

Radiation Protection Services Radiation Safety Audit Type Training Questions

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(Choose the BEST answer)

1. You have finished moving into your newly remodeled laboratory. The laboratory is posted and completely equipped to start up radioactive experiments. No radioactive material has been brought into the laboratory. In celebration of your new laboratory and major grant, you decide to have an open house. In order to keep the hall ways clear of the congestion of all of the anticipated visitors, the food and drinks are served in the laboratory. Has a violation occurred?
 - A. NO. No radioactive material is in the laboratory, so the celebration in the laboratory is ok.
 - B. Yes. Radiation Safety personnel were not present to verify that there was no radioactive material in the laboratory.
 - C. Yes. The laboratory is posted for radioactive material use. SBU/University Radiological Protection Committee lab safety procedures specify no eating, drinking or storage of food in posted radioactive materials laboratories. Food storage, preparation or consumption in any lab is strictly prohibited by State Health Regulations

2. You have not used P-32 in your laboratory for several months. You now need to do a set of experiments that use P-32 for a presentation that you will be giving in the near future. As you are setting up you work area, you realize your survey meter was due for calibration on September 1, 2005, and today's date is September 13, 2005. Your package of P-32 is due to arrive tomorrow. What will you do?
 - A. You go ahead and use the survey meter because at SBU, you have until the end of the calendar year to get the survey meter calibrated.
 - B. Find a survey meter that is in calibration and borrow it.
 - C. You don't use a survey meter anyway when you use radioactive materials, so it doesn't really matter.

3. You are the first one in your posted laboratory on a Monday morning. You notice a puddle of brownish water on the computer desk at the back of the laboratory. You look up and see that it is coming from the laboratory above you. You do not know the origin or the constituents of the water that is dripping upon the desk. What do you do?
 - A. Scream because you did not back up your hard drive when you left on Friday.
 - B. Notify WCPP emergency number (2-6400) or ECPP emergency number (4-2400) and inform them of the water. Then call EH&S, Division of Radiation Protection Services (2-6410) , inform them of the problem and ask for assistance.-
 - C. Get a janitor to mop up the water while you try to salvage the computer.
 - D. Whimper, because your thesis is on that computer, call your advisor, call Radiation Protection Services, unplug the computer IF you can do so safely and drop absorbent towels to contain the water.
 - E. Close and lock the door to the lab and head for the University Cafe.\

4. An individual from Radiation Protection Services enters your laboratory while you are working at the lab bench. You look up and observe that it is the RSO- Ed O'Connell. You also notice that there is someone with him in a blue suit. Ed and his companion just stand in the laboratory without saying a word. What do you do?
 - A. You wait until Ed says something and introduces the individual with him since they were the ones that entered your laboratory.
 - B. Say hi to Ed and ask if you can help him with anything.
 - C. Since you recognize Ed, you ignore them and go back to your work without saying a word.

5. You are heating an eppendorf tube that contains 50 microcuries of H-3 in a heating block inside a fume hood. The sash of the fume hood is all the way down. You go to the other end of the laboratory to prepare for the next step of the experiment. When you return to the fume hood you find out that the tube popped open and sprayed its contents inside the fume hood.
 - A. Contact your Principal Investigator, inform her of the accident and redo the experiment.
 - B. Notify your Principal Investigator of the accident and start cleaning the inside of the hood.
 - C. Call WCPP and inform them that something has happened to the fume hood and they need to come and fix it.
 - D. Inform your Principal Investigator and others in the lab of what happened. You then call Radiation Protection Services about the accident.

6. You are authorized to use the centrifuge in the radioactive materials laboratory next door. You are working late one evening but you have a key to that laboratory. You go into the room to use the equipment and notice that one of their radioactive liquid waste bottles is leaking and is dripping onto the floor. A small puddle is on the floor and the liquid is slowly spreading. What do you do?
 - A. Be a nice guy and clean up the spill. Place the leaking bottle in the sink.
 - B. Call SBU University Police (911) Dispatch and inform them of where you are and what has happened. Ask Dispatch to contact Radiation Protection Services and the Labs Principal Investigator. Keep people out of the spill area until someone from RPS and /or the lab gets in to take care of the situation.
 - C. It is only a small mess, so you walk around it and tell the laboratory staff about it in the morning.

