

Questions A Organising, Contractors, Consultation, Communication

Answer 1 In essence, the Swan Hunter case interprets the duty under section 2(2)C of HASAWA as extending beyond an employers own employees to all non-employees (broadly summarised as ‘contractors’) who may be working on the site.

HASAWA section 2(2)(c) ... The provision of such information, instruction, training and supervision as is necessary to enable ... the health and safety at work of his employees ...

The judgement in the Associated Octel case determined that activities such as repair and maintenance were an integral part of any company’s work activity (‘undertaking’) and thus the employer has to stipulate to the contractor(s) all relevant health and safety information.

Answer 2 Information that an employer might require from a prospective contractor ... in the case of a small contract, it would be sensible to ask for:

- references
- details of work recently undertaken
- membership of trade or professional bodies - this may be compulsory: for example, if the work involves gas supplies, a CORGI-registered contractor is required
- copies of their safety policy and, perhaps, relevant working procedures

In the case of a large contract, the employer should additionally be requesting:

- accident statistics and reports
- full procedural details of how the proposed work will be undertaken, including arrangements for subcontractors
- ‘profiles’ of the key members of the potential contractor’s staff
- information on the training and experience of those who will be undertaking the contract work
- feedback from the contractor regarding the information that they might need from you, the employer

Answer 3 Contractors and contract work represents a particular working challenge because:

- contractor’s personnel may not be familiar with the processes and procedures
- contract work will almost always involve activities and relationships outside the normal activities of the organisation:
 - » demolition
 - » repair
 - » commissioning new equipment, and so on
- the contractor’s personnel may change from day to day, particularly if sub-contractors are used



Answer 4 In our text, we defined communication as:

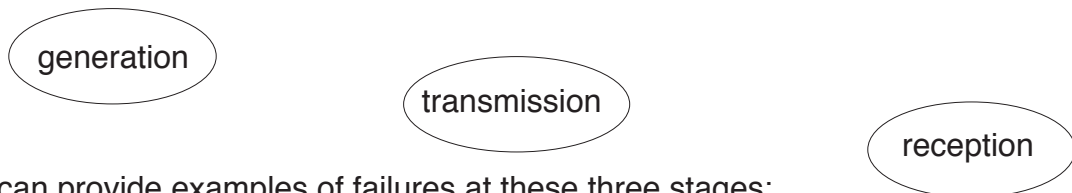
The process by which information is passed between individuals and / or organisations by means of previously agreed symbols.

It does not slip easily off the tongue does it? Non-the-less, it is a reasonable definition in that it does introduce all the key words or concepts:

information transfer ... individual or organisation ... agreed symbols / 'language' / system

As we have said before, a definition can be a good starting point because, by embellishing and expanding upon your definition, you can generate a good answer.

As far as causes of poor communication (a NEBOSH favourite question) are concerned, you should be thinking in terms of a communication model involving:



and your answer can provide examples of failures at these three stages:

- mis-heard instructions in a noisy environment (transmission)
- poor instructions for the assembly of a new piece of kitchen equipment (generation)
- clear, well laid-out instructions on kitchen equipment misunderstood by someone who is not qualified to be assembling the equipment (reception, with other communications failure[s] down the line being the cause of an unqualified person wrongly wiring up the waste disposal unit on the sink)

You should be able to add many more examples involving people with poor hearing, tired and stressed workers, electronic failures and so on - refer back to the study material if you need.

Answer 5 Inter-departmental communications failures (how long have you got?), some causes:

- hostility / competitiveness leading to communications being wilfully or unintentionally mislaid or ignored
- different communications systems being used by various departments: paper, electronic, verbal ... the problem being the 'translation' from one system to the other - an 'urgent action required' note on a piece of paper may have no electronic equivalent
- different departments have different priorities

Answer 6 Be careful with this fairly common question - it does not say 'forms of communication', it says 'forms of communication media'. The implication (and the evidence of examiner's comments) is that they are looking for words on media such as:

- posters
- newsletters
- electronic notice boards
- written work instructions, and so on

It seems that the word 'media' in the question precludes the mention of forms of communication such as normal conversation / phone calls etc. You could of course argue for the inclusion of conversation etc and our approach in the exam would be to write something like this:

In addition to the most common form of communication (namely speech) media with particular uses in health and safety include and so on

Answer 7 Site entrance display board

“The accident record must be good or they wouldn’t shout about it” - an immediate reaction on the part of visitors entering the site and a powerful tool in promoting the safety culture in the organisation; you can be pretty sure that workers will soon notice if the figures shown are massaged in some way.

Answer 8 Forms of written health and safety communication might include:

- company safety policy
- accident reporting (including RIDDOR)
- permit to enter, permit to work
- written system(s) of work
- inter-departmental memos
- minutes of meetings

Please note that although you may know of companies where (say) the minutes of meetings are only distributed electronically, this is no reason to miss them out of your answer.

