

WPDD *Activities and Publications*

The term *decommissioning* is used to describe all the management and technical actions associated with ceasing operation of a nuclear installation and its subsequent dismantling to facilitate its removal from regulatory control (delicensing). These actions involve decontamination of structures and components, dismantling of components and demolition of buildings, remediation of any contaminated ground and removal of the resulting waste. WPDD tracks decommissioning developments worldwide and develops reports and position papers on emerging issues. Its overarching aim is to contribute to the development of best practice through circulation of its reports and through dialogue between policy makers, practitioners, regulators, researchers and international organisations. The WPDD meets once each year, at a host location that rotates among the member countries. Each meeting typically includes a topical session on an issue of special interest and a session focusing on the framework for decommissioning in the host country. After the meeting the host country normally arranges a visit to a local facility undergoing decommissioning.

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In meetings, workshops and joint projects, the WPDD collaborates with other groups working in the field of decommissioning. These include the NEA's programme for the exchange of scientific and technical information on the decommissioning of nuclear installations (CPD), as well as the NEA Forum on Stakeholder Confidence (FSC), to help reflect on the links between decommissioning, decision-making and public confidence, and with the RWMC Regulators' Forum on regulatory issues.

WPDD publications can be downloaded from

www.nea.fr/html/rwm/wpdd.html

- › Regulating the Decommissioning of Nuclear Facilities (2008)
- › Release of Materials and Buildings from Regulatory Control (2008)
- › Stakeholder Issues and Involvement in Decommissioning Nuclear Facilities (2007)
- › Decommissioning Funding: Ethics, Implementation, Uncertainties (2006)
- › Selecting Strategies for the Decommissioning of Nuclear Facilities (2006)
- › The Release of Sites of Nuclear Installations (2006)
- › Achieving the Goals of the Decommissioning Safety Case (2005)
- › Decommissioning: It can and has been done (2005)
- › The Decommissioning and Dismantling of Nuclear Facilities: Status, Approaches, Challenges (2002) ■

Credits: inyuchio, James M. Phelps

WE OWE IT TO OURSELVES AND TO FUTURE GENERATIONS TO DEAL WITH RADIOACTIVE MATERIALS AND WASTE IN A SAFE AND ENVIRONMENTALLY RESPONSIBLE MANNER. SOCIETAL SUPPORT FOR DECOMMISSIONING IS FOSTERED THROUGH DIALOGUE AND RESTS ON CONFIDENCE THAT DECOMMISSIONING IS TECHNOLOGICALLY SOUND AND THAT SAFETY CAN BE DEMONSTRATED CONVINCINGLY



MANAGING
RADIOACTIVE WASTE
FOR THE LONG TERM

WPDD *mandate & profile*

Within the NEA, the Working Party on Decommissioning and Dismantling (WPDD) of the RWMC provides a focus 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 WPDD brings together senior experts in decommissioning from 17 OECD countries: Belgium,

Canada, Czech Republic, Finland, France, Germany, Hungary, Italy, Japan, Korea, Netherlands, Norway, Slovak Republic, Spain, Sweden, United Kingdom and the United States, with involvement also from other international organisations such as the European Commission and the International Atomic Energy Agency (IAEA). Its membership includes policy specialists, regulators, implementers, researchers and waste management experts. It has a specialist sub-group devoted to the exchange of information and experience on costing issues, the Decommissioning Cost Estimation Group (DCEG). ■

WPDD

Working Party
on Decommissioning
and Dismantling

AN INTERNATIONAL GROUP OF
THE NUCLEAR ENERGY AGENCY (NEA)
A SPECIALISED AGENCY OF
THE ORGANISATION FOR ECONOMIC
CO-OPERATION AND DEVELOPMENT (OECD)





WPDD activities to promote exchange of experience

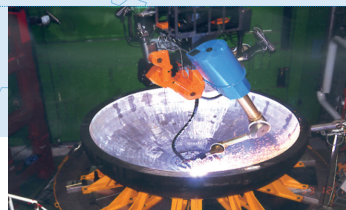
NATIONAL PROGRAMME FOR DECOMMISSIONING	2001 France	2002 Germany	2003 Spain	2004 Italy	2005 Belgium	2006 France	2007 UK	2008 Slovak Rep.
MEETING LOCATION	PARIS	KARLSRUHE	VANDELLÒS	ROME, LATINA	MOL	FONTENAY-AUX-ROSES	HARWELL	SENEC, BOHUNICE
Topical sessions	Decommissioning safety case. Materials management	Release and reuse of materials and sites management	Liabilities identification and long-term management	Decommissioning funding	Stakeholder involvement in decommissioning	Emerging trends in regulation	Human and organisational factors	Applying decommissioning experience to new nuclear reactor systems

