Instructors' Training Curriculum Guide to:

A Guide to Explosion and Bombing Scene Investigation

Purpose and Scope:

The purpose of this Training Curriculum Guide is to serve a road map to the preparation of a detailed lesson plan for the instruction of the procedures to be utilized in the on-site criminal investigation of the explosion scene. This material is designed to enhance and expand the basic steps provided in the National Institute of Justice **Guide for Explosion and Bombing Scene Investigation** by detailing the specific criteria that should be included in this lesson. It is recognized that the teaching of these procedures and methods cannot be conducted as a stand-alone or single course, but must be provided with other curriculum or lessons. Prerequisite to these scene procedures is a working knowledge of the following: Explosion Dynamics, Commercial and Military Explosives Identification, Components used in the construction of Improvised Explosive Devices, Post-Blast Identification of Bomb Components, and an Introduction to Military Ordnance Identification.

Background:

Technical Working Croup for Fire and Explosions (TWGFEX)

The National Center for Forensic Science (NCFS) at the University of Central Florida sponsors the Technical Working Group for Fire and Explosions (TWGFEX). During its creation in 1998 TWGFEX was originally partnered with the Federal Bureau of Investigation and the Alcohol Tobacco and Firearms. As a result TWGFEX has a laboratory component and an investigative component for both fire and explosions. One of TWGFEX's purposes is to "promulgate and foster development of... training and quality assurance guidelines for fire and explosion scene personnel . . . ."
TWGFEX accomplishes its goals through the work of its committees and open review by the community for consensus. The Committee is composed of practicing professionals experienced in the investigation of explosion incidents and in the development of training materials, consisting of representatives of the local, state, federal and private sectors in the United States. One of the goals of the TWGFEX Scene Training and Education Committee is to identify essential components for the design of a post-blast program. One of the topical areas identified by the Committee as necessary for inclusion in any comprehensive post-blast course is post-blast investigation techniques and scene processing and documentation. This Scene Procedures Training Curriculum Guide is intended to help instructors to fulfill this component.

Consensus Procedure with Public Input

TWGFEX adheres to a process that involves consensus and public review and input. As required by the TWGFEX Bylaws, this Curriculum Guide achieved a consensus of the Committee responsible for its development. It was then published and made available to the entire membership of TWGFEX for review and comment. It was also published for public review and comment before it was accepted by the entire TWGFEX and made available for distribution.

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Section A. Procuring Equipment and Tools

Possessing the proper tools and equipment is key to any task, and never more so than in emergency situations such as explosion or bombing scenes. Because responders and investigators may not know the details of the situation until arriving at the scene, prior preparation is vital. Following is a list of equipment and tools frequently used by the investigative team at explosion and bombing scenes. Equipment and tool needs are, for the most part, determined by the actual scene. The list below may be used as a planning guide for equipment and tool needs. Not every item and tool mentioned below will be applicable for use on every scene.

1. Safety Equipment

- Biohazard materials (i.e., bags, tags, labels).
- First-aid kit.
- Footwear, safety (i.e., protective shoes/boots).
- Glasses, safety.
- Gloves, heavy and disposable (e.g., surgical, latex).
- Helmets, safety/hard hats.
- Kneepads.

- Outerwear, protective (e.g., disposable suits, weather gear).
- Personnel support items (e.g., food, water, hygiene items, and shelter).
- Reflective tape.
- Respiratory equipment (e.g., particle masks, breathing equipment).

2. General Crime Scene Tools/Equipment

- Barrier tape/perimeter rope.
- Batteries.
- Binoculars.
- Communications equipment (e.g., telephone, two-way radio).
- Evidence collection kits (e.g., latent print, bodily fluid, impression, tool mark, trace evidence).
- Flares.
- Flashlights.
- Generators.
- Hand tools (e.g., screwdrivers, crowbars, hammers).
- Knives, utility.
- Lighting, auxiliary.
- Tarps/tents.
- Thermometer.
- Trashcans, large.
- Tweezers/forceps.

3. Scene Documentation

- Compass.
- Computer and computer-aided design (CAD) program.
- Consent-to-search forms.
- Drawing equipment (e.g., sketchbooks, pencils).
- Logs (e.g., evidence recovery, photo).
- Measuring equipment (e.g., forensic mapping station, tape measure, tape wheel).
- Photographic equipment (e.g., 35mm camera, Polaroid camera, video camera, digital camera, film, lenses, tripods).
- Tape recorder and cassettes.

