

## 2.10 ACCESS CONTROL AND WORK AREA SETUP RCT STUDY GUIDE

### LEARNING OBJECTIVES:

- 2.10.01 Identify the purpose of and information found on a Radiological Work Permit (RWP) including the different classifications at LANL.
- 2.10.02 Identify responsibilities in using and initiating an RWP.
- 2.10.03 Identify the document that governs the ALARA program at LANL.
- 2.10.04 Identify how ALARA performance goals are established at LANL.
- 2.10.05 Identify the conditions under which an ALARA review is required at LANL.
- 2.10.06 Identify the purpose of the radiological postings, signs, labels, and barricades; and the RCTs responsibilities for them.
- 2.10.07 Identify the following radiological postings, requirements for posting/barriers, and requirements for entry:  
Controlled Area, Radiological Buffer Area, Radiation Area, High Radiation Area, Very High Radiation Area, Contamination Area, High Contamination Area, Hot Spot, Airborne Radioactivity Area, Fixed Contamination, Radioactive Material, Hot Job Exclusion Area
- 2.10.08 Describe good practices, support equipment to use, and common discrepancies in setting up radiological areas.
- 2.10.09 List discrepancies frequently observed in containment devices.
- 2.10.10 Describe good practices in setting up portable ventilation systems and count rate meters.
- 2.10.11 List the requirements and good practice individuals must follow while working in radiological areas.
- 2.10.12 Identify the requirements for removing or releasing items from a radiological area.

### References

LPR, LIG	402-704-01	Contamination Control
LPR, LIR	402-710-01	Radiological Personal Protective Equipment
LPR, LIR, LIG	402-712-01	Radiological Posting
LPR, LIR	402-720-01	Work Planning
ESH-1-01-05		Glossary
ESH-1-01-16		Handling Radiological Work Permits
ESH-1-02-02		Surveying for Alpha and/or Beta/Gamma Contamination
ESH-1-02-03		Surveying for Tritium Contamination
ESH-1-03-06		Removal of items and equipment, HPR, HPRMS
ESH-1-08-01		Respiratory Protection Procedure

The RadCon Manual is also a valuable reference for good practices.

## INTRODUCTION

This lesson reviews Radiological Work Permits, posting and setting up radiological areas, access controls, and releasing of material from radiological areas.

### 2.10.01. RADIOLOGICAL WORK PERMITS (RWP)

#### Purposes:

- Establish controls for entry into radiological areas
- Inform workers of entry requirements into radiological areas
- Inform workers of the radiological conditions to be expected

An RWP is required for entry into  
High or Very High Radiation Areas,  
High Contamination Areas,  
Airborne Radioactivity Areas, and  
Hot Job Exclusion Areas.

An RWP is also recommended for Radiation and Contamination areas, but an SOP may be used instead.

#### Types

General RWPs are used for routine activities; they are valid for up to one year.

Job-specific RWPs are used for non-routine activities, and are valid for the duration of the job.

The information on an RWP is summarized as follows.

<u>Section</u>	<u>Responsibility</u>	<u>Comments</u>
"ESH-1 use only"	HPT or RCT	
General Information	Requester	
Pre-job rad conditions	HPT or RCT	also verify when job begins
Rad. Protection Req.	RCT	
Hold Points	RCT	
Approvals	Supervisors	
Post-job rad conditions	HPT or RCT	
Review	Supervisors	

### **Integrating Safety Management Into Radiological Work**

The RWP follows the five-step process of Integrated Safety Management, as follows.

1. Define the work. The “Work to be performed” is defined in the “General Information” section.

2. Identify the hazards. The radiological hazards are identified in the “Pre-Job Rad Conditions” section.

3. Implement controls. Controls are specified in the “Rad Protection Requirements” section. The requirements include  
 protective clothing,  
 dosimetry,  
 radiological control coverage, and  
 radiological training.

Authorizations, which are part of the controls, are in the fifth section, “Approvals”.

4. Do the work safely. The “Hold Points” section specifies checks that are made as the work progresses to ensure that individual and collective dose limits are as expected.

5. Provide feedback. The final two sections, "Post-Job Radiological Conditions" and "Review", ensure that lessons learned are recorded and communicated to workers doing similar jobs in the future.

## **2.10.02. RESPONSIBILITIES WHEN USING AN RWP**

Responsibilities in using RWPs are shared by the requester (the person who wants the work done, the worker, management, and the RCT, as follows.

