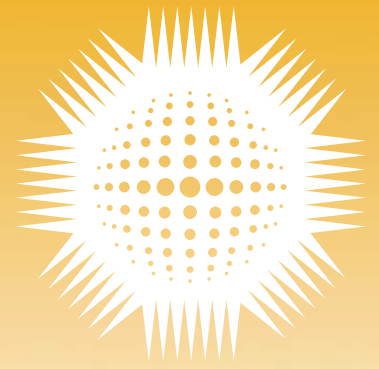


June 2009

Examiners' Report

NEBOSH National
General Certificate in
Occupational Health
and Safety (NGC2)



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Examiners' Report

NEBOSH LEVEL 3 CERTIFICATE IN OCCUPATIONAL HEALTH AND SAFETY

PAPER NGC2: CONTROLLING WORKPLACE HAZARDS

JUNE 2009



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Introduction

NEBOSH (The National Examination Board in Occupational Safety and Health) was formed in 1979 as an independent examining board and awarding body with charitable status. We offer a comprehensive range of globally-recognised, vocationally-related qualifications designed to meet the health, safety, environmental and risk management needs of all places of work in both the private and public sectors.

Courses leading to NEBOSH qualifications attract over 25,000 candidates annually and are offered by over 400 course providers in 65 countries around the world. Our qualifications are recognised by the relevant professional membership bodies including the Institution of Occupational Safety and Health (IOSH) and the International Institute of Risk and Safety Management (IIRSM).

NEBOSH is an awarding body recognised and regulated by the UK regulatory authorities:

- The Office of the Qualifications and Examinations Regulator (Ofqual) in England
- The Department for Children, Education, Lifelong Learning and Skills (DCELLS) in Wales
- The Council for the Curriculum, Examinations and Assessment (CCEA) in Northern Ireland

NEBOSH follows the “GCSE, GCE, VCE, GNVQ and AEA Code of Practice 2007/8” published by the regulatory authorities in relation to examination setting and marking (available at the Ofqual website www.ofqual.gov.uk). While not obliged to adhere to this code, NEBOSH regards it as best practice to do so.

Candidates’ scripts are marked by a team of Examiners appointed by NEBOSH on the basis of their qualifications and experience. The standard of the qualification is determined by NEBOSH, which is overseen by the NEBOSH Council comprising nominees from, amongst others, the Health and Safety Executive (HSE), the Department for Education and Skills (DfES), the Confederation of British Industry (CBI), the Trades Union Congress (TUC) and the Institution of Occupational Safety and Health (IOSH). Representatives of course providers, from both the public and private sectors, are elected to the NEBOSH Council.

This report on the Examination provides information on the performance of candidates which it is hoped will be useful to candidates and tutors in preparation for future examinations. It is intended to be constructive and informative and to promote better understanding of the syllabus content and the application of assessment criteria.

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General comments

Many candidates are well prepared for this unit assessment and provide comprehensive and relevant answers in response to the demands of the question paper. This includes the ability to demonstrate understanding of knowledge by applying it to workplace situations.

There are always some candidates, however, who appear to be unprepared for the unit assessment and who show both a lack of knowledge of the syllabus content and a lack of understanding of how key concepts should be applied to workplace situations.

In order to meet the pass standard for this assessment, acquisition of knowledge and understanding across the syllabus are prerequisites. However, candidates need to demonstrate their knowledge and understanding in answering the questions set. Referral of candidates in this unit is invariably because they are unable to write a full, well-informed answer to one or more of the questions asked.

Some candidates find it difficult to relate their learning to the questions and as a result offer responses reliant on recalled knowledge and conjecture and fail to demonstrate a sufficient degree of understanding. Candidates should prepare themselves for this vocational examination by ensuring their understanding, not rote-learning pre-prepared answers.

Recurrent Problems

It is recognised that many candidates are well prepared for their assessments. However, recurrent issues, as outlined below, continue to prevent some candidates reaching their full potential in the assessment.