Answer 9 Sources of information available to the health and safety professional

A one word answer would of course be the internet, but the examiners will clearly be wanting you to describe some of the sources available through the internet:

- HSE publications (free downloading of some HSE material)
- commercial windows into sources such as research reports, HSE publications, legislation, British Standards, equipment suppliers; these commercial windows (‘portals’ seems to be the popular new term) are offered by a number of companies: Barbour Index, HSEDirect, Croners
- internal accident data and reports
- accident reports from other companies - particularly in the case of higher risk environments (or should we say higher hazard environments? ... discuss)
- commercial auditing, inspection and record-keeping packages (there are many from which to choose); these computer-based packages can help direct and inform the monitoring and inspection activities of the safety professional
- information on chemicals - hazard data sheets etc
- exhibitions
- journals
- local area meetings of organisations such as RoSPA, IOSH

Answer 10 The two sets of Regulations specifically concerned with the representation of employees:

- The Safety Representative and Safety Committee Regulations 1977
- The Health and Safety (Consultation with Employees) Regulations 1996

Answer 11 This was because one of the main recommendations of the Robens Committee (from which HASAWA evolved) was that representatives from both sides of industry needed to be involved to overcome the root cause of so many accidents - apathy in the workplace. The SR and SC Regs were an attempt to overcome this apathy.

Answer 12 Guidance on the 1977 Regulations - the Brown Book.

Answer 13 The legal rights of safety representatives include the right to:

- represent employees in consultations with the employer
- investigate complaints, potential hazards and accidents and make appropriate representations to the employer
- carry out their own inspections of the workplace
- consult with, and receive information from, inspectors
- attend relevant safety meetings

Answer 14 For safety representatives, the employer must provide:

- adequate facilities (room, phone, access to typing facilities ...) and time
- access to the internal communications system
- training to enable performance of duties (time off for training)

Answer 15 Non-union workforce

The original Management Regulations of 1992 amended the 1977 Regulations by placing a duty on employees to consult with employees on matters relating to health and safety at work; eventually the European Court decided that this did not go far enough and in 1996 further Regulations were introduced. (We expanded on this in our study material.)

Answer 16 Safety committee membership

- safety representative(s)
- production manager
- line manager(s)
- director with specific health and safety responsibilities
- company doctor / nurse

Answer 17 Some of the factors upon which the effectiveness of the safety committee's work will depend include:

- level of organisation of the meetings and the associated activities such as booking rooms and sandwiches and parking spaces
- realistic, previously agreed agenda and prompt circulation of accurate and clear minutes, including unambiguous details of actions to be taken
- quality of the chairing of meetings
- competence and expertise of committee members and the technical support available to them
- status of the committee



Answer 18 We refer you back to the study material for our comments on the situations described.

Answer 19 Assessing a consultant

Be prepared to spend time discussing matters with the prospective consultant. The sort of questions to which you need answers include:

- qualifications and experience of consultant and associated staff
- what back-up is offered, particularly if the job broadens as new problems are identified
- professional indemnity insurance
- are written reports part of the service?
- previous contracts, references
- what is the nature of the follow-up provided?

Answer 20 Conveying the health and safety message in the workplace.

The immediate problem that you would have if this were an 8 mark (9 minute) question would be not to run out of time (indeed, very similar questions have appeared as 20 mark, 30 minute questions). Your answer to this question should draw upon what you covered in the early part of element NGC1/4

You could not do better than quote the syllabus requirements:

- securing commitment of management
- promoting health and safety standards by leadership and example
- use of competent personnel with relevant knowledge, skills and work experience
- effective communication within the organisation:
 - » safety committees, notice boards ...
- training

Obviously, in your answer you should fill out the above as much as time allows; the second part of your answer could briefly refer to the activities necessary to promote a positive health and safety culture which are defined in HSG 65 as:

- control
- co-operation
- communication
- competence

(Remember what we said about the HSE's somewhat tentative use of c c c c ...)

Answer 21 Media ... in the workplace.

Don't waste time giving the examiners the answer to the previous question, that is not what they asked; they want to know about media so tell them about the pros and cons of:

- entrance to site display boards
- use of posters
- notices, charts, leaflets, newsletters
- safety competitions
- videos

A practical point - one for which you will certainly gain marks for raising - concerns the balance (time, money, staff involvement, level of commitment) between buying-in posters etc and producing them in-house.

Answer 22 Interference with verbal communications.
Often a good idea to start an answer with a definition ...

Process by which information is passed between individuals and / or organisations by means of previously agreed symbols.

...because this provides a very good peg on to which you can hang the remainder of your answer, via examples such as those we gave in the study material.

Answer 23 Interference with various forms of communication.

Obviously an appropriate answer will need to include the verbal communication problems addressed in the previous question but will need to encompass a lot more. The answer again should still usefully start with a definition of communication (you should be able to make up your own) and then address the communication problems associated with:

- e-mail and other electronic forms of communication
- formal verbal communication in meetings - effective use of minutes
- casual verbal communication - discrete and potentially very valuable, but unlikely to be recorded
- ... and so on ... the problems associated with all the other forms of communication which we mentioned in the study material: newsletter, posters ...

Answer 24 Electronic communication

Again, start with explanations: what you would encompass under this heading? A definition of communication would again be very valuable because it would provide you with a starting point for discussing computer compatibility, feedback, storage of information, access to a computer terminal (a real trump card if the intended recipient does not have easy access to one).



