

Chairmen's Report from the SADRWMS Plenary Meeting

Vienna, 30 October- 3 November 2006

Introduction

The meeting opened and summarized the work that was done in previous years, particularly the work carried out over the last twelve months on the special tool that has been commissioned by the Agency to aid the SADRWMS methodology. Unfortunately, some key members of the first team that had originally been formed were unable to attend the meeting this autumn. However, they were able to comment and participate in the work that led to the development of the tool. Some new members were welcomed to the SADRWMS team and quickly managed to be involved in progression of the work set out by the initial discussions.

It was recognised after the April meeting when the specification of the tool was decided, that an early test of the tool would be beneficial in seeing what potential difficulties might be present in the prototype version. The Vinča example was successful in identifying some teething problems that the tool experienced and it helped inform the project of changes that might be necessary to allow a better version of the tool to be developed.

Content of early discussions on the way forward

Jagos Raicević from Serbia presented a broad picture of the real life situation experienced at Vinča illustrating the difficulties that other nations are also facing in finding solutions to radioactive waste management that provided a good test for the tool. In this way all participants could see the practical usability of the tool. Rodolfo Ávila from Sweden was able to demonstrate the versatility and power of the tool whilst showing that there were still areas of the tool's operation that needed refinement. Also, it was recognised that guidance was required to populate some areas of the tool to link to previous work carried out by the IAEA and the SADRWMS group itself.

It was decided that the most effective way of addressing the extra elements that the tool required would be by creating three working groups: one to try to populate the methodology predominantly within the guidance section of the tool (group A), a second one to identify what was needed within safety assessment (group B) and finally a third group dealing with calculation facets (group C).

Progress from the working groups

Group A

Group A was able to populate in draft form guidance under the titles provided in the tool (e.g. waste identification, facility and waste streams modules) and on the various key elements that had been originally prompted from the SADRWMS flow chart. Furthermore, references to existing IAEA documentation was added where appropriate. In addition, highlighting of areas of significance to alert the programmers of difficulties/points of interest was inserted. It is not claimed that the information on guidance is comprehensive, but it will provide a useful basis for review and improvement. It was recognised that the links to the safety assessment elements of the tool require further work especially at the interfaces in the tool where safety assessment becomes necessary. There may be the potential to integrate the original thinking employed in the flow charts closer to the tool, but further thought needs to be given to progress such work.

The tool would benefit by some early introductory section, which simply illustrates the overall process text and the overall process flow chart that was provided in the 2005 SADRWMS framework document.

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Group B

Group B was, in a similar way, capable of populating in draft form guidance under the safety assessment sections of SA-Store and SA-Process already provided in the tool. Other key elements on safety assessment that had been originally prompted from the SADRWMS flow chart, such as SA-intervene, SA-retrieve, SA-require, etc were not included. The reason was because the tool could not accommodate these modules owing to the fact that there was insufficient time to properly populate these parts of the tool. However, since the structure of the tables accompanying the other SA modules is identical, it would not be a difficult task to add these to the model and populate them appropriately. A most serious obstacle is how the safety assessment modules will be prompted in the tool, but it is thought that a suitable wizard can be utilized to facilitate the process. Similarly, it is not claimed that the information added on SA guidance is comprehensive, but it again will provide a useful basis for review and improvement.

Group C

Group C started the development of the Calculation Tool Manual. The calculation tool can be used in normal operation and accidental situations. It will also be capable of comparing different options. The calculation tool manual includes description of an overall approach and the specific calculations that can be carried out with the tool. The calculation tool can estimate material at risk, direct exposure to waste components and releases from these. It will also calculate source terms, concentrations inside and outside a facility in normal and accidental situations. It can focus on calculations for doses to workers inside a facility and the results of both airborne and liquid releases from a facility in normal and accidental scenarios. The work on the calculation tool manual is not yet complete and will need further work.

Identification of the future way forward

It was decided that a number of activities now need to be carried out following the meeting to progress the work done in this year's plenary meeting and previous meetings. This included the remaining work to refine the tool against the agreed specifications and find ways to improve the working of the tool in response to comments made by the participants of this meeting. In addition, it was recognised that any additional comments that have not been adequately captured during the meeting should be urgently sent to the programmers, so that they can be addressed before the endpoint of the current tranche of work. It was also detected that other SAs (SA-retrieve, SA-require, SA-intervene) in the SADRWMS's flow chart need to be added to the tool. This not only requires participation by the attendees of this plenary meeting, but also those members who may not be able to attend it.

