



## Orano Completes First Segmentation of Massive Crystal River 3 Reactor Vessel into Three Pieces

*35-foot-long reactor vessel precisely refilled with disassembled internal components and hardened grout to create a solid mass for segmentation.*

**BETHESDA, Md., August 23, 2023** – Orano Decommissioning Services recently completed the first cut separating and then packaging the top third of the shutdown Crystal River 3 nuclear reactor vessel with its embedded internal components using Orano’s patented Optimized Segmentation process for the accelerated decommissioning project.

“On task, on time, on budget, and safely cutting out and packaging an irradiated 246-ton chunk of steel and material—I am proud of our team’s performance and focus,” said Amir Vexler, CEO of Orano USA. “The Crystal River 3 project is a good example of the turnkey solutions that Orano can deliver for our customers.”

In performing the Optimized Segmentation process, the Orano team first cut up the reactor vessel internals underwater and categorized them based on radioactivity, with the Greater-than-Class-C low-level waste separated and packaged for long-term storage onsite. The team then precisely packed the remaining low-level radioactive waste back into the reactor vessel in a way that optimized transportation and disposal cost-effectiveness.

Once the reactor vessel was repacked and drained—still in its original vertical orientation in the reactor vessel cavity—it was filled with an engineered grout that hardened and transformed the reactor vessel and internals into a single, solid mass. To separate the top third of this structure into the first piece, the Orano team used diamond wire sawing to horizontally cut straight through the steel reactor vessel, solidified grout, and internals.

This first piece was lifted out of the reactor vessel cavity and transferred into an Orano-designed custom-built package, which the team filled with grout to immobilize the contents before welding it shut in preparation for transportation to disposal.

Details about Orano’s patented Optimized Segmentation process and its implementation are described in a white paper [available here](#).

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*Image: Orano's team lifted the first piece of Crystal River 3's reactor pressure vessel after horizontally cutting the component and its repackaged segmented internals immobilized in solid grey grout.*



*Image: The first piece of Crystal River 3's reactor vessel was lowered into a custom-built package for eventual shipment to disposal.*



*Image: The custom-built transport package on the transfer trailer for movement to the onsite temporary storage facility.*

**About Orano USA:** Orano Decommissioning Services is a business unit within Orano USA, which is a regional subsidiary of the global Orano Group. Orano USA is a key supplier of materials and services to the U.S. nuclear industry and the federal government, ranging from supplying nuclear fuel materials and in-house engineering to field service capabilities and applying decades of reactor and fuel cycle facility decommissioning experience in dismantling, packaging, and transporting waste. Orano USA also provides the full suite of technologies and services for managing used nuclear fuel. Orano USA, through its subsidiary Orano Med in Texas, is developing cancer treatments using targeted radio-immunotherapy.

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