

SERVICE DE METROLOGIE NUCLEAIRE
NUCLEAR WASTE

INTERNSHIPS
(possibly continued in a master thesis)

Academic year **2022-2023**

Internship proposals at ONDRAF/NIRAS

1. Reassessment of non-destructive radiological analysis techniques

The long-term management of low-level waste (called Category A waste) foresees disposal in a surface disposal facility in Dessel. License application for this facility is ongoing. However, it is clear that controls will be needed on the waste before it enters the disposal facility. In this context, several physico-chemical and radiological criteria are defined in the safety file. In order to perform these controls in an ALARA context, it is hoped to perform them as much as possible through non-destructive techniques that can be applied on existing and future waste, of which a large portion is conditioned in 400L drums. The aim of this internship and scription is to (re-)evaluate existing non-destructive radiological analysis techniques versus the current radiological criteria as defined in the license file. If time remains, the study can be broadened to evaluate the possibility of non-destructive nuclear activation analysis (NAA) for some physico-chemical criteria.

2. Overview of the possible physico-chemical and radiological analysis techniques

The long-term management of low-level waste (called Category A waste) foresees disposal in a surface disposal facility in Dessel. License application for this facility is ongoing. However, it is clear that controls will be needed on the waste before it enters the disposal facility. In this context, several physico-chemical and radiological criteria are defined in the safety file. For the specific waste stream of low-level waste that will be produced during the dismantling of the nuclear power plants of Doel & Tihange the objective is to perform these controls on the sites (before the conditioning of the nuclear waste). The aim of this internship and scription is to propose an overview of the possible physico-chemical and radiological analysis techniques taking into account the specificities of the different materials & waste streams.

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