

TEXAS
EMERGENCY MANAGEMENT
PROCEDURES

PROCEDURE 3

AREA SURVEY AND DECONTAMINATION

Radiological Emergency Procedures of the Radiation Control Program
Texas Department of State Health Services

PROCEDURE 3

AREA SURVEY AND DECONTAMINATION

APPROVAL AND IMPLEMENTATION

This procedure is hereby approved for implementation and supersedes all previous editions.

06/02/2005
Date

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AREA SURVEY AND DECONTAMINATION

I. Purpose

This procedure provides guidelines for use when performing an area radiation survey, or a survey of tools, equipment and vehicles.

II. Discussion

Radiation surveys are performed to determine if members of the general public and emergency response team are likely to encounter concentrations of radioactive material or radiation levels that may cause exposure in excess of applicable limits.

III. References

A. 25 TAC § 289

IV. Equipment Required

A. Portable Survey Instrument(s) of appropriate type and range

B. Swipe papers, smears or paper towels

C. Documentation sheet

V. Precautions and Limitations

A. Perform battery and response check on each survey instrument prior to use

B. Obtain and use prescribed dosimetry while performing survey(s)

C. Document surveys using available forms or other appropriate means

D. Obtain use of protective clothing prescribed by Radiation Control Program (RCP) supervision

E. Properly dispose of radioactive waste generated during survey

VI. Prerequisites

Ensure air radionuclide concentrations do not exceed values contained within 25 Texas Administrative Code § 289, otherwise use respiratory protective equipment prescribed by RCP supervision.

VII. Procedure

A. Radiation Intensity Surveys

1. Expected survey conditions
 - a. Determine the types of radiation expected (alpha, beta, gamma)
 - b. Determine expected radiation levels
 - c. Determine expected contamination levels
 - d. Determine expected airborne radioactivity levels
 - e. Determine the scope of the survey to be performed
2. Performing the survey
 - a. Enter an area of unknown radiation levels with the survey instrument on one range higher than the expected reading.
 - b. General area readings are usually taken at waist height, though conditions and the situation may require surveying at other heights.

Note: Contact readings are taken approximately 1-inch from the surface of an object. This short distance will prevent contamination of the instrument.
 - c. If the survey instrument fails, leave the unknown radiation field. This condition may result when a Geiger-Mueller (GM) tube has saturated. During saturation conditions, GM instruments will indicate off-scale low or downscale, instead of high.
3. Completion of Survey
 - a. Turn off survey instrument
 - b. Check instrument for contamination
 - c. Document the following:
 - (1) Person completing survey
 - (2) Time and date survey performed

- (3) Instrument used (if appropriate)
- (4) Type of survey performed
- (5) Purpose of survey
- (6) Sketch of survey area with survey/swipe locations shown
- (7) Survey results/swipe discs delivered to: _____.

d. Report unusual occurrences to RCP supervision

B. Contamination Surveys

1. Expected Survey Conditions
 - a. Determine expected contamination levels
 - b. Determine expected airborne radioactivity levels
 - c. Determine the scope of the survey to be performed
2. Performing the survey
 - a. Wear gloves while performing contamination survey
 - b. Use filter disc to obtain sample. Apply gentle, even pressure as – 100cm² is swiped using the disc.
 - c. Label each sample packet in order to allow for identification and location at a later time.
 - d. Suggested sample locations
 - (1) Traveled routes
 - (2) Walls
 - (3) Ledges and horizontal surfaces
 - (4) Telephones
 - (5) Access/egress routes

- e. Tools tested for contamination shall be individually checked prior to release.
- f. An appropriate number of swipes will be taken from large items (equipment, automobiles, etc.) prior to release.

3. Completion of Survey

- a. Place wipes into secure package (envelope, etc.) to ensure that clean areas do not become contaminated.
- b. Document the following:
 - (1) Person completing survey
 - (2) Time and date survey
 - (3) Instrument used (if appropriate)
 - (4) Type of survey performed
 - (5) Purpose of survey
 - (6) Sketch of survey area with survey/swipe locations shown
 - (7) Survey results/swipe discs delivered to: _____.
- c. Report unusual occurrences to RCP supervision.