Questions B Training, Personal factors, First aid

Answer 1 Specific training requirements:

- The Provision and Use of Work Equipment Regulations provides for training for all those working on woodworking machines
- The Control of Substances Hazardous to Health Regulations requires training for all employees exposed to certain substances
- The Control of Asbestos at Work Regulations covers training for those workers exposed to asbestos
- The Ionising Radiations Regulations require training for persons directly concerned with ionising radiation
- The Control of Lead at Work Regulations covers training for all those employees exposed to lead, including young people

Answer 2 As always, it is a good idea to link your answer back to the appropriate legislation and clearly in a question of this sort, you have an opportunity firstly to mention the specific training requirements of various pieces of legislation (as in question 1 above) and secondly under the first heading ('young persons') you should make mention of the requirements of the 'Young Persons' section of MHSWR 99. So, under the four headings, here are some key points:

Young persons

... lack of experience and, a times, poor co-ordination; importance of mentor(s) (make sure you can provide examples of just what a mentor would provide)

The HSE recommend employers to:

- assess the risks to young people, taking into account their inexperience, immaturity and lack of awareness of existing or potential risks
- address specific factors in the risk assessment
- provide information to parents of school-age children about the risks and control measures
- exclude young persons from certain work activities

The key is to fully evaluate any risks to which young people may be exposed before they are allowed to start work. Full consultation must take place between the appropriate managers to ensure the creation of an effective and relevant training programme.

More mature persons

The key question to be asked in real life - and thus the key to you providing a satisfactory answer in an examination - is to discuss the reasons why training is needed for our 'non-young' person; these might include:

- relocation to new premises
- introduction of new equipment and/or new processes, changes to operating procedures
- influx of new staff
- new legislation
- introduction of improved systems of work
- poor accident records

... continued ...

- desire to reduce insurance premiums
- reports from auditors, risk assessors and loss adjusters
- visit from enforcement authorities

Persons due for promotion

This training requirements for this person may be seen as an extension of the 'more mature persons' category above. We refer you back to the study material and in particular the question about John, who is being considered for promotion, and the problems he might face. This is actually a classic NEBOSH Diploma question in that it requires the candidate to take a wider look at a situation but as a good Certificate student you should be able to come up with some good responses.

Training the manager

Again, you would perhaps be well advised to start your response with a series of reasons why the manager needs training ... this could, and perhaps should, encompass common management failings (as given in the study material: failure to understand legal responsibilities ... etc). You will be aware that the law is starting to change to include, for example, the offence of corporate manslaughter - managerial responsibilities are clearly of the utmost relevance here.

In developing a management (health and safety) training programme, consideration should be given to:

- organisational matters such as: company size, structure and siting; nature of in-house professional expertise (company doctor, nurse, occupational hygienist etc)
- the requirements of the manager's job: legislation, responsibility for risk assessments and implementation of control measures; means of, and effectiveness of communication channels

Answer 3 Techniques that might be available to the trainer:

- commercial videos (with all the associated questions of relevance to your company, purchase / hire, when was video made, etc)
- in-house videos - may cause more amusement than a commercial video but may well be more effective; in particular they do carry with them an aura of management concern and an implied suggestion that 'if you could do better ...'; and indeed an improved version of the video may come about this way
- poster displays (off-the-peg or in-house, or a combination)
- 'slide' / projector display, perhaps using a package such as Powerpoint

... you will no doubt be able to add many more items to this list. What we would say is that if you do get such a training resources question in the examination, make sure that you get the balance of your answer correct; if for example, the question asks how 'four training aids of your choosing might be used in the provision of a training course', then do as required and describe the use of four aids (video, role play ...), don't throw away marks by listing fifty different training aids but fail to describe how they might be used.

Answer 4 Again, we will spare repeating all the points we made in the study books; here are just a few ideas for ensuring that your answer has a health and safety flavour to it:

Poster displays - mention of the products of HSE and commercial suppliers such as ARCO (do name-drop in the way if you know about them); 'customising' of commercial posters by over-printing or siting them in tandem with in-house material which gives more specific information; value of creation of in-house display material.

Notice boards - again, wide availability of informative material from HSE etc. Imaginative use of notice boards, including frequent changes of the display; dividing up notice boards with different individuals or groups having responsibility for different areas on the board(s).

Newsletters (e-mail or hard copy) - question and answer sections can, in larger organisations, almost run themselves; links in the newsletter to other sources of health and safety information, perhaps on the web.

Safety forum - here you would need to mention the sort of items that would be on the agenda (accident reports etc) and the make-up of the forum.

Answer 5 Induction training programme

Again, you can't go wrong starting with a definition:

Induction training should provide a systematic, planned programme designed to familiarise new employees with their company ... particular reference to the environment in which they will work.

Don't underestimate the value of placing such a definition at the start of an answer; in an examination situation, a definition such as the above would probably immediately give you 2 or 3 marks (in an 8 mark question). Immediately the examiner is made to feel that they are in the presence of someone who knows what they are talking about (assuming the definition is correct of course). You can then add to your definition giving you a richer answer, briefly mentioning for example:

- characteristics of new recruits
- details of the induction programme: 'first morning', one month later and so on:
 - » first morning: ppe, fire drill, canteen, first aid, introductions to managers, safety reps etc
 - » one month later: focus on accident prevention (you should be able to give more detail)
- appropriate records to kept, to be signed by employee and manager

Answer 6 Human factors

Attitude ... attitude to: authority, to the implementation of systems of work, wearing of ppe, recording the results of activities undertaken.

Also look at this the other way round, ie the influence of the culture of the workplace on the attitude of the individual ... attitude of individual ↔ safety culture

Perception ... the picture or view that an individual has in their mind of the environment and of the things which are happening in that environment. How does the individual's view coincide with reality? Is there a serious mismatch? Factors which influence an individual's perception:

- sensory defects - deafness, colour blindness
- background factors such as experience and peer group pressure
- environmental factors - noise, heat, drugs

... continued ...



