

EVALUATION AND FITNESS CHECK (FC) ROADMAP			
TITLE OF THE EVALUATION/FC	Mid-term evaluation of the Nuclear Decommissioning Assistance Programme (NDAP)		
LEAD DG – RESPONSIBLE UNIT	DG ENER – D.2 ENER - PLAN/2016/249	DATE OF THIS ROADMAP	19/01/2016
TYPE OF EVALUATION	Evaluation	PLANNED START DATE	Q3 / 2016
	Interim	PLANNED COMPLETION DATE	Q3 / 2017
	Mixed	PLANNING CALENDAR	<a href="http://ec.europa.eu/smart-regulation/evaluation/index_en.htm">http://ec.europa.eu/smart-regulation/evaluation/index_en.htm</a>
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A. Purpose
(A.1) Purpose
<p>The mid-term evaluation of the Nuclear Decommissioning Assistance Programmes (NDAP) in Bulgaria, Slovakia<sup>1</sup> and Lithuania<sup>2</sup> will consider and assess the results and impacts, the efficiency of the use of resources and its Union added value. The evaluation will also address the scope for modification of the detailed implementation procedures.<sup>3</sup></p> <p>It will be the basis for the relevant communication to the European Parliament and the Council and a main input for the Impact Assessment of a possible continuation of the programme.</p>
(A.2) Justification
<p>Under Article 9 of Council Regulations 1368/2013/Euratom and 1369/2013/EU on Union support for the nuclear decommissioning assistance programmes in Bulgaria, Slovakia and Lithuania, the Commission is required to establish by 31 December 2017 a mid-term evaluation report on the achievement of the objectives of all the measures related to the Kozloduy, Bohunice and Ignalina programmes.</p>

B. Content and subject of the evaluation
(B.1) Subject area
<p>Since early 2000's the Union has been assisting financially three Member States to decommission eight Soviet-designed first generation nuclear reactors: Kozloduy (KNPP) units 1 to 4 in Bulgaria, Ignalina (INPP) units 1 and 2 in Lithuania, and Bohunice V1 (V1 NPP) units 1 and 2 in Slovakia. In 2014 the Kozloduy, Bohunice and Ignalina programmes were revised and updated detailed decommissioning plans established a new time schedule and budget for each programme up to the respective end-state and the Union agreed to extend its assistance until 2020.</p> <p>In view of the safety objectives of the Euratom Treaty, during all stages of the nuclear fuel cycle the application of</p>

<sup>1</sup> Council Regulation (Euratom) No 1368/2013 of 13 December 2013 on Union support for the nuclear decommissioning assistance programmes in Bulgaria and Slovakia, and repealing Regulations (Euratom) No 549/2007 and (Euratom) No 647/2010 (OJ L 346, 20.12.2013, p. 1) & correction (OJ L8, 11.1.2014, p.31).

<sup>2</sup> Council Regulation (EU) No 1369/2013 of 13 December 2013 on Union support for the nuclear decommissioning assistance programme in Lithuania, and repealing Regulation (EC) No 1990/2006 (OJ L 346, 20.12.2013, p. 7) & correction (OJ L8, 11.1.2014, p.30 & OJ L121, 24.4.2014, p.59).

<sup>3</sup> Commission Implementing Decision C(2014)5449 of 7 August 2014 on the rules of application for the nuclear decommissioning assistance programmes for Bulgaria, Lithuania and Slovakia for the period 2014-2020.

the highest level of nuclear safety standards is fundamental for the safety of the public and the environment. In particular, for the back end of the cycle, specific measures are necessary to ensure that adequate financial resources are available at the scheduled time for all decommissioning activities of nuclear installations and for the management of spent fuel and radioactive waste<sup>4</sup>.

Upon accession Bulgaria, Lithuania and Slovakia committed to shut down eight Soviet-designed first generation nuclear reactors which could not be economically upgraded to Western safety standards. The premature shutdown and subsequent decommissioning of these plants resulted, besides social and energy implications, in a significant financial burden of direct and indirect costs for the three Member States; in particular because for none of the plants sufficient decommissioning and waste management funds could be accumulated during their operational life.

The financial assistance from the EU aims neither to cover the full cost of decommissioning nor to compensate for all economic consequences of early closure, but is rather an expression of solidarity between the EU and the three Member States. At the end of the current MFF, the three Member States could be well in a position to pursue the safe completion of the decommissioning programmes without further Union assistance; this is very likely for Bulgaria and Slovakia; however Lithuania openly relies on the agreements enshrined in the accession treaty, which would call the EU for continued support until the Ignalina programme's end.

