

April - June 2015

Examiners' Report

NEBOSH National Certificate in Environmental Management



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NEBOSH CERTIFICATE IN ENVIRONMENTAL MANAGEMENT

UNIT EC1: MANAGEMENT AND CONTROL OF ENVIRONMENTAL HAZARDS

APRIL – JUNE 2015



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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 50,000 candidates annually and are offered by over 600 course providers, with examinations taken in over 120 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 that applies best practice setting, assessment and marking and applies to Scottish Qualifications Authority (SQA) regulatory requirements.

This report provides guidance for 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 other 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.

This report has been prepared to provide feedback on standard date and on-demand EC1 examinations sat between April and June 2015.

Feedback is presented in these key areas; examination technique, command words and learning outcomes and is designed to assist candidates and course providers to prepare for future assessments in this unit.

Candidates and course providers will also benefit from use of the 'Guide to the NEBOSH Certificate in Environmental Management' which is available via the NEBOSH website. In particular, the guide sets out in detail the syllabus content for EC1 and tutor reference documents for each Element.

Additional guidance on command words is provided in 'Guidance on command words used in learning outcomes and question papers' which is also available via the NEBOSH website.

Candidates and course providers should also make reference to the EC1 'Example question paper and Examiners' feedback on expected answers' which provides example questions and details Examiners' expectations and typical areas of underperformance.

Unit EC1

Management and control of environmental hazards

Candidate performance

This report covers all examinations, both standard and on-demand examination sittings during April to June 2015.

Learning outcomes

Candidates performed well in these areas of the syllabus:

1.2 Explain the ethical, legal and financial reasons for maintaining and promoting environmental management

Candidates need to be able to demonstrate understanding of incidents in terms of environmental and human harm and legal and economic effects on the associated organisation.

Candidates responded with appropriate moral, legal and financial implications from incidents such as spills and emissions.

5.1 Outline the importance of the quality of water for life

Candidates are expected to demonstrate an understanding of the impact of water pollution on wildlife. Candidates successfully relayed various implications of how contaminated water adversely affects wildlife.

9.2 Describe the measures that need to be in place when planning for emergencies

Candidates are expected to understand planning, importance of inventories, control centres, training, mitigation, actions to be taken, impact on local residents, liaison with regulatory bodies and handling the press.

Candidates appeared to be well versed in the details within an environmental response plan.

The following learning outcomes have been identified as being the most challenging area of the syllabus for candidates in this period:

2.2 Describe the key features and appropriate content of an effective EMS, ie ISO 14001:2004

Candidates are expected to outline how record-keeping applies to 'checking' within an environmental management system (EMS).

Candidates experienced particular difficulty in indicating ways in which environmental data could be recorded. Difficulty was also experienced in outlining how records of environmental management decisions could be used in a future environmental management process and information within environmental records that should be retained for audit purposes.

Candidates and course providers would benefit from re-visiting this syllabus learning outcome within an EMS with a view to practical application in the workplace.

3.1 Explain the reasons for carrying out environmental impact assessments

3.2 Describe the types of environmental impact

Candidates are expected to relay an understanding of the reasons for environmental impact assessment and types of environmental impact that would be considered during these assessments.

Many candidates confused 'impacts' with 'aspects' and this affected the marks that could be attained.

Course providers and candidates could benefit from a focus on distinguishing between these criteria and especially the generic impact issues within industry.

5.3 Outline the main control measures that are available to reduce contamination of water sources

Candidates are expected to demonstrate understanding of the information required for permit to discharge applications into controlled waters.

Many delegates had difficulty in relaying satisfactory answers within this subject area. Candidates would benefit from more understanding of the typical contents of a permit to discharge application. This could be an area of focus for candidates and course providers.

Examination technique

The following examination techniques were identified as the main areas of improvement for candidates:

Candidates misread/reinterpreted the question

A common problem is to give a good answer to the wrong question. It pays to pause to consider and understand what is actually being asked for, rather than instantly responding with an answer that is known from a previously rehearsed exercise.

Candidates did not respond effectively to the command word

The direction is in the command words mentioned in the next section. A list of one or two words is insufficient for an outline, describe or explain answer and Examiners cannot assume what is not written down. There is more on this in the command word section that follows.

