

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF
CALIFORNIA**

Order Instituting rulemaking to Integrate and Refine
Procurement Policies and Consider Long-Term
Procurement Plans

Rulemaking 13-12-010
(Filed December 19, 2013)

NOTICE OF EX PARTE COMMUNICATION

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In accordance with Rule 8.4 of the Commission’s Rules of Practice and Procedure, Eagle Crest Energy Company (“Eagle Crest”) hereby gives notice of the following oral and written communications on March 17, 2014, in the above proceeding with Nicolas Chaset, Energy Advisor to Commissioner Picker. Eagle Crest is the developer of the 1300 MW Eagle Mountain Pumped Storage Hydroelectric Project (“the Eagle Mountain Project” or “Project”) located near Desert Center, California.

On Thursday, March 13, 2014, at approximately 4:00 pm, Bill Keese and Joshua Bar-Lev, both consultants with Eagle Crest, and William Kissinger, a partner at Bingham McCutchen LLP and counsel for Eagle Crest, met with Mr. Chaset. The meeting took place in Mr. Chaset’s office at 505 Van Ness Street in San Francisco California and lasted approximately one hour. The communication was initiated by Mr. Kissinger. During the meeting Mr. Chaset was provided two documents, each of which is attached hereto.

Representatives for Eagle Crest met with Mr. Chaset to share their concern that the 2014 LTPP process was shaping up in a way that may delay development of pumped hydro storage projects, generally, and the Eagle Mountain Project, specifically.

They noted the Federal Energy Regulatory Commission is expected to issue the hydroelectric generation license for the Project in the coming months and, once that happens, Eagle Crest will need to turn toward financing the Project if it is to achieve COD by or soon after 2020. The Eagle Crest representatives expressed concern that the way the 2014 LTPP proceeding is shaping up, and in particular the absence of any study on the ability of large pumped storage to address the operating challenges facing the CAISO could delay the ability for Eagle Crest and the investor owned utilities from entering into meaningful bilateral discussions until the next LTPP procurement cycle and thereby delay the Project by one or more years. Given the conclusions contained in the recent report entitled “Investigating a Higher Renewables Portfolio Standard in California” by Energy and Environmental Economics, Inc. (E3), ECCO International, and DNV KEMA, regarding over generation and curtailment, this would be unfortunate.

To avoid this, the Eagle Crest representatives urged the Commission to request that the CAISO add a special TPP study on the ability of large pumped storage to address these operating challenges. They also urged the CPUC to request that the CAISO look beyond the 10-year time horizon used in the past and instead consider a longer time horizon that ultimately incorporates the State’s ambitious 2050 greenhouse gas (“GHG”) objectives and whether large pumped storage might help achieve these objectives. They noted that if these studies were conducted in the next year and yielded, as Eagle Crest expects, favorable results, the IOUs’ ability to commence negotiations with large pumped storage projects like Eagle Mountain would be accelerated. The Eagle Crest representatives provided Mr. Chaset with a copy of comments they filed on the CAISO’s

Draft Study Plan for the 2014-2015 Transmission Planning Process which detail these issues. They also left Mr. Chaset a short paper on the questions the CAISO should study in order to better determine how large pumped storage could maximize GHG emission reductions and renewable energy generation in California. Both documents are attached.

Finally, the Eagle Crest representatives urged the Commission take up the “preferred conventional resource” concept that the Center for Energy Efficiency and Renewable Technologies (CEERT) has proposed in recently filed comments and notices of ex parte communications in the 2012 LTPP proceeding. Apropos to Eagle Crest’s concern that the 2014 LTPP proceeding create an environment conducive to negotiations between the IOUs and large pumped storage developers, the Eagle Crest representatives suggested treating such projects as preferred resources was sensible given the ways in which they can advance the State’s RPS and GHG objectives and do so cost effectively.

Respectfully Submitted,

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ATTACHMENTS

Eagle Crest Energy: Utilizing Cost Effective Pumped Storage to maximize GHG emission reductions and renewable energy generation in California

Eagle Crest Energy is developing the Eagle Mountain Pumped Storage Project (“Eagle Mountain”) near Desert Center, California. We expect Eagle Mountain, which will have maximum installed capacity of 1300 MW and a storage capacity of approximately 22,000 Mwh, to be fully permitted later this year and in operation as early as 2020.

