Development of SFR Research and Integration Management System (S-RIMS)

Chungho Cho [a*], Jinwook Chang [a], Young-Gyun Kim[a], and Yeong-il Kim[a]
[a] *Korea Atomic Energy Research Institute*
1045Daedeok-daero, Yuseong-gu, Daejeon, 305-353, Korea
[*] *Corresponding author: chcho@kaeri.re.kr*

1. Introduction

Up to the present, the management of research and development (R&D) for a sodium cooled fast reactor (SFR) could be individually performed on each project without an organic relationship. However, a more systemic and effective integrated management of a project is required because the research and development environment is currently changing.

Thus, we developed a Research and Integration Management System for SFR (S-RIMS) based on the enterprise project management (EPM) solution.

The functional goals of the S-RIMS are as follows;

1. Provide data that show the progress and status of a project
2. Manage the design process and R&D products
3. Share the consistent design data between sub-projects

2. Architecture and Main Functions of S-RIMS

S-RIMS was built based on Microsoft Office Project Server 2007. S-RIMS is composed of three main functional modules and additional functions. The main functional modules of S-RIMS are as follows;

1. Process schedule management module
2. Design documents management module
3. Database module

The fig. 1 shows the schematic diagram of S-RIMS's main functional modules.

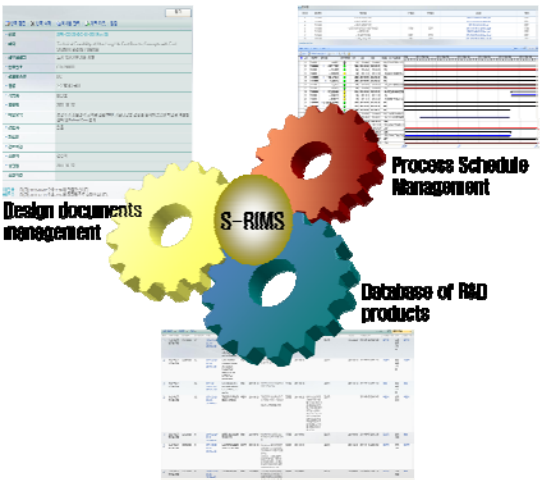

Fig. 1 A schematic diagram of S-RIMS

Also, additional functions of S-RIMS are as follows;

1. Notify the announcement and schedule of the project
2. Share the common resources associated with the project
3. Quick guide manual of S-RIMS for user and project manager
4. Show the status of the main R&D products
5. Show the status of the issue for the connected design document between projects

Through a combination of these functions, S-RIMS provides information on the status for the main project and each sub-project.

2.1 Process Schedule Management Module

The process schedule management module has been built for each sub-project. The process schedule management module of each sub-project has many work breakdown structure (WBS) activities depending on the nature of each sub-project with the WBS No., task name, status of the task progress, starting and ending days, and task representative.

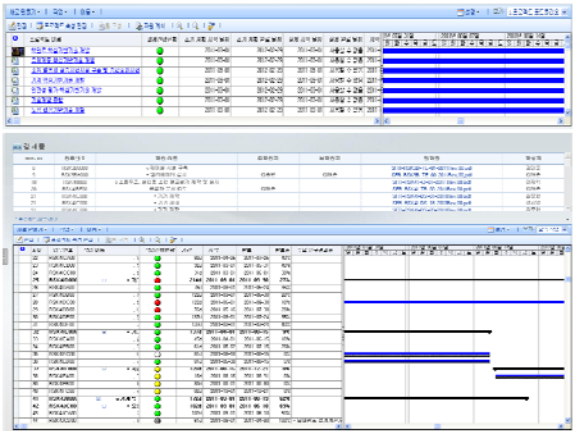

Fig. 2 Process schedule management module for S-RIMS

2.2 Design Documents Management Module

Since the main part of project management is expended within organizations that deal entirely with products, the quality management of R&D products is very important.

All documents produced during the R&D for Gen IV SFR must be identified at the outset, with the identification including the type of document,

document title, document identification number taken from the project identification procedure (WBS and task orders), and the representative responsible for its document. In this procedure, the review and approval of a document is performed by another researcher assigned from the author or project manager.

Fig. 3 The design document management module for S-RIMS

2.3 Database Module

S-RIMS services the database function based on SQL server. The data access layer is internal to Office Project Server 2007 and is not exposed to an external application. The data access layer translates between the logical business entity representation of the data and physical database tables. Also, the database module for S-RIMS offers traceability as well as intuitive access to all data.

Fig. 4 The database module for S-RIMS

2.4 Monitoring of the Status of the Main and Sub-Project

S-RIMS provides information on the status for the main project and each sub-project through a project monitoring screen. In these screens, reliable and accurate information of the status of project is provided to the project manager and participants, and all of data for the project was presented with figures and tables to be easier to understand.

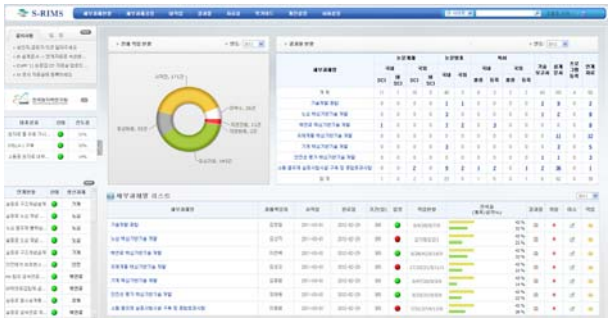

Fig. 5 Monitoring of the status of the main project

Fig. 6 Monitoring of the status of the sub-project

3. Conclusions

This study presents a Research and Integration Management System for managing the research and development of a Generation IV sodium cooled fast reactor.

The functional goal of S-RIMS is to provide the project manager and participants with reliable and accurate information on the status of the project, and the task and resource allocation for more systemic and effective integrated management of the project.

S-RIMS is composed of three main functional modules: Process schedule management, Design documents management, Database, and additional functions.

The effective and systematic management for the research and development of Generation IV sodium cooled fast reactor is expected using S-RIMS.

Acknowledgement

This study was performed under the Mid- and Long term Nuclear R&D Program sponsored by the Ministry of Education, Science, and Technology (MEST).

REFERENCES

[1] Dong Uk Lee, Byung Chool Won, Young In Kim, and Dohee HAHN, Development of SFR R&D Management System Based on the EPM Solution, Transactions of the Korean Nuclear Society Autumn Meeting, Oct.30-31, 2008, PyeongChang Korea.
[2] Chungho Cho et al, SFR-TI312-PD01-2011Rev0, Korea Atomic Energy Research Institute Internal report, 2011
[3] Chungho Cho et al, SFR-TI312-PD02-2011Rev0, Korea Atomic Energy Research Institute Internal report, 2011