

NDAWG OPEN MEETING

15th-16th November, 2006

Paper 10.01: The Work of the National Dose Assessment Working Group 2002 – 2006

John Cooper and Jane Simmonds

1 Background

In October 2000 the Food Standards Agency (FSA) held a consultative exercise on dose assessments (known as CEDA) (FSA, 2001). A wide range of technical, regulator, operator, Non-Governmental Organisations (NGOs) and local authority representatives attended that formative meeting and discussed methods for assessing the impact of radioactive discharges on the public. The meeting made a number of recommendations which were published in the FSA report (FSA, 2001). They included the following:

'EA, FSA and NRPB should consider setting up a national dose assessment working group which could serve to ensure closer co-ordination between all parties involved. This should be primarily a technical group, and should include operators, as well as other stakeholders, eg, NGOs and specialists'

This led to the formation of the National Dose Assessment Working Group in 2002 at the instigation of FSA in collaboration with the Environment Agency (EA), the National Radiological Protection Board (NRPB, now the Radiation Protection Division of the Health Protection Agency (HPA-RPD)) and the Health and Safety Executive (HSE). A Steering Group was established to oversee the work of the group with membership representing all of the interested parties. The current membership of the Steering Group is Jane Simmonds, HPA-RPD; David Webbe-Wood, FSA; Rob Allott, EA; Patrick Stephen, HSE; Barrie Lambert, representing independent specialists and non-governmental organisations (NGOs); and Tim Parker, representing industry. It was agreed that the NDAWG secretariat should be staff from HPA-RPD and John Cooper from HPA-RPD was asked to be the first Chairman of NDAWG.

Membership of NDAWG is by invitation and covers Government Departments and Agencies, industries discharging radioactive material (including non-nuclear industry), specialists and representatives from NGOs. There are currently 28 members of the main group. In order to ensure a wide range of members the attendance of some of the members is supported by FSA or EA. Where appropriate, external speakers are invited to give a presentation and contribute to the discussion on particular topics. Also people other than NDAWG members may be members of the sub-groups.

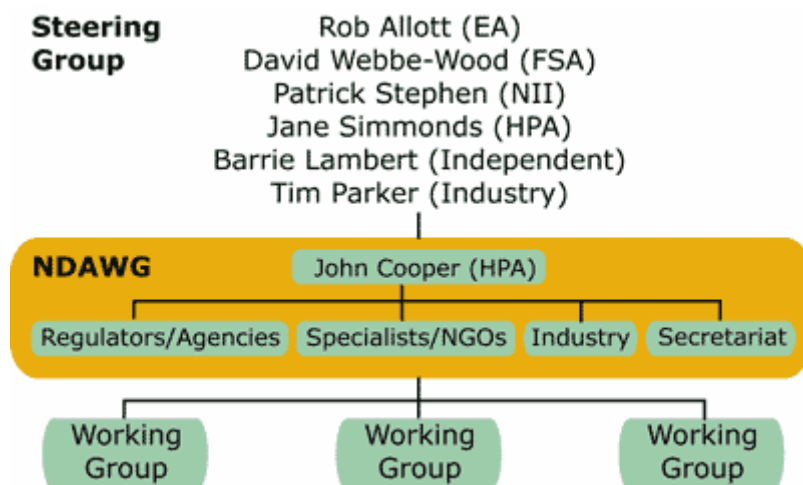
2 Terms of reference

The aim of NDAWG is to bring together people and organisations with responsibility for, and/or an interest in, the assessment of radiation doses to the public from the operation of the nuclear industry and from minor users of radioactivity. The main focus of the work of NDAWG is past, present and future authorised discharges and direct radiation; initially the Group's scope does not include accidents or solid waste disposal. The agreed terms of reference are:

- To facilitate the exchange of data and views between all parties on assessment methodologies.
- To advance the understanding between groups who are likely to have differing objectives and views on dose assessment methods.
- To facilitate the development of coherent transparent methods for the assessment of radiation dose to the public from all pathways which arise as a result of the operations at nuclear and non-nuclear sites.
- To meet on a regular basis (every 6 months) to discuss matters of mutual concern, and developments arising out of research, case histories (eg, recent consultations) or changes in government policy.
- To identify, discuss and evaluate research which will progress dose assessment methods.
- To initiate debate beyond the group on key issues, as necessary (for example via the Society for Radiological Protection).
- To keep abreast of international developments on dose assessment methodologies, and to provide feedback to the appropriate UK authorities for input into EU bodies.

3 Mode of working

The following figure illustrates the way that NDAWG works.