Motivation ... factors which direct or drive the way in which a person acts; relationship between motivation and attitude.

Depending on how a 'human factors' examination question were to be worded, it might also be appropriate to include a few brief note on skill, and physical and mental capability to add to attitude, motivation and perception.

Answer 7 Examples of motivation ...

- encouragement
- incentives
- involvement
- demonstration of commitment from management
- disciplinary action (remember the implications of such 'negative' motivation)

To this list should be added training, a crucial ingredient in motivating staff and in providing the skills necessary to undertake work in safety.

Answer 8 The prevention of human error

Factors you should have mentioned include the overwhelming importance of the organisation - good discipline, motivated and committed work-forces. Key points under the three suggested headings include:

The organisation

- commitment from (top) management; the 'safety policy' (HASAWA)
- examples of absence of commitment of management (you choose)
- what happens when hazards are reported (you can link this to the previous item)
- system for monitoring safety: identifying, investigating and correcting (you can't go wrong in mentioning HSG 65)

The job

- matching the job to the individual by the application of ergonomic principles
- design and layout of the workplace taking into account the characteristics of the task: repetitive, physically demanding etc
- task analysis of the activities required of the worker, for incorporation into a wider job safety analysis.

Personal factors

- personalities, habits, attitudes to work, skills (relate this back to NEBOSH's favourite human factors: attitude, motivation and perception)
- training and backing from supervisors and managers; building up confidence

Answer 9 In defining 'first aid', at the least you should remember that the 1981 Regulations provide a definition of 'first aid' - the examiners would give you credit for this. If you cannot remember the 'official' definition, you should be able to cobble together your own definition encompassing words such as:

... for the purpose of preserving life ... minimising the consequences of injury and illness until the help of a medical practitioner is obtained. The treatment of minor injuries which do not need further treatment by a medical practitioner.

If you ensure that you include these three aspects in your first-aid definition, you will not go far wrong.



Answer 10 The main requirements of The Health and Safety (First-Aid) Regulations 1981 include:

- duty of employer to make provision for first aid:
 - » assessment of need
 - » first aid materials, equipment and facilities
 - » first aid personnel
- duty of employer to inform his employees of the arrangements made in connection with first aid including information for employees
- duty of self-employed person to provide first aid equipment

Answer 11 The First-Aid Regulations are kept up-to-date via the flexibility of successive approved codes of practice.

Answer 12 For the definition of appointed person etc we refer you to the study material. Also make sure that you have a clear idea of what constitutes, and examples of, low, medium and high risk work environments.



Questions C Risk assessment

Answer 1 NEBOSH list the following 'incidents':

- ill-health
- injury accident
- dangerous occurrence
- near-miss
- damage-only

Answer 2 A dangerous occurrence is defined in RIDDOR as being:

... if something happens which does not result in a reportable injury, but which clearly could have done, it may be a dangerous occurrence which must be reported immediately to the enforcing authority.

You should be able to give several examples of dangerous occurrences; if you remember, you were required to find this information from the HSE RIDDOR webpage.

Answer 3 Categorisation of health hazards; as we explained, health hazards are the subject of NGC2/7 and NGC2/8, covering:

- physical health hazards
 - » noise
 - » vibration
- chemical health hazards
 - » toxic gas (chlorine)
 - » agents which attack the nervous system (lead, mercury)
- biological health hazards
 - » allergic reactions to spores on agricultural products
 - » HIV
- ergonomic health hazards
 - » aches, strains
 - » problems associated with visual display units
- psychological health hazards
 - » stress, lethargy, hostility

Answer 4 Acute and chronic effects

An acute effect usually involves a rapid response (seconds, minutes, hours) to high levels of exposure. Unless the victim dies, complete recovery from an acute effect is usually to be expected. (Make sure that you are able to provide examples of both physical and chemical acute effects. Most biological agents - for example legionella - will obviously give an acute effect or non.)

Chronic effects involve long-term response to exposure, in some cases quite low levels of exposure. Recovery from a chronic effect is not to be expected.

Allergic reactions, in which an individual becomes sensitised to a particular chemical or biological agent (dried animal bedding) cannot be put into either the acute or chronic category - in a sense they belong in both.



Answer 5 The legal basis of risk assessments is provided by regulation 3 of The Management of Health and Safety at Work Regulations 1999 which requires that ...

... every employer shall make a suitable and sufficient assessment of:

- the risks to the health and safety of his employees to which they are exposed whilst they are at work; and
- the risks to the health and safety, of persons not in his employment arising out of or in connection with the conduct by him of his undertaking,

for the purpose of identifying the measures he needs to take to comply with the requirements and prohibitions imposed upon him by or under the relevant statutory provisions ...

