

RADIOACTIVE WASTE MANAGEMENT AND DECOMMISSIONING

放射性廢棄物管理和除役

The NEA seeks to assist its member countries in developing safe, sustainable and societally acceptable strategies for the management of all types of radioactive materials, with particular emphasis on the management of long-lived waste and spent fuel and on decommissioning of disused nuclear facilities. The programme of work in these areas is carried out for the most part by the **Radioactive Waste Management Committee** (RWMC) assisted by three working parties:

- the **Forum on Stakeholder Confidence** (FSC)
- the **Integration Group for the Safety Case** (IGSC), and
- the **Working Party on Decommissioning and Dismantling** (WPDD)

Other NEA Committees also have interests in this field; the **Committee on Radiation Protection and Public Health** (CRPPH) and the **Nuclear Development Committee** (NDC).

核能署(NEA)主動在管理所有類型的放射性物質上，幫助其會員國制定安全的、永續的與可被社會接受的管理策略，尤其著重於管理長壽期放射性廢棄物與用過核燃料，以及廢棄核設施之除役。這些領域的工作項目大部分係由下列三個工作小組協助**放射性廢棄物管理委員會**(RWMC)來執行：

- **利益相關方信心論壇** (FSC) ,
- **安全專案整合團隊** (IGSC), 與
- **除役和拆除工作團隊**(WPDD)

核能署其他的委員會對上述的領域也有興趣；諸如：**輻射防護與公眾健康委員會** (CRPPH)和**核能發展委員會**(NDC)。

COMPOSITION AND MANDATE OF THE RWMC

RWMC 的組成與任務

The NEA Radioactive Waste Management Committee (RWMC) is a long-established international committee of senior representatives from regulatory authorities, radioactive waste management and decommissioning organisations, policy making bodies, and research-and-development institutions from the NEA countries. The International Atomic Energy Agency (IAEA) participates in the work of the RWMC, and the European Commission (EC) is a full member of the Committee. The RWMC maintains strong ties with national high-level advisory bodies to governments and with transnational bodies such as the International Commission on Radiological Protection (ICRP). Collaboration also takes place with the Governance Directorate of the OECD.

The purpose of the RWMC is to support international co-operation in the management of material from nuclear installations, including facility decommissioning and long-term waste management. The Committee implements a programme of work that:

- fosters a shared and broad-based understanding of the state of the art and emerging issues;
- facilitates the elaboration of waste management strategies that respect societal requirements;
- helps to provide common bases to the national regulatory frameworks;
- enables the management of radioactive waste and materials to benefit from progress of scientific and technical knowledge, e.g., through joint projects and specialist meetings;
- contributes to knowledge consolidation and transfer, e.g., through the publication of technical reports, consensus statements and short flyers; and
- helps to advance best practice, e.g., by supporting international peer reviews.

The regulator members of the RWMC also meet separately. They discuss and report on topics of specific regulatory interest in the **RWMC Regulators' Forum** (RWMC-RF) and determine the progress of such issues within the full Committee.

核能署(NEA)的放射性廢棄物管理委員會(RWMC)是一個歷史悠久的國際性委員會，係由 NEA 諸會員國的監管機構、放射性廢棄物管理和除役機構、決策機構、研究和發展機構的資深代表所組成之論壇。國際原子能總署(IAEA)參與了 RWMC 的工作，歐洲委員會(EC)也是委員會的正式成員。RWMC 與各會員國政府高層的諮詢機構，以及跨國機構，例如國際輻射防護委員會(ICRP)，均保持緊密的聯繫。RWMC 與經濟發展暨合作組織(OECD)的理事會亦有合作關係。

RWMC 的目標是支持有關對核設施材料管理的國際合作，包括核設施除役和長程的放射性廢棄物管理。該委員會執行下列的既定工作：

- 促進對先進的和新浮現的議題凝聚一個共享且具廣泛基礎的了解;
- 促成擬訂真實尊重社會需求的廢棄物管理策略;
- 協助提供國家監管法規框架之共同基礎;
- 使管理放射性廢棄物和材料能受益於科學和技術知識的進步，例如，透過合作計畫與專家會議;
- 推動知識的凝聚和傳播，如透過出版技術報告，共識之陳述和簡短傳單; 與
- 幫助推行最佳做法，例如，支持國際同儕評審。

RWMC 監管機構的成員也將分別開會。他們在 RWMC 監管者論壇(RWMC-RF)中進行討論且對有興趣的具體監管議題作專題報告，並在委員大會中確定這些議題的進展。

