

NATIONAL DOSE ASSESSMENT WORKING GROUP

PAPER 5-01: SUMMARY OF AGREEMENTS AND ACTIONS FROM 4TH MEETING AND FORWARD WORK PLAN FOR PROSPECTIVE DOSE ASSESSMENTS

4th Meeting held on 17th November 2003, Aviation House London.

1. Present

Chair	John Cooper	NRPB
Regulators/agencies	Rob Allott	EA
	Stuart Conney	FSA
	David Webbe-Wood	FSA
	Andrew Macpherson	DEFRA
	Patrick Stephen	NII
	George Hunter	SEPA
Industry	Tim Parker	BNFL
	Laurence Austin	BNFL Magnox
	Michael Gaunt	Rolls-Royce
	Paul Marks	Amersham plc
Specialists/NGOs	Steve Jones	Westlakes Scientific Consulting
	John Asquith	Worcester County Council
	Bill Camplin	CEFAS
	John Hunt	CEFAS
	John Tipple	CEFAS
	Barrie Lambert	Consultant
	Mike Thorne	Mike Thorne and Associates
Secretariat	Philip Day	University of Manchester
	Jane Simmonds	NRPB
	Ray Kowe	NRPB

Apologies:

Darren Cutts	FSA
Cathy Griffiths	RWMAC
Ian Hall	Scottish Executive
Nancy Lawton	DTI
Robert Larmour	Dept Environment (NI)
Ken Ledgerwood	Dept Environment (NI)
Will Munro	FSA Scotland
Havard Prosser	National Assembly for Wales
Pete Roche	Greenpeace
John Titley	EA

2. Actions from the third meeting and matters arising (Paper 4-01)

Action 3.1 NDAWG publications will be published on the web site with hard copies available from NRPB at cost. The form of words agreed last meeting will be used as a disclaimer. The cover will follow the format of the web site and a consistent font etc will be used for NDAWG reports.

Actions 3.2-3.3 to be discussed under later agenda items.

Action 3.4 This has been done and other CERRIE papers have been circulated. Report back from members will include report on CERRIE workshop.

Action 3.5 Complete. Mike Thorne informed the members that the FASSET project will be published in a special issue of the Journal of Radiological Protection in June 2004. This will be a good time for discussion of the future work programme in the Autumn 2004 NDAWG meeting. Details of the FASSET deliverables will be on the web site www.fasset.org by Christmas.

Action 3.6 Forms have been issued for ongoing, planned and potential future research. The secretariat is awaiting response from members. The secretariat will draft a letter for members to send to third parties to seek information on the research they are sponsoring (**Action 4.1**).

3. Unusual pathways (Paper 4-02).

Rob Allott presented his paper on radiological assessment pathways. These have been broken down into two groups: common exposure pathways, and unusual exposure pathways. The pathways have been listed under release routes and a significance assigned for each pathway. Issues which arose from Rob's summary of the paper:

The structure of the paper is ok. There are some trivial pathways which may be discounted and some omissions. The significance for unusual pathways may be difficult to assign and the committee has suggested this column be removed.

The objective is to have a position paper to go on the web site. It was agreed a form would be provided on the web site so that other parties may add to the list of pathways. Members are asked to send any comments on the unusual pathways paper to Rob by Christmas 2003 (**Action 4.2**). The secretariat to ensure that there is a mechanism for people to comment on the list of unusual pathways once on the website (**Action 4.3**).

4. Report back from sub group on probabilistic modelling and related issues (Paper 4-03).

Jane Simmonds presented a paper on the proposed changes to the NDAWG probabilistic sub group. The steering group felt that the terms of reference for the sub group need to be reviewed and the sub group should focus on what has been done on the use of uncertainty in radiological assessments.

Members agreed on the proposed changes and suggested a change of name of the sub group to "Sub group on uncertainty and variability in dose assessments". The new chair will be David Webbe-Wood of the FSA. The sub group will meet to prepare a work programme and timescales before the next NDAWG meeting. The secretariat will set up a meeting of the new sub group on uncertainty and variability in dose assessments (**Action 4.4**).

5. Report back from the sub group on retrospective assessments (Paper 4-04).

Rob Allott presented a summary of the paper which outlines the principles for the assessment of total retrospective doses. In the future The sub group intends to:

- Review the methodology for the total doses to be calculated in the RIFE report.
- Investigate the use of dose per unit release data for multiple discharges as a screening tool for different areas of the UK.

The following comments were made.

It was suggested that the title of the paper is changed to "Principles for the assessment of total retrospective public doses for comparison with the dose limit" and that it should be made clear that the doses are on an annual basis.

Philip Day commented on paragraph 7 of the scope in which there may be some situations of discharges that fall in between 'authorised' and 'accidental' (e.g. ongoing, long term unplanned releases). It was agreed that the scope needed to be clarified to include a statement along the lines of "these principles do not cover unauthorised discharges, but in assessing them, some of these principles may apply".

