

# SAChE An Introduction to Managing Process Safety Hazards (ELA953) Practice Test (Sample)

## Study Guide



**Everything you need from our exam experts!**

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# Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

**Remember:** successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

# How to Use This Guide

**This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:**

## **1. Start with a Diagnostic Review**

**Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.**

## **2. Study in Short, Focused Sessions**

**Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations.**

## **3. Learn from the Explanations**

**After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.**

## **4. Track Your Progress**

**Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.**

## **5. Simulate the Real Exam**

**Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.**

## **6. Repeat and Review**

**Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.**

**There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!**

## Questions

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- 1. Which statements about temporary changes are true?**
  - A. Temporary changes should have a prescribed time limit**
  - B. Renewal of temporary change time limits must be reviewed to assure that adequate safeguards are being maintained**
  - C. Neither statement is true**
  - D. Both statements are true**
  
- 2. A rupture disc is generally considered a safeguard against which hazard?**
  - A. Temperature**
  - B. Noise**
  - C. Humidity**
  - D. Pressure**
  
- 3. In the example of the exploded rotameter, which scenario best reflects a Process Safety Culture deficiency?**
  - A. Not reporting a minor leak immediately**
  - B. Failing to wear PPE on hot days**
  - C. Use of a different, discredited cleanout procedure on off-shifts vs. day shifts**
  - D. Skipping a routine equipment check on weekend**
  
- 4. Bonding and grounding are identical in all contexts.**
  - A. True**
  - B. False**
  - C. It varies by context**
  - D. They are completely unrelated**
  
- 5. Of the case study examples shown in this module, which illustrates normalization of deviance?**
  - A. Case A**
  - B. Case B**
  - C. Case C**
  - D. All of the above**

- 6. Of the following, which is the most recent model for process safety management?**
- A. CCPS' Risk Based Process Safety**
  - B. Traditional Process Safety Management**
  - C. Incident-Based Safety Model**
  - D. Safety and Compliance Model**
- 7. Which of the following is a passive safeguard?**
- A. Diking**
  - B. Check Valve**
  - C. Alarm System**
  - D. Interlock System**
- 8. In process safety, which statement about MOC changes and PSM elements is true?**
- A. Changes do not affect PSM elements**
  - B. Changes commonly impact multiple PSM elements**
  - C. Only one PSM element is impacted**
  - D. MOC is unrelated to PSM**
- 9. The chemical Safety Board does not have the authority to issue fines or citations.**
- A. True**
  - B. False**
  - C. Not sure**
  - D. It does have authority**
- 10. Which safeguards re-close when the upstream supply pressure subsides?**
- A. Check valve**
  - B. Safety interlock**
  - C. Gate valve**
  - D. Pressure relief valve**

## Answers

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1. D
2. D
3. C
4. B
5. D
6. A
7. A
8. B
9. A
10. D

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## **Explanations**

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- 1. Which statements about temporary changes are true?**
- A. Temporary changes should have a prescribed time limit**
  - B. Renewal of temporary change time limits must be reviewed to assure that adequate safeguards are being maintained**
  - C. Neither statement is true**
  - D. Both statements are true**

Temporary changes introduce a deviation from normal operation and can alter the risk landscape, so they must be tightly controlled. Having a prescribed time limit ensures there's a defined window in which the change is allowed, preventing it from lingering as if it were permanent and forcing a timely risk re-evaluation. When that time limit comes up for renewal, you review the change again to confirm that the existing safeguards still cover the current conditions, that procedures and training remain adequate, and that any new information or evolving process factors are addressed. If the renewal shows safeguards are still appropriate, operation can continue safely; if not, adjustments are made or the change is reverted. Because both establishing a time limit and performing a renewal review are essential to keeping risk under control during temporary changes, this option is the best answer.

- 2. A rupture disc is generally considered a safeguard against which hazard?**
- A. Temperature**
  - B. Noise**
  - C. Humidity**
  - D. Pressure**

A rupture disc is a fast-acting pressure-relief device. Its job is to burst at a predetermined pressure to vent the process fluid and relieve buildup before the pressure gets high enough to damage equipment or cause a release. This makes overpressure the hazard it protects against. It's not about controlling temperature, noise, or humidity, which are addressed by other safety measures. After it vents, the disc must be replaced, since it is sacrificial and single-use.

**3. In the example of the exploded rotameter, which scenario best reflects a Process Safety Culture deficiency?**

**A. Not reporting a minor leak immediately**

**B. Failing to wear PPE on hot days**

**C. Use of a different, discredited cleanout procedure on off-shifts vs. day shifts**

**D. Skipping a routine equipment check on weekend**

Process safety culture deficiency shows up when safe work practices aren't applied consistently and unsafe shortcuts become normalized, especially across different shifts. Using a different, discredited cleanout procedure on off-shifts versus day shifts demonstrates that exact problem: a shift-based norm that tolerates bypassing approved safety controls. This signals that safety rules aren't universally valued or enforced, which can undermine the integrity of instrumentation and controls—precisely what a rotameter incident would exploit. When procedures are altered or trusted to be different by shift, the organization is effectively teaching that safety guidance is negotiable, increasing the chance of a hazardous outcome like an explosive event. Other scenarios reflect unsafe acts or omissions, but they don't show the same systemic pattern of bypassing validated safety procedures across shifts. Not reporting a minor leak points to communication gaps; not wearing PPE on hot days is a PPE compliance issue; skipping a routine weekend check hints at maintenance discipline, but none indicate a culture that tolerates unsafe, discredited methods as a normal operating practice.

