



April 11, 2022

Public Utility Commission of Texas
via digital delivery

Re: Docket/Control #52487 – APPLICATION OF ENTERGY TEXAS, INC. TO AMEND ITS CERTIFICATE OF CONVEINCE AND NECESSITY TO CONSTRUCT ORANGE COUNTY ADVANCED POWER STATION

Dear Commissioners,

Thank you for the opportunity to provide input for the record on the construction of the Orange County Advanced Power Station. The Center for Climate and Energy Solutions (C2ES) is writing in support of the project.

To avoid the worst impacts of climate change, we must rapidly decarbonize economywide. Texas and the Gulf Coast region are no strangers to increasingly expensive, damaging, and devastating events, like Winter Storm Uri and Hurricane Harvey, which have become even more frequent and likely due to increasing concentrations of greenhouse gases in our atmosphere.

Fortunately, there are many available and affordable climate solutions in the power sector. Large point sources of carbon pollution (i.e., power plants) can be reimagined as much lower carbon alternatives. Out of the starting gate, the 1,215 MW Orange County Advanced Power Station would be far cleaner than the group of plants it is replacing. The new, highly efficient plant has a very low heat rate, which would reduce the emission rate by more than 40 percent per unit of electricity produced. Additionally, the facility would operate from day one utilizing a 30/70 hydrogen/natural gas blend by volume, which results in a further 10 percent reduction in carbon dioxide emissions. Eventually, with the cost of hydrogen expected to fall substantially by the early 2030s, the plant would likely be operating on 100 percent hydrogen – effectively becoming a non-emitting point source. There would still be some nitrogen oxide emissions, a criteria pollutant with human health impacts, but engineering solutions could likely mitigate those substantially.

Hydrogen is projected to become an important zero-emission energy carrier across many sectors in the coming years. While the production of hydrogen from natural gas (e.g., steam methane reforming) is currently carbon intensive, future production is expected to be far cleaner. So-called “blue” hydrogen plants like ExxonMobil’s Baytown facility will use carbon capture and storage (CCS) to dramatically reduce emissions. And “green” hydrogen, derived from the electrolysis of water and clean electricity (e.g., renewables and nuclear power), continues to achieve cost declines and will become much more available.

Facilities like the Orange County Advanced Power Station will help create a market and drive hydrogen growth in other industries and sectors (e.g., heavy-duty trucking, shipping, aviation), where it can help decarbonize energy generation, increase economic activity, and provide well-paying jobs for the state of Texas.

Finally, by providing firm, low-carbon power, available on-demand, around the clock, the plant will provide a valuable complement to increasing levels of renewable power generation in Texas – all from a reasonably small footprint.

While there are many possible technological combinations and approaches that could achieve decarbonization of the power sector, most studies suggest that the least costly and least technically challenging path to achieve the mid-century goal (i.e., net-zero carbon dioxide emissions economywide by 2050) involves a diverse mix of resources, including not just renewables such as wind and solar, but also firm, low-carbon generation that can be dispatched on demand and for long periods of time.

Firm, low-carbon generation includes hydropower with large reservoirs, nuclear power, geothermal, and fossil fuel plants that have either switched to decarbonized fuels (e.g., biomass, renewable natural gas, hydrogen) or deployed carbon capture, utilization, and storage (CCUS).

Notably also the plant's would-be operator, Entergy, has made a significant commitment to clean electricity generation, including achieving net-zero carbon emissions by 2050. As a long-serving member of our Business Environmental Leadership Council, Entergy has made consistent progress in its efforts to significantly reduce carbon pollution and prioritize climate resilience measures.

Having a diversified portfolio of clean electricity sources is critical to managing system risk and helps to increase grid reliability. Additionally, relying on a broad combination of sources lowers exposure to fuel price volatility and fuel availability risk. C2ES supports a full range of zero-emission electricity sources with the goal of rapidly accelerating greenhouse gas emission reductions. These options include expanding solar, onshore and offshore wind capacity; preserving existing nuclear power; encouraging the deployment of new technologies, such as long-duration storage or small modular reactors when they become commercially available; and minimizing emissions from natural gas plants through carbon capture and hydrogen blending. Furthermore, decarbonizing the power system has the potential to promote local jobs, mitigate environmental justice concerns (i.e., improving air quality by reducing nitrogen oxides), and diversify the state's electricity portfolio.

Thank you for your consideration of C2ES's comments on this matter.

Sincerely,

A handwritten signature in black ink that reads "Nat Keohane". The signature is fluid and cursive, with a long horizontal stroke at the end.

Nat Keohane
President
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