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For Immediate Release

SRNS Site Services develops sustainable solar pump solution

Utilizing excess materials for cost efficiency and longevity of distribution systems

AIKEN, S.C. – (October 9, 2024) – Savannah River Nuclear Solutions (SRNS) Site Services organization recently introduced an innovative, sustainable solution to the Savannah River Site (SRS) by installing a solar-powered pump system to manage water that infiltrates underground valve pits.



Savannah River Nuclear Solutions (SRNS) Site Services Billy Vowell, Water Operator; Rich Brown, Engineer; and Tyler Handberry, Water Operator, inspect the D Area solar-powered pump system that manages water infiltration in underground valve pits at the Savannah River Site.

This initiative arose from a critical evaluation by SRNS Site Services Operations, which identified the traditional method of removing water from underground valve pits as both inefficient and unsustainable.

The pits, constructed as durable concrete structures, house large valves that regulate nearly 50 miles of river water piping integral to SRS operations. Routine maintenance of these valves is crucial for the seamless functioning of the River Water System. However, the pits are susceptible to water infiltration from rainfall and groundwater, requiring them to be dewatered before maintenance can be performed.

“Historically, we had depended on diesel-driven pumps to remove excess water,” said Grace Lukaczer, SRNS Site Infrastructure Engineer. “While effective, this approach was cumbersome and time-consuming, and it contributed to increased carbon dioxide emissions. To address this, the engineering

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and operations teams submitted a suggestion to the SRNS IDEAS Program to develop an efficient and environmentally friendly automated solar pump solution.”

Since its inception in 1952, the SRNS IDEAS™ (Individuals Developing Effective Alternative Solutions™) Program has stimulated employee participation in generating innovative improvement suggestions. In fiscal year 2024, over 200 implemented ideas streamlined operations and yielded savings exceeding \$6.1 million.



Managing water infiltration in the underground valve pits helps maintain the D Area River Water Pump House, which provides surface water across the Savannah River Site.

At the same time, the SRNS Area Completion Projects (ACP) was finalizing a solar-powered microblower project. They transferred 19 surplus solar panel assemblies to SRNS Site Services for reuse, avoiding the costs associated with their disposal and significantly reducing material procurement expenses.

“This cross-functional collaboration proved highly advantageous for both ACP and Site Services,” said Jeff Hall, SRNS Site Services Utility Commodities Manager. “With the solar panels in hand, Site Infrastructure Engineering and Site Services Operations designed a pumping system—powered by the repurposed solar panels—that activates automatically to remove water from the valve pits.”

The integration of the solar pump solution exemplifies SRNS’ commitment to continuous improvement and sustainability. This project not only made effective use of excess materials, but it also reduced labor costs, minimized carbon dioxide emissions and extended the lifespan of the distribution system by mitigating water damage and corrosion.

“This project underscores the power of innovative thinking, collaboration, and resourcefulness in driving meaningful change,” said Donny Barfield, SRNS Director of Site Services. “By repurposing existing materials and leveraging internal expertise, Site Services has achieved its objectives and established a new benchmark for sustainable practices at SRS.”

Savannah River Nuclear Solutions, a Fluor and HII partnership company, is responsible for the management and operations of the Department of Energy’s Savannah River Site, located near Aiken, South Carolina.

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