

# DISMANTLING OF METALLIC LARGE COMPONENTS: DE-PLANTING AND EXTERNAL TREATMENT

## → Cyclife assets

Cyclife and Framatome own unique capabilities and expertise for the de-planting and the management of contaminated large components in Cyclife Sweden.

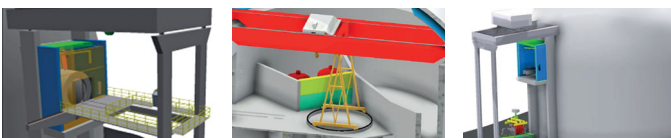
Within a de-planting and disposal “Rip and Ship” concept contaminated large components, like steam generators (SG), are processed off-site as one-piece:

- To save cost by shortening outages and decommissioning schedules
- To reduce waste for disposal throughout clearance and recycling material

**The volume-reduction rate can be up to 95% and the material recycling rate up to 80%, utilizing clearance for a steam generator.**

## → Process

- 1 Disconnection of the SG from the pipework
- 2 Close all opening on the SG
- 3 Removal of the equipment hatch
- 4 SG evacuation from the reactor building
- 5 Placement of the SG on saddles
- 6 Preparations for shipment
- 7 Transport to the Cyclife treatment facility in Sweden
- 8 Weather protected buffer storage
- 9 **Treatment aimed to recycle most of the metal and minimize the volume of waste for disposal**



## → Decontamination

- High efficiency decontamination thanks to mechanical, abrasive technology **with a decontamination factor up to 100**
- In addition, several critical nuclides including Cs, Sr, Alphas etc, are transferred from the metal to the secondary waste during the melting process.



## → Specificities

### Delivery Options

- Multi-modal transportation solutions by sea or by road
- Delivery as Surface Contaminated Objects (SCO) in accordance with the international transport regulations

### Size

- Objects up to 30 meters long and 400 metric tones
- Larger sizes may be accepted but require additional studies

### Objects Treated

- PWR Steam Generators, Magnox boilers, BWR Heat Exchangers, turbines, etc.

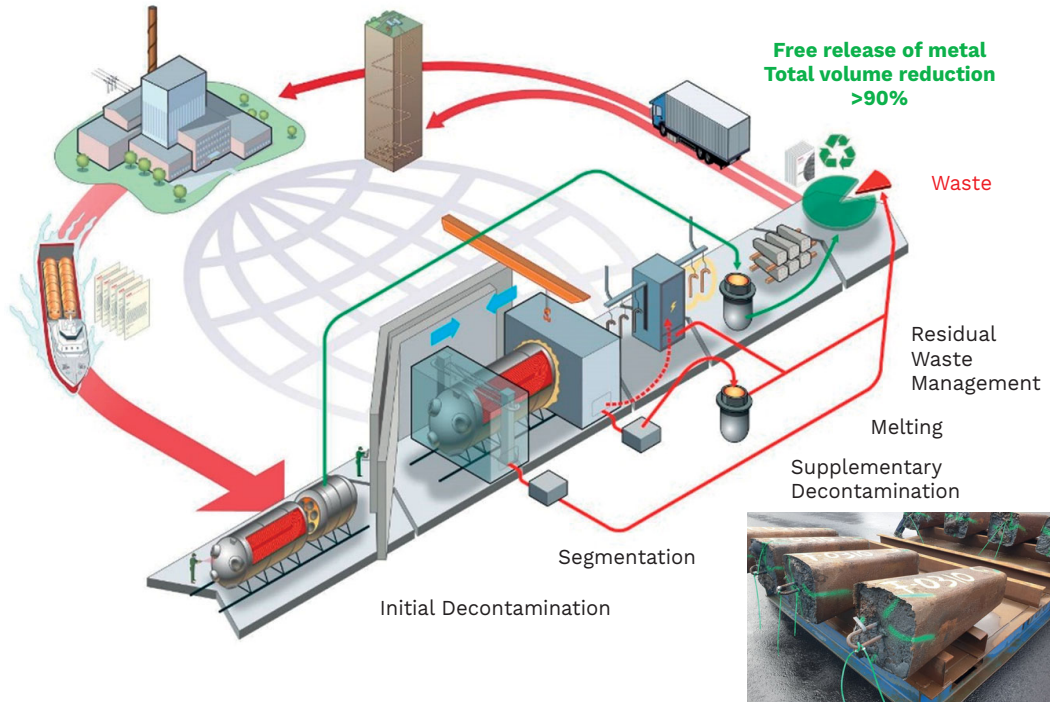
### Enhanced Environmental Profile

- Combination of direct clearance and melting followed by clearance

### Recycling and Packaging

- Clearance using IAEA RSG-1.7 or EC RP89 Table 3-1 threshold values
- Metal Recycling back to the conventional or nuclear industry for the manufacturing of new products
- Produced waste categories can be packed in drums or boxes as per customer request; returned loaded in ISO containers as standard

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## A selection of references