- Many candidates fail to apply the basic principles of examination technique and for some candidates this means the difference between a pass and a referral.
- In some instances, candidates are failing because they do not attempt all the required questions or are failing to provide complete answers. Candidates are advised to always attempt an answer to a compulsory question, even when the mind goes blank. Applying basic health and safety management principles can generate credit worthy points.
- Some candidates fail to answer the question set and instead provide information that may be relevant to the topic but is irrelevant to the question and cannot therefore be awarded marks.
- Many candidates fail to apply the command words (also known as action verbs, eg describe, outline, etc). Command words are the instructions that guide the candidate on the depth of answer required. If, for instance, a question asks the candidate to 'describe' something, then few marks will be awarded to an answer that is an outline.
- Some candidates fail to separate their answers into the different sub-sections of the questions. These candidates could gain marks for the different sections if they clearly indicated which part of the question they were answering (by using the numbering from the question in their answer, for example). Structuring their answers to address the different parts of the question can also help in logically drawing out the points to be made in response.
- Candidates need to plan their time effectively. Some candidates fail to make good use of their time and give excessive detail in some answers leaving insufficient time to address all of the questions.
- Candidates should also be aware that Examiners cannot award marks if handwriting is illegible.

Paper NGC2

Controlling workplace hazards

- Question 1** *Hazardous substances in the form of paints, solvents and cleaning chemicals are to be used by contractors for the internal redecoration of a public library.*
- (a) **Identify FOUR** possible routes of entry of the hazardous substances into the body. (4)
- (b) **Outline** the factors to consider when undertaking an assessment of the risks to health from the hazardous substances, as required under the Control of Substances Hazardous to Health Regulations 2002. (8)
- (c) **Outline** the control measures required to reduce the risk to library employees' and members of the public's exposure to the hazardous substances. (8)

Answers to part (a) of this question should have identified inhalation, ingestion, injection and through the skin as possible routes of entry of the hazardous substances into the body. Most candidates produced good answers though one or two did confuse ingestion with digestion and even occasionally with indigestion.

For part (b), factors to be considered when undertaking an assessment of the risks to health from the substances to be used include: details of the way in which the work is to be carried out; the nature of the substances to be used and the type of hazards they might present including their accumulative and combined effects; the quantities to be used and the likely resultant air-borne concentration; the existence of any relevant work exposure limits (WELs); the number of persons to be exposed including individuals who might be particularly vulnerable and the length and frequency of the exposure; the adequacy of existing control measures such as ventilation systems and the need to carry out environmental monitoring and to keep records; and the provision of personal protective equipment such as that for respiratory protection and gloves and overalls. There was a general lack of understanding of the factors to be considered in undertaking a COSHH assessment and many candidates ended up by outlining the control measures that should be introduced.

Those candidates who had detailed control measures in answering part (b) of the question were obliged to repeat what they had already written as an answer to part (c). That said answers to this part of the question were generally to an acceptable standard. The most effective measure would be to close the library during the redecoration work or complete the work outside normal opening hours. If this could not be done, then consideration would have to be given to the possibility of segregating, isolating and sealing off areas of the building in turn and prohibiting access to anyone but the contractor's employees. Additionally consideration would have to be given to the possibility of using less hazardous substances and those with lower volatility, of reducing their quantity and of increasing the general ventilation of the library. Finally, signs would need to be erected to warn the public of the work in progress.

Question 2 *Identify the main hazards associated with excavation work on construction sites.*

(8)

Answers to this question were generally to a good standard with most candidates able to identify the main hazards associated with excavation work such as the collapse of the sides of the excavation; contact with buried services; ingress of water; build up of fumes and lack of oxygen; the dangers associated with excavation machinery such as contact with overhead lines; the effect of the excavation work on adjacent structures; the possibility of vehicles or people falling into unprotected excavations; biological hazards such as leptospirosis; coming into contact with contaminated land and even the possible presence of an unexploded bomb.

