



# **Towards a Joint Programming on Radioactive Waste Disposal JOPRAD**



**Work Package 1**

**Deliverable D1.8**

**JOPRAD Final Workshop report**

**16<sup>th</sup> November 2017 Marriott Hotel, Prague, Czech Republic**

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**Website: [www.ioprad.eu](http://www.ioprad.eu)**

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## 1 Introduction

Joint Programming is a structured and strategic process whereby Member States (MS) agree, on a voluntary basis and in a partnership approach, on a common vision and Strategic Research Agenda (SRA) to address major societal challenges. In our domain it means how to ensure responsible and safe management of spent fuel and radioactive waste in order to avoid imposing undue burdens on future generation in agreement with requirements of the [Council Directive 2011/70/Euratom](#) of 19 July 2011 establishing a Community framework for the responsible and safe management of spent fuel and radioactive waste (“Waste Directive”).

With respect to the Waste Directive, the topics to be addressed under the Joint Programming refer in particular to Articles 8 (Expertise and skills), 10 and 12.1(j) (Transparency) and 12.1(f) (Research, Development and Demonstration - RD&D). For the Radioactive Waste Management community, Joint Programming is aimed at supporting the implementation of the national programmes and the accompanying national research programmes dealing with radioactive waste management, including geological disposal.

The overall aims of the JOPRAD project (Coordination and Support Action “Towards a Joint Programming on Radioactive Waste Disposal”) are to assess the feasibility and, if appropriate, to initiate a process for a proposal for Joint Programming in the field of Radioactive Waste Management and Disposal. The JOPRAD SRA will be used to formulate a proposal for implementation in a future EURATOM Work Programme.

Joint Programming includes RD&D activities, with the accompanying Knowledge Management Programme and its “horizontal activities”, namely establishing a state-of-the-knowledge handbook coupled with education, training, strategic studies, guidance, transfer of knowledge to less advanced programmes, as well as dissemination.

The main outcomes of the JOPRAD project are a set of documents addressing RD&D key priorities of nationally mandated actors including waste management organisations (WMOs), technical support organisations (TSOs), and research entities (REs). In addition, there is a programme for knowledge management, including the above listed horizontal activities, as well as a methodology for governance and financing structure for the implementation of a Joint Programme (JP).

In addition, a means to engage Civil Society (CS) stakeholders to bring in their interests and identify ways for them to be involved in the different activities, as well as participation in the governance of the process is proposed.

## 2 Aims of the Final Workshop

The scope of a Joint Programme on Radioactive Waste Disposal has been broadened to cover radioactive waste management and disposal so that it also captures related pre-disposal activities. Such Joint Programming would bring together a sub-set of organisations called “nationally mandated actors” in research: (i) Waste Management organisations (“WMOs”), (ii) Regulatory Technical Support Organisations (“TSOs”) and (iii) Research Entities.

The three steps of the JOPRAD project have been to:

- Inform, engage and involve Member States on Joint Programming by contacting the governmental bodies in charge of following up the implementation of the Council Directive (2011/70/Euratom), and in collaboration with the European Commission (EC), to engage discussion with Member States’ Fission committee representatives.
- Identify key activities of WMOs, TSOs and Research Entities that could be implemented within a Joint programme at EU level.
- Agree a Long-term Common Vision, Strategic Research Agenda and Roadmap. This has included drafting of a “Programme Document” providing the scientific and technical basis for the development of programmes taking into account expectations from stakeholders and Civil Society.

Following the **Regional Meeting** held in Bucharest in February 2016, the **Mid-Term Workshop** (MTW) held in Prague September 2016, and the **Programme Document Workshop** held in London April 2017, the **Final Workshop** is the last event of the JOPRAD Project.

During the Final Workshop the JOPRAD participants presented the main outcomes and achievements of the project including: how the community can be involved in future Joint Programming; what are the common research priorities for the next decade; and what are the implementation principles for a successful initiative.

The Final Workshop was intended primarily for actors that have contributed to JOPRAD project and those willing to participate to the development of the Joint Programme proposal for a first phase, as well as those that would be in position to provide the mandate for participation.

### *The “Vision for Joint Programming”*

A Vision statement for Joint Programming on radioactive waste management and disposal has been developed by JOPRAD participants:

“A step change in European collaboration towards safe radioactive waste management and disposal through a credible and sustained science and technology programme fostering mutual understanding and trust”, which includes:

- A consensus programme between regulatory technical support organisations, implementers and researchers throughout the decades covering the development and operation of radioactive waste management and disposal facilities;

- Enhancing the understanding of the risks and uncertainties and;
- Ensuring societal visibility and transparency of research, development and demonstration.

