

Evaluation of the National Plan for radioactive materials and waste management, 2013-2015

*Summary of the report submitted on behalf of OPECST
by Christian Bataille, MP, and Christian Namy, Senator*

Published every three years, the National Management Plan for Radioactive Materials and Waste (PNGMDR) was instituted by the law of 28 June 2006, which provides for its transmission to Parliament for review by the Parliamentary Office for Evaluation of Scientific and Technological Options. In accordance with these provisions, Christian Bataille, MP, and Christian Namy, Senator, were responsible for assessing the PNGMDR for 2013-2015. In a study that led them to meet over sixty actors directly involved in the management of radioactive waste in France and abroad, the rapporteurs focused primarily on the plan itself, as well as on the functioning of the cross-party working group in charge of its development. But they also discussed two major issues for the future management of radioactive waste in France: research on partition-transmutation and the proposed deep geological repository, Cigéo. They further sought to draw lessons from the public debate on the latter, which took place in 2013.

The introduction in 2006 of a national plan for the management of radioactive materials and waste (PNGMDR), and the establishment of cross-party working group responsible for its development, are important steps in the progression towards transparency and public participation in this area.

The work of the OPECST has been decisive in this regard, since the 1990 report on radioactive waste management signed by Christian Bataille, MP, which resulted in the 1991 law that bears his name, followed by the 2000 report by Michèle Rivasi, MP, suggesting for the first time the idea of a national radioactive waste management plan, and the 2005 report by the MPs Christian Bataille and Claude Birraux, proposing the institution of such a plan as part of the 2006 law on the management of radioactive waste.

In 2011, a European Directive took up the idea of a national plan which describes management modes for all radioactive waste, making the development of such a plan an obligation for all member states.

Improving the participation of associations

Since its incorporation, the cross-party working group of the PNGMDR has served as a model for several other forums, in particular the working

groups of the High Committee for Transparency and Information on Nuclear Security (HCTISN).

Since its creation in 2006, the latter has played a critical role for transparency in nuclear safety, and the rapporteurs ask that it be quickly restored.

However, the functioning of the National Plan working group is not without its imperfections. The participants – associations, the industry and Andra – explained the problems to the rapporteurs. For the associations, with limited manpower and resources, the time required for attendance at meetings is a real difficulty, even though they are pleased to be able more and more often to assert their positions. As for Andra and the industry, they complained about the growing number of studies required of them in this context.

The scope and complexity of the issues addressed by the working group PNGMDR render the exercise of truly cross-party development particularly difficult. **The rapporteurs suggest getting around this difficulty by allowing associations to request, in the case of one or two particularly important subjects, a referral to the HCTISN.** These topics would then be processed by a working group of the High Committee. The conclusions of the latter would

be presented to the National Plan working group.

The rapporteurs also noted that there were still some obstacles to associations being able to attend preparatory technical meetings and consult the files concerned. They ask that these constraints be lifted, within the limits imposed by compliance with commercial confidentiality.

Increasing awareness of the PNGMDR

The PNGMDR appears, in form and content, entirely consistent with the requirements of the law of 2006. Christian Bataille and Christian Namy were reassured that the main participants in the working group recognize the value and importance of the document, albeit for different reasons. Some see it primarily as a management tool, others as a means of public information.

The National Plan 2013-2015 is the third edition of this plan, and very significant progress has been made in both form and content. In its presentation, the latest report is more easily accessible to the public than previously, and this is also partly the result of previous recommendations by the Office.

Despite this facilitated reading, the rapporteurs find that awareness of the National Plan is not yet sufficient. To improve it, they suggest organizing presentations of the document to local Information Committees. Such an approach would reach an audience of 3,000 people all over the country, who are already involved in nuclear issues.

Maintaining research on the fuel cycle

The development of solutions for the separation and transmutation of long-lived radioactive elements is the first of three research areas defined by the first law of 1991 on the management of radioactive waste.

This is an ambitious goal: to reduce the active period of the most long-lived radioactive elements. These elements must first be separated out. Once separated, they must be transmuted by fission in a reactor designed for this purpose.