OVERVIEW OF RECENT RWMC INITIATIVES AND PRODUCTS

概述 RWMC 近期的計劃和產品

- The latest collective statement of the RWMC dates to 2008 on “moving forward with geological disposal of radioactive waste”;
- The latest peer review is that of “Dossier 2005”, the national French study for the geological disposal of long-lived high- and medium-level radioactive waste;
- The RWMC holds multi-stakeholder national workshops from which important lessons have been drawn. The latest workshop (April 2009) was in France, in the siting region for the national HLW repository;
- The RWMC manages a database of country information, in the form of 30-page country reports and 10-page country profiles. A summary of the regulatory infrastructure in NEA countries is also maintained;
- Current work areas include:
 - promoting greater understanding of radioactive waste management and decommissioning disciplines;
 - an international project on the topic of “retrievability and reversibility” culminating in an international conference in Reims (France) in Dec. 2010;
 - assisting in the organisation of an “International Conference on Geological Repositories” in Japan in 2011 (follow-on to the Berne conference of 2007);
 - dialogue with ICRP which is intended to lead to the revision of ICRP guidance in the field of disposal;
 - a project on long-term information and memory preservation;
- Current technical and conceptual topics in the field of disposal include: optimization, dealing with very long time scales, assessing the state of the art in safety assessment methods, and the operation phase of repositories;
- Current decommissioning topics include: the management of large components, research and development needs, standardization of reporting norms for decommissioning cost estimates, and cost control on decommissioning projects;
- Current study areas in societal confidence include: the interests and roles of regional authorities, how to increase the knowledge base of journalists, providing added value (beyond economic benefits) to communities hosting waste management facilities.

The list of documents produced by the RWMC and its working parties is wide and can be consulted via the web. This includes 2-page flyers and short brochures that are meant for easier download and consultation.

- 2008 年最新版 RWMC 對“推動高強度放射性廢棄物地質處置”的共同陳述;
- 最新的同儕審查報告的是“2005 年專題報導_法國對長壽期高階與中階放射性廢棄物地質處置之研究”;
- RWMC 舉辦多方之利益相關者全國性座談會，並從中汲取重要的經驗與教訓。最新一次的座談會(2009 年 4 月)是在法國舉行，舉辦地點在國家高階放射性廢棄物貯存庫場址候選區域;

- RWMC 管理一個國家訊息的資料庫，內容包含 30 頁的國家報告和 10 頁的國家概況資料。並且也同時維護 NEA 諸會員國監管基礎設施的摘要資料；
- 目前的工作領域包括：
 - 促進對放射性廢棄物管理和除役學科有更多的了解；
 - 於 2010 年 12 月在 Reims(法國) 舉辦一場國際會議，俾就一個國際性計畫議題“可再取出性和可逆性”進行研討；
 - 協辦 2011 年在日本舉行的“地質處置貯存庫國際會議”(落實 2007 年 Berne 會議之決議)；
 - 與國際輻射防護委員會(ICRP)進行對話，其目的是促使修訂 ICRP 指引中有關地質處置的條文；
 - 一個長期保存的資料和記憶的計畫；
- 目前針對地質處置現場相關的技術與概念之研究主題包括：最佳化、很長時間期程的處理、評估最先進的安全評估方法，和貯存庫的運轉階段；
- 目前在除役方面的研究主題包括：大型組件的管理、研發需求、除役費用預估報告準則的標準化，以及除役計畫的成本控制；
- 目前在社會信心方面的研究領域包括：地方管理機關的利益與角色、如何提高新聞工作者的知識基礎、如何為廢棄物管理設施所在的社區提供加值利益(超越經濟利益)。

由 RWMC 及其工作團隊所產出的文件其清單涵蓋內容廣泛，可透過網路來進行諮詢。這包括有兩頁的傳單和小冊子以便更容易下載和諮詢。

THE OECD/NEA IS AT THE FOREFRONT IN ADDRESSING BOTH THE TECHNICAL AND SOCIETAL REQUIREMENTS FOR DURABLE AND SUSTAINABLE WASTE MANAGEMENT AND DECOMMISSIONING SOLUTIONS. THROUGH THE RWMC IT PROVIDES A NEUTRAL FORUM WHERE POLICY MAKERS, REGULATORS AND IMPLEMENTING ORGANISATIONS CAN DISCUSS ISSUES OF COMMON INTEREST AND DEVELOP SOLUTIONS THAT MEET THE DIVERSE NEEDS OF ITS MEMBER COUNTRIES.

經濟發展暨合作組織/核能署(OECD/NEA)在處理有關技術面與社會面的雙重要求，對放射性廢棄物管理以及核設施除役之耐久與永續的解決方案問題上，是站在最前線的。透過 RWMC 它提供了一個性質中立的論壇，讓決策者，監管機關和執行機構可以一起討論共同關心的議題並開發解決方案，俾滿足各會員國之各種不同需求。