mail will be sent to those on the energy policy e-mail list server. Parties interested in receiving these notices should sign up for the list server through the Energy Commission's website at www.energy.ca.gov/listservers/index.html.

Technical questions should be directed to Heather Raitt, Assistant Executive Director for Policy Development, at (916) 654-4735 or by e-mail at Heather.Raitt@energy.ca.gov.

News media inquiries should be directed to the Media and Publications Office at (916) 654-4989 or by e-mail at mediaoffice@energy.ca.gov.

Date: March 28, 2016



KAREN DOUGLAS
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2016 Integrated Energy Policy Report Update

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