Organisation

Site Emergency Response

Site Emergency Response: Facility managers and employees do everything they can to prevent emergency situations such as injuries, fires or leaks, nevertheless emergencies are still possible on any kind of facility. Managers and site teams should recognise the importance of being prepared and have the necessary emergency plans and resources in place to manage the potential emergencies so as to reduce harm to people, damage to facilities and the environment. People may react very differently in unexpected situations and when faced with severe injuries. Physical exercises are important so that in real emergencies people can automatically fall back on practised actions and behaviours.

NOTE   Refer to EIGA Doc 223, *Emergency Response Planning*, for detailed guidance on developing emergency plans.

Learning more about human factors in emergency response.	
If the answer to any of the questions below is 'no', then you need to take action	
1. Emergency situations:	
Do employees, contractors and visitors understand the relevant site emergency scenarios and what to do in an emergency?	☐
Is enough time and management attention given to emergency planning?	☐
2. Roles and responsibilities:	
Do people understand their role in the emergency plan, for example emergency controller, intervention team leader and intervention team?	☐
Are the intervention team aware of the limits of their scope (i.e. tasks not documented, assessed and trained are forbidden)?	☐
Is there provision made for handling an emergency situation out of hours operation and personnel absence?	☐
Is there a designated, recognised and well understood chain of command (hierarchy) to deal with emergency situations?	☐
Is the emergency organisation clearly communicated for example posters, organisation charts?	☐

Does everyone know how to activate the alarms for different types of emergencies?	☐
Does everyone know the limits of what they are allowed to do in emergency situations, especially when there are only a few people on site?	☐
Is it clear who is responsible for liaising with outside bodies (for example, fire and emergency services, local authorities) during and outside normal hours?	☐

3. Emergency plan

Is the emergency plan well-structured and easy to understand, for example using maps, charts and flowcharts?	☐
Do the emergency teams consider the emergency plan as documented practical?	☐
Are risk assessments, previous incidents / accidents considered as inputs to the emergency planning process?	☐
Are people performing key roles engaged in the creation and review of the emergency plan content?	☐
Does the emergency plan help with decisions (as well as actions) to be made during an emergency?	☐
Do checklists or aide memoires assist in dealing with an emergency?	☐
Is the important information needed during an emergency accessible and easy to use?	☐
Is the emergency plan amended as a result of feedback and observation of human behaviour after exercises or actual emergencies?	☐
Does the MOC procedure consider the need for amendments to the emergency plan?	☐

4. Training and competence:

Is there a process for defining, training and assessing the competence (skills, knowledge and any external qualifications) required for all roles in the emergency plan?	☐
Does the site induction process adequately inform contractors and visitors of their expected actions in the event of an emergency? For example, by providing:	☐
• videos	☐
• a leaflet / poster	☐
• information and instructions on signing in cards	☐
Does the review of regular practice sessions (for example field drills, tabletop, simulation exercises, what-if, etc):	
• recognise and reward safe and confident performance?	☐
• identify and address potential omissions and improvements (mistake proofing)?	☐
Do ALL people take emergency exercises seriously, follow requirements of the emergency plan and evacuate promptly?	☐

Do people follow the correct route during evacuation and know the assembly point?	☐
Do the intervention team know how to use the appropriate rescue equipment for all scenarios?	☐
Do intervention teams perform regular and realistic exercises of the tasks assigned to them in the emergency plan in order to assess human behaviour in emergency situations?	☐
For example, have team members practised with full breathing apparatus and chemical suits and in plant areas where they may need to be used in an emergency or for escape and attempting to simulate real conditions (low visibility, smoke)?	☐
Are practical exercises (including those with external agencies) risk assessed in advance?	☐
Is competence of people in key roles and intervention teams assessed?	☐
Is the training reviewed and, if necessary, updated when there are relevant changes are made in the emergency plan?	☐
Does training for specific roles address how messages are most clearly and unambiguously sent and received during an emergency? (for example, radio, voice, gestures, vocabulary, repeat back, scripts)	☐
6.　　Communication with emergency services	
Has liaison with fire and emergency services been established and maintained to exchange information about site hazards and emergency plans?	☐
Do exercises include practising calls to and communication with the emergency services?	☐

What can we do about it?

