

NATIONAL DOSE ASSESSMENT WORKING GROUP

SUMMARY OF AGREEMENTS AND ACTIONS FROM 15TH MEETING

15th Meeting held on 23rd April 2009, Aviation House (FSA), London.

FINAL version 1

1 Present

Chair	John Cooper	HPA
Members	Rob Allott	EA
	Laurence Austin	British Energy
	Stuart Conney	FSA
	Andrew Corns	GE Healthcare
	Glenda Crocket	NDA
	Gerald Hudd	Somerset County Council
	John Hunt	Consultant
	Steve Jones	Westlakes Scientific Consulting
	Paul Kennedy	FSA
	Ray Kowe	NDA
	Peter Marsden	University College London Hospital
	Wayne Oatway	HPA
	Tim Parker	BNFL
	Ian Robertson	SEPA (attending for of Paul Dale)
	Jane Simmonds	HPA
	Patrick Stephen	NII
	John Titley	EA
	Mike Thorne	Consultant
	David Webbe-Wood	Independent
Invited attendees	Allan Ashworth	DECC (report back from members only)
	Gillian Bramley	FSA (guest)

David Copplestone EA

Justin Smith HPA

Apologies: Kwabena Andam, Bob Beveridge, Steve Chandler, Andrew Craze, Paul Dale, Ian Fairlie, Michael Gaunt, Stuart Hudson, Barrie Lambert, Robert Larmour, Will Munro, Havard Prosser, Catherine Retberg, Pete Roche, Jill Sutcliffe

The Chairman welcomed members and the invited speakers to the meeting.

2 Minutes of last meeting and matters arising (Paper 14-01)

Action 13.5 Laurence Austin to send John Titley information on how industry uses habits data which will be included in the paper on prospective dose assessments. *Superseded.*

Action 14.1 Patrick to add wording to the direct radiation guidance note that summing doses from direct radiation and other pathways is a simplification. *Completed.*

Action 14.2 David Webbe-Wood to include reference to the work of CERRIE in the uncertainties guidance report. *Completed*

Action 14.3 David Webbe-Wood to add a general comment about seeking professional advice on uncertainty to the guidance note. *Completed*

Action 14.4 Steering group to prepare a note for the next meeting on how to road test the guidance notes, covering what they thought would be the minimum number of notes that would be required and a possible range of users (large and small users) to test it on. *Completed – see paper 15-03*

Action 14.5 Authors of the guidance notes to review their notes to see if additional information should be added reflecting small user premises. *Completed*

Action 14.6 Peter Marsden to review the guidance notes and pass them onto the Small Users Liaison Group for their comments and pass any comments back to the authors. *Completed. Peter stated that the SULG had no comments on the guidance notes.*

Action 14.7 Peter Marsden to ask the Small User Liaison Group if they wished to see guidance on any other topics. *Completed. Peter stated that the SULG had no additional requests for guidance*

Action 14.8 All members to send any comments on the guidance notes to the authors by 12th December. *Completed*

Action 14.9 Jane to ask Shelly Mobbs to send relevant material that SAFEGROUNDS had prepared on assessing doses from radioactively contaminated land to NDAWG members for information. *Completed. After the last meeting a consultation paper from SAFEGROUNDS was circulated to members for comment.*

Action 14.10 Members to send comments to Mike Thorne regarding the Habits Report by the 12th December 2008. *Completed*

Action 14.11 Mike Thorne (as chair of the Habits Subgroup) to propose a new flow chart for use by all dischargers of radioactivity by the end of January 2009. *Completed*

Action 14.12 Members to send any final comments on the short duration releases (rivers) report to Rob Allot by the 12th December 2008. *Completed*

Action 14.13 Secretariat to add guidance on radionuclide removal efficiency during drinking water preparation as a future topic. *Completed, added to paper 15-10*

Action 14.14 Secretariat to add the annual research report as an agenda item and Jane Simmonds to prepare a paper describing how to take the annual research report forward by the next main meeting. *Completed, added to paper 15-10*

Action 14.15 Jane to ask the NDAWG steering group to consider whether a member of COMARE should be invited to a meeting to give a presentation on risks. *Jane had asked the COMARE secretariat whether this would be possible and had received a positive response. It was agreed that Professor Alex Elliot, Chair of COMARE should come to give a presentation at the November NDAWG meeting.*

Matters arising

None were raised that were not dealt with as specific agenda items.

