

**EXPLORATORY SEMINAR**

**Decommissioning, a new challenge for nuclear safety**

6 February 2017, Brussels, European Parliament, A5E1

Working languages: English

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**Context**

**The urgent problem of nuclear installations decommissioning**

The decommissioning of nuclear facilities is one of the major challenges of the coming decades for Europe. A precise agenda of decommissioning is not available yet, but Europe will face a large number of closed down facilities. It is inevitable that facilities will stop, either because their planned lifetime comes to an end, otherwise because of economic, industrial or security reasons. According to statistics from the World Nuclear Association (association gathering producers of energy coming from nuclear power), 14 reactors have stopped operating as a result of an accident or a serious incident, 22 were shut down because of political choices and 97 were closed for economical profitability reasons.

Preparations should be made immediately to manage the massive decommissioning coming. The European Union has currently 131 nuclear plants in operation, 75% run for over 27 years, while the technical lifetime of a reactor ranges from 30-40 years, even though some will be extended to 50-60 years of operation. Europe has already several closed down reactors, but none of these plants have been completely decommissioned. The International Atomic Energy Agency (IAEA) recognizes the final shutdown of 29 reactors in Britain, 28 in Germany, 12 in France, 4 in Bulgaria, four in Italy, two in Lithuania, one in the Netherlands, three in Slovakia, two in Spain, three in Sweden.

**Decommissioning operations**

When decision of shutting down a power plant is taken, there's still a decision to make about the strategy to adopt: immediate dismantling (meaning starting the operations as soon as possible after a facilities' shutdown), deferred dismantling (waiting for the natural radioactive decay) or an entombment (pouring concrete over the entire building). What are the strategies mainly chosen in Europe?

The term decommissioning covers the whole ranges of activities executed after the cessation of a facility: dismantling of structures, systems and components, soil remediation, recycling, confinement, removal and disposal of produced spent fuel and radioactive waste. Do European countries control the technical feasibility of such a process? What are the experience feedbacks? On which experiences can they rely on to face the massive decommissioning process to come?

The process of decommissioning is also confronted to territorial matters:

How can a territory be prepared for decommissioning? What are the possible projects of replacement? Will the European sites return to grass, a « green field » state which means to make the land available for a subsequent use, or to the status of « brown field », that allows an industrial reuse of the land? The final goal of decommissioning is a very important issue because it will have an impact on the general cost and on the quantity of waste to manage.

### **Safety matter**

Decommissioning is a major safety issue. Decommissioning consists in deconstructing facilities that have been nuclear facilities and will remain so as long as they are not completely dismantled. This raises important issues in terms of safety and radioprotection of the workers of the sector as well as the whole population and the environment. Classical risks become significantly greater during decommissioning operations due notably of decommissioning operation of electrical installations as well as handling, carvings and deconstructions works carried out. How to evaluate the safety of the decommissioning process? What will be the immediate impact and long-term impacts on the health of workers? Will some epidemiological studies be considered?

The dismantling of a nuclear installation involves the creation of waste and effluents can be very different from those produced during the operational phase. The most harmful waste, spent fuel, has very strong safety issues. As for the waste of very low activity, which represents little danger, will be produced in much larger quantities. The decommissioning waste pose disposal, management and also of transport issues.

### **Financial matter**

Moreover, apart from the technical, health and environmental related difficulties, cost and financing of such projects appear as essential elements. Large uncertainties exist about the costs and duration of a decommissioning that remain difficult to estimate. Several questions arise: how are achieved the assessments of decommissioning costs, and what are the results? Are the estimates made in Europe reliable and useful? Concerning financing, the "polluter pays" principle is the current basis; the funding responsibility leans primarily on the operator of the facility. What are the financing practices in Europe (co-financing, shared control, financial reserves)? Are the operators' financial reserves sufficient? What happens in the case of an operator's financial default, would the consequences fall upon the States, and thus on the taxpayers?

