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NEA/RWM(2013)1

Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development

26-Feb-2013

English - Or. English

NUCLEAR ENERGY AGENCY
RADIOACTIVE WASTE MANAGEMENT COMMITTEE

WORKING PARTIES ACHIEVEMENTS AND PLANS

This document supports item 9 of the provisional agenda of the 46th Session of the RWMC, to be held 13-14 March 2013.

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JT03335274

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FORUM ON STAKEHOLDER CONFIDENCE

INTRODUCTION

The integration of wider socio-political considerations is a major challenge for all waste management programmes. The RWM provides a forum for information exchange in this area that also allows for exchange of views with relevant stakeholders. The Forum on Stakeholder Confidence is composed of nominees from NEA Member countries with responsibility, overview, and/or experience in the field of stakeholder interaction and confidence. The FSC is, above all, a place of learning. Efforts are focused on developing a dialogue among stakeholders and on seeking to build durable confidence about management solutions. The stakeholders include any person, group or institution that has an interest or a role to play at any stage of the decision-making process.

The FSC meets at least once per year, typically alternating between two meeting formats. Regular (annual) FSC meetings focus on information exchange among the members and in-depth discussion of specific topics. National workshops and community visits, hosted by a member institution, allow for interaction with a broader range of stakeholders in the national context, on topics of concern to the stakeholders. The FSC workshops are recognised to provide a framework for direct exchange amongst stakeholders in an environment of respect and mutual learning. For the host country participants, the FSC workshops are an opportunity to present and analyse their own experience in a neutral setting, to benefit from international feedback and to leave a record of their viewpoints. International delegates gain a better understanding of the history and practice of radioactive waste management in the host country. All participants improve their knowledge of the factors influencing public confidence in the domain of radioactive waste management. The workshop is an opportunity to reinforce or create ties amongst stakeholders.

Reference documents

Strategic document: <http://www.nea.fr/html/rwm/docs/2001/rwm-fsc2001-2-rev2.pdf>

FSC Phase-3 Programme of work (2010 and beyond): NEA/RWM/FSC(2010)1

Mandate: NEA/RWM(2011)1 (setting the mandate through 31 December 2013)

Core Group Members

The FSC chairperson as of October 2012 is Holmfridur Bjarnadottir (National Council for Nuclear Waste). Jo-Ann Facella (NWMO) is Principal Vice-Chair. The Core Group currently includes member Jay Redgrove (UK NDA). Additional new members are due for confirmation at the FSC-14 regular meeting (Sept. 2013).

HIGHLIGHTS 2012

- The 9th FSC National Workshop and Community Visit entitled “Deliberating Together on Geological Repository Siting: Expectations and Challenges in the Czech Republic” was held in Karlovy Vary and the Certovka Site (involving 4 villages), Czech Republic, 24-26 October 2012. Over one hundred participants representing a total of 15 countries and the European Commission participated throughout the workshop. Three FSC countries plus the confederated European level were represented by a significant delegation of 14 local stakeholders, and several of these

stakeholders made planned platform presentations during an innovative “Local Public Debate”. The debate allowed many more local Czechs to participate (the full audience was estimated at up to 200 persons).

- The 13th FSC regular meeting took place 22-24 October 2012 in Prague, directly preceding the Czech Republic National Workshop. This was the first regular FSC meeting held outside OECD premises. Well attended by new members, Czech stakeholders and a number of international visitors including social science researchers, FSC-14 took a detailed look at RWM governance initiatives and research projects led outside the FSC. Topical discussions addressed institutional discourse and stakeholder concerns on RWM post-Fukushima, which benefitted from input from RWMC members; the growing role of social media; and current Secretariat-sponsored studies regarding monitoring and linked to “Preservation of Records, Knowledge, Memory” (RK&M). Six countries gave detailed updates.