The steering group proposes the work programme for NDAWG and plans the main NDAWG meetings. This involves planning the agenda and identifying suitable speakers to cover the relevant topics. The group also reviews the meetings and membership to ensure that NDAWG is working effectively and that all stakeholders are represented. The secretariat then organise the meetings, ensure that papers are prepared and circulated beforehand and prepare a summary of agreements and actions from each meeting.

Two main NDAWG meetings a year have all been held at the Food Standards Agency in London, which was the preferred location of the majority of members. During the meetings the aim is to ensure an open discussion, formal presentations are kept short with most time allocated for discussion of the paper. Where necessary outside speakers are invited to cover specialist topics of interest to the members. The chairman ensures that NDAWG does not just discuss the issues but that appropriate actions are also taken. Detailed work is carried out in sub-groups, which report back to the main group at each meeting. It was agreed early on that there should not be more than three sub-groups at any one time. The sub-groups therefore have a defined remit and once their work is complete they fold and another sub-group may be set up instead. Membership of the sub-groups is made up of members of NDAWG plus other people with relevant expertise. As discussed later NDAWG has had sub-groups on the following topics: retrospective assessment; uncertainty and variability in dose assessments; and modelling. The current sub-groups cover; habit data and critical groups; communications; short term planned releases.

As far as possible the work of NDAWG is open to anyone who is interested through the NDAWG web site (www.ndawg.org). A number of NDAWG reports have been published on the web site as discussed later.

4 Work programme

There have now been 9 NDAWG meetings with the first held in April 2002 and the ninth in April 2006. A wide range of topics have been considered as shown in the table below.

Table 1: Topics covered at the main NDAWG meetings

Meeting	Topics covered
1 on 24.4.2002	Role of NDAWG, the estimation of total retrospective dose, developments on critical group assessments – response to CEDA, topics for future meetings, establishment of sub-groups.
2 on 21.11.2002	Report back from sub-groups on retrospective assessments and on probabilistic models and related issues, direct radiation doses from sites, the use of ICRP fetal dose coefficients.
3 on 10.6.2003	Report back from sub-groups on retrospective assessments and on probabilistic models and related issues, direct radiation doses from sites (held over from previous meeting), FSA project on presentation of doses to the public, work on unusual pathways.
4 on 17.11.2003	Report back from sub-groups on retrospective assessments and on probabilistic models and related issues, the collection and use of habit data, the sub-group on habit data and critical groups, the use of measurements in assessing doses to the public.
5 on 27.4.2004	FSA dose assessment methodology, total dose methodology for RIFE, FSA project on presenting doses to the public, provision of information on low level radiation issues, report back from sub-groups on uncertainty and variability in dose assessments, and on habit data and critical groups.
6 on 16.11.2004	Overview of work on effects of radiation on biota, framework for protection of wildlife and EA approach, ICRP draft 2005 recommendations, report back from sub-groups on uncertainty and variability in dose assessments, and on habit data and critical groups, FSA total dose methodology – a response to members comments.
7 on 27.4.2005	EA's initial radiological assessment methodology, issues for small users – NRPB W63, assessing doses from radionuclides disposed of in sewage sludge, report back from sub-groups on uncertainty and variability in dose assessments, on modelling, and on habit data and critical groups
8 on 15.11.2005	Comparison of EA/FSA and industry dose assessment for Winfrith, Discussion to review progress on CEDA, report back from sub-groups

	on uncertainty and variability in dose assessments, on modelling, and on habit data and critical groups
9 on 27.4.2006	Presentation of local doses to the public, update on effects of radiation on biota – progress with the EC ERICA project – results from the EA habitat assessments, assessment of doses from planned short duration releases, update on FSA dose assessment methodology, report back from sub-groups on modelling, on habit data and critical groups, and on communications.

In addition each meeting (except the first) reviews the actions from the previous meeting and matters arising and includes agenda items to enable members to report on any matters of interest to NDAWG. There is also a review of NDAWG at each meeting to consider the future work programme, progress against objectives, membership and any particular issues raised by the steering group. The report back from members item enables NDAWG to keep up to date on developments in other committees or work in related areas. For example, NDAWG received regular updates on the work of CERRIE (Committee Examining Radiation Risks of Internal Emitters) and progress with the consultation on the contaminated land regulations. NDAWG has also produced joint comments on draft ICRP documents.

A number of NDAWG reports have been published on the web site reflecting the work carried out and presented at the meetings. In each case the reports represent the views of the authors in consultation with NDAWG. They represent the views of the majority of members of NDAWG but do not necessarily reflect the views of the organisations from which members are drawn. In each case the reports are presented at one or more NDAWG meetings and drafts are also circulated by e-mail for comment. The NDAWG reports published so far are listed in the table below.

