



NEBOSH Certificate NGC1/8

Incident investigation, recording and reporting

Suggested answers to revision questions

A1 *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*

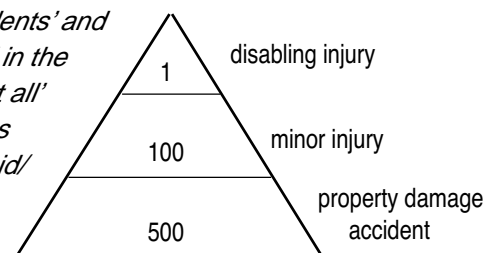
Immediate causes might involve what we have described as substandard acts or conditions which directly cause the accident:

- *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 recent HSE publication HSG245 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.

A2 *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.

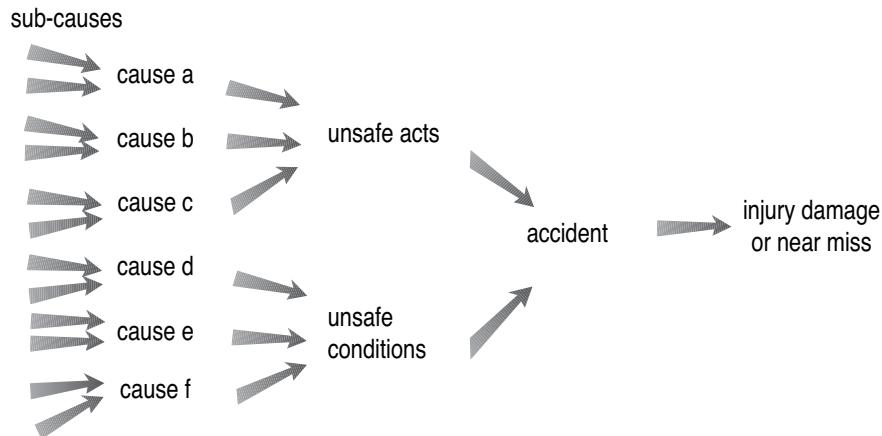
A3 *Single-causal accident model*

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.





A4 *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) ...*



A5 *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*

A6 *Proactive monitoring: the techniques were introduced in NGC1/2 and form the principal concern of NGC1/7: 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.





A7 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.

A8 HSE's five steps to a safe system of work:

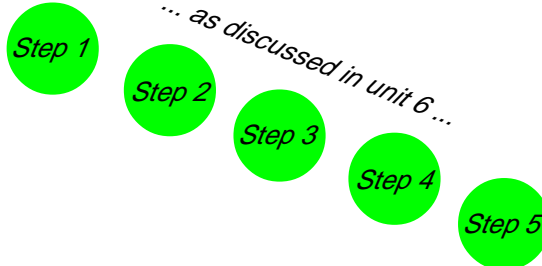
Step 1 Assess the task

Step 2 Identify the hazards

Step 3 Define safe methods

Step 4 Implement the system

Step 5 Monitor the system



A9 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 1

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

Step 2

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

Step 3

Involve those who will be doing the work.

Special requirements of permit to work schemes





Step 4

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

Step 5

- *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?*

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*

A10 We refer you to the answer that we gave in the study material. In 2001, in a joint venture with local authorities, the HSE opened the 'Incident Contact Centre' in Caerphilly which accepts the reports of incidents by phone, FAX, post and e-mail. One of the immediate benefits of the Caerphilly centre is that it clears much of the confusion about the reporting procedure.

A11 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*

A12 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*





A13 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)*
- *whoever is charged with the responsibility for investigating the accident will undertake to ...*
 - » *visit the site and record details (camera 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*