Candidates repeated the same point but in different ways

Candidates had a tendency to provide a series of identical responses to a variety of questions. Candidates must be more selective with responses in order to attain higher marks for each question.

Command words

The following command words are listed in the order identified as being the most challenging for candidates:

Outline

Examiners reported that the command word 'outline' challenged many candidates. Insufficient detail was provided in response to the principal features or parts of the subject matter requested when 'outline' was specified in the question. Exhaustive descriptions were not required for 'outline' but limited answers like single words or listed answers did not satisfy the command word requirements.

If the use of the command word in everyday language or conversation was considered it may help the candidate understand what was required. If asked to '**outline** the impacts from power station cooling water outlets discharged to the sea an answer like oil, dead fish and temperature would be insufficient as this represents a listed answer. However, pollution through oil in the discharge water, damage to ecosystems resulting in dead fish and high sea temperatures reducing oxygen levels would be sufficient.

Describe

The command word 'describe' requires that candidates provide distinctive features of the particular syllabus learning outcome subject matter nominated and not a need to provide extensive information on that subject. Candidates occasionally respond to 'describe' by completing a full page of text without actually responding with the distinctive features associated with the question topic. Candidates need to distinguish between 'outline' and 'describe' and not respond with a series of unconnected points generally related to the subject in the question. If a candidate was asked to '**describe** the operation of an electrostatic precipitator' a response of a huge piece of kit using high voltage to remove dust is a sufficient outline but is an insufficient description as specified in the 'describe' command word. However, if a candidate responded with 'contaminated gases, containing dust, pass through high voltage, electrically charged plates enabling the dust particles to become charged and attach themselves to the plates which are subsequently shaken, enabling gravity to act, forcing dust to fall into hoppers and cleaned gas discharges flow downstream' this would satisfy the command word.

Explain

When a question specifies 'explain' the candidate is required to provide an understanding or make clear an idea or relationship. For example, '**explain** the *cradle to grave* concept' if a candidate responded with 'takes into account inputs and outputs, considers environmental costs and uses equivalences then this constitutes an outline but **not** an explanation and this would be insufficient to merit full marks as this does not provide a deep enough understanding or relationship from the specified command word or the context in which the question is asked. However, if a candidate responded with 'A life cycle analysis study taking into account an inventory of all inputs and outputs; supply, manufacturing and waste impacts would be taken into account; environmental costs or obstacles would be added in at all stages along the way with interpretation through evaluation of these identified stages and alignment with the scope of the study' this would merit the awarding of marks.

Give

'Give' is normally used in conjunction with a further requirement, such as '**give** the meaning of' or '**give** an example in **EACH** case'. Candidates tended to have difficulty giving the meaning of a variety of subjects.

Identify

When providing a response to 'identify' the mental selection and naming of an answer that relates to the question should be sufficient. In most cases one or two words would be sufficient to be awarded corresponding marks. Any further detail would not be required and impacts negatively on the time limit for completing the examination. For example, if the question was '**identify** key members of the ISO 1400:2004 family' suitable responses would include ISO 14004 guidance on ISO 14001 or ISO 14020 environmental labels in order to be awarded a mark.

For additional guidance, please see NEBOSH's '*Guidance on command words used in learning outcomes and question papers*' document, which is available on our website: www.nebosh.org.uk/students/default.asp?cref=1345&ct=2.

Conclusion

The feedback from Examiners highlighted that candidates taking the EC1 examinations from April to June 2015 needed most improvement in the key features and appropriate content of an effective Environmental Management System, ie ISO 14001:2004 (learning outcome 2.2); the reasons for carrying out environmental impact assessments (learning outcome 3.1); types of environmental impact (learning outcome 3.2); and the main control measures that are available to reduce contamination of water sources (learning outcome 5.3).

With regard to examination technique, candidates should focus on reading, re-reading, interpreting and understanding what the question is actually asking and not one they had sub-consciously thought was being asked. Candidates need to concentrate more closely on the requirements of the command word within the question and be more selective in the answers given to questions pertaining to different elements of the syllabus.

Overall, candidates could gain additional marks for responding with greater understanding of the technical aspects of this qualification and application of this knowledge to environmental scenarios frequently encountered in industry.



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