All three Member States have built up substantial project management competences in nuclear decommissioning and significant progress was observed in the last few years. Further improvement is necessary since other major challenges lay ahead, as the European Court of Auditors observed in its latest performance audit on the NDAP.

#### (B.2) Original objectives of the intervention

The original objective of the intervention was to obtain the shut-down at the earliest time of the reactors which did not ensure an acceptable level of nuclear safety, nor could be economically upgraded to meet the safety requirements. Moreover the intervention aimed at ensuring that the reactors' closure was irreversible. An "immediate decommissioning" strategy was therefore supported and eventually all three Member States opted for immediate decommissioning. To date the Commission considers, in line with the Member States, that no plants subject to the NDAP can be economically restarted, because the dismantling activities have passed the "no return" point.

In the legal basis for the assistance in the MFF 2014-2020, the general objective has been defined such as to assist the concerned Member States in implementing the steady process towards the decommissioning end state of Kozloduy (KNPP) units 1 to 4 in Bulgaria, Ignalina (INPP) units 1 and 2 in Lithuania, and Bohunice V1 (V1 NPP) units 1 and 2 in Slovakia, in accordance with their respective decommissioning plans, whilst maintaining the highest level of safety<sup>5</sup>.

Article 2 of each of the two regulations defines the main specific objectives of the decommissioning programmes for the 2014-2020 funding period. These objectives are further detailed in the detailed implementation procedures.

In respect of the Kozloduy programme the main specific objectives are:

- (i) performing dismantling in the turbine halls and in auxiliary buildings;
- (ii) dismantling of large components and equipment in the reactor buildings;
- (iii) safely managing the decommissioning waste in accordance with a detailed waste management plan.

In respect of the Ignalina programme the main specific objectives are:

- (i) defueling of the reactor core of unit 2 and the reactor fuel ponds of units 1 and 2 into the dry spent fuel storage facility;
- (ii) safely maintaining the reactor units;
- (iii) performing dismantling in the turbine hall and other auxiliary buildings and safely managing the decommissioning waste in accordance with a detailed waste management plan.

In respect of the Bohunice programme the main specific objectives are:

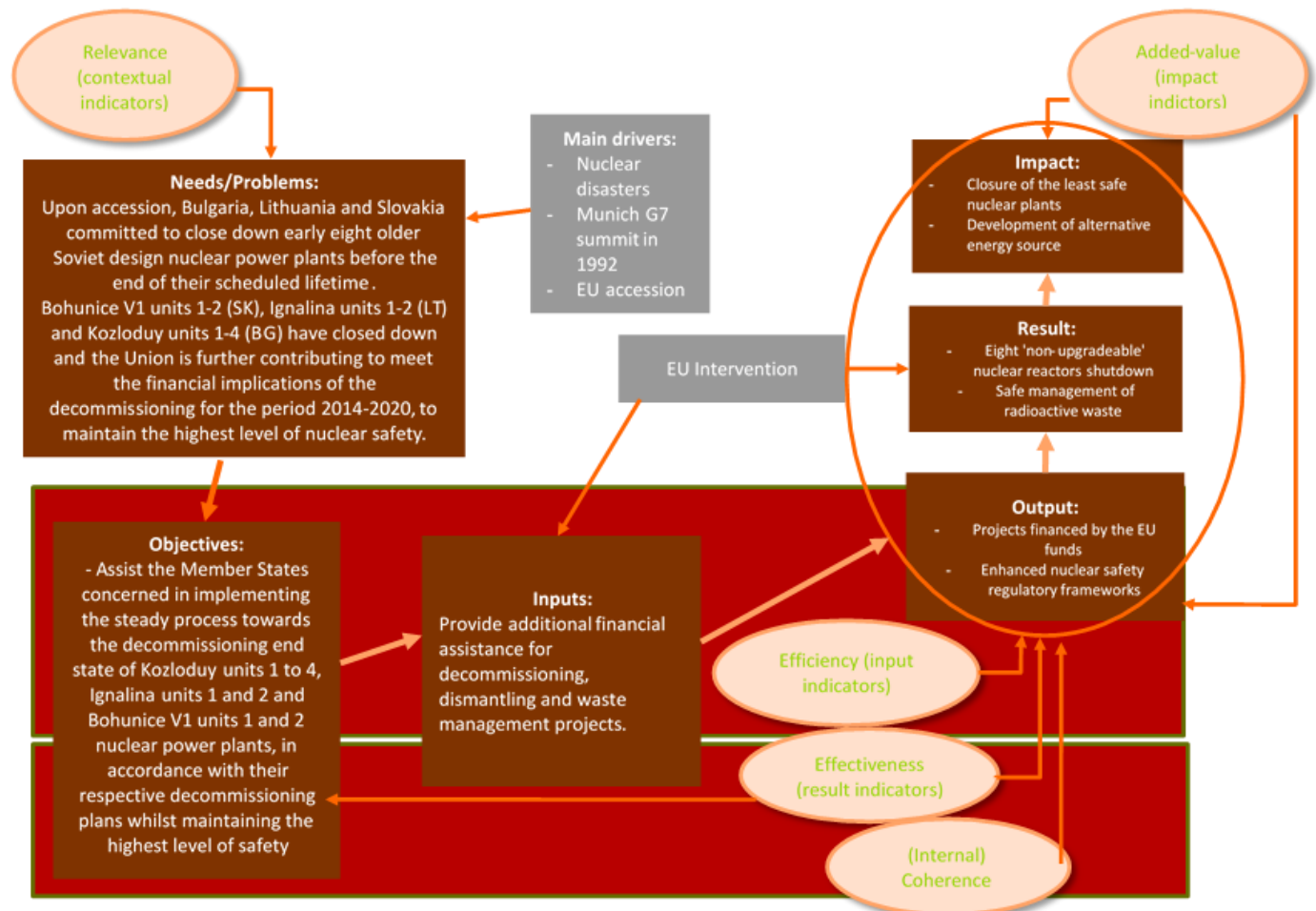
- (i) performing dismantling in the turbine hall and auxiliary buildings;
- (ii) dismantling of large components and equipment in the reactor buildings;
- (iii) safely managing the decommissioning waste in accordance with a detailed waste management plan.