3 Short duration releases to atmosphere (Paper 15-02)

Justin Smith (HPA) presented a paper prepared by the short duration subgroup on releases to atmosphere. Members made a number of comments on the paper; the most significant are listed below.

Members felt that the paper currently lacked a defining statement detailing what it was intending to do.

Members asked whether the paper could give more detail regarding the most significant factors that determine the degree to which the doses from short duration releases differ from those of routine releases. For example, Mike Thorne noted that in most cases the meteorological conditions seemed to be the most significant factor, specifically the combination of considering the downwind direction at the time of the short-term release and the choice of atmospheric stability category. This information could then be used within a first level assessment to indicate whether a more detailed assessment was required for any short duration releases. It was also thought useful to indicate those situations where other factors would be important, such as milk ingestion following a release of iodine.

Members felt that some advice on using probabilities within such an assessment would be useful. Rob replied that he felt that including probabilities would lead to problems as he was not sure how these may be interpreted.

Tim Parker expressed concern over some of the language used within the paper, for example using "realistic" to describe some of the release scenarios. He felt that some of these scenarios included too much conservatism to be called realistic. Tim Parker also noted that for industry, performing a specific assessment of short duration releases was a significant problem. The paper should provide guidance on how a short duration release assessment could be performed and the sort of simplifying assumptions that could be made.

For cyclotrons, members felt that more operational release rates should be included. For example, as they only operate a small number of times a year then the paper should consider them releasing a daily limit for perhaps 5 times a year rather than 30.

Mike Thorne asked that the paper include guidance on how a short duration release assessed dose could be integrated over a life-time so comparison could be made with a routine release assessed dose.

John Cooper thanked the subgroup for the effort put into developing the draft paper and asked that members send any comments to Rob by the 8th May. Once updated, Rob should circulate the paper to members for an additional chance to comment.

Action 15.1 Members to send Rob any comments on the short term release paper by the 8th May and Rob to circulate to members an updated paper when comments have been included.

3 Guidance note outline (paper 15-03)

This paper presented an outline of how to road test the guidance notes. Jane Simmonds noted that the road test proposal was created in response to the request of members at the last NDAWG meeting and that the lack of feedback on the guidance notes through the website was also relevant.

Peter Marsden suggested that testing the guidance notes at a workshop, possibly held in conjunction with a Small Users Liaison Group meeting, should include a scenario that those members would be familiar with. John Titley noted that a workshop should not just test the use of the guidance notes but also look at differences between their application in the nuclear and non-nuclear industries as it was important that, where possible, the same approach should be used in both.

Mike Thorne noted that the workshop could be organised through the SRP. However, Peter noted that small users, especially hospitals, are not well represented within SRP. He suggested that it would be usefully to ask the IPEM (Institute of Physics and Engineering in Medicine) to co-sponsor the workshop.

Action 15.2 Mike Thorne and David Webbe-Wood to ask SRP about organising the guidance road test workshop.

4 Guidance notes (paper 15-04)

Paper 15-04 contained three draft guidance notes. Patrick presented the note on direct radiation whilst David Webbe-Wood presented a paper on uncertainty and variability. Both of these papers had been presented previously to NDAWG and changes had been made following comments from members.

Members asked for a few additional changes to be made, mainly with regards to terminology. Subject to these being incorporated members agreed that both guidance notes were now in a fit state to be placed on the website for public consultation.

Rob Allot presented to NDAWG, for the first time, a draft guidance note on short duration releases. John Titley ask for better clarification on some points. For example, when “in general a short term release assessment is not required” is written then more explanation is required. Also more information is required on when a short duration assessment should be performed and who would be required to do such an assessment (regulator, site owner etc).

