

Summary of major concerns raised at the January 25, 2018 meeting and the Open Forum.

The following six items were the primary concerns raised:

1. **Why Nuclear – First;** Customer Survey showed that 73% of residents and 60% of commercial customers “Strongly Agree” or “Agree” with that LACDPU should pursue nuclear power. Southwest Planning & Marketing utilized phone surveys, text surveys, email surveys and in-person intercept surveys to garner adequate sample sizes that were representative of the population. Four hundred twenty-one (421) residential surveys were completed utilizing email, phone and text and seventy-eight (78) commercial surveys were completed utilizing phone, email and intercept surveys. SWPM reviewed Census data to assure that the residential responses were representative of the Los Alamos County population. SWPM was able to get a response that was representative of the population without having to weight the data. The margin of error at a 95% confidence interval is +/-4.65 percent.
Second; The Future Energy Resources Committee recommended that DPU “Continue to explore participation in the UAMPS nuclear power project as a replacement source of base power, carefully considering plant safety, realistic life-cycle costs, and potential for a cooperative power-sharing arrangement with DOE/LANL after 2025.”
Third; DPU completed an Integrated Resource Plan (IRP) in August of 2017 which showed the CFPP as the second-best alternative to meet our Carbon Neutral Goal by 2040 at 3.5% higher cost assuming a cost of \$65/MWh.
2. **Why the CFPP?** - UAMPS on behalf of its members, was looking at how to de-risk UAMPS’ exposure to carbon regulation using a three-pronged approach, first; Investigation of Nuclear Small Modular Reactors, second; Energy Efficiency, and third; Distributed Generation (Rooftop Solar). Through Los Alamos membership in UAMPS, we saw this as an option to meet our Carbon Neutral Goal by 2040. With the Department of Energy Nuclear Energy office making this their highest priority and with the cost sharing arrangements, DPU believes this project has the potential to be successful ultimately with an Nth-of-Kind price of \$65/MWh.

Who are the partners in the project outside of the UAMPS members?

The Department of Energy is a key partner in the developing the project. DOE is currently paying for 50% of the cost to develop the NRC license application for the project. In addition, the DOE is investigating leasing the first two modules out of the facility for research and development purposes. UAMPS and the DOE are also investigating other funding pathways to reduce UAMPS’ participant cost exposure to further developing the resource. UAMPS is also working with Energy Northwest, a public power entity that operates the Columbia Generating Station—an 1100 MW nuclear generating station located in Washington that has been in operation since 1984—to be the operating agent for the CFPP. UAMPS is also working with the Tennessee Valley Authority, which is also pursuing a small modular reactor project, to assist UAMPS’ development of the CFPP.

3. Cost exposure – After reviewing the January 25th meeting, the cost exposure to the County was one of the primary concerns. UAMPS staff has been very responsive to Los Alamos towards addressing this concern. Since the January meeting staff worked closely with the other project participants on a strategy to minimize the cost exposure to each participant in this next phase until more of the project capacity is subscribed and/or additional funding by DOE is secured. The Budget and Plan of Finance was amended to extend the fully-refundable (\$6,000,000), period to March 31, 2019 with an off-ramp. Staff believes this is a huge step towards resolving this concern in the interim period. Staff will provide an update at the March 6th meeting.
4. Risks – Cost and technical, as with any project there is the risk of schedule delays driving up the final cost. With Nuclear power plants this risk is even greater because of the long development period and the oversight by the Nuclear Regulatory Commission (NRC).

A primary concern is how will the CFPP not suffer the same cost overruns as experienced by the two AP1000 nuclear reactor projects in Georgia and South Carolina?

UAMPS is taking a phased development approach to developing the project that address cost overrun risk in two ways. First, the two AP1000 reactor projects were developed in a parallel fashion, where the utilities shouldered NRC licensing risk by making contractual and financial commitments to build these projects prior to the resolution of major design and licensing issues. UAMPS' decision on whether to submit its NRC license application will be made after the NRC has spent over three years evaluating NuScale's design application, which will allow UAMPS to assess any licensing issues that may have arisen prior to submitting its license application to the NRC. Second, UAMPS is requiring contractual cost certainty from Fluor and NuScale before UAMPS makes its decision to submit its NRC license application. To meet this demand, Fluor and NuScale will need to complete significantly more engineering work than what was completed for the two AP1000 projects.

