TYNE AND WEAR FIRE AND RESCUE AUTHORITY
EMERGENCY PLANNING UNIT

Committee Report

Meeting : CIVIL CONTINGENCIES COMMITTEE : 5 July 2010

Subject : Air Quality Advice and Monitoring in an Emergency : the Air Quality Cell

Report of the Chief Emergency Planning Officer

1 INTRODUCTION

1.1 The Buncefield incident (major Oil storage explosion in Hertfordshire) in December 2005 highlighted the need for a more coherent approach to air quality monitoring and modelling during a major incident. The Major Incident Investigation Board for the Buncefield incident in December 2005 recommended that the provision of air quality modelling and monitoring data in a major air pollution incident should be co-ordinated.

1.2 The Environment Agency was asked by Defra to take on the co-ordinating role. The new arrangements include a multi-agency Air Quality Cell, new national air monitoring capability and improved modelling capability that was phased in between November 2009 and April 2010.

2 BACKGROUND

2.1 The aims of these arrangements are:

- Primarily to co-ordinate air quality modelling and monitoring during major air pollution incidents. This is to ensure the delivery of valid air quality information to the local Strategic Coordinating Group in a timely manner which will enable appropriate action by emergency services It will also result in the provision of clear public communication during and in the immediate aftermath of a major incident.

- Secondly, to provide air quality data which can be used after the incident to assess the likely exposure to the community and any appropriate medical action.

- Finally, to facilitate effective co-operation between the Environment Agency (EA), Health Protection Agency (HPA), Met Office, Food Standards Agency (FSA), the Health and Safety Laboratory (HSL) and Local Authorities in England and Wales (*the Partners*) in relation to the Air Quality Cell arrangements for major air pollution incidents.

2.2 The Air Quality Cell will be convened for:

- Major air pollution incidents which affect England or Wales;
- Deliberate or hostile acts, not involving chemical warfare agents (e.g. explosion at a chemical plant)
- Emergency phase of an incident – at the end of this phase we will withdraw and co-ordination of any ongoing environmental modelling and monitoring will be handed over to the Recovery Co-ordination Group (or similar) in recovery phase.

3 ACTIVATION AND OPERATION

3.1 The Environment Agency, in consultation with the Health Protection Agency (Chemical Hazards and Poisons Division), will convene an Air Quality Cell in a major chemical air pollution incident. The Met Office, Health and Safety Laboratory and Food Standards Agency and a Local Authority representative will, where appropriate, join this AQC. The AQC will be chaired by the Environment Agency and will meet virtually, unless the incident is of sufficient magnitude and duration that it needs to meet physically.

3.2 The Met Office will provide modelled air quality information to the AQC. The Environment Agency will provide monitored air quality data using:

- Rapid response teams based at eight locations in England and Wales with hand-held monitoring and sampling instruments.
- Two monitoring and sampling response vehicles.
- Download of data from air quality networks.

3.3 The Air Quality Cell will co-ordinate air modelling and monitoring; assess the uncertainties and limitations of the data; and provide interpreted air quality information to the Health Protection Agency and the Science and Technical Advice Cell (STAC) at Gold Command (if it is established). If a Strategic Co-ordination Group (SCG/Gold Command) is not formed, information from the AQC will be given to the Health Protection Agency.

The Health Protection Agency will use the air quality information to provide health advice to the emergency services and the public.

4 THE LOCAL AUTHORITY ROLE

4.1 Local authority capacity and expertise for air quality modelling and monitoring will naturally vary between authorities as air quality is not a priority everywhere. Local authorities may hold helpful background data; carry out their own monitoring; or have knowledge of sensitive receptors. Local authorities are also most likely to take over after the emergency stage during the ‘Recovery’ period.

4.2 There is no duty on local authorities to participate in the AQC; however they have the opportunity to be involved. LACORS would encourage local authorities to cooperate and participate wherever possible. It is vitally important that any air quality data or information is coordinated through the AQC in order to avoid separate messages from different sources being fed into the incident command.

4.3 Another potential source of air quality data are the many automatic air networks, such as the Automatic Urban and Rural Network (AURN), managed by Defra and Local Authorities. A network site may be close to the incident and able to provide early indications of pollution levels. Access to this data during a major incident will be important but its limitations in terms of parameters monitored and analytical method must also be understood. The Environment Agency is in discussion with Defra and local authority representatives, and their contractors, to facilitate rapid access to this information during major incidents.

4.4 It is important to note that the legal and regulatory responsibilities of the organisations involved in the response to a major air pollution incident have not changed; the new arrangements are to provide incident command with better information to support their decision-making during the incident.

5 HOW WILL IT WORK IN PRACTICE?

5.1 LACORS is working with the LGA to make emergency planners aware of the arrangements for the Air Quality Cell and the role of local authorities in local air quality management and to encourage them to build a process into their emergency plans and regular programme of exercises.
The expectation is that when incident command is established, the emergency planner involved will contact the relevant environmental protection manager or air quality officer from the relevant local authority/ies. LACORS would also encourage proactive contact with the relevant emergency planners in the area on this issue.

5.2 The AQC will usually be convened as a virtual group. If involved, there will be the ability to participate via telephone conferencing and where possible remote access will be provided to the web-based incident management system in order to share information and communicate with the other members of the AQC.

5.3 Once the emergency phase is over and the incident enters the Recovery phase, the AQC will withdraw the additional monitoring and modelling resources and it will be for local authorities to take this over and to decide whether ongoing monitoring is appropriate and at what level.

5.4 Tyne and Wear Emergency Planning Unit is:

- ensuring that partners are fully aware of the Air Quality Cell by raising awareness at exercises and providing a fact sheet;
- amending off-site emergency plans where appropriate;

- seeking to work with regional partners to facilitate provision of appropriate information to the Air Quality Cell in an emergency;
- contributing to national agreements on the work of the AQC.

6 RECENT ACTIVATION

6.1 Arrangements were fully deployed recently for the first time after a blaze broke out at a chemical processing site in West Yorkshire. Two monitoring teams were deployed near to the Grosvenor Chemicals site, measuring air for potentially hazardous chemicals as the plume moved towards Huddersfield. Early information from the scene indicated that the fire was likely to contain a mixture of chemicals, and the Environment Agency tested for up to 25 different pollutants. The Health Protection Agency reviewed this data to assess the risk to public health.

6.2 The Air Quality Cell provided information to the emergency services managing the incident, with details of nearby sensitive populations, predicted exposure levels and precautionary advice. Schools in the area were closed as a precaution, and the surrounding roads were also closed.

6.3 The Met Office provided up to the minute weather predictions and a forecast looking ahead several hours, while modelling provided by the Health and Safety Laboratory gave information on the size and height of the chemical plume. The water used to tackle the fire was expected to have an impact on the River Colne as it ran off the site. A separate Environment Agency team was deployed to monitor water quality in the area.

6.4 Heather Barker, Air Quality Technical Manager at the Environment Agency said:

> *"The AQC is an essential service during major incidents to advise the emergency services on how to manage the effects on public health. This is the first time all the agencies and tools have been deployed. There are up to 15 major incidents every year which could have an impact on air quality. This vital service will help to better protect people in emergencies."*

7 CONCLUSION

7.1 The provision of the Air Quality Cell demonstrates how collaborative working produces better outcomes for those affected by an emergency, and will enable local responders to have access to national expertise, in incidents with potential impacts on large numbers of people.

8 RECOMMENDATION

8.1 That Members note this report

BACKGROUND PAPERS

Environment Agency Fact Sheet: Air Quality in major incident