- Writing equipment (e.g., notebooks, pens, permanent markers).

4. Evidence Collection

- Bags, new (e.g., sealable, nylon).
- Boxes, corrugated/fiberboard.
- Brushes and brooms.
- Cans, new (e.g., unlined).
- Evidence flags/cones.
- Evidence placards.
- Evidence tags.
- Evidence sealing tape.
- Gloves (i.e., disposable cotton, disposable latex).
- Grid markers.
- Heat sealer.
- Magnets.
- Outerwear, protective (e.g., disposable suits, shoe covers).
- Rakes, spades, and shovels.
- Sifters/screens.
- Swabbing kits.
- Trowels.
- Vacuum.

5. Specialized Equipment

- Aerial survey/photography equipment (e.g., helicopter).
- Chemical test kits and vapor detectors.
- Construction equipment, heavy.
- Extrication/recovery equipment.
- GPS (global positioning system) equipment.
- Ladders.
- Trace explosives detectors (e.g., sniffers) and/or detection canines.

Section B. Prioritizing Initial Response Efforts

Areas included in this Section:

1. Conduct a Preliminary Evaluation of the Scene
2. Exercise Scene Safety
3. Administer Lifesaving Efforts
4. Establish Security and Control

> **Instructor Note:** First responders (the first public safety personnel to arrive at the scene, whether it be law enforcement officers, firefighters, or emergency medical services (EMS) personnel) must assess the scene quickly yet thoroughly to determine the course of action to be taken. This assessment should include the scope of the incident, emergency services required, safety concerns, and evidentiary considerations. This section also assists the "first-in investigator" with the establishment and organization of the investigation itself. In addition, this section can be useful towards the implementation of the investigative activity while existing emergency scene activities are on-going or once they have been completed.

1. Conduct a Preliminary Evaluation of the Scene

Principle: The "First Responder" from fire, law enforcement, and EMS has initial control and specific responsibilities for the scene. Priorities for each member of this group are self-evident and discipline based. Additionally, they also are charged with control and preservation of the scene. This document has been written to assist the "first-in investigator" with the establishment and organization of the investigation itself. In addition, this document can be useful towards the implementation of the investigative activity while existing emergency scene activities are on-going or once they have been completed.

Procedure: Upon arrival at the scene, first responders should:

A. Establish a command post/implement an incident command system (i.e., a point of contact and line of communication and authority for other public safety personnel).

B. Request emergency service from bomb technicians, firefighters, EMS personnel, and law enforcement officers.

C. Identify scene hazards, such as structural collapse, blood-borne pathogens, hazardous chemicals, and secondary explosive devices.

D. Identify witnesses, victims, and the presence of evidence.

E. Preserve potentially transient physical evidence (e.g., evidence present on victims, evidence that may be compromised by weather conditions).

Summary: Based on the preliminary evaluation, first responders will initiate an incident command system, request emergency services, and identify scene hazards and evidentiary concerns.

Instructor Note: If the Incident Command System (ICS) is in place as a function of ongoing emergency operations, the "first in investigator" should establish an "Investigation Group/Branch" and work within existing framework. In the event that the investigator arrives on the scene and other emergency scene operations have been completed and the investigator is the "Incident Commander" then the investigator may still follow the ideas and concepts provided in this section to organize the scene. ICS will be in place in most all situations still and the investigator will in all likelihood either assume or have the IC transferred to him at the appropriate time**.**

A. Establish a command post/implement an incident command system (i.e., a point of contact and line of communication and authority for other public safety personnel).

1. Establish Incident Command

a. First arriving public safety personnel should implement ICS and establish a command post (CP) upon initial arrival at the scene following local ICS standard operating procedures.

1. With the concurrence of the Incident Commander, establish the "Investigation Group/Branch" within the existing ICS.

- As part of the investigative incident command module, establish the following functions;
  - Scene documentation unit/group
  - Evidence unit/group
  - Logistics section (under ICS, this is a part of the general staff)
  - Staging (under ICS, this is under operations)
  - Safety sector officer
  - Additional Divisions, Groups or Branches, as the scene demands

2. If the Emergency Operations are on-going and there is an Incident Command System in place and operational;

   (1.) The investigator should follow the ICS currently in place.

