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REPORT FROM THE COMMISSION TO THE COUNCIL

**Specific Monitoring Report on research activities for nuclear safety and security
supported by the Euratom Framework Programme 2012 – 2013**

{SWD(2013) 187 final}

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1. INTRODUCTION

In accordance with Article 6(1) of the Framework Programme of the European Atomic Energy Community for nuclear research and training activities (2012 to 2013)¹, hereinafter FP7+2, *'In early 2013, a specific monitoring report shall be presented to the Council, dedicated to the implementation of nuclear safety and security activities of the Framework Programme.'*

The Commission has fulfilled its reporting obligation by completing the present report together with the attached Staff Working Document². This report covers indirect actions implemented by the Commission Directorate General for Research and Innovation, as well as direct actions carried out by the Joint Research Centre (JRC) and addresses research activities concerning nuclear safety and security as well as radiation protection.

Nuclear safety research aims at protecting people and the environment against the adverse effects of ionising radiation. It applies to the full range of provisions from the design of nuclear installations to their construction and operation and final decommissioning, including the disposal of radioactive waste.

Radiation safety applies to the protection from and safe use of ionising radiation, including for medical imaging and therapy as well as the use of radiation sources for industrial radiography.

Research on nuclear security encompasses the fields of safeguards verification, detection and prevention of nuclear proliferation as well as detection of and response to malevolent acts involving nuclear and radioactive materials and is exclusively addressed within the direct actions of the JRC.

Furthermore, it is important to underline that Euratom nuclear safety and security research activities do not only address issues related to the production of electricity but also cover the use of ionising radiation for a wide range of applications in research, industry, health and medicine.

2. MAIN FINDINGS

Following the Fukushima accidents in 2011, the general objective of the Euratom Framework Programme for nuclear research and training activities (2012 to 2013) was refocused on nuclear safety and security.

The annexed Staff Working Document provides detailed information on the key research activities that were undertaken by direct and indirect actions to meet this objective.

¹ Council Decision 2012/93/Euratom, OJ. L 47/25, 18 February 2012

² Staff Working Document (SWD(2013) 187 final) - Specific Monitoring Report on research activities for nuclear safety and security supported by the Euratom Framework Programme (2012 – 2013)

2.1. Collaborative research

Indirect actions in the field of nuclear fission research cover the following activities: Management of Radioactive Waste, Reactor Systems, Radiation Protection, Infrastructures, Human resources, Mobility and training and Cross-cutting actions.

The safety related part of the Euratom Programme was already granted very high priority under the previous 7th Framework Programme (2007-2011), hereinafter FP7. Following the re-orientation decided by the Council in 2011, the Euratom Work Programmes 2012 and 2013 gave total emphasis on nuclear safety. As a result, the emphasis on safety aspects was largely increased, reaching more than 90% of the resources devoted to collaborative and co-operative research actions. The need to ensure coordination with other non-nuclear and cross-cutting fields explains why this percentage did not reach 100%.

Looking at the repartition of the supported domains, the FP7+2 programme increased the relative importance of infrastructures, human resources and cross-cutting actions to strengthen the European capacity for the development of the basic knowledge in the field of safety.

2.2. Direct actions

The main activities of the JRC support both the Commission and Member States in fulfilling their Euratom Treaty's obligations in the field of: nuclear waste management and environmental impact; safety of nuclear installations and the fuel cycle; and nuclear security, safeguards and non-proliferation. Cross-cutting activities such as international cooperation, standardisation, and education and training have also been performed throughout FP7 and FP7+2.

Within each topic, research and development activities have been pursued. The development of scientific/technical data and, in specific cases, support to Euratom policy, has been delivered. The work programme has been aligned in order to maintain a good balance between scientific outputs, stakeholder-requested deliverables and ad-hoc policy support.

There was a further focussing of the JRC's nuclear safety activities in 2012 and 2013 that followed the re-orientations already taken in 2011 as an immediate response to the Fukushima event. For example a high priority was given to support the implementation of the EU Nuclear Power Plants "Stress tests" peer review. The JRC also established a new activity on nuclear accident modelling and severe accidents management to contribute to the post Fukushima EU and IAEA research activities in this field.

In the security domain a high priority was set in providing a contribution to the implementation of the EU-CBRN (Chemical Biological Radiological Nuclear) Action plan as well as to the support for DG DEVCO for the establishment of the CBRN Centres of Excellence outside EU.

In addition, research on NPP decommissioning was included in the JRC nuclear activities with emphasis being placed on related education and training. This JRC initiative was well supported by the European Parliament.

3. CONCLUSIONS

Following the events in Fukushima in March 2011, the Council considered that the Euratom research in the field of nuclear fission should be more focused on safety and security aspects.

The Staff Working Document annexed to this report illustrates that this reorientation of the research efforts has effectively taken place under the Euratom Programme for 2012-2013.