International Workshops



Selecting a Strategy for Decommissioning

Many current plant operators intend to follow a strategy of 'immediate dismantling', following quickly upon a transition period after plant shut-down. Other operators prefer to defer dismantling for periods as long as several decades during which the residual radioactivity decays significantly while the facility or site is maintained in a safe condition. The factors that affect the choice of decommissioning strategy are dependent on country and facility-specific conditions. Site reuse considerations, the availability of a waste management path, the extent of knowledge of the plant's history and the availability of equipment needed for the plant's dismantling are the main factors considered. Relevant socio-economic considerations include future plans for regional development and local employ-



ment in the often remote site area. Inadequate pre-funding potentially creates a major constraint, which may make immediate dismantling impracticable in certain cases.

Regulating the Decommissioning of Nuclear Facilities

The removal of fuel from a shutdown nuclear facility eliminates the major source of radiological hazard, i.e. that associated with nuclear operation. This, together with the cessation of operations at high temperatures and pressures, means that risks to public health and to the environment are significantly reduced. The process of decommissioning does, however, include dismantling operations and waste treatment processes with associated conventional and radiological hazards. Some radiological hazards to the workforce remain because of the possibility of coming into contact with radioactively contaminated or activated material. Regulators today adapt their procedures to the changing levels of risk in a nuclear facility that is undergoing decommissioning. One emerging

Strategy Selection for the Decommissioning of Nuclear Facilities

practice involves greater use of internal authorisation systems for minor plant modifications, with a first level of oversight by an independent safety committee established by the plant operator. In this situation national regulatory resources are focussed on issues with greater safety or environmental significance.

The Release and Reuse of Materials, Buildings and Sites

The process of decontamination and dismantling of nuclear installations generally results in some disused materials (often in large quantities) and buildings that present no safety risk to the general public. Releasing such materials from regulatory control, e.g. for free use outside the nuclear industry, provides one option for their long term management. Other management possibilities include the recycling of such materials, especially



Safe, Efficient and Cost-Effective Decommissioning

metals, within the nuclear industry, and/or their direct emplacement in dedicated disposal facilities. Similarly, once a nuclear installation has been completely dismantled the final step involves the decontamination of the site for industrial (nuclear or non-nuclear) purposes, or for other uses (e.g. agricultural or recreational). The step of removal of materials or a site from regulatory control is taken only after extensive surveys have shown that any resulting radiological exposure of the public will be trivial.

Stakeholder Involvement

As in other phases of the nuclear facility life cycle, it is necessary to build and demonstrate to stakeholders a trustworthy basis for decommissioning and dismantling projects. This may be accomplished through involving local and regional actors in decision-making, and is facilitated by their involvement in monitoring activities associated with the continuous changes taking place at the site. Transparency is needed in decision-making and in the respective roles played by regulators, implementers and local authorities. At all times, proactive information,



Decommissioning and Lifetime Plant Management

and efforts to 'translate' technical information into language meaningful to the chosen audience, will contribute to building mutual understanding and trust. Partnership arrangements, by which institutions enter into structured project-management relationships with local communities, have been found beneficial. Decommissioning may be viewed as an opportunity to improve the sustainability of the host community, e.g. by helping to create added cultural or economic value that increases the quality of life over the years. Also, plant designs integrating reflection on the end use of the facility and site, or technical provisions for quick transitions to other types of facilities, provide better assurance to the host community that there will be flexibility in future planning.

Decommissioning and Lifetime Plant Management

Although the decommissioning of a nuclear facility occurs many decades after its construction, important provisions for decommissioning need to be incorporated at the plant design stage. The third generation



nuclear power plants incorporate many improvements that facilitate dismantling. These also provide for easier replacement of components, more efficient maintenance, greater safety and/or lower costs during plant operation. Key design considerations include incorporation of modular concepts; innovations in equipment, materials and system layout, and measures to reduce potential levels of contamination, e.g. by careful selection of materials to reduce activity buildup and by use of fewer components and less piping. Regulators increasingly require that a decommissioning plan be provided at the time of the request of a construction or operating license and that this plan be updated regularly during plant operation. This requirement, coupled with the need for transparent financial guarantees or the timely accumulation of decommissioning funds, makes decommissioning an integral part of lifetime plant management. ■

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