<sup>4</sup> Commission Recommendation (2006/851/Euratom) of 24 October 2006 on the management of financial resources for the decommissioning of nuclear installations, spent fuel and radioactive waste (OJ L 330, 28.11.2006, p. 31).

<sup>5</sup> In previous financial frameworks, EU financial assistance was established to support the three Member States both to safely decommission the reactors subject to early closure and to implement mitigation measures in the energy sector, such as replacement capacity, environmental upgrading, modernisation and energy efficiency.

### (B.3) How the objectives were to be achieved

#### Intervention logic



The objectives are achieved through financial assistance mainly to the operators/license holders in charge of the decommissioning of the concerned nuclear power plants.

The Commission implements the NDAP by indirect management;

- Since 2001 implementation tasks have been entrusted to the European Bank for Reconstruction and Development (EBRD), with contributions to three International Decommissioning Support Funds.
- In Lithuania, since 2003 an increasing portion of the tasks have been entrusted to a national Central Project Management Agency (CPMA). Thus the Ignalina programme is managed through two channels.
- In 2015, upon request of the Slovak Republic, the Commission services assessed the national Slovak Innovation and Energy Agency (SIEA) with the aim of establishing a new implementation channel for the Bohunice programme. Thus, as from 2016, the Bohunice programme is managed through two channels.

The detailed implementation procedures adopted by the Commission in 2014 include the decommissioning plans which provide the baseline for monitoring progress over the entire duration of the nuclear decommissioning assistance programmes.

The Commission is assisted by a committee, established in line with Regulation (EU) 182/2011, consisting of representatives of all Member States. Amongst its activities the committee gives its opinion on the annual financing decisions and its members participate in an exchange of views on the annual work programmes.

Each of the three concerned Member State appoints a Programme Coordinator that is responsible for the programming, coordination and monitoring of the respective decommissioning programme at national level. Programme Coordinators submit annual work programmes to be approved and adopted by the Commission. The annual work programmes specify the objectives, expected results, performance indicators and timeline for the use of funds. They update the implementation schedule of the multi-annual decommissioning plans, taking into account the latest developments in the implementation of the programmes. The annual work programmes must however remain within the objectives and scope of the decommissioning plans as initially adopted by the Commission.

Moreover, a Monitoring Committee is in place for each Member State to ensure the coordinated monitoring of all measures and financial assistance under the respective decommissioning programme.

## C. Scope of the evaluation/FC

### (C.1) Topics covered

The evaluation covers the implementation of the NDAP at the mid-term of the programming period 2014-2020.

As presented in section B, the intervention is long-standing, given the long term nature of decommissioning programmes. Therefore the transition from the previous programming period (2007-2013) to the present programme has to be analysed, in particular with focus on the following topics;

- Safety - enhancement of nuclear safety and safety standards for public health and environment.
- Governance - impact of the changes introduced in 2014 and scope for further improvement, which will bring to the issuance of a new Commission Implementing Decision to review the present detailed implementation procedures<sup>3</sup>.
- Programmes output - the irreversibility of the plants shut-down and their decommissioning, progress and performance of the decommissioning programmes.
- Knowledge – know-how development, knowledge sharing / codification with potential for positive effects in the general Union decommissioning market.

