Development of Decommissioning Project Management System Platform

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1. Introduction

A project management system is established for carrying out a decommissioning project of nuclear facilities. First, the system will be complemented with a system that can systematically manage the history of dismantled waste, which has already been constructed and minimize the waste amount and cost. Second, we propose a decommissioning integrated management system that systemically manages dismantling information such as the scope, time, and configuration, as shown in Fig. 1 [1]. The platform of the decommissioning project management system consists of a dismantling waste platform and a configuration management platform.

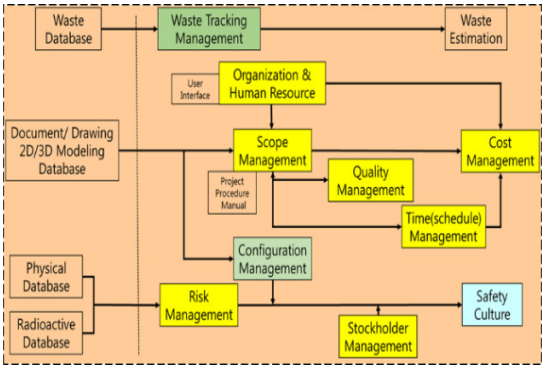

Fig. 1. Decommissioning Integration System.

2. Project Management Platform

2.1 Dismantling Waste Platform

As shown in Fig. 2, the dismantling waste platform structure manages three areas: the standard requirements, the waste characteristics information and the waste process.

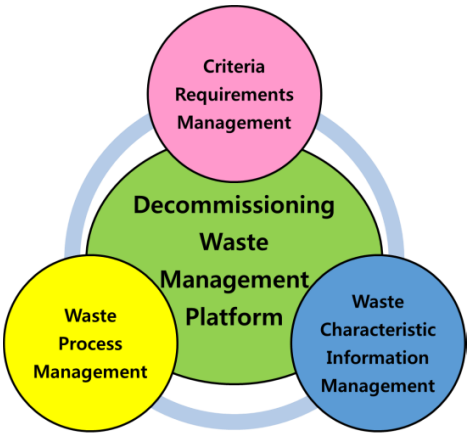

Fig. 2. Dismantling waste platform structure.

The standard requirement management has the function of linking standard requirement, design, construction, operation document and waste in the design bases of nuclear power plant operation. Waste characteristics information management consists of a facility master value for each component, the generation of waste packages, the linkage of components and unit waste, and the management of waste characteristic information. Waste process management was designed for the waste treatment process, inquiring the process status, estimating the waste throughput of each process, optimizing the process, and estimating and managing the exposure of workers.

2.2 Configuration Management Platform

The configuration management platform consists of requirement management, facility configuration information, physical configuration information, and workflow platform as shown in Fig. 3 [2].

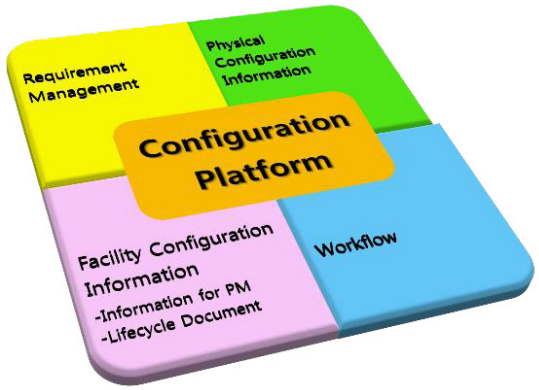

Fig. 3. Configuration management platform.

The requirement management platform supports the use of design documents and drawings that are systematically managed in the existing document management system. The facility configuration information platform maintains the number classification system based on the physical breakdown structure (PBS), the organizational breakdown structure (OBS), and the functional breakdown structure (FBS) for the design, construction and operation [3]. The physical shape information platform identifies and acts on the state and distance of the system through the panorama viewer and the 3D model viewer for the site of the nuclear facility. The workflow platform has functions such as the process design, process assignment, process execution, and process monitoring.

3. Conclusion

The decommissioning project management system platform was divided into two parts, namely, a dismantling waste platform and a configuration management platform. In particular, to allow the decommissioning project to be carried out smoothly, the configuration management platform is divided into a facility master based on the project manager information, and a document management system based on the life-cycle document information.

REFERENCES

[1] Kook-Nam Park, In-Hye Hahm, Dae-Seo Koo, and Sang-Bum Hong, etc., “Conceptual Design for Development of Decommissioning Project Management System”, Korean Nuclear Society Autumn Meeting, October 26-27, 2017, Gyeongju.

[2] Jung-Sup Oh, Moon-Joo Gil, “Development of Configuration Management Platform of Operational Nuclear Power Plant”, Korean Nuclear Society Spring Meeting, May 18-19, 2017, Jeju.

[3] Ki-Ae Jeong, etc., “A Study on the Classification System of National Construction Project based on WBS”, Information Management Research, 41(1), pp 13-15, KISTI, 2010.