

Baden, Switzerland; 10th July 2018

Note on the Meeting

The meeting was hosted by Arius, Switzerland (the ERDO secretariat). A visit was arranged to the Grimsel underground research laboratory and to the ZWILAG conditioning and interim radioactive waste storage facility at Würenlingen. The meeting agenda is in the annex to this note.

Eleven participants attended the meeting, including representatives of five of the ERDO Member countries¹, the Arius secretariat and Observers from Croatia (Fond-NEK) and Norway (IFE). Apologies had been received from the Polish representative on the WG.

1 Update on National Developments

Short presentations were made on significant developments in the national programmes present at the meeting.

- **Slovenia:** The construction licensing approval process for the LILW repository is currently underway. An Implementation Co-ordinating Committee (ICC) has been established by the Intergovernmental Commission to negotiate a joint solution for management of the LILW from the Krško NPP. The LILW repository schedule envisages disposal as taking place from 2022. The NPP owners will also, in the next years, assess options for reprocessing SF abroad. The initial stages of the national GDF programme run from 2018-2055. Slovenia and ARAO are actively promoting the dual track approach at international conferences and working groups.
- **Croatia:** The National RWM Programme covers activities up to 2025 in detail, with an outlook as far as 2060. The Plan remains to be formally adopted by the government. Policy is to establish a RWM centre at the Čerkezovac site in the Trgovska Gora area, with 40 years storage capacity for 50% of the Krško LILW. A disposal facility is not envisaged before 2043, with current plans being for 2058. A GDF for SF is not envisaged before 2065 – planned either in Croatia or Slovenia (joint solution), or a multinational solution.
- **Italy:** Updated inventory figures (as packaged volumes) show 16,000 m³ ILW and 1000 m³ of HLW and non-reprocessable SF, both destined for eventual geological disposal; 78,000 m³ LILW-SL for the national surface repository, once available (2025 as declared in the draft of the National Programme published within the SEA procedure and more recently from the resigned Ministry of Economic Development.. The first reprocessing wastes are to be returned from UK and France in about 7 years time and will be long-term stored in the Interim Storage Facility (CSA) of the national repository. The national RWM facility siting approach has been on hold since 2015. The previous government was waiting for the formal closure of the SEA for the National Programme (the final advice being issued in December 2017). The new government has not yet formalised its policy. Once the SEA is approved, the National Programme can be updated and submitted to the EC.
- **Netherlands:** A new advisory board to the Ministry of Infrastructure will assess the issue of 'conversation in society' on final disposal matters. Besides that, the ANVS appointed a new expert-Advisory Board. The board has the task of providing the ANVS with solicited and unsolicited advice on matters related to the tasks of the ANVS, including waste. The National programme submitted under the Directive

¹ NL (COVRA, ANVS), DK (Dekom), SLO (ARAO), A (Ministry of Sustainability and Tourism) and I (ENEA).

requirements has been criticised by the EC as the 'implementation is not good enough and the content is incomplete'. COVRA, has completed its 7-year OPERA project on development of a concept and safety case for disposal of the Dutch inventory of radioactive wastes in the Boom Clay formation. A follow on programme centred on 'knowledge development and maintenance' is starting this year. The intention is to enhance technical and societal confidence in geological disposal, improve and optimise cost assessment, examine disposability issues and maintain the national knowledge infrastructure. ERDO members were invited to become involved as partners in this new programme.

- **Austria:** There have been organisational changes since last year's elections, with the renaming of the Ministry with the main competence for radiation protection: now 'Sustainability and Tourism' (formerly BMLFUW). An IAEA mission (IRRS) took place in Austria at the end of June. The need to act on RWM is becoming more widely recognised across the country. The draft National Programme was sent for a public consultation in May. The programme can be seen as a starting point for looking at longer-term solutions. While the multinational disposal option remains in the draft version, there has been some public opposition to leaving it in the final version.
- **Denmark:** A unanimous parliamentary decision in May approved the outline national waste management plan. The plan approved includes a new and upgraded storage facility at Riso to replace the current interim stores, large enough to hold all decommissioning and other radioactive waste that will arise, except from NORM waste. Investigations of a national GDF are to begin with geological desk studies and borehole investigations on Denmark's deeper geology. There is to be active dialogue with the public and citizens' groups. The multinational option for disposal of the irradiated research fuel is to be continued, with the ERDO-WG being specifically mentioned in the parliamentary decision.
- **Norway:** A study on the national RWM programme reporting in 2016 recommended a range of actions including setting up a RWM organisation, funding a new LILW repository and exploring options for a GDF. The national inventory includes about 16 tonnes of current and legacy SF. The existing combined storage and disposal facility (KLDRA) for LILW is located beneath 50 m of rock at the end of a 150 m tunnel in a mountainside. Norwegian Nuclear Decommissioning (NND) was established on 1st January 2018. NND would need to grow in size in order to take over activities and responsibilities that today partly lie with the Ministry and partly with IFE. Several options for the division of work are currently under evaluation.