The evaluation will in particular revisit the economic (e.g. electricity prices for consumers, electricity trade, competitiveness), social (employment, security, health) and environmental impacts stated in 2011 NDAP impact assessment (see D.2).

Indirect impacts represent also important topics for the evaluation;

- Governance – effects on national framework for nuclear safety and safe and responsible management of spent fuel and radioactive waste.
- SME – impact on local market for SME providing services, supplies, works for the decommissioning activities. Possible effects on the general Union market for decommissioning activities.
- Employment – effects on employment levels as well as impacts on staff skills and training.
- Inclusion – social impacts in remote areas (in particular Visaginas (LT) and Kozloduy (BG)).

### (C.2) Issues to be examined

In line with the requirements of the Better Regulation guidelines, the mid-term evaluation of the NDAP will assess the effectiveness, efficiency, relevance, coherence and EU added value of the assistance programmes. In addition the issues of risk, sustainability, scope for change/simplification, complementarity, coordination, and communication will be evaluated.

The evaluation will analyse the achievement of the objectives of all the measures related to the NDAP

- at the level of results and impacts, with reference to
  - the NDAP general objective, the changes of organisational structures, the lasting changes (e.g. knowledge build up), the management systems (e.g. waste management systems);
  - the NDAP specific and detailed objectives as well as key performance indicators;
- the efficiency of the use of resources, with focus on costs and target on continuous improvement;
- its Union added value, with focus on the Commission leverage to maximise impacts and foster development in the nuclear decommissioning sector.

The progress of the implementation will be evaluated against the specific and detailed objectives of the NDAP Regulations and more generally against the detailed decommissioning plans and the successive annual work programmes.

The potential for simplification of the management system and reduction of the administrative burden will be considered.

### (C.3) Other tasks

The external contractor tasked with the evaluation study will also prepare a report of the open internet-based public consultation.

## D. Evidence base

### (D.1) Evidence from monitoring

The programme benefits of an intense monitoring process leveraging the strong managerial competences of the main stakeholders of its implementation. The progress of the technical and financial implementation is reported in detail every six-month in a reviewed quantitative monitoring report. It presents a comprehensive overview of the implementation including a comparison of the actual performance relative to the baseline schedule and progress made in achieving the objectives of the programme. Monitoring reports have been issued for the three decommissioning programmes up to the first semester of 2016.

An annual report presents the progress of the programmes implementation to the European Parliament and the Council. Two such reports have been issued:

- Report from the Commission to the European Parliament and the Council on the implementation of the work under the nuclear decommissioning assistance programme to Bulgaria, Lithuania and Slovakia in 2015 and previous years - COM/2016/0405 final  
<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016DC0405>
- Report from the Commission to the European Parliament and the Council on the implementation of the work under the nuclear decommissioning assistance programme to Bulgaria, Lithuania and Slovakia in the period 2010-2014 - COM/2015/078 final  
<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52015DC0078>

### (D.2) Previous evaluations and other reports

The NDAP Impact Assessment was issued in 2011:

- Impact assessment - Accompanying document to the Proposal for a Council Regulation on Union support for the nuclear decommissioning assistance programmes in Bulgaria, Lithuania and Slovakia.  
<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52011SC1387>

Several reports analysed the situation of the NDAP until 2013, the latest are:

- Nuclear Decommissioning: Management of Costs and Risks, Report from Öko-institut - IP/D/CONT/IC/2013\_054 25/11/2013  
[http://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/490680/IPOL-JOIN\\_ET%282013%29490680\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/490680/IPOL-JOIN_ET%282013%29490680_EN.pdf)
- Report from the Commission to the European Parliament and the Council on the use of financial resources during 2004-2009 provided to Lithuania, Slovakia and Bulgaria to support the decommissioning of early shut-down nuclear power-plants under the Acts of Accession - COM(2011) 432 final  
<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52011DC0432>
- EU financial assistance for the decommissioning of nuclear plants in Bulgaria, Lithuania and Slovakia: achievements and future challenges - European Court of Auditors Special Report No 16 2011  
[http://www.eca.europa.eu/Lists/ECADocuments/SR11\\_16/SR11\\_16\\_EN.PDF](http://www.eca.europa.eu/Lists/ECADocuments/SR11_16/SR11_16_EN.PDF)

The recommendations made in this last report have been taken up in the 2014-2020 NDAP legal bases and are currently implemented. The European Court of Auditors has conducted a new performance audit of the NDAP in 2015 and has issued the Special Report on 20 September 2016. The conclusions of this new report have been taken into account in the design of this evaluation.

