

BEAC CPEA Environmental Compliance Examination Study Guide

Introduction and General Structure of the Examination

Introduction

This study guide is intended to assist an applicant in preparing for the BEAC Environmental Compliance Auditor Examination. The study guide consists of four sections:

- 1. General Structure of the Examination:** Gives an overview of the examination structure, pass/fail criteria, and timing;
- 2. Examination Outline:** Lists the topics and subject areas covered by the examination;
- 3. Sample Questions and Answers:** Provides examples similar to actual questions on the examination. Answers are provided for the example multiple choice questions, but not for the example essay questions;
- 4. Reference List:** Lists other books and documents that BEAC believes are generally accepted sources, which may be useful to the examinee and from which some of the questions may have been derived.

Note: The study guide does not address “test-taking” strategies or tactics. If it has been some time since you last sat for an examination, it might be useful to refresh your memory of the basics. (e.g., *Read questions carefully. Don't agonize too long over a troublesome question; skip it and come back later if time permits. Don't make random guesses. etc.*)

1. General Structure of the Examination

The BEAC Environmental Compliance Auditor Examination consists of three parts:

- Part I. Basic Principles of Auditing (*131 multiple choice questions; answer all*)
- Part II. Environmental Requirements (*120 multiple choice questions; answer all*)
- Part III. Understanding Environmental Compliance Standards (*4 multi-part essay questions; you are to answer all*)

The examination will be administered in three two-hour segments with a short break between each part of the examination.

Parts I, II, and III of the examination are equally weighted. The "pass/fail" criterion for the CPEA – Environmental Compliance examination is 70% of the available points. The percent correct score is calculated for Parts 1 & 2 and then the Part III score is calculated, as a percent of total possible. The 3 scores are then averaged to determine the overall score.

Example: Part 1, 85%, Part 2, 73%, Part 3, 70%. Overall score would be calculated as 76%.

You do not need to pass each part to pass overall. If your overall score does not reach the 70% passing level, but you passed an individual part, you will not be required to retake the part you have passed.

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2. Examination Outline

Part I. Basic Principles of Auditing

The questions in this Part are quite generic; they will apply in essentially the same way to environmental compliance or health and safety compliance auditing as they do to management system auditing. The questions will be multiple-choice questions—choose the best answer from 4 choices. Subjects covered in Part I include the following:

Ethics and Standards of Conduct for Auditors

This category relates to the candidate's understanding, judgment and perception of how an auditor should behave and react to ethical situations that can occur in the audit process. This may include some questions concerning BEAC, and IIA standards for auditing. Test questions focus on topics such as:

- Conflict of Interest
- Independence of Auditors
- Due Professional Care
- Material Facts and Disclosure
- Auditor Proficiency

Audit Program Design

This category includes issues related to the design, structure and key planning elements of audit programs. Test questions focus on topics such as:

- Senior Management Commitment
- Scope of Audit Programs
- Audit Tools
- Site Selection/Frequency of Audits
- Quality Assurance Mechanisms
- Auditor Staffing/Training

Audit Activities

This category relates to activities associated with actually conducting a specific audit. Test questions focus on topics such as:

- Pre-Audit Activities (e.g., gathering background information; contacting the facility, coordinating the audit team)
- On-site Activities (e.g., opening meeting and tour; assessing and evaluating systems, programs and procedures; gathering information: interviewing, reviewing documents and records, sampling, making inspections; handling sensitive situations; evaluating audit evidence and writing findings; closing meeting)
- Post-audit Activities (e.g., report preparation; legal protection/confidentiality of results; corrective action planning and tracking)

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2. Examination Outline

Part II. Environmental Requirements

There will be 120 multiple choice questions in this Part; they will be generally more complex than those in Part I. Many questions will present a, b, c, d, etc., alternative answers. Other questions will present relatively brief scenarios that may deserve more than one reading before you decide on the answer.

Some of the questions in this Part relate to environmental compliance in general. However, many questions will be quite specific and require recognition or recall of the detailed requirements of particular standards and/or applicable regulatory requirements. The applicant will not have to know “chapter and verse” but will be required to know content. Questions are divided into four general categories: Regulatory Framework (16), Applicability Determination (21), Environmental Technology (13), and Facility Compliance With Regulations (70).

