UPDATE ON EURATOM R&D ACTIVITIES IN NUCLEAR FISSION AND RADIATION PROTECTION

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NERIS-TP Dissemination Workshop – Oslo (NO) – January 22-24, 2013

CONTENT

- **DG ENER Study on Current Off-site Nuclear Emergency Preparedness and Response Arrangements in EU and Neighbouring Countries**
- **FISA 2013**
- **Horizon 2020 – Euratom R&T Programme (2014 - 2018)**
- **Euratom Fission WP 2014-2015**
- **R&D on Off-Site Nuclear Emergency Management and Rehabilitation in Horizon 2020?**

Review of Current Off-site Nuclear Emergency Preparedness and Response Arrangements in EU Member States and Neighbouring Countries – DG ENER-D1

- Final report completed and delivered to DG ENER by contractor
- Final report and DG ENER's Communication to Council and the EP are likely to be issued at the same time, currently planned for Spring 2014
- DG ENER's Communication will include off-site nuclear EP&R and nuclear liability

FISA 2013 – 14-17 October 2013 – Vilnius (LT)

- FISA 2013 was held in parallel to EURADWASTE '13
- About 400 participants in total equally shared between both conferences
- Joint introductory and closing sessions with more policy
- FISA 2013 presented and discussed the results of all FP7 Euratom research and training projects in reactor systems with a focus on safety of Gen-II and -III reactors and of advanced nuclear systems with closed fuel cycles
- Five specific thematic workshops were held on 17 October addressing (i) nuclear materials, (ii) education and training, (iii) research infrastructures; (iv) international cooperation, (v) socio-economic issues
- Papers and presentations are available on: http://cordis.europa.eu/fp7/euratom-fission/fisa-euradwaste-2013_en.html

Euratom R&T Programme 2014-2018

European Commission

Integral part of Horizon 2020 package:

www.ec.europa.eu/research/horizon2020

General objective:

- **Improve nuclear safety & radiation protection**
- **Contribute to the long-term decarbonisation of the energy system, in a safe, efficient and secure way**

Specific objectives for indirect actions (fission):

- **support safe operation of nuclear systems;**
- **contribute to development of solutions for the management of ultimate waste;**
- **support development and sustainability of nuclear competences;**
- **foster radiation protection;**
- **promote innovation and industrial competitiveness**
- **ensure availability and use of research infrastructures**

Budget under negotiation: *Total € 1 603 million, including Fission € 315.5 million; Fusion € 728 million (without ITER); JRC € 559.5 million*

Latest Milestones

- **22-23 November 2013:** Adoption by European Parliament (EP) of Multiannual Financial Framework (MFF) and of Horizon 2020 legislative package + opinion on Euratom 2014-2018
- **2 December 2013:** MFF adopted by Council
- **3 December 2013:** Horizon 2020 legislative package adopted by Council
- **16 December 2013:** Adoption of Euratom 2014-2018 by Council

Euratom Fission WP 2014-2015

- **One** Euratom Work Programme
- **One** Euratom fission call
- **Budget range** per topic and per project
- Overall indicative budget for Euratom 2014 – 2015 Fission Work Programme – **103.17 M€**
- **Single stage** evaluation procedure
- Publication date: 11/12/2013
- Deadline: 17/09/2014

CLUSTER 1: SUPPORT SAFE OPERATION OF NUCLEAR SYSTEMS

- Improved safety design and operation of fission reactors
- Tool for the fast and reliable prediction of severe accident progression and anticipation of the source term of a nuclear accident
- New innovative approaches to reactor safety

CLUSTER 2: MANAGEMENT OF ULTIMATE RADIOACTIVE WASTE

- EU concerted development of Member State research on radioactive waste management
- EU regulatory requirements for licensing geological repositories
- Supporting the implementation of the first-of-the-kind geological repositories

CLUSTER 3: RADIATION PROTECTION

- Integrating radiation research in the European Union (EJP)

