

**The IAEA's Programme on  
Environmental Modelling for Radiation Safety  
(EMRAS II)**

**EMRAS II  
Reference Approaches for Human Dose Assessment  
Working Group 1  
Reference Methodologies for Controlling Discharges of Routine Releases  
MINUTES  
of the First Meeting held at IAEA Headquarters, Vienna  
19–23 January 2009**

IAEA Scientific Secretary	Working Group Leader
<p>Mr Diego Miguel Telleria Assessment &amp; Management of Environmental Releases Unit Waste &amp; Environmental Safety Section (Room B0763) Division of Radiation, Transport &amp; Waste Safety International Atomic Energy Agency (IAEA) Vienna International Centre Wagramer Strasse 5 A-1400 Vienna AUSTRIA Tel: +43 (1) 2600-22679 Fax: +43 (1) 2600-7 Email: <a href="mailto:D.Telleria@iaea.org">D.Telleria@iaea.org</a></p>	<p>Mr Trevor J. Stocki Research Scientist, Radiation Protection Bureau Health Canada 775 Brookfield Road (6302D1) K1A 1C1 Ottawa, Ontario CANADA Tel: +1 (613) 941-5175/946-4930 Fax: +1 (613) 597-1089 Email: <a href="mailto:Trevor_stocki@hc-sc.gc.ca">Trevor_stocki@hc-sc.gc.ca</a></p>

### Welcome and Discussions

Diego Telleria opened discussions at the start of the meeting and welcomed everyone. He spoke about Safety Report 19 and how we should cover situations where that report is not enough.

### Discussions

The participants of EMRAS II Working Group 1 “Reference Methodologies for Controlling Discharges of Routine Releases” (WG 1) discussed WG 1’s goal, which is to propose a reference framework and methodology for routine releases (i.e. discharges).

WG 1 considered to do this for two different phases of a facility, namely, the planning phase (prospective assessment) and the operational phase (to assess and monitor operations).

The group will be focusing on the derivation of reference levels for discharges, in two contexts. The first context is in terms of the regulatory limit. The second is in terms of investigation levels, i.e., at what level is there concern and further investigation is necessary.

WG 1’s goal is to investigate at the framework and the models for controlled releases.

The group discussed that it should give special consideration to some nuclides, namely C-14, H-3, I-131 and I-129. WG 1 are giving special consideration to the iodine radionuclides because their source is quite different than other sources (namely hospitals and patients).

WG 1 discussed that it should investigate the new ICRP “critical group” concept.

The group members are considering different types of sources (a nuclear installation, medical stations, phosphate production, etc).

The interesting problem of multiple sources was also discussed. Multiple sources, in the sense that the nuclear facilities are for example 50 km apart and owned by different companies. WG 1 were not considering multiple reactors on one site as a multiple source, but as a single source. This is not a modelling problem, but a regulator problem.

The integrated approach was also discussed.

The group members also discussed the coupling between modelling and monitoring in terms of validation and planning of a monitoring programme.

WG 1 members plan on modelling a scenario, with in the time framework of EMRAS II. The idea is that each participant and/or participating country would run the scenario. The group would discuss, document and possibly publish the differences.

### **For next meeting**

It is planned that each participant and/or participating country would give a presentation on the methodology for assessments, which is in use for that participating country. From this the group will make a table (a grid) of results. The purpose of these presentations is to collect and document different methodologies, to identify differences and common approaches, and to create a questionnaire for non-participating countries. The group need to include a common framework for the presentations. (i.e., a specific minimum amount of content).

At the same time, and along with the presentations, it is planned to have an extended glossary with examples in relation to routine releases and references methodologies. This glossary could be improved by members of the group. The purpose of this is to ensure that group members are using a common language and further investigate this new idea of “representative person” (ICRP Publication 101).

