

# A Study of Traceability and Change Management Based on Decommissioning Information for a Nuclear Facility

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## 1. Introduction

Decommissioning information is generated from various fields related to decommissioning from permanent shutdown to site restoration when nuclear facility is decommissioned. Since this information is used for important factors such as waste management and cost estimation, it is necessary to manage information systematically and accurately. Various management systems have been developed, however, there are limits in aspect of information management because each unit system is operated independently. In order to overcome this, we have secured the connection between existing unit programs.

In this study, we will describe the traceability function that can clearly identify the affected items as the requirements for decommissioning nuclear facilities, and management function that can adjust the changes related to decommissioning activities and regulatory requirements.

## 2. Design of Traceability and Change Management Function

Traceability and change management based on nuclear facility decommissioning information aims at ensuring data integrity and consistency between the decommissioning information.

### 2.1 Main Function

Traceability and change were used with the CMD Build platform based on an open source that

facilitates the management and tracking of nuclear facility decommissioning data.

**2.1.1 Traceability.** Data in this system is managed by defining relations between classes, and administrators and users can easily add and modify them.

- Adding of Traceability: Users can easily add / edit data through the system's 'Relations' tab list if there is a change in the relationship between the data.

- Confirmation of relationship (confirmation of traceability): It is easy to trace configuration information through 'Relation graph' function. As shown in Fig. 1, all configuration information related to each diagram can be visually confirmed, and attribute information of each configuration can be confirmed through UI 'Card' tab.

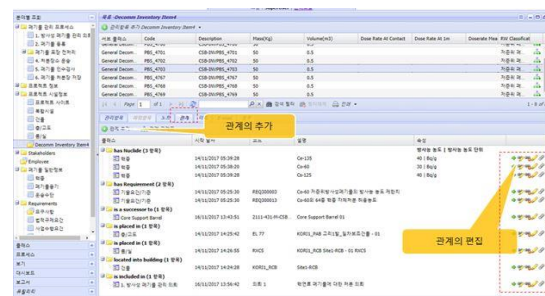


Fig. 1. Adding and editing relationships (traceability).

### 2.1.2 Change Management.

- When technical standards related to decommissioning regulatory requirements and activities is changed, the changes shall be carried out

in accordance with predefined change management procedures and the relevant records shall be recorded. It also supports the function to clearly identify the items affected by the change.

- History management: life-cycle history of configuration information is managed as lists.

### 3. Results

An example of a radioactive waste process was selected as a sample case for verifying traceability and change management function

#### 3.1 Traceability of Decommissioning Regulatory Requirement

The radioactive waste processes to being managed as classes on the system, general information on radioactive waste, and laws information are connected to each other through relation. The user can confirm and modify the relation between the class and the other class.



Fig. 2. Traceability of radioactive waste - Relationship graph.

#### 3.2 Change Management of Decommissioning Regulatory Requirements

The user can confirm the change process of the management item through the history tab of the management area and inputting the management item of the system. As shown in Fig. 3, the history

function provides basic functions of change management such as modification start time, registration date, end time, and changer information.



Fig. 3. Change management of radioactive waste regulatory requirements.

### 4. Conclusion

In this study, we described the traceability function that can clearly identify the affected items as the decommissioning regulatory requirements for nuclear facility are changed, and the management function to reflect the regulatory requirements and the changes related to the decommissioning activities based on the traceability function. The case of radioactive waste process was applied for traceability and change management as an example. Through this study, we have secured a basis for systematically tracking regulatory requirement information, decommissioning facility information, and decommissioning activity information related to decommissioning of nuclear facilities.