DOCUMENT CONTROL SYSTEM AS AN INTEGRAL PART OF RA DOCUMENTATION DATABASE APPLICATION

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ABSTRACT

The decision about the final shutdown of the RA research reactor in Vinča Institute has been brought in 2002, and therefore the preparations for its decommissioning have begun. All activities are supervised by the International Atomic Energy Agency (IAEA), which also provides technical and experts' support. This paper describes the document control system is an integral part of the existing RA documentation database

Key words: document control, record management system, decommissioning

1. Introduction

The main sources of information relevant for the decommissioning of a nuclear facility are the records of the design, construction, modification, operation and facility shutdown phase. It is the operator's responsibility to keep these records. Record management group of the decommissioning team will also have to control the large amount of technical and administrative data that will be generated during the decommissioning process. Therefore, for the efficient manipulation and use of the various records and databases, it would be useful to build an integrated record management system (RMS) within the decommissioning project.

RA documentation electronic database is the first element of the future decommissioning RMS, and its main puropse is to ensure that records are categorized and organized, readily retrievable, indexed and placed in their proper location, stored in a controlled environment and corrected or supplemented to reflect the actual status of the facility.

The starting point was classification of all the RA research reactor related documents, records, and files and their assembly at one specified location. In order to ensure proper decommissioning planning and estimation of exposures, waste quantities and costs and due to the significant loss of experienced staff (18 years of the reactor's extended shutdown), it was necessary to carefully review all technical documents and compare drawings and data with the existing facility layout.

All those activities finally resulted in the electronic database that stores the following information:

- document's unique identification number - the composite record index that consists of: reactor name (RA), room label, locker number, shelf number, and serial number of the record
- document title

- document type
- document author(s)
- document's location
- place and year of publishing
- key words
- contact person (employee with the best knowledge about the document's contents)
- additional comments
- flag for the data that may be of particular importance to decommissioning
- cross-reference to related document(s)

Relational database model was designed and the application made by using Microsoft Access 2000, Version 9.0, a powerful and robust 32–bit relational database management system (RDBMS) for creating desktop and client/server database applications that run under Windows 9x and Windows NT 4+. The application was later updated to Microsoft Access 2002 (SP1) that runs under Windows XP.

The RA documentation database application allows the document searches by selected criteria (document type, location, key words etc.) and could be used to generate various reports. As an integral part of the RA documentation database the document control system (DCS) has been established. This system enables finding out the current status for any chosen document (is it available or not and, if not, who has it), shows the rental history of the document, and the rental history for any chosen employee through its up to date archive.

In the forthcoming period RA documentation database will continually be updated with all new documents and records generated during the decommissioning process.

2. Document Control System Features

The establishment of the DCS activity is continuance of the work done under the first activity of the contract RA Reactor documentation and database. The document control system is an integral part of the existing RA documentation database, and it implies changes in both the back end (named **RAbazaData.mdb** - the part where the data is actually stored, introducing new tables) and in the front end (named **RAbazaApp.mdb** - the application part, creating new forms and queries) of the database.

New Tables

- **IznajmljivanjeT** table intended for storing records about all currently rented documents. It contains the following fields:

Tab. 1. *Fields of the IznajmljivanjeT table*

Field name	Data Type	Description
IznajmljivanjeID	AutoNumber	Primary key for this table, identifies uniquely one single rental of the document
ZaposleniID	Number	Foreign key, used to establish the relationship with the table ZaposleniT, which contains the records of all the employees – answers the question "who rented the document?"
DokumentID	Number	Foreign key, used to establish the relationship with the table DokumentT, which contains the records of all the documents – answers the question "which document is rented?"
DatumIznajmljivanja	Date/Time	The date of the rental
Vraceno	Yes/No	This field is set to "Yes" (checked) if the document is returned
DatumVracanja	Date/Time	The date of returning the document

- **ArhivaT** stores historical records of all rented and returned documents. It is filled with records from the **IznajmljivanjeT** table, and therefore it contains the same fields as the **IznajmljivanjeT** does. The only difference is data type for **IznajmljivanjeID** field – in the **ArhivaT** its data type is set to **Number**.

New Queries

The process of archiving is conducted by two action queries, designed specialy for this purpose.

- **ArhivaAQ** – action append query, designed to append new records to **ArhivaT**. Appended records are originally from the table **IznajmljivanjeT**, and the criterion for one record to be added to archive is the value of the field **Vraceno** (from the **IznajmljivanjeT**) set on **True**.
- **IznajmljivanjeDQ** – action delete query, designed to delete a record from the table **IznajmljivanjeT** once the document is returned.

In order to ensure that these queries would always be performed in a sequence (first **ArhivaAQ** and then **IznajmljivanjeDQ**) special Visual Basic procedure is written and connected to command button **Arhiviraj** on the form **Pregled&Arhiviranje** (Fig 2).

New Forms

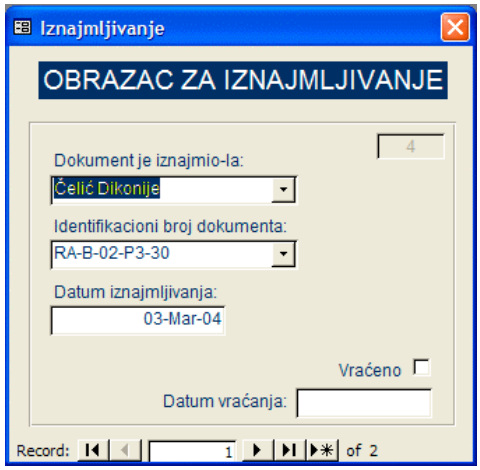

Fig. 1. *Input form for the IznajmljivanjeT*

- **Iznajmljivanje** form– input data form for the table **IznajmljivanjeT** (Fig 1).
- **Pregled&Arhiviranje** form – review form of all the rented documents. It contains command button **Arhiviraj** by clicking it the sequence of append and delete action queries is performed.
- **Arhiva** form– review form that shows all the records in table **ArhivaT** and gives information of the period of time and the number of records archived.

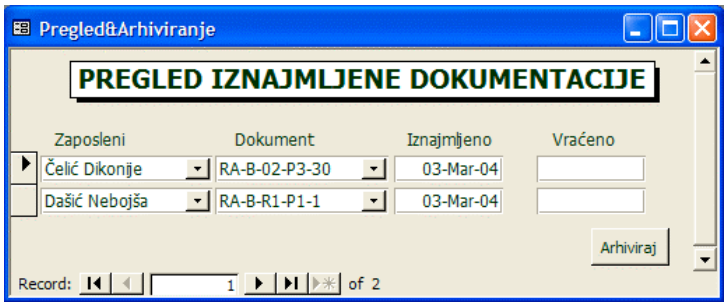

Fig. 2. *Review form Pregled&Arhiviranje*

- **Status** form – form that enables the user to find out the current status of any chosen document - is it available or not and, if not, who has it. The form also shows the rental history of the document,

as well as the rental history for any chosen employee. It contains two combo boxes (one with list of all documents, and the other with list of all the employees), and four command buttons (click on the first two gives, respectively, the document history and its availability, and click on the other two – employee's rental history and his/hers present rental).

3. Conclusions

Organization and management of different types of information and records important for the RA reactor decommissioning require establishment of the appropriate record management system. First element of the future RA reactor RMS is already developed and in use: RA reactor documentation database with the associated document control system. Other RMS elements will be created and implementation during the course of the decommissioning process.

The RA reactor record keeping approach and experience could be useful for other nuclear facilities that have reached end of the operational lifetime without established RMS.

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