
Incident Response: What to Do When Incidents Happen

**International Biological Threat Reduction Department
Sandia National Laboratories
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**Managing a Laboratory Biosecurity Program
ABSA Pre-Conference Course**

Incidents Are Not Necessarily Emergencies

- **Incident**
 - An event that's likely to have adverse consequences
- **Emergency**
 - Unanticipated circumstances resulting in need for immediate action
- **Examples of Incidents and Emergencies**
 - Natural Disasters
 - Infrastructure Disruptions
 - Accidents
 - Release from Containment
 - Spills
 - Medical
 - Exposures
 - Injuries
 - Illnesses
 - Intentional
 - Security breaches
 - Agent theft
 - Agent release
 - Bomb threats



Incident Management



- **Prepare**
 - Risk assessment
 - Risk mitigation
 - Planning
 - Integration with facility plans
 - Coordination with local responders
 - Training & drills
- **Respond**
- **Recover**
- **Report and Review**

Chance favors only the prepared mind

--Louis Pasteur, 1854

Why Incident Management?



- **Tool to prevent incidents**
 - Preplanning
 - Anticipate incidents
 - Implement preventive measures
- **Enhance ability to respond to incidents**
 - Know what to do
 - Minimize panic
- **Attempt to minimize loss or injury**
- **Enhance ability to recover from incidents**

Risk Mitigation

- **Mitigation**
 - To make less severe or intense (www.dictionary.com)

- **Example: severe weather**
 - No way to alter probability
 - Must alter magnitude by controls
 - Structures designed to withstand winds and with consideration of possible flooding
 - Back-up power
 - “Stand-down” procedures during threat
 - Pre-planned responses
 - Multiple-layer response team



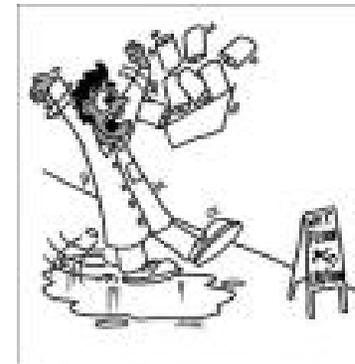
Incident Response Plan



- **Policies and procedures for managing all incidents**
 - “What and How” of managing an incident
- **Based on facility needs and applicable regulations**
- **Foundation of procedures for protection**
 - **Employees**
 - **Facility**
 - **Community**

Components of an Incident Response Plan

- **Establish authority**
 - Biosafety officer / responsible official
 - Biosecurity officer
 - Safety officer
 - Fire chief
 - Local police / on-site security
- **Names and contact information**
- **Policies and procedures**
 - Theft of agent/ unauthorized access
 - Evacuation
 - Equipment shut down procedures
 - Evacuation from high containment area
 - Medical treatment
 - **Accidental spill**
 - Protective equipment
 - Clean-up (decontamination)



Steps in Building the Plan: Research



- **Establish who will participate in writing the documents**
 - Biosafety/Biosecurity/Safety Officers
 - Lab managers
 - Security
 - Local emergency response agencies
- **Compile resource information**
 - Existing plans
 - Applicable national and local regulations and guidance
 - Special needs
 - Facility Maps
 - Internal and external capabilities
- **Risk Assessment**
 - Identify hazards and locations
 - Consider consequences
 - Prioritize risks
- **Vulnerability Assessment**
 - Establish weaknesses
 - Identify strengths

Steps in Building the Plan: Development



- **Develop**
 - Identify potential incidents and likely scenarios
 - Establish policies/procedures for mitigation
- **Review and validate**
 - Adequately mitigate the incidents
 - Ensure it meets all necessary regulatory requirements
- **Test the plan: identify weaknesses**
 - Tabletop exercises
 - Scenarios
- **Implement**
 - Training
 - Drills/full scale exercises annually
 - Self assessments
- **Maintain**
 - Review annually and after any incidents
 - Revise as needed
 - Add new plans as needed