Table 2: Reports published on the NDAWG website

NDAWG/1/2004	Use of measurements in assessing doses to the public: a discussion paper Steve Jones, Westlakes Scientific Consulting
NDAWG/2/2004	Radiological Assessment Exposure Pathways checklist (Common and Unusual) Rob Allott, Environment Agency
NDAWG/3/2004	NDAWG comments on the ICRP draft 2005 recommendations. NDAWG
NDAWG/1/2005	An Overview of Uncertainty in Radiological Assessments National Dose Assessment Working Group: Subgroup on Uncertainty and Variability
NDAWG/2/2005	Assessment of Compliance with the Public Dose Limit Principles for the Assessment of Total Retrospective Public Doses Rob Allott
NDAWG/3/2005	Methods for Assessment of Total Dose in the Radioactivity in Food and the Environment Report Bill Camplin, Marcus Grzechnik and Carol Smedley, CEFAS
NDAWG/4/2005	Position paper on the collection and use of habits data for retrospective dose assessments Subgroup on Habit Data and Critical Groups
NDAWG/1/2006	Reviewing non nuclear licensed site radiation dose assessments taking into account uncertainty Sub Group on Uncertainty and Variability
NDAWG/2/2006	Overview of Radiological Assessment Models - Key Gaps and Uncertainties (Version 2) NDAWG Modelling Sub-group

5 The Sub-groups

There have been six NDAWG sub-groups established since 2002. The work of each is summarised here:

- *Sub-group on retrospective assessments.* Rob Allott of EA chaired this sub-group and the aim was to develop key principles for retrospective dose assessment. It was particularly intended to help EA to fulfil their responsibility to assess and report total doses. The sub-group met three times and produced an NDAWG report giving principles for the assessment of total retrospective public doses (NDAWG/2/2004). This sub-group also evaluated options for assessing total retrospective doses and recommended a preferred method, Total doses calculated by this method are presented in the Radioactivity in Food and the Environment report (RIFE), It is now in abeyance.
- *Sub-group on uncertainty and variability in dose assessments.* Zitouni Ould-Dada of FSA initially chaired this sub-group, which was originally called the sub-group on probabilistic modelling. It was then mainly concerned with issues relating to prospective dose assessments particularly the FSA's use of 'possible' and 'probable' dose. David Webbe-Wood, also of FSA, then became chair and at the request of NDAWG changed its remit and name to be the sub-group on uncertainty and variability. The aim was to help people carrying out dose assessments, particularly non-nuclear users, to take account of uncertainty in their assessments. The group met 6 times in total and produced two reports which were published as NDAWG/1/2005 and NDAWG/1/2006 (see Table 2 above). The sub-group is now in abeyance.
- *Sub-group on habit data and critical groups.* Mike Thorne, a specialist on NDAWG, chairs this group. The aim of the sub-group is to consider the use of habit data in assessing individual doses and in defining critical groups. Initially the group considered retrospective assessments and produced a position paper on the collection and use of habit data for retrospective dose assessments (NDAWG/4/2005). The sub-group has met 4 times so far and it is currently considering habit data in relation to prospective dose assessments.
- *Sub-group on modelling.* This sub-group replaced that on retrospective dose assessments and Rob Allott of EA also chaired this sub-group. The aim of the sub-group was to consider issues relating to modelling the transfer of radionuclides through the environment, as part of the assessment of the radiation doses from routine releases of radionuclides. The sub-group met three times and produced a report giving an over view of radiological assessment models and identifying key gaps and uncertainties (NDAWG/2/2006). The recommendations of this sub-group for future work to address the key gaps and uncertainties are being considered in the Environment Agency's and Food Standards Agency's future R&D/science programmes. The group is now in abeyance.
- *Sub-group on communications.* This new sub-group replaced that on uncertainty and variability; Barrie Lambert is the chair and it has met 2 times so far. The remit of the group is to consider the presentation of information on radiation doses to the public.
- *Sub-group on short-term releases.* This sub-group replaces that on modelling and again Rob Allott is the chair. The first meeting was held in September 2006. The aim of the group is to consider all aspects of assessing doses from planned short duration releases.

6 Website

The NDAWG website contains details of the aims and membership of the group. It gives details of the meetings, including the agendas and many of the meeting papers. Some papers are not included as they are work in progress with only the final version being included on the website. More rarely a meeting paper is not included as it is not considered appropriate for a wider distribution. Similarly information is also given on the work of the sub-groups. As already noted the NDAWG reports are published on the website. The website also includes a

research database giving information on relevant research being carried out by members. A section aimed at giving support and information to non-nuclear/small users of radioactivity is also under development. Feedback from readers is encouraged with contact details provided. In particular, people are asked to send in ideas regarding unusual exposure pathways to supplement the list given in NDAWG/2/2004. The website is widely referred to. For example, in the four months from December 2005 to March 2006 there were over 3900 visits and 1670 files were downloaded.