**Integration Group for the Safety Case (IGSC) Symposium 2024**  
*MOVING TOWARDS THE CONSTRUCTION OF A SAFE DGR – GETTING REAL*

|  |  |
| --- | --- |
| **Abstract Number: 76** | **Session 6.2.2** |
| **Author: Karina Lange Radioactive Waste Disposal Specialist, Waste Technology Section, IAEA, Vienna, Austria**  **Author email: k.lange@iaea.org** | |
| **Abstract Title:** **IAEA technical publication on the Challenges and Options for the Disposal of Reactor Graphite Waste** | |
| **Abstract (300-500 words):**  The IAEA is introducing a new publication that examines the management options for irradiated graphite arising from dismantling of graphite moderated reactors as well as for existing stockpiles of graphite-based operational waste (e.g., fuel element sleeves). Although a major part of this graphite is still in operational or shutdown nuclear power reactors, some countries, including the UK, Lithuania, France and Spain are proceeding with dismantling soon for certain reactors, which presses the need to address disposal. Building on the past IAEA work such as the Project on Irradiated Graphite Processing Approaches (GRAPA), this document focuses on technical considerations specific to the disposal of this material and proposes a corresponding checklist of what should be known to develop and optimize a disposal strategy. In general, countries are exploring the option of disposing of this type of waste in a near surface disposal facility or a geological disposal facility, depending on the specific site properties and waste properties. In addition, some countries are exploring the possibility of carrying out pre-treatment and processing ahead of disposal to reduce the radionuclide content to appropriate concentrations that could make disposal of part of the waste in an existing near surface low level waste facility a feasible option. In some cases, portions of less active graphite waste have been disposed of in near surface facilities. Of most benefit in this publication, are the case studies from 10 countries on approaches to the management of part or all of their graphite waste. In several countries, the performance assessment including the source term, characteristics, contaminant transport and dose assessment are provided. The presentation will present the main outcomes of this new publication. | |