California Independent System Operator
250 Outcropping Way
Folsom, CA 95630

November 30, 2016

Eagle Crest Energy ("ECE") Comments on the CAISO's November 16th 2016-2017 Transmission Planning Process Presentation and Meeting

Eagle Crest Energy ("ECE") appreciates this opportunity to submit comments on the presentations and discussions at the CAISO's November 16th Transmission Planning Process "(TPP") meeting. Eagle Crest supports the CAISO's objectives in evaluating the benefits of Large Scale Storage and its potential to address over-generation and curtailment issues as the state approaches its 50% renewable energy mandate and carbon goals.

To that end, Eagle Crest supports the inclusion of additional California pumped storage projects in the study framework to broaden the scope of the analysis. However, we respectfully request consideration of building on the existing 500MW pumped storage work by studying projects larger than 1000MW – specifically, the 1,300 MW Eagle Mountain Project capacity. Alternatively, to the extent the CAISO expects smaller project benefits to be scalable for larger projects, the CAISO should explicitly so state.

Background

ECE is developing the 1,300 MW Eagle Mountain Pumped Storage Project (Eagle Mountain or the Project) in Riverside County, California. The Project has been awarded an operating license by the Federal Energy Regulatory Commission (FERC).

The Project is located at the inactive Eagle Mountain Iron Ore mine and makes use of two former mine pits as the upper and lower reservoirs. The Project will be a closed loop pumped hydro project, i.e., will not be located on a perennial river or have a surface water connection to other bodies of water.

The closed-loop process at this brownfield industrial site will allow the Project to provide, with minimal environmental impacts: (1) 22,000 MWh of multi-hour energy storage capacity (e.g., storing off-peak energy for use in on-peak periods, and/or to ameliorate over-generation conditions); (2) fast Regulation service; (3) ramping/load-following services; and (4) relief of import congestion from the southwest. It thus should help the CAISO meet the significant future renewables-integration challenges California confronts as it approaches (and perhaps exceeds) the 50% RPS.

The CAISO granted ECE's request for an Eagle Mountain Project Economic Planning Study in this year's Transmission Planning Process (TPP). ECE understands that the Eagle Mountain Economic Planning Study results will be included in the CAISO's 2016-2017 Transmission Plan.

Eagle Crest comments on the November 16th presentation

Eagle Crest understands from the November 16th meeting discussion that the CAISO will be combining Economic Planning studies with a broader Large-Scale Storage Special Study ("Combined Study"). The Combined Study will include two other pumped storage projects – the Lake Elsinore Advanced Pumped Storage (LEAPS) and the San Vicente Pumped Storage Project, which are both about 500 MW.

ECE understands that the Combined Study will: (1) Apply TEAM and other locational tools to perform project/location-specific analyses for each project – basically, a modified form of the Economic Planning Study analysis performed for transmission projects; and (2) update the prior analysis of a 500 MW generic pumped-storage project that will focus on system-level benefits (e.g., reduced renewables curtailments during over-generation conditions). Together, these two elements are intended to provide an overall picture of the potential benefits to the CAISO system of large pumped-storage projects.

Eagle Crest agrees and supports including additional projects in the Combined Study with the expectation it will increase the robustness of the study and provide a better analytical framework for policy-makers. Eagle Crest shares the CAISO's interest in ensuring a solid analytical framework by which to understand the benefits of large scale storage in meeting the state's renewable requirements and carbon objectives.

The Combined Study Should Build on the Prior Pumped Storage Studies by analyzing the benefits of a larger project

ECE believes that the CAISO should increase the size of the generic project in the system-level analysis to 1,300 MW (or add a 1,300 MW project analysis to the 500 MW analysis). Because both the project specific locational analysis and the system level analysis would both study 500 MW project sizes, the results would provide a comprehensive benefits picture for the smaller 500 MW projects, but it is not clear that the same will be true for the much larger Eagle Mountain Project unless the system-level benefits would be scalable (in which case the CAISO should state its belief that this is so).

There are other reasons for studying a larger project. Much of the system-level benefits work was already performed for *the Bulk Energy Storage Resources Study in the 2015-2016 Transmission Plan*, so another study of the same project size seems unlikely to yield additional insights. In addition, the prior 500MW pumped storage studies indicated that the benefits may be limited by the project size, and it would be helpful to see the additional benefits achievable with a larger project.

Conclusion

ECE supports the CAISO's current approach generally – broadening the Eagle Mountain Economic Planning Study to include additional projects, and performing both local and system-wide benefits assessments. Thus, the CAISO should modify its current study plan to analyze a 1,300 MW project in the system-level study, instead of or in addition to a 500 MW project. If the CAISO cannot complete a 1,300 MW Large Storage special study by February or March, ECE requests a CAISO commitment to supplement the study for a larger facility shortly thereafter.