ACTIVITIES AND ACCOMPLISHMENTS SINCE RWMC-45 (MARCH 2012)

Activities and Projects

- **Meeting of the FSC**

The 13th FSC regular meeting took place 22-24 October 2012 in Prague. As the first FSC regular meeting held outside OECD premises, it was well attended by new members, Czech stakeholders and a number of international visitors including social scientists. Governance initiatives and research projects organised by the European Commission (IPPA, InSoTec) or by ANCCLI and ENEF (Aarhus Convention and Nuclear) were reviewed and it was resolved to heighten two-way interactions. In particular, the application of the Aarhus Convention to the RWM domain was identified as a fruitful area. Cross-working party and cross-project relations were favourably illustrated by Secretariat-sponsored consultant studies on monitoring (physical possibilities, and societal utility of monitoring). A topical session showcasing Czech research allowed FSC delegates to assess the value of social media for collective action, as well as the limits for effective use of these media by RWM institutions. Impacts of the Fukushima disaster on institutional discourse and stakeholder concerns on RWM were assessed. Detailed and thoughtful country updates were delivered by Canada, Germany, Spain, Switzerland, the UK and the USA.

- **The Growing Role of Social Media (Topical discussion under several FSC PoW themes)**

Following the FSC-12 decision to incorporate the topic of Social Media into its programme of work, a panel of Czech researchers was convened to present empirical studies and experience with social media as supports to collective action. Feedback offered to the FSC by these researchers suggested that, as observed by participating RWM institutions, these media have significant limitations as tools for stakeholder dialogue or crisis communication. However, discussion should be continued on issues raised such as: definitions of democracy, accountability in the digital world, and innovation in cross-sectoral dialogue.

- **Models for Early Involvement (Second Exploratory discussion under several FSC PoW themes)**

On the basis of the first exploratory discussion at FSC-12, the Secretariat provided a draft introduction to a potential new FSC document on “Early involvement”. Several participants offered insight into the challenges posed by the legal and societal requirement to involve affected publics while decision options are still open. Links were made with the ACN (Aarhus Convention in Nuclear) peer-review initiative conducted in 15 European countries (2008-12) and it was determined to investigate actual procedural impediments to early involvement. The Aarhus Convention international treaty provides rights to “public information, participation and access to justice in

environmental decision-making”. As such, the failure to inform, to involve affected publics early, etc. may give grounds for civil actions in justice. It was decided to propose cooperation with the NEA Legal Affairs division to identify any case law examples of civil complaints in areas of interest to the FSC and RWMC working parties.

- **Monitoring and Memory (PoW theme 1 and cross-fertilization with the RK&M project)**

To respond to interest and challenges arising in connection with the Preservation of Records, Knowledge and Memory, the Secretariat sponsored two ongoing studies on monitoring and memory. The FSC-related study uses structured interviews with a broad range of RWM stakeholders representing many countries and roles, in order to learn about what local and civil society stakeholders ask for in terms of monitoring and more largely, oversight of RWM facilities. The second study (reported in the IGSC part of the present document) focuses on technical possibilities for monitoring. The two studies are run in a mutually informative manner and a joint paper has been prepared for the MoDeRn conference.

- **Publications and Documents**

- The “Annotated Glossary of Key Terms”, examining major concepts considered by the FSC since its inception.
- “Reflections on Siting Approaches for Radioactive Waste Facilities: Synthesizing Principles Based on International Learning”, characterising socially responsive siting of radioactive waste management facilities as established by the FSC and the literature.
- “Clarity, Conflict and Pragmatism: Challenges in Defining a ‘Willing Host Community’”, an essay drawing on political science references and on examples (principally from the United States).

Outreach, Presentation and Stocktaking

- A 3-hour lecture at the University of Versailles on the lessons learnt by the FSC in the area of risk governance
- Plenary presentation by the Secretariat at conferences in Rome and Warsaw
- Invited talk by the Secretariat at the meeting of the Salt Club on Natural Analogues

MAJOR AREAS OF ACTIVITY FORESEEN IN 2013 – 2014

Activities and Projects

- Updating the FSC PoW to reflect FSC-13 findings
- Updating of the FSC Strategic document
- Undertaking new studies upon further decision by the FSC Core Group, notably in the area of legal and other impediments in applying the Aarhus Convention
- 14th FSC meeting with topical sessions on the main FSC PoW themes
- Organisation of 10th and possibly 11th FSC workshop depending on countries’ requests

Knowledge Consolidation and Transfer

- **Publications Expected**

- Proceedings of topical sessions and workshop proceedings.
- Flyers on reports and topics as determined by the Core Group of the FSC