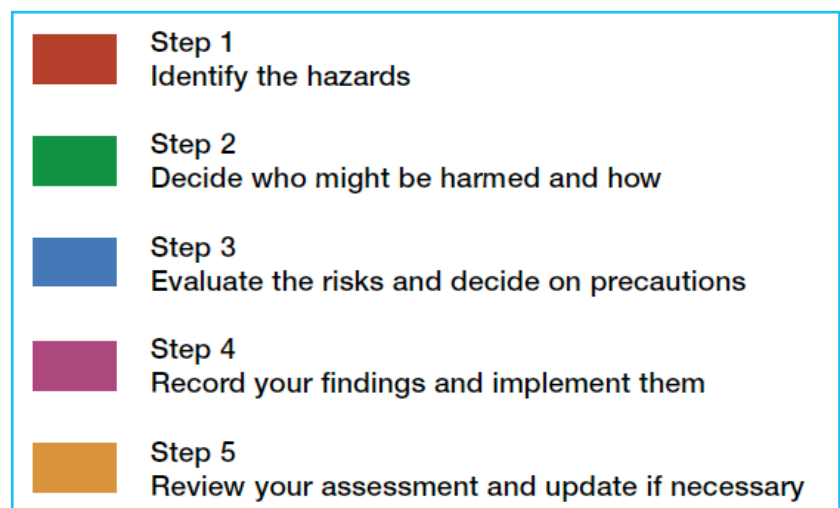
Answer 6 ... in other words, the specific risk assessments which are required by other sets of Regulations, including:

- The Noise at Work Regulations
- The COSHH Regulations
- The Manual Handling Regulations
- The Health and Safety (Display Screen Equipment) Regulations

Answer 7 The results of the risk assessment must be prioritised:

- high priority, immediate action required
- medium priority, action required within weeks
- low priority, action required within months

Answer 8 The five steps 'to assess the risks in your workplace' given in INDG 163 and other HSE publications are as shown here:



Questions D Safe systems of work, Permits to work, Confined spaces

Answer 1 The steps to a safe system of work:

- assess the task
- identify the hazards
- define safe methods
- implement the system
- monitor the system

Answer 2 The basic procedure for job safety analysis:

Step 1 Identify the job to be examined

Step 2 Break the job down into its chronological step-by-step component parts

Step 3 Critically observe and examine each component part of the job to determine any hazard

Step 4 Determine whether there is a significant risk from the observed hazard, to people or plant

Step 5 Develop suitable control or protective measures to eliminate or reduce the risk of danger to people and plant

Step 6 Produce written safe systems of work and job safety instructions

Step 7 Provide the necessary training to operate the safe system of work

Step 8 Review safe systems of work at planned intervals to ensure that they continue to be relevant and used

Answer 3 Situations where a permit to work will be probably be required:

- entry into confined spaces
- work at heights
- high voltage electrical work
- complicated maintenance work
- demolition work
- work in environments which present considerable health hazards:
 - » radiation work
 - » conditions of severe thermal stress - repair work in kilns, food freezer storage systems
 - » work involving toxic dusts (asbestos), gases and vapours (often in confined spaces)
- lone worker (remember that we discussed the various ways in which this term is used)

You should be able to describe just how a permit to work system works, perhaps with the aid a simplified figure showing the layout of a permit to work form for a particular environment - confined space, hot work etc.



Answer 4 As we pointed out, the causes of some of the very worst accidents have revolved around the problems of shift changes; another example could be the Herald of Free Enterprise disaster where nearly two hundred lives were sacrificed because of the combination of incompetent unqualified shore-based 'management' and so-called systems of work on board the ship which involved bizarre communications arrangements such as shoes left outside sleeping cabins as the sign that on-coming staff needed to be woken ready for the next shift.

Answer 5 A brief essay on competence would encompass the often-used but clearly not entirely satisfactory circular argument that 'a person is considered as competent to undertake a certain function if his work experience and the training he has undertaken enable him to properly fulfil the duties involved in' and so on. Your answer should also encompass the fact that many people of long experience are very competent even though they may have received no formal training at all. Increasingly, legislation (Regulations) makes mention of the sort of qualifications that might be sufficient to indicate the competence necessary to undertake particular work responsibilities. Your answer should also encompass the growing importance of NVQs and similar qualifications.

Answer 6 The three duties defined by The Confined Spaces Regulations are as follows:

- avoid entry into confined spaces
- if entry is unavoidable, a safe system of work must be followed
- adequate emergency procedures must be in place before work starts

Answer 7 Confined space accidents

- fire / explosion in confined space such as a ship's compartment or an underground water pumping system
- accidents in structures such as grain silos - suffocation in the grain or collapse due to lack of oxygen
- fumes from toxic chemicals in a sewage system
- vapour from solvent or other cleaning agents causing toxic effects or fire in a confined space such as a storage tank
- leakage of volatile chemicals such as a fuel oil into building excavations leading to explosion or toxic effects

Answer 8 Examples of confined spaces and their associated hazards

You should be able to name many examples: drains, ventilation systems, cold compartments for food storage and so on. You should also be able to relate these examples to their respective hazard(s), which may be classified as follows:

A Hazards presented by gases, fumes and vapours

- substances already present when work begins
 - » remains of stored substances (ie in storage tanks)
 - » sludge and decaying matter (drainage systems, sewers and so on)
 - » carbon dioxide, the product of acid rainwater reacting with chalk
- substances which are created by work activities
 - » welding fumes, adhesives, solvents
 - » heat from human and machine activity
 - » oxygen enrichment from use of oxy / acetylene and similar equipment

... continued ...



- substances which seep into the confined space as the work progresses
 - » as a result of accidental damage to pipelines etc
 - » a consequence of seepage of air currents bringing contaminants into the confined space, for example: exhaust fumes from nearby plant such as dumper trucks and compressors - petrol or diesel plant should never be operated in a confined space

B *Oxygen deficiency* may occur as a result of organic decay processes using up oxygen or as a result of an area being purged by the use of an inert gas such as nitrogen to flush out explosive gases such as methane; further purging with air may be required before the space is safe to enter.