- EU nuclear decommissioning assistance programmes in Lithuania, Bulgaria and Slovakia: some progress made since 2011, but critical challenges ahead - European Court of Auditors Special Report No 22 2016  
[http://www.eca.europa.eu/Lists/ECADocuments/SR16\\_22/SR\\_NUCLEAR\\_DECOMMISSIONING\\_EN.pdf](http://www.eca.europa.eu/Lists/ECADocuments/SR16_22/SR_NUCLEAR_DECOMMISSIONING_EN.pdf)

The Commission is currently performing a study for the Nuclear Decommissioning Assistance Programme (NDAP) – Assessment of the robustness of the financing plans considering the economic-financial-budgetary situation in each concerned Member State and of the relevance and feasibility of the detailed decommissioning plans – Deloitte, study carried out for the European Commission.

On the more general subject of the financing of decommissioning in the EU:

- Communication from the Commission to the European Parliament and the Council on the use of financial resources earmarked for the decommissioning of nuclear installations, spent fuel and radioactive waste - COM/2013/0121 final  
<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52013DC0121>
- Commission Recommendation on the management of financial resources for decommissioning - 2006/851/Euratom



<a href="http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32006H0851">http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32006H0851</a> <ul style="list-style-type: none"> <li>Costs of Decommissioning Nuclear Power Plants, NEA No. 7201, OECD 2016 <a href="https://www.oecd-neo.org/ndd/pubs/2016/7201-costs-decom-npp.pdf">https://www.oecd-neo.org/ndd/pubs/2016/7201-costs-decom-npp.pdf</a></li> <li>Cost Estimating for Decommissioning Nuclear Reactors in Sweden – Swedish Radiation Safety Authority <a href="http://www.stralsakerhetsmyndigheten.se/Global/Publikationer/Rapport/Sakerhet-vid-karnkraftverken/2014/SSM-Rapport-2014-01.pdf">http://www.stralsakerhetsmyndigheten.se/Global/Publikationer/Rapport/Sakerhet-vid-karnkraftverken/2014/SSM-Rapport-2014-01.pdf</a></li> </ul>
(D.3) Evidence from assessing the implementation and application of legislation (complaints, infringement procedures)
The Commission has had no complaints as regards implementation of the NDAP in the concerned Member States. Issues raised by Member States were dealt bilaterally or through the Monitoring Committee (see section B.3). One post-audit recovery of funding is on-going in Bulgaria.
(D.4) Consultation
<p>The aim of this consultation is to gather opinions from relevant stakeholders on the NDAP 2014-2020 at its mid-point. The consultation strategy follows two parallel paths.</p> <p>(a) Objective: collection of technical evidence from those stakeholders that have a first-hand experience because they are directly involved in the implementation of the programmes. Targeted stakeholders: the decommissioning operators, the implementing bodies, nuclear safety organisations in EU Member States, international organisations and in particular the International Atomic Energy Agency, other donors present in the concerned Member States, the nuclear private sector, and any relevant EU expert groups, in particular the Decommissioning Funding Group (DFG). Consultation methods and tools: this is a part of the data gathering process by direct interactions with stakeholders via meetings, phone calls and targeted questionnaires.</p> <p>(b) Objective: exploratory consultation to help delineate the indirect impacts, positive or negative, of the programme. Based on the results, the consultant will quantify and evaluate those impacts. Targeted stakeholders: general public and stakeholders at broad; local Small and Medium-sized Enterprises, trade unions, regional/ local/municipal authority and national organisations representing not-for-profit interests will be directly informed of the survey. Consultation methods and tools: An open public consultation consisting of a general non-technical survey in English, Lithuanian, Bulgarian and Slovak will be opened for a period of 12 weeks, starting in January 2017. The results will be published via "Your voice in Europe" (<a href="http://ec.europa.eu/yourvoice/consultations/index_en.htm">http://ec.europa.eu/yourvoice/consultations/index_en.htm</a>).</p>
(D.5) Further evidence to be gathered
Further evidence should be obtained through field trip visits, desk reviews, contacts with the national authorities of the concerned Member States as well as with the implementing bodies (in particular EBRD and CPMA).

## E. Other relevant information/ remarks

The Internal Audit Service observed that the Commission's assessment as to whether the financing and decommissioning plans fulfil the ex-ante conditionalities of the NDAP had been inadequate. The Commission has already taken corrective actions to complete the assessment by October 2016.