

**Zagreb, 20<sup>th</sup> – 21<sup>st</sup> November 2019**

## **Note of the Meeting**

The meeting was hosted by FOND-NEK and held at the Hotel Dubrovnik, Zagreb. It was attended by sixteen representatives from eight countries.

### **1 Opening**

The Chairman and the CEO of FOND-NEK, the meeting hosts, welcomed participants. The Chairman explained the objectives of the meeting with respect to reviewing the draft specifications for the three ERDO projects developed at the September 2019 ‘*Steps to Sharing*’ workshop (held at the IAEA in Vienna) and to discussing the future form of the Working Group from 2020 onwards.

### **2 Update on National Developments**

The regular update on national developments was condensed, focussing on brief oral notifications of any major news items, to allow time for the main agenda items.

1. **Slovenia:** A meeting of the bilateral Slovenia-Croatia commission on managing the wastes from the Krško NPP concluded at the end of September, but was unable to reach agreement on the shared disposition of LILW. Consequently, both countries will proceed with their own separate arrangements for the storage and disposal of these wastes. However, joint planning continues for shared solutions for NPP decommissioning and management of spent fuel, and formal plans are ready to be tabled for adoption by both governments. This will release funds in both countries, possibly by the end of 2019, for the initiation of joint projects.
2. **Denmark:** An EIA for the new storage facility at Risø is underway and notification letters under the Espoo Convention have been sent to neighbouring countries. The local planning process continues, with public meetings and visits. Pre-qualification for the facility design consultant is completed. Dekom is looking at the use of melting technology for waste volume reduction and possibilities for reuse of sources from smoke detectors, where useful information has been obtained during a recent visit to Slovenia. Meetings have taken place with FOND-NEK (Croatia) to visit exhibition facilities and discuss communications challenges. In 2020, the Geological Survey of Denmark and Greenland is expected to make recommendations on prospective geological disposal environments for further investigations and will produce a map of Danish geology at depths down to 500 m.
3. **Norway:** The national waste management framework is being developed and will be formalised in a government White Paper in autumn 2020. Norwegian Nuclear Decommissioning (NND) is carrying out public tendering for technical support, using an approach similar to EU procedures. Further recruitment is underway and preparations are in hand for the induction of IFE employees into NND. Competence building within relevant sectors of government continues, with staff visits to other national facilities (e.g. in France and Sweden).
4. **Netherlands:** The COVRA Board of Governors now has a new President. The Netherlands is likely to construct a new research reactor in the near future, with waste management implications. The extension of the HABOG storage facility continues. COVRA is implementing a new, process-based, integrated managements system for its activities. The follow-up RD&D programme to OPERA on geological disposal begins in early 2020.

5. **Italy:** There have been some reorganisations of responsible sections within government, but there are no new development in the RWM area and the 2015 map of potentially suitable areas for the national waste management facility (LILW disposal and HLW storage, plus a technology park) has not got yet the authorization for being published. The Strategic Environmental Assessment process on the proposal of National Programme on RWM in response to the EU Waste Directive is now concluded and the final version of the National Programme is ready for submission to the EC.
6. **Croatia:** The problem area in reaching an agreement on shared disposal of LILW was the transfer of the small quantity of MIR institutional wastes from Croatia to Slovenia. Waste will need to be stored in Croatia and FOND is about to launch a tender for a 3-year project for the design and EIA of its ILW storage facility. The transfer of wastes from the NPP at Krško is scheduled to start in 2023. Public hearings on the Third Revision of the Joint Krško NPP Decommissioning Program and RW & SF Disposal Program (with Slovenia) will be completed in December and will be followed by preliminary approval of Government and acceptance in Croatian Parliament. The future projects include work on joint waste characterisation and GDF concepts, as well as preliminary analysis of geological environments for a geological disposal facility in Croatia or Slovenia.
7. **Austria:** Further RWM developments are awaiting the results of inter-party negotiations and the likely formation of a new coalition government, expected to take place at the end of 2019.

### 3 IGD-TP Research Agenda and EURAD 'Routes'

The meeting received a report on the status of the IGD-TP Research Agenda, a new version of which is to be completed by the end of January 2020. Three topics were suggested by ERDO-WG and fall into SRA Key Topics 1 and 8. The TP will assess which topics from its complete agenda are suitable for EURAD and integrate them into that programme, if possible. Those that are not suitable for EURAD, but have a high level of support from TP members, can be fast-tracked for independent implementation by the TP. ERDO-WG members were pleased to see that the vision is developing into directions that begin to cover the specific needs of ERDO/SIMS. The ERDO-WG will inform the IGD-TP about the three projects that it is undertaking independently and establish whether other TP members have an interest in them.