- Findings of the FSC study on Monitoring and Memory and stakeholder confidence
- ***Outreach, presentation and stocktaking***
 - Plenary presentation at ICGR 2012
 - Participate in and support (as needed) RWMC projects on Preservation of RK&M Across Generations, and RWMC-RF initiatives

INTEGRATION GROUP FOR THE SAFETY CASE (IGSC)

INTRODUCTION

The IGSC serves as the main technical advisory body to the RWMC on deep geological disposal of long-lived and high-level radioactive waste. The focus of its work is on methodologies and strategies for characterising and evaluating disposal sites as well as on repository design and safety assessment aspects for various waste types. The work activities of the IGSC promote pooling of resources, sharing and synthesis of understanding and experience, and communication of findings to varied audiences.

The programme of work reflects two major directions for the IGSC in the coming years. The first is a renewed emphasis on the technical and methodological issues at the heart of the safety case (i.e., safety assessment), as there have been significant advances. The second theme is the integration of long-term safety imperatives with operational and engineering considerations, which are of immediate concern as programmes approach licensing and construction phases of repository development. The PoW also emphasises increased coordination by IGSC with the main RWMC and its working bodies.

Reference Documents

IGSC Foundation Document:	NEA/RWM/IGSC(2000)10
IGSC Programme of Work 2011-2013:	NEA/RWM/IGSC(2011)1/PROV
Update of IGSC Activities and Accomplishments:	NEA/RWM/IGSC (2010)7
IGSC Mandate:	NEA/RWM/IGSC(2010)6

IGSC Chair and Core Group Members (as of IGSC-14)

IGSC chairperson is Klaus-Jürgen RÖHLIG (TU Clausthal, Germany). Members of the Core Group are: Fabrice BOISSIER (ANDRA), Paul GIERSZEWSKI (NWMO). Allan HEDIN (SKB), Doug ILETT (UKEA), Hiroyuki UMEKI (JAEA), Abe VAN LUIK (USDOE/WIPP).

HIGHLIGHTS

- IGSC-14 Meeting (Oct. 2012, Paris): Topical session on uncertainty and sensitivity analysis. The International Symposium on Safety Case will be held on Oct 7-9, 2013, immediately followed by the IGSC annual meeting (IGSC-15) on Oct 10-11, 2013. With the Safety Case Symposium, there will be no topical session in the 2013 annual meeting.
- Clay Club held their 5th International meeting on “Clays in Natural and Engineered Barriers for Radioactive Waste Confinement” on October 22 – 25, 2012, in Montpellier, France. More than 500 participants attended this conference to discuss the role of natural and artificial clay barriers for radionuclides confinement. The project is currently planning for the next annual meeting to be hosted by the Honorable Underground Research Laboratory in Japan.

ACTIVITIES AND ACCOMPLISHMENTS SINCE RWMC-45 (MARCH 2012)

Activities and Projects

- **Meeting of the IGSC-14**

IGSC-14 was held on 8-10 October at NEA, Issy-les-Moulineaux, France.

The topic of the IGSC-14 Topical Session was on “Uncertainty and Sensitivity Analysis”. It was agreed that a flyer will be prepared based on the key findings discussed in the session. The flyer will be approved by the IGSC.

- **Safety Case Symposium**

The 2nd Safety Case Symposium is currently planned for October 2013 and will be followed by a shortened IGSC annual meeting (IGSC-15). The 2013 Symposium will focus on the safety case of deep geological disposal facilities and will address all stages of repository development. Specific issues and challenges in developing safety cases will be evaluated and the interplay of technical feasibility, engineering issues, and operational and post-closure safety will be addressed.

- **Operational Safety**

Operational safety issues in geological disposal facilities are considered similar to those in operating nuclear facilities. Nevertheless, as more national radioactive waste management programmes are approaching their implementation phase, operational safety needs to be demonstrated to ensure a well-designed deep geological repository. In 2012, several IGSC members participated in a workshop to exchange knowledge and share practical experience in dealing with conventional risks. Initial aim of this work is to share practical experiences in managing operational hazards such as fires, potential explosions and gaseous radionuclide releases in underground facilities, as well as construction work concurrently with radioactive waste emplacement activities.

