

UAMPS

Utah Associated Municipal Power Systems



Clean Energy News

Keeping you informed about UAMPS' clean energy initiatives.
Send tips/feedback to jackie@uamps.com.

15th Edition, July 30, 2021

Member Conference

Join UAMPS for its 2021 Annual Member Conference August 15-18 at The Village at Squaw Valley and explore how changing policy, technology, and lifestyles are reshaping the energy industry. Engage with experts, exchange strategies and solutions with other public power leaders, and discover tools for your future success.

All member representatives, governing bodies, and other stakeholders are invited. See [conference website](#) for agenda, speakers, other activities and hotel information. For other questions, email Jackie Coombs at jackie@uamps.com.

Update: Carbon Free Power Project Begins COLA Phase

UAMPS CFPP Project Management Committee has approved an updated Budget and Plan of Finance, has emerged from an off-ramp period with 27 committed participants, and is moving aggressively into the Combined Operating License Application (COLA) development phase of the project.



As part of COLA development, work at the plant site is going forward at Idaho National Laboratory. This includes seismic and geotechnical data collection, surveying, core drillings and monitoring wells, health and safety plans, fire prevention, cultural resources studies, works plans and permits, quality assurance plans, coordination with INL fire department, work trailers, securing mobile generators, access and badging, and site security enhancements.

Data being collected includes meteorological information such as wind speeds, rainfall, snowfall, barometric pressure, frost depths, water table, soil bearing capacity, and water sources and discharge. Initial work to obtain permits and comply with all Department of Energy, state and local environmental and safety requirements is also beginning. COLA development is expected to run from August 2021 to February 2024.

In another important development, the CFPP Project Management Committee has approved a 6-module plant configuration. The project downsizing was enabled by the NuScale Power announcement of a power output increase from 60 MWe to 77 MWe per module.

After careful analysis and due diligence, it was clear that a 12-module plant generating 924 MWe of electricity would be significantly more than is necessary for UAMPS' participating members and other interested utilities. With the power output increase, a 6-module plant became just the right size.

The CFPP schedule remains unchanged, with the first module operational in 2029 and the remaining modules achieving commercial operation in 2030. While the capital cost of the smaller 6-module plant is less than the 8-module plant, the levelized cost of energy (LCOE) over 40-years would be slightly more. Accordingly, UAMPS has increased the target LCOE used for project economic evaluation purposes from \$55 per MWh to \$58 per MWh.

A \$58/MWh LCOE remains an exceptional price for carbon-free, dispatchable (always available) electric power. The LCOE of other advanced reactor projects, green hydrogen, storage, batteries, etc., are all projected to far exceed \$58/MWh. The CFPP will still be the most competitive non-carbon, dispatchable resource.

General Manager's Report to Board

Utility leaders need to be aware that carbon emissions may be very expensive in the future, said UAMPS CEO & General Manager Doug Hunter in a presentation to the UAMPS Board of Directors on July 21.

The federal government and some state governments are attempting to quantify the actual costs of climate change tied to carbon emissions. That could eventually lead to legislation and rules to tax and/or regulate all forms of carbon pollution to pay the impacts of climate change.



Doug Hunter

The social impacts of climate change include such things as changes in net agriculture production, human health effects, property damage from floods and natural disasters, disruption of energy systems, risk of conflict, environmental mitigation such as the cost of building sea walls, and even such things as environmental justice and intergenerational equity.

The tax could be assessed on a per-ton basis on greenhouse gas emissions, including carbon dioxide, methane and nitrogen oxide.

Such a tax would make it essentially impossible to build fossil fuel plants because the cost would be so high. The tax could also hit existing carbon emitters, including power plants, vehicles, buildings, industrial processes, etc.

While this work to quantify the costs and sources of greenhouse gases is preliminary, eventually legislation could be passed at federal and/or state levels, or the president or governors could issue executive orders.

As decisions are made about future energy resource development to maintain diversified portfolios, it's important to keep these possibilities in mind, Hunter said.

Industry Information & Developments

[Laying the Foundation for Advanced Nuclear Reactors in the United States](#). Dr. Jose Reyes, founder and chief scientist for NuScale Power, provided an excellent overview of Small Modular Reactor technology, and its benefits and importance, to the National Academy of Engineering on July 14. The presentation includes both video and a slide deck.



Dr. Jose Reyes

Dr. Reyes addressed the UAMPS Carbon Free Power Project in slides 18-19, and discussed the 6-module plant at the 44:00 minute mark of the video. It is an excellent presentation for anyone wanting to understand the many issues related to Small Modular Nuclear Reactors. The CFPP, to be constructed at Idaho National Laboratory near Idaho Falls, will be the first deployment of NuScale SMRs.

[Eastern Idaho Nuclear Project Goes From 12 to 6 reactors \(KSL.com\)](#).

Idaho Falls City Council continues to support the CFPP after UAMPS announces a 6- module plant will be built. "There is not much of a carbon-free future for many municipalities if we can't figure out some of this bridge technology to get us to some of these long-term solutions," Idaho Falls City Council member John Radford said at a July 8 meeting. "This project is something that can help keep this country on this trajectory to a carbon-free future and maybe a better existence for all of us."

Utah Congressman John Curtis Highlights the Enormous Cost of License Application to Build an SMR Plant.

