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IEP Comments on 2015 IEPR Scoping Order

Additional submitted attachment is included below.

February 5, 2015

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 15-IEPR-01
1516 Ninth Street
Sacramento, CA 95814-5512

Re: Comments of the Independent Energy Producers Association (IEP) on the Draft 2015 Integrated Energy Policy Report Scoping Order

The Independent Energy Producers Association (IEP) submits these comments on the California Energy Commission's (Commission) Draft 2015 Integrated Energy Policy Report (IEPR) Scoping Order. The Commission retains the lead role in statewide energy planning on an integrated basis. This critical role necessitates a broad planning perspective based on emerging trends within the energy sector as well as emerging trends elsewhere that affect the energy sector. We look forward to working with the Commission on the 2015 IEPR.

The Draft IEPR 2015 appropriately focuses on traditional sectors directly impacting energy policy, energy demand, and power delivery. Currently, the Scoping Order proposes to address the following main topics: (a) Energy Efficiency, (b) Renewables, (c) Electricity, (d) Natural Gas, (e) Transportation, and (f) Climate change. IEP supports including these "chapters" in the IEPR. Moreover, we recognize that the Scoping Order proposes to address "Impacts that continuing drought conditions and changing water policies could have on electricity supply and demand." However, we are concerned that this important topic is subsumed with the broader Electricity Chapter rather than presented as a stand-alone chapter. The nexus between water and electricity is nuanced and vitally important to California going-forward. The proposal to subsume this important topic within the Electricity Chapter risks losing its importance and relevance in the context of the entire IEPR. This would be most unfortunate given its importance to California policymakers and residents.

IEP recommends that the Commission include a specific chapter in the 2015 IEPR focused on what we call the "Water-Power Nexus" which would include the assessment of the "Impacts that continuing drought conditions...have on electricity supply and demand." The IEPR would be greatly enhanced by a stand-alone chapter addressing the nexus of water and energy policy, including assessing the risks to the overall California economy (and subsectors therein) of shortages of water supply; the economic costs of water shortage; the potential for new water supply (surface flows, groundwater, and desalination); and, the potential impacts on energy demand/supply.

Why an IEPR Chapter Specifically Focused on the Water-Power Nexus is Appropriate. The state's current policy and programs support consideration of new water supply through storage (bond issuance) and/or desalination (Proposition 50). With regards to

energy policy and programs, California is striving to reduce GHG emissions to 1990 levels by 2050 (AB 32), and the Governor recently articulated a goal of 50 percent renewables by 2030; a doubling of energy efficiency in existing buildings; and, a 50 percent reduction in transportation petroleum fuels by 2030.

The policy objectives for both water and power face many hurdles. On the one hand, water faces the challenge of higher temperatures changing surface water patterns/flows; increasing pressure for groundwater pumping; and, increased pressures for inter-regional and intra-regional water transfers. On the other hand, the power grid faces the challenge of maintaining grid reliability using clean(er) resources; helping to electrify the transportation sector; and, serving an ever-growing population base. What both the water and the energy sectors share is the need for new infrastructure in a time when public opposition to financing new infrastructure is of concern. Moreover, both water and energy engender significant political debates (and hurdles) due to mis-matched interests of stakeholders.

IEP believes that water supply and power demand will become increasingly linked over the next 10-15 years as a result of climate change and the policies to address climate change. The linkage of these two policy sectors will have profound implications for the growth and stability of the California economy, including jobs, taxes, and quality of life issues. In light of this increasing linkage, a couple of key factors stand out as requiring immediate attention. These include the following:

- 1. Risk of Prolonged Drought.** California's water supply historically has been heavily dependent on imports (e.g. Colorado River) and/or inter-regional water transfers (e.g. State Water Project). In both cases, the water transported is primarily dependent on surface flows. In periods of drought, when surface flows diminish, existing allocations to traditional consumers become increasingly strained. Importantly, groundwater "reserves" increasingly are relied on to replenish lost surface water. These realities increasingly stress the water delivery system and, moreover, stress the politics associated with water supply and delivery in California. Groundwater pumping increases electrical consumption. In the context of the IEPR, more needs to be known regarding the risk to supply in a period of climate change; more needs to be known regarding how changes in the water supply impacts allocations of available water for purposes of municipal, environmental, industrial, and agricultural/irrigation use; and, how the power sector can be best positioned to assist in ensuring adequate water supplies.
- 2. Risk of "Over-generation" from Renewable Energy Production.** The Governor's office has proposed that 50 percent of electricity sales in California be derived from renewable generating facilities. Absent a change in procurement practices and/or demand, some studies have indicated that a 50 percent renewable standard will result in significant amounts of un-used energy, i.e. so-called "over-generation."¹ In the context of the IEPR, more needs to be known about the potential likelihood of over-generation occurring; the potential solutions to over-generation in light of policy goals; and, the potential benefits of this clean energy to economic development; and, the potential role this energy could have with regards to expanding the water supply.

¹ Energy-Environmental Economics (E3), "Investigating a Higher Renewables Portfolio Standard in California," January 2014, Table 2, p. 14.

A stand-alone chapter in the IEPR on the Water-Power Nexus would enable the Commission to better emphasize the issues highlighted above. In this context, IEP suggests that the Commission might focus its efforts on problem identification and problem-solving. More specifically, this Water-Power Nexus Chapter ought to focus on how the energy sector can be best employed to help overcome problems in the water arena. For example, desalination is an important goal (Proposition 50). We believe the Commission should consider in the 2015 IEPR the extent to which the state should more aggressively pursue a water policy fostering expansion of desalination as a means for expanding water supply and addressing prolonged drought; while relying on renewable energy, particularly surplus renewable generation (i.e. “over-generation”) during the day/month to power the technologies/industries needed to generate additional water supply or move water intra-regionally more efficiently.

Whereas some suggest that the potential for renewable “over-generation” is a policy problem, it may be the case that the abundance of clean, renewable-based generation is actually a practical *solution*. For example, during periods of over-generation, the real-time price of energy is zero (or negative). This low cost energy could be harnessed to fuel desalination plants which would in turn help alleviate the water supply and availability issues described above. Effectively, during periods of over-generation, the energy to power desalination facilities is purchased at zero cost, and desalination facilities are acting as a *sponge* absorbing unused energy. Yet, due to this role as a sponge, renewable resources would not need to be curtailed, nor would the state be forced to pay entities out-of-state to take the excess power. Assuming the state constructed over the next 10-15 years 15 desalination plants each capable of producing 50 million gallons/day, IEP’s preliminary analysis² suggests that the desalination plants would absorb over 30% of the over-generation forecast to occur by 2030 under a 50% renewable standard. Moreover, these same 15 desalination plants would supply an amount of additional water to meet 12% of the state’s current public water supply demand; meet 3% of the current irrigation supply needs; or, equal 37% of the current deliveries from the state water project.

In summary, while IEP does not have the answers, we strongly believe that the 2015 IEPR is the proper place to begin the analysis. Moreover, we are firmly convinced that the IEPR would be well-served by creating a new chapter to assess the linkage between the power and electricity sectors rather than subsumed this assessment within the Electricity Chapter.

Respectfully Submitted,



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² These are preliminary numbers. IEP would anticipate that the Commission through the IEPR process would fine-tune these estimates and findings.