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For Immediate Release

Old Oysters Put to New Use at SRS for Cleanup Innovation

Oyster shells appear to be a surprisingly effective solution to control levels of zinc in storm water runoff in efforts to meet regulatory standards prior to its entering nearby streams at the Savannah River Site (SRS).

Savannah River Nuclear Solutions (SRNS), the management and operations contractor for SRS, is among a small number of U.S. companies and utilities experimenting with oyster shells. They've found the shells naturally absorb zinc and copper from water, often reducing concentrations to acceptable levels.

SRNS is testing the shells to decrease the amount of zinc leaving a portion of the site during heavy rain so it's within South Carolina Department of Health and Environmental Control (SCDHEC) standards.

"N Area is where our construction group has their offices, shops, and storage facilities," SRNS Environmental Compliance Manager Amy Meyer said. "Similar to other legacy facilities, due to their age, dozens of buildings with galvanized metal roofs are now leaching zinc that mixes with the rain runoff. It's this stormwater that's creating the issue."

The rainwater travels from the construction facilities to a roadside drainage ditch leading to a stream.

Workers piled small rocks and limestone gravel to create check dams to slow the stormwater as it moves through the ditch. They also placed a large mound of oyster shells on the upstream side of each dam. The shells draw zinc from the water as it pools, before entering the nearby waterway.

"We also are using this method at another location in N Area where the shells have been put into place to absorb copper," Meyer said. "An extremely small decrease in measured levels of copper will guarantee that sample location will be in full regulatory compliance. We feel confident that the shells will prove, as they have elsewhere in the U.S., to be a cost effective solution."

Use of the shells allows SRNS to avoid the cost of replacing large portions of structures, including galvanized fencing and metal roofing.

"Comparatively speaking, the cost of \$7,600 to install the four oyster shell check dams is a small price to pay," said Meyer. "And, the fundamental structure of the dams will last for decades."

The amount of zinc and copper in the water at SRS is not high enough to trigger SCDHEC action.

“Even so, we believe in best management practices and strive to protect the environment. All cleanup projects are important to us, large or small,” Meyer said.



Caption: Savannah River Nuclear Solutions employees Dakota Williams (left) and Mandrell Crawford create a large mound of oyster shells used to absorb unwanted metals in rainwater runoff bound for a nearby stream.

Savannah River Nuclear Solutions is a Fluor-led company whose members are Fluor Federal Services, Newport News Nuclear and Honeywell, responsible for the management and operations of the Department of Energy’s Savannah River Site, including the Savannah River National Laboratory, located near Aiken, South Carolina.

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