Considerations

- **Plan for all possible contingencies**
 - Inception to termination
 - Minor incidents to major catastrophes
- **Take advantage of existing plans**
- **Use a team approach**
- **Common terminology**
- **Resources for assistance**
 - Government agencies
 - Emergency response personnel
 - Hospitals
- **Training**
 - Roles
 - Responsibilities
 - Policies
 - Procedures
 - Familiarity with facility
- **Memorandum of understanding**
- **Authority:**
 - BSO
 - Lab Manager
 - NIMS, NRP
- **Media**
 - Use to your advantage
 - Control information to media
- **Have a backup plan**

Coordinate with Local Responders



- **Determine the potential responders**
 - Fire, law enforcement, hazardous materials team, bomb squad, local terrorism response coordinators, emergency medical services, hospitals, infectious disease physicians, local public health agencies
- **Awareness training**
 - Building maps and access protocols
 - Fire alarm and monitoring systems
 - Hazardous materials awareness (chemical, radiological, biological)
 - Emergency procedures
 - Tour
- **Memorandum of Agreement**
 - Understanding of the hazards
 - Response time
 - Understand internal response at facility
 - Training
 - Points of contact
 - Agreement to review periodically



Accidental Spill Scenario



- Recognize
- Avoid and Alert
- Isolate
 - Close doors
 - Cover with bleach-soaked towel
- Notify
 - Biosafety officer
 - Lab Manager

- Mitigate
- Terminate
- Recover

Biological Spill Kits

- **Commercial kits available**
- **“DIY” – do it yourself**
 - **Small disposable broom with dustpan, tongs or forceps**
 - **Biohazard waste bags**
 - **Disinfectant agent suitable for the agents in the lab**
 - **Paper towels or other absorbent material**
 - **Dike material or spill pillows for large spills**
 - **Spill control and cleanup procedures**
 - **Sharps container**
 - **Warning signs**
 - **Storage container**



Unauthorized Individual in Area

- **Preplan and train to implement measures prior to occurrence**
- **Facility personnel must be able to recognize unauthorized individuals**
- **Train personnel on appropriate response**
 - **If non-threatening, approach person and ask if they need assistance or directions?**
 - **If threatening, avoid and call security**
- **If evacuation is appropriate and there is time**
 - **Isolate the area first**
 - **Don't leave experiments on the bench**
 - **Lock doors, freezer, etc**
- **Notify appropriate personnel**
 - **Security**
 - **Biosecurity Officer**
 - **Lab manager**
 - **Police**
 - **Other agencies as needed**
 - **Community?**
 - **Media**

Example Building Evacuation Protocol



- **Shut down equipment**
 - Have an established protocol
- **Take personal belongings**
 - Only if close by
- **Close doors**
- **Exit lab**
- **Motivate to nearest exit**
- **Avoid elevators for fire**
- **Exit the building**
- **Assemble at predetermined location**
- **Accountability**
- **Someone must be in charge**
- **Wait until “All Clear”**
 - Who determines “All clear”?
 - Who is the facility liaison to receive the “all clear”?
 - How is this communicated to personnel?

U.S. Regulations and Guidance



- **HSPD-5**
 - NIMS
 - NRP
- **HSPD10**
 - Biological annex
 - Encourages consistency with NRP
- **Chemical Agents**
 - Resource Conservation and Recovery Act (RCRA) of 1976
 - Superfund Ammendments and Recovery Act (SARA) of 1986
 - HAZWOPER (29 CFR 1910.120)
 - HazMat Transportation Regulations
- **Biological Agents**
 - 42CFR 73
 - OSHA 29CFR1910.1200 and 1910.1450
 - NIH Guidelines for rDNA
 - BMBL: Lab Security and Emergency Response: Guidance for labs working with select agents

 - See CD for Guidelines

Conclusions



- **Risk Assessment (again!)**
- **Risk mitigation**
- **Pre-plan: procedures and personnel**
- **Integration with facility plans**
- **Cooperation with local responders**
- **Training & drills**
- ***Response, report, and review***

References



- **FEMA Emergency Management Guide for Business and Industry**
- **FEMA State and Local Guide: Guide for All-Hazard Emergency Operations Planning (SLG 101)**
- **Hazardous Materials: Managing the Incident, 3rd edition, Noll, Hildebrand and Yvorra**
- **42 CFR 73**

- See CD for Guidelines