



22.11.2016

WORKING DOCUMENT

on ECA Special Report 22/2016 (Discharge 2015): EU nuclear decommissioning assistance programmes in Lithuania, Bulgaria and Slovakia: some progress made since 2011 but critical challenges ahead

Committee on Budgetary Control

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Introduction

In 2011, the European Court of Auditors (ECA) presented its first special report on the decommissioning of the old nuclear power plants in Bulgaria (Kozloduy), Lithuania (Ignalina) and Slovakia (Bohunice). In Bulgaria and Slovakia, the power plants are based on water-water energetic reactors, whereas in Lithuania a Chernobyl-type graphite-moderated (RBMK-1500) reactor was used.

When Lithuania, Bulgaria and Slovakia were candidate countries to join the European Union (EU), the closure and subsequent decommissioning of eight Soviet-designed, first generation nuclear reactors at three nuclear power plant sites was made a condition for their accession. However, as the shutdown and subsequent decommissioning of these nuclear reactors before the end of their design lifetimes represented a significant financial and economic burden for the three Member States concerned, the EU agreed to provide financial support, starting in 1999.

EU financial assistance for nuclear decommissioning (in million EUR)

	1999-2006	2007-2013	2014-2020	TOTAL
Lithuania	530	837	451	1 818 48%
Bulgaria	340	510	293	1 143 30%
Slovakia	201	423	225	849 22%
TOTAL	1 071	1 770	969	3 810

By 2020, EU support will have totalled EUR 3,8 billion, with Lithuania receiving the biggest share, followed by Bulgaria and then Slovakia. In its impact assessment prepared for the 2014-2020 financial period, the Commission stated that it did ‘not foresee any further extension of financial EU support’ beyond 2020.

As permitted under the relevant legal provisions, the European Commission has opted to manage the nuclear decommissioning assistance programmes via indirect management. In this management mode, the Commission entrusts budget implementation tasks to implementing bodies, but retains overall responsibility and accountability for EU budget implementation. The Commission therefore has to ensure that the implementing bodies have adequate control and monitoring structures in place. The European Bank for Reconstruction and Development (EBRD) acts as an implementing body for all three of these programmes.

Decommissioning creates six different kinds of waste:

Class	Description	Management and disposal	
Exempt	Waste that contains such small concentrations of radionuclides that it does not require provisions for radiation protection and can be cleared from regulatory control.	Ground level	free release, waste dump
Very short-lived	Waste that contains only radionuclides of a very short half-life with activity concentrations above clearance levels.	Ground level	decay storage
Very low-level	Waste that does not necessarily meet the criteria for exempt waste, but that does not need a high level of containment and isolation.	Ground level	landfill
Low level	Waste with limited amounts of long-lived radionuclides. Such waste requires robust isolation and containment for periods of up to a few hundred years.	Underground level	near surface (< 30 metres)
Intermediate level	Waste that, because of its content, particularly of long-lived radionuclides, requires a greater degree of containment but no, or only limited provision for heat dissipation.	Underground level	intermediate depth (30-100 metres)
High level	Waste with levels of activity concentration high enough to generate significant quantities of heat or with large amounts of long-lived radionuclides. Spent nuclear fuel falls under this category.	Underground level	geological disposal (> 400 metres)

Depending on the level of contamination and radiation, the waste has to be treated in different ways, from normal waste dump to secure underground disposal, if it cannot be recycled.

Audit scope and approach

The Court examined whether the programmes had made progress in terms of:

- dismantling the plants, obtaining the necessary licences and putting in place spent fuel and waste management infrastructure;
- establishing a reliable assessment of costs and securing the necessary funds to complete decommissioning.

To assess progress at project level, the Court selected 17 EU-funded infrastructure and non-infrastructure nuclear decommissioning projects across the three Member States. The Court selected projects where we had made the most critical findings in our previous report and other projects, which are crucial for decommissioning. The Court also gathered data on the delays and cost overruns affecting 18 ongoing key infrastructure projects.

The Court's conclusions

- Kozloduy and Bohunice have been defueled, whereas Ignalina was only partially defueled; furthermore, no decommissioning licence was issued for Ignalina. Although generally on track according to the decommissioning plans, the radiological

characterisation of the reactor buildings is not yet comprehensive at any of the three plants.