In a congressional hearing, Rep. Curtis (R-UT) said that Utah Associated Municipal Power Systems (UAMPS) is working with NuScale and they are the first NRC license applicants for advanced reactors. However, the cost of \$500 million for the license and the 12,000 page report filed by UAMPS and NuScale highlights the high cost and amount of work required for a license under current regulations. Curtis asked if this licensing process is of public benefit, and NRC Chair Hanson noted that the reason they are reviewing the licensing process is to better streamline licensee applications, like that of UAMPS.



Rep. John Curtis

Strong advocate for nuclear in Australia shows how important nuclear is to reach climate goals.

“Australia has a unique distinction among the G20 nations. We have taken a stand, outlawing a practice every other G20 member allows and almost every G20 member engages in. We are environmental outliers, in effect climate deniers. We outlaw a pro-green, emissions-reducing practice that is increasingly important across the planet. What could it be? . . . our action is purely negative, and more or less insane. Alone among G20 nations, we have a legislative prohibition on nuclear energy. . . . “The SMRs are much smaller than traditional reactors, much cheaper, even safer, have a tiny footprint, much faster to construct, don’t use huge amounts of water, don’t need to be near the coast and would fit perfectly into Australia’s electricity grid. They are a developing technology. The US company NuScale has had its SMR design approved by the exhaustive US approvals process and is now gaining site-specific approvals and could well be operating by 2028. Such plants are big enough to compensate for a coal fired power plant going offline.”



Greg Sheridan

Los Alamos Board Of Public Utilities Recommends County Continue Participation In Carbon Free Power Project (ladailypost.com).

“I think that when you look at costs, when you look at safety records and you look at the fact of nuclear being a firm, dispatchable source of power . . . I think nuclear has to be one of the components in a balanced energy system in this nation,” Board Chair Cornell Wright said. “And I think it is good for the world for the U.S. to

show leadership to the rest of the world ... this is an opportunity for our nation to show some technological leadership. Secondly, when I look at the County... they need a certain amount of dispatchable power ... we've seen spikes that have cost us dearly ... I think the problem is just going to get tougher down the road. I think a firm power commitment is a good a thing for the department in the County. Finally, I look at the project and I see a lot of things that are positive ... I think at this point in time ... the right thing for the County and for the board to do is to approve remaining in the project.”

[NASA marks 60 years of nuclear power in space.](#)

(World Nuclear News) NASA has marked the 60th anniversary of the launch into space of its first nuclear-powered satellite. Transit IV-A - an experimental navigational satellite with a radioisotope-powered generator - - was launched by Johns Hopkins University Applied Physics Laboratory from Cape Canaveral on 29 June 1961, and NASA has since flown more than 25 missions carrying a nuclear power system. NASA is also working with DOE and industry to develop nuclear fission-based power systems to enable a human presence on the surface of the Moon and, eventually, human missions to Mars.



[Is Nuclear Power the Missing Piece of Our Climate Change Puzzle?](#)

By Daniel Van Boom for CNET. “Dietmar Detering thinks nuclear energy could be the key to solving the climate crisis. A former member of Germany's Green Party, Detering now spends his spare time as co-chair of the Nuclear New York advocacy group. He's part of a wave of environmentalists campaigning for more nuclear energy . . . proponents like Detering and his colleague Eric Dawson point out that nuclear power produces huge amounts of electricity while emitting next to no carbon.



Daniel Van Boom

“This separates it from fossil fuels, which are consistent but dirty, and renewables, which are clean but weather dependent. Contrary to their apocalyptic reputation, nuclear power plants are relatively safe. Coal power [is estimated to kill around 350 times as many people](#) per terawatt-hour of energy produced, mostly from air pollution, compared to nuclear power.

“But many scientists and experts believe nuclear power is necessary to achieve carbon neutrality by 2050. "Anyone seriously interested in preventing dangerous levels of global warming should be advocating nuclear power," wrote James Hansen, a former [NASA scientist credited with raising awareness of global warming in the late '80s, in a 2019 column.](#)”

[Needed: An Effective Nuclear Energy Policy](#) . By The Heritage Foundation. “One of the diverse U.S. nuclear industry’s strengths is that it is largely privately owned, and it is for this reason that the nuclear innovation in the U.S. is unparalleled. American nuclear companies could have much to offer in a world where hundreds of millions of people are still without access to electricity, and where some competitors in the field have questionable commitment to transparent business practices or political freedom. America’s system of economic freedom is one of its greatest strengths, and has led to the most diverse and innovative nuclear energy industry in the world.”

In Other News . . .

[NuScale Secures Investment for SMR Deployment from GS Energy](#)

NuScale Power has announced it has finalized an investment agreement with GS Energy North America Investments (GS Energy), the U.S. entity of the South Korean leading energy services provider.

This announcement continues the strong momentum of investments NuScale Power has secured in recent months and is a significant step for commercializing NuScale’s small modular reactor (SMR) technology.

GS Energy brings years of expertise as an energy solution provider in Korea and internationally with a diversified portfolio that includes: refining of transportation fuels and other petrochemical products; LNG procurement and supply; electric power production and district heat; and oil and gas exploration and production.



As part of a long-term strategic relationship established under the agreement, GS Energy will provide a cash investment in NuScale Power and support deployment of NuScale plants. The two parties will also look to develop regional NuScale power plant service delivery opportunities.

If you have questions about UAMPS' plans for a carbon-free future, please email them to jackie@uamps.com.

155 NORTH 400 WEST, SUITE 480 | SALT LAKE CITY, UTAH 84103 | 800.872.5961 www.uamps.com