

*Inge Weber (OECD/NEA), Dr. Boris Brendebach (GRS)*

# Preparing for Decommissioning During Operation and After Final Shutdown – an OECD/NEA Task Group Activity

# Task Group on Preparing for Decommissioning during Operation and After Final Shutdown (TGPFD)

## Steering Committee for Nuclear Energy

Radioactive Waste Management Committee (RWMC)

Working Party on Decommissioning and Dismantling (WPDD)

DCEG

TGRCD

TGPFD

TGOM

- Launched in 2014
- Mandate till end of 2016 (Extension till 2017 foreseen)
- Chair: Boris BRENDEBACH (GRS, Germany)
- Scientific Secretariat: Inge WEBER (NEA)
- 19 organisations from 9 countries: Regulators, Implementers, Waste Management Organisations, Research Institutes etc.

### ➤ Focus:

**Optimisation of activities and measures with regard to preparation of the dismantling of nuclear facilities**

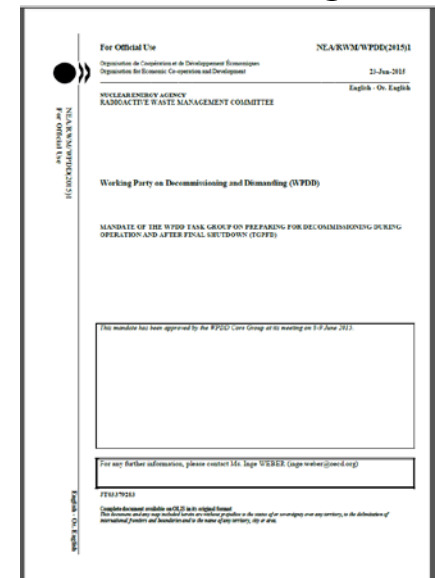


# TGPFD Objectives

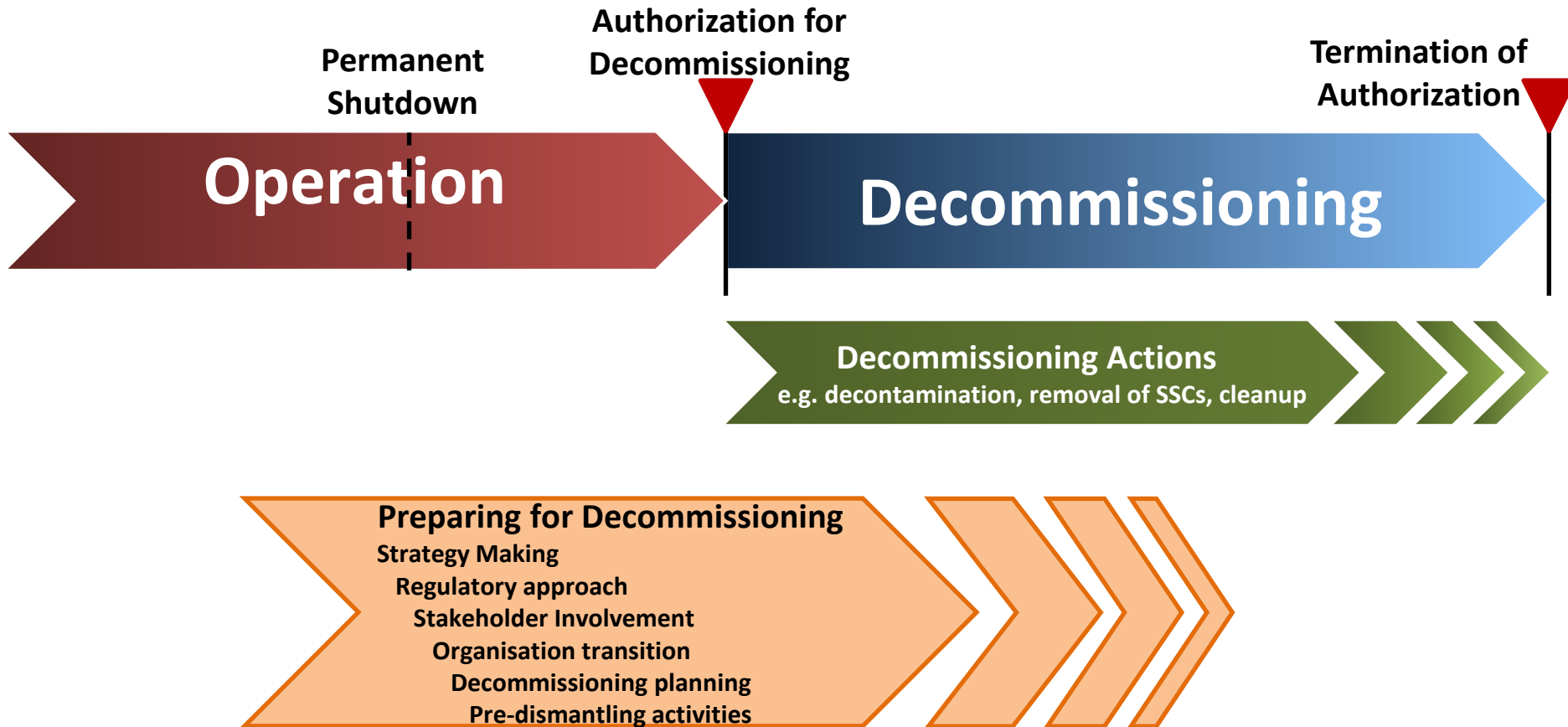
- Objective of the activities
  - To foster the sharing of experiences amongst member countries
  - To provide the member countries with up-to-date information regarding strategies and recommendations for optimisation of activities and measures with regard to the preparation for decommissioning and dismantling
  - To summarise the results of observation and conclusions in a report

