

SOCODEI, whose name stands for industrial effluents and waste packaging company, was set up in 1990 by EDF and Cogema to design, finance, construct and operate installations for compacting and packaging low-level waste. This waste is from nuclear power plants, fuel cycle installations, research facilities and "small waste producers" (hospitals and industrial facilities).

On 22 April 1994, SOCODEI submitted an application to the ministry for industry for a licence for a basic nuclear installation, named CENTRACO. This installation is designed to process low-level waste by melting or incineration to produce packages ready for sending to the Aube Disposal Facility. The melting unit is designed to have an annual processing capacity of 1500 t of scrap metal. If necessary, this capacity can be extended to 4500 t per year by operating in continuous mode (3x8 h). The incineration unit is designed to process 3500 t of solid waste per year and 1500 t of liquid effluents per year.

CENTRACO produces two types of waste package for disposal:

- "cold-inerting" packages: 400-litre metal drums containing ash and clinker produced by incineration, solidified with a hydraulic binder consisting of lime and silica.
- metal ingots: cylinders with dimensions similar to those of a 200-litre oil drum.

When the composition of the metals is suitable, the metal produced by melting metal waste is used to manufacture pipes (4-10 cm thick) with a diameter of approximately 1 m. These pipes are either used to make 400-litre cold-inerting metal drums or biological shielding used in concrete canisters. In particular, these canisters are used by EDF for packaging irradiating waste.

CENTRACO processes foreign waste separately to identify the products resulting from processing. The installation returns the waste packages or the canisters fitted with biological shielding to the waste producers. However, solely for the benefit of French clients, SOCODEI can send packages to a low or medium-level waste disposal facility (Aube Disposal Facility).

CENTRACO is located at the southern-most tip of the Marcoule nuclear site, in the Rhone valley, near Orange. The total amount of radioactivity is low: considering that all the interim storage space for waste awaiting processing and packages of treated waste is full and, taking the specific activity of the waste as being the average specific activity of this waste over a ten-year period,

the total activity at CENTRACO is of the order of 200 GBq (5 Ci) for the equivalent activity of the worst-case radiotoxicity group as defined in the decree of 20 June 1966 (Group 1). The radiological impact for the environment of a major accident is therefore slight. However, the radioactivity present in the installation is sufficient for the personnel to run the risk of being exposed to significant amounts of radiation and to dispersed radioactive material. Therefore, it is necessary to protect some workstations using biological shielding and to contain the atmosphere of the rooms in which operations involving radioactivity being dispersed in the atmosphere are carried out (grinding of waste after incineration, cutting of metal waste etc.).

Arranged by

S.K.Mazumder