- **Safety Case Brochure**

The IGSC has updated the safety case brochure to reflect what has been learned since it was first published in 2004. The intent of the safety case brochure is to provide guidance to programmes that are planning to develop their safety case. The updated brochure will be published in early 2013.

- **Belgian Safety Case Review**

The NEA conducted a peer review of the ONDRAF/NIRAS safety report, prepared for their surface disposal facility of low and medium-level short lived waste in Dessel. The review noted that the key aspects of the Belgian safety report are credible and robust, and that international best practice is observed and has been taken into account when applicable. Many recommendations were made for improving the documentation. Most importantly, implementers, regulators and local communities of the two countries have indicated that international peer review are an effective means to evaluate the completeness and robustness of the proposed projects. It is now becoming common practice to request the NEA to organise international peer reviews.

- **Salt Club**

Salt rock has been considered as a candidate host rock because of its favourable characteristics supporting the safe development of a repository. Specifically, salt rock has extremely low permeability / hydraulic conductivity which isolates the emplaced waste from near surface groundwater. Other positive attributes of salt rock include its high thermal conductivity, self-healing properties to reduce potential radionuclide pathways and its predictable geology.

The behaviour of rock salt under thermal and mechanical loads as well as under high doses of radiation is well understood. To continue developing a repository in salt rock, fundamental issues

related to safety, regulatory / public/ political acceptance and costs need to be addressed. Four countries, Germany, Poland, the Netherlands, and the US, are considering rock salt as potential host rock and formed a Salt Club. On December 4, 2012, the Salt Club held their 1st annual meeting to review relevant project details. More details of this project can be found at <http://www.oecd-nea.org/rwm/saltclub/>. Next annual meeting will be held on September 18, 2013, in Berlin.

- **Clay Club**

The Clay Club held their 5th international workshop on “Natural and Engineered Barriers for Radioactive Waste Confinement” on Oct 22-25, 2012, in Montpellier, France, followed by the annual meeting (Oct 25-26, 2012). More than 500 participants attended this conference to discuss the role of natural and artificial clay barriers for radionuclides confinement. The project is currently planning for the next annual meeting to be hosted by the Honorobe Underground Research Laboratory in Japan.

In their 2012 annual meeting, held on October 25-26, 2012, the Clay Club has selected Mark Jensen (NWMO, Canada) as their new Chair, following the resignation of Patrick Landais (Andra, France) who had served as the Chair for the last 5 years.

- **FEP Database**

The IGSC noted that the current NEA FEP report and the international FEP list are outdated and do not reflect recent experience in performance assessments. The FEP task group, with assistance of a consultant (Quintessa), has reviewed 10 project FEP lists obtained from 9 countries. Results of this review are documented in a technical note prepared by Quintessa TN1 (posted on the IGSC-14 web page). Based on the review outcomes, revision to the NEA 2000 IFEP list to cover 355 FEPs (versus 150 FEPs in the 2000 IFEP list) has been proposed. Proposed details are described in a separate technical note – Quintessa TN2. The project anticipates implementing the updated IFEP list into a prototype web-base database starting in April 2013, with possible further database enhancement in 2014.

- **Scenarios**

The Scenario project was initiated to review the tools and methods used to describe a repository evolution. The project aims at identifying commonalities (i.e. possible evolutions of the disposal system) and weaknesses of models attributed to unknown or less known mechanisms. A task group has been formed to further develop the derivation of scenarios using safety functions. A questionnaire aims at reviewing the current status on how to handle issues related to scenario development has been drafted by Andra and commented by the Core Group. 4 organisations have agreed to test the questionnaire: NRG (A. Poley), Andra (L. Griffaut / F. Boissier), Ondraf/Niras (Manuel Capouet) and JAEA (Hitoshi Makino). Volunteered members agreed to provide their replies in early 2013. Anticipate to complete analysis of the trial in June. A workshop on scenario development and analysis is planned for in 2014.