At the end of 2012, in accordance with the law, the CEA presented an evaluation of the industrial prospects of partitioning and transmutation which confirms that research now makes it possible to have laboratory-tested procedures to separate long-lived radioactive elements.

However, the ability to achieve separation on an

industrial scale is determined by the viability of existing installations for reprocessing fuel and recycling. Therefore, a discontinuation of spent fuel processing would prevent the finding of industrial applications for research on partitioning and transmutation.

Although the treatment of spent fuel currently has technical limitations, and the decline in the price of uranium makes it less profitable, one must not judge its economic viability on the basis of the often erratic price movements of a commodity. For EDF – and for France – ensuring the supply of fuel for plants is a vital necessity. The industrial asset in the form of EDF's nuclear plants, and the strategic stocks of associated materials, would make it possible to deal with fluctuations on the market.

The construction of spent fuel processing facilities in Russia, China and Japan is an opportunity for our industry, but also a risk of increased competition in the international market.

Christian Bataille and Christian Namy consider it necessary to draw the conclusions from this situation by increasing research on the fuel cycle and especially on that required for separation-transmutation.

Progressing on the safety of future reactors

Once separation is carried out, transmutation requires a reactor capable of generating a neutron flux.

The file, submitted at the end of 2012 by the CEA, proposes the development of a demonstration fast sodium-cooled neutron reactor of 600 MWe called ASTRID, while continuing support several alternative projects.

As this is a development which – as required by law – will lead to the construction of an operational reactor around 2020-2025, the CEA's choice of a sodium-cooled reactor is motivated by the maturity of this sector. Thus, Russia has been operating a 550 MWe reactor of this type for over thirty years. Its 880 MWe successor went critical mid-2014. For its part, France has already built three reactors of this type.

The fact remains that sodium is a highly reactive metal. It reacts instantly with water, exothermically, generating sodium hydroxide and hydrogen. However, none of the alternative pathways is free from difficulties in terms of safety, as demonstrated by a study published by

IRSN. Conversely, sodium has advantages, such as its thermal inertia. In response to concerns about the technology, the CEA proposes significant progress in terms of security for the future reactor. Nevertheless, ASN, the French Nuclear Safety Authority has made additional requests in this regard.

The rapporteurs believe that the choice of the CEA is appropriate, given the deadlines, but approve of the stringent requirements of the Nuclear Safety Authority (ASN), and encourage the CEA to consider the additional requests it has made. Maintaining nuclear safety requires a constant determination to improve, all the more so in the case of a research and development project.

Restoring transparency about the Cigéo project

The 1991 law created Andra as an institution independent of waste producers, and entrusted it with the task of ensuring the management of all radioactive waste and associated facilities. Until the end of 2009, Andra was alone in managing work on deep geological disposal, within the established deadlines, and reporting exclusively to the Government and Parliament.

But in 2010, following the release of a new estimate by Andra on the cost of the project, which was significantly higher than the previous estimate in 2005, major waste producers released an alternative project to that of Andra, and questioned the ability of the latter to carry out the project. They offered to become involved in project management, in particular by making available their internal expertise and feedback on major projects.

Faced with this situation during their evaluation of the previous plan, Christian Bataille and Claude Birraux expressed their position frankly by sending the producers a reminder of the law on the independence and functions of Andra.

Despite their warning, a year later, under the aegis of the General Direction for Energy and the Climate (DGEC), Andra signed a cooperation agreement with the producers. Without neglecting the contribution of the producers to the Cigéo project in terms of feedback and expertise and the legitimacy of their concerns with regard to possible abuses of the cost of this project, the rapporteurs find that the organization set up by the DGEC for exchanges between the producers

and Andra is not satisfactory, since it has led, for the first time, to significant delays in the project schedule. Furthermore, they consider that the lack of transparency surrounding the relationship between Andra and producers in the framework of this agreement contradicts the spirit of the law.

Thus the rapporteurs ask the DGEC to ensure, in future, the greatest possible transparency in the exchanges between Andra and the producers, and to limit the impact of these exchanges on the completion time of the project, by limiting the number and duration of meetings.