The talk on “European Joint Research Programme in the management and disposal of radioactive waste” was given by Christoph Davies, DG-RTD, Project officer.

The Agenda is presented in Annex I and all presentations held during the MTW are given in Annex II. This information is also available on the JOPRAD website: [www.joprad.eu](http://www.joprad.eu).

100 people representing WMOs, TSOs, REs and CS from 19 countries registered to the workshop.

### 3 Overview of the presentations and discussions

#### 3.1 Welcome speech

*Jiri Slovak (SURA, Czech Republic)*

Jiri Slovak opened the meeting and outlined the involvement of the Czech Republic and SURA in European Research programmes.

Jiri Slovak welcomed all the participants in Prague.

#### 3.2 Ministry Key Note

*Mr. Jiri Havlicek, Minister of Industry and Trade, Czech Republic*

*“Ladies and gentlemen,*

*Firstly, allow me to warmly welcome you on behalf of the Czech Republic to your final JOPRAD project session. As I have been informed, you are working hard on the preparation of the Joint European Programming Project involving a range of specific research fields, comprehensive professional networking and the establishment of complex integrated knowledge management systems in the field of radioactive waste.*

*As many of you already know, in the last two years, the Czech government has adopted two important strategic documents – the Energy Policy Strategy (up to 2040) and the Nuclear Energy Development Action Plan for the next two decades, which includes the expected construction of at least two new nuclear blocks, one unit each at the Temelin and Dukovany nuclear power plant sites. The new units will serve both to replace existing units and to increase the overall share of nuclear power in the Czech Republic’s energy balance. According to currently available information, the objectives of both documents will continue to be pursued in the years to come.*

*However, as you also know, preparations for the construction of new nuclear sources pre-supposes the solution of the back-end of the fuel cycle - and the development of deep geological repositories for high-level radioactive waste is seen by most countries with nuclear power programmes as a major priority. The Czech Republic enjoys extensive experience with the disposal of low- and medium-level radioactive waste. Indeed, the Richard, Bratrství and Dukovany repositories are all familiar to the international professional public as a result of the organisation of excursions to, and seminars and conferences on these three facilities by our specialised radioactive waste management organisation – RAWRA.*

*We consider the joint development of innovation, research and experimental projects to be highly beneficial in terms of determining a safe yet technically and economically realistic solution to high-level waste disposal both for countries with developed nuclear programmes and other “post-decade” EU member states. Moreover, we see great potential in expanding the idea of the deeper co-ordination of radioactive waste disposal research through “Joint Programming” to include research in other strategic industrial areas.*

*The Czech Republic has been involved in international nuclear research programmes for more than 60 years. Related activities include ensuring the safe operation of our nuclear power units - 2 units at Temelín and 4 units at Dukovany. According to the Action Plan, we will construct additional units at both locations within 20 years in order to increase the*

*nuclear share in the energy mix. This will ensure full compliance with our obligations concerning the reduction of carbon emissions. I consider it a priority, and I fully believe that my successors will continue to prioritise, the finding of a suitable site for the construction of the Czech deep geological repository within the next decade or so, which will fully respect the strictest requirements concerning operational and long-term safety as well as technical and economic feasibility.*

*I wish you success in your efforts to create the conditions for the smoother and faster transfer of knowledge between individual EURATOM member countries, to enable the sharing of the results of research and experimental development, and to support innovation aimed at providing benefits for all the countries involved, whether they are consortium members or affiliated countries.*

*The Czech Republic is eager to continue its tradition of being a responsible partner supporting a technically sound approach to the development of new technologies in the field of radioactive waste disposal and their application in practice. In your industry, as in many others, robotisation will play an increasingly important role. Moreover, cyber security, protection against potential terrorist attacks, and the search for as yet unknown threats are more important today than ever before. And I feel reassured that these topics form an important part of the joint programming of research and development that you are discussing at this meeting.*

*Although I would like to stay longer to listen to your discussions, I hope you will understand that my busy work schedule limits the time that I can be here. In conclusion, therefore, I sincerely hope that you are enjoying your time in Prague and I wish you a successful conclusion to the JOPRAD meeting! Thank you for your attention and I wish you “all the best”!*

### **3.3 Key Note - Collaborative Social Science Research: The Other Side of the Coin**

#### ***D. Metlay, U.S. Nuclear Waste Technical Review Board (NWTRB) – USA***

If one were to survey the more than two dozen attempts over the years to site worldwide a deep-mined, geologic repository for high-level radioactive waste and spent nuclear fuel, it is abundantly clear that most efforts have foundered on an inability to secure social acceptability for the choice. Nonetheless, virtually all collaborative research programs have focused on work to understand better the scientific and engineering relationships that would support a claim that a site is technically suitable. These studies are undoubtedly important. But I would suggest that some rebalancing of the collaborative research portfolio might be in order. In particular, social science can make valuable contributions to illuminating why the search for social acceptability has been so elusive and why implementation may be organizationally challenging.