- Several projects for handling waste of higher radioactivity levels or future increased volumes are facing delays and some remain in the design phase. In Ignalina, the construction of solid waste management and storage facilities are delayed by 9 years; in Kozloduy, the national disposal facility for low- and intermediate-level radioactive waste, the main missing element, is delayed by 6 years; in Ignalina, the construction of the interim spent fuel storage facility is 10 years behind schedule compared with the 2005 final decommissioning plan.
- No solution has been found for storing high-level radioactive waste in deep geological depository; however, throughout the EU, only one deep geological repository is currently under construction in Finland.
- Delays in decommissioning can be attributed to the following factors:
 - challenges in determining and implementing first-in-kind technological solutions,
 - incomplete historical operational data and poor information on how the plant was actually built,
 - incomplete inventory and/or characterisation of waste, particularly for the reactor buildings, and
 - commercial disputes with contractors.
- Total estimated decommissioning cost has increased by 40 % to EUR 5.7 billion since 2010; this amount does not include the final underground disposal; if the latter were included the costs would probably double.
- Future costs should be systematically recognised and recorded as provisions and/or included in the notes to the accounts
- Lithuania, Bulgaria and Slovakia face a financing gap of EUR 1 681 million, of which Ignalina alone account for EUR 1 561 million, Kozloduy for EUR 28 million and Bohunice for EUR 92 million.
- The Commission's assessment of the respective financing plans and detailed decommissioning plans, i.e. of the second and third ex-ante conditionalities respectively, was inadequate. The Commission's Internal Audit Service corroborated this assessment in September 2015.

The Commission's position

- In Ignalina, the decommissioning of the Chernobyl-type reactors is a first-of-a-kind process which actually entails the greatest challenges
- The nuclear decommissioning assistance programmes (NDAP) cover the decommissioning process and waste management infrastructure including the safe long-term storage of waste and disposal of low-level waste. Low-level waste typically comprises over 90 % of the waste volume and mature solutions for disposal are available. Disposal of spent fuel and high-level waste is part of the Member States' responsibility under the radioactive waste directive, and covers all such waste produced in the Member State.

- The Commission will investigate the economic, legal and social impacts of shared repositories, considering that the sharing of facilities for spent fuel and radioactive waste management, including disposal facilities, may be a potentially beneficial, safe and cost-effective option.
- The Commission acknowledges that a number of decommissioning projects experienced delays particularly in the previous MFF. The Commission introduced increased planning, monitoring and reporting requirements for the 2014-2020 financing period, and closely follows project implementation through desk and on-the-spot reviews. Delays experienced in Bulgaria and Slovakia do not currently affect the end date.
- During the last decade, the outlook in terms of nuclear decommissioning has evolved considerably. The Commission has contributed to the improvement of cost estimation for decommissioning programmes and participated in the drawing up of the International Structure for Decommissioning Costing of Nuclear Installations (ISDC) in 2012 together with OECD/NEA. Further developments of decommissioning cost estimation are still necessary; this is an issue of high interest worldwide, as the OECD/NEA and IAEA are still quite active in addressing cost estimation and uncertainties. The Commission fully supports these activities.
- Concerning the inadequate assessment of the ex-ante conditionalities an action plan was put in place in 2015. It should be completed in 2016.
- According to the internationally recognised ‘polluter pays’ principle, it is the responsibility of the Member State to ensure that the operator fulfils its obligations as the polluter and sets aside sufficient financial resources to cover the full cost of decommissioning, including the final disposal of spent fuel.

The Court’s recommendations

1. The Commission and the three Member States should ensure progress in decommissioning.
2. The Commission and the three Member States should, in parallel, progress with their plans for final disposal of high-level radioactive waste.
3. The three Member States should recognise their own role in ensuring that the “polluter pays principle” is respected, and be prepared to use national funds to cover decommissioning costs, as well as the cost of final disposal, both in the current financing period and thereafter.
4. The three Member States should increase national co-financing during 2014-2010 financing period.
5. Dedicated funding programmes for nuclear decommissioning in Lithuania, Bulgaria and Slovakia should be discontinued after 2020.
6. The Commission should allow EU financing under the nuclear decommissioning assistance programmes to be used to finance only the costs of staff working fully on decommissioning activities.
7. The Commission should complete its assessment of the ex-ante conditionalities.