2 First EC Evaluation of Waste Directive Responses

A report was heard on the meeting in November 2017, organised by the EC, at which the results of the EC's evaluation of the national Waste Directive responses was presented and discussed in a series of panel sessions. Both the EC reporting and the discussions were disappointing and there was no real outcome to the meeting. Interesting statements in the EC evaluation report include:

- ... "half of Member States are considering the possibility of shared solutions for disposal either as a preferred or as an alternative option (the 'dual track' approach). However, none of the Member States' programmes or reports set out concrete milestones or measures towards the implementation of such a solution. While the Directive allows shared disposal solutions to be developed, a policy based only on this option, without a clear path towards implementation, cannot be regarded as being in line with the aims of the Directive.
- The Commission stands ready to support the Member States in assessing the economic, legal and social impacts of shared repositories, given that the sharing of facilities for spent fuel and radioactive waste management, including disposal facilities, may be a potentially beneficial, safe and cost-effective option".
- "The Commission aims to assist Member States to address the common challenges and needs with respect to the management spent fuel and radioactive waste. It is organizing an event with EU Member States on Implementation of the Directive

2011/70/Euratom (6-8 November 2017, Brussels) aiming to (i) present its report; (ii) exchange views and identify mechanisms to support the countries; and (iii) **launch a debate on the shared disposal solutions.**”

The discussion on shared solutions promised by the EC did not take place.

3 European Joint Programming

Several key meetings to initiate the EJP project had taken place over the winter and developments and current status were reported. The waste ‘cradle to grave’ Work Package that is of interest to ERDO-WG now has ARAO, DEKOM, COVRA and NES (Austria) as mandated actors (among many more). The budget for the multinational aspects in the ‘WM routes from cradle to grave’ Work Package is modest and will be distributed over 48 months. Whereas there is appreciation of the complexity of setting up a EJP for radioactive waste for the first time with a great many actors involved, the small resource allocations relevant to shared solutions are disappointing. This strengthens ERDO arguments that the EC should take steps to remedy the lack of funding for truly strategic development activities.

4 International Activities and Update

A wide range of activities relevant to multinational solutions and sharing have taken place recently, in which ERDO members and/or the secretariat have been involved:

- IAEA consultancy on small inventory disposal, Dec 2017, Vienna
- WNA Joint Session on MNR Jan 2018, London
- AAAS/Stimson Foundation Workshop, April 2018, Washington: a round table session on multinational solutions
- IAEA - INPRO: meetings and a report on multinational cooperation: “Cooperative Approaches to the Back End of the NFC: Drivers and Institutional, Economic and Legal Impediments”.
- IFNEC: the reliable nuclear fuel services working group (RNFSWG) encourages cooperation between countries that wish to share solutions for storage and disposal and is organizing a meeting on December 11th 2018 in Paris on ‘Costing and Financing Multinational Repositories’.

5 ERDO Way Forward

A discussion on possible activities for ERDO over the near future led to agreement that ERDO should place emphasis in the near future on promoting sharing possibilities in the ‘pre-disposal’ period, as success in this area would lay the foundation for sharing disposal solutions later (e.g. on sharing facilities and technologies for characterisation, conditioning and storage, so as to facilitate common WAC for later shared disposal).

ERDO-WG proposes to organise a conference or workshop on ‘Steps to Sharing’ with sessions on the types of sharing activities that can take place along the pathway to eventual disposal. The objective of the workshop would be to identify specific sharing projects between interested countries in each of the session areas. Those EU Member States that express interest in shared solutions would be invited, along with other European countries with similar interests but outside the EU. The EC (DG-ENER) and the IAEA would also be invited to participate

6 Next Meeting

The next meeting will be held in **Paris on 12th December 2018**, the day following the INPRO meeting at which several ERDO participants will be present.

Annex: Meeting Agenda

Tuesday 10 th July		ERDO Working Group Meeting	
1	09:00 – 09:15	Welcome and agenda review	Ewoud Verhoef
2	09:15 – 11:15	Status of RWM and disposal planning in Members' countries (short updates)	All
3	11:15 – 12:00	Feedback and any actions from EC and Member States following 2017 Waste Directive review	All
	12:00 – 13:30	Lunch at Hotel du Parc	
4	13:30 – 14:00	Status of EJP; involvement of ERDO members	All
5	14:00 - 14:45	Brief reports on recent multinational repository developments <ul style="list-style-type: none"> • INPRO: meetings and status of multinational cooperation report • IFNEC: meetings 2018 • Stimson Foundation workshop, Washington, 4/18 • IAEA: small inventory project and reporting • Commercial initiatives (Canada, etc) 	Charles McCombie Neil Chapman
6	14:45 - 16:30	Brainstorming Session Making the right strategic connections for ERDO to facilitate "the next step" towards multinational action <ul style="list-style-type: none"> - what might such an action be? - who might instigate it and how? 	Neil Chapman (facilitator)
7	16:30 – 16:45	Communications strategy for ERDO: publications, meetings	Neil Chapman
8	16:45 – 17:15	Secretariat matters	Charles McCombie
9	17:15 – 17:30	Future ERDO-WG programme: next meeting	All
	1730	Close of Meeting	