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Application of AGILE project management methodology in R&D to ensure the safe and sustainable disposal of legacy waste

ONDRAF/NIRAS plans to build and operate a surface disposal facility for the low-level radioactive waste in Dessel. The licensing process is underway and should lead to a construction and operation license by mid-2023. The construction of the disposal facility could start in 2024 and its operation could be expected in 2027. The license (and the safety report) will set the conditions that the waste must respect to ensure a sustainable and safe disposal. Besides radiological limits, physico-chemical criteria are also defined. Indeed, the waste can't unduly affect the performances of the Engineer Barriers that play a major safety function and can't perturb the expected evolution of the disposal system.

One of the main challenge is to ensure the disposability of the legacy waste. To achieve this goal an AGILE project management methodology is applied to perform in an iterative way the R&D and to develop in an incremental way solutions allowing a safe and sustainable disposal of this waste. With this methodology, the R&D works could be turned into first solutions that could be quickly deliver allowing not to prevent the construction and operation of the surface disposal facility. The further optimization of the solutions will still continue allowing future developments in order to keep the highest levels of safety standards.

This paper will describe the application of the AGILE project management methodology with the example of the development of solutions allowing the disposal of potentially swelling waste, such as the concrete waste sensitive to ASR (Alkali-Silica-Reaction) and DEF (Delayed Ettringite Formation) reactions.

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