Peter Marsden suggested that a flow chart could be added, outlining the process of determining when a short term release assessment should be performed and the decisions that needed to be made when performing such an assessment.

Action 15.3 Members to send Rob any comments on the short term release guidance note by the 8th May and Rob to circulate to members an updated note when comments have been included.

5 Update on protection of non-human biota and the PROTECT project (Paper 15-05)

David Copplestone presented this paper following agreement by NDAWG that there should be regular updates on work relating to dose assessments to non-human biota. The presentation concentrated on work package 3 as described in the paper.

Ray Kowe asked how multiple pollution effects were accounted for, for example radioactivity and chemical contaminants. David replied that several organisations, such as the IAEA were looking at this issue. However, he noted that information was in short supply and that it was often contradictory. Rob Allot noted that the Environment Agency uses “Environmental Quality Standards” (EQS) which aim to protect around 95% of species and would therefore represent an equivalent standard to that being proposed by PROTECT. David noted that both the EQS and PROTECT had clauses within them that allowed different levels of protection if the situation warranted it, for example, the protection of rare species.

John Cooper asked members whether they would still like regular updates on work dealing with non-human biota. Members said they felt that this was still important and agreed that an annual update was considered sufficient.

Action 15.4 Steering group to add a presentation on non-human biota to the May 2010 agenda.

6 Report back from Subgroup on Communications (Paper 15-06 and 15-07)

Stuart Conney presented this item. Paper 15-07 described the outcome of a workshop held in February 2009 that was jointly organised between AFCWG and NDAWG. The organisers felt that the workshop was a great success and that issues were raised of potential problems of communication during a radiation-based incident. Plans are currently underway to hold more workshops in the future.

Stuart told members that due to funding issues the planned workshop on uncertainty had been postponed until 2010 although planning for this workshop is still going ahead.

The subgroup has now published a question and answer leaflet on radiation issues and this was distributed to members at this meeting. Additional copies could be obtained by mailing Wayne. John Cooper thanked the subgroup members and asked that the leaflet be placed on the NDAWG website.

Action 15.5 Wayne Oatway to place the communication leaflet on the NDAWG website.

John Titley noted that the EA also have leaflets on dose assessments on their website and he will provide Wayne with a link so that the NDAWG website can refer to them.

Action 15.6 John Titley to provide Wayne with a link to the EA webpage where leaflets on dose assessments are located and Wayne to provide a link to these leaflets from the NDAWG website.

7 Report back from Short Duration Releases Subgroup (Papers 15-08)

Rob Allot presented this item. This meeting had already heard about the subgroup's work in preparing a guidance note on short term releases and seen a paper on short term releases to atmosphere.

Steve Jones noted that discharges could occur over periods of time that were neither long nor short, such as discharges over periods of around 5 days. John Cooper asked Rob whether guidance for releases over this timescale should be added to the draft guidance note or whether it should be considered for future work.

Action 15.7 Rob Allott to consider whether guidance on releases that lasted many days could be added to the guidance note on short duration releases or whether this needed separate guidance.

The steering group had raised the suggestion of whether this subgroup should consider an accidental release. Members agreed that guidance in this area would be useful. Tim Parker noted that if possible such guidance should consider how to take account of variability in, for example, meteorological conditions or local consumption rates. Stuart Conney suggested that CBRN could also fall within this subgroup's remit. John Cooper saw no reason why the subgroup should not get involved in this area and suggested that a discussion note that presented the issues of where work was required should be produced. Tim Parker agreed to produce this note and agree with Jane a suitable future meeting to present it.

Action 15.8 Tim Parker to produce a discussion note on accidental releases and CBRN.

Action 15.9 Jane Simmonds to timetable into a future meeting time for Tim to present his discussion note on accidental releases.

John Cooper noted that once the current guidance note and papers were published this subgroup had completed all its work and should be stood down. Once work on accidental releases had been agreed then a new subgroup would be formed. John Cooper thanked the members of this subgroup for the work they had done.

8 Report back from Subgroup on Habits Data (Paper 15-09)

Mike Thorne presented this item. A draft habits report had been prepared and sent round members for comments. Since the last meeting comments received from members had been incorporated.