This section relates to the candidate's understanding, judgment and perception of topics such as:

Legislative/Regulatory Applicability

This category relates to an auditor's need to understand what environmental laws and regulations apply to a particular process or operation at audited facilities. Test questions could focus on topics such as:

- Major Regulatory Thrust of Major Environmental Laws
- EPA/State Jurisdiction/Enforcement of Laws
- Regulatory Process (interim, draft, final)
- Ability to Determine Applicability of Environmental Laws to Audited Facility Operations/Processes

Process Operations Environmental Impacts and Related Pollution Control Technologies

This category relates to an auditor's ability to evaluate what environmental impacts and compliance issues result from typical process operations and understanding the generic pollution control technologies to control the impacts. Test questions could focus on topics such as:

- Typical Waste Streams and Pollutants Generated by Process Operations
- Thresholds that Trigger Compliance Requirements
- General Concepts of Operation of Pollution Control Technologies
- Typical Compliance Related Requirements Associated with Pollution Control Technologies

Media Specific Regulatory Knowledge

This category relates to an auditor's knowledge of key regulatory requirements that are typically evaluated during an audit. Test questions could focus on topics such as:

- Wastewater/Stormwater
- Air Emissions
- Hazardous Waste/Solid Waste
- SARA Title III
- UST's
- Drinking Water
- Spill Control/Response (SPCC)
- TSCA

The Environmental Acts/Standards/Regulations that govern environmental practices in the United States are known by many names and acronyms. It is not expected that examinees will be familiar with the specific details of **all** of the Acts/Standards/Regulations or sections. However, it will be virtually impossible to obtain a passing score unless you are *generally* familiar with **most** of the documents referenced in the table below.

Those that were specifically named in developing questions for Part II include:

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2. Examination Outline

| Standard/Regulation/Act or Section There-of | Issuing Organization or Reference |
|---|--------------------------------------|
| Clean Water Act - 1972 | U.S. Environmental Protection Agency |
| Clean Air Act – (as amended in 1990) | U.S. Environmental Protection Agency |
| Resource Conservation and Recovery Act (RCRA) | U.S. Environmental Protection Agency |
| Resource Conservation and Recovery Act (RCRA). Subtitle I – Underground Storage Tanks (UST) | U.S. Environmental Protection Agency |
| National Pollutant Discharge Elimination System (NPDES) | U.S. Environmental Protection Agency |
| National Ambient Air Quality Standards (NAAQS) | U.S. Environmental Protection Agency |
| Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA – commonly called Super Fund) | U.S. Environmental Protection Agency |
| Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). | U.S. Environmental Protection Agency |
| Toxic Substances Control Act (TSCA) | U.S. Environmental Protection Agency |
| Safe Drinking Water Act | U.S. Environmental Protection Agency |
| Public Health Security and Bioterrorism Preparedness and Response Act of 2002 | U.S. Environmental Protection Agency |
| National Primary Drinking Water Regulations | U.S. Environmental Protection Agency |
| Superfund Amendments and Reauthorization Act of 1986 (SARA) | U.S. Environmental Protection Agency |
| Risk Management Plans (Under section 112(r) of the Clean Air Act) | U.S. Environmental Protection Agency |
| Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313 | U.S. Environmental Protection Agency |
| National Emission Standards for Hazardous Air Pollutants | U.S. Environmental Protection Agency |
| Oil Pollution Act (OPA) - August 1990 | U.S. Environmental Protection Agency |
| Continuous Emission Monitoring Systems (CEMS) | U.S. Environmental Protection Agency |
| Prevention of Significant Deterioration Permit | U.S. Environmental Protection Agency |
| Hazardous Organic National Emission Standard for Hazardous Air Pollutants (NESHAP) (HON Rule) | U.S. Environmental Protection Agency |
| Storm Water Discharge Permit | U.S. Environmental Protection Agency |
| RCRA Subtitle D Landfills | U.S. Environmental Protection Agency |

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2. Examination Outline

Part III. Applying Environmental Compliance

This part of the examination consists of four multi-part essay questions. You are to answer **all**.

The essay questions will test how you would handle situations during an environmental compliance audit. Your answers should reflect your knowledge, judgment and overall awareness of auditing principles and practices.

Successful completion of Part III requires that you draw both on your knowledge of auditing principles (which was tested in Part I) and on your familiarity with the requirements of environmental standards (which was tested in Part II). However, while Parts I and II focused on specific knowledge of [mostly] factual information, the essay questions in Part III are designed to measure your ability to analyze, think critically, integrate information, and express yourself clearly and logically.

Legibility of your responses is important; the graders must be able to understand your response if you are to receive full credit.

