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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