



County of Los Alamos

Los Alamos, NM 87544
www.losalamosnm.us

Council Meeting Staff Report

January 26, 2023

Agenda No.:

Indexes (Council Goals): * 2022 Council Goal - Protecting our Environment and Improving our Open Spaces, Recreational, and Cultural Amenities, DPU FY26 - 1.0 Provide Safe and Reliable Utility Services, DPU FY26 - 5.0 Continuously, Conscientiously, Work Toward Environmental Sustainability

Presenters: Philo Shelton; Jordan Garcia; Ben Olbrich

Legislative File: 16272-23-b

Title

Future Energy Generation for Los Alamos

Body

The Board of Public Utilities (BPU) is hosting a Town Hall meeting to discuss electric generation resources for the future. Department of Public Utilities (DPU) will present information to support a community discussion about the County's goals and requirements for meeting future electrical loads.

Why is this important?

The San Juan Generating Station closed down in September 2022. Before this coal plant near Farmington closed down, DPU had 4% ownership and 36 MW of dedicated power from it. For now, that power is being replaced through other contracts/agreements. DPU has a current contract for 25 MW with a mix of coal, wind and solar for a couple of years. There may be carbon free resources out there that would better fit our energy portfolio more appropriately in the future than power purchased on the open market. DPU is focused on 2025 and beyond for these replacement resources.

DPU has a goal to reach carbon-neutrality by 2040. That's only 17 years away! If we are going to achieve this goal, we need to start now. Currently, carbon neutral power resources being explored are hydro, wind, solar, geothermal, and nuclear.

BPU has some big decisions to make regarding the Carbon Free Power Project (CFPP), a proposed nuclear electric generation facility to be constructed at Idaho National Laboratory that will utilize Small Modular Reactor (SMR) technology developed by NuScale Power. While Los Alamos County has a commitment to the project with avenues to exit it without penalty, it is a very big decision and we want public input on it.

At the end of 2022, NuScale and Fluor delivered the class 3 project cost estimate on the CFPP to UAMPS. NuScale also delivered the Standard Design Application (SDA) for the 6-module plant configuration with a total capacity of 462MW. These are very significant milestones which have led to the completion of the following activities:

1. Evaluating the cost estimate by UAMPS and it's owner's engineers
2. Updating the CFPP financial model with the cost estimate data
3. Running the Economic Competitive Test (ECT)
4. Amending the Development Cost Reimbursement Agreement (DCRA)
5. Revising the Budget and Plan of Finance (BPF)

This revised BPF provides another contractual off-ramp for Los Alamos County to decide in February 2023 whether to continue participating in the CFPP. The next contractual off-ramp will be during the Combined Operating and Licensing Application (COLA) submittal decision, scheduled for January 2024. The new price target is \$89/MWhr in 2022 dollars and there is a subscription guarantee of 80% in order for the project to advance forward contractually.

Background Information about the CFPP:

The CFPP design configuration that will be part of the Phase I Combined Operating and Licensing Application (COLA) submittal is the 6-module plant with a total capacity of 462MW. When the Board of Public Utilities and County Council voted in July 2021 to continue participating in the CFPP, the plant had a target levelized cost of electricity of \$58/MWh in 2020 dollars. It was hoped that the 462MW plant configuration would allow for the project to get fully subscribed sooner and reduce UAMPS' subscription risk. The next contractual off-ramp for the participants was planned at the Class 3 Project Cost Estimate, at the time planned to occur in September 2022, now planned for February 2023.

In July 2021 DPU recommended to Board and Council that we continue to participate in the CFPP at the same level of investment approved the previous year by Board and Council at \$1.26 Million for the Phase I COLA submittal. Given LAC's current level of investment, LAC's share of the CFPP is 1.8 MW, subject to change as total subscription changes.

LAC initially requested 8 MW's in the CFPP when this project began based on our current asset mix, forecasted load and the goal to be carbon neutral electrical energy provider by 2040. This level of subscription was studied in the 2017 Integrated Resource Plan at \$65/MWh that resulted in a 3% higher cost over the 20-year planning period. At \$58/MWh, the 2021 IRP update also determined that the CFPP is a feasible option when compared to alternatives.

In 2021, DPU staff expected that severe drought conditions affecting hydroelectric facilities across the west would continue, threats of wildfire and extreme weather patterns would increase, and constraints on the electric grid would increase as traditional dispatchable base load resources were replaced with renewable "intermittent" resources, causing extreme volatility in the electric markets and higher prices. We had already experienced an August 2020 heat wave which caused market prices to reach \$1,650 per megawatt hour costing the power pool approximately \$1.4 million dollars over a 10-day period. At the time historical average market prices were \$45/ MWh. In June of 2021 another heat wave had market prices at \$1,750 per MWh costing the power pool an additional \$800k over a 1-day period. Staff's expectation of continued high prices were correct. In the summer of 2022 market power purchases were in the range of \$450/MWh for several weeks. Given the continued retirement of coal-fired power plants, including the County's largest single generation resource, the San Juan Generating Station, and ongoing disruptions to the PV panel supply, DPU staff do not anticipate seeing any relief from high prices in the coming year.

DPU is committed to considering all viable resources that are able to supply Los Alamos County with a carbon neutral, reliable and diversified generation portfolio. While the projected CFPP cost increases with material and interest rate hikes, so have the cost of other new generation resources.

Alternatives

Other the next month, the County has three options to consider; choose to increase subscription, maintain current subscription, to reduce subscription, or exit the project and pursue other carbon free dispatchable resources.

Fiscal and Staff Impact

Informational only at this time. Fiscal impact can be calculated based on desired level of participation at the \$89/MWHR in 2022 dollars. For Federal Fiscal Year 2023, there was \$165 million appropriated for the DOE match funding at 79% of project costs and this level of funding will fund the project to the COLA submittal milestone.

There is no staff impact since resource planning is part of our regular duties.

Attachments

A - Special Town Hall Presentation