Eagle Mountain offers a relatively low cost way to reduce GHG emissions and increase renewable energy production while maintaining current system reliability.

However, current economic models focus on predicting average conditions and are not designed to capture operational problems that are currently rare events, but will become more commonplace as we achieve the 33% RPS level and attempt to increase RPS above 33% and reduce GHG emissions. We believe that state climate mandates – requiring 80% reduction below 1990 emissions levels – will require such increased levels of renewable energy. Therefore, we encourage the CAISO (coordinating with the CPUC staff, which has now been directed to produce a pumped storage case) to quantify and analyze the following questions using its advanced stochastic models :

- What is the nature and extent of operational problems that occur with renewable resources at 40% and above RPS levels and the value realized by the development of pumped storage solutions to mitigate those issues? When are those problems projected to occur?
- How can transmission solutions and pumped storage be combined to optimize: (i) the operation and capabilities of these renewable resources; and (ii) the utilization of the renewable portfolio to both produce decarbonized energy and potentially offset the need for additional investments in both capacity (RA) and local capacity (LCR)?
- What transmission lines and preferred resources outside the LA Basin and San Diego could help solve problems caused by plant retirements (SONGs and OTC) & flexibility problems?
- Is there a longer term (2030 , 2040 and beyond) combination of smart investments in grid flexibility that combines resources with the operating attributes of pumped hydro with high levels of renewables and other preferred resources (smart demand response, diverse RPS scenario and a larger EIM footprint) – to reduce need for additional conventional generation and its associated GHG emissions? What are the operational, economic and environmental benefits of such combinations? How does the cost of such

combinations compare to the environmental and economic costs of conventional generation ?

If the CAISO/CPUC study indicates that pumped storage projects, e.g., within a specified cost range and with defined operating characteristics, are both an enabling (policy driven) and cost effective technology that provides value to ratepayers, then Eagle Crest and investor owned utilities can enter into meaningful bilateral discussions that will increase the flexibility of California's bulk power system.

**COMMENTS OF EAGLE CREST ENERGY
ON DRAFT 2014-2015 STUDY PLAN**

Eagle Crest Energy (ECE) appreciates the opportunity to submit these comments on the CAISO's Transmission Planning Process (TPP) draft 2014-2015 Study Plan. Eagle Crest's comments focus on the role of energy storage – in particular, large pumped storage projects – in addressing issues that the CAISO will study in the next TPP cycle.

ECE is encouraged that the CAISO plans several “special studies” in this planning cycle to address specific issues. However, ECE is concerned that the CAISO's planned TPP studies are defined too narrowly, examining problems and solutions in isolation and ignoring the synergies between them, and fail to go beyond currently known parameters. For example, most of the studies will focus on reliability issues only and will not consider the ability of potential mitigation solutions to provide other benefits or solutions to other problems.

ECE has two primary recommendations.

- **Study time horizon and scope:** The CAISO studies must look beyond the 10-year time horizon used in the past, and the current 33% Renewables Portfolio Standard (RPS), to produce the information needed for critical upcoming decisions about Greenhouse Gas (GHG) reductions and other environmental and structural issues.
- **Pumped-storage resources in TPP studies:** The CAISO should add a special TPP study on the ability of large pumped storage resources to address the many operating challenges that the CAISO will face in the future. Alternatively, the CAISO should broaden the scope of several planned already-planned special TPP studies and integrate pumped storage more effectively into those studies.

Both of these recommendations are described further below.

Study time horizon and scope

The CAISO should broaden the horizon and scope of several planned TPP special studies in order to provide meaningful policy guidance to California decision-makers. The horizon should extend to 2030 and 2040, and the scope should include 40% and 50% RPS scenarios.

