

History and objectives

In 1977 a meeting of representatives of government departments, utilities and research organisations was held to discuss methods of calculation of atmospheric dispersion for radioactive releases. Those present agreed on the need for a review of recent developments in atmospheric dispersion modelling. They formed an informal Steering Committee, which operated for a number of years. It appointed a Working Group to discuss topics raised by the Committee. The Steering Committee subsequently became the UK Atmospheric Dispersion Modelling Liaison Committee.

The Atmospheric Dispersion Modelling Liaison Committee was formed from a re-organisation of the Steering Committee in 1995. Although ADMLC was formed to consider primarily the nuclear industry it has expanded its range of interests and its membership to more fully reflect the needs of industrial and regulatory organisations. Its main aim is to review current understanding of atmospheric dispersion and related phenomena for application primarily in authorization or licensing of discharges to atmosphere resulting from industrial, commercial or institutional sites. The Committee's emphasis is on fixed sources, rather than transport

sources, and covers both routine releases and releases in accident or "upset" conditions.

ADMLC facilitates the exchange of ideas and highlights where there are gaps in knowledge. It tries to provide guidance to, and to endorse good practice in, the dispersion modelling community. It is keen to promote relationships with other dispersion modelling groups. The Committee has hosted workshops, and welcomes ideas for joint meetings with other organisations or for workshops on particular topics.

Published studies

The Working Group appointed by the Steering Committee worked voluntarily and produced a series of seven reports. These included recommendations for

- a simple Gaussian model, which has been widely used and is generally known as the R91 model,
- ways of extending this to describe deposition, dispersion from buildings, plume rise, effects at coastal sites,
- the uncertainty on the model predictions
- problems modelling wet deposition from short releases.

In the late 1980's the Working Group was considering ways of updating the R91 model. Four organisations on the Steering Committee funded CERC Ltd. to suggest the most appropriate way forward. Subsequently a group of organisations on the Steering Committee separately funded the development of a model based on the ideas put forward; that model is the commercial product known as ADMS.

The organisations represented on the Committee pay an annual subscription used to fund reviews on topics agreed by the Committee, and to support in part its secretariat, provided by HPA. By the end of the 2006/07 financial year, the Committee has funded 25 review projects. These looked at a wide range of topics of general interest, including

- dispersion at low wind speed,
- dispersion from sources near groups of buildings, or in urban areas,
- plume rise,
- dispersion in coastal areas,
- the use of old met data or data from an observing point some distance from the release point,
- the possible use of data from numerical weather prediction programs,
- best practice for binning met data in calculating concentrations from a

- continuous release,
- uncertainty on dispersion model predictions from the uncertainty in deriving stability indicators from met observations,
 - the proceedings of a workshop on the reliability of dispersion models for regulatory applications,
 - review of Royal Meteorological Society guidelines for atmospheric dispersion modelling,
 - calculation of air concentration indoors,
 - dispersion following explosions,
 - review of atmospheric dispersion in complex terrain.

All the reports from the earlier Working Group and from ADMLC are published on the ADMLC web site. The web site includes other information, including the terms of reference and proceedings of a workshop organised by ADMLC.

Membership

ADMLC consists of representatives of Government Departments, Government Agencies and organisations with a need to model dispersion of material primarily for licensing purposes. For practical reasons, the Committee believes that its membership should be limited to about 25

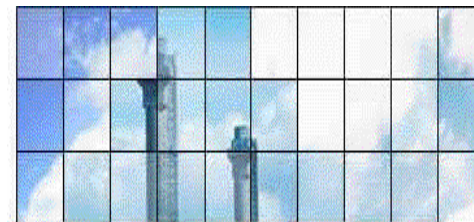
organisations.

The following organisations are currently members of ADMLC.

Atomic Weapons Establishment,
Aldermaston
Defence Science and Technology
Laboratory
Department for Environment Food and
Rural Affairs (Defra)
Environment and Heritage Service,
Northern Ireland
Environment Agency
Food Standards Agency
GE Healthcare
Health and Safety Executive
Methodology and Standards
Development Unit, Hazardous
Installations Directorate
Nuclear Installations Inspectorate
Health Protection Agency
Home Office
Met Office
National Nuclear Corporation
Nuclear Department, HMS Sultan
Scottish Environment Protection Agency
Shell Global Solutions
Westlakes Research Institute

UK Atmospheric Dispersion Modelling Liaison Committee

For further information see
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or e-mail
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ADMLC has been investigating and reporting on atmospheric dispersion modelling methods for over 25 years. This leaflet introduces its work by:

- Outlining the history and remit of ADMLC
- Giving examples of ADMLC activities and outputs
- Introducing ADMLC's membership and website
- Encouraging contacts with other groups