

Scope of Work

1. Feasibility Study

Prepare a feasibility study for the waste management of the sediment in the Pelindaba East 1-5 and Beva 12 & 14 ponds. The purpose is to detail and compare the relevant waste management options, considering the national legal and regulatory frameworks that could be considered for the pre-disposal management and ultimate disposal of this sediment waste material. A literature study needs to be conducted to establish international practice. Applying the BATNEEC, or similar technique, to determine and conclude on the preferred option. The cost comparison should be limited to a qualitative comparison at this stage of the project. Depending on the radioactivity and chemical content of the sediment, a range of waste categories could be present, that have to be considered in the feasibility study. Input information will be provided to enable categorization, that includes the classification of the waste.

2. Feasibility study requirements

- a) This feasibility study needs to form a main input to the WMP that needs to be developed and be presented to the NCRWM for acceptance.
- b) Depending on the waste categories and classes involved, the following disposal options need to be considered as a minimum (and considering the comments and responses related to these in the input documents listed below):
 - Disposal to Holfontein
 - Disposal on mine slime dams
 - Disposal at Vaalputs as LLW
 - Disposal at the non-existent SA VLLW disposal site.
- c) Broadly, the same approach and methodology, that was followed for the previously NRWMC approved WMP (Informative 1. below), needs to be applied to ensure consistency.
- d) The feasibility study needs to be documented using a prescribed document format and WM template, which will be provided.
- e) A final draft of the document needs to be submitted to WM for comment by 28 March 2023, before it can be finalized and signed by WM. Review comments will be sent by 30 March 2023.
- f) The feasibility study needs to be finalized by 31 March 2023.

3. Inputs to the Feasibility Study:

- a) LSA-NLM2018-REP-0002 Rev 1.0 Justification for the conditional clearance of the low uranium contaminated pans to Holfontein disposal site
- b) NIL14A0027 NIL14-NAR-0003 Authorization for the Clearance of Uranium containing waste from PEL East Pans 1-5 to EnvironServ for disposal.
- c) NIL14B0036 NIL14-NAR-0003 Authorization for the Clearance of Uranium containing waste from PEL East Pans 1-5 to EnvironServ for disposal (NNR response on NIL14A0027)
- d) NIL14A0037 NIL14-NAR-0003 Authorization for the Clearance of Uranium containing waste from PEL East Pans 1-5 to EnvironServ for disposal (Necsa response on NIL14B0036)
- e) NLM-PLN-00409 rev 1.0 Solid Radioactive Waste Management Plan for Necsa
- f) CEO-DOE-LET-0807: Necsa letter to DMRE on revised WMP August 2022 which includes Necsa response on NCRWM comments related to Pond waste

- g) XXXX: DMRE response on 4 above (Awaiting from DMRE, promised for 4-2-2023....was reminded. Will be shared as soon as received.
- h) Characterization results? (Radiological, Chemical and Quantities)

4. Criteria for the Feasibility Study

- a) Radioactive Waste Management Policy and Strategy for the Republic of South Africa, 2005
- b) SHEQ-INS-8110: Clearance of Material from Authorized Facilities
- c) R388, 2006: Regulations on Safety Standard and Regulatory Practices
- d) VLP-WAC-001 rev 10: Vaalputs Waste Acceptance Criteria

5. Informative:

- a) PEL-2019-REP-0004 Rev 5.0 Eskom - Radioactive Waste Management Plan - KNPS Original Steam Generator disposal (NRWMC approved WMP)