8. The Commission should work together with all relevant Member States so that all future costs associated with nuclear decommissioning and the final disposal of spent fuel are accounted for properly.

Recommendations by the rapporteur for possible inclusion in the 2015 Commission discharge report

The European Parliament:

- ❖ Welcomes the Court's dedicated work on the decommissioning of nuclear power plants as demonstrated in the current and 2011 special report¹;
- ❖ Supports the recommendations of the Court, of which the Commission fully accepted the majority;
- ❖ Recalls that since 2012 the Committee on Budgetary Control took a particular interest in the question of nuclear decommissioning, and therefore organised fact-finding missions to the three nuclear power plants in 2012, 2013 and 2014;
- ❖ Underlines that nuclear safety is of prime importance, not only for the Member States concerned but for the population in the whole European Union;
- ❖ Emphasises that, in Lithuania, the removal and safe interim storage of nuclear rods from Unit 2 must be a priority;
- ❖ Recalls that, in Lithuania, one of the main reasons for delays was that technical and commercial disputes between national authorities and external contractors remained unsolved for years; to avoid such a problem interfering with the decommissioning process dedicated project management teams should be designated; asks the Commission if such project management teams are in place in all three Member States concerned;
- ❖ Reminds the Commission that the Slovakian Supreme Audit Office had scheduled an audit in JAVYS2 for 2015; asks to be informed about the findings of this audit; in this context, calls on the competent Bulgarian and Lithuanian authorities to audit also the decommissioning processes in Ignalina and Kosloduy;
- ❖ Is worried about delays in works on facilities for the storage of low and intermediate-level radioactive waste; calls on the Commission to update Parliament's competent committee on progress made before the 2015 Commission discharge vote in parliament;
- ❖ Calls on the Commission to inform its competent committee about the efforts to close the financing gap, in particular in Lithuania;
- ❖ Recalls that the Court estimated the decommissioning costs in the three Member States, including high-level waste and spent nuclear fuel disposal at EUR 11 388 million; considers that the costs of decommissioning should not include the costs for high-level waste and spent fuel disposal, which falls in the responsibility of Member States and should be covered by national funds;

¹ Special Report No 16/2011, EU financial assistance for the decommissioning of nuclear plants in Bulgaria, Lithuania and Slovakia: achievements and future challenges (<http://eca.europa.eu>).

² Jadrové vyrad'ovacia spoločnosť (JAVYS): The owner of the nuclear power plant and responsible for the decommissioning of the Bohunice nuclear power plant

- ❖ Calls on the Commission to present, together with the three Member States concerned, a report regarding the actual status of the management of the spent fuel and radioactive waste generated by the decommissioning of the three nuclear power plants;
- ❖ Calls on the Commission to work together with the Member States in identifying geological depositories for high-level nuclear waste, if the waste cannot be recycled.
- ❖ Insists that dedicated funding programmes for nuclear decommissioning in Lithuania, Bulgaria and Slovakia should be discontinued after 2020;
- ❖ Calls on the Commission to ensure that all future costs associated with nuclear decommissioning and the final disposal of spent fuel are accounted for properly and calculated in accordance with international standards and European Union legislation;
- ❖ Calls on the Commission to evaluate action plans in the three countries with the view to suggesting common tenders for similar projects, especially for consultancy and the design of waste storage facilities;
- ❖ Calls on the Commission to evaluate the decommissioning process in Lithuania, Bulgaria and Slovakia, including the cost-effective use of EU financial assistance, during the financial period 2007-2013;
- ❖ Calls on the European Bank for Reconstruction and Development (EBRD) to audit the functioning of the Decommissioning Support Funds between 2007 and 2013;
- ❖ Is shocked by the Court's findings that Commission's assessment of the respective financing plans and detailed decommissioning plans for the 2014-2020 financing period, i.e. of the second and third ex-ante conditionalities respectively¹, was inadequate; asks who shoulders the financial responsibility for this failure in the Commission; in this context, wants to be informed about the completed action plan which remedied the discovered weaknesses.

¹ See COM(2011) 783 final, Council Regulations (Euratom), No 1368/2013 and No 1369/2013 and Commission Implementing Decision C(2014) 5449