

Clean Energy News

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

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Special Note: This year's **UAMPS 2021 Annual Report** can be viewed digitally on your desktop computer, tablet or smart phone by clicking on the link below. This "cloud based" file allows viewing of the report which can be enlarged, printed, downloaded, shared, emailed or saved as a .pdf by clicking on the appropriate menu icons along the bottom of the viewing screen. Please share the link with your governing boards and utility staff.

https://indd.adobe.com/view/272cba3c-099a-4164-8a40-052cae90b245

The "cloud based" Annual Report will <u>only</u> be available for the next 60 days; after that it will be available on the UAMPS website at <u>www.uamps.com</u>.



December Carbon Free Power Project Update

Project Director Dr. Shawn Hughes reported the following activities to the CFPP Project Management Committee on December 14:

- Overall, the project is on schedule and on budget with many tasks and activities underway. All 2021 milestones and tasks have been completed.
- Subscription recruitment is going well with advanced discussions ongoing with several utilities outside of UAMPS. A major focus is on transmission to deliver power to interested utilities.



Shawn Hughes

- Some 20-30 workers have been on site at Idaho National Laboratory (INL), depending on work being performed, but winter weather will reduce work activity at the site.
- Core boring is 100% completed and drilling of monitoring wells is 88% finished. Well monitoring has already started to obtain baseline information needed to prepare the construction and operating license application (COLA) to the Nuclear Regulatory Commission (NRC). Analysis of core boring samples is also underway to obtain geothermal and seismic data.
- A meteorological tower on the site was hit by lightning, but has been repaired. Two years of meteorological data is needed for the COLA.
- Updating plans and processes to transition from 12
 NuScale Power Modules to 6 modules has been completed.



Meteorological tower under repair

- Procedures and protocols to engage with NRC are being developed.
- The COLA team has transitioned from project set up to project execution. COLA baseline schedule has been developed, with the COLA expected to be submitted to the NRC in January 2024, with NRC review of draft chapters before the submittal date.
- Formal engagement of a plant operator is close, with the operator to become a key member of the project team.
- The Class 3 cost estimate is in development with basic engineering design data, input from the Standard Plant Design, and an area labor market analysis initiated.
- The project team is closely collaborating with the U.S. Department of Energy and INL on seismic and volcanic hazard analysis.

Annual Meeting Report

Chair Speech by Jason Norlen. Mr. Norlen expressed appreciation to UAMPS members and their board representatives. "We do many important things at UAMPS, including building new generation facilities as we transition from fossil fuels to clean generation. But we must never forget that our focus and sacred mission is to serve our communities and our customers, providing the affordable, clean, reliable energy they need to sustain good jobs and a great quality of life.

"We are helped immensely in accomplishing this mission as public power agencies and as part of UAMPS. Together, we're able to do many things we would not be able to do alone." He noted that the clean energy revolution must meet three objectives: "The energy produced must be clean. It must be affordable. And it must be reliable."

Dr. John C. Wagner, Director, Idaho National

Laboratory. Dr. Wagner said INL and its 5,500 scientists, engineers and support staff are strongly focused on supporting the development of next generation small nuclear reactors. He said UAMPS' Carbon Free Power Project "is incredibly important" to show that nuclear energy can integrate with intermittent energy sources like wind and solar, and also with battery storage, to produce an energy system that is carbon free, resilient, firm, and able to provide "all of our energy needs."

INL is supporting CFPP with coordination on environmental checklists and work planning and many technical tasks. INL worked closely with UAMPS on siting, surveys, environmental reports, site maintenance, security, and medical response, among other things. He said he is looking forward to using energy from CFPP in INL's resource mix to help INL become a net zero carbon facility.

In response to a question, Wagner said spent nuclear fuel can be "safely and permanently" stored with no technical issues. But there are social and political issues that must be resolved. He said he's never seen as much bipartisan support for nuclear energy as exists today. But now the nuclear industry must deliver on clean, affordable, reliable nuclear energy to help the world eliminate carbon emissions.





Jason Norlen

Douglas Hunter, CEO Report. Hunter paid tribute to the UAMPS staff, highlighting the remarkable experience and longevity (average about 20 years) of staff members. He noted that UAMPS is project based, so members don't need to buy energy or services from UAMPS. But thanks to a great staff with diverse knowledge and great technological expertise, and infused with the culture of members, UAMPS provides great service and economies of scale for members.



Doug Hunter

Hunter said UAMPS' goal is to help members understand all

resource options available, and the cost to develop and operate those projects. That allows communities to select the right mix of resources for their needs. "One size doesn't fit all," he said. The result is that UAMPS has 16 diverse projects to meet the needs of members, with more projects underway. "We know how to build and complete projects," Hunter said.

Industry Information & Developments

UAMPS CEO Douglas O. Hunter: Why the world is watching UAMPS' Carbon Free Power Project (sltrib.com). Across the country and the world, energy experts and environmental leaders are acknowledging the critical role of nuclear energy in reducing greenhouse gas emissions and slowing climate change. . . . With that emerging consensus, the global energy world and climate activists are watching with great interest a small modular reactor project being developed by UAMPS. Named the Carbon Free Power Project (CFPP), it will usher in a new generation of nuclear energy that is safer, more affordable, faster to deploy, and more flexible than the large traditional nuclear projects. The CFPP will complement and enable substantial amounts of renewable energy like wind and solar, allowing 27 UAMPS member communities across Utah and surrounding states to decarbonize their energy portfolios

NuScale's Jose Reyes Inducted into Innovation Hall of

Fame. A University of Maryland alum who has made pioneering advances in nuclear power was inducted into the University of Maryland's Innovation Hall of Fame (IHOF). José Reyes M.S. '84, Ph.D. '86, co-founder and chief technology officer of NuScale Power received the annual honor for his work in co-designing the first small modular reactor (SMR) to garner Nuclear Regulatory Commission



Dr. Jose Reyes

design approval. In his acceptance address, Reyes said nuclear power can meet needs that go well beyond electrical power production.

