Development of Safety Assessment Information System (SAIS)

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1. Introduction

Many reports and documents about nuclear power plant safety analysis like a Periodic Safe Review (PSR), Periodic Safety Analysis (PSA) and Severe Accident Management Guideline (SAMG) come to be drawn up from KHNP. Since these are not arranged easy to look up, the systematic arrangement of data was necessary. The solution against hereupon is to store database, and it was developed with the name, SAIS, by FNC Tech. Co. together with NETEC KHNP.

In this web program it is easy to manage (registration, search and statistics) data. And the authorized user can approach this system. This was developed, and was verified under the development environment of;

- Web Server : Apache 2.2.5
- Program Language : PHP 5.2
- DBMS : Oracle 10g

2. Program's function and composition

This program is composed of the menu of five functions. These include registration data, searching data, statistics, system management and sharing information. Each function can be accessed with the menu of the upper left corner of the frame.

Fig 1. Index page of SAIS

The index page of SAIS provides information on the newly registered data and notice messages as shown in Fig.1.

2.1 Registration Data

It accomplishes the function which stores the reports or the documents which are produced by related some projects, it is composed of the following 3 or 2 processes.

1) ID generation

It is the first process of function registration data. In order to make an ID three 'Select Box'(report field, objective atomic power plant name, and report type) from this screen should be chosen. Through the combination of the selected values a unique data ID can be generated.

2) Basic elements input

It is the second process of function registration data. The input is composed of totally four parts; field selection, basic factors input, keyword registration, and file registration. The keyword is useful factors as searching data. Fig.2 shows the related frame.

3) Link report selection (optional process)

When the user selects "yes" for "link report" item in the previous step, this process proceeds. When user registers the link documents, user can refer to the relation document later. Consequently it has a strong point in that the related document could be easily approached.

Fig 2. Page for putting data

2.2 Search Data

This function can get lists which comply with the condition. When one of the subject lists extracted is clicked, user can access a detail contents. This function is composed of three parts (search word, search scope, and sorting method) which are filled or selected as shown in Fig. 3.

Fig 3. Page for searching data

2.3 Statistics

This function provides data statistics for each category and classification. The statistics appears in two forms of type. One is one-dimensional statistics. This function shows the number of data of complied condition. The other is two-dimensional statistics. It can get the number of data included in two multiplex conditions. When the value of this statistics is clicked, it is possible to see the document list corresponding to the condition

2.4 System Management

This function is only for user with authority of SAIS. It can manage variables, category values, management members, notice board, and Q&A board for SAIS operation.

2.5 Sharing Information

This function is composed of two kinds of boards. The notice board is means of informing notice messages to users. And Q&A board is a means of interchanging opinions between the manager and the user.

3. Conclusion

Because difficult usage method makes the user to hesitate to approach the program, SAIS is developed for convenience of users in priority. SAIS is very easy for beginner to use, it will be able to economize the time of searching for the data, and statistics of present and past data also can be easily acquired.

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