

Final Exam
Continuing Education Course #503
Managing a Nuclear Plant Project

1. The United States of America had 55 operating nuclear plants in 2022 that provided 20% of the nation's electric power.
☐ a. true
☐ b. false
2. To meet the goal of low carbon emissions nuclear plants must be built and maintained more efficiently.
☐ a. true
☐ b. false
3. Nuclear power plants undergo seasonal refueling scheduled _____.
☐ a. non- critical maintenance
☐ b. outages
☐ c. valve replacement work
☐ d. emergent work
4. An added challenge to performing work in a nuclear plant is:
☐ a. managing difficult work
☐ b. controlling radiation exposure
☐ c. controlling the work in a contaminated environment
☐ d. using effective project management practices
5. The following factor(s) were used to determine the total cost of the options for replacing the valves A-549 and B-549.:
☐ a. Forced Outage Risk
☐ b. Forced Outage Cost
☐ c. Replacement /Repair Cost
☐ d. all of the above
6. Total Option Cost Equals Forced Outage Cost x Forced Outage Risk + _____.
☐ a. Repair Cost
☐ b. Replacement/Repair Cost
☐ c. Replacement Cost
☐ d. Valve Cost
7. The Drywell Shut Down Cooling system is a critical system in nuclear plant safety for boiling water reactor plants.
☐ a. true
☐ b. false
8. An option to Do Nothing means taking a risk estimated at _____% that would result in a 21-day forced outage.

- ☐ a. 20
 - ☐ b. 25
 - ☐ c. 30
 - ☐ d. 15
9. _____ will be used to plan, schedule, and monitor the project work.
- ☐ a. Risk-Cost Analysis
 - ☐ b. Project Management
 - ☐ c. Shutdown Schedule
 - ☐ d. radiation exposure control
10. The Implementation Strategy includes using specialty contractors to automatically cut out the existing valves and weld the new ones in place.
- ☐ a. true
 - ☐ b. false
11. Team Members have a Professional Engineering License in Nuclear Engineering.
- ☐ a. true
 - ☐ b. false
12. Which Professional Engineering License is not included in the Key Team Member's education listing?
- ☐ a. Civil Engineering
 - ☐ b. Electrical Engineering
 - ☐ c. Mechanical Engineering
 - ☐ d. Nuclear Engineering
13. The following Key Members have experience in Project Management.
- ☐ a. Area Manager, Project Manager, Task Manager
 - ☐ b. Project Manager, Task Manager, Field Engineer
 - ☐ c. Project Manager, Task Manager, Design Engineer.
 - ☐ d. Project Manager, Design Engineer, Field Engineer
14. The A-549 is a CRANE 16" double disc gate valve that controls suction to the Shut Down Cooling System.
- ☐ a. true
 - ☐ b. false
15. The A-549 CRANE 16" double gate valve is being replaced due the following conditions:
- ☐ a. excessive leakage
 - ☐ b. high dosage rates
 - ☐ c. history of unsuccessful repairs
 - ☐ d. a & c
16. An ALARA review is done prior to the outage and is based on the known and expected conditions for working in a contaminated area. ALARA is:
- ☐ a. a low dosage
 - ☐ b. principle of radiation protection
 - ☐ c. a reasonable low dosage
 - ☐ d. none of the above
17. The nuclear plant's overall goal of exposure reduction included _____ of the Reactor Recirculating System.
- ☐ a. glove bags
 - ☐ b. stay time due to hot conditions

- ☐ c. chemical decontamination
- ☐ d. all the above
18. Once the valves were cut out, a host of unexpected and unpredicted findings demanded more effort and resources.
- ☐ a. false
- ☐ b. true
19. Glove bags for decontamination are considered a good practice for minimizing decontamination that requires special _____.
- ☐ a. measurements
- ☐ b. scaffolding
- ☐ c. worker training
- ☐ d. none of the above
20. The original project dosage was estimated at _____ REM.
- ☐ a. 30
- ☐ b. 25
- ☐ c. 43
- ☐ d. None of the above
21. The B-549 valve was a different type and make as the A-549 valve.
- ☐ a. true
- ☐ b. false
22. Cutting out the B-549 CRANE 16" double gate valve encountered several problems caused by the following conditions:
- ☐ a. unexpected chemical decontamination results
- ☐ b. limited space requiring scaffolding rebuilds
- ☐ c. weld machine installed on the wrong side
- ☐ d. all the above
23. The Department of Energy (DOE) Lessons Learned Overview reporting includes:
- ☐ a. real time experience lessons
- ☐ b. best practices for construction
- ☐ c. best practices for maintenance
- ☐ d. all the above
24. DOE OPEXShare database is the central web-based collection point for:
- ☐ a. operating experience lessons learned
- ☐ b. best practices across DOE complex
- ☐ c. collaborative platform for government
- ☐ d. all the above
25. Project Lessons Learned problems were:
- ☐ a. valve work package estimated as exempt instead of modification
- ☐ b. conflict due to four design engineers assigned
- ☐ c. nuclear workers dosage requirements
- ☐ d. a & b
26. Nuclear Plants can have one or more operating nuclear reactors whose job is to:
- ☐ a. control nuclear fission
- ☐ b. house fuel rods

- ☐ c. create heat
- ☐ d. all the above

27. United States nuclear reactors are light-water reactors. Which is not a light water reactor?

- ☐ a. Pressurized Water Reactor (PWR)
- ☐ b. Canada Deuterium Uranium (CANDU)
- ☐ c. Boiling Water Reactor (BWR)
- ☐ d. none of the above

28. The Pressurized Water Reactor (PWR) is different from the Boiling Water Reactor (BWR) because BWRs heat water and produce steam directly inside the reactor vessel.

- ☐ a. true
- ☐ b. false

29. Design engineers must include dose estimates for nuclear workers who work in contaminated areas.

- ☐ a. true
- ☐ b. false

30. A nuclear worker exposed to a dose rate of 20mR/hr would be available for up to _____ hours of work in a contaminated area.

- ☐ a. 25
- ☐ b. 250
- ☐ c. 320
- ☐ d. 32