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EDF Comments on 2017 IEPR

See attached document

Additional submitted attachment is included below.



January 25, 2017

ROBERT B. WEISENMILLER
Chair and Lead Commissioner
California Energy Commission
Dockets Office, MS-4, Re: Docket No. 17-IEPR-01
1516 Ninth Street, Sacramento, CA 95814-5512

BY ELECTRONIC SUBMISSION

Subject: IEPR docket number 17-IEPR-01

Dear Chair Weisenmiller,

Please accept this comment letter from Environmental Defense Fund (EDF) in response to the draft Scoping Order for the 2017 Integrated Energy Policy Report (IEPR). As part of this important proceeding, the California Energy Commission is faced with the crucial task of evaluating and developing policy and strategies necessary for the realization of the goals of SB 350 while ensuring reliability of the California energy system. To further this purpose, EDF identifies an area of missing yet critical analysis related to the review of electricity and natural gas markets, and recommends the Commission expand the scope of the IEPR prior to finalization.

The scoping memo contains many important areas of focus

As stated in Section 1 of the Scoping Order related to implementation of SB 350, the CEC proposes the 2017 IEPR explore electricity system operational issues, and suggests an evaluation of maintaining system reliability through various tools including: an expanded Energy Imbalance Market, curtailment of over-generation, enhanced ramping capability from conventional and renewable generation, demand response, time-of-use retail rates, and storage, including Vehicle to Grid. The Order further states that as part of the review of the ramping capability of conventional generation, the Energy Commission will examine forward contracting of flexible resources, estimation of the reserve margin, and identification of any actions needed to better ensure reliability.

In Section 5 of the Scoping Order on Energy Reliability on Southern California, the document states the 2017 IEPR will discuss ongoing efforts to maintain resource adequacy and reliability, looking at replacement of generating facilities and use of fast ramping resources in the region to help integrate variable generation. The document proposes to review the implementation status of the action plans adopted to address San Onofre, and follow up on the action plans reported on in the 2016 IEPR Update related to Aliso Canyon. The CEC proposes to defer the evaluation of long term approaches to the CPUC and the California Council of Science and Technology consistent with natural gas safety study provisions in SB 826 and SB 840.

Finally, in Section 6, related to the Integration of Distributed Energy Resources, the Scoping Document proposes that the 2017 IEPR will review the status of various action plans and rulemakings related to energy storage, demand response, smart inverters, electric vehicle integration, and time-of-use rate development etc. The IEPR would evaluate and identify key actions that are needed to support successful integration of DER, particularly in the area of the Energy Commission's research development and demonstration efforts, and would determine whether any modifications would be appropriate.

Each of these inquiries will result in valuable information and planning tools that will aid California's direction toward a cleaner and more resilient energy system.

The scoping memo is also missing discussion of a key area of inquiry

EDF recites these aforementioned provisions of the Scoping Order to both compliment the Commission for taking a cross-cutting and evaluative look at the state's progress towards implementing clean energy solutions, but also to highlight that an important evaluation of electric and natural gas market conditions is not present. EDF asserts that this required, missing and often overlooked evaluation is a critical part of California's clean energy puzzle: the need for increased transparency and competition in wholesale energy markets, and for greater coordination between gas and electric markets, particularly in the face of increasing reliance on gas for meeting electric reliability needs.

To see what the requirements are to evaluate gas market conditions within the IEPR, see Section 25302, Chapter 4, Division 15 of the Public Resources Code which details the requirements of the CEC related to Integrated Energy Policy Reporting, stating that the report shall contain an overview of major energy trends and issues facing the state, with several specified areas of focus. Following, Section 25303(a)(6) states that in furtherance of this section, the IEPR must include an: (emphasis added)

"Evaluation of whether electricity and natural gas markets are adequately meeting public interest objectives including the provision of all of the following: economic benefits; competitive, low-cost reliable services; customer information and protection; and environmentally sensitive electricity and natural gas supplies. This evaluation may consider the extent to which California is an element within western energy markets, the existence of appropriate incentives for market participants to provide supplies and for consumers to respond to energy prices, appropriate identification of responsibilities of various market participants, and an assessment of long-term versus short-term market performance. To the extent this evaluation identifies market shortcomings, the commission shall propose market structure changes to improve performance.