- **Data Management**

The IGSC approved a new project on data management. A working group will be formed in 2013 to discuss data management, including meta-data, for preserving essential records and data up to the closure phase of a repository. Initial work will include reviewing the types of radioactive waste data and the methods to preserve them in various national programmes;

The development of this initiative will be coordinated with the RK&M project of the NEA.

- **IGD-TP**

The Implementing Geological Disposal of Radioactive Waste Technology Platform (IGD-TP) of the European Commission is to provide a framework for stakeholders to define research and

development priorities. The technology platform also plays a key role in ensuring adequate research is performed on areas with important industrial relevance. A Strategic Research Agenda (SRA) has been developed and issued in July 2011. A Deployment Plan has also been developed in May 2012.

The IGSC continues to stay abreast with the work of this EC project to co-ordinate its own activities.

- **MoDeRn**

- A brief overview of repository monitoring and post-closure safety was presented. An overview report is currently being developed and will be provided to the IGSC for comments later. It is planned that applicable results from the MoDeRn conference will also be covered in the overview report.

- The NEA Secretariat invites the IGSC to use this report as an initial tool to consider future activities in this area.

This 4-year EC project has an objective of providing a reference framework for developing and implementing monitoring activities in a geological repository. The project closure conference will take place on March 19-21, 2013, in Luxembourg. The NEA has arranged rapporteur support to this conference. The NEA rapporteur will gather applicable results from the MoDeRn conference to prepare an overview report on repository monitoring and post-closure safety. It is also planned that a 2-4 page flyer will be developed following the overview report, summarizing key monitoring issues on geological disposal.

- **FORGE**

IGSC co-operates in the EC FORGE project that has been initiated to address key gas migration issues in repository performance assessment. Gases which may be produced in a repository include (i) hydrogen from metal corrosion, (ii) radiolytic hydrogen from the radiolysis of water; (iii) radon from the radioactive decay of some waste and/or (iv) carbon dioxide and methane from biodegradable wastes. The FORGE project, started in 2009, addresses the gas migration issues through a series of laboratory and field-scale experiments, including the development of methods for up-scaling allowing the optimization of concepts through detailed scenario analysis. A project closure scientific conference is currently scheduled for Feb 5-7, 2013. The IGSC plans to present a paper on gas migration at the FORGE conference. To support the conference, the NEA is providing 2 rapporteurs whom will also gather key information from the conference. With the collected information, it was agreed that the IGSC paper will then be modified to be an IGSC position paper on gas migration in deep geological disposal. In addition, the IGSC will also consider the development of a flyer and/or a brochure on this topic.

- **URL brochure**

The RWMC published a brochure describing the role of underground research laboratories (URLs) in nuclear waste disposal programmes in 2001. A substantial amount of work has since been performed in the past decade in various URL programmes. The IGSC has completed the update of the brochure which now covers the latest URL experience and activities. The brochure will be published in early 2013.

- **Organisational Issues In Safety Cases**

The structure and operations of an organization affects stakeholder confidence and the development of the safety case. Activities on organizational issues are initiated to develop tools for assessing the strengths and weaknesses of an organization so as to increase confidence. The task group has since developed a preliminary argumentation model (AM). To facilitate further development of the AM, a tool called "SCARAB" has also been posted on an access restricted web page for interested IGSC members to provide input for further discussions. A pilot study launched in 2012 suggested the AM

approach to be further tested by volunteer organisations. Further results will be reported in the next IGSC meeting.

- **Expert Group on Assay Data of Spent Nuclear Fuel (EGADSNF)**

The Expert Group on Assay Data of Spent Nuclear Fuel was set up (in Dec 2006) to systematically obtain and document new isotopic composition data from Post-Irradiation Examination (PIE). The group held their 2011 annual meeting EGADSNF-5 on Sept 13-14 in London to discuss project related details as well as their new mandate. In 2011, the EGADSNF extended their mandateto focus on the development of a new framework for the spent fuel isotopic composition database (SFCOMPO) and also a complete evaluation of assay data besides compilation and archiving primary experimental data. The current SFCOMPO is inadequate as the existing data only cover a limited number of isotopes. The Expert Group is developing a prototype database to provide raw experimental data to the involved communities. NEA Data Bank anticipates to distribute SFCOMPO 2 database tool to the Expert Group in January 2013.