Management responsibility	The interest that the manager places on regular and effective exercises, and training will directly influence the confidence that all will perform their roles as expected in an actual emergency situation.
	The manager should therefore actively participate in reviews, audits and exercises.
	Classically managers will lead during practices or exercises, but experience shows that real emergencies usually occur when there are no managers on site. Exercises should be designed for less experienced personnel to practise emergency roles.
	Leadership during the incident is important and managers should concentrate on communication, command and control (potentially from offsite).

Stages in emergency response: what to do better

Human factors to be considered when preparing for	You should assess all your site risks (see EIGA Doc 223, *Emergency Response Planning* and EIGA Doc 60, *Seveso Documents - Guidance on Applicability, Assessment and Legal Documents for Demonstrating Compliance of Industrial Gases Facilities with Seveso Directive(s)*) and understand those where human actions are likely initiators.
	The site team should know how emergencies can start and how to detect them.
	You should make sure that your team have practised under all foreseeable conditions, for example:
	• day or night;

emergencies:	• in all weathers; • with contractors or visitors on site; and • when personnel including emergency team members are absent. Be creative in setting a variety of exercise scenarios. It can help to invite external actors with simulated wounds to add interest even in office environments. Occasionally, include external emergency services (and authorities) to improve realism and confidence in communications. Company plans should include managing the aftermath of a significant event addressing for example counselling of affected persons and support of the family of injured or deceased persons.
Human factors to be considered during and after an emergency:	Below are a list of behaviours that should be actively managed during a real emergency: • A person discovering an unconscious body can instinctively go to that person's aid particularly if the victim is a friend, endangering themselves for example due to asphyxiation or electricity, and also become a casualty. • People can react and take actions outside of what is written in an emergency plan, for example attempting to tackle a fire with inadequate equipment or training and thereby endangering themselves and others. • Some people may not respond to a site evacuation alarm, whether they don't notice or recognise the sound, or they make a conscious decision not to act (believing it to be a false or unimportant training alarm). • People use normal routes when evacuating from their workplace to the assembly point out of habit and ignore closer and safer exit routes. • A real emergency will last much longer than a training exercise. People standing outdoors and unprepared are potentially exposed to adverse weather. At some point the emergency controller will need to make alternative arrangements. • Information about missing or injured individuals shall be carefully managed to avoid and minimise additional stress on colleagues and family. • Many factors can impair critical communications at the muster point as well as between the site emergency team and emergency services. It may be appropriate to silence alarms and sirens, switch of flashing lights and / or find a quiet location for critical conversations. In major emergencies, the emergency services may bring an incident command / communications vehicle. • Telephone systems (landline and mobile) can become overwhelmed or deactivated during emergencies. At the same time there can be many incoming enquires which lead to communication overload. • The presence of broadcasters and journalists as well as social media activity can add significant stress to those at site, those managing the emergency and offsite family members. After or during a prolonged emergency, it may be necessary to provide practical and emotional support. Investigation after the emergency should address effectiveness of the emergency response and any human factors improvements as well as the cause of the incident.

Training:	The positive lessons learned from training and exercises should be shared to facilitate improvements at other sites.

Possible scenarios shall be used to train emergency response. Emergency exercises should be planned over a period of time to cover all the possible scenarios from the emergency plan.

The behaviours and performance of people during real emergencies and exercises should be assessed and evaluated to guide improvements in the emergency plan and training of individuals.

Feedback to site personnel should be provided following an emergency including positive aspects and points for improvement. |

Useful Reference Information

1. Health and Safety Executive, Inspectors Human Factors Toolkit, www.hse.gov.uk.

2. There is additional information on emergency response provisions and requirements for different processes and substances in EIGA documents, for example:

    EIGA Doc 60, *Seveso Documents - Guidance on Applicability, Assessment and Legal Documents for Demonstrating Compliance of Industrial Gases Facilities with Seveso Directive(s)*, www.eiga.eu.

    EIGA Doc 223, *Emergency Response Planning*, www.eiga.eu.