

Council Meeting Staff Report

July 28, 2020

Agenda No.:	A.
Indexes (Council Goals):	* 2020 Council Goal - Investing in Infrastructure
Presenters:	Steve Cummins
Legislative File:	13182-20

Title

Joint Meeting Between Council and the Board of Public Utilities - Utah Associated Municipal Power Systems (UAMPS) Presentation on the Carbon Free Power Project

Recommended Action

No Action, Presentation Only

Body

At the recommendation of a citizen ad hoc committee and the direction of the BPU, the Department of Public Utilities (DPU) was tasked to continue participating in the Carbon Free Power Project (CFPP) as an option for meeting a portion of the County's power demands. The CFPP is being considered as a potential resource for replacing the County's coal generation assets and to meet a Board-approved goal for the DPU to be a carbon-neutral electrical energy provider by 2040.

Through DPU's membership with the Utah Associated Municipal Power Systems (UAMPS), staff has been participating in the development of the CFPP, which is a projected 720MW nuclear generating station to be built at the Idaho National Laboratory site using small modular reactor (SMR) technology. As it is being designed, the facility would house up to twelve SMRs developed by NuScale Power, currently rated at sixty megawatts of electric power for a total plant capacity of 720MW. The County's share would be 11.186 MW.

Prior to signing the Power Sales Contract in April 2018, the following had been accomplished:

- The County participated in the CFPP Project Study Phase and Siting Agreement (also referred to as the fatal flaw analysis). Findings - No fatal flaws were discovered in this phase, clearing the path for continued development.
- DPU surveyed customers on Los Alamos County pursuing nuclear generation. Findings - 73% of residential and 60% of commercial customers agree or strongly agree that Los Alamos should pursue nuclear generation.
- DPU hired a third-party independent contractor to develop an Integrated Resource Plan (IRP) that evaluated all of the options to serve the County's Electric Demand on a Levelized Cost of Energy (LCOE) basis, while meeting our carbon neutral goal. Findings - solar with storage was determined to have the lowest LCOE among the options considered. The CFPP came in second at approximately 3.5% higher cost based on the \$65/MWh cap. (The CFPP target price is now \$55/MWh)
- Several public meetings specific to the technology, project commitments, and IRP findings were held.

On April 10, 2018 the Board of Public Utilities and the County Council approved a resolution authorizing and approving the Power Sales Contract with an Amended and Restated Initial Budget and Plan of Finance for the first phase of the Carbon Free Power Project. The Budget and Plan of

Finance has broken the project into phases allowing the project participants an option to exit the project at the end of each phase if they determine the project is no longer the preferred option.

This first phase is the development of the Combined Operating License Application (COLA) to be submitted to the Nuclear Regulatory Commission (NRC) for review and approval in the second phase of the project.

Since April 2018, UAMPS Project Management Committee (PMC) purposefully minimized the activities in the development of the COLA to allow more time to market the unsubscribed capacity of the project and to negotiate with the DOE and NuScale for additional cost sharing through the COLA development and NRC review minimizing the exposure to the participants.

On July 17, 2019 the BPU approved the JUMP resolution resulting in Los Alamos County acquiring an additional 3.186 MW above the base subscription of 8 MW.

This JUMP Allocation Resolution is for Los Alamos County to express their interest in their entitlement share of capacity and energy from the Joint Use Module Plant (JUMP) program after DOE has completed their research and development using the power output of the JUMP.

UAMPS and DOE expected to have the terms and conditions of the JUMP Power Sales Layoff agreement completed by October 2019 however DOE funding has been delayed by Congress. At this time the members interested in the JUMP program will have the option to rescind its election to increase their entitlement share in the CFPP.

Due to the federal budget continuing resolution, DOE choose not to complete the JUMP Power Sales Layoff agreement until the money for the JUMP project has been appropriated by Congress.

After further evaluation by the DOE, and the federal appropriations committee, DOE was no longer interested in the JUMP program and wanted to pursue a new DOE Multi-Year Award in the nominal amount of \$1.4 billion representing approximately 23% of the estimated Development and Construction Cost of the CFPP, spread over a period of nine years, concluding with the commercial operation of the CFPP.