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3. Sample Questions and Answers

3a. Sample Questions

Part I: Basic Principles of Auditing

1. Which of the following is not a basic element common to most audit program manuals:
 - a. Objectives
 - b. Scope
 - c. Subjects to be audited
 - d. Names of qualified auditors

2. The staff assigned to conduct an audit should:
 - a. Be comprised of members with a master's level or equivalent educational background.
 - b. Demonstrate overall aptitude in a multitude of industries.
 - c. Have qualifications commensurate with the scope and complexities of the audit assigned.
 - d. Be comprised only of members with QEP, CIH or CSP professional certification.

3. An auditor finds evidence in the facility files that directly contradicts a statement made by the EHS coordinator. The EHS coordinator refuses to admit his error and comes to the audit team leader and states that the audit team is free to review files, but no more interviews will be granted to that auditor. The best first course of action for the audit team leader in this situation is:
 - a. Contact the audit program director for assistance in resolving the conflict.
 - b. Work with the EHS coordinator to try to resolve the conflict.
 - c. Replace the auditor.
 - d. End the audit.

Part II: Environmental Requirements

1. Which of the following activities would not be typically performed during the on-site portion of a compliance audit?
 - a. Participate in an orientation tour
 - b. Interview personnel
 - c. Obtain federal and state regulations
 - d. Facilitate a closing conference
 - e. None of the above

2. Which of the following is not one of the national ambient air quality standard pollutants?
 - a. Nitrogen trioxide
 - b. Sulfur dioxide
 - c. Carbon monoxide
 - d. Lead
 - e. All of the above

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3. Sample Questions and Answers

3. A generator of a land disposal restricted hazardous waste may conclude that his/her waste stream requires no further treatment. If so, paperwork that this generator must include with shipments of the waste include:
 - a. EPA hazardous waste number
 - b. Applicable treatment standard
 - c. Manifest number of the waste shipment
 - d. Waste analysis data, if available
 - e. All of the above

4. The 1990 Clean Air Act Amendment replaced Part B – Ozone Protection with what?
 - a. Part D, SUBPART 2 - Additional Provisions for Ozone Nonattainment Areas
 - b. The Ozone Protection Act of 1990
 - c. Title VI – Stratospheric Ozone Protection
 - d. Adoption of the International Ozone Control and Attainment Standard

5. The senior management of ABC Co. requested an audit of the XYZ plant to determine compliance with the Clean Air Act provisions requiring continuous emissions monitoring of boiler emissions. A number of regulatory deficiencies were identified including the failure to update and keep current the plant's required emissions monitoring plan. During a briefing, the plant manager said that the monitoring plan was scheduled to be updated in the following month and that accordingly the audit report should not contain this finding. As lead auditor you should:
 - a. Politely refuse the request as you are required to report all material facts
 - b. Grant the request as a courtesy as the problem will soon be corrected
 - c. Grant the request as the deficiency was not material in that it did not directly contribute to emissions
 - d. Do nothing at the time but conduct a follow-up investigation in two months
 - e. Refer the request to the Vice President of Operations

Part III: Applying Environmental Compliance

1. During the orientation tour of a petroleum terminal, you observe several tanks within a concrete dike with lower intervening walls between tanks. There are drains within each area to drain off rainwater and there are visible cracks in some of the dike walls.
 - a. Describe the steps you would take to determine the status of the dikes.
 - b. What documentation would you want to review to determine the disposition of collected rainwater?

2. Personnel interviews are an important part of any effective environmental audit and can gather information not otherwise available to the auditor.
 - a. Describe steps you would take to put a facility "waste management" employee at ease with the interview.
 - b. List questions you would ask to draw out information about hazardous waste practices that may not be documented or in compliance with documented procedures or regulations.

3. During the audit of a large chemical facility with six independent operating units, you are assigned to review the overall status of the overall air emissions permitting program. Since there are far too many emission points to review them individually, describe what sampling methods

3. Sample Questions and Answers

you would consider in selecting the number and location of emission points for detailed documentation review and give the strengths and weaknesses of each option.

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3. Sample Questions and Answers

3b. Answers to Sample Questions

Part I: Basic Principles of Auditing

Question 1

- a. Incorrect. Objectives are common elements of audit program manuals.
- b. Incorrect. The scope is commonly included in an audit program manual.
- c. Incorrect. The subjects to be audited are commonly included.
- d. **Correct.** The names of individual qualified auditors are generally not included in the manual. (Criteria for qualifying auditors may be in the manual, however.)

