

ALARA PROGRAMS

1.0 Objective

The objective of this surveillance is to evaluate the effectiveness of the laboratory's implementation of a program to minimize doses to ionizing radiation As Low As Reasonably Achievable (ALARA). The Facility Representative or Environmental, Safety, and Health Support Specialist will examine systems and programs to minimize doses during routine operations as well as the effectiveness of management's leadership in minimizing doses to workers. In this surveillance, the Facility Representative or Environmental, Safety, and Health Support Specialist also evaluates compliance with applicable DOE requirements and best industry practices.

2.0 References

- 2.1 DOE 5400.5, *Radiation Protection of the Public and the Environment*
- 2.2 10 CFR 835, *Occupational Radiation Protection*
- 2.3 G-10 CFR 835/B2, *Implementation Guide-Occupational ALARA Program*
- 2.4 DOE/EH-0256T, *U.S. Department of Energy Radiological Control Manual, Rev 1*
- 2.5 DOE P441.1, *Department of Energy Radiological Health and Safety Policy*

3.0 Surveillance Activities

The Facility Representative or Environmental, Safety, and Health Support Specialist performs the following activities in completing this surveillance:

1. Examine the ALARA review performed for a design modification.
2. Examine the ALARA review for a maintenance job, operations activity, or experiment that has the potential for exceeding radiological trigger levels set by management.
3. Review ALARA training materials and records.
4. Review the annual ALARA report.

**Surveillance Guideline
ALARA PROGRAMS**

Surveillance No.: _____

Facility: _____

Date Completed: _____

YES NO N/A

Activity 1 - Examine ALARA review for a Design Modification

- | | | | | |
|----|--|-------|-------|-------|
| 1. | Was a radiological engineer or a representative of the radiation protection staff assigned as a member of the design team? | _____ | _____ | _____ |
| 2. | Did the ALARA design review include a dose assessment? | _____ | _____ | _____ |
| 3. | Were anticipated radiological conditions reviewed against administrative trigger levels established by management to require more detailed review of design modifications? | _____ | _____ | _____ |
| 4. | Were applicable radiological design criteria identified during design development? | _____ | _____ | _____ |
| 5. | Were similar jobs, designs, or processes reviewed to assist in selecting optimum design alternatives? | _____ | _____ | _____ |
| 6. | Did the design package incorporate features to reduce doses and minimize the spread of contamination? | _____ | _____ | _____ |
| 7. | Was a post-construction review performed to evaluate the effectiveness of engineering features to reduce dose? | _____ | _____ | _____ |
| 8. | Was the review performed in accordance with the facility's procedure? | _____ | _____ | _____ |
| 9. | Does the design package include the records associated with the ALARA review? | _____ | _____ | _____ |

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	<u>YES</u>	<u>NO</u>	<u>N/A</u>
Activity 2 - Examine ALARA Reviews for Work Activities			
10. Was a preliminary estimate prepared of time and radiation dose associated with the planned activity?	_____	_____	_____
11. Were special ALARA controls selected for the work to reduce doses and minimize the potential spread of contamination specified on the Radiation Work Permit or in the technical work documents?	_____	_____	_____
12. Is evidence provided that individuals were instructed in measures to be taken to keep the dose ALARA, such as through pre-job briefings, etc.?	_____	_____	_____
13. Were individual and collective doses tracked and periodically compared to dose estimates to identify discrepancies?	_____	_____	_____
14. Was the review performed in accordance with the facilities procedure?	_____	_____	_____
15. Were recommendations from the review incorporated in the technical work documents?	_____	_____	_____
16. Was a post-job review performed to evaluate the actual exposure against projected exposure, effectiveness of ALARA controls, and lessons learned?	_____	_____	_____

NOTE

The laboratory may have specific criteria for determining when a formal post-job review is required. If the selected job did not meet these criteria, mark Question 16 N/A.

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YES NO N/A

Activity 3 - Review ALARA Training Materials and Records

The Facility Representative or Environmental, Safety, and Health Support Specialist selects a sample of at least four workers who may receive occupational exposure during work activities, two radiological workers, and two radiological control technicians.

- | | | | | |
|-----|--|-------|-------|-------|
| 17. | Have workers who may receive occupational exposure received general employee radiological training? | _____ | _____ | _____ |
| 18. | Did the training contain a discussion of the ALARA policy, philosophy, and biological basis? | _____ | _____ | _____ |
| 19. | Have workers received re-training within two years of receiving the initial training? | _____ | _____ | _____ |
| 20. | Have the radiological workers received training on the ALARA process? | _____ | _____ | _____ |
| 21. | Did the training address the following: | | | |
| | a. ALARA Policy? | _____ | _____ | _____ |
| | b. Basic protective measures (reduction of radioactive materials, time, distance, shielding)? | _____ | _____ | _____ |
| | c. General methods (uses of ventilation, filtration, containment)? | _____ | _____ | _____ |
| | d. Responsibilities of workers to reduce exposure and minimize spread of contamination? | _____ | _____ | _____ |
| | e. Procedures to control dose and spread of contamination? | _____ | _____ | _____ |
| 22. | Have Radiological Control Technicians received training on procedures for attaining and maintaining exposures ALARA? | _____ | _____ | _____ |
| 23. | Did the training address the following: | | | |
| | a. ALARA Policy and philosophy? | _____ | _____ | _____ |
| | b. ALARA organization? | _____ | _____ | _____ |
| | c. Implementation of ALARA goals? | _____ | _____ | _____ |

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NOTES/COMMENTS:

PERSONNEL CONTACTED:

**IF MORE SPACE IS NEEDED FOR FINDINGS, OBSERVATIONS, AND FOLLOWUP
ITEMS - USE ADDITIONAL SHEETS**

FINDINGS:

Finding No.: _____

Description: _____

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Finding No.: _____

Description: _____

Finding No.: _____

Description: _____

OBSERVATIONS:

Observation No.: _____

Description: _____

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Observation No.: _____

Description: _____

Observation No.: _____

Description: _____

FOLLOWUP ITEMS:

Followup Item No.: _____

Description: _____

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Followup Item No.: _____

Description: _____

Followup Item No.: _____

Description: _____

LABORATORY MANAGEMENT DEBRIEFED AND RESULTS: _____

Signature: _____ Date: _____

Facility Representative or
Environmental, Safety, and Health Support Specialist