

Belgian R&D monitoring programme

IGD-TP EF4 meeting

WG2 Monitoring

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ONDRAF/NIRAS



EIG EURIDICE GIE



Long-term management of radioactive waste

	Low activity	Medium activity	High activity
Short half-life	A	A	C
Long half-life	B	B	C

Category A waste: surface disposal project cAt

Category B&C waste: R&D programme on geological disposal

Status R&D programme on geological disposal

- **ONDRAF/NIRAS is preparing a first Safety & Feasibility Case (SFC-1)**
 - describing concept and design for geological disposal in clay (not site specific)
 - demonstrating the safety and feasibility of the proposed disposal concept **at a conceptual level**

➔ **implementation of a monitoring plan is currently only done at a conceptual level as well**

- more detailed monitoring plan only possible when the design for geological disposal becomes more clearly specified and site specific
- stakeholder requirements on monitoring to be further defined

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- **Monitoring strategy established**

1. input of the monitoring programme

- ✓ performance assessment basis
- ✓ stakeholder requirements

2. implementation of this monitoring programme

- ✓ identifying the monitoring parameters
- ✓ prioritising the monitoring parameters
- ✓ developing test plans for monitoring those parameters

3. feedback of the programme output to

- ✓ operator
- ✓ stakeholders

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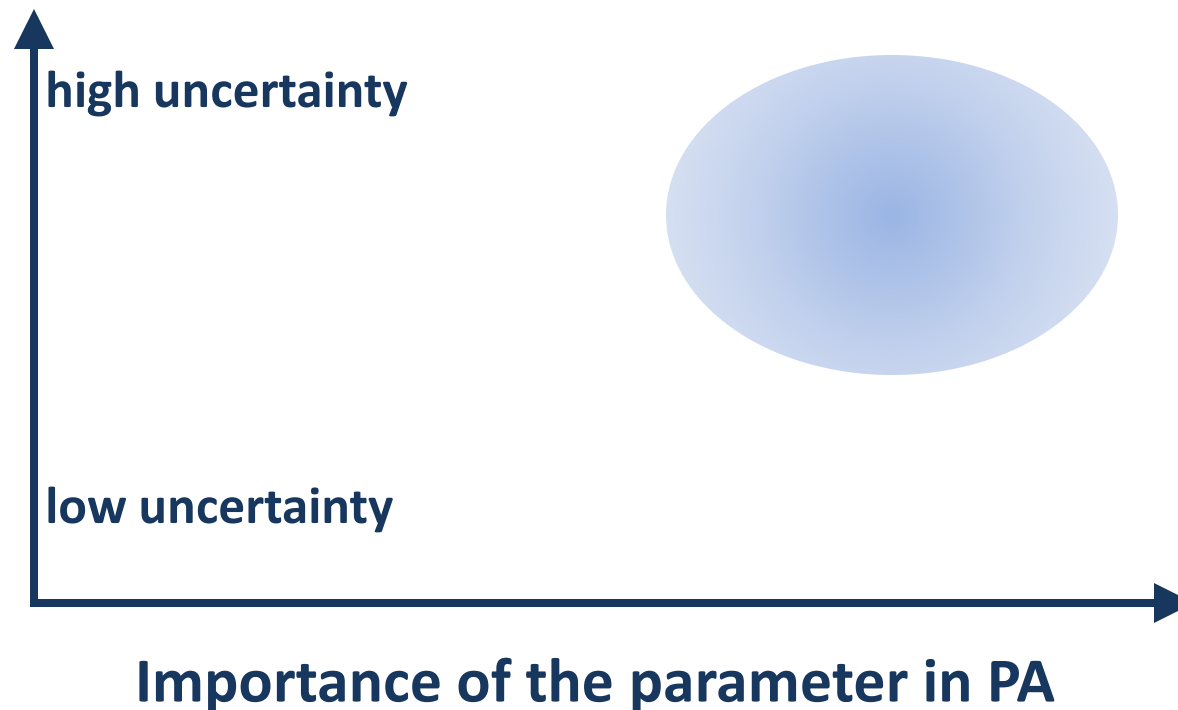
- ✓ operator
- ✓ stakeholders

In the Belgian R&D monitoring programme an exercise in implementing this monitoring strategy will be performed

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1. Identification of monitoring parameters

- identification of parameters important for performance assessment is based on the safety statements



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1. Identification of monitoring parameters

- parameters based on societal dialogue
 - an exercise of such a dialogue has been done in the framework of MoDeRn
 - this enabled us to better understand
 - ✓ why data are collected, for whom (several target audiences are possible) and how that information might be used
 - ✓ how monitoring results are (or can be) translated into meaningful information
 - ✓ how anomalous or unexpected results are defined and dealt with
 - ✓ that there are limits to monitoring
 - should be clearly established and communicated
 - can evolve with time

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2. Techniques to monitor these parameters

- Existing and proven techniques
 - return of EURIDICE's experience with monitoring
 - ✓ HADES URL
 - ✓ category A surface disposal project
 - ✓ other experimental setups (Ophelie, ESDRED, supercontainer tests, etc.)
 - interest in exchange of this kind of experience with other URLs and organisations
- Innovative techniques

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2. Techniques to monitor these parameters

- Existing and proven techniques
- Innovative techniques
 - active development limited because of the conceptual stage of the geological disposal programme
 - focus on components unique to the Belgian concept, i.e. the supercontainer
 - cf. presentation on supercontainer monitoring techniques
 - the HADES URL (and experimental work by EURIDICE in general) can accommodate the testing and demonstration of innovative monitoring techniques

Specific research topics or activities

- **Monitoring programme is currently only at a conceptual level**
- **Societal dialogue exercise to improve the understanding of possible stakeholder requirements on monitoring**
- **Return of experience on monitoring techniques applied in URL and other experimental setups**
- **Development of monitoring technology for supercontainer concept**
- **Possibility to test and demonstrate monitoring techniques in the HADES URL**