These parameters are under active consideration by California policymakers as part of the planning to meet the carbon-reduction requirements defined by AB32, and information from the CAISO is urgently needed to guide those policy discussions. Potentially more effective and cost-effective longer-term solutions will essentially be precluded if the CAISO persistently retains the current 10-year timeframe in its studies and limits them to currently adopted policies.

Pumped-storage resources in TPP studies

ECE continues to recommend that the CAISO include in its TPP studies a separate study on the ability of large pumped storage to address the many operating challenges that the CAISO will face in the future, in particular for a 2030-2040 timeframe and at 40% and 50% RPS levels.

ECE recommended this study in its last comments and provided extensive locational and operating information on ECE's Eagle Mountain Project (a 1,300 MW pumped storage project near Red Bluff Substation in the SCE area) for use in such a study. However, the CAISO dismissed these extensive comments in a brief sentence in the draft Plan, noting that ECE could submit the Eagle Mountain Project in the Request Window as proposed mitigation for any reliability issues identified in the other TPP studies.

ECE believes that this summary dismissal is not justified and does not reflect the multiple purposes that such projects can serve. Pumped-storage resources could provide economic and policy-driven benefits as well by providing operating savings and helping the state more efficiently achieve its GHG and RPS targets. This combination of attributes is a primary reason why a separate storage study is warranted.

The Study Plan is out of step with recent rulings by the CPUC. Commissioner Michael Picker's February 27th Assigned Commissioner's Ruling in the CPUC Long-Term Procurement Proceeding (LTPP) directs CPUC staff to prepare studies of pumped-storage projects specifically. The CAISO's input into these studies will be needed to meet this directive.

ECE's proposal for a separate storage study would comply with the requirements of the CAISO tariff. CAISO Tariff Section 24.4.6.6 ("Policy-Driven Elements") states that, when the identifying policy-driven network upgrades:

The CAISO will determine the need for, and identify such policy-driven transmission solutions that efficiently and effectively meet applicable policies under alternative resource location **and integration assumptions and scenarios**, while mitigating the risk of stranded investment. *(emphasis added)*

CAISO Tariff Section 24.4.6.6 (h) refers specifically to consideration of the following in determining classification of transmission solutions as "Category 1:"

... the potential for a particular transmission solution to provide access to resources needed for integration, **such as pumped storage** in the case of renewable resources.... *(emphasis added)*

In fact, the CAISO justified the Gates-Gregg transmission project in its 2012-2013 Transmission Plan at least in part on the need to improve availability of the Helms pumped storage facility.

Alternatively, if the CAISO does not proceed with a separate storage study, then in order to provide this information, ECE suggests below some modifications to two special TPP studies included in the Plan that would help the CPUC and other decision-makers in their consideration of such resources in the LTPP and other forums.

Potential Risk of Over-Generation Study

According to the Plan and February 27th stakeholder presentation, this study will examine potential over-generation issues and related consequences at the 33% RPS level, assuming two main contingencies: (1) loss of two Palo Verde units (largest WECC units); and (2) loss of two Diablo Canyon units (largest CAISO-area units).

The impacts studied will include negative Real-Time energy prices, Area Control Error (ACE), system frequency/inertia, ramping, resource curtailment, and transient stability concerns. Mitigation would be required if those effects would cause the CAISO to violate WECC criteria.

ECE supports this study but is concerned that it does not appear to address: (1) congestion or other economic problems/solutions; or (2) potential impact on efficient state achievement of 33% or higher RPS. ECE recommends that CAISO consider at least three revisions to this study effort.

First, and most critically, the study should include an extension of the horizon and scope beyond 2020 and 33% RPS, at a minimum as a sensitivity case, as discussed above. The horizon should extend at least to 2030 and the scope should include an RPS expansion to at least 40%. As noted above, these parameters are already being considered by California policymakers, and information from the CAISO is urgently needed to guide those policy discussions.

ECE notes the recent release of a landmark study, Investigating a Higher Renewables Portfolio Standard in California, by Energy and Environmental Economics, Inc. (E3), ECCO International, and DNV KEMA, and sponsored by PG&E, SCE, SDG&E, LADWP, and SMUD. This study examines operational challenges of 40% and 50% RPS levels in a 2030 timeframe and finds high potential curtailment of renewable-energy resources, among other things, at these RPS levels.