The projected cost of the resource is \$45-65/MWh in current dollars. UAMPS and NuScale have agreed to a price ceiling of \$65/MWh. The cost of resource will be continually evaluated as development proceeds to evaluate this resource option against other alternatives.

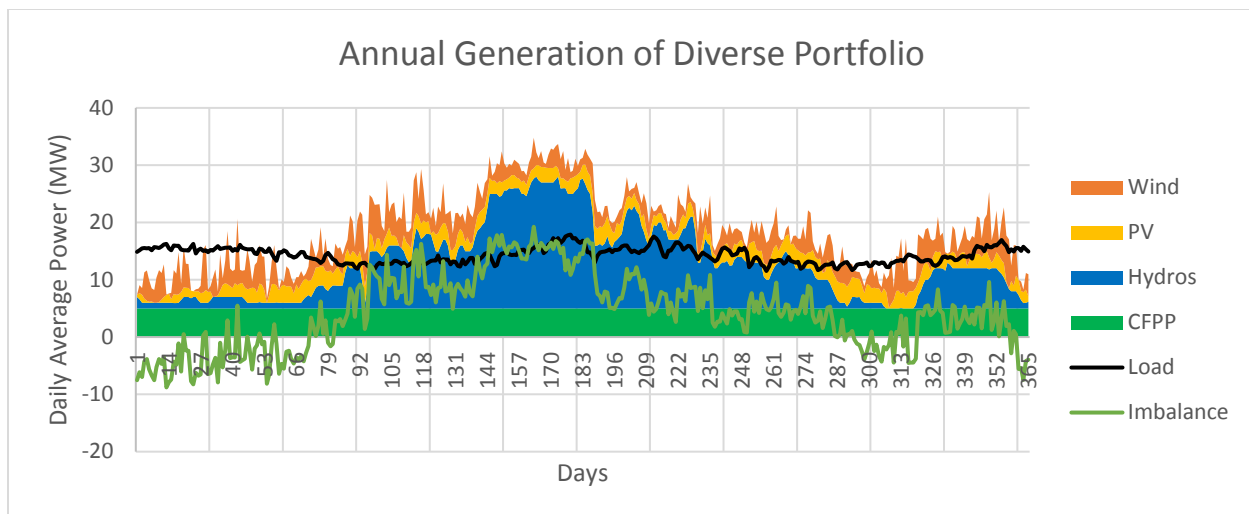
5. Los Alamos County's commitment by signing the Power Sales Contracts. The decision to proceed with signing the Power Sales Contracts for the CFPP is not a decision to construct the CFPP utilizing NuScale's small modular reactor technology; rather, the decision to sign the Power Sales Contracts gives the member the ability to preserve the option to participate in this project if further development demonstrates the prudence of doing so. In the immediate development term, the first \$6 million of additional development costs will be subject to 100% reimbursement. These moneys will be spent only on additional development work on the project, and this work will help us evaluate

whether further development of the project is in the best interest of UAMPS' participating members. UAMPS plans to continue to have development costs subject to 100% reimbursement up until UAMPS decides to submit its Nuclear Regulatory Commission license application in the summer of 2020. The decision to submit its NRC license application will be dependent upon the level of contractual cost certainty NuScale and Fluor are able to provide. If the level of contractual cost certainty is not sufficient in the eyes of a UAMPS member participating in the project, then that member will have the option to discontinue its participation in the project, with no obligation for further development costs, at the time that the NRC license application is submitted. The Power Sales Contracts provide contractual caps to a Participant's cost exposure during this development period.

