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For Immediate Release

Augmented reality tour provides unique experience, enhances operational readiness

AIKEN, S.C. – (March 27, 2025) – The extended reality (XR) team of Savannah River Nuclear Solutions (SRNS) has developed an augmented reality (AR) tour of the Savannah River Plutonium Processing Facility's (SRPPF) High-Fidelity Training and Operations Center (HFTOC), located at the Savannah River Site (SRS).

Led by XR Team Lead John Hart in the SRNS Operational Technology (OT) Advanced Initiatives group and XR Program Manager Jason Britt in the Pit Production Operations and Programs (PPOP) Emerging Technologies group, the team created an immersive experience, offering a virtual glimpse into the future layout and functionality of the HFTOC, complete with gloveboxes, specialized equipment and operational workspaces.

James Barber of the SRNS OT Center of Excellence leads a group of visitors through an augmented reality tour of the High-Fidelity Training and Operations Center.

"The HFTOC is an integral piece to the success of SRPPF," said Patrick Schneider, PPOP Director of Pit Production. "Creating the AR tour aligns with the team's commitment to enhancing planning, training and operational readiness for the facility."

The AR tour was brought to life through cutting-edge technologies and innovative processes beginning with Computer Automatic Design (CAD) drawings of the HFTOC, which served as the blueprint for creating accurate Digital Twin models of the facility. The CAD models were then imported into a software

engine used to create a visually-engaging AR environment with realistic textures, lighting and spatial design.

The final AR experience was optimized for specialized goggles, allowing users to experience the HFTOC in a hands-free, immersive way, blending digital elements seamlessly into the physical world.

This tool showcases a near-realistic Digital Twin of the HFTOC, providing a clear understanding of how the facility will look and function upon completion. The AR tour enables visitors and stakeholders to visualize the placement of critical equipment and infrastructure within the HFTOC, allowing for:

- Improved Operational Planning: By experiencing the facility's layout virtually, PPOP leadership can better anticipate spatial and functional needs for optimal workflows.
- Informed Decision Making: The tour highlights design efficiencies and potential areas for improvement, enabling proactive adjustments before physical implementation.
- Enhanced Collaboration: Stakeholders can discuss plans in a shared virtual space, facilitating a unified approach to operations planning.
- Heightened Safety Focus: AR tours reduce the need for visits to physical facilities, resulting in fewer safety concerns or impacts to construction schedules.

Building on the success of the HFTOC tour, Director of PPOP Emerging Technologies Shakeel Khan said he plans to extend this technology to the Machining Training Center (MTC) and the processing facilities located on-site.

“The AR tour is more than just a technological achievement,” said Khan, “It represents a critical step toward operational excellence within SRPPF. We can now experience a virtual walkthrough of a facility designed to prepare teams for critical missions, all while ensuring efficiency and safety in operations. The XR team’s Augmented Reality tour of the HFTOC represents a groundbreaking step in facility visualization and planning. By enabling leaders to step into the future of SRPPF today, SRS is paving the way for operational excellence and innovation.”

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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