

23rd Edition, April 27, 2022

CFPP Project Director Dr. Shawn Hughes reported the following activities to the Project Management Committee on April 19:



Shawn Hughes

- In concert with development of the Combined Operating License Application (COLA), substantive engagement with the Nuclear Regulatory Commission has begun. Working relationships and schedules are being developed, along with plans to submit pre-COLA reports over the next few years.
- An important on-going task is to develop more refined and comprehensive cost estimates for the project. To that end, detailed designs are being reviewed and specific pricing information is being requested from vendors and suppliers. Management reviews for Class 3 cost estimates are underway with completion target at the end of June. Supply chain issues and cost increases due to inflation are being closely monitored, including craft labor wage rates and raw material costs.
- The CFPP LLC owner work scope is moving forward with conceptual designs completed or in progress for the administration building, warehouse, fire station, security building, guard shacks, wastewater treatment and zero liquid discharge, and other facilities.
- The COLA process is ahead of schedule and under budget, although geotechnical analysis from Idaho National Laboratory is somewhat delayed. Steps are being taken for expedited data turnover and more frequent progress updates.
- CFPP is considering whether to submit a request to the NRC for a Limited Work Authorization (LWA) that would allow certain construction activities in advance of the COL being approved. An LWA may provide schedule benefits and reduce overall project risk by completing some construction activities early. An analysis will be conducted to determine the costs and benefits of developing an LWA application. All options are being evaluated.

- CFPP site activity in May will fill data gaps and provide updates. Activities may include non-intrusive geotechnical surveys, field soil resistivity testing, seismic studies, calibrations on the meteorological tower, installation of bird nest deterrents and security surveillance cameras, and additional ecological and cultural surveys.
- Temporary signage for the site has also been created to accommodate tours and other events.



- Media and industry engagement continues with significant news media interest and presentations at industry events.
- Engagement continues with a number of utilities interested in taking power from the project, with several utilities touring NuScale facilities in May to become acquainted with the project and its technology.

Industry Information & Developments

[NuScale Power and Doosan Sign Agreement to Begin SMR Production](#) (Business Wire) This milestone signifies the beginning of NuScale Power Module™ manufacture, a critical next step in the deployment of NuScale’s clean



energy technology. NuScale Power LLC (“NuScale”) and Doosan Enerbility Co., Ltd. (“Doosan”) announced through a signed agreement that Doosan will begin production of forging materials for NuScale’s Small Modular Reactors (SMRs) as early as 2022, with expectations for full-scale equipment manufacturing by the latter half of 2023. Specifically, Doosan, a Korean industrial and energy company, will begin production of forging dies for NuScale’s Upper Reactor Pressure Vessel, marking the start of NuScale Power Module™ production.

We expect that the materials produced will support NuScale’s first commercial deployment of its VOYGR™ power plant for Utah Associated Municipal Power Systems’ (UAMPS’) Carbon Free Power Project (CFPP) at the Idaho National Lab (INL). In conjunction with Doosan, U.S.-based suppliers and others, NuScale and the CFPP expect to bring carbon-free, safe, and reliable nuclear energy to UAMPS customers by the end of the decade.

[U.S. Organization Calls for Doubling of Nuclear](#). (World Nuclear News) Doubling domestic nuclear energy production by 2050 is an "ambitious but achievable" national goal that would help the USA achieve 100% clean energy, U.S. think-tank the Nuclear Innovation Alliance said. The organization is calling for the U.S. Department of Energy to launch an Advanced Nuclear Energy Earthshot as part of its Energy Earthshots initiative to help achieve this.

Decarbonizing the U.S. economy means reducing carbon emissions from everything -- not just the electric grid, but also transport, manufacturing, home heating, "and everything that heats, cools, lights, spins a motor, pumps a gallon of water or a gallon of sewage, ventilates a classroom or runs a hospital's heart-lung machine," the report notes. Low-carbon generating technologies like wind and solar have been deployed in increasing numbers in the past decade and will reduce emissions from fossil fuels, but these technologies alone will not suffice for an entire energy system which is a "complex web of production and consumption" that needs a dispatchable source of generation when "abundant but variable renewable energy isn't available, and when safety, economic activity, and human health and comfort demand energy."