As written by EDF in several articles and analyses, and in comments filed at the CPUC and CAISO, the addressing the issue of electric and natural gas market misalignment is part and parcel with achieving California's interrelated energy and greenhouse gas goals. Furthermore, these are not just short term issues, but rather, structural long-term design issues which have been embedded into the California energy landscape.

In its May 2016 short term special assessment, the North American Electric Reliability Corporation noted:¹

¹ North American Electric Reliability Corporation, "Short-Term Special Assessment – Operational Risk Assessment with High Penetration of Natural Gas-Fired Generation" (May 2016), at p. 11. See also Final Report of the Interagency Task Force on Natural Gas Storage Safety – Ensuring Safe and Reliable

“The challenges faced in California represent a series of risks that have been layered into the system over the past decade: significant dependency on a single and just-in-time delivery fuel source, specifically for ramping capability to meet load and generation variability; reduced amount of baseload and dispatchable resources; increased amounts of variable and distributed resources; increasing need of system flexibility; gas system dependency on storage to maintain operating pressure; and a lack of clear understanding of natural gas operational characteristics and potential impacts on BPS operations. Continued coordination between electric and gas industry entities will be critical to mitigating risks and minimizing their impact.”

Thus, as a matter of both policy and law, the Energy Commission should amend the Scoping Memo to evaluate this issue.

Refining market rules is critical to addressing gas-electric misalignment challenges

By way of example, CAISO’s current market design doesn’t allow electric generators to reflect sub-day variations in fuel costs in their market bids and bids are often mitigated based on a daily gas price index. Pricing policies that presume that gas index prices reasonably approximate hourly fuel procurement costs does not accurately reflect the costs of hedging against and mitigating curtailment risk. Preventing the market from reflecting the true and complete costs of one fuel type leads to distorted price signals and inhibits a comparison of how competitive one resource is relative to others. The ultimate effect of distorted price signals is to constrain investment because the value of sub-day deliverability and flexibility is not reflected in market outcomes.

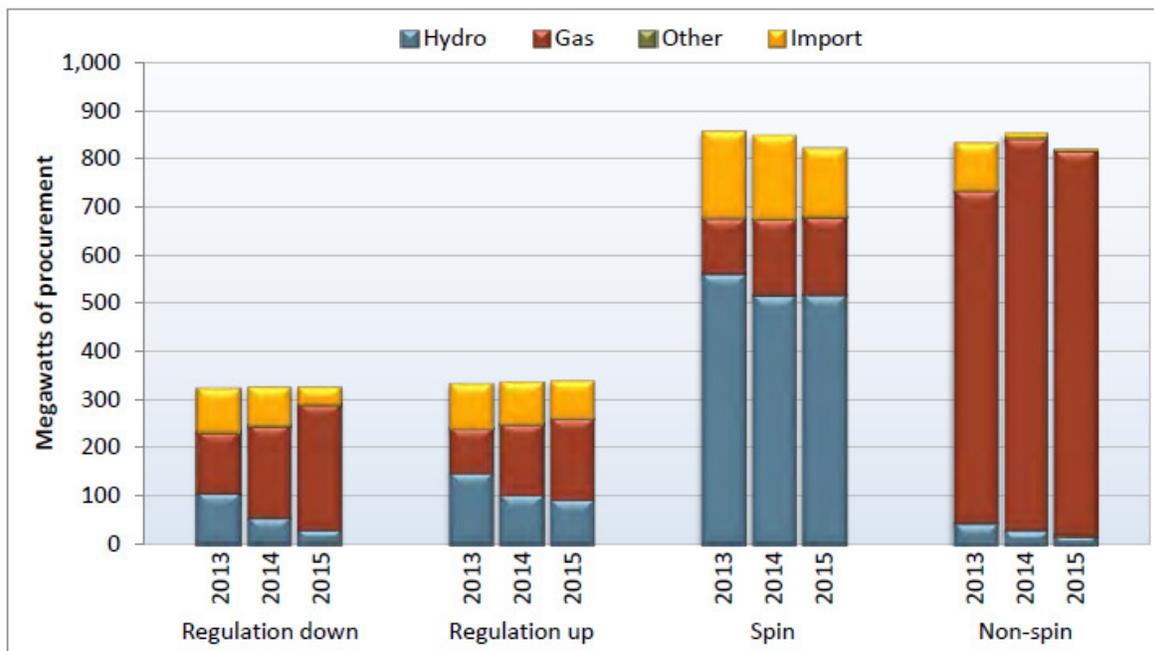
The limited availability of Aliso Canyon only exacerbates this issue. The scoping memo provides that the 2017 IEPR analysis of Aliso Canyon “will focus on the implementation status of the near-term actions needed to maintain reliability and will include efforts to monitor, model, and analyze the interaction of California’s electricity and natural gas systems for grid reliability.” Critical to solving this challenge is the acknowledgment that California’s historically robust gas storage capacity has obscured the cost and value of firm pipeline transportation services and sub-day supply. This robust storage has allowed gas generators to pay only for interruptible transportation services and allowed the market to avoid pricing natural gas in a manner that reflects real-time demand fluctuation. Power plant fuel supply needs are becoming more variable on both daily and sub-day levels, and gas demand is increasing in volume and variation. This demonstrates the need for additional market enhancements for pricing sub-day flexible services on the gas side.