NuScale merger to accelerate SMR commercialization. NuScale Power, the developer of the nuclear power modules that will be used in UAMPS' CFPP, has announced plans to merge with Spring Valley Acquisition Corp to create a new "first of its kind" energy company. The merger is expected to accelerate the commercialization of NuScale's small modular reactor (SMR). The new publicly listed company will be named NuScale Power Corporation and is projected to be 60%-controlled by NuScale's current majority owner Fluor Corporation.

<u>China isHome toWorld'sFirstSmallModularNuclearReactor</u>. (Bloomberg) China continues to stake its claim as the world's biggest proponent of new nuclear energy technology, connecting its first small modular reactor to the power grid. China Huaneng Group Co.'s 200-megawatt unit 1 reactor at Shidao Bay is now feeding power to the grid in Shandong province, the China Nuclear Energy Association said in a WeChat post.

The plant is the world's first pebble-bed modular high-temperature gas-cooled reactor, heating up helium instead of water to produce power. No country in the world is investing in nuclear power like China, which is expected to pour as much as \$440 billion into new plants over the next decade and a half and overtake the U.S. as the top generator of nuclear electricity.

Tiny Reactors Could Make Nuclear Power 50% Cheaper. (OilPrice.com) . . . there is one truly small modular reactor design that may truly live up to its name. The NuScale reactor design, which has Fluor Corp. as its principal shareholder, is much smaller than the 300-400+ MW reactors offered by Rolls-Royce or Natrium. The NuScale reactor "modules" are up to a 77 MW reactor with the reactor core, steam generator, and pressurizer all contained in a single vessel. These modules are submerged in a below grade, water filled pool. They feature natural circulation for emergency feedwater cooling and therefore require no external emergency power for safe shutdown. This is a profoundly important safety feature.

The initial power customer is Utah Associated Municipal Power Systems for a plant to be built at DOE's Idaho National Laboratory. The company has already received both a Final Safety Evaluation Report and a Standard Design Approval from the US Nuclear Regulatory Commission.

NuScale SMR plants become VOYGR : New Nuclear - World Nuclear News (world-nuclear-news.org). NuScale Power's small modular reactor (SMR) Power plants are to be named VOYGR, the company has announced. The company is working toward commercializing the technology and aims to be ready to deliver the first VOYGR plant to public power consortium Utah Associated Municipal Power Systems' Carbon Free Power Project by the end of the decade. "NuScale is on the frontier of innovation in energy and the name VOYGR demonstrates that NuScale is changing the world by creating an energy source that is smarter, cleaner, safer, and cost competitive," the company said.

Support for Nuclear Energy Rising Rapidly. Support for nuclear energy is on the rise in the USA, according to the latest study of US attitudes to energy carried out by environmental non-profit ecoAmerica. The American Climate Perspectives Survey found notable shifts in understanding and support for several energy sources, the group said, with strong support for clean energy coupled with the need for education on the energy-climate connection. U.S. support for nuclear energy has grown 10 percentage points from 2018 to 2021, with 59% overall now saying they are strongly or somewhat in support.

In Other News...

UAMPS Presents Awards at Annual Meeting

Logan City was the recipient of the 2021 System Improvement Award. *The System Improvement Award recognizes member utilities for undertaking system upgrades, capital improvements and preventive maintenance measures to modernize facilities, improve system reliability, reduce losses, reduce outage times or improve power quality.*

Heber Light & Power was the recipient of the 2021 Smart Energy Innovation Award. The Smart Energy Innovation Award recognizes member utilities for undertaking progressive smart city initiatives to improve service to its customers.

Harold Wilson, Director of Transmission & Distribution Department, Heber Light & Power was the recipient of the 2021 Employee of the Year Award.

The Employee of the Year Award recognizes a member utility employee who has made an exceptional contribution toward enhancing the prestige of and service to their local utility, public power or UAMPS. This person has shown vision and unusual devotion in the performance of their duties. **Tom Hally, Idaho Falls City Council Member, was the recipient of the 2021 Elected Official of the Year Award.** *The Elected Official of the Year Award recognizes an elected official who has made an exceptional contribution toward enhancing the prestige of and service to their local utility, public power, or UAMPS. This person has shown vision and unusual devotion in the performance of their duty.*

Les William, Beaver City Representative and UAMPS Director, was the recipient of the Distinguished Service Award. The Distinguished Service Award recognizes individuals for their many years of commitment and contribution to their utility as well as their contribution to UAMPS and other public power organizations.

Blair Hamilton, former board member, South Utah Valley Electric Service was the recipient of the 2021 Champion on Public Power: *The Champion of Public Power Award recognizes an individual who not only has provided many years of service to municipals and public power, but who truly is a true stalwart, supporter and defender of public power and his/her service spans many years with an irreplaceable legacy.*

UAMPS said goodbye to Directors in 2021: Gene Shawcroft, Central Utah Water Conservancy District; Chris Hogge, Weber Basin Water Conservancy District; Robert Erquiaga, City of Fallon, NV; David Imlay, Hurricane City; Jack Taylor, Santa Clara City.

Dwight Day, Oak City Representative and UAMPS Director was honored with his 40-Year Service Award. Dwight has been a member of the board of directors since the inception of UAMPS in 1980.

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

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