

June 2012

# Examiners' Report NEBOSH National Certificate in Environmental Management



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# Examiners' Report

## NEBOSH NATIONAL CERTIFICATE IN ENVIRONMENTAL MANAGEMENT

### UNIT NEC1: MANAGEMENT AND CONTROL OF ENVIRONMENTAL HAZARDS

JUNE 2012

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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 around 35,000 candidates annually and are offered by over 500 course providers, with exams taken in over 100 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 to be recognised and regulated by the Scottish Qualifications Authority (SQA).

Where appropriate, NEBOSH follows the latest version of the “*GCSE, GCE, Principal Learning and Project Code of Practice*” published by the regulatory authorities in relation to examination setting and marking. 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 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.

Candidates should therefore note that Examiners' Reports are **not** written to provide 'sample answers' but to give examples of what Examiners were expecting and more specifically to highlight areas of under performance.

### Common pitfalls

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 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. Similarly the command word 'identify' requires more information than a 'list'.
- 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.
- Candidates should note that it is not necessary to start a new page in their answer booklet for each section of a question.

## Unit NEC1 Management and control of environmental hazards

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- Question 1**
- (a) **Identify FOUR common air pollutants AND outline the effects of EACH on people and/or the environment.** (8)
- (b) (i) **Outline the main features and underlying principles of FOUR types of air pollution control device.** (8)
- (ii) **Identify the type of emissions that would be appropriate for EACH of the above air pollution control devices.** (4)
- 

Most candidates were able to identify four common air pollutants for part (a) but there was some confusion on the effects. In particular, global warming and damage to the ozone layer were either wrongly attributed or scattered liberally amongst the pollutants identified.

In part (b) (i) candidates could identify four control devices but many failed to outline the main features and underlying principles of operation. Candidates were expected to show that they understood how the devices worked and what chemical or physical processes they relied upon. In part (ii) most, but not all, candidates could link the device to an appropriate emission.

Overall the question was well answered.

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- Question 2** **Describe the main features of a BS EN ISO 14001:2004 environmental management system.** (8)
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This question was generally well answered. Examiners were looking for the stages included in the Standard from policy through to management review. Those who did not gain good marks either failed to give sufficient detail in describing each feature or chose to describe the PDCA model which is more a tool for implementation.

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- Question 3**
- (a) **Give the meaning of the term 'active monitoring'.** (2)
- (b) **Outline, with examples, information sources that may be used in active monitoring.** (6)
- 

Candidates understood the term 'active monitoring' and some went into detail on how to monitor which was not required for part (a). A key piece of information sought but rarely given was that active monitoring is to ensure compliance with permits, plans, targets, etc. and to identify a potential problem before non-compliance or harm occurs.

In part (b) candidates generally gave good examples but often failed to give sufficient information for an outline. Some included reference to outside sources of general information which would not be relevant.

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**Question 4** *Life cycle analysis (LCA) is growing in importance in environmental management.*

(a) **Outline** the principles and key stages of LCA. (4)

(b) **Outline TWO** situations where an LCA study may be of benefit. (4)

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This question was generally not well answered. Candidates mentioned the whole life cycle or 'cradle to grave' but few went beyond that to outline how LCA was carried out. In part (b) some candidates chose two examples which were both comparing one product against another, the only difference being the products involved. Examiners were looking for different types of examples such as the use of LCA in analysing product design and manufacture to minimise overall impact.

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**Question 5** *During a routine inspection of a transport yard, a manager has observed oil floating on the surface of a small stream that runs alongside the yard. The oil is immediately downstream of a surface water discharge drain in the transport yard.*

**Outline** the checks that the manager should make in the initial investigation of this incident. (8)

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There were some good answers to this question but some candidates failed to answer the right question here. It was focussed on the initial investigation and too many candidates went into detail about the whole process of dealing with such an incident including such matters as clean-up and follow-up procedures. This was at the expense of details about the initial investigation which should be concerned with identifying if the source is on the site, where it has come from and how it is escaping.

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**Question 6** **Outline** the arrangements that should be in place for storage of waste at the producer's own premises under the Duty of Care for waste under the Environmental Protection Act (EPA) 1990. (8)

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This question was generally well answered with candidates outlining most of the main requirements. Some went into details about arrangements off site and the paperwork associated with transfers which were not required.

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**Question 7** (a) **Outline** benefits associated with the use of hydropower. (4)

(b) **Outline** limitations associated with the use of hydropower. (4)

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Again this question was well answered in both parts by most candidates. Some confused hydropower with tidal or wave power which constrained their ability to gain marks in either part.

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- Question 8** (a) **Outline** the potential sources of noise that would be associated with the construction of a new airport. (6)
- (b) **Identify** the potential environmental effects of the noise. (2)
- 

Another well answered question for which candidates achieved good marks both for the potential sources of noise and their effects. A few went beyond the construction phase into the operation phase which was not required.

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- Question 9** (a) **Outline** how the common law tort of negligence (delict as referred to in Scotland) may apply to environmental pollution. (6)
- (b) **Identify TWO** possible remedies that the civil courts could impose. (2)
- 

Answers to part (a) were mixed: some candidates answered well but others confused negligence with nuisance and so failed to identify the key features and principles that are relevant. Some gave good practical examples but did not outline the legal principles involved. In part (b) most candidates identified the legal remedies available although a few erroneously discussed fines and imprisonment which are only available to a criminal court.

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- Question 10** **Outline** the importance of sustainable development **AND give** examples of how sustainability can be achieved. (8)
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Most candidates were able to mention the definition from the Brundtland Commission or its basic tenet of development without compromising the needs of future generations and the need to protect the environment and conserve resources. Few candidates went beyond that to expand on the other two legs of sustainability to include the economic and social dimensions with appropriate examples.

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- Question 11** *BS EN ISO 14001:2004 requires organisations to identify both environmental aspects and environmental impacts.*
- (a) **Give** the meaning of the terms:
- (i) environmental aspect; (2)
- (ii) environmental impact. (2)
- (b) **Identify FOUR** possible environmental aspects of a coal-fired power station. (4)
- 

Few candidates were able to give definitions of impacts and aspects in part (a) which are included in ISO 14001. Some answers were completely wrong and others missed out key parts which would be required to gain full marks. This could affect answers to part (b) as some candidates confused aspects and impacts of the power station although most candidates did manage to gain some marks.



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