

## COMMON TOPICS

### Common topic 1: Emergency response

#### Introduction

#### Key areas to examine are:

- An effective organisational structure for implementing the emergency plan (which will require a good safety culture to avoid any hesitation in implementing the plan) and a good command and control structure for managing the incident.
- Suitable training (and competency assessment) for all those allocated roles in the emergency.
- Good selection criteria and assessment for allocating staff to roles within the emergency plan (seniority and job titles are not necessarily the best criteria for selection for key roles, needs to be done on suitability).
- Clear and well rehearsed procedures which include a consideration of human reliability and error issues such as preparing people to deliver to realistic expectations and the usability of equipment. Procedures need to include good 'job aids' e.g. summaries of responsibilities, check sheets, etc.
- Have the staffing levels required to implement any emergency response been formally assessed (e.g. using the system in reference 23)? Are the staffing levels in place appropriate, both during normal working hours and, most especially, during the night and at weekends?
- Planned and rehearsed interfaces between the various responders with all aspects of the emergency response have been practiced, at all levels (plant, site and off-site), covering all expected scenarios, using both table-top exercises and drills.
- Efficient means of information handling during the emergency and good critical communication arrangements.

#### Specific documents

In addition to the general documents that should be requested prior to the visit (see chapter 'Aim of the Guidance') it is recommended that the following documents, which are specific to this topic, should also be requested:

- On-site emergency plan
- Any details of a post exercise review
- Site arrangements for training staff in emergency response.

#### Enforcement

Little formal enforcement action on this subject has been taken by the Human Factors Team. Much advice to the field has, however, been provided, including support for specific audits into the topic, carried out at major top tier sites.

The key areas where enforcement action would be expected to be appropriate are:

- Lack of adequate training and competency arrangements

- Poorly thought out and designed procedures.
- Lack of an understanding of the role of people in emergency response, leading to unrealistic expectations of them.

## **Guidance**

- **A Guide to the Control Of Major Accident Hazard Regulations 1999, L111**
- **Emergency planning for major accidents: Control Of Major Accident Hazard Regulations 1999, HSG191**
- **Recent major accidents: lessons on emergency planning - HSE Information Chemicals Sheet No.1**
- **Dealing with disaster** – Home Office guidance (up-dated June 2003) available free.
- **Protocol for auditing on-site emergency response arrangements** – HSE, LD6, 2002 (as amended)
- **Lessons from Longford: the Esso Gas Plant Explosion**
- **Performance indicators for the assessment of emergency preparedness in major accident hazards**, Contract Research Report 345/2001
- **Emergency Response Competencies & Human Factors in Emergency Response**, Paper for SIESO & COMAH Competent Authority Workshop, John Wilkinson (contact Human Factors Team for copy).

## Question set: Emergency response

	Question	Site response	Inspectors view	Improvements needed
1	<p>Is there a designated and recognised chain of command to deal with emergency situations?</p> <ul style="list-style-type: none"> <li>• Is there a designated person with overall responsibility for dealing with an emergency situation on all shifts?</li> <li>• Are contingency plans in place to cover the absences of the designated people?</li> <li>• Are provisions made for the safe handling of an emergency situation that may arise out of normal working hours?</li> <li>• Do staff on each shift know what the designated chain of command is?</li> <li>• Does the chain of command defined in the safety plan adequately cover all likely eventualities?</li> <li>• Is there recognition that emergency support roles are equally important as frontline / immediate response roles?</li> <li>• Are appropriate measures in place to ensure 24-hour cover, 7 days a week (including sickness and holiday cover)?</li> </ul>			
2	<p>Is there good collective awareness of potential emergency situations?</p> <ul style="list-style-type: none"> <li>• Are risk assessments considered as part of the emergency planning process?</li> <li>• Are previous incidents / accidents reflected in exercises?</li> <li>• Does the plan consider both worst-case scenarios and more realistic, though less serious, events?</li> </ul>			

	Question	Site response	Inspectors view	Improvements needed
3	<p>Is there a written on-site emergency plan which covers the following key areas:</p> <ul style="list-style-type: none"> <li>• Clear, concise and unambiguous definitions of all roles?</li> <li>• Clearly defined decision-making boundaries?</li> <li>• Deputising arrangements?</li> <li>• Who should assume responsibility in an emergency?</li> <li>• Identity of who responds to whom in the event of an emergency (including off-site)?</li> <li>• A defined command and control structure?</li> <li>• Overview charts showing the emergency command and control structure available?</li> <li>• Un-ambiguous criteria for calling the emergency services?</li> </ul> <p>Does the presentation of the plan include:</p> <ul style="list-style-type: none"> <li>• Well structured formatting in order to enhance the information for communication &amp; training?</li> <li>• Aide memoirs such as charts, maps, and flow charts to remind staff of key information?</li> <li>• Do team members consider the procedures usable?</li> </ul>			

	Question	Site response	Inspectors view	Improvements needed
4	<p>Is there provision for controlling of the plant once an emergency arises?</p> <ul style="list-style-type: none"> <li>• Is there an appropriately located Emergency Control Centre and is it maintained?</li> <li>• Is there an emergency plan and are staff aware of it?</li> <li>• Is the plan credible and understood and were the workforce involved in drawing it up?</li> <li>• Are there procedures in place for the safe management of plant, processes, and equipment during an emergency?</li> <li>• Are these procedures realistic?</li> <li>• Is the Control Centre adequately supplied with adequate emergency equipment (e.g. communications equipment)?</li> <li>• Do staff know how to contact the ECC?</li> <li>• Is there an adequate emergency alarm system?</li> </ul>			
5	<p>Is there an on-going training programme?</p> <ul style="list-style-type: none"> <li>• Is there a process for defining the skills and knowledge required of core personnel in the event of an emergency?</li> <li>• Are emergency support staff (as well as frontline/immediate response staff) trained in their roles?</li> <li>• Are the emergency plan and procedures used appropriately in the training programme?</li> <li>• Do operational staff / contractors receive regular training to prepare them for potential emergencies?</li> <li>• Is training realistic e.g. have operators practised in full BA and in likely plant areas? Has BA training reflected likely real conditions (low visibility, smoke etc)?</li> <li>• Is there evidence in training records or via discussions with staff that training has been received?</li> <li>• Do the training arrangements include competency assessment and is this seen as credible by staff?</li> </ul>			

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6	<p>Is there an on-going programme of drills/exercises to prepare on-site personnel for an emergency?</p> <ul style="list-style-type: none"> <li>• Is there a process to ensure that emergency planning arrangements are reviewed in light of any changes to plant/processes/operation?</li> <li>• Do exercises reflect current operations and cover all expected scenarios?</li> <li>• Are the exercises realistic and credible?</li> <li>• Are emergency training programmes reviewed and updated in the light of changes to plant, processes or operations?</li> <li>• Is there an effective mechanism to ensure that the lessons from exercises and accidents are used to improve the effectiveness of emergency planning arrangements?</li> </ul>			
7	<p>Has liaison with the Emergency Services established and maintained?</p> <ul style="list-style-type: none"> <li>• Is it clear who is responsible for activating the plan and liaising with outside bodies (e.g. local authorities / fire / emergency services) especially outside normal hours?</li> <li>• Are the emergency services informed and kept updated on current practices/ procedures which form part of the emergency plan?</li> </ul>			

**N.B.** A shorter 2 page question set is available from the HID Human Factors Team.