# Synopsis of remarks

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## 1. The cornerstones of the radioactive materials and waste management french policy.

A dedicated legal framework set out by the Environment Code and by the Programme Act 2006-739 of 28th June 2006 concerning the sustainable management of radioactive materials and wastes defines the overall policy :

- the strategic vision is given by the National Plan for Radioactive Materials and Waste Management (PNGMDR) which :
  - is updated every three years on the basis of works and exchanges within a pluralistic working group, comprising environmental protection associations and regulartory authorities and regulatory assessment bodies, alongside radioactive waste producers and managers (PNGMDR 2016-2018 is the 4th edition),
  - is submitted to Parliament for assessment and made public,
  - sets out the principles and objectives of radioactive materials and waste management and ensures its logic,
  - draws up an inventory of existing and under development management routes,
  - proposes possible solutions for improving the management of all radioactive materials and waste.
- ensures the transparent information and consultation at local and Parliamentary levels and with the general public, via the PNGMDR and the public debates,
- secures the financing of long-term nuclear costs,
- a specialized public organization responsible for the long-term management of radioactive wastes, Andra (French national radioactive waste management agency) which duties notably include the design and operation of disposal facilities, the performance of studies and research into storage and deep geological disposal and the drafting and publishing every three years of the inventory of radioactive materials and waste present and foreseen in France.

## 2. Industrial operational management routes exist for 90 % of radioactive wastes produced each year.

- a disposal facility, located in the Aube department and operated by Andra, has been accepting very low level waste since 2003. At the end of 2016, the total volume placed in that facility was about 328,000 $m^3$, or about 50% of the authorised regulation capacity (650,000 $m^3$) and the latest production estimates indicate that needs will be more than 2,000,000 $m^3$,
- given their radiological content, low and intermediate level, short lived waste have been disposed of on the surface since 1969, in the Manche waste disposal until 1994 and in the Aube waste disposal facility (CSA) since 1992. At the end of 2016, the total volume placed in that facility was about 316,000 $m^3$, or about 30% of the authorised regulation capacity (1,000,000 $m^3$) The latest production estimates for this type of waste, indicate that the CSA should be able to take all the waste produced by the operation and the decommissioning of the current fleet.

## 3. Progress of the Cigéo project for the storage of high level or intermediate level, long lived waste.

Andra has initiated the Cigéo industrial design phase in 2012, by launching the industrial preliminary design studies. The final stage of Cigéo industrial design, the detailed design, started in early 2016 and should continue until 2018 for the delivery of the creation authorization application file. To prepare this step, Andra has submitted in early 2016 a safety options file and a folder of technical options for retrievability, which are under assesssment and a proposal of a director plan for the exploitation of Cigéo, which will be submitted to stakeholders consultation. The start-up of the installation, subject to authorization, is envisaged in 2025 and will begin with a pilot industrial phase. Reception of the first radioactive waste packages is scheduled for 2030 for a routine operation around 2035.

## 4. It is essential to optimize the management of waste produced by decommissioning operations

Beyond the studies and projects already under way, the management of radioactive waste produced by decommissioning is a key axis of optimization and a major challenge, from the technical, economic, financial and societal point of view. Decommissioning operations will constitute significant sources of waste by 2020-2030, the management of which must be anticipated from now on.

The current forecasts announce a volume of very low level radioactive waste of the order of 1,300,000 $m^3$ by 2030, double the current storage capacity of this waste (650,000 $m^3$), of which more than 75 % are decommissioning waste (rubble, earth, metal waste).

It is therefore essential to define new ways of managing especially all VLL waste but also LL-LL waste such as graphite, in order to optimize their management in accordance with the principles of the environment code and to preserve the scarce resource of storage.

Possible solutions to reduce the flow of VLL radioactive waste destined for disposal, such as densification (by incineration or compaction) or the reutilisation of some waste are currently under study.