[Energy Innovator José Reyes Sees a More Equitable Future Through Nuclear Energy](#). (University of Maryland) The tall white pods of NuScale Power’s electric generation modules are reminiscent of super-sized vitamin capsules, unassuming and mellow. Yet within them lies the embodiment of a powerful vision for a cooler, cleaner, less thirsty world: a technology that produces green energy—and clean water.



Dr. José Reyes

The figure responsible for this invention is similarly understated. His gentle, warm, and quietly focused demeanor belies a rigorous dedication to research: For the last 20 years, José Reyes (M.S. '84, Ph.D. '86) has been researching, building, testing, probing, refining, and real-world-proving the small modular reactor he first drafted in 1999. At the core of his vision is nuclear as we've never seen it before.

“We view nuclear power to be much more than just electrical power production,” Reyes said of NuScale’s vision at [his induction to the Clark School’s Innovation Hall of Fame](#) in late 2021. His and his company’s dedication to advancing nuclear technology, Reyes added, is rooted in a razor-sharp focus on “improving the quality of life for people around the world.”

[IJ Global Infra Dig Podcast: NuScale Power and SMRs.](#)

[Infra Dig Podcast: NuScale Power and SMRs.](#) (Please note: this story is an audio podcast.) Chris Colbert – Portland, Oregon-based chief strategy officer and CFO at NuScale Power – joins IJGlobal editorial director Angus Leslie Melville to talk about nuclear energy.



Chris Colbert

This discussion centers on small modular reactors – SMRs – a subject that NuScale Power is more than qualified to discuss given it will have its first unit operational before the end of this decade... and if you want one sooner, Chris reckons he could line you up with one before then!

[Utilities Want to Convert Coal Plants to Nuclear; Skeptics Abound](#) (Wall Street Journal) States and utilities are looking at placing small nuclear reactors at former coal plants, but the technology and economics remain unproven.

Doug Hunter, chief executive of Utah Associated Municipal Power Systems, a consortium of mostly city-owned utilities in Western states, said microreactors would complement renewables. UAMPS is working with developer NuScale Power LLC to develop SMRs at the Idaho National Laboratory.

[Fluor-held NuScale Equity Purchased by Japanese Partner](#) (Business Wire) NuScale welcomes a new investment from world-class partners in the Japan NuScale Innovation, LLC (JNI). Japan Bank for International Cooperation (JBIC) has joined JNI in making a strategic investment of \$110 million in NuScale through a purchase of equity from Fluor Corporation, who remains the majority owner in NuScale.

NuScale Power is poised to meet the diverse energy needs of customers across the world. It has developed a new modular light water reactor nuclear power plant to supply energy for electrical generation, district heating, desalination, hydrogen production and other process heat applications.

[Lawmakers Advance Nuclear Power Legislation in US States Lacking Reactors](#) . . .

(S&P Global) Lawmakers in several states that do not currently have operating nuclear plants are advancing legislation to break down barriers to reactor development, aiming to further decarbonization goals, increase grid reliability, and repower or replace existing fossil fuel plants.

Advanced nuclear technology developers such as NuScale Power LLC see the impending retirement of more of America's coal fleet coupled with state nuclear policy progress as a major opportunity to establish technologies such as theirs across the country.

[Nucor Invests in Development of NuScale Nuclear Technology](#) (PR Newswire) Nucor

Corporation announced it is investing \$15 million in NuScale Power, LLC, a developer of small modular reactor (SMR) nuclear plants. Nucor has entered into an agreement to fund NuScale via a private placement in the Special Purpose Acquisition Company, Spring Valley Acquisition Corp., that intends to merge with NuScale. This capital will support the path to commercialization of NuScale's proprietary and innovative SMR technology, the NuScale Power Module™.

