

**MURRAY MUNICIPAL COUNCIL
COMMITTEE OF THE WHOLE**

Meeting Minutes

Tuesday, August 1 2023

Murray City Hall, 10 East 4800 South, Poplar Conference Room, Murray, Utah 84107

Attendance:

Council Members and others:

Garry Hrechkosy – Chair	District #5
Vacant	District #1
Pam Cotter	District #2
Rosalba Dominguez	District #3
Diane Turner	District #4

Brett Hales	Mayor	Jennifer Kennedy	City Council Executive Director
Doug Hill	Chief Administrative Officer	Pattie Johnson	Council Administration
Tammy Kikuchi	Chief Communications Officer	Jackie Coombs	UAMPS
G.L. Critchfield	City Attorney	Brooke Smith	City Recorder
Joey Mittelman	Fire Chief	Elvon Farrell	CED
Citizens			

Conducting: Council Member Hrechkosy called the meeting to order at 5:30 pm.

Approval of Minutes: Committee of the Whole, June 6, 2023 and Committee of the Whole, July 11, 2023.

Council Member Cotter moved to approve, and Council Member Turner seconded the motion.

All in favor 4-0.

Discussion Items:

- UAMPS (Utah Associated Municipal Power Systems) presentation on the current status of SMR (Small Modular Reactors).

Ms. Coombs began the presentation to review current resource planning that UAMPS is doing for all its members. She said as they move forward with the CFPP (Carbon Free Power Project), UAMPS had been doing a lot of other resource development as well to address escalating electricity rates. Project development is very complex, but UAMPS would be developing new energy resources for the next 15 years. Project development takes up to five years and does not include a completely separate challenge of transmission, which is to interconnect energy to where it is needed. The following resources are being investigated and also continue to increase in cost.

- Red Mesa Tapaha Solar – The 66 MW (megawatt) resource was delayed six months due to supply chain issues and increased in cost, but it was completed in November of 2022.
- Steel Solar – Two steel solar projects providing 40 MW each, have been delayed six months due to supply chain issues because solar panels are manufactured in China. Shipping issues have also delayed the project. The hope is to schedule both projects by the end of 2023.
- Zion Battery Solar and Storage – A 100 MW resource is in the study phase because the battery component for effectively storing solar energy is still under research. The hope is to eventually store solar energy and use it when needed.
- Geothermal Energy – The 85 MW resource is in the study phase with immediate plans to hire a developer to move the project forward. Ms. Coombs said Geothermal is being considered because it is a reliable resource that can operate 24 hours per day, long-term. With the Hunter coal plant closing in 2027 instead of 2032, UAMPS members will definitely need a more reliable

resource sooner.

- Horse Butte Wind project – The wind resource is in the study phase. It was expanded to provide 112 MW instead of the original plan of 57 MW.
- Natural Gas Plants – Because natural gas easily follows energy loads and can be utilized quickly, they hope to add additional natural gas plants. Although natural gas still leaves a carbon footprint it would have to be advertised over 10 years because of new federal regulations associated with fossil fuel.
- Sunnyside Waste Heat Coal – The existing coal plant facility is in the study phase, located near Price, Utah, which could be a seven-year short-term contract resource.

UAMPS CFPP Senior Vice President of Business Development Rich Walje gave the presentation. He said providing consistent energy is a nationwide challenge because people in the industry know that intermittent and unpredictable energy is not reliable, and there are not enough batteries to store wind or solar energy for future use. The CFPP is set up as an independent LLC business, wholly owned by UAMPS, sited at the Idaho National Laboratory in Idaho Falls and would deliver 462 MW of carbon free power, with six module reactors. All current participants are UAMPS members, but the hope is to find other participants other than UAMPS members.

He said 20% of the nation's power now comes from nuclear power plants, discussed characteristics of the project, and reported that design plans were recently submitted for approval. With congress approval, UAMPS will receive \$1.4 billion over the next three years for cost share support that will help with the permitting process of the project. So far, UAMPS spent approximately \$400 million and another \$1 billion was recently allocated and authorized. The project is scheduled to come on line in December of 2029 when the first module is ready; the remaining five modules will sequentially be completed by the end of 2030.

He displayed a photo of the 90-foot NuScale power module, explained its core technology, and reviewed the operation of a module including the safe shutdown process. No additional water would be needed for the shutdown process because modules are underwater in cooling pools and would continue to cool once a shutdown occurs.

Ms. Turner asked how much water the project required if modules are already emersed in water. Mr. Walje said to complete the project, tens of thousands of gallons of water from a nearby reservoir would be required initially, but no additional water is required for the cooling process. The original plan was for a water-cooling process that changed to a dry cooling option due to scarcity of water and drought conditions in the area. Ms. Coombs said water towers were not included at the site because the dry cooling method would save 95% of the water usage. The dry cooling process was chosen because it was best for the environment and the cost of water outweighed the cost of acquiring the water rights.

