NCPA Awarded DEED Grant to Explore Feasibility of Securing Hydrogen Supply to Serve the Lodi Energy Center

ROSEVILLE, Calif. — December 2, 2020 — NCPA was awarded a $48,500 grant through the American Public Power Association’s (APPA) Demonstration of Energy and Efficiency Developments (DEED) program to study the feasibility of developing a renewable hydrogen production facility at a site near NCPA’s Lodi Energy Center (LEC) natural gas power plant. The grant provides 50% of the funding needed to complete the study, with the remaining 50% funded by the 13 LEC project participants.

Earlier this year, NCPA announced upgrades to equip the LEC generating facility with state-of-the-art technologies capable of integrating a gas blend of up to 45% hydrogen. This first-of-its-kind application would pave the way for significantly reducing the plant’s greenhouse gas (GHG) emissions and keep the project environmentally viable as the project participants look towards decarbonizing their energy supply.

The presence of a renewable hydrogen production facility near the LEC, located near two major transportation corridors (Interstate 5 and California Highway 99), could offer a dual benefit of providing hydrogen supply for the power plant’s operations as well as fuel for transportation sector needs. Pending the outcome of the study, NCPA may seek to partner with a third party(s) to construct and operate a hydrogen electrolyzer facility serving both energy and transportation needs.

“The flexible, baseload and peaking generation provided by the LEC will be critical for meeting electricity demand in California’s multi-year transition to a carbon-neutral economy,” said NCPA General Manager Randy S. Howard. “We see the potential for hydrogen use as a tremendous opportunity to align our operations with the climate goals being established by each of the project participants. Utilizing hydrogen with this important operating asset reduces additional environmental impacts of building replacement resources and provides value by offering project participants a cleaner and cost-effective option to diversify their utility resource portfolios.”

The DEED program funds research, pilot projects, and education that improve the services and operations of public power utilities like NCPA and its members. NCPA’s feasibility study will analyze several areas related to the potential development of a hydrogen production facility near the LEC, including analysis of safety considerations, community impacts, permitting needs, hydrogen storage capabilities, and available grants/subsidies for developing the hydrogen production facility. The study results will be shared with APPA and its members, as well as
others throughout the industry and academia, to advance technical and policy discussions on the role hydrogen can play in decarbonizing the electricity sector. The study will be completed by the end of the year.

NCPA’s work to prepare the LEC for hydrogen integration consists of two phases. The first phase was completed this past summer with the installation of a hydrogen-capable turbine at the facility. The second phase, which is expected to be complete by 2023, will include the installation of new, hydrogen-capable combustors within the turbine.

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About NCPA: Headquartered in Roseville, California, NCPA is a nonprofit California joint powers agency established in 1968 to construct and operate renewable and low-emitting generating facilities and assist in meeting the wholesale energy needs of its 16 members: the Cities of Alameda, Biggs, Gridley, Healdsburg, Lodi, Lompoc, Palo Alto, Redding, Roseville, Santa Clara, Shasta Lake, and Ukiah, Plumas-Sierra Rural Electric Cooperative, Port of Oakland, San Francisco Bay Area Rapid Transit (BART), and Truckee Donner Public Utility District—collectively serving nearly 700,000 electric consumers in Central and Northern California. NCPA was founded on the principle of environmental stewardship and is a recognized national leader in the areas of energy efficiency, renewable generation, and carbon reduction.

About the LEC: Operating since 2012, the LEC is a 306-megawatt combined-cycle natural gas power plant located in Lodi, California. The plant was the first in the nation to utilize “fast-start” gas-turbine technology to substantially reduce emissions and provide needed support for the integration of the growing California renewable energy market. The plant provides power to 13 public entities, including nine NCPA members, as well as the State of California.

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