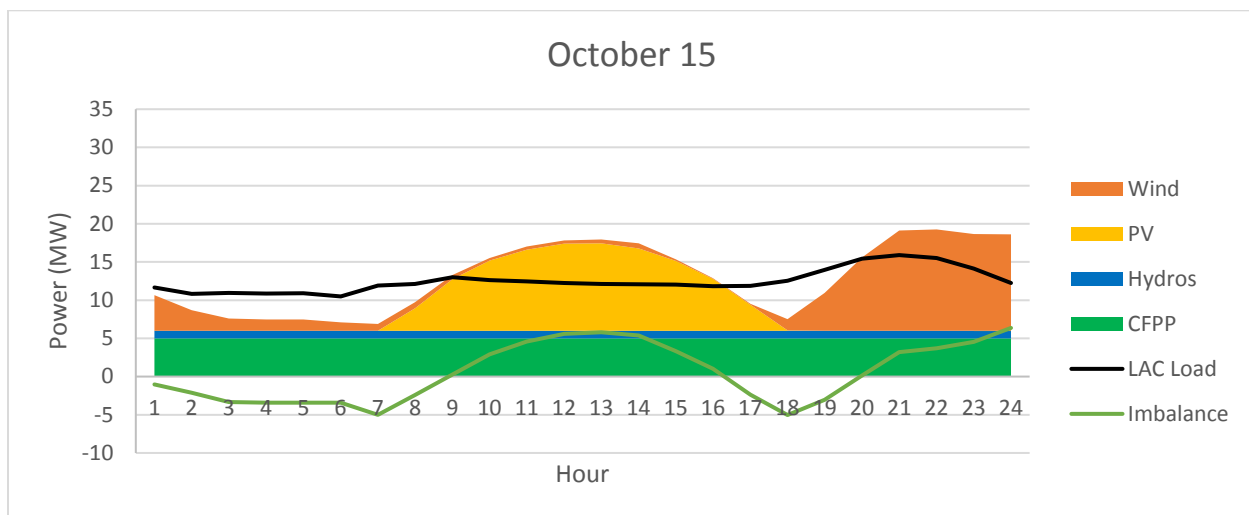
6. Why not renewables here in New Mexico (Wind and Solar) or Natural Gas generation?