*Dan Metlay during his talk*

The presentation discusses four areas. First, social science research has provided useful insights into what considerations influence social acceptability. The most sophisticated inquiry to date suggests, not surprisingly, that trust in the implementer and perceived risks are the dominant forces that drive public opposition. More surprising is the finding that providing benefits to the host community has no independent effect. Second, the notion of “trust” is caught in a conceptual quagmire; it is often pointed to without any clear specification of what it means. But at least one study suggests that trust simply is based on a highly correlated set of affective beliefs and a view of whether the implementer is competent. Third, cognitive psychologists have developed a rich understanding of what factors drive the perception of risk and why the general public’s perception differs from the risk calculated by technical specialists. Fourth, in a different vein, organizational theorists are beginning to provide answers about how decisions are made under uncertainty. For example, they are exploring how are errors discovered and rectified. These investigations may be helpful in thinking about monitoring and retrievability.

I understand that this group is far along in fashioning a program for collaborative research. Any rebalancing may have to wait for other opportunities. But I would like this talk to plant a seed in your collective mind that there is, in fact, another side of the coin.



### *3.4 European Joint Research Programme in the management and disposal of radioactive waste*

*Christophe Davies European Commission, DG Research and Innovation, Fission Energy (Christophe.davies@ec.europa.eu)*

The European Commission (EC) has now decided to open a call for a proposal offering the possibility for EU Member States (MS) to develop and implement a European Joint research Programme (EJP) on the management and disposal of radioactive waste. The Euratom Work Programme 2018, published on 27 October, 2017 defines the topic and EC requirements for a joint programme proposal.

After more than forty years of Euratom support to Research and Training in this field via topical and individual projects carried out in the MSs and considering the advanced state of transnational collaboration, but also existence of a wide gap in the status of scientific and technological knowledge base, competence and schedule for start of operation of geological repositories among EU MSs the EC services judged it timely and appropriate to foster the establishment of an integrated programme elaborated and executed among the national programmes of the MS. This is considered as the best approach and framework to organise research at European level and to respond to MSs needs in an effective and efficient way and to ensure its long-term sustainability for many years ahead.

The call topic sets the prerequisites and requirements for such EJP. The EJP should results from involved parties with scientific and technical responsibilities and a national mandate for research in RWM. The eligible participants include the nationally mandated actors: Waste Management Organisations (WMOs), Technical Support Organisations (TSOs) and nationally funded Research Entities (REs) as well as radioactive waste producers.

The expected founding documents for an EJP proposal include: a Vision document, a common Strategic Research Agenda (SRA), a shared Roadmap, ToR Governance mechanisms, Rules and methods for functioning & participation mechanisms and a programme of research and knowledge management activities.

The vision document should set out the strategic long-term vision of MSs to develop and implement a joint RD&D programme to ensure the safe and publically acceptable management and disposal solutions of all categories of radioactive waste. The scope of activities of the SRA should include the domains of management (pre-disposal) and disposal of all radioactive waste categories to develop technical solutions per waste streams and waste types and a structured set of horizontal, strategic and knowledge management activities. The Roadmap is expected to define goals, objectives, deliverables and milestones to fulfil the SRA scope of activities.

In its implementation the EJP should cover areas of interest for the small and large, advanced and less-advanced programmes while horizontal activities should be prioritised to maximise the impact on the smaller and less advanced national programmes. The expected horizontal activities include: common strategic studies, sharing of facilities, mobility and training of researchers whereas the knowledge management activities cover the development of State-of-the-art documentation (e.g. text books), guidance documents for planning and implementing research, training courses and hands-on-training via mobility measures.

### *3.5 JOPRAD Background: Rationale, objectives and overview of outcomes*

#### *J. Delay (Andra)*

The starting point of the JOPRAD project was the overall identification of the programme owners and the programme managers and their subsequent engagement.

#### *The Community and the issue of the mandate*

The programmes owners are the national and/or regional bodies in charge of the implementation of the Waste Directive. They are responsible for establishing the national radioactive waste management programme and the associated R&D programmes. Initially it was considered that the programme owner should be a Ministry. This is actually the case for a majority of the countries. It is interesting to note that the ministries in charge are also extremely diverse: industry, economy, environment, health, research, education... In some countries this responsibility is borne by a national agency or a safety authority. In ten countries it was not possible to relate this responsibility to a ministry and even in this case, the ministry is not necessarily in position to decide on the detailed activities of the programme managers.

