

# Reactor Dismantling and Decommissioning: Recent Achievements and Innovations in the U.S.

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With more than **10 projects** to date in the U.S. and Germany, Orano has gained a comprehensive expertise in **successfully dismantling** the full spectrum of **BWR and PWR** reactors. This **experience** could be **relevant for** the upcoming D&D operations in **Fukushima-Daiichi**.

## First Full Segmentation of a Commercial BWR in the U.S.

### Vermont Yankee Nuclear Energy Site



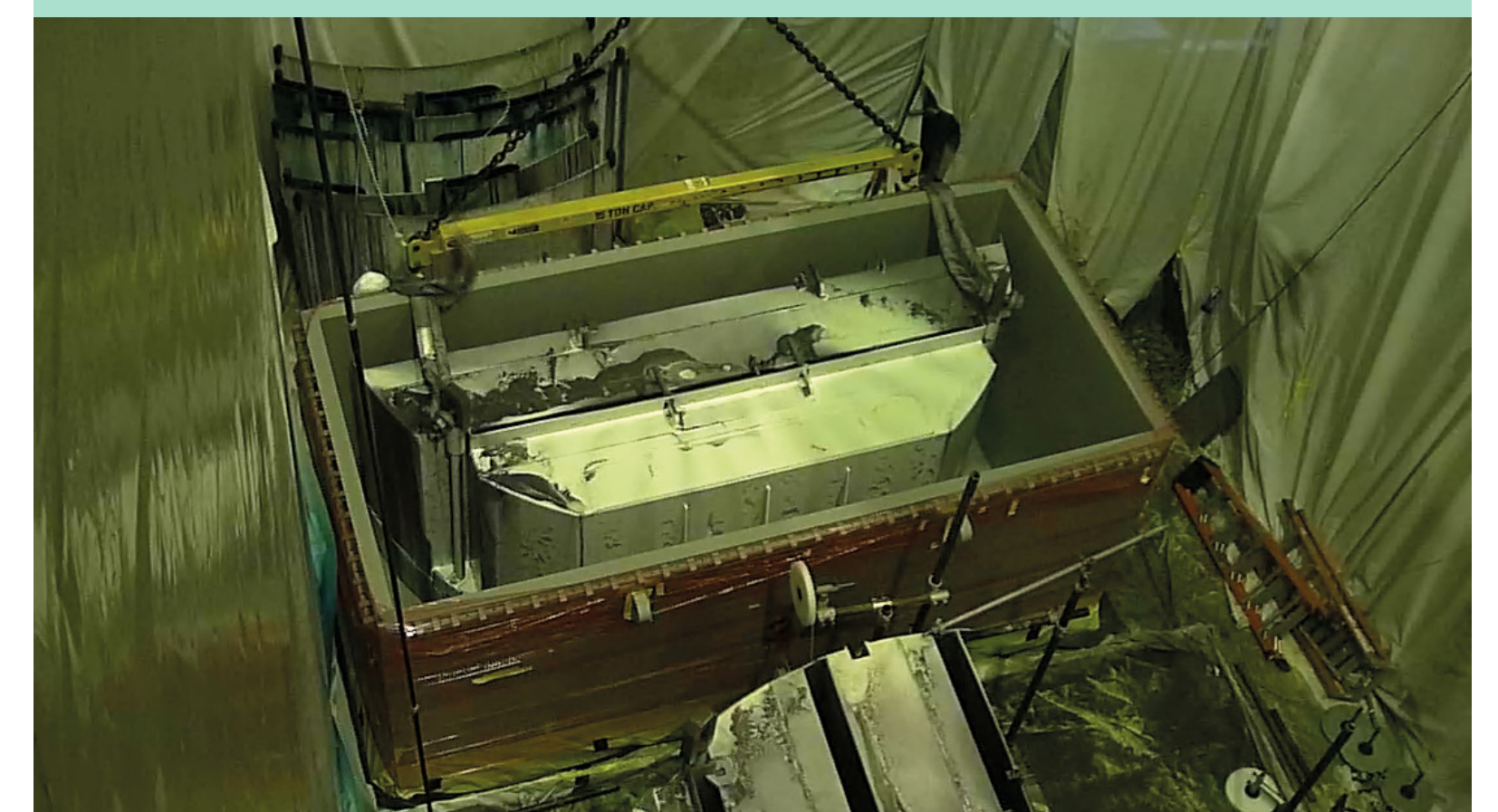
Orano completed the segmentation, packaging, and transport for disposal of the reactor vessel and internals in less than four years, totaling 270,000 of safe work hours.