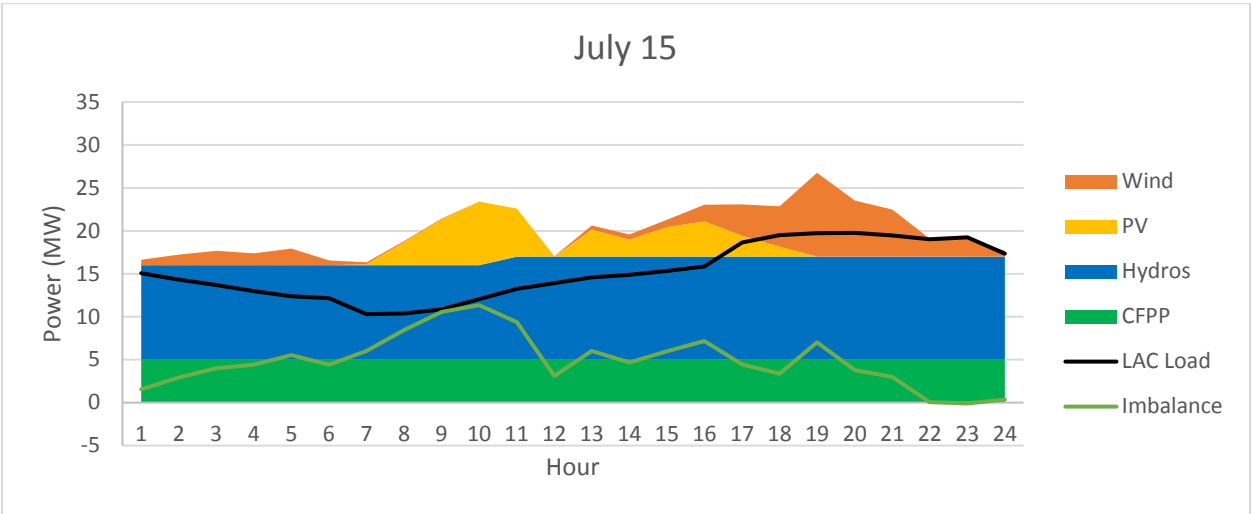
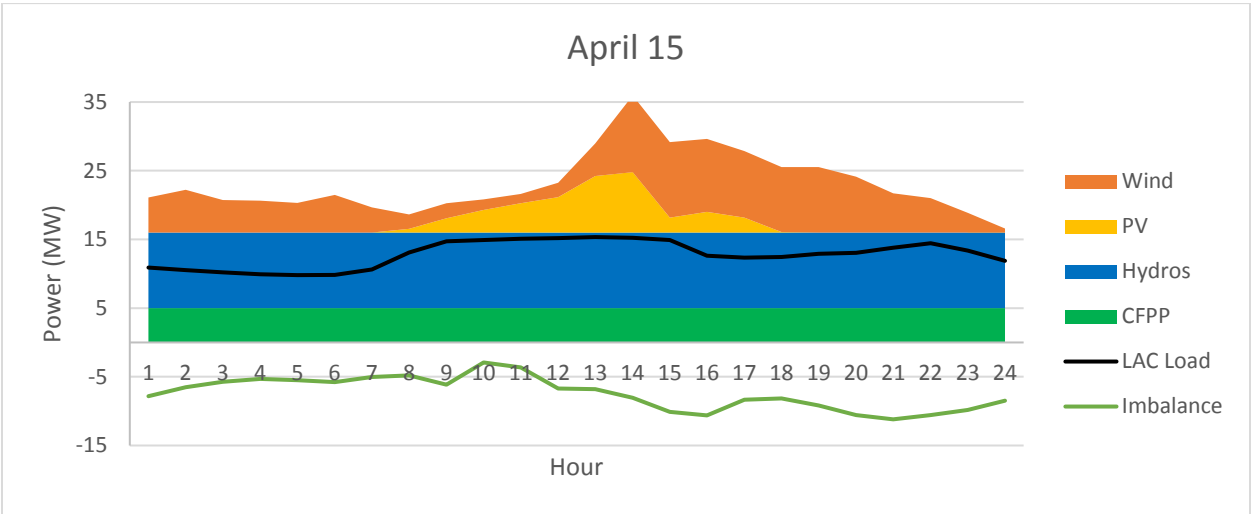
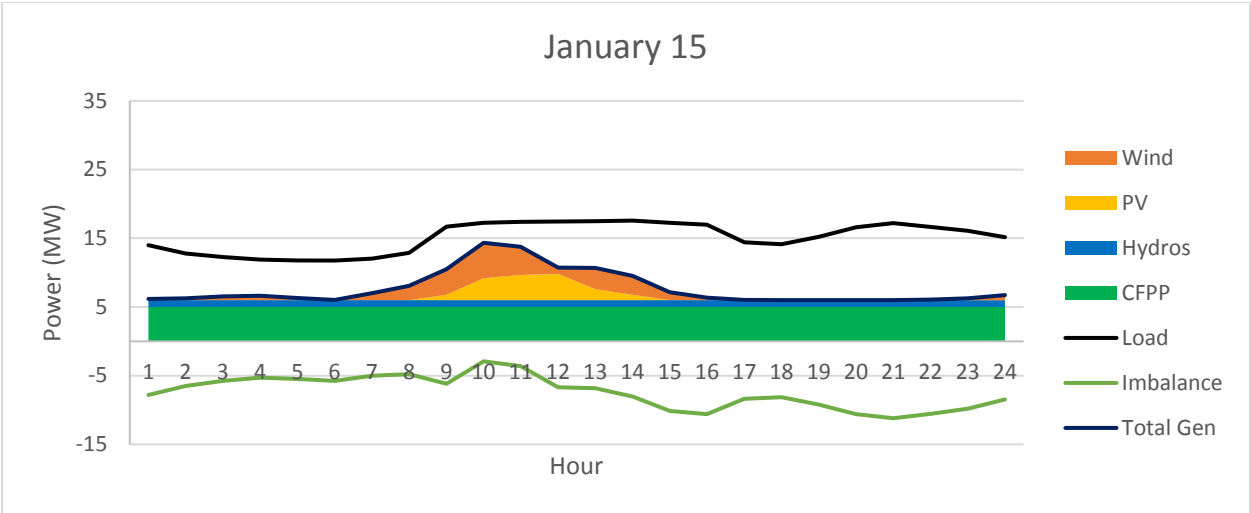
The 2017 Integrated Resource Plan considers renewable energy generation resources. Renewables currently make-up part of our resource portfolio and DPU is planning for them to make-up a greater percentage in the future. The CFPP is being considered as an option to provide 24/7/365 base load power which is carbon free generation to compliment the overall portfolio. (Refer to 2017 Integrated Resource Plan which considers these generation assets as a diverse portfolio to meet our Carbon Neutral goal.)

The graphs below represent a diverse generation portfolio using Nuclear, Hydroelectric, Solar PV and Wind to meet Los Alamos County's annual power demands while meeting their carbon neutral goal. The demand profile is for 2017 and does not consider the expected increase in demand as more electric vehicles penetrate the market. The Nuclear generation resource is baseload power with a 95% capacity factor. The hydroelectric generation at Abiquiu and El Vado is run of the river so you can see the seasonal changes in the generation. Hydro power is seasonal, but dispatchable as the Power Operation Center gets at least a two-hour notice when flows are changing. This allows the dispatchers to purchase market power to maintain the schedule, matching resources to demand each hour of the year. Wind and Solar without storage are considered intermittent resources. As a result, power dispatchers are unable to match generation resources to demand in real time.