Among the 17 WMOs, 14 of them are public or state-owned companies. Three of them, part of the most advanced are private or partially private: Finland, Sweden and Switzerland. Most WMOs contacted were interested in principle by the idea of the Joint Programme, but will decide on their participation after clarification of the scientific and technical scope to be covered and the conditions of its implementation.

Among the 16 TSOs identified, ten participated in the JOPRAD project. Many of the national frameworks of EU Member States are different. This diversity needs to be taken into consideration in the development of a Joint Programme. Most of the TSOs are non-profit organisations (public or private); two of them are private profit bodies. In particular, the distinction between TSOs and REs in several Member States is somehow artificial as several REs also fulfil an expertise function in their country. Therefore, they also meet the conditions associated with the terms "Technical Support Organisation" and/or "Technical Safety Organisation".

In total 45 research entities were identified as potentially mandated actors. Almost all of them are public bodies involved in multiple areas of research and have national missions on education. Consequently the number of researchers is very large.

#### *The benefits and added value of Joint Programme*

All organizations financing and operating research regardless of their responsibilities will get credible, verifiable, up-to-date scientific understanding shared by a large scientific community. They will have the possibility to: utilize knowledge of experts from all MS; gain scientific understanding of safety relevant issues; keep up with the evolution of worldwide leading edge scientific knowledge; get access to common experimental facilities; learn from each other during systematic investigating issues requiring more scientific understanding; improve the education and training system in the domain (competence acquisition maintenance and transfer) and improve use of financial and human resources.

### *Conditions for implementing a JP*

The preservation of the independence between the « Expertise function » (TSOs and, in some Member States, REs) and the « Implementing function » (WMOs) is considered by all the JOPRAD partners as a key boundary condition for the establishment and functioning of a JP bringing together TSOs, REs and WMOs. Preserving independence has consequences on the breath of the activities that will be identified as of common interest to all actors. This requirement could also influence the way technical activities as well as horizontal and strategic activities will be carried out.

A number of boundary conditions and strategic objectives have been derived from the JOPRAD documents outlining the key priorities of WMOs, TSOs and Research Entities.

RD&D activities shall focus on achieving passive safety (safety of a disposal facility is provided for by means of passive features inherent in the characteristics of the site and the facility and the characteristics of the waste packages, together with certain institutional controls, particularly for surface facilities) and reducing uncertainties through excellence in science. Research actions are guided by a long-term vision, as required by the European Commission.

The EJP COFUND tool appears to be the most suitable tool when the activities are defined and planned in advance, and when a research community has already collaborated together.

### *Conclusions*

Within the EURATOM Work Programme 2014-2015, the JOPRAD project was launched in June 2015 with the overall aim of assessing the feasibility of the setting-up of a European RD&D Joint Programme in the field of Radioactive Waste Management and Disposal (RWMD).

It has contributed to:

- Identify the research actors that could participate to a Joint Programming;
- Demonstrate the feasibility, the benefits and the added-value of a Joint Programme in RWMD at European level;
- Stimulate the engagement of a large part of the research community in RWMD (22 countries from 20 EU Member-States and 2 associated countries) as well as Civil Society;
- Identify the most suitable legal tool to be implemented (EJP COFUND), given the types of activities to be implemented, and
- Settle the basis of a future “Joint Programme”.

### ***3.6 Joint Programme Actors and Boundary Conditions***

*J. Miksova (CV REZ, CZ) and F. Lemy (Bel V, BE)*

This presentation provides an overview of the different categories of actors participating in the national programmes of the Member States. The process of their involvement in the JOPRAD Project will be briefly described together with the role of those actors and their views on their potential participation in a JP in the field of radioactive waste geological disposal, in particular in the identification of the key research topics to improve disposal

safety. As an integral part of their engagement in future JP the actors have recognised the need for the support of horizontal activities.

An important conclusion of the project is that the added value of JP is acknowledged by all categories of actors. Furthermore, the compilation of their diverse views led to the identification of the scope, priorities and boundary conditions of a JP that would bring all relevant actors together. Various types of conditions were identified including boundary conditions related to strategic JP objectives, to governance and to the engagement of the Civil Society. The preservation of the independence between the different categories of actors was also identified as a key boundary condition. This has implications on the nature and breath of activities that could be embraced by the JP. Satisfying all identified boundary conditions throughout the elaboration and implementation of the future JP is considered as an essential key of success.