### Innovative processes and strategies

Reactor head segmented & packaged in one custom box



Segmentation of the steam dryer in dry conditions without grouting



### Large cask

### Robust segmentation technology

First use of the Type-B MP197HB transportation cask

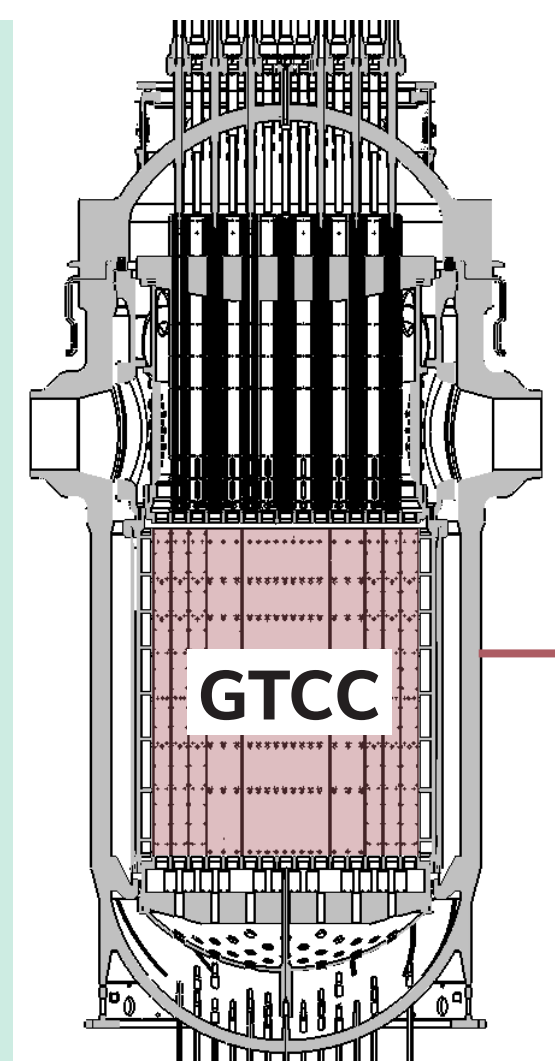


Reactor vessel segmented with mechanical and thermal cutting



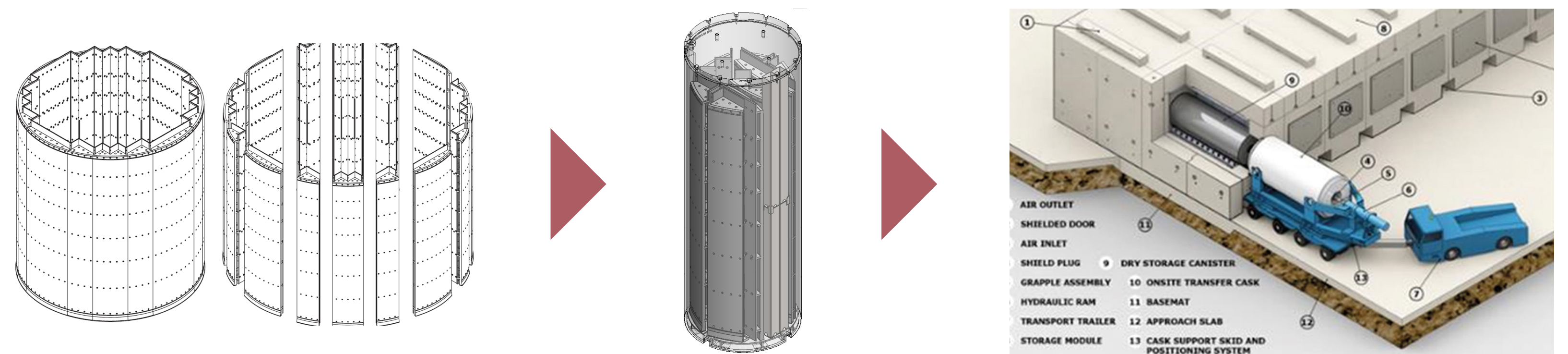
## First Deployment of Patented "Optimized Segmentation"

### Crystal River 3 Nuclear Energy Site

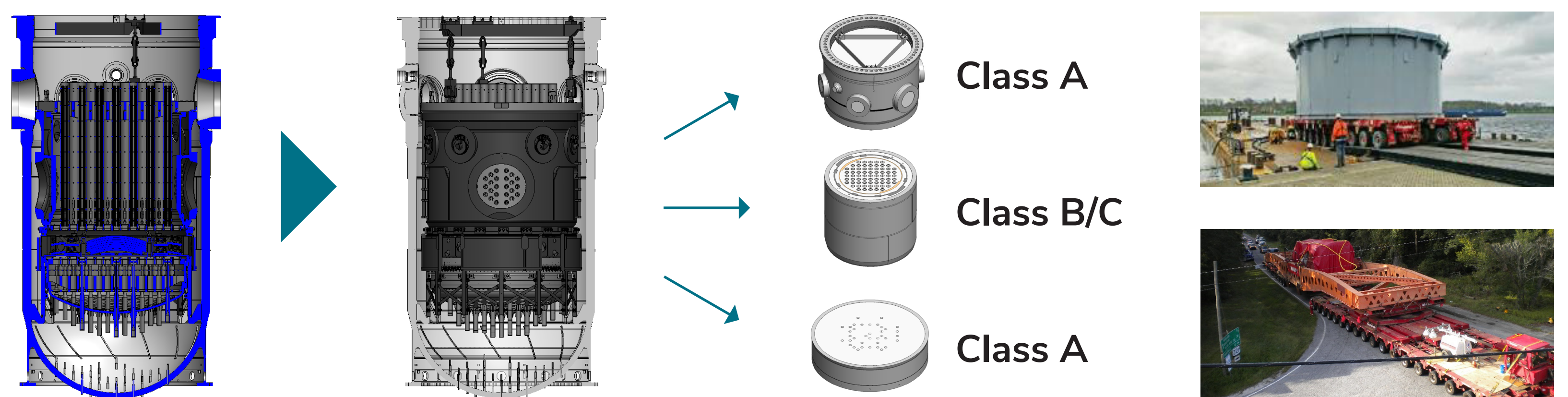


Orano's innovative solution consists of using the RV to receive the RVI segments from which the Greater-Than-Class-C (GTCC) components were extracted. This innovative solution reduces the total of containers to 6 vs. an average of 50-80 for full segmentation.

GTCC components packaged in 2 RWCs for on-site ISFSI storage



Balance of reactor components repacked inside the vessel and grouted. Vessel is segmented and packaged in 3 custom shipping containers for off-site disposal



## Orano Delivers Certainty from Planning to Execution

Uncompromised safety performance

Expertise from extensive lessons learned

Innovative solutions for optimized planning

Robust segmentation technology



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