From the results of the attempt to test the Vinča example, it was realised that following an additional refinements to the tool, there would be a need to use further test cases. It was proposed that for test cases would be an appropriate trial to challenge the ability of the tool to accommodate a range of different situations. It was therefore proposed that these test cases would be performed within host member states and would necessitate special workshops to adequately test the tool in the appropriate situations. It was further proposed that there would need to be continuity between these workshops, such that the presence of individual(s) that had carried out the process in one member state would be beneficial to the subsequent test case workshops. It is implicit that the developers of the tool would be present at those workshops. The final selection of test cases will be carried out during the next plenary meeting.

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The following are proposals of test cases by the meeting participants:

- 1) Croatia (Kastela): Large Volume Norm
- 2) Chile: Treatment Plant Storage. Small Volumes/Sources
- 3) South Africa (Thabana): Operational waste and Legacy waste.
- 4) Moscow (Radon): Spent Sources of different types.
- 5) India (Barc): Interim Storage and vitrification waste Product.
- 6) Cuba (Managua): Small amount/Sources-extended storage.
- 7) Romania (Magarele): Storage Facility.
- 8) Slovak republic (Mochovre): Liquid Waste Treatment Facility.
- 9) UK (Sellafield): Decommissioning Waste.
- 10) Belarus: Remedial actions after liquidation of “military” repositories.
- 11) Argentina: Nuclear Regulatory Authority.
- 12) Slovenia (Ljubljana): Central interim storage for RW from small producers.
- 13) Vincá (Serbia): Storage and processing facility.

Other proposals of test cases should be submitted to the IAEA before the end of the year.

Further, it was agreed that there will be also a need to hold a workshop for further development of the methodology module of the tool and workshop for the finalising the manual of the calculation tool.

Implementation timetable of the way forward

The following calendar of events was proposed and agreed. It is shown below in the form of a table.

Table 1. Activities of the SADRWMS during the next year

No.	Activity	Place	Time
1	Further comments on tool to Rodolfo		asap- but latest deadline 15 November 2006
2	Further comments on flow charts to Isabel		asap- but latest deadline 30 November 2006
3	Workshop for development of the methodology module	TBA	February 2006
4	Workshop for development of the calculation tool manual	TBA	Beginning of March 2006
5	Plenary meeting of SADRWMS	Vienna	End of April 2006
6	Program for test case workshops	TBA	“
7	Completion of the test cases		Beginning of 2008
8	The action plan for development of the tool is presented in Appendix A		

Conclusions

The aim of SADRWMS from the beginning has been to offer members states a system that guides users through key stages of the radioactive waste management processes, accommodating all situations and necessitating appropriate safety assessments, which records adequate justification to effect progress towards safer waste management, including storage and possibly disposal. The addition of a versatile tool to help facilitate this aim has introduced a means to enable a more user friendly approach for member states. It is important that the tool is further refined to ensure that this is optimised. The tool must not leave behind the original philosophy of the SADRWMS flow chart or become unnecessarily complex, such that it would not be used in a practical and targeted way.

All participants worked hard in unison to progress the work identified at the commencement of the meeting and the direction of the SADRWMS task remains on track.

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The Chairmen were grateful for the solidarity and support they received throughout the duration of the meeting, not only from the participating Member States, but also from the Secretariat, including the administrative and technical staff.

Recommendations

The proposals made, agreed and reflected in the timetable shown above should be activated, provided that the IAEA can continue to supply the high level support that has been the case to date.

Options should be explored to identify additional partners who could assist and support further development of the software tool and its subsequent maintenance.

CHAIRMEN

Peter Burrows and Rodolfo Ávila

Appendix A

Action Plan for Development of the SADRWMS tool, *SAFRAN*

Work to be carried out during November-December 2006

- 1) Develop help pages.
- 2) Implement first version of guidelines based on work during the plenary meeting.
- 3) Finalize report generation by the tool.
- 4) Add SA specified in the flow chart.
- 5) Implement bug fixes based on comments.
- 6) Develop installation program.
- 7) Testing of the tool.
- 8) Extend the list of default radionuclides

Work to be carried out from January 2007 until the next plenary meeting

The following is a list of ideas on functionalities that could be incorporated in the next version of the tool. These will be taken into account when developing specifications for the second version of the tool.

- Make the start-up more user friendly,
- Add references to SA on the waste stream diagrams,
- Complete definition of properties (e.g. dose rate and surface contamination as tables, measured or estimated activity can be specified for individual radionuclides, alpha/beta/gamma, density, etc.),
- Add possibility of recalculating properties like for ex. density,
- First version of the flow chart navigation tool,
- Add possibility of checking waste components for clearance,
- Extend the calculation tool according to specifications developed at the workshop in March,
- Coupling of the calculation tool with CROM,
- Add references to sources of information, including the possibility to attach files to the forms,
- Link to SA from the guidelines,
- Automatic check for updates on start of the tool.