**Requester:** begins the process by submitting an RWP

- Complete the "general information" section
- determine the need for ES&H review of non-radiological hazards

**RCT:** before the job, complete the following sections (as applicable):

- "ESH-1 use only"  
(obtain permit number from section office; dates: limited to one year)
- "Pre-job radiological conditions"
- "ALARA/Radiation protection requirements"
- "Hold Points/Special Instructions"

**RCT supervisor and line manager:** verify and sign

**RCT:** at the job

- Read, understand, and sign the RWP
- Post a copy of the first two pages of the RWP, and the "Acknowledgment log" at the work site
- Confirm the pre job conditions when the job starts
- If conditions change, update the RWP, or stop work and prepare a new RWP, as appropriate.

**Worker:**

- Read, understand and sign the log before entering the radiological area
- Obey the instructions
- When in doubt, contact an RCT

**RCT:** after the job, complete the sections:

- "Post-job radiological conditions"
- "Review": describe lessons learned
- Attach all reports, survey maps, and forms

**RCT supervisor:**

- Review and sign
- Send to section office, file for 2 years, archive for 75 years.

## Filling out an RWP

### General:

- do not leave blanks, use "NA" or "NDA" (see RCT lesson 2.01)
- consider every box in each section of the form
- complete each section with a signature

### Pre-job radiological conditions:

- Either perform a pre-job survey, keeping your own dose ALARA, or estimate the pre-job conditions. This requires judgement for each job.
- Consult your supervisor and others who have done similar jobs.

### Radiation Protection Requirements:

#### Protective clothing:

- see RCT objective 2.05.08 and LPR and LIR 402-710-01 "Radiological Personnel Protective Equipment".

#### Respirators:

- see RCT lesson 2.07;
- generally required above 10% of DAC, and for jobs involving welding, sanding, or grinding contaminated items;
- SCBA above 100 DAC
- see ESH-1-08-01 and consult ESH-5.

#### Dosimetry:

- see RCT lesson 2.04;
- secondary dosimetry required for High Radiation Area;
- calculate dose at 1 inch to determine if finger rings are needed;
- PNAD (PND) required if a criticality is possible;
- specify nose swipes whenever respirators are used.

#### Special Posting:

- e.g. Hot Job Exclusion Area

#### Training:

- RadWorker I for any radiation
- RadWorker II for contamination, or airborne radioactivity.

### 2.10.03. ALARA

Exposure to ionizing radiation is measured, tracked, and controlled in terms of the dose equivalent workers receive. Management policy is to maintain radiation exposure of employees, subcontractors, visitors and members of the general public not only within applicable DOE and administrative limits, but "As Low as Reasonably Achievable." (ALARA was the subject of RCT lesson 1.10).

#### Documentation

There is a hierarchy of documentation for the ALARA program.

- a. ICRP and NCRP provide recommendations.
- b. These recommendations are codified in 10CFR835 sections 101c, 704b, and 1001 - 1003. Essentially 10CFR835 says "There shall be a documented ALARA program" without any further details.
- c. LPR and LIR 402-702-01, " ALARA " govern the LANL ALARA program, including the roles of line managers and individual workers.

The roles of the RCT are as follows.

- Do prejob and postjob surveys
- Post the area
- Specify protective requirements
- Assist with pre-job briefings and post-job reviews
- Stop work when conditions or practices are unsafe or violate policies

Surveys define the areas to be posted and the requirements for RWPs.

Access to posted areas is controlled via entry requirements on the posting and on the RWP.

Protective requirements such as supplementary dosimeters or protective clothing are specified on the postings and/or RWPs.

pre-job briefings are discussed in lesson 2.11 objective 5.

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Stop work authority of RCTs is stated in the RadCon manual section 345, the procedure ESH-1-01-16, and discussed in RCT lesson 2.11 objective 2.11.13.

#### **2.10.04. ALARA PERFORMANCE GOALS**

ALARA performance goals are described in LIR402-702-01. Group leaders set performance goals for each year. Group ESH-1 provides reports to ESH-12 for comparison with these goals.

The organization's goals must include collective dose (see lesson 1.10.02 for definition) and may also include average worker dose, maximum worker dose, number of incidents and/or number of occurrences.

How can an RCT help?

