**Integration Group for the Safety Case (IGSC) Symposium 2024**

*MOVING TOWARDS THE CONSTRUCTION OF A SAFE DGR – GETTING REAL*

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| **Abstract Number: 61** | **Session 9.6** |
| **Author:**  **Muhammad Haroon Bilal Ali Khan (h.b.khan@fgga.leidenuniv.nl)** | |
| **Abstract Title:**  *The Children of Atom* – using terrestrial or extraterrestrial legacy arks as part of multi-modal semiotic strategy to communicate with the future  Company Name: Leiden University, the Netherlands  Email address of lead author: [h.b.khan@fgga.leidenuniv.nl](mailto:h.b.khan@fgga.leidenuniv.nl) | |
| **Abstract (300-500 words):**  The Sandia Report of 1993 and the labours of the Human Interference Task Force yielded numerous potential solutions addressing the inevitable problem of communicating the dangers of radioactive waste over extended periods. These ideas range from logical to ludicrous, and include proposals such as glowing cats and atomic religions. Finland’s *Onkalo* has debated sealing their location entirely so as to make it impossible to enter at all.  The author intends to argue **two points:**  The **first** being that the longevity of a message in this field (10,000 years minimum as per the status quo) is ambitious to the point of near impossibility – and that a more modest proposal be made for the information transmitted in this endeavour be designed with a 500 year lifespan in mind – at which point it should be updated (and in subsequent intervals thereafter) so as to preserve its meaning.  The **second,** and more abstract point: that humanity can also make effective use of information arks – projects across the globe (and even off-planet) that gather and catalogue humankind’s knowledge. Information arks could be used as a twofold measure. Firstly, to store information about nuclear waste, its dangers, and an index of where global deposits are held; and secondly, as a non-local marker. Much has been discussed regarding the identifying or marking of where waste is contained, but suppose admittance to this location were to become difficult: is this information that is best preserved, identified, and signposted - or is it better off left behind?  The Svalbard Seed Vault and Arctic World Archive, or the Memory of Mankind Project serve as information arks - massive libraries with knowledge and materials humans have collected and indexed in a way that is designed to preserve them for an unknown future. The golden disk aboard Voyager I manifests this principle on a cosmic scale.  Storing such information off-site to ensure its survival does not present itself as a final, all-encompassing solution to the issue of long term nuclear waste warning messages. It could be reasoned - as per James Reason’s model of risk management - that creating another form factor in which crucial information can survive may prove to be a beneficial component in ensuring that waste we have burdened our children with will not be disturbed. | |