Tim Parker told members that in the nuclear industry habits data from a number of surveys stretching back many years maybe used within an assessment. This seemed to contradict the recommendations within the paper which recommends that only the most current data should be used. Mike said he would add something to the paper on handling data that could be used to assess trends over time.

Tim Parker expressed concern of whether the papers current guidance of requiring an improvement in the habits data if a scoping assessment estimated a dose that approached 300 μSv per year was suitable. He felt that a dose level should be given that was below the constraint to allow for uncertainties. It was agreed that the recommendation should state that, if the scoping assessment estimated a dose of over half the dose constraint, then more information should be sought to improve the assessment.

Members noted that getting sufficient data for children and infants was often difficult. However, it was noted that such data would be important as, even though the dose to these age groups may not differ significantly from that to an adult, public perception would focus on these age groups. Laurence noted that in addition to gathering data at a particular time for these age groups there was also the problem of averaging the dose over a number of years. For example, an "infant" at the start of an authorisation period could be a "child" at the end with very different habits.

Tim Parker asked whether an infant or child habits data could be related to adult data. Jane noted that this would generally be possible although it should be noted that there would be

specific pathways that are far more important for infants than adults and data must be collected explicitly (milk ingestion for example). Members agreed that the note should include guidance on this.

Paul Kennedy noted that Table 2.1 indicates that the FSA screening methodology considered all age groups whilst FSA currently only considered adults.

John Cooper said that any final updates to the note could be done via email and that members should send any last comments to Mike Thorne by the 8th May. Once Mike has added these comments then the note should be placed on the website for public consultation. Once the guidance note has been completed then the habits data subgroup could be wound up. John Cooper thanked the members of the subgroup for their efforts.

9 Report back from Subgroup on Heterogeneous Contamination

This subgroup had a meeting in January 2009 but no minutes were produced. Paul Dale had sent an email to the steering group indicating that SEPA were unable to provide support to NDAWG at the level they had previously, including supporting the work of this subgroup. John Cooper expressed his wish that this subgroup should continue if possible. In the first instance Stuart Page would be asked whether he wanted to now chair the subgroup. Members felt that keeping SEPA informed of the subgroup's work was important and that this should be done by correspondence if SEPA could not attend meetings.

Action 15.10 John Titley to ask Stuart Page if he wanted to chair the heterogeneous contamination subgroup.

10 Report back from members

Allan Ashworth (DECC) reported on developments regarding the Exemption Order review. He thanked members for comments received during the review and told members that following a meeting later in the week a public consultation would start, the proposed start date being the 12th June, and would last 3 months. Allan told members that a workshop on the proposed changes may be held early within the consultation period and he would alert members when a date was set.

Allan noted that the review was much larger than originally planned as it included a full review of all aspects of exemption, exclusion, clearance and the transport of radionuclide packages. It was hoped that this would mean that any future regulations would have a good audit trail. It was also hoped that the future regulations would allow the UK to more clearly demonstrate compliance with the BSS.

Patrick Stephen gave a report on the developments regarding new build. Patrick informed members that in the last few days proposed sites for new build had been named and a consultation process regarding these sites was now underway. The present timetable was for a consultation on proposed discharges from June 2008 to 2011. After that the HSE would perform an assessment for design acceptance. Around 2011 site specific assessments would be started. Information regarding new build could be found on the HSE website (<http://www.hse.gov.uk/newreactors/>).

Patrick Stephen outlined the update to the EC and IAEA BSS. In summary, Patrick noted that the public dose limit will be 1 mSv per year with no averaging; there will be a Title relating to protection of the environment; and that the EC will be consulting stakeholders regarding NORM (completed by April 2009). Patrick noted that formal adoption of a new

BSS may occur around 2010 following which would be a period lasting perhaps 2 years before formal adoption by the Council. The updated IAEA BSS may be available for comment by member states sometime later this year. Peter Marsden asked about proposed changes regarding the role of RPAs. Patrick noted that at present RPAs were expected to provide advice whilst the current draft of the BSS included a "Radiation Protection Expert" who may not have that responsibility.