# TGPFD Objectives

- Focus of the report
  - To fill identified gaps in existing international publications
  - To identify and describe recent developments, lessons learned, good practice and new approaches
  - To identify main constraints in preparing for decommissioning
- Target Audience
  - Strategy makers for decommissioning
  - Regulators
  - Decommissioning planners



# Preparing for Decommissioning during Operation and after Final Shutdown



# 1. Strategy Making for Decommissioning Preparation

- Topics covered
  - Choosing the decommissioning strategy
  - Defining the corporate strategy
  - Confirming boundary conditions
  - Choosing a governance model

# 1. Strategy Making for Decommissioning Preparation

- Recommendations
  - Commence detailed strategy making at least 5 years before anticipated date of final shutdown
  - Install project organisation to initiate change from process driven operation to decommissioning project
  - Gathering national and international experiences (benchmarking)

## 2. Regulatory Approach

- Topics covered
  - Responsibilities
  - Authorization process
  - Licensing documents
  - Regulatory supervision



## 2. Regulatory Approach

- Recommendations
  - Early engagement with all competent authorities
    - Communicating expectations
  - Clear definition of requirements for the transition period and decommissioning phase
  - Harmonised approaches of all competent authorities
  - Adaptation of regulatory supervision to reflect changing risks and hazards

## 3. Stakeholder Involvement

- Topics covered
  - Stakeholders
  - Interested parties
  - Communication channels

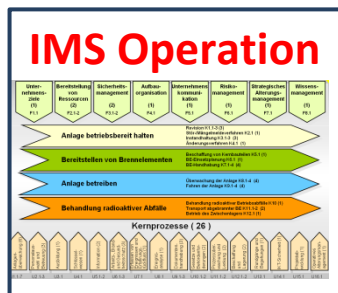
### 3. Stakeholder Involvement

- Key messages
  - Early information of stakeholders / interested parties
    - Internal / external
  - Clear definition of each's role / responsibility / accountability