### ***3.7 Work packages 3 and 4 of JOPRAD – production of the Programme Document with Knowledge Management Programme***

*R. Kowe (RWM) and G. Buckau (JRC)*

One of the key deliverables from JOPRAD work package 4 is the Programme Document which sets out the scientific and technical basis of a future Joint Programme on Radioactive Waste Management and Disposal. As a key input to WP4 WMOs, TSOs, REs identified scientific and technical activities that they prioritised individually in their different Strategic Research Agendas (SRAs) as suitable for Joint Programming. In WP4 these common research domains and topics were prioritized to form a joint Strategic Research Agenda, incorporating an Integrated Knowledge Management System (IKMS). The work also took into consideration the input from Civil Society and the needs of Member States with Less Advanced Programmes.

To make sure it reflected the needs of the wider European Radioactive Waste Community the draft Programme Document was made available for open consultation during March – April 2017. The consultation process included a one day workshop held in London in April who had over ninety attendees representing all actors from 22 countries together with two Ministers from Greece and France.

The IKMS was developed in more detail under JOPRAD Work Package 3. The consultation process concerned the content and community interest in different pre-defined overall knowledge management elements, namely managing, transferring within the expert community, exchanging and disseminating with a broader community, identifying new needs in the form of networking, and finally using the knowledge in the form of guidance. The prioritization by the community actors is expressed by their commitment to the corresponding work programme activities.

Finalisation and issue of the Programme Document and the IKMS Document to the European Commission is expected by the end of December 2017, after which they will be used as a Strategic Research Agenda for responding to the European Commission EURATOM H2020 Call (WP2018) in the form of a Joint Programme Proposal.

### 3.8 Q&A session

C. Davies asked about the methodology of prioritization and how it was managed to address comments. Ray Kowe indicated that the consultation phase will be fully documented in the reports. C. Davies stressed that within a Joint programming any decision should be transparent to be understood and accepted by all participants.



*View of the Conference room*

C. Serres asked how Education and Training would be organised and if there were already candidates for organizing training and associated mobility. G. Buckau replied that the JOPRAD group has no mandate for proposing and that this issue has to be addressed in the setting up of the proposal (including financing).

P. Lorenz asked about how the ERDO group comments have been addressed in the Programme Document. R. Kowe responded that they have been taken into account. However, the JOPRAD project and the future EJP will not address policy issues. C. Davies added that ERDO is an independent association and it could be part of JP if it has a mandate.

C. Bruggeman asked how waste producers were involved. J. Martin indicated that the waste producer's issues will be addressed in the Nugenia Talk given by A. Banford.

O. Kastbjerg Nielsen from Danish Decommissioning indicated that 9 countries from ERDO are willing to participate to the future EJP. C. Davies stated that secretariat activities of ERDO member should not be financed in this way. However topics for R&D and horizontal activities are welcomed.

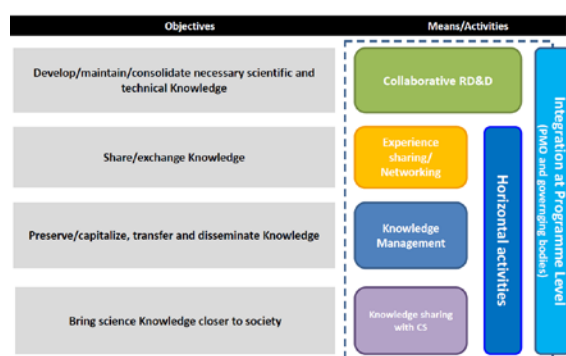
H. Geckeis from KIT asked about the funding of PhD students and how they could have access to mobility funding. C. Davies answered that mobility is a tool for an activity; mobility funding should be financed by technical and horizontal. It is the scope of JP to define what is the strategy and scope of activity linked with mobility.

### 3.9 JOPRAD outcomes: Governance and implementation strategy of the EJP

M. Garcia (Andra, FR)

The final outcome of the JOPRAD project is a study on the implementation strategy of the EJP as well as the governance scheme (JOPRAD work package 5). The presentation was split into 4 items each followed by a Question & Answer session.

#### EJP activities



In order to reach the EJP objectives and to deploy the Strategic Research Agenda, the following types of activity will be carried out within EJP implementation phases:

- collaborative European **RD&D** activities
- **Horizontal activities**
  - **Networking** activities;
  - **Knowledge Management** activities; and
  - **Knowledge Sharing with Civil Society**.
- **Management** activities

#### *Discussion 1*

A participant acknowledged that the presentation was excellent but seemed theoretical. M. Garcia replied that the activities will be detailed in the proposal. It was stated that all the process of interacting with CS will be transparent.

C. Bruggeman asked how the JOPRAD Programme Document will be transferred into the SRA of the JP. This document will be adapted and updated during the course of the Project but the prioritization of activities identified in the Programme Document will remain the same.

