

Permits granted for Belgian waste facilities

23 May 2023



Ondraf/Niras, the Belgian agency for the management of radioactive waste, has been granted a permit to construct and operate a surface disposal facility for low- and intermediate-level, short-lived waste at the Dessel site in Belgium. Meanwhile, a new facility will be built at the site to store non-conditioned waste.



How the surface disposal facility could appear at Dessel (Image: Ondraf/Niras)

In 2006, the federal government approved the development of the surface storage project in Dessel.

Ondraf/Niras submitted an initial version of the licence application to the Federal Agency for Nuclear Control (FANC) in January 2013. However, FANC declared that the dossier was incomplete and requested a number of additional clarifications and additions. The regulator asked a total of some 300 questions. The last of these queries were answered at the end of 2017. During 2018, Ondraf/Niras integrated these responses into the dossier.

Ondraf/Niras submitted the completed version of the application to FANC in February 2019. It said the most important part of the application was the safety case. This document, which included more than 20,000 pages, described all the technical and scientific arguments demonstrating the safety of the facility in the short and long term.

Following the examination and evaluation of the application by the Scientific Council - an independent body composed of experts in the nuclear sector - a royal decree was published on 16 May granting the nuclear licence for the waste facility.

"The publication of this permit is an important step in the long-term management of radioactive waste," Ondraf/Niras said.

It noted the short-lived low- and medium-level radioactive waste, to which this permit relates, falls within 'category A'. "Although this is 'short-lived' waste, it remains radioactive for hundreds of years," it said. "Category A waste will be conditioned in concrete containers, which in turn will be placed in concrete modules. After filling, the modules are covered with several layers of soil, creating a mound."

The procedure for selecting the contractor was launched at the beginning of the year and the aim is to start construction work in 2024, Ondraf/Niras said. The first radioactive waste could be placed within it in a few years.

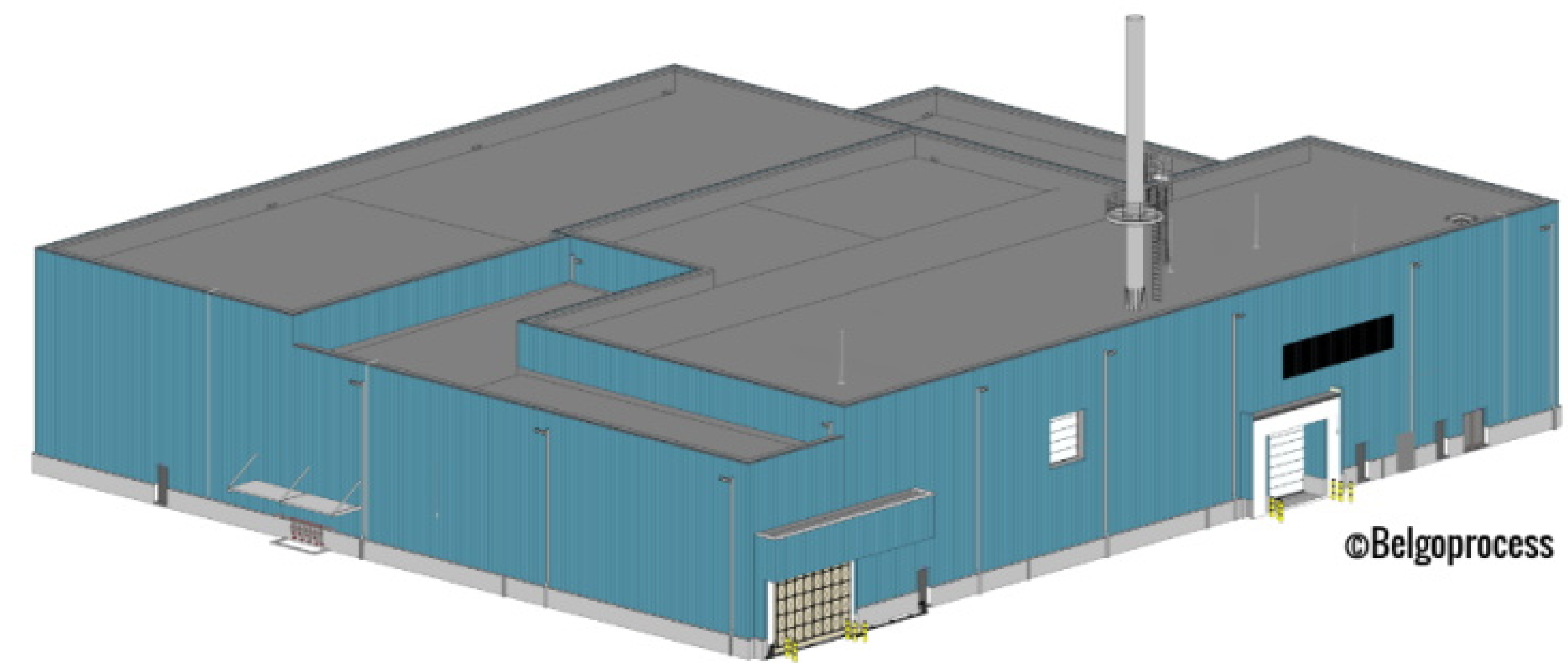
"The granting of the nuclear license is a milestone important for the long-term management of radioactive waste," said Ondraf/Niras CEO Marc Demarche. "The surface storage facility at Dessel will thus constitute a safe solution for low- and intermediate-level and short-term waste from all over the country".