- **Thermochemical Database (TDB) Project**

The TDB project aims to produce a database that provides a comprehensive, consistent and high quality chemical thermodynamic database of selected chemical elements. Expert teams, formed by experts from universities and research institutes around the world, carry out critical reviews of experimental data. In June 2012, the TDB Executive Group discussed their Programme of Work of Phase V in the 9th meeting. It was agreed that Phase V will focus on the update of the actinides and organic volumes. 3 state-of-the-art reports on (i) cements, (ii) high ionic strength systems; and (iii) extrapolation to high temperatures will also be developed. More information of this project can be found at <http://www.oecd-nea.org/dbtdb/>.

- **IGSC Cross-cutting Issues: Workshop on Cementitious Materials**

An ad-hoc series of technical workshops on the theme of “cross-cutting issues” was held as follow-up to the IGSC projects on EBS and geoscience (AMIGO and geosphere stability) and as a natural extension in terms of integrating their outcomes.

The report summarizing the results of the cementitious materials workshops is published and can be found at the IGSC web page (<http://www.oecd-nea.org/rwm/igsc/>).

Outreach, Presentation and Stocktaking

- 2 flyers have recently been published: (i) “Construction and Operation of a DGR”; and (ii) “Underground Research Laboratories, URLs”

MAJOR AREAS OF ACTIVITY FORESEEN IN 2013 – 2014

Activities and Projects

- **Safety Case Symposium**

The IGSC will hold the 2nd International Safety Case Symposium on October 7-9, 2013.

- **IGSC Annual Meeting**

The IGSC will hold their 2013 annual meeting on October 10-11, 2013.

- **Salt Club**

In 2013, the Salt Club continues their US-German workshop on actinide and brine chemistry in a salt repository (ABC Salt III, currently scheduled for April 15-17, 2013, in Santa Fe NM) and their

US-German Geotechnical workshop (4th Geotechnical workshop, currently planned for Sept 16-22, 2013, in Berlin). The working group also continues the development of a Salt FEP catalogue and their Salt Knowledge Archive. Their 2nd annual meeting will be held on September 18, 2013, in Berlin.

- **Update to the FEPs Database**

The project anticipates implementing the updated IFEP list into a prototype web-base database starting in 2013, with possible further database enhancement in 2014.

- **Clay Club Workshop**

The Clay Club continues their FEPCAT project and is concurrently preparing their next meeting CC-23, to be hosted by the Honorobe Underground Research Laboratory in Japan

- **Scenarios**

The Scenario task group will complete the trial of the a questionnaire by June 2013 and a Scenario development workshop will be organised in late 2013.

- **Organisational Issues In Safety Cases**

The task group will continue the development of the argumentation model in 2013.

Knowledge Consolidation and Transfer

- ***Publications Expected in 2013***

- Safety Case Brochure
- URL Brochure
- 2 flyers on the following topics: (i) Underground Research Laboratories, URLs; (ii) Construction and Operation of a DGR.

- ***Outreach, presentation and stocktaking***

- The safety case flyer serves as the model for an on-going series of flyers. Other flyers to be developed in 2013-2014 may include: (i) Uncertainty and Sensitivity Analysis; and (ii) Optimisation.
- Continue participation in EG on Assay Data of SF.
- Continue monitoring of the TDB project.
- Participate in, and support RWMC projects, as needed. E.g. work on Records, Knowledge and Management (RK&M).
- Coordination with the EC on FORGE (gas migration), MoDeRN (monitoring technology) and IGD-TP projects.

WORKING PARTY ON MANAGEMENT OF MATERIALS FROM DECOMMISSIONING AND DISMANTLING (WPDD)

INTRODUCTION

The WPDD serves as the main technical advisory body to the RWMC on decommissioning of nuclear facilities. The focus of its work is on methodologies and strategies for the analysis of decommissioning policy, strategy and regulation, including the related issues of management of materials, release of buildings and sites from regulatory control and associated cost estimation and funding. Beyond policy and strategy considerations, the WPDD also reviews practical considerations for implementation such as techniques for characterisation of materials, for decontamination and for dismantling.