With gas and electric market design obscuring price signals which incent the investment and development of alternatives to gas for meeting reliability needs, California is currently faced with issues such as limited diversity and heavy reliance on gas-fired resources in the provision of ancillary services. As shown on [page 145 of CAISO’s 2015 report on market issues](#), nearly 98% of the energy availability from sources sitting in non-spinning stand-by mode in 2015 (power generators that sit in the off position

Underground Natural Gas Storage at 80 (October 2016) (The gas and electric industries “should work together to develop flexible pipeline services to accommodate the changing needs of the electricity industry”).

but which are able to be turned on quickly) were natural gas power plants – with negligible contributions from alternatives.

Figure 6.4 Procurement by internal resources and imports



What the CAISO graph shows is that natural gas is a key part of managing electric reliability in California, and is likely to continue to play an important role in the state’s energy system, especially as the state ramps up renewable energy generation in the years to come. In order to diversify California’s energy portfolio and minimize heavy reliance on a limited set of resources for electric reliability purposes, market gaps relating to price formation must be addressed and generating resources must be properly compensated to reflect the value of their services to the grid.

The scoping memo should consider long-term market design issues underpinning gas-electric coordination challenges

Whereas the Scoping Order looks to the progress and roadmap of individual programs, the market issues we speak to impact the underlying issues of investment in, and availability of, technologies needed to meet those programmatic goals. However, it appears the CEC is focused (in the IEPR) on short term solutions as opposed to solving long term structural dilemmas. Case in point, the Scoping Order expressly calls out analysis of long-term issues to be vested at the CPUC. This deferment of long-term solution and evaluation, whether they be in the Aliso Canyon seasonal reliability mitigation planning process, or in the current IEPR context is appropriate and short-sighted. Accordingly, and EDF recommends the CEC use this IEPR evaluation to consider and develop recommendations on long-term solutions.

Conclusion

A plain reading of Section 25302 demonstrates that the CEC has a unique and impactful role to play within the IEPR process for evaluating and helping modernize California electric and gas markets. This evaluation, as specified, should look at the issue of gas-electric market misalignment. Furthermore, this assessment must look at long-term market performance and propose market structure changes to improve identified shortcomings. Specifically, it should consider market gaps relating to price formation, and propose solutions to ensure that generating resources are properly compensated to reflect the value of their services to the grid. As the CEC satisfies its role, the work it accomplishes will inform the efforts of California's other energy agencies and fulfill the promise of the IEPR process.

Sincerely,

Tim O'Connor
Senior Attorney / Director
California Oil and Gas
Environmental Defense Fund

California State Director
Clean Energy Program
Environmental Defense Fund