Monitoring the long-term costs

However, the lack of transparency also concerns the costs of the project and, more broadly, of all the long-term costs of nuclear power. The last official assessment of the cost of Cigéo dates back to 2005. A new assessment was to be published in late 2013. The rapporteurs request that the DGEC to do so before the end of 2014.

The 2006 law on radioactive waste management created an independent commission, the National Commission for Financial Evaluation (CNEF), responsible for verifying the adequacy of provisions made by the waste producers to finance their long-term costs. In the past, the Office has repeatedly warned the Government about the establishment of this commission, which was four years late in publishing its first report.

Given the need for Parliament, but also for the Government, to have the means to ensure a more effective control over the conditions for financing the long-term costs of radioactive waste producers, **Christian Bataille and Christian Namy advocate transforming the CNEF into an independent body of suitable composition, with its own secretariat,** like the National Review Board (CNE2).

This renewed CNEF would be responsible for ongoing monitoring of the long-term costs of the nuclear industry, as well as the adequacy of their provisions and corresponding assets.

Inserting the Cigéo project into the territory

Another point highlighted in the 2013 public debate on Cigéo has particularly caught the attention of the rapporteurs, because of the risk that it causes in the short term: it is the lack of attention to the conditions of integration of the future storage center into the territory. Some

impacts of the Cigéo project will materialise in 2015 with the establishment of the initial infrastructure essential to the project's progress.

However, there is to date, no administrative structure able to support the implementation of the project Cigéo in the territory. This could result in a lack of coordination between project stakeholders and local actors, which is likely to produce delays and dissatisfaction. Since this is a project in the national interest, **the rapporteurs are asking the Government to establish without delay a "Cigéo mission" responsible for assisting the integration of the project into the territory**, reporting directly to the Prime Minister and led by a senior figure.

The deployment of the initial facilities is an opportunity to give new impetus to the economic support of the territory, as provided for by the law. The "Cigéo mission" would also be well placed to identify early opportunities, inform local businesses, and consider how best to take advantage of them.

Regarding taxation associated with this project, it is not acceptable that the conditions of its implementation are still not defined at this stage. The rapporteurs ask the Government to rapidly make specific proposals on this subject. The "Cigéo mission" could also be mandated to liaise with the two territorial departments concerned, Haute-Marne and Meuse.

In short, this mission would ensure essential coordination, which is non-existent at the moment. Moreover, for the population and for local elected officials, its creation would provide evidence of the attention given to this project at the highest level of the State, which is not the case at present.

Drawing all the conclusions of the public debate

In accordance with the 2006 Act, the National Commission for Public Debate (CNDP) organised a series of public debates on the Cigéo project, from May to December 2013.

The concerns expressed by Christian Bataille and Claude Birraux in the previous plan assessment report, regarding the risk of public meetings being prevented by a small number of determined opponents, have unfortunately been fully confirmed, since the first two meetings, held in Bure and Bar-le-Duc in May and June 2013, were

interrupted.

The CNDP rightly called on the public authorities to "take the necessary measures to ensure that the debate takes place and is calm" It is, in fact, up to the executive branch to enforce the law. Faced with the impossibility of holding the planned public meetings, the CNDP organized nine debates on the Internet, which made possible a real interactive dialogue between Andra, independent experts and the public.

Given the record of public debate on Cigéo, the rapporteurs consider that, despite the obstacles, it has not only taken place, but has also reached its objectives, both in informing citizens and in terms of collection of the differing views expressed on this project.

The public debate ended on December 15, 2013. The conclusions of the debate were published in February 2014. In May 2014, the Board of Andra decided to make changes to its plan in order to take into account the results of the debate. However, several proposals and conclusions from the public debate are not directly within the competence of Andra, but arise from an intervention by the Government or Parliament. **The OPECST therefore suggests that the Government too should draw conclusions from the public debate** because it is a condition of the credibility of this procedure.

The report can be read on the OPECST website:
<http://www.assemblee-nationale.fr/commissions/opecest-index.asp> <http://www.senat.fr/opecest/index.html>

November 2014

