

# International Conference on Radioactive Waste Management: Solutions for a Sustainable Future (CN-294)



## International Conference on Radioactive Waste Management: Solutions for a Sustainable Future

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## STRATEGIES FOR THE MANAGEMENT OF GRAPHITE WASTE ARISING FROM THE DECOMMISSIONING OF UNGG REACTORS

The decommissioning of UNGG (“Uranium Naturel Graphite Gaz” or “Natural Uranium Gas Graphite” in English) reactors inevitably creates the issue of managing the arising irradiated graphite, both from the reactor pile and from the sleeves surrounding the fuel elements. The irradiated graphite is considered as a long lived intermediate level waste in France and is not contact handle able.

In France, EDF is responsible for the decommissioning of six UNGG reactors and as such EDF, along with its subsidiaries of Cyclife and Graphitech are developing innovative ways of managing the irradiated graphite that has arisen and will arise in the future from the decommissioning programme.

EDF currently has three major projects underway relating to the management of graphite waste:

- The retrieval of graphite sleeves currently stored in a silo at the Saint Laurent des Eaux UNGG site will use remote handling techniques to retrieve, package and transfer graphite sleeves from an inaccessible area.
- The optimisation of the scenario for the graphite structures retrieval in line with the waste transfer route for graphite arising from the dismantling of the reactor pile of the Chinon A2 UNGG reactor. This has been done using digital tools developed specifically for the nuclear decommissioning industry. This has demonstrated a possible net increase in the number of packages that could be able to be evacuated from the work face each day, and which could become necessary as a result of the scenario optimisation and to face better production rates.
- EDF is constructing an Industrial Demonstrator that will be used to de-risk the UNGG decommissioning programme. A part of this will be dedicated to the cutting and removal of graphite bricks and keys from the reactor pile and how to size the resulting waste to optimise waste packing factors. This paper will summarise each of the projects and highlight the principal strategic approaches to managing the graphite arising from UNGG reactor decommissioning and how these approaches may be implemented by graphite reactor decommissioning projects outside of France.

### Do you wish to participate as a Young Professional?

No

### Speaker's title

Mr

### Affiliation

Cyclife, EDF Group

### Do you wish to be considered for a Young Professional grant?

No

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