C *Fire, explosion and other hazards*

General precautions against the hazards presented by gases, fumes and vapours in confined spaces include:

- use of intrinsically safe electrical equipment
- continuous monitoring of the atmosphere
- provision of adequate ventilation

Answer 9 In the case of confined space working, the permit to work provides:

- written authority for the space to be entered and for work to start and finish
- time limits and correct sequences
- procedures and responsibilities of all those involved
- checks and precautions pertaining to:
 - » atmospheric testing
 - » breathing apparatus
 - » rescue equipment and personnel

Questions E Auditing, Incidents, Inspection

Answer 1 Yes we started this question as if it were an element 2 (Policy) question, but really the answer required is an auditing / incidents / etc answer. When you first work through the study material, it will perhaps appear in your mind as thirteen fairly separate chunks. We have tried to emphasise the spider's web of links across the syllabus and by the time you have finished the study material a second time around, you should be becoming alert to 'across-the-element' questions such as this.

The syllabus lists the following forms of safety monitoring:

- surveys
- inspections
- tours
- sampling

You should be able to relate the safety audit (... a thorough systematic and critical examination of an organisation's safety management systems and procedures) to the various forms of monitoring.

(For completion, you should also have made passing reference to reactive monitoring: accidents, complaints from workers etc - the safety policy must have within it facilities for addressing things that have gone wrong. Also a mention of auditing would enrich your answer.)

As we have stressed, it may not be clear as to exactly when a survey becomes an inspection, but if you have in your mind a range of examples which you can use in your examination, you will be able to demonstrate your understanding to the NEBOSH examiners

- safety inspection ... a physical inspection of part(s) of the workplace or of aspects of the work, probably making use of checklists
- safety tour ... a management team examines certain aspects of an organisation, perhaps as a prelude to more detailed investigations.
- safety sampling ... an inspection which is limited to certain areas of the workplace or to certain aspects of workplace activity.
- survey ... for example, a noise survey of an engineering workshop; survey may also mean planning the campaign to make best use of limited resources

(We have tended to talk of safety sampling, safety survey; there will of course also be health sampling and health surveys - the noise survey would of course fall into this category.)

Answer 2 The structure of HSG 65. We realise we are running the risk of overdoing the need for you to know the structure of HSG 65, but if you do ... well done. If you don't, check back in the NGC1/2-5 study material - as you recall, through these four elements, we build up the structure of HSG 65.

Answer 3 Accident records. As we have stressed, and as the law requires, companies must keep records of accidents and illness. Such data may give a very poor indication of the effectiveness of the health and safety policy, particularly in a small company - in one word 'statistics'. The accident in which a worker is crushed to death by a reversing lorry in a sand and ballast yard where 'nothing like this has ever happened': in the course of a few seconds, the accident statistics for the yard have dramatically changed. Proactive monitoring would have highlighted the fact that there is no system of work in place for dealing with the manoeuvring of vehicles in the yard. Similarly, illness records are days ... months ... years removed from their cause. Again, appropriate proactive monitoring is required of the agents in the workplace: levels of chemicals in the air, the noise climate, vibration levels, intensity of radiation such as X-rays, infra-red and so on.

Answer 4 If you have any queries at all about your answer, please speak to your tutor or contact us in Chichester. We also refer you back to sections entitled 'Prioritising risks' and 'Quantifying remedial actions' in the NGC1/5 study material. We also refer you forward to the separate study material for the practical assessment, NGC3, the whole purpose of which is for you to gain experience in prioritising required actions.

Answer 5 Legislation with specific assessment requirements includes:

- The Noise at Work Regulations 2005
- The COSHH Regulations 2002
- The Manual Handling Regulations 1992
- The Display Screen Equipment Regulations 1992
- The Regulatory Reform (Fire Safety) Order 2005

Answer 6 Statutory inspections, ie legal requirements for testing certain pieces of equipment:

- local exhaust ventilation (14 months) required by COSHH
- power presses (12 months or 6 months, depending on the press) PUWER
- lifting equipment (6 months for equipment involved in lifting people, otherwise 12 months) PUWER, LOLER

Statutory testing, which will probably be undertaken by an outside organisation (insurance company or the manufacturer) is also required for pressure vessels, steam boilers used in central heating systems and other such equipment.

Even though statutory testing may be undertaken by an outside organisation, it remains the responsibility of the management to ensure that the testing is undertaken as required.

Answer 7 Under The Safety Representatives and Safety Committee Regulations 1977 safety representatives are entitled to conduct inspections:

- after substantial changes to plant and equipment
- after substantial changes in processes or methods
- following notifiable accident or dangerous occurrences
- following notifiable disease(s)

Answer 8 In outlining the distinction between a safety survey, a safety tour and safety sampling we suggest that you should make use of examples.

- survey: detailed investigation of one aspect of the workplace:
 - » noise / use of hearing protection
 - » pedestrian and vehicle management
 - » machine guards
 - » fire precautions / equipment
- survey (alternative and rather different use of the word): familiarisation exercise, preliminary checks before detailed survey (used in the above sense) is undertaken
- safety tour: usually something of a 'doctors round' with a group of people of different skills and positions in the company; we are aware that 'doctors round' may conjure up in your mind two very different pictures: a team pulling together, making full use of their skills or a group of people being towed around by (s)he-who-must-be-obeyed; whatever, in our experience the word 'tour' does usually appear to involve a group of people

... continued ...