#### EJP COFUND Participation Rules

Within an EJP COFUND, a participation **Beneficiary** is limited to (minimum five) legal entities (from minimum 5 MS/Associated countries) that can fully participate through their contribution of national/regional programmes, i.e. legal entities owning (Programme Owner, Ministry/regional authority) or managing (Programme Manager mandated by a Programme Owner) national radioactive waste management and disposal programmes.

In the EURATOM Call, the Mandated Actors are defined as follows:

- WMOs whose mission covers the management and disposal of radioactive waste
- TSOs carrying out activities aimed at providing the technical and scientific basis for notably supporting the decisions made by a national regulatory body

- Nationally funded Research Entities (REs) which are involved in the R&D of radioactive waste management, under the responsibility of Member States

Beneficiaries can call for **Linked Third Parties** (LTP) to carry out part of the work, i.e. organisations to which they have a pre-existing legal relationship (options are: Memorandum of Understanding, agreement, contract, affiliation, MoU, joint research unit...) which is not based on a contract for the purchase of goods works or services.

LTP are allowed to fully participate in the action, like Beneficiaries they are linked to. They will therefore be treated for many issues (including cost eligibility) like Beneficiaries.

Other legal entities (such as association) may participate if justified by the nature of the action, in particular entities created to coordinate or integrate transnational research efforts.

#### *Discussion 2*

N. Seleznik asked how many mandated actors per country are expected and how international organisations could be involved. M. Garcia indicated that the number of participants could be negotiated and that the participation of organizations not mandated will be judged on the basis of the content of their proposed activity.

### **EJP budget and funding mechanisms**

#### *Grant*

Under an EJP COFUND action, the Euratom contribution takes the form of a grant consisting of reimbursement (55%) of the eligible costs related to the implementation of the actions (Work Packages). There will be no cash collection from the Programme Owners/Managers put into a “common pot”, which means that participants should be able to bear the costs that are not funded by EC or to find another source of co-funding.

#### *Eligible costs*

Eligible costs are the expenses necessary to implement a joint programme of activities to attain objectives common to the EURATOM Programme, ranging from research to coordination and networking activities, including training activities, demonstration and dissemination activities, support to third parties etc.

Type of eligible costs are i) Direct Personnel costs (unit or actual costs); ii) Other Direct costs (Travel, Equipment, Costs of large research infrastructure, Other goods and services); iii) Indirect costs (flat rate: 25% of direct costs) ; iv) Costs for subcontracting.

#### *EC Funding repartition*

The following repartition is currently considered:

- at least 75% of the EC contribution to RD&D activities
- about 20% of the EC contribution to Horizontal activities
- max 6% of the EC contribution to management

#### *Internal funding rates*

Within an EJP, the consortium is free to redistribute EC co-funding as it will decide it, i.e. internal funding rates can be set for different types of activities. The current plan is:

- RD&D activities: funded at 50%
- Horizontal activities: funded between 70-80%
- EJP Management activities: funded at 100%

*Allocated/Non-Allocated budget*

In order to meet flexibility principle (possibility to include new activities in the course of EJP1) and inclusiveness principle (possibility to integrate new mandated actors), 70% of the budget shall be allocated to WPs/tasks that will start at the launch of an EJP implementation phase. The remaining 30% will be provisioned under Management and will be allocated to RDD/Networking/KM during the course of EJP according to the implementation mechanisms/ governing rules.

