

**NON - REACTOR RADIOLOGICAL INCIDENT**  
**Standard Operating Guides (SOGs)**

**NON-REACTOR**  
**RADIOLOGICAL INCIDENT**  
**STANDARD OPERATING**  
**GUIDES**  
**(SOGs)**

**June 2023**

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### **GENERAL CONCEPT OF OPERATIONS**

In the event of an incident involving radioactive material, this office will be contacted to participate in oversight of the incident during the emergency phase as well as the remediation/clean-up phase. The following standard operating guidance should be used when such an incident occurs. It should be noted that in responding to any incident involving radioactive material, a great deal of good radiological work practices should be utilized, and one should not hesitate to alter procedures which will benefit health and safety of the general public.

Upon notification of an incident involving radioactive material, every effort should be made to advise the Director of the Office of Radiation Control (ORC), or his/her designee, of the incident and any details made available. If in any way the integrity of the radioactive material has been jeopardized or threatened. It may be appropriate to issue an emergency order requiring compliance with staff directives. Such an order could be in the form of the appropriate attached Emergency Orders (pgs. 12-21). The circumstances of the incident will be evaluated, and if determined to be appropriate, a team of at least two Radiation Physicists will be dispatched to the incident site. ERERT team members may be dispatched, if needed.

### **AT THE SCENE:**

Once at the site, in most circumstances, the most senior Radiation Physicist at the scene will be in charge. He/she will coordinate with the Incident Commander on the scene and evaluate the radiological hazard. Consideration of other hazardous materials must be made and evaluated at this time, and appropriate coordination with other responders must be considered.

In an emergency incident, the Radiation Physicist may authorize other individuals outside of this office to conduct radiological work practices related to the incident. Anyone authorized by this Agency to conduct such activities may consider themselves licensed by the Agency to conduct this single task. While the Public Health Laws of Alabama Emergency Provisions of 22-14-11 permit this, the implications should be considered. Evidence of possession of a radioactive material license to perform general decontamination at a fixed location or unspecified location is appropriate. This does not apply to the U.S. Nuclear Regulatory Commission, the Department of Defense, the Department of Energy, or Civil Support Team members. Qualified evidence could include one of the following:

1. A known qualified individual from a known licensee
2. Presentation of a license by an individual stating that the individual is authorized to conduct such activities, or

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An on-the-spot demonstration of the procedure, equipment, and personnel which convinces the Radiation Physicist at the scene that the operation can be conducted in a safe manner. Note that the Radiation Physicist is effectively licensing the operations at the site.

An attempt to decontaminate any area identified as contaminated must be made at least once. The basic limits to use regarding clean-up of equipment, land, buildings, streets, roads, etc., are shown in the attached Table I (pg. 32). These limits apply after at least one attempt is made to decontaminate the area in question which has been identified as contaminated from radioactive material from the incident. Other limits may be established in specific cases as are appropriate for good health physics practices.

#### **ACTIONS TO CONSIDER AT THE SCENE:**

1. Assure positive control by coordinating with the Incident Commander.
2. If possible, establish two lines of control outside of any contamination area at:
  - A. 2 mR/hr
  - B. 0.5 mR/hr, or as appropriate

Note: You may wish to make adjustments to permit traffic flow.

3. Use the 2 mR/hr line for defining restricted area boundaries. No one should be allowed to enter without need. Licensed activities may be conducted inside of this area.
4. Use the 0.5 mR/hr as a buffer-work zone. Only essential personnel should be allowed inside. These are staff members of the Office of Radiation Control and other authorized persons performing health physics activities, carrier representatives, shipper representatives, law enforcement, clean-up crews, and others as approved by ORC and the Incident Commander. All personnel should have the appropriate dosimetry prior to entering the incident area.
5. ADPH/AEMA Public Information Officers (PIO) will schedule news conferences, as necessary. If clean-up will be extended over several days multiple news conferences maybe scheduled daily. If appropriate, ask for ADPH PIO to come to scene.

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### GENERAL GUIDANCE FOR MANAGING NON-REACTOR RADIOLOGICAL INCIDENTS:

All associated checklists and forms are available to be used as guidance only. Do not hesitate to make alterations which will benefit the health and safety of the public.

1. Who to call:
  - A. In general, call State Health Officer, Dr. Scott Harris, for events which involve the following:
    - (1) radiation injuries or contamination
    - (2) overexposure to radiation
    - (3) significant non-radiation injuries
    - (4) public interests
  - B. In general, call AEMA, ADEM, and/or Public Safety for events which involve or might involve the following:
    - (1) need for supporting agencies
    - (2) evacuation or closing of roads
    - (3) public interest
    - (4) environmental concerns
  - C. Call the Port Safety Manager for the Port of Mobile, if needed.
  - D. Call DOE (Department of Energy) for federal assistance if needed. This includes medical support through REACTS.
  - E. Call NRC (Nuclear Regulatory Commission) for technical and regulatory assistance, if needed. (Also, for items of general public interest).
  - F. Initiate Southern Mutual Radiation Assistance Plan (SMRAP), if needed, for technical assistance.
  - G. In general, call the Governor's Office/Press Secretary for items of public interest.
  - H. Call the Radiation Control staff as necessary. It is preferable to send at least two (2) Radiation Physicists to the scene with some form of communication.

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2. What to take to the scene:
  - A. Monitoring equipment
  - B. Emergency kits
  - C. Southern Linc Radios
  - D. Primary work cell phone
  - E. Additional batteries for equipment
  - F. Personal Protective Equipment (i.e., anti-c clothing, gloves, etc.)
  - G. Back-up cell phone
  
3. What to do at scene:
  - A. The Office of Radiation Control has the responsibility for managing all radiological aspects of the incident. Activities should be coordinated through the Incident Control Commander at the site. Note that the Alabama Law Enforcement Agency (ALEA) may have responsibility for investigating the accident and control of the crowd, etc. Local and State EMA may be of assistance in getting additional support.
  - B. If other hazardous materials are involved, coordinate activities with AEMA, ADEM, and/or EPA representatives at site. The Civil Support Team (CST) may be needed for additional support. CST should be activated by AEMA.
  - C. For injured individuals, it may be necessary for one person to accompany injured individuals to the hospital. Use the ERERT team nurses, when feasible, for performing this service.
  - D. ADPH/AEMA PIOs will address all press releases. Notify the office of all information obtain at the scene prior to briefing PIOs. PIOs should be briefed on the following:
    - (1) What isotopes and quantity involved?
    - (2) Was any radioactive material released?
    - (3) Was anyone/anything contaminated?
    - (4) Was anyone overexposed?
    - (5) How many injured by radiation or otherwise?
    - (6) Who were the others involved?
    - (7) How long will the hazard last?
    - (8) Who shipped and to whom?
  - E. Identify the causes of the incident. If due to traffic or road conditions, the question should be answered by ALEA officials.