



CENTRACO INCINERATION PROCESS

SOCODEI HOLDS CONTRACTS FOR THE INCINERATION OF WASTE PRODUCED BY:

- EDF nuclear power plants,
- AREVA NC facilities,
- CEA facilities,
- other small producers (via ANDRA's collection),
- Max Von Laue - Paul Langevin Institute in Grenoble.

Objectives and Scope

The CENTRACO incineration unit processes all of the solid waste and liquid low-level short-lived waste produced by nuclear facilities, laboratories and hospitals or collected directly by ANDRA (Small Producers Department).

This waste may be :

- work coveralls, gloves, boots and protective shoe covers,
 - resins, filters,
 - oil, concentrates, leaching or decontamination solutions and solvents.
- SOCODEI handles the waste, processes and reallocates it to its customers once it is packaged.

Together with the incinerator is a storage capacity of 7,000 m³ and a pre-treatment line (osmosis and evaporation-concentration), to treat 4,000 to 8,000 tons of effluents per year. The approach is part of the more general framework of comprehensive treatment of low-level waste at CENTRACO, in association with the metal waste melting unit.

Processing Capabilities

- 3,000 tons/year of solids,
- 2,000 tons/year of liquids.

Products

Final waste packages, consisting of ash and clinker immobilized in a hydraulic matrix in a 400 liters, 30 mm thick metal drum:

- 60% weight block encapsulating factor.
- weight 1500 kg,
- density 2.

The volume of waste thus incinerated and conditioned is reduced by a factor of 15 to 20.

The comprehensive incineration service includes:

1. Treatment of solid waste:

- reception and interim storage of waste packages,
- reconditioning when necessary, in particular for solid waste that is crushed, compacted and bounced or repackaged in drums at the customer's site or internally,
- incineration of reconditioned waste,
- immobilization of the ash and clinker produced by incineration in a hydraulic binding agent in a process called cold inerting

- (IAF) and packaging it in armored 400 liter metal drums,
- allocation and provision of the final products.

2. Treatment of liquids:

- reception and storage of liquid waste in specific tanks,
- pre-treatment when necessary of effluents from leaching in an evaporation-concentration processing unit,
- incineration of the waste,
- immobilization of the residues (ash and clinker) in cement.



Incinerator



Liquid waste storage tanks

Acceptance Criteria

The combustible solid and liquid waste accepted at the CENTRACO incineration unit are low level radioactivity.

MAXIMUM ACTIVITIES:

- total emitters $\beta\gamma < 40,000$ Bq/g,
- total emitters $\alpha < 370$ Bq/g (for solids and liquids),

LIMITATION ON:

- halogens, chlorine, fluorine, sulphur, heavy metals,

PACKAGING:

- 90 to 200-liter plastic drums, (metal possible)
- various tanks of 5 to 23 m³,
- any other packaging method after study,

TRANSPORTATION:

- in accordance with ADR and ISO standards.

All waste delivered to CENTRACO has been previously reviewed for acceptance by SOCODEI on the basis of the shipment declaration made under the producer's liability.

As for metallic waste, the acceptance of foreign waste is also subject to the prior signing of an intergovernmental agreement stipulating the conditions for their management and the commitment to return final residues to their country of origin.

Waste from foreign customers is treated and the final packages are returned to the producer in accordance with the terms of the intergovernmental agreement.

SOCODEI's commitment

SOCODEI commits for its French customers to process and condition the waste entrusted to it, in accordance with ANDRA specifications for surface storage of low-level radioactive waste.



Pre-Treatment of Effluents