An outline was provided of the status of the ROUTES project within the EURAD programme. It was discussed whether ERDO wished to propose its own projects for inclusion in the 2<sup>nd</sup> wave, but the projects will be going ahead well before the 2<sup>nd</sup> wave is defined and it was agreed that ERDO-WG is more flexible running these as independent projects

### 4 ERDO Projects

The three projects agreed and sketched out at the 'Steps to Sharing' workshop in Vienna in September have been developed into draft project specifications by the core group members for each project. Each was discussed with a view to assisting the project leaders in finalising the scope and establishing the next steps.

#### 4.1 Pre-Disposal Project – Legacy Waste Characterization (LWC)

The core group that prepared the specification was Dekom (Denmark), SOGIN (Italy) and COVRA (Netherlands). The other interested countries are Austria, Croatia, Greece, Norway, Portugal and Slovenia. SOGIN will act as Project Leader.

The project duration is 18 months. It comprises four tasks:

- Task 1: Survey of existing Legacy Waste
- Task 2: Minimum set of WACs for disposal of VLLW-LLW
- Task 3: Main properties of ILW potentially suitable for disposal
- Task 4: Characterization of Legacy Waste

Final planning of resources, time schedule and named individuals to carry out the work in each organisation will be carried out by SOGIN in the coming weeks.

## 4.2 Borehole Disposal Project

Planning has been carried out by NND and COVRA for this project, which has a target duration of 6 months, with NND as the Project Leader. The expected outcome of the project is a report/study that should include the following

- Identify the type and volume of the country's inventory of radioactive waste that could be suitable for borehole disposal.
- Identify the dimensions and inventory of the waste packages for borehole disposal.
- Identify design and operating concepts of BD facilities that would suit national inventories and develop country-specific scenarios for how BD might be implemented
- Assess strategic implications of incorporating BD into national disposal planning
- Identify which other facilities would be needed in the national strategy
- Consider how inclusion of BD might affect timing of storage and disposal planning
- Assess cost implications of using BD
- Evaluate the strategic and design scenarios developed above
- Identify the need for further R&D

NND, who will act as 'owner' of the project, will go ahead with the preparations to implement the project.

## 4.3 MNR Costs and Financing project

The CFP project comprises three tasks:

- CFP 1: Collect and review **national** costing and financing information for storage and disposal, including a comparison of costing and funding methodologies and underlying assumptions used by national strategies and programmes
- CFP 2: Review of existing studies on cost estimates for **multinational** storage and disposal
- CFP 3: Assessment of potential for, and specific savings by, sharing facilities for waste pre-disposal and final disposal.

The project will be led by ARAO, supported by FOND-NEK. Other European programmes will be canvassed to identify those which are willing and able to take an active role and those which wish to act as observers. A liaison officer from the IAEA will be invited to participate in the group. The main objective of the project will be to demonstrate the cost differences between shared and independent national GDF solutions.

# 5 Future Form of the ERDO-WG

Discussion of the future form of the WG was preceded by a review presentation of the history of ERDO and the achievements since its establishment. Suggestions were then presented for how the WG might be constituted in future, beginning with a suggested list of activities for the next 5 years. The following activities met with general approval:

1. Promote 'dual-track' to the public, media, politicians and liaise with national WMOs

*RWM: manage common projects in radwaste management*

2. Manage the three current ERDO shared projects
3. Develop a single, common ERDO inventory
4. Develop a shared solution to conditioning, packaging, storing and disposing of a specific ERDO waste stream

*Repository (GDF): manage common projects leading to shared GD*

5. Develop a programme and schedule that could lead to a shared GDF so as to meet directive requirement demonstrating an active dual-track

#### 6. Develop a set of GDF designs for the ERDO inventory

It was acknowledged that the WG needs to evolve so that it can be more efficient in both its promotional role (especially, interacting on an equivalent level with other organisations) and in being able to initiate and manage projects. The need for change has arisen from the changing emphasis within the group to carry out projects that will achieve its (unchanged) strategic objectives.

It was agreed that the Secretariat would come back to the WG with firm proposals for an evolved ERDO-WG at its next meeting.

### **6 Next Meeting**

The next ERDO-WG meeting will be held from June 9<sup>th</sup> – 10<sup>th</sup> 2020 in Rome, hosted by ENEA (to be confirmed).

### **7 Close**

Ewoud Verhoef closed the meeting, thanking all the participants for useful discussions and FOND-NEK for their excellent hosting.