Some candidates identified the necessary control measures though this was not required by the question and accordingly they spent time which might have more profitably been given to answering another question. Those who may not have been too familiar with excavation work referred to other hazards found on a construction site such as dust and noise.

Question 3 *Absorbent mats and granules have been used to soak up a chemical spillage.*

Outline *the issues that will need to be considered in relation to the removal, temporary storage and final disposal of the waste material.*

(8)

Following the completion of a risk assessment which would consider matters such as the nature of the waste and its properties and quantity, written procedures would have to be drawn up for its handling including the use of competent employees who had received training in the risks arising from the operation and the precautions to be observed and the provision and use of personal protective equipment such as gloves, overalls and eye protection. Additionally, drains would need to be protected against pollution from the spillage and safe means provided for the transport of the waste material to a temporary storage site. The temporary storage area would have to provide adequate containment for the waste material, such as for example a bund, and should be protected and made secure against fire, vehicles, trespassers and the weather. The waste would need to be marked, labelled and an accurate inventory kept, and arrangements made for the separation of incompatible materials. Finally a licensed waste carrier would have to be appointed to carry out the ultimate disposal of the material to an appropriate site.

Answers to this question varied in quality. Those candidates who structured their answers under the headings of removal, temporary storage and final disposal generally did best. Those who did not do so well provided answers which were vague and lacking in detail. They tended to use terminology such as suitable and adequate, particularly with respect to personal protective equipment, without then going further and defining what might meet these criteria.

Question 4 *Due to the failure of automated handling equipment workers will be expected to lift boxes weighing 20kg from a conveyor and place them onto pallets ready for distribution.*

Outline *the factors that should be considered when undertaking a manual handling risk assessment of the activity.* (8)

The main factors to be considered in a manual handling assessment are task, individual, load and environment. There were many good answers provided by candidates who approached the question in this way applying each factor to the practical task outlined. Under the heading task for instance, there was a range of issues to be considered such as frequency of the activity, vertical and horizontal distances to be lifted/transported, distance of the load from the body, and awkward body movements. Under load, marks were available for considering factors such as the size and weight of the boxes, their stability and the ease with which a good grip might be gained and under environment for referring to the condition of the floor, space constraints, temperature and the standard of lighting provided. Lastly, the individual would have to they had received.

Some candidates did not read the question with sufficient care and outlined control measures whilst a few suggested automating the process.

Question 5 *Identify the measures to be taken to prevent slip and trip hazards in an engineering workshop.* (8)

In answering this question Examiners were looking to candidates to identify precautionary measures such as the initial design and layout of the workplace with designated walkways and non-slip floors; a system of maintenance which ensured the prompt repair of floor defects such as holes and bumps; the fitting of handrails on stairs and around stair openings; procedures for avoiding and dealing with spillages including those for filling and draining machines and their maintenance to prevent oil leaks; the provision of adequate lighting and highlight strips to warn of a difference in levels; a good standard of housekeeping including the proper management of cables and hoses, and procedures for reporting defects and incidents.

This question was well answered by most candidates. Some did tend to over-emphasise the housekeeping element to the exclusion of other relevant measures whilst a few identified other potential hazards in a workshop to no avail since they were not associated with slipping or tripping.

Question 6 *Give reasons that may delay the safe evacuation of employees from a workplace during a fire.* (8)

Most candidates referred to the lack of adequate evacuation procedures; poor alarm systems; insufficient or inadequate escape routes which were poorly signed and some of which might be blocked or locked; and a poor standard of emergency lighting. Better answers also mentioned the failure to allocate clear roles and responsibilities to people such as fire marshals; the infrequency of fire drills; a failure to provide employees with adequate information and instruction on the procedures to be followed; the tendency of some individuals to return to the workplace to collect their belongings and the effects of smoke, all of which could cause some involved in the emergency to panic and hinder safe evacuation.

