



Thursday 2 April 2020

## **ISIN approves the project for the dry storage of irradiated Elk River fuel at the Trisaia ITREC plant**

It was verified the compliance with international standards and nuclear safety and radiation protection requirements

ISIN has approved, in these days, the Detailed Project, presented by SO.G.I.N. S.p.A., for the dry storage of the irradiated fuel of Elk River on the ITREC site of Trisaia (MT).

Sixty-four elements of irradiated fuel from the american Elk River reactor are currently stored in the pool of the ITREC plant. During the nuclear tests for the operation of the plant, carried out in the years 1975-1978, 20 of the 84 fuel elements originally received at the Trisaia research center, were reprocessed as part of a collaboration stipulated in 1959 between the then CNRN and USAEC to verify the technical-economic convenience of the thorium-uranium cycle compared to the uranium-plutonium cycle.

The authorization, with which SO.G.I.N. now operates the plant, establishes the implementation of 3 important activities, which must be approved by the supervisory authority, aimed at making the main radioactivity sources present on the site safe and preparatory for decommissioning operations, including dismantling, of the structures and system systems.

In particular, these activities concerned the construction and operation of a treatment and conditioning plant for the "finished product" (the liquid solution resulting from the reprocessing activities carried out) ICPF whose project was approved in 2010, the removal of the underground monolith containing mainly solid radioactive waste (Fossa 7.1), whose project was approved in 2017 and, in fact, the construction of a dry storage warehouse for spent fuel inside specially made containers (cask).

These projects impose their realization in temporal sequence: in December 2019 the remediation activities of the first of the 3 projects were concluded by means of the transfer of the 4 wells, resulting from the sectioning of the monolith, at one of the deposits of site; the completion of this important activity has freed the area on which the ICPF plant will be built and the deposits where the products resulting from the conditioning of the radioactive liquid



solution and the casks will be placed, within which the radiated fuel will be placed .

The completion of the projects by SO.G.I.N. will improve the safe management of radioactive waste and irradiated fuel, until it is transferred to the national depot.

The investigation, conducted by ISIN for the purpose of approving the project, was aimed in particular at verifying compliance with the international standards and the nuclear safety and radiation protection requirements set to ensure the highest levels of protection for workers, the population and the environment. A similar storage facility, obviously different in size, given the much larger quantities of irradiated fuel to be kept in storage, is for example the Zwiilag temporary storage facility for medium and high activity radioactive waste and irradiated fuel, already operational in Switzerland for many years.

ISIN will supervise the compliance of the implementation of the project with what has been approved.

In the image, the cask, a container intended to host irradiated fuel.

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