There was some discussion about the terminology in principle 2, particularly the definition of the term 'worker'. Members agreed that the principle should be left in the paper but reworded for clarification. Patrick Stephen and Rob Allott are to seek legal advice as to the implications of principle 2 (**Action 4.5**).

Barrie Lambert had some concern as to what the term 'significant' in principle 5 related to. Philip Day suggests that 'significant' should be replaced by 'as far as is practical'.

Principle 6 It was suggested that 'refined' should be replaced by 'critically examined' and that Rob Allot should review the text following this. It was also suggested that the title for the section covered by paragraphs 23 and 24 be changed.

Principle 7 Tim Parker suggested replacing 'will be significant' with 'where the resultant total dose will be greater than 20 $\mu\text{Sv yr}^{-1}$ '. It was also suggested that the second sentence should stress that the principle applies to preliminary assessments.

Paragraph 40 and principle 8. Concerns were expressed about the use of the word 'homogenous' as people may be getting the same dose from completely different pathways. It needed to be made clear that it is the habits that has to be homogenous. George Hunter also suggested that the word 'ideally' should be removed from principle 8.

Principle 9 Steve Jones suggests some rewording, as, collective dose by definition has to be prospective.

Members should send further comments on the principles paper to Rob by Christmas (**Action 4.6**). Rob to produce a final version of the principles paper to go on the website (**Action 4.7**). This paper will be NDAWG 1.

6. The collection and use of habits data (Paper 4-05)

Bill Camplin gave a presentation on the collection and use of habits data.

There was a discussion on the philosophy behind such surveys. One viewpoint was that it is important to consider not what people are doing, but their right to do what they wish. For prospective assessments, it may be necessary to take account of peoples' reasonable future actions, even if, at present, there was no evidence that these actions were taking place. For long-term stability in the derived habits of local populations, it was suggested the data obtained each year could be used to update the long term habit profile of that community. Mike Thorne expressed some concern that the use of the 1/3 rule for defining critical group habits is determined by the more extreme behaviour and may not necessarily reflect the behaviour of the critical group. It was agreed that the sub group should address such issues. It was noted that the principles document for prospective assessments states that reasonable habits people may adopt in the future should not be excluded.

Tim Parker asked whether CEFAS intended to produce a database from their surveys. Barry Camplin remarked that the data are in several formats but it is possible that they could be collated.

Steve Jones asked whether statistical methods can be used to analyse the change in habits on a yearly basis. John Hunt said the data does not support the use of statistical techniques.

7. Sub group on habits data and critical groups (paper 4-06)

Mike Thorne gave a brief presentation on the terms of reference of the new sub group on habits data.

Philip Day stated that point 2 should include foodstuffs other than local if there is a specific exposure pathway. George Hunter stated the need for a hypothetical critical group to compare trends in time. John Cooper said that one issue for the sub group would be to look at trends in data to avoid step changes in habits data. John Hunt suggested the use of the word 'habits' not 'habit'.

Members were satisfied with the terms of reference. It was agreed that the sub group should concentrate initially on retrospective assessments. Prospective assessments are more difficult and will be considered at a later date. The outcomes are to be time bounded over a two-year period. The FSA are to provide the secretariat for this sub group, NRPB will be represented, Michael Gaunt and John Hunt also wish to be in the sub group, the EA need to be represented. The secretariat will invite Pete Roche to be in the sub-group on habits data and critical groups (**Action 4.8**). The FSA secretariat will convene a meeting of the sub-group on habits data and critical groups and develop a work plan (**Action 4.9**). The Steering Group will consider how to take forward the work on prospective dose assessments as it is no longer being considered by any of the sub-groups (**Action 4.10**).

8. The use of measurements in assessing doses to the public (paper 4-07)

Steve Jones gave a talk on the use of measurements in assessing dose to the public.

There was a discussion amongst members on the continuation of measurement programmes in circumstances where the measurements are all below the limits of detection. Measurements may be required in circumstances where confidence in the use of models is not sufficiently high and/or discharge data are not sufficiently reliable. This does not include statutory monitoring, though the EA are currently looking at their policy on monitoring by operators and at criteria for reducing monitoring programmes. Rob Allott said there is significant overlap with the Principles document and the two could be published together.

Members were asked to send written comments on the use of measurements paper to Steve by Christmas (**Action 4.11**). The Secretariat will collaborate with Steve Jones to produce a revised version of the use of measurements paper to go on the NDAWG website (**Action 4.12**).

9. Report back from members

9.1 RIFE

The RIFE report is now out and includes all environmental pathways apart from direct shine. Members agreed that the summary table from the report should go on the web site. The secretariat is to seek the permission of the authors of the RIFE report to publish summary table on the NDAWG web site (**action 4.13**).

9.2 SELLAFIELD

Tim Parker informed the members of the latest issues concerning Sellafield.

MAGNOX will not carry on beyond 2012.

THORP has orders up to 2010, any further reprocessing orders will be referred to the Secretary of State.