UAMPS Project Management Committee wanted to preserve the benefits of the JUMP program for the participants who increased their subscription in the project. The first \$360 million of the Multi-Year cost share will be applied to the participants who participated in the JUMP Program resulting in a \$39/MWh for the JUMP subscription. The County's portion of the JUMP is 3.186 MW of capacity. The balance of the \$1.4 Billion Multi-Year award of \$1.04 Billion will be to hit the \$55/MWh target for the base subscription. The County's base subscription is 8MW of capacity.

The inherent risk of any long term resource is predicting industry trends, market conditions, technological breakthroughs, and changing regulations that will have an impact on these long term commitments. It is for this reason the PMC has proceeded with caution while DOE, NuScale and the NRC continue to mitigate the risks through cost sharing, industry partnerships and design reviews. If the County continues its participation through the completion of the COLA an update Integrated Resource Plan will be completed prior to submitting the COLA to the NRC in 2023. An updated IRP will use the most current information at that time regarding power markets and other resource options to see if the CFPP remains competitive.

The project is in alignment with the adopted Future Energy Resource recommendations and Los Alamos County Strategic Leadership Plan, specifically Environmental Stewardship by improving environmental quality and sustainability balancing costs and benefits.

This project also supports the County's Intergovernmental Relations through coordination and cooperation with Los Alamos National Laboratory. The DOE Nuclear Energy office has made NuScale's SMR design their highest priority. They continue to work with DOE NNSA on contracting options with the CFPP.

DPU is assuming that the County and LANL will continue partnering with generation assets post 2025 through a new Electric Coordination Agreement. Keeping this project as an option will support the large load increases LANL is forecasting. If the County and DOE-LANL decide not to partner with generation assets, our current 11.186 MW subscription in the project could replace our Laramie River Station coal fired plant.

Based on what we know today regarding generation resource adequacy in the western interconnect, LAC needs to have 100% of its load covered with owned generation assets or long term power purchase agreements in addition to being carbon free to meet our 2040 carbon neutral goal.

The County's 2017 Integrated Resource Plan (IRP) made the following recommendations:

1. The County needs not to be in any rush to commit to new resources until several uncertainties regarding Small Modular Nuclear Reactors (SMNRs), solar and storage are resolved.
2. A portfolio with SMNRs could be competitive, if risk mitigation measures to protect ratepayers from cost overruns and schedule delays are in place.

Hence, the optimal approach is to preserve optionality by continuing to pursue SMNR risk mitigation measures and preserve the ability to take advantage of declining solar and storage costs. The 2017 IRP assumed a \$65 per megawatt hour (MWh) for the CFPP and for the solar with storage option. Currently the CFPP has a price target of \$55/MWh to match the next best alternative which is a combined cycle gas plant.

In Summary, the CFPP continues to be a viable option for the County to meet their power demands with a carbon free resource that is available 90% of the year. This resource has the ability to follow the intermittency of wind and solar as we add more to our resource mix. Our governing bodies insisted that DOE increase their cost share in a first-of-a-kind SMNR and they responded with the Multi-Year Award of \$1.4 billion. This cost share set a new target price of \$55/MWh down from the \$65/MWh used in the 2017 Integrated Resource Plan.

For more background information on the project please refer to the DPU's website:

[<https://rebrand.ly/DPU-CFPP>](https://rebrand.ly/DPU-CFPP)

Alternatives

Exit the project at this time and pursue other carbon free base load resources

Fiscal and Staff Impact

If LAC were to exit the project at the end of the current phase, the total investment pursuing the CFPP as an option is approximately \$260k of which DOE LANL share was approximately \$103k and LAC \$157k. If the County commits to the next phase of the project for the completion of the COLA application, the additional investment is approximately \$1,046,849.00 over the next three years. There is no additional staff impact since resource planning is part of the job.

Attachments

A - CFPP July 28, 2020 Update Presentation

B - Carbon Free Power Project Development Status And Overview July 15, 2020

C - Amended Budget & Plan of Finance July 14, 2020