- safety sampling: in our mind, sampling probably falls below the survey in the hierarchy but is a good way for the safety officer, line manager etc to keep in contact with the activities in and needs of the workplace - perhaps acting as a trigger for certain more detailed surveys; sampling is obviously also of value in maintaining the profile of the 'safety people' in the organisation

(As an aside, it is probably unlikely that NEBOSH would ask you this survey / tour / sampling question because they are well aware that there are problems of terminology; however, as we have already emphasised, NEBOSH will expect you to explain why ...

Answer 9 ... even the most thorough inspection of the workplace will not constitute an audit. This because an audit, by definition must encompass an investigation of an organisation's safety management system (to repeat a phrase we like: 'is the company doing HSG 65?'). An inspection does not ask this question, it looks at detail; the audit reviews the broader picture.

Answer 10 Any definition of a health and safety audit should include the words:

... structured process ... independent information ... effectiveness ... health and safety management system ...

No prizes for seeing that all we have done is remove some words from the HSG 65 definition which uses all the important words - and in the right order.

Answer 11 Persons outside the company might be involved in undertaking aspects of a safety audit in some of the following circumstances:

- engineering surveyors (including manufacturers of the equipment used)
- insurance company personnel:
 - » statutory inspections (pressure systems such a boilers, lifting equipment, fire certificate checks
 - » general inspections in connection with the employer's liability insurance
 - » investigating claims connected with accidents (this of course will not be a planned in advance part of the audit but if accidents, ill-health, dangerous occurrences have happened, they must be encompassed by the audit)
 - » liaising with risk management and technical consultants carrying out inspections
- outside consultants undertaking safety inspections, noise surveys, environmental surveys
- HSE and local authority inspectors undertaking statutory inspections or carrying out accident investigations



Questions F Accident causation, Analysis

Answer 1 Root cause: these are system failures - the seed bed that allows the immediate causes to germinate and eventually lead to an accident or an incident; root causes might involve:

- (in)adequacy of training, both in general and for specific equipment maintenance
- systems of work that fail to achieve the required objectives
- failure to conduct appropriate risk assessments and inspections
- personnel and personal matters ... wrong staff, unrealistic demands, harassment

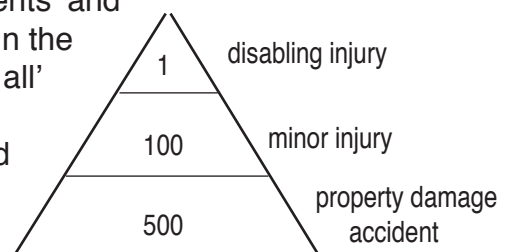
Immediate causes might involve what we have described as substandard acts or conditions which directly cause the accident:

- substandard acts:
 - » removal of, or damage to, a guard
 - » poor housekeeping such spillages or rubbish leading to fire, slipping etc
- substandard conditions:
 - » operator error,
 - » failure in use of, or failure to use, ppe
 - » human factors such as lack of concentration, fatigue

Remember that the HSE publication HSG 245 'Investigating accidents and incidents', distinguishes between immediate, underlying and root causes of accidents; you will do your cause no harm at all by mentioning this modified classification to the examiner.

Answer 2 Accident triangle: we gave Heinrich's 1931 definition in the study material, namely '... for every mishap resulting in an injury, there are many accidents that cause no injuries at all'.

We have to be careful when talking about 'accidents' and 'incidents' and 'mishaps' and 'near misses' - these words are not always used in the same way. Heinrich's 'many accidents that cause no injuries at all' might, or might not, qualify as a RIDDOR 'reportable dangerous occurrence'. There are various versions of the accident pyramid / tip of the iceberg models; something like this would be fine for the purposes of the NEBOSH Certificate:



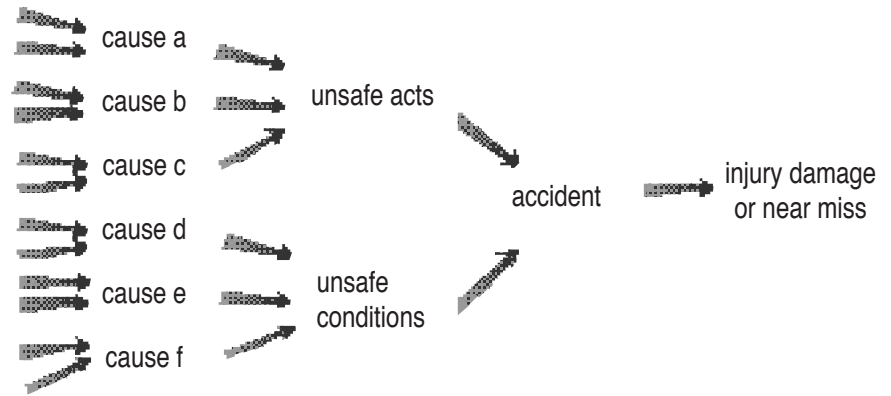
In the study material we emphasised the examiners' frequent comment that: "when answering 'accident causes' questions, few students support their answers with basic accident causation theory". The examiners are not asking you to discuss in detail the merits of the single- and multi-causal models, they just want you to make a mention of one or other of them as you describe the factors leading on to a particular accident. Remember this as you tackle this type of question.

