PROTECT – KE: Newsletter June 2010

Final PROTECT Newsletter & First PROTECT – KE Newsletter

Welcome to the much overdue and final newsletter of the EURATOM funded project PROTECT.

We would like to thank all of you who contributed to the discussion of the final two deliverables of the project:

Beresford et al. 2008. *Deliverable 4 Evaluation of approaches for protecting the environment from ionising radiation in a regulatory context.*

Andersson et al. 2008. *Deliverable 5 Numerical benchmarks for protecting biota from radiation in the environment: proposed levels, underlying reasoning and recommendations.*

These are available together with a record of comments received and all of the other deliverable and workshop reports on-line.

Recommendations of PROTECT

The Executive Summary provides an overview of the project and the concluding recommendations from PROTECT were:

- International coordination and cooperation in this developing field of radiological protection of the environment should continue.

- To improve consistency in the modelling approaches, there is a need to review and agree on internationally accepted data to model the transfer of radionuclides to biota.

- Research effort should be directed at better understanding the variation and uncertainty between the available assessment models and that this should be kept under review (for example when a standard set of transfer parameters becomes available).

- We need to have some numeric criteria against which the results of environmental impact assessments can be compared. There are a range of approaches that can be applied to generate such numeric criteria, but we caution against those relying mostly on expert judgement. We recommend the use of methods based on statistical evaluation of the available biological effects data such as the Species Sensitivity Distribution approach, where the data permit. This is also the approach recommended for chemicals assessment.

- More biological effects data on key wildlife groups need to be either extracted from the available scientific literature or obtained through experimentation to fill data gaps which would allow more robust wildlife group specific screening levels to be determined.

- Where possible, the available effects data should be summarised by wildlife group (e.g. fish, plants, mammals etc.) that may be relevant when undertaking environmental impact assessments. Numeric screening values should be determined for each of these wildlife groups, where the amount of data allows it.

- In the interim, following a rigorous review of the available biological effects data and consideration of the relevance of the endpoints being measured in terms of maintaining populations, we recommend a numeric screening value of 10 μGy h^{-1} for use in environmental impact assessments to identify situations which are below regulatory concern with a high degree of confidence. Above the 10 μGyh^{-1} further assessment work will be required to identify if there is a potentially significant risk to a population. The use of a numeric screening value in this way is consistent with the use of an exemption value (such as the 10 or 20 μSv y^{-1}) applied in human radiological protection.

- In some circumstances, where a refined environmental impact assessment continues to identify that a site may be potentially at risk from the impact of ionising radiation, it may be helpful to have a higher numeric value to aid an assessor and so we recommend that the concept and use of a second, higher numeric value be explored by the wider radiological protection community (see Andersson et al.).

Journal of Radiological Protection

The June 2010 issue of the Journal of Radiological Protection (JRP) contains a special section which includes four papers and an invited editorial from the PROTECT project. One of the papers provides an overview of PROTECT whilst the other three consider: (i) the derivation of numeric benchmarks; (ii) application of available models to screening tier assessments; (iii) integrating human and wildlife assessments.

The *JRP* volume also has two papers from the IAEA EMRAS I Biota Working Group (BWG) and one on background dose rates to aquatic wildlife. Until the end of 2010 the papers are available for free download. Abstracts for all the papers from the PROTECT project and the IAEA EMRAS BWG are available on-line.

Thank you

Once again we would like to thank all of you who contributed to the PROTECT workshops and deliverable consultations. The project could not have succeeded without your inputs.

So what is PROTECT – KE?

We were increasingly being asked to provide advice on environmental radiological assessment and the application of the available tools. The UK Natural Research Council has provide funding (under their Knowledge Exchange (KE)) programme to develop training packages on radiological environmental assessment specifically aimed at regulators and industry and those who may conduct assessment on their behalf. The project is co-ordinated by CEH with collaborators from the England & Wales Environment Agency, IRSN and Westlakes Scientific Consulting.

The training programme is focussed towards the use of the ERICA Tool. However, we will also consider other approaches. We are intending to run four two day courses although if there is sufficient demand we may be able to arrange more.

PROTECT-KE wiki

The PROTECT website (www.ceh.ac.uk/PROTECT) will now redirect you to the wiki pages for PROTECT- KE. You will find all of the outputs from EC EURATOM funded PROTECT, ERICA, FASSET and EPIC projects on the wiki. There are also links to downloads for freely available assessment models and information on national and international initiatives. There is also a questions and answers page.

As the wiki pages develop on-line training and demonstration materials will become available.

Please let us know if there is anything more that you would like to see on the wiki.

Training courses

The first course was held at CEH Lancaster in April 2010. The seventeen participants were largely UK regulators although there were also attendees from UK and Swedish industry and the Finnish regulator. You can find details of the course content and presentations on the wiki.

Feedback from the course was generally positive although we will be adapting future courses to take the constructive comments into account. All of the comments received from participants are available on the wiki.

We will be running a second course this year. The provisional dates for this are 24th-26th November 2010 at CEH Lancaster. If you are interested in participating in this or a future course please email Cath Barnett.

Wildlife transfer parameter database

PROTECT-KE also provides some support to the ongoing development of a database on wildlife transfer parameters. This was initiated to support the production of an IAEA handbook and ICRP Committee 5 Task Group report on transfer.

If you have appropriate data then please enter into the database or contact us. Please note if you already working on data that the FINAL deadline for entry to be included in the IAEA handbook is 30th July 2010.