CLUSTER 4: CROSS-CUTTING ASPECTS (WITHIN THIS WP)

- High density uranium fuel and targets for the production of medical radio-isotopes

- Transmutation of minor actinides (Towards industrial application)

Cluster 5: Support the Development of Nuclear Competences

- Education and training (Bologna and Copenhagen processes)
- Regional initiative aiming at nuclear research and training capacity building
- Supporting access to Jules Horowitz reactor

Cluster 6: Socio-economic Aspects and Other Actions

- Modelling and analysing the energy system (together with NNE)
- Nuclear developments and interaction with society

- Fostering the network of National Contact Points
- Support to SNETP
- Support to GIF Secretariat

Budget and Instruments (1/2)

No	Title	Instrument	Per topic	Per proj*
NFRP 1	Improved safety design and operation of fission reactors	Research and innovation	18.8 M€	3-6 M€
NFRP 2	Tool for the fast and reliable anticipation of the source term of a nuclear accident	Research and innovation	3 M€	2-4 M€
NFRP 3	New innovative approaches to reactor safety	Research and innovation	6 M€	2-4 M€
NFRP 4	EU concerted development of Member State research on radioactive waste management	Coordination and support	1.4 M€	1-1,8 M€
NFRP 5	EU harmonised regulatory requirements for licensing geological repositories	Coordination and support	1.2 M€	1-1,4 M€
NFRP 6	Supporting the implementation of the first-of-the-kind geological repositories	Research and innovation	14.6 M€	3-6 M€
NFRP 7	Integrating radiation research in the European Union **	Programme Co-fund Action (EJP)	20.5 M€	20-21 M€
NFRP 8	High density uranium fuel for the production of medical radioisotopes	Research and innovation	5 M€	4-6 M€

* Indicated **EU contribution <u>does not preclude</u>** submission and selection of proposals requesting other amounts

** The Euratom contribution will be limited to a **maximum of 50%** of the total eligible costs

Budget and Instruments (2/2)

No	Title	Instrument	Per topic	Per proj
NFRP 9	Transmutation of minor actinides (Towards industrial application)	Research and innovation	8 M€	7-9 M€
NFRP 10	Education and training (Bologna and Copenhagen processes)	Coordination and support	4 M€	1-3 M€
NFRP 11	Modelling and analysing the energy system, its transformation and impacts*	Research and innovation	-	-
NFRP 12	Nuclear developments and interaction with society	Research and innovation	2.5 M€	2-3 M€
NFRP 13	Fostering the network of National Contact Points	Coordination and support	0.4 M€	0.3-0.5 M€
NFRP 14	Regional initiative aiming at nuclear research and training capacity building	Coordination and support	2 M€	1-3 M€
NFRP 15	Specific support to the work of the SNETP	Coord. & support	0.5 M€	0.4-0.6 M€
B.3	Supporting access to Jules Horowitz reactor	Public procur.^{mt}	15 M€	-
B.6	Support to GIF Secretariat	Subscription	0,3 M€	-

* Action is addressed in Energy Challenge WP 2014-2015 'Social, environmental and economic aspects of the energy system' under the item **LCE 21**

R&D in Radiation Protection

Signature of a Memorandum of Understanding between Alliance, EURADOS, NERIS and MELODI on 5th of December 2013 in Brussels

MELODI NERIS EUROPEAN RADIOECOLOGY ALLIANCE EURADOS

Decided to cooperate in order to promote the integration and the efficiency of European research and scientific education and training in the field of radiation protection

R&D on Emergency Management

- Under FP7, OPERRA started on 1st of June 2013 and will organise calls and fund R&D projects in radiation protection:
  - 1st call on low dose risks and radioecology only
  - 2nd call on radiation protection to be launched at the beginning of 2015
- Under Horizon 2020, the European Joint Programme (EJP) to be funded under the topic "Integrating radiation research in the European Union" will continue the objectives of OPERRA

Information on FP7 and access to programmes and calls: http://cordis.europa.eu/fp7/home_en.html

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