The NEA Co-operative Programme for the Exchange of Scientific and Technical Information Concerning Nuclear Installation Decommissioning Projects (CPD) is a joint undertaking under Article 5 of the NEA Statute. It is independent from the WPDD, working under its own Agreement which ensures confidentiality of the information exchanged. The current 5-year Agreement expires end of December 2013.

Reference Documents

WPDD Mandate (extended until 2013)

NEA/RWM/WPDD(2010)9

The CPD is a Joint Undertaking under article 5a of the NEA statute, based on an Agreement between participants. The current Agreement covers the period 01 January 2009 - 31 December 2013. The Agreement may be extended thereafter for such further periods of time as are agreed by the Participants.
(Not available on OLIS)

Core Group Members

WPDD chairperson is Juan-Luis SANTIAGO (ENRESA, Spain). Members of the Core Group are: Rateb ABU-EID (US-NRC, USA), Anna CLARK (NDA, UK), Henrik EFRAIMSSON (SSM, Sweden), Bernhard MASSING (BMU, Germany), Doug METCALFE (NRC, Canada), Jean-Guy NOKHAMZON (CEA, France), Andrew Szilagyi (US-DoE, USA) and Ivo TRIPPUTI (SOGIN, Italy).

CPD Management Board

CPD chairperson is Ivo TRIPPUTI (SOGIN, Italy). Members of the Bureau are: Jan CARLSSON (SKB, Sweden), Jean-Guy NOKHAMZON (CEA, France) and Andrew Szilagyi (US-DoE, USA).

HIGHLIGHTS

- The WPDD-13 Annual Meeting was held on 12th – 14th November 2012 in Penrith, Cumbria, UK, and comprised a special session on decommissioning scene in the United Kingdom and a topical session on “Nuclear Site Restoration”, followed by a technical site visit to the Sellafied site.
- The DCEG held its 5th plenary meeting on 19th and 20th June 2012 at the NEA, and comprised a topical session on “Recent Developments of Decommissioning Costing in NEA Member Countries”.
- The CPD Management Board held its meeting on 15th – 16th November 2012 and accepted four new decommissioning projects: Brunsbüttel NPP by VENE (Germany), Fukushima Daiichi by TEPCO (Japan), Research Reactors MR/FRT by NRC Kurchatov Institute (Russia) and Waste Storage Facility #56 at Cadarache by CEA (France).

ACTIVITIES AND ACCOMPLISHMENTS SINCE RWMC-45 (MARCH 2012)

Activities and Projects

- **Meeting of the WPDD**

The WPDD held its 13th meeting on 12th – 14th November 2012 in Penrith, Cumbria, UK, which comprised also a special session on decommissioning scene in the United Kingdom and a topical session on “Nuclear Site Restoration”, followed by a technical site visit to the Sellafied site.

- **Cost Control Guide**

The WPDD Decommissioning Cost Estimation Group (DCEG) was conducting a survey on the use of cost and schedule controls in decommissioning projects and their impact on project performance improvement. Since the survey indentified a lack of use of those controls, the Group elaborated and issued the Cost Control Guide, which provides a practical, user friendly approach to implementing cost controls for major decommissioning programs to minimize project budget and schedule overruns. The Guide establishes the framework for structuring a program for preparing cost controls, training, certifying, and using cost controls through an Earned Value Management System.

The Group is currently working on a methodology for peer review of decommissioning project cost.

- **Radiological Characterisation for Decommissioning**

The WPDD Task Group on Radiological Characterisation and Decommissioning organised a workshop in April 2012, at Studsvik Site, Sweden, in co-operation with the Swedish regulator and three Swedish decommissioning companies. Over 120 participants attended from 23 countries, and four international organisations. Participants shared current practices, lessons learnt and innovation in radiological characterisation for decommissioning of nuclear sites and facilities.

The Task Group drafted a Status Report, identifying and summarising the best practice for radiological characterisation at different stages of decommissioning as an important issue for the safe decommissioning of nuclear facilities, covering a role, significance, and key activities in radiological characterisation for decommissioning, selection of strategies and management aspects as well as lessons learned.

- **Future R&D and innovation needs for decommissioning**

The WPDD Task Group on R&D Needs for Decommissioning drafted a 270 page reference book which analysed R&D needs related to activities resulting in high cost, dose or significant time.