“The continued development of small modular nuclear reactors is critical to ensure our nation has carbon-free, baseload power, which is why we are making this investment in NuScale,” said Leon Topalian, President & Chief Executive Officer of Nucor Corporation.

[Nuclear Power Could Transform the U.S. Energy Grid – But Decades of Roadblocks and Rising Prices are Standing in the Way](#) (Business Insider) . . .

experts say that relying more on nuclear power could reduce our dependence on fossil fuels, especially as Russia's invasion of Ukraine continues to [roil the global energy markets](#) . Widely considered a clean, cheap, and reliable alternative to fuels like oil, gas, and coal, nuclear could be the answer to our problems — but decades of rising costs and roadblocks still stand in the way. . . .

"(Nuclear plants) have been just sort of a rock-solid source of electricity for us for at this level for probably 20 years now. They've quietly been building up an extremely impressive history of providing 100% CO2-free electricity to this country . . ." That sentiment is gaining traction in the startup world where companies like [NuScale](#) and [TerraPower](#), which is founded and backed by Bill Gates, are experimenting with smaller or more modular reactors that cost less to build.

In Other News . . .

[UAMPS Wins DEED Funding](#). The American Public Power Association's (APPA) Demonstration of Energy & Efficiency Developments (DEED) program recently awarded \$495,292.43 in funding to eight APPA member utility grant proposals, including a proposal from UAMPS.

UAMPS will apply DEED funding to its Gridware Pilot Program. This Pilot Program will deploy 50 devices on a single line segment in each of five UAMPS member utilities to demonstrate the capabilities of the Gridware System's monitoring system.

The Gridware System is a self-powered, low-cost monitoring solution designed to detect distribution grid faults and monitor for equipment degradation. It will provide the five UAMPS member utilities near-real-time visibility into the status of their distribution equipment, the precise dates, times and locations of unique fault classes, and insight into how equipment shifts over various time frames.

Three UAMPS Communities Honored for Electric Reliability. Brigham City, Kaysville City and Logan City Light & Power have received national recognition for achieving exceptional electric reliability in 2021. The recognition comes from the American Public Power Association (APPA), a trade group representing more than 2,000 community-owned electric utilities.

The three communities' System Average Interruption Duration Index placed them in the top quartile of public power agencies nationwide for system reliability, according to APPA's eReliability Tracker Service. That performance qualified them for 2021 Certificate of Excellence in Reliability. The entire list of list of 2021 awardees can be found [HERE](#).

Nationwide, the average public power customer has their lights out for less than half the time that customers of other types of utilities do.

Two UAMPS Members Earn the 2022 Reliable Public Power Provider (RP3) Gold Designation.

Hurricane City and Washington City were awarded this prestigious award from APPA. The RP3 designation recognizes operational excellence based on industry-recognized leading

practices in four important disciplines: reliability, safety, workforce development, and system improvement. An RP3 designation is a sign of a utility's dedication to operating an efficient, safe and reliable distribution system. It shows a commitment to employees, customers and community. Currently, only 274 of the nation's more than 2,000 public power utilities hold an RP3 designation.



Monroe City Power Honored with Safety Award of Excellence. (Note: Monroe was omitted from the list of nine other UAMPS member awardees in the March newsletter.) The award is presented by APPA for safe operating practices in 2021. "In our industry, safety is the top priority," said Bob Scudder, Chair of APPA's Safety Committee and Industrial Hygiene. "The awarded utilities have embraced this priority, and they deserve to be celebrated." The Safety Awards competition has been held annually for more than 65 years.

[UAMPS Members Hyrum City and Mt. Pleasant City highlighted in APPA's Public Power Current Newsletter.](#) Power superintendents in Hyrum and Mt. Pleasant discuss how they have dealt with booming population growth by modernizing their electric systems with new equipment and the latest technology. They also upgraded 100-year-old hydro plants.

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