Conceptual Design for Development of Decommissioning Project Management System

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1. Introduction

The decommissioning project management system will be established in module form, in order to efficiently carry out research and development of nuclear decommissioning technology, and for project management. The project management system is basically based on a document management system. All documents or drawings to be made are given a document or drawing number according to the classification system of the project procedure manual. These documents or drawings have been approved according to the approval line including the quality assurance. Of course, all approved documents are systematically stored, sorted, shared and downloaded.

This system is operated from the beginning as a lively system in which the organization and manpower are laid beneath the system and the user interface is activated. Time management was made using the documents data provided in the scope management. Configuration management will be carried out from 2-dimension, and 3-dimension drawings and documents. Overall, a risk management and a stakeholder management will built. Particularly in this year, we want to establish a waste tracking management system first.

2. System Development Contents

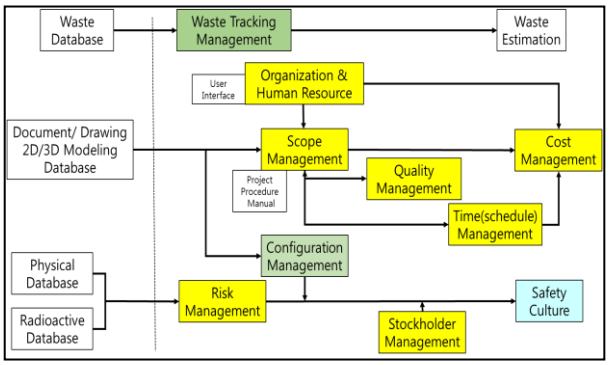

Fig. 1 Decommissioning Integration System

The decommissioning project management system was developed to operate on the basis of project management as follows. This project management system consists of a scope management system, ; configuration management system, ; organization and manpower management system, ; time management system using the scope management system, cost management system based on manpower, work, and process, ; a risk management system, and a stakeholder management system Such a decommissioning project management system is shown in Fig. 1. In this paper, the scope management system and time management system are mainly described [1].

2.1 Scope Management System

Scope management in a project involves document management, in which "all planned work and planned work is done." Therefore, the scope of the work must be precisely determined from the contract phase or from the planning phase. In project management, scope management refers to planning, requirement collection, scope definition, WBS creation, scope validation, scope control, and so on.

In this paper, the work breakdown structure (WBS) is used, which is shown in the project procedure manual (PPM) used for the construction of individual facilities such as a research reactor and power reactor. The document number, drawing number, and equipment number are used as they are. However, only the functional breakdown structure (FBS) is used depending on the purpose of the document generated in the decommissioning project [2]. In addition, it will add the minimum unit waste control number to the document number for waste tracking management.

PN-PBS-AA-NN-0001-W0001

- PN: Decommissioning Project Name
- PBS: Physic Breakdown Structure
- AA: Organizational Breakdown Structure
- NN: Functional Breakdown Structure
- 0001: Serial Number
- W0001: Waste Control Number

In other words, based on a systematic classification system of the generated document as shown in Fig. 2, a document management system that can create, review, modify, and approve documents using knowledge information of the project organization is constructed. This scope management system implements an input system, a data load system, a search system, and the like. This system increases the project value, ensures project justification, and complies with legal regulations [3].

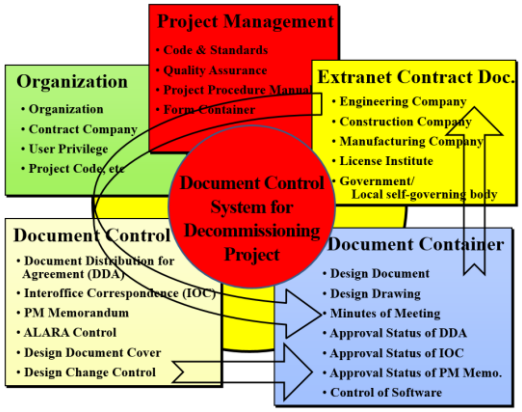

Fig. 2 Folder in Scope Management System

2.2 Time Management System

In general planning of time management, situations of the project are identified, methods of execution are selected and terms of activities are decided. At this time, conditions and environments are analyzed and a schedule is designed. In other words, schedules are planned considering defined activities, the arrangement of sequence activities, the resources, and the period of activities.

A project charter will be prepared, and scheduling will be established after forming a project management plan and organization. After planning the schedule, activities will be established and the Work Breakdown Structure (WBS), which is the standards of the scope of the work, will be derived. Schedule activities will be established by categorizing the work packages [4].

The CPM (Critical Path Method) was applied to design a schedule based on the working order and period of work, and thus on early schedule plan was established without considering the link condition of the activities. At this time, a schedule plan, which is a baseline of the schedule, was established as an early version considering all activity. Figure 3 provides a scheduling overview that shows a how to schedule method, scheduling tool, and outputs from the time management.

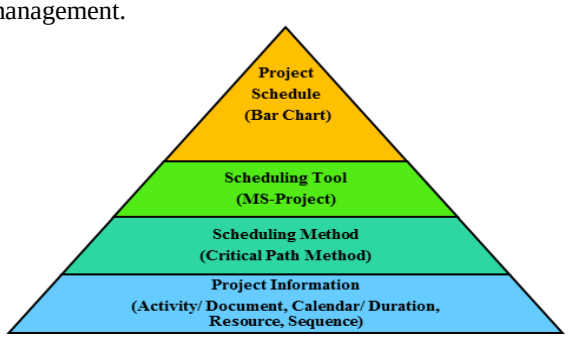

Fig. 3 Scheduling Overview

These documents were prepared for the design, purchase, fabrication, installation, commissioning, and operation according as the PWBS, and the EDL (Engineering Document List) documents activities were fixed. In this decommissioning project, we made a total EDL, as well as an input schedule, and calculated progress, and once the document is approved, it well end.

This decommissioning project is willing to develop a time management system that combines a document management system with a time management system like that shown in Figure. 4 [5]. It will be used in the EMR (End of Manufacturing Report), test report, or performance test report to link the end of the activities with the real schedule.

Fig. 4. Connection from DB Server to MS-Project

3. Conclusions

A decommissioning project management system was developed to operate on the basis of project management as follows. At present, we want to manage the waste as a unit platform first. In particular, we want to make it easy and accurate to manage the tracking of nested packages. The other unit platform consisted of a scope management system, a configuration management system, an organization and manpower management system, a time management system using a scope management system, a cost management system, a risk management system, and a stakeholder management system. In this paper, the project management system is a scope management system that includes a project procedure manual such as the work breakdown structure and functional breakdown structure. We also describe the time management system using the MS-Project based on the scope management system.

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