



## [Course Instructions](#)

**NOTE:** The following pages contain a preview of the final exam. This final exam is identical to the final exam that you will take online after you purchase the course.

After you purchase the course online, you will be taken to a receipt page online which will have the following link: [Click Here to Take Online Exam](#). You will then click on this link to take the final exam.

### **3 Easy Steps to Complete the Course:**

- 1.) Read the Course PDF – download from our website**
- 2.) Purchase the Course Online & Take the Final Exam – see note above**
- 3.) Print Out Your Certificate**

## Earthquake Resistant Pipelines Final Exam

1. **Regarding *Gas Pipeline Systems*, modern gas transmission pipelines are usually made of continuous girth-welded steel pipe.**
  - a. True
  - b. False
  
2. **As per Figure 2.2, Pennsylvania is in Rate Zone:**
  - a.1
  - b.4
  - c.2
  - d.3
  
3. **Modern oil and liquid *Storage Tanks* included in pipeline systems vary from \_\_\_\_\_ in diameter:**
  - a. 10 to 30 ft.
  - b. 40 to 250 ft.
  - c. 25 to 75 ft.
  - d. 36 to 57 meters.
  
4. **Regarding *Failure Mechanisms*, the principal modes of failure for continuous, welded pipelines are:**
  - a. high pressure rupture and overstressing of welds.
  - b. direct tensile rupture, beam or local buckling, and excessive bending.
  - c. inadequate welds and sub-standard pipe wall quality.
  - d. insufficient pipe wall thickness.
  
5. **With regards to *Earthquake Effects Causing Failures of Tanks*, the predominant hazards for tank farms are ground shaking and liquefaction.**
  - a. True
  - b. False
  
6. **Considering *Emergency Response*, most of the risk is associated with existing systems which were not designed to be earthquake resistant.**
  - a. True
  - b. False

**7. Regarding *Federally Controlled Systems, Federal Practices*, the *Department of Transportation (DOT)* regulates pipelines through \_\_\_\_\_ for natural gas and other gas and hazardous liquids respectively:**

- a. ACI 110 to 124.
- b. ASCE Standards of Practice.
- c. the National Pipeline and Fuel Transmission Codes, sections 101 through 117.
- d. CFR Title 49 Parts 191 to 193, and 195

**8. Considering *Federally Controlled Systems, Federal Practices*, with respect to gas pipelines, the *Federal Energy Regulatory Commission (FERC)* reviews proposed designs for potential earthquake hazards where pipelines cross streams, rivers or geological faults.**

- a. True
- b. False

**9. Regarding *Federally Controlled Systems, Federal Practices, DOD – Navy*, the Navy:**

- a. has fuel and oil storage facilities.
- b. defers pipeline maintenance to local governments.
- c. has eliminated all fuel and oil storage facilities.
- d. has replaced all pipelines built before 1955.

**10. Considering *System Vulnerability*, the overall performance record of gas and liquid fuel pipeline systems subjected to earthquakes has been good.**

- a. True
- b. False