

## DOCKETED

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**Pathfinder Comments on Scoping Order for the 2016 Integrated Energy Policy Report Update**

*Additional submitted attachment is included below.*

March 4, 2016

California Energy Commission  
1516 9<sup>th</sup> Street  
Sacramento, CA 95814-5512

Docket # 16-IEPR-01



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**RE: Pathfinder Comments on Scoping Order for the Draft 2016 Integrated Energy Policy Report Update**

Dear Commissioners:

Pathfinder CAES I LLC ("Pathfinder") appreciates the opportunity to submit comments in response to the California Energy Commission (CEC) request for comments on the proposed scope of the 2016 Integrated Energy Policy Report Update (2016 IEPR Update).

Pathfinder plans to construct, own, and operate a 300 MW compressed air energy storage (CAES) project located in Milford County, Utah. This project is the first of several phases ("Phase I") and is designed to support grid-level integration of California renewable energy generation. The Phase I CAES project will be constructed at the eastern terminus of the Southern Transmission System (STS) in Delta, Utah. Ultimately, the Pathfinder CAES development could serve as a partial replacement for the Intermountain Power Project (IPP), a 1,900 MW coal plant serving Utah and Southern California publically owned utilities (POUs).

One of four topics for the 2016 IEPR update is "Environmental Performance of the Electricity Generation System," which will review the effect of various GHG policies, including the RPS, the Emission Performance Standard, the phase-out of once-through-cooling facilities, and the increase in DERs on the state's generating system. The CEC also intends to examine emerging technologies which may present

environmental or permitting complexities that would benefit from consideration in this report, possibly including off-shore wind and large-scale storage.

Pathfinder supports the CEC's focus on this topic. In particular, Pathfinder sees an important role for the CEC in examining the effect of GHG policies on POUs who may not benefit from the state-wide policy guidance provided by the California Public Utilities Commission (CPUC) and California Independent System Operator (CAISO) through existing proceedings and policy processes (e.g., long-term procurement proceedings, transmission planning processes, and storage mandates). As the state agency with oversight over POUs in the state, Pathfinder urges the CEC to use the 2016 IEPR and subsequent IEPRs to provide policy guidance to publically-owned utilities as they transform their systems to comply with new GHG policies and adapt to increasing quantities of renewables.

In addition, Pathfinder urges the CEC to examine technologies which may present permitting and environmental challenges, including large-scale storage. Bulk storage can limit the need to curtail renewable generation during low demand periods by storing and time shifting energy to match needs during periods of higher demand. While bulk storage is just one of several renewable integration strategies, it provides important short-duration and long-duration services essential to ensuring a robust electric grid.

Pathfinder requests that the CEC include compressed air energy storage (CAES) in its analysis of large-scale storage. The CEC and other state agencies should be sure that future assessments of bulk storage are inclusive of more than one type of bulk storage technology. CAES may be the best option for providing necessary grid services to balance renewables at certain locations on the grid. The Pathfinder Phase I project, for example, would provide up to forty-eight hours of storage (14,400 MWh) and would be able to ramp to full load (300 MW) within five minutes to deliver that stored energy back to the grid. Moreover, the facility would be able to operate in both storage and minimal generation modes simultaneously, which delivers to the grid a maximum amount of ancillary capabilities (300 MW Reg Up and 300 MW Reg Down) per MW of power generation capability, especially when compared to conventional gas-fired power generation technologies commercially available today (combustion and combined cycle gas turbines). Lastly, the project supports grid inertia stability (frequency response) by providing transmission operators the benefit of four separate rotating generators (two electrical generators for the two compressors and two electrical generators for the expanders).

CAES is a suitable alternative to building new fossil-fuel generation (such as gas peakers) and can minimize the inefficient dispatch of existing thermal resources, thereby helping California manage excess generation and maintain system reliability through increased renewable penetration at reduced production costs and lower GHG emissions. Pathfinder is proposing to construct a 300 MW CAES project at the site of the retiring IPP coal plant. At IPP, the alternatives are CCGT or CAES or a combination of both. There are no hydro resources available to build a pumped hydro facility in Delta, UT. Further, electing to simply retire the IPP plant without replacement could mean stranding a very valuable asset:

the 2,400 MW HVDC STS line. A CAES plant at IPP creates an opportunity to utilize the STS to provide California and other western states access to high-quality renewables in the West.

Beyond permitting and environmental challenges, large-scale storage technologies also face significant procurement challenges, which the CEC should also examine as part of the 2016 IEPR update. Thus far, there has been no proceeding or procurement process which has served as a suitable venue for bulk storage procurement. Various parties identified barriers to utility procurement as part of the Joint CEC and CPUC Workshop on Bulk Energy Storage in November 2015. We hope the CEC will incorporate the issues raised in this workshop and will continue to explore solutions through the 2016 IEPR update.

Pathfinder sincerely appreciates the opportunity to comment on the Scoping Order for the 2016 IEPR update.

Sincerely,

Pathfinder CAES I LLC