Answer 3 Single-causal accident model

When you are giving examples of the different dominos: lack of management control domino / basic cause domino / etc, do make it clear to the examiners whether or not you are describing one particular domino sequence or if you are choosing individual domino examples from more than one domino sequence. In the study material we gave plenty of examples of lack of management control etc; if you have any queries about your answer, please contact the Chichester centre or speak to your tutor.

Answer 4 Tree form - another way of saying multi-causal. Your answer(s) should be built around the type of figure you saw in the study material, making as clear a distinction as possible between an unsafe act and an unsafe condition (not always easy) ...

sub-causes



Answer 5 Classification of accidents

There is no one way to classify accidents - think of the different organisations who will be using accident information: unions, pressure groups involved with young people at work, employers federations, HSE, a company on one site with a very limited range of activities, a company with many sites and very wide range of activities, and so on. You might have mentioned:

- classifications as used by (inter)national organisations such as the ILO
- the physical or material cause
- 'victim centred', ie the age, sex etc of the victim
- the part of the body injured

You should have mentioned:

- RIDDOR classification of accidents

Answer 6 Proactive monitoring: the techniques were introduced in NGC1/2 and form the principal concern of NGC1/5: audits, inspections, sampling, surveys and involve an assessment of the 'health' of an organisation so that actions may be taken before accidents happen.

Reactive monitoring: information relating to failures in health and safety (ie accidents and near misses) should be collected and analysed - the organisation reacting to, and learning from, its mistakes; related activities include record keeping, remedial actions, follow ups.

The information gained from both the proactive and reactive monitoring can highlight areas on which management should prioritise their activities.

Answer 7 A satisfactory safe place / safe person answer could encompass brief comments under the following headings:

safe place

- safe workplace
- equipment
- environment

safe person

- ppe
- information, instruction, training
- safe behaviour

Equally important is the fact that your answer should also make mention of the need to strike the appropriate balance in the safe place ↔ safe person equation - a balance which will change be different for normal work, maintenance operations and emergency situations.

Answer 8 HSE's five steps to a safe system of work:

- Step 1 Assess the task
- Step 2 Identify the hazards
- Step 3 Define safe methods
- Step 4 Implement the system
- Step 5 Monitor the system

Answer 9 Our study material gave a fuller description of the five steps; here are some key points:

Step 1 Assess the task

- what is used
- who does what
- how the tasks are carried out
- why the tasks are done this way
- where and when the various tasks are carried out

Step 2 Identify the hazards: remember, if the hazards can be eliminated altogether there is no need for the safe system of work.

Step 3 Define safe methods

Oral, written, formal permit to work schemes

- preparation and authorisation needed at the start of the job
- clear planning of job sequences
- specify safe work methods
- means of access and escape
- dismantling, disposal etc at the end of the job

Involve those who will be doing the work.

Special requirements of permit to work schemes

Step 4 Implement the system; communicated to, and understood by, employees, including:

- role of supervisors
- training employees to have the confidence and understanding to know when to stop work when faced with an unexpected problem.

Step 5 Monitor the system

- is the system workable?
- are the procedures in the system of work are being carried out?
- are they effective?
- any there any significant changes in circumstances which require alterations to the system of work?

... continued ...



Job safety analysis can be activity based or job based:

- activity based, for example:
 - » all work carried out above 2 metres
 - » all driving activities - internal (fork lift trucks, etc) and external, ie on the public highway
 - » loading and unloading of kilns in a pottery
- job based
 - » the activities of the maintenance engineer (some of whose work will probably need to be undertaken at height)
 - » pottery worker(s) who prepare and apply the glazes, load and unload the kiln, replace damaged brickwork in the kiln, and so on

Answer 10 We refer you to the answer that we gave in the study material. The 'Incident Contact Centre' in Caerphilly is a joint HSE and local authority venture which accepts the reports of incidents by phone, FAX, post and e-mail. One of the immediate benefits of the Caerphilly centre was that it cleared much of the confusion about the reporting procedures.

Answer 11 Procedures following an accident: quite deliberately, this question was not worded very precisely because we wanted to put in your mind the realisation that there are several different aspects to the question:

- RIDDOR requirements
- procedures for informing next-of-kin
- management of accident data
 - » method(s) and personnel involved in data collection
 - » data collection format for different departments (are these consistent?)
 - » combining and comparing the data from different departments
 - » feeding back the digested / processed data into the organisation's health and safety system so that it is appropriately acted upon

Answer 12 Analysis of accident and illness data should be undertaken to look for patterns and events of significance:

- the comparative performance of departments
- the relationship between accidents and work patterns: shift changeover, maintenance, new workers, introduction of new equipment, the production cycle and so on

Answer 13 Accident investigation sequence: remember that if you need help in developing your general sequence you should think through the sequence of events in a few real accidents:

- accident is reported to:
 - » safety advisor
 - » personnel department
 - » 'safety' manager
 - » senior management (if the accident is serious)
 - » appropriate authority (HSE etc)

... continued ...



- whoever is charged with the responsibility for investigating the accident will undertake to ...
 - » visit the site and record details (photographs etc)
 - » conduct interviews
 - » draft the report
- F2508 / F2508A is sent to HSE or environmental health department or the Caerphilly Incident Contact Centre
- discussion and modification of draft report to produce final report
- report submitted to safety committee, senior managers, safety representatives
- implement the recommendations of the report
- monitor effectiveness of remedial actions
- provide feedback