FRIB construction nine weeks ahead of schedule

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Construction on the Facility for Rare Isotope Beams has been barreling ahead since its groundbreaking in March, putting the project nine weeks ahead of schedule, Conventional Facilities and Infrastructure Deputy Director of FRIB Chris Thronson said.

The facility, which is currently having the concrete for the accelerator tunnel poured and waterproofed, is scheduled to be completed in June 2022, and will cost around $730 million and be paid for by a U.S. Department of Energy grant. The facility was designed to, among other things, further scientists' understanding of atoms and nuclei and the origins of the elements. FRIB science has applications in fields such as military defense, energy and medicine, FRIB Chief Scientist Witold Nazarewicz said.

“When built, FRIB will be the world-leading facility,” he said. “It will be the only (facility of its kind) in the U.S., and it will surpass facilities in Europe, in Asia in terms of scientific reach. In short, FRIB will be the world’s most powerful facility to explore the rare isotope frontier, making nearly 80 percent of the isotopes predicted to exist for elements up to uranium and providing access to beams of the most interesting isotopes.”

Nazarewicz said the possibilities with FRIB will crack open a new chapter in scientific discovery.

“Experiments with the new isotopes produced at FRIB will lead to a comprehensive description of all nuclei...provide an understanding of matter in neutron stars, and establish the scientific foundation for innovative applications of nuclear science to society,” he said.

While FRIB is still a long ways off from completion, Thronson said the project has been coming along well, despite changes to plans.

“We changed our sequence. We were going to work from west to east, but we started at both ends and worked toward the middle,” Thronson said. “We’ve also gained a lot of efficiency from the tradesmen working on-site.”

Because of the efficiency gained, the lid on the accelerator tunnel, which will deliver high-power ion beams scientists can use to study isotopes, will be poured later this month, marking a milestone in FRIB construction, Conventional Facilities Division Director Brad Bull said.

While colder temperatures and snow are on the horizon for the FRIB crews, Bull said the colder temperatures will not impede construction.

“We’re not going to stop,” Bull said. “It might be marginally slower just because there’s less daylight and a little more precautions as far as ice buildup and those things, but the cold doesn’t hurt.”

In fact, the cold will assist crews in keeping poured concrete from overheating, Thronson said.

The lid for the accelerator tunnel is tentatively scheduled to be poured on Oct. 23, Bull said.