The renewable-energy curtailments in that study did not assume any transmission congestion. Therefore, further work is needed by the CAISO in the TPP so that policy-makers have accurate and complete information on this critical point.

Second, the CAISO study should be broadened to consider local and regional congestion impacts and costs, in addition to system-wide over-generation and reliability problems. Congestion is already being observed in some areas and may worsen at 33% and higher RPS levels, especially if (as announced in two separate efforts) a new line is constructed from Palo Verde into California that does not include transmission reinforcements all the way into the LA Basin and/or San Diego.

Third, the potential impacts examined in the study should be broadened to include RPS compliance (and associated costs) under different strategies to address identified problems. For example, renewable-resource curtailment, without higher levels of energy storage so that energy can be delivered in non-congested time periods, could either risk non-compliance or require procurement of additional renewable resources (and associated costs) so that higher production in those non-congested periods can make up for the curtailment. The CAISO may not be the entity that will decide the procurement options that will be selected, but policy-makers that will make those decisions need this information to make informed decisions.

Finally, the study should not only identify problems and potential solutions but also assess those solutions. This assessment should also recognize other benefits offered by such solutions, if any. For example, large pumped-storage resources would address multiple problems identified in multiple CAISO studies and should be addressed specifically in the CAISO studies.

ECE understands the CAISO's desire to specify technology-neutral "attributes" needed to mitigate these problems and avoid favoring different technologies. However, the CAISO should not ignore the fact that all mitigation solutions will, by necessity, have a combination of benefits and costs outside the scope of a particular narrowly focused study that should be considered in any comparison of those options.

Preferred Resources and Energy Storage Study

The CAISO plans to consider "Preferred Resources and Energy Storage (PR&ES) options to identified conventional generation or transmission solutions, potentially expanding this approach to Local Capacity Areas (LCAs) beyond the LA Basin and San Diego. According to the Plan and stakeholder-meeting slides, the CAISO plans to maintain the focus on local PR&ES resources (i.e., those physically located inside LCAs).

The CAISO will also incorporate "uncommitted energy savings" (CPUC assumptions of demand-side resources and energy efficiency programs that are not yet developed) and to incorporate "behind-the-meter" distributed generation as it is reflected in the CEC load forecast.

This year's study will attempt to: (1) establish characteristics that these resources should have in order to be viable transmission alternatives; (2) work with the utilities to identify those programs and resources with those characteristics; and (3) consider those programs/resources as mitigation alternatives once the reliability assessment is complete and options are being developed.

The CAISO will be assessing the CPUC's High Distributed Generation scenario reflecting grid-connected distributed generation provided by the CPUC, as a sensitivity case.

As with the application of this framework last year, it appears that the CAISO would consider transmission options as a secondary tool to address LCA needs that are not met through existing or future local resources. The CAISO cited the same kinds of concerns with cost and lack of state policy guidance, as well as resource limitations that mean that it "can't study all scenarios," in explaining its focus on local PR&ES resources.

ECE believes that this approach is short-sighted and excludes potentially cost-effective solutions. ECE recognizes that transmission solutions can be expensive, but this is only one part of the picture. The CAISO studies should recognize that the impact to ratepayers is not limited to transmission costs but includes the generally much-higher cost of resources sited within major load centers.

Thus, transmission from identified high-potential renewables areas where utilities are already procuring resources that can meet the identified reliability LCA needs should be considered a PR&ES resource. Such resources can make more efficient use of the utility portfolios already planned, i.e., the net cost of generation resources needed to meet those needs would be zero.

Since the incremental costs of generation are typically larger than transmission, there are likely viable cost-effective alternatives outside of LCAs (such as the LA Basin and San Diego) that could meet the reliability needs of loads located there. The Sunrise Powerlink is a perfect example of this concept.

As with local renewable-resource procurement, some additional resources might be needed to firm up intermittent renewable resources meeting reliability needs. However, the selection of effective firming resources would also be much greater with the additional transmission, since resources outside the LCAs could be considered.