Question 2

- a. Incorrect. Aptitude in a multitude of industries is not a requirement.
- b. Incorrect. An advanced degree is not a requirement for conducting audits.
- c. **Correct.** The necessary qualifications will vary with the scope and complexities of the audit assignment.
- d. Incorrect. These professional certifications are not requirements for staff assigned to conduct an audit.

Question 3

- a. Incorrect. Escalating the conflict to the audit program director should be considered only if facility-level resolution is not achieved.
- b. **Correct.** Resolving both the factual issue(s) and the apparent personality clash at the facility level is the best first step.
- c. Incorrect. The auditor rightly expects to be supported and assisted in resolving the conflict.
- d. Incorrect. Ending an audit would be a very last resort, and not warranted in this case.

Part II: Environmental Requirements

Question 1

- a. Incorrect: Taking an orientation tour of a facility is a common part of a compliance audit and can aid the auditor in identifying areas/functions/processes which should be addressed during the audit.
- b. Incorrect: Interviews with facility personnel are critical to a comprehensive audit.
- c. **Correct:** Appropriate federal and state regulations should have been obtained and reviewed prior to arriving at the audit site.
- d. Incorrect: Facilitating an effective closing conference with appropriate site management is an important element of an environmental compliance audit.
- e. Incorrect: Because it was one of the “above”.

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3. Sample Questions and Answers

Question 2

- a. **Correct:** Nitrogen trioxide is not listed as one of the national ambient air quality standard pollutants.
- b. Incorrect: Sulfur dioxide is one of the national ambient air quality standard pollutants.
- c. Incorrect: Carbon monoxide is one of the national ambient air quality standard pollutants.
- d. Incorrect: Lead is one of the national ambient air quality standard pollutants.
- e. Incorrect:

Question 3

- a. Incorrect: Required paperwork is not limited to EPA hazardous waste number.
- b. Incorrect: Required paperwork is not limited to applicable treatment standard.
- c. Incorrect: Required paperwork is not limited to manifest number of the waste shipment.
- d. Incorrect: Required paperwork is not limited to waste analysis data, if available.
- e. **Correct:** All of the items listed must be included with shipments of the waste.

Question 4

- a. Incorrect: While this section of the CAA deals with Ozone non-attainment areas; it is not the section that replaced Part B.
- b. Incorrect: No such act.
- c. **Correct:** The 1990 CAA Amendments replaced Part B with Title VI - Stratospheric Ozone Protection.
- d. Incorrect: No such international standard is currently used by the U.S. EPA.

Question 5

- a. **Correct:** Politely refuse the request as you are required to report all material findings as they exist at the time of the audit.
- b. Incorrect: Audit findings must represent what the auditor found at the time of the audit.
- c. Incorrect: Audit findings must represent what the auditor found at the time of the audit, whether they impact emissions positively, negatively or not at all.
- d. Incorrect: A follow-up audit may be conducted to confirm the implementation and effectiveness of the monitoring plan but the initial CAA compliance audit must document the findings of the initial audit
- e. Incorrect: Do not refer the plant manager's request to anyone other than the audit team leader – the "buck stops there".

Part III: Environmental Compliance

No answers are provided for the sample essay questions.

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4. Reference List

This reference list is provided as suggestions only. BEAC does not endorse or require that you purchase any particular reference.

- Achieving Environmental Management Standards - *M. J. Gilbert*
- Auditing for Environmental Quality Leadership - *J. Willig*
- Codes of Conduct - *The Auditing Roundtable (AR)*
- Competency Framework for Environmental, Health and Safety Auditors – *BEAC website (<http://www.beac.org/guidance-gb.html>)*
- Corporate Environmental Strategy - *B. Piasecki*
- Effective Environmental Auditing - *International Chamber of Commerce*
- Environmental Auditing - Fundamentals and Techniques - *J. Ladd Greeno, et al*
- Environmental Audits - *R. Kane, et al*
- Environmental, Health and Safety Auditors Handbook - *J. Ladd Greeno, et al*
- Environmental Health and Safety Audits, 8th Edition - *Lawrence B. Cahill, CPEA*
- Environmental Risk Management: A Desk Reference - *E. Rothenberg*
- EPA Audit Policy - *EPA website (www.epa.gov)*
- Practical Guide to Environmental Management - *F. B. Friedman*
- Sawyers Internal Auditing - *L. B. Sawyer*
- Standards for the Professional Practice of Environmental, Health and Safety Auditing – *BEAC website (<http://www.beac.org/guidance-ga.html>)*
- The Professional Practices Framework – *Institute of Internal Auditors*