**EJP budget and funding mechanisms**

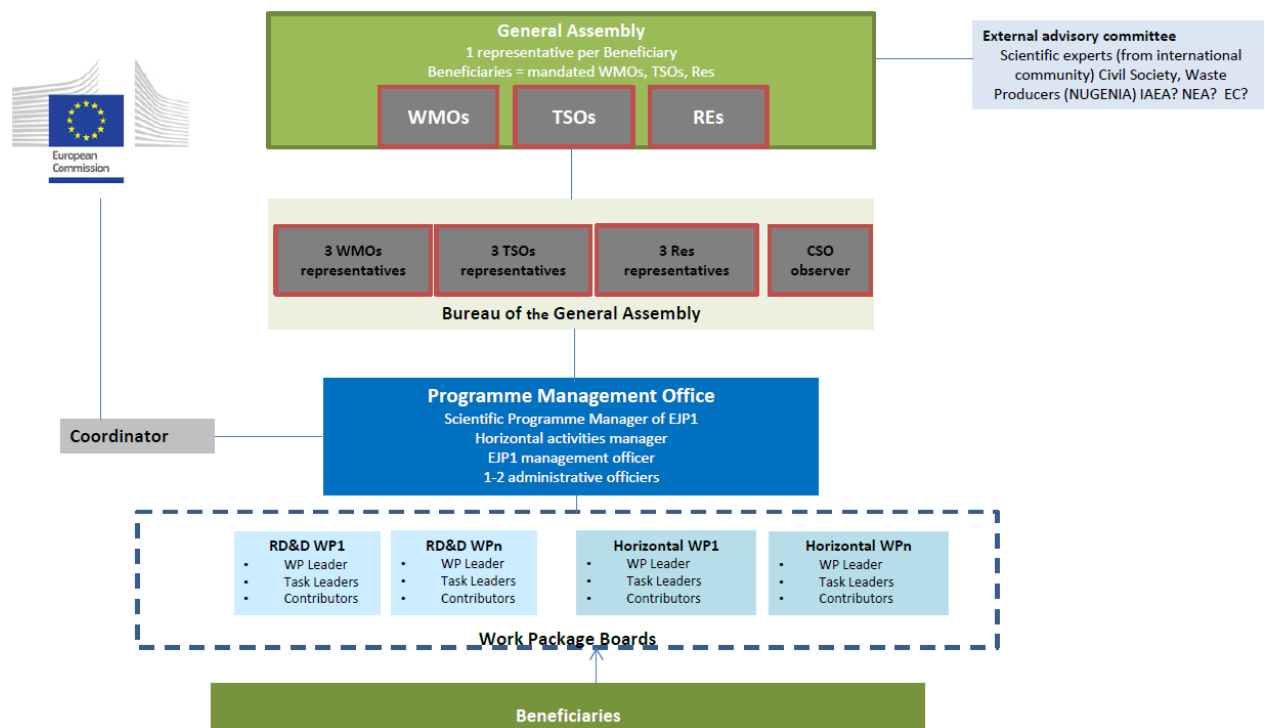
*Discussion 3*

C. Davies said that the Universities couldn't be funded at 100% as is in R&I programs.

Concern was raised about possibilities of double funding.

**EJP governance bodies**

The current governing scheme and bodies has been presented.



*Discussion 4*

E. Holt raised the issue of responsibility of the mandated actors towards the linked third parties.



### ***3.10 NUGENIA: view of waste producers and contribution to Joint Programme on RWMD***

*Anthony Banford (NUGENIA)*

NUGENIA is an international non-profit association founded under Belgian legislation in November 2011 and launched in March 2012. Its mission is to be an integrated framework for safe, reliable and competitive Gen II & III fission technologies.

- Fostering collaboration between industry, SMEs, RTOs, academia and technical safety organisations
- Building knowledge and expertise
- Generating results with added value

The Nugenia portfolio covers 8 Technical Areas including Plant Safety and Risk; Severe Accidents; Improved Reactor Operation; Integrity of Systems, Structures and Component; Fuel Development, **Waste & Spent Fuel Management and Decommissioning**; Innovative LWR Design & Technology; Harmonisation; In-Service Inspection and Qualification

Anthony Banford is the Technical area coordinator covering waste management, spent fuel management and decommissioning and the author and editor of this section in the Nugenia Global Vision document. His presentation will outline the aims and objectives of Nugenia, its membership and consider the outlook for technical collaboration in the areas of Waste Management, Decommissioning and Disposal

### ***3.11 Preparation of activities to be included in EJPI***

*M. Garcia and S. Schumacher (Andra, FR)*

In order to prepare the actual setting up of a Joint Programme on RWMD and a proposal for the first implementation phase that could be submitted within Euratom WP2018 call, a Core Group has been established in January 2017. Based on the JOPRAD project's outcomes, the Core Group's main task has been to facilitate the preparation of this proposal comprising activities that could be launched in the first implementation phase.

The aim of this talk was to present the work that has been done collectively so far to establish the RD&D and Networking Work Packages, as well as the next steps to be carried out until the submission of the proposal in September 2018.

#### *Questions*

W. Steininger questioned the meaning of the term "handbook". He asked how it will be carried out in the evaluation of the proposal.

M. Garcia answered that each community will mandate an organisation to evaluate the proposal.

B. Grambow said he understood the handbook would be a reference document giving credibility of the information and making knowledge accessible.

## **4 Wrap up and conclusion of the meeting**

*B. Grambow and C. Serres*

B. Grambow thanked Andra for coordinating the Project and bringing it to a stage of development that allowed the actual setting up of an EJP.

We have now moving toward a better integration of all the research priorities and with the number of participants the JP will be more than a common denominator. The mission of the EJP is to do all the work together.

The EJP will help also the REs to structure their work as well. The goal is to contribute to the key questions of the society with the help of Civil Society. The key questions to be solved will be through scientific excellence.