Conceptual drawings were displayed to describe plant design on 65 acres and the site layout for administrative buildings, a reactor building, turbine building, storage of spent fuel, air cooled condensers, the six power modules, and the switchyard. The entire project would be surrounded by a fenced EPZ (emergency planning zone). Mr. Walje explained the process for storing fuel and disposing of spent fuel and noted that the DOE (Department of Energy) has the responsibility for the final disposal of spent fuel under the Nuclear Waste Policy Act.

Licensing delays occurred due to the number of permits required by the NRC (Nuclear Regulatory Commission) to ensure that the plant runs safely, securely and in a way that is not harmful to the environment. He explained that because NuScale started with early outreach to NRC regulators and had years of communication, in 2022 the CFPP was the first in the nation to get NRC approval for the EPZ and to apply for standard design approval.

The NRC licensing process would continue through various stages until 2026 when a combined operating license is anticipated, followed by three years construction to install the first module in 2029. Mr. Walje said with cost share funding from the DOE, the manufacturing process started in South Korea, which is the only foundry left in the world where steel is poured to form a nuclear reactor vessel.

The biggest challenge of the project is paying for it. The CFPP would be the most expensive project besides purchasing power from the market and will end up being more expensive than nearly every other option. Eventually over 40 years, after committing to the project the resource will be there for future decades and predictably reliable for a long period of time.

He reviewed the 2022 revised budget plan to show that the cost has gone up considerably due to supply chain issues, inflation and borrowing costs. Murray would need to decide whether or not to participate in the \$9.3 billion project, which after federal government cost share contributions and incentives of the Inflation Reduction Act, would be reduced to approximately \$5.126 billion.

He noted that the cost did include the cost to connect the plant to the transmission grid. It does not include any additional costs associated with boosting the capabilities of the grid to take on 462 MW of energy. Utah would connect to Pacific Corp system at the Antelope Substation and because of a negotiations contract, UAMPS members would not pay for incremental costs associated with taking energy from resources connected to Pacific Corp.

Ms. Turner asked if Pacific Corp would help fund the project. Mr. Walje said they have committed to using a competitor called Natrium Technology that is being developed simultaneously in Oregon. He said many economic and electric constraints prevent UAMPS from developing more energy resources like hydro plants and stacking batteries to store energy, because neither is sufficient, and this is why he believes the CFPP is the better solution.

Mr. Walje reviewed timing considerations and noted that an 80% subscription is required by the end of 2023. Any contracts must take financial responsibility for development, construction, operational and decommissions costs. Money from private equity or investment dollars from others sources is also a prospective option, however UAMPS needs to get enough municipal participation before they can ensure investors that the project is strong, low risk and a reality. This is why it will be a challenge to get new contracts in place, and purchase agreements filled where there are specific conditions to participate in the CFPP. The levelized cost of electricity model shows that the CFPP resource would cost \$89 MW as related to 2022 pricing.

Ms. Dominguez asked how many UAMPS members are currently participating. Ms. Coombs said 27 out of 50 members are signed on. Mr. Walje said it was the responsibility of the Murray City Council to decide whether the City would obligate Murray constituents to the CFPP, but the decision would need to be made either way. He said in order to get 80% of subscribers by the end of this year, they

were talking with Deseret Power, Utah Municipal Power Agency, and other investor-owned utilities in Utah except for Pacific Corp. He believed the potential to gain members is there, but the process would be tough because nuclear power is so expensive.

Ms. Cotter asked what the CFPP resource would cost by 2030. Mr. Walje said he would return to the Council with the 2030 cost projection in the future. Ms. Cotter asked how the CFPP compared with other resource pricing. Mr. Walje said market pricing is \$100 MW or more; solar energy is about \$30 MW; offshore wind farms are \$60 MW and natural gas is approximately \$89 MW.

He continued to discuss solar issues to clarify that a solar resource with battery storage would cost much more than \$30 MW in the future. The reason is that currently no battery is large enough to run solar energy 24 hours a day, for seven days a week, so it is only used to meet peak loads. He said solar battery combinations are misleading because they cannot store enough electricity to operate all night.

Ms. Turner asked if the storage technology would be ready by 2030. Mr. Walje said according to various studies, the price could go as high as \$80 to \$90 MW. He explained that solar contract pricing is hard to project because due to ongoing repairs, the overall cost is never really discussed. When Pacific Corp built their first solar project it was supposed to last 20+ years, which came at a low investment cost for development and transmission and no more capacity had to be built. The project only lasted 10 years, because deteriorating solar panels needed replacing, or new solar panel technology was required as the industry matured. This capital investment to replace solar panels needs to be made every ten years which increases the low capital investment of solar over time. This is why he felt to really compare the economic cost of solar to the CFPP, the question should be how much does a resource cost over 60 years. This is why he believed the CFPP competes well on price overall.

Due to a time constraint, Mr. Hrechkosy asked Council Members to submit any other questions to the UAMPS team for further discussion.

Adjournment: 6:17 p.m.

Pattie Johnson
Council Office Administrator III