The overall plan of WG 1 is to define a framework for reference scenarios (2 to 4). David Copplestone (The Environment Agency, UK) gave a presentation and the group are considering possibly including biota in our reference scenarios, but a framework from them is needed. Participants need approval from our organizations (to run biota) and the group needs ensure that it has the capability to do it.

The types of scenarios that WG 1 will consider range from small to large facilities. The scenario can range from radiation labs to nuclear installations. The group may consider multiple sources. WG 1 will consider routine releases (i.e. discharges) to the atmosphere and to water, and could consider the planning stage and the operational stage. The group could also consider a NORM scenario, in the sense of a routine release, for example a phosphate facility could have a routine release. WG 1 will consider anthropogenic sources.

It is planned to propose various scenarios by email and to then review them and set priorities for defining the scenarios in detail at the next meeting of WG 1

The group plans on comparing model results and predictions of the selected scenarios (only for the operational phase). In this case, independent monitoring data would help. It would allow the group to perform a model validation.

WG 1 plans to contact the other EMRAS II Working Groups to co-ordinate the scenario selection.

The group hopes to meet again in September 2009 at IAEA Headquarters in Vienna, after the IAEA General Conference has taken place.

WG 1 seems viable; members need to check with their home organizations.

<b>List of Participants</b>	
<b>Name / Email</b>	<b>Organization / Country</b>
Mr Iurii Bonchuk ( <a href="mailto:bonchuk@rpi.kiev.ua">bonchuk@rpi.kiev.ua</a> )	Ukrainian Radiation Protection Institute (RPI), Ukraine
Mr Patrick Boyer ( <a href="mailto:patrick.boyer@irsn.fr">patrick.boyer@irsn.fr</a> )	Institut de Radioprotection et de Sûreté Nucléaire (IRSN), France
Ms Adriana R. Curti ( <a href="mailto:acurti@sede.arn.gov.ar">acurti@sede.arn.gov.ar</a> )	Autoridad Regulatoria Nuclear (ARN), Argentina
Mr Kamal El Kadi Abderrezzak ( <a href="mailto:kamal.el-kadi-abderrezzak@edf.fr">kamal.el-kadi-abderrezzak@edf.fr</a> )	Electricité de France (EDF), France
Mr Rudie Heling ( <a href="mailto:heling@nrg.eu">heling@nrg.eu</a> )	Nuclear Research & Consultancy Group (NRG), Netherlands
Mr Béla Kanyár ( <a href="mailto:kanyarb@almos.vein.hu">kanyarb@almos.vein.hu</a> / <a href="mailto:belakanyar@axelero.hu">belakanyar@axelero.hu</a> )	University of Pannonia, Hungary
Mr Pawel Krajewski ( <a href="mailto:krajewski@clor.waw.pl">krajewski@clor.waw.pl</a> / <a href="mailto:gpkrajewski@neostrada.pl">gpkrajewski@neostrada.pl</a> )	Central Laboratory for Radiological Protection, Poland
Mr Gaétan Latouche ( <a href="mailto:Gaetan.Latouche@cnsccsn.gc.ca">Gaetan.Latouche@cnsccsn.gc.ca</a> )	Canadian Nuclear Safety Commission (CNSC), Canada
Ms Iolanda Osvath ( <a href="mailto:I.Osvath@iaea.org">I.Osvath@iaea.org</a> )	IAEA Marine Environment Laboratory, Monaco
Ms. Françoise Siclet ( <a href="mailto:francoise.siclet@edf.fr">francoise.siclet@edf.fr</a> )	National Hydraulics & Environmental Laboratory (LNHE), Electricité de France (EDF), France
Ms Patricia Sotomayor ( <a href="mailto:psotomay@cchen.cl">psotomay@cchen.cl</a> )	Comision Chilena de Energia Nuclear (CCHEN), Chile
Mr John Titley (by phone) ( <a href="mailto:john.titley@environment-agency.gov.uk">john.titley@environment-agency.gov.uk</a> )	The Environment Agency, United Kingdom