- first announcement –

Education and Training in Nuclear Decommissioning

What are the required competences?
What are the education and training opportunities?
How can we stimulate interest and future talent?

Seminar organised jointly
by the European Commission Joint Research Centre
and the University of Birmingham

Birmingham, 16th-17th April 2015
**Nuclear decommissioning** is an industrial activity that is growing worldwide creating many opportunities for high-skilled workers. Over the last decades, European companies have been involved in decommissioning projects that are targeted to deliver an environmentally friendly end-product such as a fully restored green field following the shutdown of a nuclear installation.

The European Union has acquired know-how in the decommissioning field and today Europe can position itself at the top level in the world market. However, in view of the expected expansion of the activities, efforts have to be undertaken to maintain this leading position and in particular to develop the related knowledge, skills and competences.

**Background**

*Nuclear decommissioning* envelopes all technical and management actions associated with ceasing operation of a nuclear installation and its subsequent dismantling to remove it from regulatory control.

Nuclear decommissioning is already an industrial reality, and significant *growth of the market* can still be expected. Out of more than 560 nuclear power plants that have been built worldwide, 130 reactors are permanently shut down. A large number of various types of research facilities have also become obsolete and are shut down. Today, only about 10% of all shut down plants have been fully decommissioned, the rest being at different stages of "safely enclosed", "dismantling" and "decommissioning".

Moreover, after the Fukushima accident in 2011, Germany, one of Europe’s biggest operators of nuclear power, shut down 8 out of its 17 reactors and committed to close the rest by 2022. Other countries, including Japan also envisage accelerating the closure of their oldest plants.

This growing decommissioning market creates a potential for new activities, with highly skilled jobs in an innovative field. The clear global positioning of the European Union is beneficial and will stimulate the export of know-how to other countries, especially those having a large nuclear programme, and the ability to promote the highest levels of safety.

**The need for focussed and flexible education and training (E&T)**

The need to recruit and maintain qualified personnel is a known recurrent concern in the nuclear sector. The issue is particularly acute for the field of nuclear decommissioning. There is a lack of attractiveness or interest for young people studying and developing a career in this area despite the growing opportunities, which will require competences spread over several decades.

Moreover it has to be considered that the nuclear industry will require new resources, including, in some cases, staffing from non-nuclear specialised companies and SMEs.

The organisation of targeted and flexible education and training programmes is essential. It appears that in several EU countries new initiatives are emerging or are in a development stage, going from short professional induction training programmes to extensive academic postgraduate courses.
Role of the European Commission - Joint Research Centre (JRC)

As the Commission’s in-house science service, the Joint Research Centre’s mission is to provide EU policies with independent, evidence-based scientific and technical support throughout the whole policy cycle. Working in close cooperation with policy Directorates-General, the JRC addresses key societal challenges while stimulating innovation through developing new methods, tools and standards, and sharing its know-how with the Member States, the scientific community and international partners.

The JRC research activities are spread over seven institutes (located in Belgium, Germany, Italy, the Netherlands and Spain) and employ about 3000 staff members from all EU member states.

For over two decades the JRC has been involved in the decommissioning of its own old and shutdown nuclear installations which were originally built following the signature of the Euratom Treaty in 1957. In this sense, the JRC has acquired a large and practical experience in decommissioning as well as in the management of the radioactive waste. A dedicated training programme on decommissioning is well established on the Ispra site (Italy).

In view of the growing EU decommissioning market and associated challenges, the European Parliament, during its debates on the future Euratom research programme, requested that JRC builds upon its experience and further reinforces its support for safe decommissioning in Europe. Improving knowledge management and promotion of education and training in decommissioning are some of the areas in which the JRC will contribute.

Role of the University of Birmingham

The University of Birmingham has a long tradition of working with the UK nuclear industry. Within the Birmingham Centre for Nuclear Education and Research, the Physics and Technology of Nuclear Reactors Masters course has been running since 1956 and a postgraduate programme in Nuclear Waste Management and Decommissioning is well established to cater for the growing demand in this sector. The University has the largest UK set of nuclear training programmes, delivering close to 100 graduates into the UK nuclear sector per year. The University published the conclusions of a policy commission in 2012 on “The Future of Nuclear Energy in the UK”, which included highlighting skills and training gap in the nuclear sector.

Objectives of this seminar

In view of the above, the University of Birmingham and the JRC decided to organise jointly a seminar on "Education and Training in Nuclear Decommissioning" with three main objectives.

First, the seminar aims to identify the real needs in education and training from the stakeholders (industry, organisations, regulatory bodies, policy-makers), the required competences and the experiences in motivating staff development in the decommissioning field.
Second, the seminar will disseminate information on existing education and training opportunities in nuclear decommissioning and on the related experiences; it will contribute to identify possible synergies and areas for collaboration and improvements to the related programmes.

Finally, the seminar will assess on how education, training and research in the field of nuclear decommissioning can be better promoted, in particular to young students.

**Expected outcome of the seminar**

The outcome of the different sessions of the seminar and the final conclusions of the seminar will be published in a joint report by the University of Birmingham and the Joint Research Centre. The report will give orientations on the way forward to support Education and Training in Nuclear Decommissioning in the EU.
Tentative agenda and sessions of the seminar

**Thursday 16th April 2015 (starting at 9:00)**

**Welcome and introduction to the seminar**

*Welcome by the University of Birmingham and the European Commission*

**Session 1a: Identifying the Needs for E&T in Nuclear Decommissioning**

*Presentations from the industry, from organisations and from regulatory bodies will map the effective needs for education and training in nuclear decommissioning*

**Session 1b: Career development in Nuclear Decommissioning**

*Panel session to exchange views on career development in nuclear decommissioning. The panel discussion will be introduced by some relevant actors from the industry and research community*

**Session 2a: Training Opportunities in Nuclear Decommissioning**

*Presentations of various existing training programmes in the EU: the target audience, the offered programme and the experience feedback*

**Visit of Birmingham University campus**

**Friday 17th April 2015 (ending at 13:00)**

**Session 2b: Education and Research Opportunities in Nuclear Decommissioning**

*Presentations of EU education and research in the field of Nuclear Decommissioning at EU Universities and on the possible funding mechanisms of common EU initiatives.*

**Session 3: Promotion of E&T in Nuclear Decommissioning**

*Panel session on the initiatives taken or to be taken to promote education and training in Nuclear Decommissioning. Panellist among EU organisations and student organisations will be invited.*

**Conclusion of the seminar and next steps**
Contacts and location details

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**University of Birmingham Business School:** [Google Map](http://google.com/maps)