- Keep worker doses ALARA
- minimize Contamination and Airborne Radioactivity Areas
- minimize radioactive waste (e.g. see RCT lesson 2.11)
- minimize incidents and occurrences

#### **2.10.05. ALARA BRIEFING and REVIEW**

ALARA BRIEFINGS and REVIEWS are discussed in the LANL Radiological Control Manual sections 312, 324 and 352, and LIR402-702 attachment 2.

The RCT's responsibility is to guide and assist the manager and job supervisor in determining the need, preparing, and performing a prejob briefing. Attachment 2 of LIR402-702 includes a checklist that is useful in preparing for this.

The briefing allows an open discussion of dose reduction measures. RCT needs are communicated to workers. Worker needs are communicated to RCTs. Procedures are verified, worker qualifications are verified, and what to do in an emergency may be discussed. At the end of the briefing, everyone should know what is expected of them, how to do it, and the conditions under which it is to be done.

The recommended criteria that trigger an ALARA review are listed in LIR402-702 attachment 2 as follows.

- a. Estimated individual dose > 500 mrem
- b. Estimated collective dose > 1 person.rem
- c. Airborne radioactivity > 25 DAC for 8 hours (200 DAC-hrs)
- d. Contamination >1000 times base level for a Contamination Area
- e. Dose rates >1 rem/hr

A particular group or facility may establish different criteria. The RCT test questions are written based on general concepts, not specific numbers. You need to understand the relative seriousness of these criteria, but you don't need to memorize the details. For example:

**Exercise:** What dose will result from 200 DAC-hrs?

Attachment 2 of LIR402-712 includes a checklist which the RCT should look at and think about before the prejob briefing.

**Note:** the RadCon manual distinguishes between  
Pre-job briefings (article 324), and  
Post-job reviews (article 352).

**Warning:** these two terms may appear in some of the test questions.

**Remember:** according to the RadCon manual  
“Briefing” is before the job,  
“Review” is after the job.

### 2.10.06. RADIOLOGICAL POSTINGS

The purpose of radiological postings, signs and labels is to:

- alert workers and/or the public to the radiological conditions in an area;
- identify items or areas that have the potential for, or actually contain, radiological hazards;
- to prevent workers from inadvertently entering a radiological area, and/or mishandling radioactive materials.

It is the responsibility of the RCT to:

- post areas according to their radiological conditions, with the assistance of the operating group as needed;
- perform surveys and update the posting as required;
- advise the operations personnel of significant changes in posting.

When posting an area, consider the history of previous surveys. For example, if previous air sampling shows that airborne levels are likely to exceed 10% of the derived air concentration (DAC) then the area shall be posted as an Airborne Radioactivity Area.

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Each individual is responsible for reading and complying with all the information identified on radiological postings, signs and labels. If there is more than one radiological hazard more than one sign may be needed, e.g. an area may be posted as both a Contamination and a Radiation Area.

All access points into an area must be posted to ensure workers are adequately warned of the hazards in the area.

Postings must be promptly updated after completion of a survey to reflect the correct conditions in the area.

If necessary, RWPs should be amended to reflect any changes in the area. The information on RWPs, posting and survey maps must be consistent. If there is a discrepancy it must be immediately corrected.

Any unexpected contamination or significantly higher than expected radiation levels must be promptly reported to the RCT supervisor.

Entry and exit requirements should be stated on the signs.

**2.10.07. RADIOLOGICAL POSTINGS, SIGNS AND LABELS**

Radiological posting is described in detail in the LANL standard LS107-02.0. The table below is simplified from the LANL standard.

Type	radiological condition	minimum entry requirements	exit
Controlled Area	>100 mrem/yr	GERT	*
Radiological Buffer Area	facility specific	facility specific	*
Radiation Area	>5 mrem/h @30cm	RW1, TLD	
High Radiation Area	>100mrem/h@30cm	RW1, TLD+,RWP	
Very High Radiation Area	>500 rad/h@100cm	special	
Contamination Area	>appendix A of RPP	RW2, anti-c	*
High Contamination Area	>100 times app. A	RW2, anti-c,RWP	*
Fixed Contamination	>appendix A of RPP		
Airborne Radioactivity Area	>1 DAC	RW2, RWP	*
Localized Hot Spot	>5 times (guidance)		
Radioactive Material (item)	>0.1 appendix A		
Radioactive Material Area	>10 appendix E		
Hot Job Exclusion Area	unknown for < 8 hr	RWP, RCT coverage	*

\*Exit requirements: monitoring of personnel, items, and equipment are required when exiting areas with potential contamination, see 2.10.13.

