

A Review on Integrated Management Procedure for NPP Decommissioning Project

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I. Introduction

- ◆ The management of a nuclear facility project throughout the life cycle of construction to decommissioning has proved to be a challenging task.
- ◆ It is about delivering a sustainable solution that can be safely, securely and reliably managed throughout its life cycle.
- ◆ To review a structured framework for the management of nuclear projects from their initiation to the end.

II. A Project Management Approach to NPP

- Project management is sometimes referred to as the process of ‘making sure everyone else is doing his or her job in a concerted manner’.
- This oversight and coordination role is referred to as project ‘integrated management’ [1].
- This section describes the main items that are to be managed for the nuclear project and the tools available as shown in Fig.1

Generic Project Management Area	Nuclear Project Management Area
Integration	Radionation effect & Radioactive waste management
Scope	Licensing
Time	Emergency planning
Cost	Security & safeguards
Quality	
Human resources	
Communications	
Stakeholder	
Risk	
Procurement	
Health, safety & environment	
Lessons learned	

Figure 1. Generic Nuclear Project Areas

- During the preliminary phase of a facility’s planning, it becomes more detailed as the project proceeds through the each stage.
- It requires an effective flow of information from planning to construction.
- There is a need to focus on the specific boundaries and dependencies between various construction work packages (CWPs) and engineering work packages (EWPs).

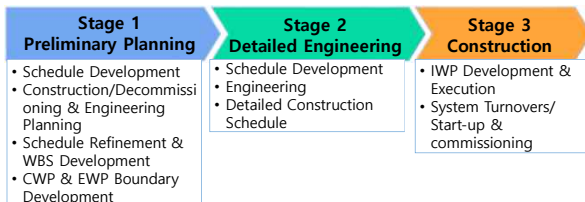


Figure 2. Integrated construction project plan flow chart

- In basic, the precise activities and deliverables to be provided by the project are typically documented and controlled through the use of a plant breakdown structure (PBS) and a work breakdown structure (WBS).
- These are normally defined as ‘activity specifications’ or a ‘WBS dictionary’.
- The project schedule, budget and resource plans can become more improved.

Table 1. Sample Work Breakdown Structure(WBS) for NPP

Index	Activity
1. Project management	Project development
	Project reporting
	Project control
	Project estimates
2. Engineering	Mechanical
	Electrical
	I&C
	Civil
3. Regulatory affair	Third party review
	Site preparation license
	Construction license
	Operation license
	Conventional approvals
4. Construction	Progress reporting
	Site preparation
	Nuclear island
	Conventional island
5. Commissioning	Civil
	Mechanical
	Electrical
	I&C
6. Procurement	Plant start-up tests
	Long lead
	Construction material Contracts

- WBS should include the functionality to be extended to lower levels as the project is defined in more detail. Table 1 provides a sample simplified WBS for NPP project.

III. Conclusion

- A key role of the owner is to ensure that all of the required resources are available to support these activities when they become needed.
- The licensee needs to begin developing the expertise to support dismantling activities.
- The concept of PBS, WBS and CBS can be used as inputs to the planning for new decommissioning project, and can help to understand or reduce risks or time.

❖ Reference

- [1] IAEA, Organization and Management for Decommissioning of Large Nuclear Facilities, Technical Reports Series No. 399, International Atomic Energy Agency, VIENNA, 2001.
 [2] IAEA, An Overview of Stakeholder Involvement in Decommissioning, Technical Reports Series No. NW-T-2.5, International Atomic Energy Agency, VIENNA, 2009.