**4. Bonding and grounding are identical in all contexts.**

**A. True**

**B. False**

**C. It varies by context**

**D. They are completely unrelated**

Bonding and grounding are not identical in all contexts. Bonding connects conductive parts so they share the same electrical potential, preventing differential voltages that can cause static discharge or sparks during handling or movement of materials. Grounding, by contrast, ties equipment to the earth to provide a low-impedance path for fault currents, helping stabilize system voltage with respect to earth and enabling protective devices to operate. Because they serve different safety aims, they're used for complementary purposes rather than being interchangeable. Some situations involve bonding without an explicit earth connection, others rely on grounding without bonding every component, and many systems implement both. Therefore, the statement that bonding and grounding are identical in all contexts is not correct.

**5. Of the case study examples shown in this module, which illustrates normalization of deviance?**

- A. Case A
- B. Case B
- C. Case C
- D. All of the above**

Normalization of deviance happens when a risky deviation from safety practices becomes accepted as normal because it hasn't caused problems yet. People gradually adjust their behavior, procedures get bypassed, and safety margins shrink, often under the justification of saving time or improving efficiency. In the module's case studies, each example shows this creeping shift: strict rules loosened, deviations treated as ordinary, near misses dismissed or rationalized, and management tolerating the practice until a warning or incident reveals the growing risk. Since all the cases illustrate this same pattern of growing tolerance for deviation, the best answer is that all of the above apply. Recognizing this pattern helps explain how small, repeated shortcuts can accumulate into a serious hazard if not challenged.

**6. Of the following, which is the most recent model for process safety management?**

- A. CCPS' Risk Based Process Safety**
- B. Traditional Process Safety Management
- C. Incident-Based Safety Model
- D. Safety and Compliance Model

Risk Based Process Safety from CCPS is the most recent approach to managing process safety. It treats safety as a function of risk across the entire lifecycle of a facility, using risk-based thinking to decide where to apply protective measures and how to allocate resources. This model emphasizes identifying hazards, assessing and tolerating risk, applying layers of protection, and integrating process safety into design, construction, start-up, operation, maintenance, and modification. It also foregrounds leadership, governance, knowledge management, and learning from incidents as drivers of continuous improvement, rather than just ticking boxes to meet standards. Traditional Process Safety Management is older and more prescriptive, focusing on compliance with established standards and procedures. An incident-based safety model is reactive, concentrating on responding to events after they occur rather than preventing them. A safety and compliance model isn't a standard framework used for modern process safety management.

**7. Which of the following is a passive safeguard?**

- A. Diking**
- B. Check Valve**
- C. Alarm System**
- D. Interlock System**

Passive safeguards are features built into a facility that reduce risk without energy input or human action. A dike serves as a fixed physical boundary designed to contain spills and prevent them from spreading to other areas. Because it works by its very presence—without sensors, alarms, or operator intervention—it fits the idea of a passive safeguard. The other options rely on detection, automatic control, or operator action to mitigate risk: alarms require someone to respond, interlocks enforce safe conditions through control systems, and a valve or other flow-control device operates as part of the process but is not a fixed site barrier like a dike.

**8. In process safety, which statement about MOC changes and PSM elements is true?**

- A. Changes do not affect PSM elements**
- B. Changes commonly impact multiple PSM elements**
- C. Only one PSM element is impacted**
- D. MOC is unrelated to PSM**

When a change is proposed, it doesn't just touch one piece of the system. Management of Change is a cross-cutting activity that prompts reevaluation of hazards and risk controls across several PSM elements. For example, changing a material of construction, a process step, or operating conditions may require updating process safety information (like P&IDs and equipment specs), redoing the hazard analysis, revising operating procedures and starting/stopping criteria, updating training, and adjusting mechanical integrity or maintenance plans. It may also affect the permit to operate and emergency response procedures. Because such changes can alter how hazards are controlled, they commonly impact multiple PSM elements.

**9. The chemical Safety Board does not have the authority to issue fines or citations.**

- A. True**
- B. False**
- C. Not sure**
- D. It does have authority**

This question tests understanding of the CSB's enforcement powers. The Chemical Safety Board investigates chemical accidents and issues safety recommendations, and it can use subpoenas to gather information during investigations. However, it does not have the authority to issue fines or citations; penalties and enforcement actions are handled by regulatory agencies such as OSHA or EPA. Because of this, the statement that the CSB does not have authority to impose fines or citations is true.

**10. Which safeguards re-close when the upstream supply pressure subsides?**

- A. Check valve**
- B. Safety interlock**
- C. Gate valve**
- D. Pressure relief valve**

The key idea is automatic reseating after relieving pressure. A pressure relief valve opens to vent when the system pressure exceeds its set limit, and once the pressure falls back to a safe level, it automatically reseats and stops venting. This re-closing behavior is what protects the system from overpressure while avoiding continuous venting. Other devices don't match this automatic pressure-based reseating: a check valve lets flow in one direction and mainly prevents backflow, not regulate pressure and reseal after an overpressure event; a safety interlock is a control mechanism that stops a process when a condition is met and doesn't automatically reclose just from pressure changes; a gate valve is an isolation valve that requires manual or actuator action to close, not a passive response to pressure.

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## Next Steps

**Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.**

**As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.**

**If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at [hello@examzify.com](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://sacheela953.examzify.com>**

**We wish you the very best on your exam journey. You've got this!**

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