



INTERNATIONAL ATOMIC ENERGY AGENCY

WAGRAMERSTRASSE 5, P.O. BOX 100, A-1400 VIENNA, AUSTRIA

FACSIMILE: (+43 1) 26007, TELEPHONE: (+43 1) 2600

Application of the Safety Assessment Methodologies for Near Surface Disposal Facilities (ASAM)

Common Application Aspects Working Group

*1st Research Coordinating Meeting,
11 to 15 November 2002, Vienna, Austria*

December 2002

CAA-IRCM



Common Application Aspects working group

Introduction

The Common Application Aspects working group is one of the cross-cutting working groups of the project investigating treatment of common issues in post-closure safety assessment of near surface disposal facilities and is led by Len Watts of BNFL (UK).

The initial meetings of this working group at the 1st RCM in Vienna were attended by representatives of most of the nations participating in the ASAM project. The working group sessions were organised following the agenda enclosed in Appendix A. The participants were active, with some lively discussions ensuring that this meeting has been a successful start to this working group.

Outcomes

At the 1st RCM the attendees of the Common Application Aspects working group (see Appendix B) discussed and agreed the proposed objectives of the working group: namely, to identify those issues that are of common concern to ASAM participants; to provide practical guidance on the treatment of these issues; and to identify potential enhancements to the ISAM methodology. The working group attendees then agreed that the approach taken would be that of prioritisation of potential issues followed by development of position papers on the treatment of those issues.

The six originally proposed issues of:

- the assessment of disruptive events (e.g. erosion, human intrusion);
- the assessment of engineered barrier performance;
- the treatment of heterogeneities in the near-field;
- the prioritisation of safety assessment activities;
- the role of safety assessment in site selection and characterisation; and
- the consideration of optimisation

were then discussed. Additional issues of potential common concern were also identified, including those of:

- the interface between human intrusion and natural events;
- the use of stylised scenarios;
- stakeholder involvement;
- the role of analogues;
- the role of conservative vs. realistic assessments;
- dealing with little or no site information;



- balancing doses from actual intervention and potential future impacts;
- calibration, verification and validation of models;
- potential differences in methodology in undertaking assessments of non-radiological contaminants; and
- potential differences in methodology in undertaking with assessments of very low level waste.

The issues to be taken forwards from this 1st RCM were prioritised according to the number of participants interested in the issues and participants being able to participate actively in addressing the issue. This led to the following five topics at present being taken forwards in sub-groups:

- the assessment of disruptive events – sub-group leader: C-L Kim (Korea);
- the assessment of engineered barrier performance – sub-group leader: J. Hart (Netherlands);
- the role of conservatism vs realism – sub-group leader: R. Cady (USA);
- the prioritisation of safety assessment activities – sub-group leader: P. Davis (USA); and
- undertaking assessments with little or no information – sub-group leader: D. Avraham (Israel).

As additional issues are identified during the ASAM project (and from the other working groups) then those issues will be considered as appropriate.

The working group also agreed that the intended outline content of the position papers is to comprise of:

- a review of methodological and modelling approaches to address each issue as used in international guidance and in previous assessments;
- the identification of similarities, differences, advantages and disadvantages of the various approaches; and
- a summary of the state of the art in dealing with the issues, the identification of areas of consensus and the provision of recommendations on how to address the issue.

It has been also agreed R. Little to assist the performance the working group activities as a deputy leader.

Work Plan

The intention of many of the sub-groups is to gain certain information on the actual treatment of the prioritised issues through the development and distribution of



questionnaires in January 2003. The responses will then be assessed and discussed prior to and at the 1st Joint Working Group Meeting of 2-6 June 2003. Position papers on each issue will then be developed and reviewed in an iterative manner through to the 2nd RCM in February 2004 and finalised by the 3rd RCM at the end of 2005.

Summary

In summary, the Common Application Aspects working group has made good progress at this 1st RCM towards being able to provide guidance on the treatment of the prioritised common issues. The working group leaders wish to thank all those who have taken part in, or indicated their willingness to participate in, the working group sessions and the sub-group meetings. Of course, any additional colleagues who would like to participate are asked to please contact the IAEA scientific secretary (B.Batandjieva, e-mail: B.Batandjieva@iaea.org) or the working group leader (Len Watts, e-mail: len.watts@bnfl.com).