RBA: a TLD or Labcoat may be required in RBAs; specific requirements are on the posting for the area.

"TLD +" means TLD plus secondary (supplementary) dosimeter.

Controlled Areas shall be established surrounding Contamination Areas. If contamination is found in a Controlled Area, this is reportable, so RBAs are often established between Contamination Areas and Controlled Areas. (See RadCon manual, article 233).

In the decision to post a Controlled Area, a key point is whether an individual is likely or unlikely to receive 100 mrem/yr, above background, taking into account all factors, including the likely occupancy of the area. 10CFR835 defines a Radiation Area by the dose an individual "could" receive in an hour (Sec. 603a), and a Controlled area by the dose an individual is "expected" to receive in a year (Sec. 2).

Hot Job Exclusion Areas may not be used for more than 8 hours. If a radiological condition is created by the job, this condition must be posted as soon as reasonably possible. You should read the memo ESH-RPP:96-239 and complete the quiz for course number 12683, during this lesson.

If hot particles are likely, make a comment at the bottom of the posting. For a discussion of the Hot Spot posting, see LIG 402-712-01. For a definition of radioactive material, see the glossary of ESH-1-01-05.

Abnormal radiological conditions must be reported to the RCT supervisor.

### 2.10.08. SETTING UP RADIOLOGICAL AREAS

Good practices to be considered whenever possible in setting up Radiological Areas are as follows.

- Establish walkways in low dose areas.
- Do not store radioactive materials near walkways or where personnel frequently work.
- Place rope boundaries as close to the source of contamination as practicable to limit the size of the contaminated area, but not so close that contamination is easily spread across the boundaries.
- Use drip trays or containment devices to prevent the spread of contamination.
- Establish laydown areas for equipment to limit personnel safety hazards and/or radiation exposure.
- Post all accessible sides and entrance(s) to areas containing radiological hazards.
- Use Personnel Contamination monitors along with portable contamination survey instrumentation whenever possible. PCMs are more likely to detect contamination on individuals because personnel tend to survey too quickly.

The following are commonly observed discrepancies that should be avoided in the setup of Radiological Areas:

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- Posting information not updated or information otherwise incorrect.
- Boundaries not checked for contamination, radiation, and airborne radioactivity hazards.
- Survey instruments out of calibration or defective.
- Step-off-pads not set up with enough space for efficient removal of protective clothing.
- Laundry and waste receptacles not placed for efficient use or not placed at all. Receptacles not properly labeled.
- Boundaries of areas set up too far from the hazards, interfering with access to adjacent areas.
- Count rate meters not located close to the step-off-pads.
- Posting not kept up-to-date. The information on postings and RWPs should agree. Postings should be updated at least every 24hours while an RWP is in use.
- Background radiation in monitoring area too high for efficient detection of low level contamination.
- Protective clothing (gloves and booties) not readily available.
- Phone or other communication devices not available near the step-off pad or portable contamination survey instrumentation.
- Not posting all accesses to the area.

Since contamination or airborne radioactivity and radiation levels are subject to change, it is essential to be able to quickly establish a Radiological Area. To properly set up a Radiological Area, the following support equipment should be readily available:

- Step-off-pads.

- Portable contamination survey instrumentation or personnel contamination monitors to establish at exits from Contamination Areas.
- Yellow and magenta rope, ribbon or tape.
- Laundry receptacles.
- Clean and radioactive waste receptacles.
- Postings, signs, labels.
- Additional protective clothing.
- Dose rate meters and smears.
- Survey maps.

### **2.10.09. CONTAINMENT DEVICES**

Containment devices include glove boxes, glove ports, hot cells, huts, etc. The purpose of containment is to reduce the spread of contamination.

Common discrepancies observed in containment devices include:

- Holes/leaks in the containments, facilitating the spread of contamination.
- Airlocks too small to remove protective clothing without spreading contamination.
- No means of quickly verifying loss of ventilation.
- Containment not provided with a HEPA filter or ventilation exhaust.
- Containment not maintained at a negative pressure (see lesson 2.07).
- Material allowed to accumulate inside containments, poor housekeeping
- Transfer sleeves/ports are not used or are unavailable.
- Containments not periodically surveyed inside and out.

