Studsvik
Consultancy Services
Per Lidar

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Kopia
Arne Larsson, NK

Lennart Gustafson, AB SVAFO

Abstract till TAG 48-mötet ang SVALA

Title: Waste management tool development for handling waste and decommissioning projects

Authors: Per Lidar and Arne Larsson

Abstract:
AB SVAFO needed a waste management and database system for waste management replacing old database systems, and Studsvik Nuclear was invited to participate since synergy effects was expected.

The initial database (SVALA) was developed during 2005, and has been in use since March 2006 for waste management at SVAFO, Studsvik Nuclear and the R2 reactor.

During 2009, SVALA was further developed to cover radiological surveys, this module was used for the Ranstad site. Further development is ongoing to cover enhanced requirements from the R2 reactor decommissioning project.

Waste management
SVALA is a complete system for waste management, including waste information, but also

- Waste treatment, waste conditioning
- Integration of measured results
- Transports – internal and external
- Graphical presentation of waste storage
- Reports (activity, production, and others)
- And much more

SVALA includes a detailed framework of rules, with limitations applied on

- Access to database information
- The right of changing information
- What waste each facility can treat
- Where waste is allowed to be stored or moved to
- How waste can be treated, handled, and packed
- Safeguard material
- Clearance of material
- Ownership of and change of ownership for material

Examples of facility specific functionality in SVALA are the

- Management and treatment of intermediate level waste

- Treatment of fluid waste
- Graphical functions related to long time storage of long lived waste
- Treatment in the incineration facility
- Treatment in the melting facility
- R2 reactor decommissioning project

Customer specific waste data is imported from XML-files, and customer specific reporting is done by XML-files including pictures and scanned files. Quality checks of the database data is performed by specific SQL-queries running daily searching for unwanted combinations that needs corrections.

The SVALA technical platform consists of two Oracle servers in parallel that are placed at the developer in Östhammar, Sweden. A client software with Crystal Report and Dot Net framework is needed and only online registration is allowed. A separate testing system is available. The Mantis bug tracking system is used for all reporting of bugs and new or modified functionality.

Radiological surveys and decommissioning work
A module for radiological surveys was developed in SVALA while keeping close links to the existing waste management database and sharing a combined set of rules and limitations for users, data entry and handling.

The radiological survey module was used for the Ranstad site (former uranium mine and extraction plant) and covers measurements at 3 400 locations in all of its 500 rooms. The extent of measurements was linked to an initial risk assessment of each building. In total 250 000 measurements were uniquely identified and automatically collected in data files that were integrated with SVALA.

For the radiological surveys at the R2/R2-0 reactors, the SVALA module will be further developed to also include more complex graphics in real time and the possibility to follow systems through the buildings.