1st Research Coordination Meeting

Application of Safety Assessment Methodologies for Near Surface Waste Disposal Facilities (ASAM)

11 – 15 November 2002

TENTATIVE AGENDA FOR COMMON APPLICATION ASPECTS WORKING GROUP

Tuesday, 12 November

Afternoon

Working session 1:

1. Review and agreement of the scope/objectives, method of operation and specific activities of the working group.

a. Presentation, discussion and agreement of proposed objectives:

- identify issues of common concern to all working groups and ASAM participants;
- providing practical guidance on the treatment of these issues; and
- reviewing the output from the ASAM working groups and identify any necessary enhancements to the ISAM safety assessment methodology and supporting tools resulting from its practical application.

1.2. Brief presentation and discussion of provisional scope and issues to address:

- the assessment of disruptive events;
- the assessment of engineered barrier performance;
- the treatment of heterogeneities in the near-field;
- the prioritisation of safety assessment activities;
- the role of safety assessment in the site selection and characterisation processes; and
- the consideration of optimisation.

b. Presentation, discussion and agreement of proposed approach to be adopted in the project :

- identify and prioritise issues;
- review of international approaches to the various issues used and experience from international projects, safety assessments, safety cases, etc.
- development of a position paper;



- ongoing review of the position paper by the Working Group; and
 - finalise the position paper in light of review comments and ASAM experiences.
- 2. Identification of additional issues of interest to participants (e.g. preservation of information important to safety)**

Wednesday, 13 November

Afternoon

Working session 2:

- 3. Agreement on priority of issues to be considered by the Working Group:**
- 4. Discussion and agreement of proposed common structure for each position paper:**
- 4.1. review of methodological and modelling approaches used to address the issue in previous assessments (including review of any relevant national or international guidance);
 - 4.2. identification of similarities, differences, advantages and disadvantages of the various approaches; and
 - 4.3. summary of the current state of the art for the issue, identification of areas of consensus, and provision of recommendations on how to address the issue.

Thursday, 14 November

Afternoon

Working session 3:

- 5. Development of contents and identification of sources of information for each position paper – including brainstorming and documenting some initial ideas.**
- 6. Identification of participants willing to help develop or review position papers on the identified issues.**
- 7. Development and agreement of work plan:**
- 7.1. tentative work plan for duration of the ASAM project (2002-2005); and
 - 7.2. detailed work plan up to the second RCM.





Appendix B

List of Participants

Sub-groups	Disruptive events		Engineering barrier performance		Conservatism vs realism		Prioritisation of safety assessment activities		Little/no information	
Sub-group leader	C-L Kim	clkim@khnp.co.kr	J Hart	hart@nrg-nl.com	R Cady	rec2@nrc.gov	P Davis	EnviroLogicInc@starba nd.net	D Avraham	dodik@bgum ail.bgu.ac.il
Other intended active sub-group members	D Avraham	dodik@bgumail.bgu.ac.il	A Dierckx	a.dierckx@nirond.be	P Davis	EnviroLogicInc@starband.net	A Szanto	aszanto@moon.atomki.hu	P Jit	iliep@nuclear.ro
	I Simon	inma.simon@ciemat.es	P Dzanga	dzanga@aec.co.za	D Ene	ene@ifm.nipne.ro	S Williams	swilliams@gov.bw		
	A Szanto	aszanto@moon.ato mki.hu	Y Miyauchi	yoshihiro.miyauchi@infl.co.jp	Y Miyauchi	yoshihiro.miyauchi@infl.c o.jp				
Others who have already participated in the sub-group			B Petkovsek	borut.petkovsek@zag.si						
			V Pham	phvlam@hcm.vmm.vn						
	R Gil Castillo	gest@cphr.edu.cu	D Mallanis	dmallani@secken.be	R Trindade	romao@im.pt	R Cady	rec2@nrc.gov	J Carlsson	jan.carlsson@ skb.se
Others expecting to participate now	V Stefula	stefula@decom.sk	V Stefula	stefula@decom.sk	I Soomro	knpc@pakne3.ptc.pk	P Poskas	poskas@isag.lei.lt		
	V Hanusik	hanusik@vuje.sk			A Dierckx	a.dierckx@nirond.be				
					P Sasidhar	sasidhar@jgcar.ernet.in				
Others who attended earlier sessions of the WG (and so may be interested in helping!)	A Tkachenko		I Duran		N Shryaeva		A Tagliani		A Guskov	
	N Zelesnik		X Fan		F Pelz		P Ormai		A Debauche	
	S Konopasko		M Liganova		J Horyna		I Sullivan		J Rowat	
	L Gagner		K Berc		J van Blerk					