7. You enter the laboratory after lunch and find a package of radioactive material sitting on the bench. As you prepare to put the package away, you notice that the package has not been opened. What do you do?
 - A. Put on your lab coat and gloves, open the package and put the material away.
 - B. Call Radiation Protection Services and report the improper delivery of radioactive materials.
 - C. Request that they come to the laboratory to inspect the package.
 - D. Call the delivery company and have them come to your laboratory to pick up the package so it can be properly delivered.

8. Radiation Protection Services delivers a package of radioactive material to your laboratory that you have been expecting. A lab worker signs the package in and tells you that it has been put away. Later in the day, when you are getting ready to use the radioactive material, you realize that it is the wrong compound. How do you go about getting the right compound?
- A. Contact the RAM Company direct and make a deal for a swap.
 - B. Contact University Procurement and let them know what happened to your order and let them make the arrangements
 - C. Transfer this material to another authorized lab and contact another vendor directly for the right compound.
9. You are working by yourself in the laboratory early in the morning. You are out of ice and you go down the hall about 20 feet to the ice machine. You will have two buckets of ice in your hands. Since you are the only one around the laboratory area, you leave the laboratory door open. Has an NYSDOH/BERP violation occurred?
- A. NO. No threat exists of someone coming into the laboratory unnoticed.
 - B. YES. No one else is in the laboratory and the laboratory is to be closed and locked when no one is in the laboratory.
 - C. NO. No radioactive material is out on the bench. It is always locked in the refrigerator in the laboratory.
 - D. A and C
10. You have a new individual in the laboratory. He has completed all of the radiation safety training requirements except the first time use observation by the PI. A P-32 experiment needs to be performed over the holiday and you will be out-of-town.. This new individual has had extensive work experience with this particular protocol. What do you do?
- A. Have the individual do the work now and do the observation requirement later.
 - B. Do the experiment yourself.
 - C. Postpone the experiment and make arrangements for the PI observation as soon as possible.
 - D. Either B or C
11. Jed Adelman comes into the laboratory to deliver a package of radioactive material. He notices protective paper taped to the floor in front of the fume hood. He is told that there was a small spill of radioactive material onto the floor the other day but the spill had been cleaned up and the area was surveyed and recorded in the appropriate log books. Did the laboratory staff do anything wrong?
- A. NO. The spill was small and was cleaned up with survey results being recorded in the survey log book.
 - B. YES. Radiation Safety is to be informed of any spill that occurs in the laboratory regardless of the amount.

12. Sean Harling performs a routine quarterly survey of the laboratory. He finds H-3 contamination on a centrifuge that is shared with another radioactive laboratory. You have never used H-3 in your research. The individuals in the laboratory that share your centrifuge do use H-3 as well as other isotopes. Who is responsible to clean up the contamination on the centrifuge?
- A. Radiation Safety is responsible to clean up the contamination since it was not your fault.
 - B. The individual from the laboratory that borrowed your centrifuge.
 - C. You are since it is your laboratory.
 - D. Either A or B
 - E. Either B or C
13. You have an ultra low freezer in your posted laboratory that is used by people from other laboratories. You keep your radioactive material in the freezer which is posted for radioactive use. The other individuals use the freezer for non-radioactive compounds only. Your laboratory procedures require everyone to keep the freezer locked at all times except for getting in and out of the freezer. You come back from lunch, unlock the lab door, start to set up for an experiment, and find out that someone did not lock the freezer earlier in the day. Since this freezer is posted and has radioactive materials in it, is this a NYSDOH/BERP security violation?
- A. NO. Because the freezer was inside a posted laboratory for radioactive materials use. There is no violation as long as the laboratory door is closed and locked when no one is in the laboratory.
 - B. Yes. The freezer is posted for radioactive materials and it does not matter where the freezer is located.
14. You have been doing work with S-35 labeled compounds for years at SBU. You decided that you want to do the same experiments with P-32 compounds. You have worked with P-32 at other institutions but not at SBU. Since both isotopes are beta emitters, do you have to be observed again since it is the same experiment protocol except for the fact that you are using P-32 instead of S-35?
- A. No. It is the same protocol with the exception of the isotope and you were already observed for the S-35.
 - B. Yes. It is the same protocol but with a different isotope which also has a greater hazard than the S-35.
15. You are doing some joint research with an individual from another institution. You need to label some protein but you don't want to buy any from a company since you only need a little bit and this will be a one time procedure. The final product is going to have a total activity of 1 uCi or less. A fellow researcher down the hall from you has some of the compound that you need. Is it possible to get the radioactive compound from the laboratory down the hall without breaking SBU requirements and SBURPC policy?
- A. No. You have to buy your own radioactive material.
 - B. Yes. It is possible but you have to work out the details and paper work with Radiation Safety Officer and the laboratory down the hall.