The next four graphs show what this same diverse profile looks like in the months of October, January, April, and July.





7. Why a First-of-A-Kind with so many risks?

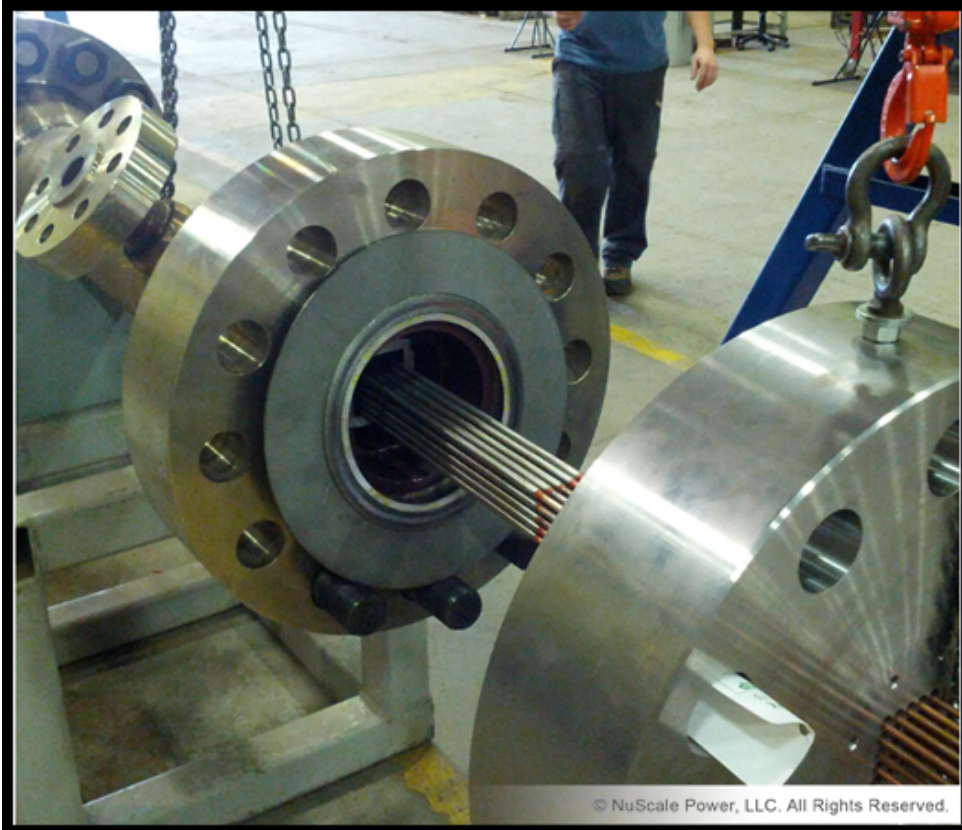
NuScale is developing a unique SMR design that incorporates numerous first-of-a-kind (FOAK) components and systems which require comprehensive testing. NuScale has a documented test program. NuScale has developed a process for identifying required tests using a structured process based on identified risk areas, assessment of technology readiness, and risk-informed analysis of physical phenomena that influence plant performance. Testing requirements are identified and detailed in a comprehensive reactor qualification test plan, which documents all testing and environmental qualification activities required as part of the design, certification, manufacture and commercial deployment of the NuScale SMR.

- 1:3 scale electrically heated prototype test facility
- Critical Heat Flux testing
- Helical Coil Steam Generator testing
- Fuels testing at AREVA's
- Critical Heat Flux testing
- Control Rod Assembly drop/shaft alignment testing
- Steam Generator Flow Induced Vibration (FIV) testing
- Control Rod Assembly Guide Tube (CRAGT) FIV

The Nuclear Regulatory Commission has concluded that NuScale Power's unique safety design approach eliminates the need for class 1E power for its small modular reactor



a. NuScale Integral System Test (NIST-1) facility located at Oregon State University in Corvallis, Oregon



b. Critical Heat Flux testing at Stern Laboratories in Hamilton, Ontario Canada



c. Helical Coil Steam Generator testing at SIET SpA in Piacenza, Italy