# 4. Organisation Management

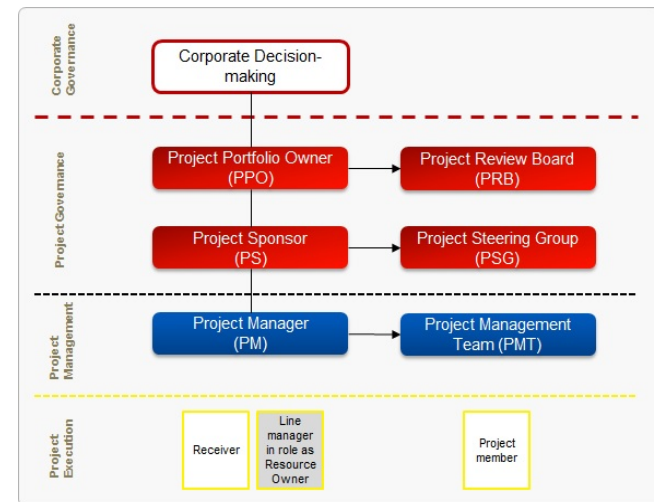
- Topics covered
  - Managing resources
  - Managing personnel
  - Supply chain management
  - Conducting the decommissioning project

## Integrated Management System (IMS)



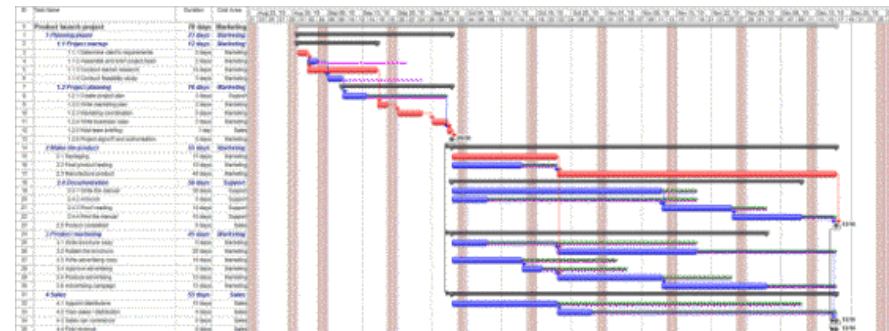
## 4. Organisation Management

- Recommendations
  - Choice of governance model determines organisational structure
  - Knowledge management is essential
    - Knowledge of plant history
    - Abilities needed
  - Adaptation of management system for decommissioning needed



# 5. Decommissioning Planning and Pre-dismantling Activities

- Topics covered
  - Survey of plant history
  - Analysis of assets
  - Preparing de-fueling campaign, plant adaptation, dismantling activities, waste management
  - Characterisation
  - De-fueling
  - (Full) System decontamination
  - Drainage of systems



## 5. Decommissioning Planning and Pre-dismantling Activities

- Recommendations
  - Holistic analyses of radiological and non-radiological hazards and risks
  - Focus on preventing surprises but prepare for them
  - Fixed costs – a major cost contributor – reduce them ASAP, e.g. through pre-dismantling activities

## Conclusions

- Choice of decom strategy depends on the knowledge of boundary conditions and influences the transition from operation to decom
- Early consultation with regulatory bodies clarifies expectations
- Early communication with stakeholders/interested parties may reduce constraints
- Adaptation of management system for decom is inevitable
- Immediate post-shutdown activities can reduce demand on assets through risk and hazard reduction, which will translate into significant cost savings over the remaining facility life



# Challenges

- Understanding of the complex interrelationships in a decommissioning project and setting the right course for safe and cost efficient decommissioning
- Availability of waste management and disposal pathway
- Sufficient decommissioning funding
- Availability of resources
- Managing the change of responsibilities and culture
- Maturity of technical solutions

## Timetable

- Presentation of the preliminary results at conferences and workshops
- Consideration of results of discussions
- Publication in 2017

# Acknowledgement of TG Members

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# Thank you for your attention!

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