Topics were prioritized within each of five themes of interest: 1. Characterization and survey prior to dismantling, 2. Segmentation and dismantling, 3. Decontamination and remediation, 4. Materials and waste management, 5. Site characterization and environmental monitoring. Decommissioning techniques suitable for innovation were recommended. 20 page summary of this reference book was also prepared for decision makers and project managers.

- **Information on D&D Activities Internationally**

To facilitate information exchange amongst professionals, an updated version of the Sourcebook of the IAEA, EC and NEA References in Decommissioning (former Map of International Activities on Decommissioning and Dismantling) has been published. This document is being maintained as an information reference on on going international activities addressing decommissioning issues. The 2012 updated version has been finalized and released.

- **The NEA Co-operative Programme for the Exchange of Scientific and Technical Information Concerning Nuclear Installation Decommissioning Projects (CPD)**

The CPD Management Board held its meeting on 15th – 16th November 2012 and accepted four new decommissioning projects: Brunsbüttel NPP by VENE (Germany), Fukushima Daiichi by TEPCO (Japan), Research Reactors MR/FRT by NRC Kurchatov Institute (Russia) and Waste Storage Facility #56 at Cadarache by CEA (France).

The CPD Task Group on Site Restoration has been launched to examine related approaches and techniques and to review a number of selected case studies on the subject.

The Technical Advisory Group (TAG), through which the programme's technical and scientific exchanges take place, met twice during 2012: in Tarragona (Spain) and in Cincinnati (USA). Meetings in 2013 are scheduled for Germany and Japan.

Knowledge Consolidation and Transfer

- ***Publications and Documents***

- Cost Control Guide for Decommissioning of Nuclear Installations, in-print
- The Sourcebook of the IAEA, EC and NEA References in Decommissioning (*former Map of International Activities on Decommissioning and Dismantling*), NEA/RWM/WPDD(2013)1; OECD, Paris, 2013 [unclassified]

- ***Outreach, Presentation and Stocktaking***

- Workshop on Radiological Characterisation for Decommissioning took place on 17-19 April 2012, at Studsvik, in Nyköping, Sweden

MAJOR AREAS OF ACTIVITY FORESEEN IN 2013 – 2014

Activities and Projects

- **Methodology for peer review of decommissioning project cost**

Within a Decommissioning Cost Estimation Group (DCEG) activities the work on methodology for peer review of decommissioning project cost will continue. The initiative is based on the demand of some regulators for peer reviewing decommissioning costs and is also supported by the European Commission. The methodology should advise international peer review teams how to perform

independent decommissioning cost peer review to improve transparency, auditability and reliability of costing.

- **Trends in R&D for Decommissioning**

A Task Group on R&D Needs for Decommissioning was established following the WPDD-10 annual meeting in November 2009. The group drafted a study aimed at defining the elements of a decommissioning project which have the greatest potential for future improvement through R&D and/or innovation and to outline associated R&D projects which should be considered for future funding by governments or by the decommissioning industry. The study will be submitted to the WPDD for approval in 2013.

- **Radiological Characterization and Decommissioning**

After successful organising a topical session at the WPDD-12 in 2011 and a Workshop on Radiological Characterisation for Decommissioning at Studsvik (Sweden) in 2012, and evaluating the questionnaire's responds, the Task Group is finalizing a status report to be submitted to the WPDD for approval in 2013. Synergies with the R&D Task Group were used, as well as with the CPD Task Group on Site Restoration.

- **The NEA Co-operative Programme for the Exchange of Scientific and Technical Information Concerning Nuclear Installation Decommissioning Projects (CPD)**

Meetings of the Technical Advisory Group (TAG), through which the programme's technical and scientific exchanges take place, are scheduled to take place in 2013 in Germany and in Japan.

- **WPDD-14**

The 14th annual meeting of the WPDD will be held in November 2013.

Knowledge Consolidation and Transfer

- ***Publications Expected in 2013***

- Report on Radiological Characterisation for Decommissioning - a technical report prepared by the WPDD
- Report on Future R&D and Innovation Needs for Decommissioning - a technical report prepared by the WPDD