C. Serres stressed that the EJP was a unique occasion to innovate but in order to succeed we should embark all kind of actors, in particular with experts from Civil Society organizations. In this respect the means of involvement of CSO should be carefully studied.

All the participants to the JOPRAD project thanked EC for its support all along the course of the project.

Jiri Slovak thanked all the participants to the workshop and wished them a safe trip back.

## Annex I: Final Workshop Agenda

### JOPRAD

## Towards a Joint Programming on Radioactive Waste

### Final Workshop Agenda

16 November 2017 Marriott Hotel, Prague, Czech Republic

Hosted by the Minister of Industry and Trade of the Czech Republic

**Starting 8:30 am**

<i>Registration and coffee 8:30 – 9:00</i>		
09:00	<b>Welcome</b> –Host organizer	J. Slovak (SURAO –CZ)
9:10	<b>Ministry Key note</b> : Mr. Jiri Havlicek , Minister of Industry and Trade	J. Havlicek (CZ)
<b>Session 1:</b> <b>(Chair: J. Martin and J. Slovak) 9:40 – 12:20</b>		
09:40	<b>Key note</b> –Collaborative Social Science Research: The Other Side of the Coin.	D. Metlay (NWTRB – USA)
10:10	European Joint Research Programme in the management and disposal of radioactive waste	C. Davies (EC)
10:30	<b>JOPRAD</b> : rationale, objectives and overview of outcomes	J. Delay (Andra, FR)
<i>Coffee Break 10:45 – 11:05</i>		
11:05	<b>Joint Programme Actors and Boundary Conditions</b>	J. Miksova (CV REZ, CZ) and F. Lemy (Bel V, BE)
11:25	<b>Joint Programme Vision, Strategic Research Agenda and Knowledge Management Programme</b>	R. Kowe (RWM) and G. Buckau (JRC)

11:50	Question and Answer session	All
<i>Lunch break 12:20 – 14:00</i>		
Session 2 : (Chair: C. Serres and B. Grambow) - 14:00 – 17:00		
14:00	<p><b>JOPRAD outcomes: Governance and implementation strategy of the EJP</b></p> <ul style="list-style-type: none"> <li>- EJP activities</li> </ul> <p><b>Question and Answer session</b></p> <ul style="list-style-type: none"> <li>- EJP Participation rules</li> </ul> <p><b>Question and Answer session</b></p> <ul style="list-style-type: none"> <li>- EJP budget and funding mechanisms</li> </ul> <p><b>Question and Answer session</b></p> <ul style="list-style-type: none"> <li>- EJP governance bodies and decision-making methods</li> </ul> <p><b>Question and Answer session</b></p>	M. Garcia (Andra, FR)
<i>Coffee Break 15:20 – 15:45</i>		
15:45	<b>NUGENIA:</b> view of waste producers and contribution to Joint Programme on RWMD	A. Banford (NUGENIA)
16:15	<p><b>Preparation of activities to be included in EJP1</b></p> <ul style="list-style-type: none"> <li>- Governance of the proposal preparation phase</li> <li>- Presentation of the activities under development for EJP1</li> <li>- Timeline until submission of the proposal in September 2018</li> </ul>	M. Garcia and S. Schumacher (Andra, FR)
	Question and Answer session	All
17:00	Wrap up and conclusions	C. Serres and B. Grambow (IRSN,CNRS FR)
17:15	Closure of the Meeting	J. Slovak (SURAO)

**Ending 5:30pm**

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## **Annex II: Final Workshop Presentations**

### **Welcome session**

**Welcome** –Host organizer J. Slovak, SURAO

**Ministry Key note:** Minister of Trade and Industry, Jiri Havlicek

### **Session 1: Context and objectives of Joint Programming (Chair: J. Martin and J. Slovak)**

**Key note** –Collaborative Social Science Research: The Other Side of the Coin, Dan Metlay, NTRB USA  
European Joint Research Programme in the management and disposal of radioactive waste, C. Davies DG-RTD

**JOPRAD:** rationale, objectives and overview of outcomes, J. Delay Andra

**Joint Programme Actors and Boundary Conditions** J. Miksova (CV REZ, CZ) and F. Lemy (Bel V, BE)

**Joint Programme Vision, Strategic Research Agenda and Knowledge Management Programme** R. Kowe (RWM) and G. Buckau (JRC)

### **Session 2: (Chair: C; Serres and B. Grambow)**

**JOPRAD outcomes: Governance and implementation strategy of the EJP** M. Garcia (Andra, FR)

**NUGENIA:** view of waste producers and contribution to Joint Programme on RWMD A. Banford (NUGENIA)

**Preparation of activities to be included in EJP1** M. Garcia and S. Schumacher (Andra, FR)