John Cooper gave a report on the HPA response to the new ICRP recommendations. HPA aims to publish their response, together with their analysis of the comments received from the consultation held last year, in May.

11 NDAWG review (Paper 15-10)

NDAWG Terms of Reference – No changes were proposed and members agreed that the ToR were being met.

NDAWG membership - Phil Day had informed the steering group that he could no longer provide effort to NDAWG and therefore wished to resign from the group. John Cooper expressed his thanks to Phil for the work he had done relating to NDAWG. The steering group would attempt to seek a suitable replacement for Phil at the earliest opportunity.

Paul Dale had mailed the steering group to inform them that SEPA are temporarily decreasing the effort available for NDAWG. Members agreed that SEPA would be kept informed via correspondence if they were unable to attend specific meetings. This will be kept under review.

John Hunt suggested it could be time for another intercomparison of assessment methods, the original reason for CEDA, as some time had elapsed since this had been attempted. However, EA and FSA pointed out that there are no really suitable authorisations being revised at present. It was suggested that "new build" would be a suitable time, but as this could be a long way ahead, earlier opportunities could be sought.

Future work programme – members were happy with the proposed future work programme, noting that guidance on accidental releases should be added.

Members raised the possibility of including topics dealing with marine modelling although noting that this would have to wait until changes had been made to the OSPAR agreement.

Following the discussion by Mike Thorne on the assessment of specific chemical speciation in assessments and how this could affect the use of ICRP defaults (see item 12 below), members agreed that a guidance note would be useful. Jane agreed to put this on the future work programme.

Action 15.11 Jane Simmonds to add to the future work programme guidance on chemical speciation and the use of ICRP recommendations.

Peter Marsden noted that the Small User Liaison Group currently had no issues with the work of NDAWG or required further guidance on any topics.

Previous meetings had included presentations on the EMRAS program. David Copplestone agreed to present an update to members if time allowed at a future meeting.

Research report – The steering group had prepared a note describing the possible replacement of the database with an annual report. Members agreed that this was a suitable approach to use. Members expressed a wish that sponsoring organisations should be

placed on entries where appropriate. This was agreed. For planned work or work in progress the sponsor contact details should be given as the primary source of additional information.

Members asked how far back the initial report should include entries for. It was agreed that this would be left to the judgement of the report's authors depending on how relevant they felt a particular paper was.

Members agreed the timetable for the production of the research report as given in paper 15-10.

NDAWG website - John Titley asked whether a better search tool could be placed on the website. Laurence noted that he had a spreadsheet that he used and would pass this onto Wayne for him to use as a basis for such a tool.

12 Any other business

Patrick informed members that an organisational change was being carried out within the Nuclear Directorate and their relationship with HSE would alter. This requires regulatory change and so would take time.

Mike Thorne noted that in solid waste he was using dose coefficients that differed from those recommended by ICRP. In particular, for carbon-14 and chlorine-36 he had noted that differences existed between the way these radionuclides behave in the environment when modelled using specific activity and the box model approach, the latter being used by ICRP. John Cooper noted that ICRP allowed the use of other data if this could be justified, as was the case here. John thanked Mike for raising this point to illustrate that site specific situations could exist that allowed for other data than that recommended by ICRP to be used.

The chairman thanked the speakers and Paul Kennedy and FSA colleagues for organising the meeting, providing lunch etc.

13 Date of next meeting

The 16th NDAWG meeting will take place at FSA in November 2009. Wayne will send an email to members to find a suitable date.

14 Summary of Actions

Action 15.1 **Members** to send Rob any comments on the short term release paper by the 8th May and Rob to circulate to members an updated paper when comments have been included.

Action 15.2 **Mike Thorne and David Webbe-Wood** to ask SRP about organising the guidance road test workshop.

Action 15.3 **Members** to send Rob any comments on the short term release guidance note by the 8th May and Rob to circulate to members an updated note when comments have been included.

- Action 15.4 Steering group** to add a presentation on non-human biota to the May 2010 agenda.
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NDAWG Secretariat 30 June 2009