### **Transparency and public participation**

Risk assessment related to decommissioning is mainly based on the operator's techniques. It is therefore essential to have legal measures ensuring transparency of processes throughout the European Union. Are there control means independent from nuclear operators? Are the responsibilities of decommissioning clearly drawn and transparent?

Transparency is essential to involve the citizens to decommissioning projects. The social and environmental issues related to the decommissioning of nuclear plants pose many questions among people living nearby the sites. What are the conditions for effective information and public participation in decisions about a nuclear facility's decommissioning?

Thanks to the European Union and the creation of the Aarhus Convention, it is possible to resort to participatory democracy to resolve some environmental issues, including those concerning nuclear installations. Will Environmental impact Assessment available for the public? Will public consultation be organized in the case of decommissioning process?

### **Objectives of this exploratory workshop**

- To give participants a scientific background on decommissioning processes and challenges.
- To review the different practices in EU MS and give an overview of the situation in Europe.
- To assess the possibilities for public participation regarding policies responding to decommissioning.

### **Co-hosted by**

Benedek Javor (Greens/ALE)  
Rebecca Harms (Greens/ALE)  
Jo Leinen (S&D)  
Kathleen Van Brempt (S&D)  
Dario Tamburrano (EFDD)

### **AGENDA**

*9h00 : registration*

**9h30 – 9h45 : Introduction: Benedek Javor, Member of the European Parliament**

**9h45: SESSION 1: European Landscape and overview of the process of decommissioning**

**Moderator: Rebecca HARMS, member of the European Parliament**

- Overview of European nuclear decommissioning activities  
Paolo PEERANI, Head of the Nuclear Decommissioning Unit, JRC, European Commission
- Technical Aspects and management of risks  
Dr. Veronika USTOHALOVA, senior researcher, Ökoinstitut
- Experience from Germany  
Wolfgang NEUMANN, INTAC Hannover, Germany (TBC)
- Experience from Sweden  
Johan ANDERBERG, Director of Radioactive Materials Dept., Swedish Radiation Safety Authority, Sweden
- Experience from Italy  
Matteocci LAMBERTO, Head-control of Nuclear activities, ISPRA, Italy

**11h15 – 11h45: Q & A**

*11h45 – 13h00 : lunch break*

## **13h00: SESSION 2: Decommissioning costs: What are the costs? Who is responsible?**

**Moderator: Benedek Javor, Member of the European Parliament (Greens)**

- Funding requirements for decommissioning and costs evaluation in Europe, figures of the PINC  
Gerassimos THOMAS, Deputy Director-General, DG energy, European Commission
- The cost aspects of decommissioning: its estimation and examples.  
Dr. Paul DORFMAN, Honorary Senior Research Fellow at the University College of London
- Legislation on the financing of the decommissioning  
Dr. Dörte FOUQUET, Head of BBH's Brussels office, Becker Büttner Held
- Decommissioning costs and risks in France  
Yves MARIGNAC, Director of Wise Paris, France
- Nuclear decommissioning costs in Lithuania, Bulgaria, Slovakia  
Phil WYNN OWEN, Member of the European Court of Auditors

**14h15 – 14h45: Q & A**

*14h45 – 15h00 : coffee break*

## **15h00: SESSION 3: Control and transparency devices**

**Moderator: Johan SWAHN, Director of MKG and member of NTW**

- Key principles and use of international tools in Austria's policy  
Andreas MOLIN, Director of Directorate of General Coordination of Nuclear Affairs, Austrian Ministry of Environment
- The Aarhus Convention and environmental impact assessments concerning the decommissioning  
The Aarhus Secretariat (TBC)
- Public participation in the decommissioning process  
Philippe BIETRIX, CLI des Monts d'Arrée
- The role of the European Union  
Ioanna METAXOPOULOU, Head of unit, Dg energy, European Commission
- Transparency from the point of view of civil society  
- Jan HAVERKAMP, member of Nuclear Transparency Watch

**16h00 – 16h30 : Q & A**

**16h30: Closing remarks: Jo Leinen (S&D)**

*16h45: end*