"With this permit, we close a project that has been running for ten years, from the first permit application through numerous requests for advice and additional questions from the FANC to Ondraf/Niras until the final publication of the permit," said FANC Director General Frank Hardeman. "With the permit text that we now have, FANC has guarantees about the long-term safety of the repository, so that we can transfer the radioactive waste to future generations in the best possible way. Naturally, once the installation is operational, FANC will continue to carry out on-site checks and inspections to ensure that everything is proceeding as stipulated in the permit."

"With the imminent decommissioning of a number of our Belgian nuclear reactors, the safety and security of the associated radioactive waste are a priority," said Minister of the Interior Annelies Verlinden. "It is therefore important to isolate the waste from people and the environment in the long term. FANC will now closely monitor the further steps to be taken in dismantling and safe disposal."

Non-conditioned waste store

Meanwhile, Ondraf/Niras's industrial subsidiary Belgoprocess has been given approval by FANC to expand storage capacity for non-conditioned radioactive waste at the Dessel site.



The planned ROC building (Image: Belgoprocess)

On 7 April 2022, Belgoprocess submitted an application to FANC for the extension of its facility with a new installation for the reception and storage of non-conditioned waste. The new building will be called 'ROC' or '165X'.

Belgoprocess said the main objective of the project is to "create sufficient and appropriate storage capacity for non-conditioned waste that is already present on the Belgoprocess sites, that will still be produced by Belgoprocess or that originates from third parties. The relevant waste is temporarily stored pending further processing".

In addition, the project fulfills a second objective, namely the possibility to accommodate the measurement installations for radiological characterisation for the performance of non-destructive analyses. In this context, the design also includes a temporary buffer storage for conditioned waste.

Conditioning radioactive waste means encapsulating processed radioactive waste in a solid, water-resistant mass (such as cement, bitumen or glass) to make it suitable for further treatment, transport, storage and disposal. The purpose of conditioning is to contain the waste so that the radioactive materials cannot spread into the biosphere.

On 24 February, FANC submitted its positive assessment of the application to the Scientific Council on Ionising Radiation, which then issued a favourable opinion. The construction and operating licence was granted on 23 April by royal decree, which was published on 16 May in the *Belgian Official Gazette*.

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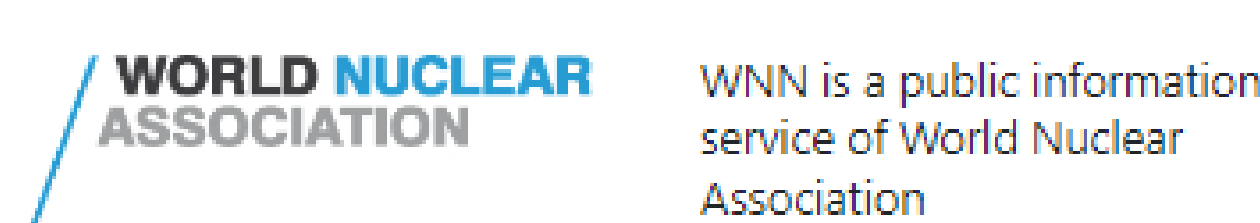
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