16. . If you are able to get the protein labeled from question #15, how are you able to send the finished product to your collaborator at the other institution?
- A. Just package it up and send it to your collaborator yourself.
 - B. Make proper arrangements for Radiation Protection Services to ship it.
17. You are working with H-3 and C-14. Before you go home, you do your end of the day survey of the work areas where the radioactive materials were used. You notice that your survey meter was calibrated in June 2004. Today's date is September 14, 2005.. What do you do?
- A. Nothing, a survey meter is not required for surveys of H-3 or C14.
 - B. Borrow a survey meter that is in calibration and record the results.
 - C. Do wipe tests. A survey meter survey isn't required for these radionuclides, and won't detect the low energy 18 Kev beta of H-3.
18. You wish to order some radioactive material that would be delivered on Friday, but you will be out of town with your entire laboratory staff. You ask if the people in the laboratory next to you, who are also authorized to use the same type of radioactive material, are capable of accepting and storing the material until you return. Is this possible?
- A. NO. You can not have other laboratories accept or keep radioactive materials for you.
 - B. Yes. You have to document such arrangements with the other laboratory and Radiation Protection Services before you do this.
19. The maximum permissible dose to a fetus during the entire gestation period is:
- A. 500 mR
 - B. 5,000 mR
 - C. 50,000 mR
20. During an NYSDOH/BERP inspection, the inspector asks you who the Radiation Safety Officer is at SBU. To clarify the question, the inspector says that this person is the person that is responsible for the radiation safety program at SBU. The correct person is:
- _____.
- A. Ed O'Connell
 - B. Hannah Goodman
 - C. Sean Harling
 - D. Hans Gorbart
 - E. Jed Adelman
 - F. Woody Schurig
 - G. Joe Daley
 - H. Nand Relan

21. You have a new individual working in the laboratory. You have no plans for this individual to work with radioactive material. Radiation Protection Services brings a package of radioactive material to the lab that you have ordered. The new individual is the only person in the laboratory because the rest of the group is gone for the day. Can this person sign and accept the package of radioactive material?

- A. Yes, because he was trained by you on laboratory procedures and no one else is available.
- B. Yes, IF the person has successfully passed all radiation safety orientation class materials, has a personnel authorization form signed off by the PI, and you have trained him on lab procedures.
- C. NO. Because he is not going to be working with radioactive materials, therefore he can not sign for and accept them for the lab.

22. You are cleaning out a freezer in your posted laboratory. One of the items that you are taking out is some radioactive material that you still want to keep. You need to keep it frozen but the only suitable freezer is in your other laboratory which is not posted for radioactive materials. Can you temporarily store the radioactive material in your other lab?

- A. Yes It is your lab and you have sole access to the lab and the lab is kept locked.
- B. Yes You are putting it there temporarily and the radioactive material does not pose a safety hazard.
- C. Yes. Before you cleaned your posted freezer, you made arrangements with Radiation Safety to use the freezer for radioactive materials storage only and demonstrated that the freezer can be locked.
- D. No It is not a posted laboratory and putting it in the freezer would be unauthorized storage of radioactive material.
- E. Both A & B
- F. Either C or D

23. The unit REM measures:

- A. biological damage
- B. absorbed dose
- C. exposure in air

24. Which type of record keeping will a radioactive lab **not** have?

- A. Radioactive material receipt
- B. Radioactive waste
- C. Radioactive material usage log
- D. Day of use survey log
- E. Training records of laboratory personnel authorized to used radioactive materials
- F. Drain disposal of radioactive liquid waste
- G. All of the above are kept and to be available for review in a posted laboratory.

25. ALARA stands for:

- A. As Low As Reasonably Achievable
- B. As Liberal As Regulators Allow
- C. As Little As Reasonably Achievable
- D. As Long As Researchers Agree

ANSWER KEY

Question #1	C
Question #2	B
Question #3	B
Question #4	B
Question #5	D
Question #6	B
Question #7	B
Question #8	B
Question #9	D
Question #10	D
Question #11	A
Question #12	E
Question #13	A
Question #14	B
Question #15	B
Question #16	B
Question #17	C
Question #18	B
Question #19	A
Question #20	A
Question #21	A
Question #22	F
Question #23	A
Question #24	G
Question #25	A