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- Containment not decontaminated prior to dismantling.
- Adequate access not provided for lines or hoses.
- Containments not inspected prior to use and periodically during use.
- Not using a funnel to collect leakage.
- Funnel not positioned to collect all leaking fluid.
- Drain lines kinked allowing the buildup of liquids.
- Drain lines not secured properly to the collection device.
- Containment device not labeled to indicate hazards that are present.

### 2.10.10. PORTABLE VENTILATION SYSTEMS

Portable ventilation systems are used to remove contaminated air or filter contamination in the air. Radiological control personnel should adhere to the following good practices in setting up portable ventilation systems.

- Use only HEPA (High Efficiency Particulate Air) filters
- Perform radiation survey on filters periodically while in use.
- Exhaust filter discharge to the plant ventilation system whenever possible.
- Ensure that there are no openings in the trunk or between the blower and the filter.
- Monitor the filter differential pressure (D.P.) periodically. An increase in the D.P. indicates a clogged filter. A decrease indicates a broken or leaking filter.
- Establish D.P. at which the filter should be replaced.
- Remove filters into plastic bags to prevent the release of activity.
- Position streamers to signify the flow of ventilation through doorways or through containment devices.
- The force of negative air pressure should pull a door in toward the contaminated area. When you open the door, you would pull the door against the pressure. If you do not feel this, check the ventilation.

### CONTAMINATION MONITORING EQUIPMENT

The proper setup and use of portable contamination survey instrumentation and personnel contamination monitors (PCMs) can ensure that contamination is more likely to be detected on workers. The following is a list of good practices for setting up portable contamination survey instrumentation and PCMs:

- They should be placed at the exit to radiological areas.

- They should be placed in low background area.
- They should not be placed near radioactive material storage areas or other areas where the background radiation can change.
- Portable contamination survey instrumentation and PCMs should be placed upwind of contaminated areas.
- They should be positioned to facilitate easy access by workers.
- Portable contamination survey instrumentation should have sources provided to source check the instrument.

### **2.10.11. GOOD PRACTICE IN RADIOLOGICAL AREAS**

The following is a list of requirements and good practices for entries into Radiological Areas, to maintain workers' exposure ALARA. These are in addition to other requirements previously mentioned.

Minimize contact with potentially contaminated surfaces.

Handle all tools and equipment properly inside radiological areas.

Report all injuries.

Bleeding can help to cleanse a minor wound.

Monitor clothing and exposed skin as required and report the presence of radioactive contamination.

Place contaminated items and waste in the proper receptacles.

Personnel should wash their hands when leaving the area, prior to eating or using tobacco products, or applying cosmetics.

### **2.10.12. REMOVING ITEMS FROM RADIOLOGICAL AREAS**

The LANL equipment release procedure in LPR and LIR 402-704 is used to release items from areas of potential contamination or activation. Release

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criteria are stated in LIR 402-704 section 4.8, 10CFR835.1101, the RadCon Manual sections 421-423, and DOE order 5400.5.

Items and equipment that are removed from an area that has the potential for contamination must be surveyed, and the release must be documented using an HPR or HPRMS tag.

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The survey, combined with "acceptable knowledge" about the item, ensures that it meets the following criteria.

- Release for controlled use at LANL:  
below appendix A of the RPP.
- Unconditional release to an uncontrolled area outside LANL:  
as far below table 1 of DOE 5400.5 as is reasonable.

(Note: Appendix A of the RPP is similar to RadCon Table 2-2, Table 1 of DOE 5400.5, and appendix D of 10CFR835.)

The general procedure to follow is:

1. use "Acceptable Knowledge" to decide what and how to survey;
2. perform a direct frisk;
3. perform a smear survey; smears > 100 cm<sup>2</sup> are encouraged;
4. document the release with an HPR tag, or in the removal log.

In practice these procedures present problems that challenge the expertise of the RCT. The core information contained in the first 13 lessons should be helpful in guiding the questions to ask and interpretation of the answers.

Is the background low enough? High background makes it difficult or impossible to detect low count rates. (See lesson 2.03).

What radionuclides may be present on or in the item? An RCT needs to know, because appendix A of the RPP has different criteria for different radionuclides. "Acceptable Knowledge" may be used, e.g. to decide if the item could be contaminated with transuranics or tritium. If there is doubt then the most restrictive criterion must be used.