Most candidates produced a good range of reasons that could delay the safe evacuation of employees from a workplace during a fire. There were, however, some interesting suggestions for the delay such as fire extinguishers, presumably because they were blocking exits, and the fact that some of the employees might have been asleep.

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- Question 7**
- (a) **Identify TWO types of non-ionising radiation AND give an occupational source of EACH.** (4)
- (b) **Outline the health effects associated with exposure to non-ionising radiation.** (4)
-

There were some candidates who did not attempt this question, and of those that did, only a few produced answers to a reasonable standard. There seemed little understanding of radiation and its possible health effects.

For part (a) of the question, two examples of non-ionising radiation could have been chosen from a list that includes ultraviolet light (welding or excessive exposure to the sun), infra-red (lasers), microwave (ovens, radar or mobile phones), radio wave (communications transmitter) and electromagnetic radiation (high voltage sources). There was much confusion shown between ionising and non-ionising radiation with x-rays being frequently offered in answer to this part of the question.

The health effects associated with exposure to non-ionising radiation will depend on the particular type of radiation but include photokeratitis or arc eye from welding, retinal burns, corneal damage and cataracts from exposure to infra-red radiation, burns to the skin from exposure to ultra violet or infra-red radiation, the heating of, and damage to, skin and internal organs by radio frequencies, particularly microwaves and the possibility of skin cancer. Answers to this part of the question were to a slightly better standard with candidates referring to the effects of exposure to the sun's rays and cancer, though a more specific reference to skin cancer was required.

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- Question 8**
- Outline the measures an employer might consider to minimise the risk of violence against employees.** (8)
-

In answering this question, possible measures included the completion of a workplace risk assessment which would identify vulnerable members of staff; the design and layout of the workplace with the use of physical barriers and restricting access to buildings, particularly in the case of known offenders; good standards of lighting in vulnerable areas such as car parks; the employment of trained security staff; the use of security equipment such as alarms, panic buttons and closed circuit television; ensuring adequate staffing levels and the provision of training in dealing with confrontation. Additional measures that could have been mentioned include the relevance of consultation with the police; the introduction of procedures for lone working, working out of hours and for home or other off site visits; reducing the need for handling money; introducing procedures for the reporting of incidents involving violence or attempted violence to staff members and the use of disciplinary procedures when violence occurred in-house amongst employees.

Some candidates concentrated solely on violence between employees and suggested how this might be controlled. Others were able suggest two or three measures only and did not consider those based on procedures or behaviour. A few again did not pay sufficient attention to the wording of the question and outlined measures designed to minimise the risk of stress rather than violence.

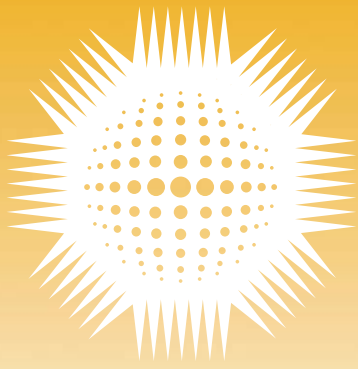
Question 11 *A heavy load is to be lifted with a forklift truck that is fitted with an extended jib lifting aid.*

Identify the factors to consider regarding the suitability and use of the jib lifting aid.

(8)

Factors to be considered in the use of the extended jib lifting aid include its suitability and fitness for purpose; its testing and examination by a competent person in accordance with the requirements of LOLER with the reports of the most current examinations available for inspection; the lifting aid clearly marked with its safe working load; the completion of a pre-use check on the equipment ensuring the lifting aid was securely attached to the truck; the planning and supervision of the lifting operation to ensure the equipment was positioned and used correctly to prevent injury and damage and that the safe working load was not exceeded; and finally the provision of training on the safe use of the equipment to the employees involved.

A good working knowledge of LOLER was required to produce a reasonable answer and this was lacking in many candidates. It may have been the case that many did not understand what an extended jib on a fork lift truck actually was and consequently few considered the lifting aid and concentrated on the suitability of the fork lift truck or described how to control a lifting operation.



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