Trials to remove technetium-99 started in October using a treatment with a triphenyl additive. If they are successful then the discharges of this radionuclide should reach the required target by 2006. Plant modification is currently being carried out to enable their diversion into long term storage (e.g. as vitrified high active solid waste).

9.3 CERRIE

Several members had attended the two day CERRIE workshop in July. Barrie Lambert felt that the CERRIE preliminary report had not been discussed and that some unconventional and at times unscientific views had been raised at the workshop. Philip Day, a member of CERRIE, felt that this was part of the ministerial remit for CERRIE and that a lot of useful points had been made at the meeting and subsequently. The committee felt that the outcome of the workshop would be valuable in writing the final report, which would differ considerably from the preliminary one. Several meetings of CERRIE are planned with the aim of completing the report by March/April 2004.

9.4 RWMAC

Andrew Macpherson reported that the first meeting of CoRWM is today and this will have implications for RWMAC. A future announcement on the future of RWMAC is expected shortly.

9.5 FSA research

Stuart Conney reported that the final draft of the research requirements is due. The FSA have not commissioned much research this financial year.

9.6 ICRP

John Cooper reported back from a recent meeting of the committee held in Buenos Aires. There were presentations on various topics for the 2005 draft recommendations which will be issued in draft form at the IRPA meeting in March 2004. These may include:

- New tissue weighting factors.
- A revised radiation weighting factor for neutrons.
- The term 'intervention' will be dropped.
- The scope of the recommendations with respect to natural radionuclides will be specified (1 Bq g⁻¹ for Uranium chains, 4 to 5 Bq g⁻¹ for potassium 40).
- Criteria will be collectively called 'constraints'.
- There will be further guidance on optimisation of protection.
- There will be a report on the characterisation of the individual in the context of prospective doses to members of the public.
- The Commission will publish age average dose coefficients.

10. NDAWG review (paper 4-08)

Members reviewed the terms of reference to see whether they were being carried out. The following points were raised:

Reference 4 Members are requested for information on research they are carrying out or sponsoring by 1st February 2004.

Reference 5 No progress, first step will be to start putting papers on the web site.

Reference 7 Rob Allott's paper on retrospective assessments is a first step towards addressing this issue.

For the future work programme several new items have arisen from today's meeting: the habits data sub group is to develop a work programme; the sub group on uncertainty and variability in dose assessments to develop a work programme. Both groups to report back to the next NDAWG meeting.

Members were informed that current web statistics indicate there has been considerable external interest in NDAWG.

11. Date of next meeting

The next meeting will take place on Tuesday 27th April 2004 at FSA, Aviation House, London.

12. Summary of Actions

Action 4.1 The secretariat will draft a letter for members to send to third parties to seek information on the research they are sponsoring.

Action 4.2 Members are asked to send any comments on the unusual pathways paper to Rob by Christmas 2003.

Action 4.3 The secretariat to ensure that there is a mechanism for people to comment on the list of unusual pathways once on the website.

Action 4.4 The secretariat will set up a meeting of the new sub group on uncertainty and variability in dose assessments.

Action 4.5 Patrick Stephen and Rob Allott are to seek legal advice as to the implications of principle 2.

Action 4.6 Members should send further comments on the principles paper to Rob by Christmas.

Action 4.7 Rob to produce a final version of the principles paper to go on the website.

Action 4.8 The secretariat will invite Pete Roche to be in the sub-group on habits data and critical groups.

Action 4.9 The FSA secretariat will convene a meeting of the sub-group on habits data and critical groups and develop a work plan.

Action 4.10 The Steering Group will consider how to take forward the work on prospective dose assessments as it is no longer being considered by any of the sub-groups.

Action 4.11 Members were asked to send written comments on the use of measurements paper to Steve by Christmas.

Action 4.12 The Secretariat will collaborate with Steve Jones to produce a revised version of the use of measurements paper to go on the NDAWG website.

Action 4.13 The secretariat to seek the permission of the authors of the RIFE report to publish summary table on the NDAWG web site

NDAWG Secretariat 20 November 2004

The Steering Group response to the action on how to take forward the work on prospective dose assessments.

The steering group agreed that considering prospective assessments was important as differences in prospective dose assessments were criticised by RWMAC, which led to CEDA and then NDAWG. This should be addressed by the following:

- The principles document on prospective assessment has been published and should help provide a framework for more consistent and transparent assessments.
- A paper by FSA on their prospective dose assessment methodology is planned for the next meeting and will inevitably draw considerable comment and help move the debate on.
- The habits subgroup should be able to address data selection and manipulation for retrospective assessments reasonably quickly and move on to data for prospective assessments.
- The NDAWG meeting in which it is planned to review the CEDA recommendations and what has been achieved will provide an opportunity to undertake a critique of prospective radiological assessments undertaken by EA, FSA and industry for a typical nuclear (and perhaps non-nuclear site) to compare and contrast assumptions.