Low energy beta emitters such as tritium are difficult to detect, and require special detectors. Tritium is also difficult to decontaminate since it diffuses into materials, and can be released gradually for a long time. Refer to the tritium survey procedure, ESH-1-02-03.

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Internal alpha contamination is very difficult to detect, since alphas will be shielded from the detector even by a layer of paint or oil. Similarly, external alpha contamination may be missed if the probe cannot be placed close to all surfaces. Refer to the survey procedure ESH-1-02-02.

It is not the job of the RCT to dismantle the equipment.

If contamination is found outside a Contaminated Area or the surrounding Radiological Buffer Area, this is a reportable incident or occurrence.

If an item is contaminated above the levels of RPP appendix A, it may be released to a Controlled Area under the following conditions (RadCon 413, 421.2).

- Check that the external radiation is below the limits for the area.
- Bag and tag it with an HPRMS tag.

### **SUMMARY**

This lesson addressed radiological areas and access control, which was identified as the first principle of contamination control in lesson 2.05.04. Specific topics included RWPs, radiological postings, setting up radiological areas, good practices and discrepancies commonly observed in setup of various radiological areas, and removing items and equipment from radiological areas.

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The following questions refer to the Hot Job Exclusion Area, HJEA, posting. Please complete this quiz and return to Mike McNaughton, MS J596. EDS# is 12683.

Name and Z#

Signature

Date

1. When there is potential but not actual contamination, the HJEA sign may be used for periods of
  - a. more than 8 hours
  - b. up to 8 hours
  - c. more than 40 hours
  - d. up to 40 hours
  
2. For any work in an area posted with the HJEA sign,
  - a. an RWP is recommended
  - b. an RWP is required
  - c. an SOP is recommended
  - d. an SOP is required
  
3. An area shall be posted "Contamination Area" instead of "HJEA" if
  - a. the last time a similar job was done, some contamination was detected
  - b. previous jobs of a similar nature routinely resulted in Contamination Areas
  - c. a DOE auditor is in the building
  - d. you don't have time to write an RWP
  
4. If you are covering a job in a HJEA, contamination is detected, and it is not possible to clean it up immediately, you should
  - a. leave the area posted only as a HJEA
  - b. immediately stop the job and change the posting within 5 minutes
  - c. change the posting within 8 hours if convenient
  - d. change the posting as soon as reasonably possible

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5. If you are covering a job in a HJEA, a small amount of contamination is detected, and it is cleaned up immediately, you should
  - a. not change the posting
  - b. immediately stop the job and change the posting within 5 minutes
  - c. change the posting within 8 hours if convenient
  - d. change the posting as soon as reasonably possible
  
6. According to 10CFR835, which of the following shall be posted on the basis of the conditions that are likely rather than actually measured?
  - a. Radiation Area
  - b. Contamination Area
  - c. Airborne Radioactivity Area
  - d. High Contamination Area
  
7. You are covering a job which involves cutting into a radioactive waste drain pipe, grinding the ends, and welding in a new gauge. The RWP states "Airborne radioactivity >0.1 DAC anticipated" and requires full face respirators for the workers. You conclude that airborne activity is likely, and also that contamination is possible. How should this area be posted?
  - a. HJEA only
  - b. Airborne Radioactivity Area only
  - c. HJEA and Airborne Radioactivity Area
  - d. HJEA and Contamination Area
  
8. You have been covering a hot job with Pu-239 in a room posted as HJEA. During the post-job survey, you take 15 smears. 14 smears read NDA, and 1 smear reads 30 dpm/100cm<sup>2</sup> alpha. It is not possible to clean it up immediately. You should
  - a. document the results and go home
  - b. immediately post the entire room as a Contamination Area
  - c. rope off the area where contamination was found and post it:  
"Contamination Area"
  - d. complete an RIR

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9. You are covering a job involving a newly manufactured Co-60 source. Calculations indicate about 90 mR/h at 30 cm, but it might possibly be more. The job is to remove the source from a shielded container, leak test it, and transfer it to another shielded container. The source might be leaking. How would you post the area?
  - a. Radiation Area
  - b. High Radiation Area
  - c. HJEA
  - d. HJEA and Radiation Area
  
10. The HJEA posting will be described in an interim change to which procedure?
  - a. LP107-01: Notification and reporting of radiological incidents
  - b. LP107-02: Handling RWPs
  - c. LS107-02: Radiological Posting
  - d. ESH-1-02-01: Contamination Monitoring