   (2.) Conduct an initial investigative scene assessment (size up)

3. If there is no Emergency Operations ICS in place and operational;

   (1.) Establish Incident Command System

   (a.) Locate/relocate the command post beyond any obvious debris items found as soon as feasible.

   (b.) As part of the investigative incident command module, establish the following functions:

   - Scene Documentation
   - Evidence
   - Logistics
   - Staging
   - Safety
   - Additional Divisions, Groups or Branches, as the scene requires

2. Complete Initial Scene Assessment (size up)

B. Request emergency service from bomb technicians, firefighters, EMS personnel, and law enforcement officers.

Instructor Note: These requests will be based upon individual jurisdictional standard operating procedures. These will vary from incident to incident.

1. Bomb Technicians

   Bomb Technicians may be required to perform a number of specific functions as a result of finding initial evidence of the placement of an explosive device. Functions performed may include secondary device search and rendering devices safe.

2. Emergency Medical Service (EMS)

   EMS should be placed near the scene on standby while high risk operations are on-going.

3. Fire/Rescue

   Fire suppression and rescue may become necessary to control hazardous conditions created during the investigative activity. A structural collapse team may be required to control unsafe structural conditions.

4. Law Enforcement
5. Public Works and Other Emergency Management Agencies
6. Engineering Professionals

   A variety of engineering disciplines may be utilized e.g. Structural Engineer, assessment of structural conditions, Electrical Engineer, assessment of electrical hazards and control mechanisms, etc.

C. Identify scene hazards, such as structural collapse, blood-borne pathogens, hazardous chemicals, and secondary explosive devices.

Instructor Note: If not in progress, initiate appropriate evacuation, isolation and perimeter control measures.

Instructor Note: Compliance with OSHA regulations in the establishment of a scene safety plan for all identified hazards present should be completed. See 29 CFR 1910

D. Identify witnesses, victims, and the presence of evidence.

1. Witnesses are individuals who heard, saw, smelled, felt or otherwise have information pertaining to the incident.

Instructor Note: These are individuals that live, work or have been in the immediate area or as casual as the report of a conversation, e.g., delivery personnel, bus and taxi drivers, neighbors. Canvassing of the area may be required to accomplish the task. Additionally, at this point, information, if not already provided in other lessons, needs to be provided of the physical appearance of post blast evidence. This is especially true of fragmented bomb components.

2. Victims are witnesses who suffered injury or loss as a result of the incident.
3. Evidence Identification and Initial Preservation- Evidentiary requirements, standards, and rules vary greatly from jurisdiction to jurisdiction.

   (a.) Identify debris field away from crater

(b.) Identify factors that could affect evidence in and around crater

E. Preserve potentially transient physical evidence (e.g., evidence present on victims, evidence that may be compromised by weather conditions)

Instructor Note: Contamination and cross-contamination are very important issues to be aware of during the collection of evidence. See Section E.3 in the guide, which details specific guidance in the prevention of cross contamination. Additionally, emphasize this is where in the investigation that cross contamination prevention begins.

2. Exercise Scene Safety

Principle: Safety overrides all other concerns. First responders must take steps to identify and remove or mitigate safety hazards that may further threaten victims, bystanders, and public safety personnel. They must exercise due caution while performing emergency operations to avoid injuries to themselves and others.

Instructor Note: It is important that the perimeter is not larger than available resources can control; it may enlarge as more resources become available

Procedure: Following the preliminary evaluation of the scene, the first responders should:

A. Request additional resources and personnel (e.g., bomb technicians, building inspectors, representatives from utility companies, such as gas, water, and electric) to mitigate identified hazards.

B. Use tools and personal protective equipment appropriate to the task during all operations.

C. Request and/or conduct a safety sweep of the area by personnel qualified to identify and evaluate additional hazards and safety concerns.

D. Mark hazard areas clearly and designate safety zones to receive victims and evacuees.

Summary: To ensure safety, first responders will take steps to identify, evaluate, and mitigate scene hazards and establish safety zones.

A. Request additional resources and personnel (e.g., bomb technicians, building inspectors, representatives from utility companies, such as gas, water, and electric) to mitigate identified hazards.

1. Structural Conditions

a. Collapse-partial and/or full

b. Potential weak areas-areas around collapse

c. Consider post-explosion fire damage and spread issues

d. Coordinate with Bldg Engineer to initially establish work areas

2. Blood Born Pathogen

Instructor Note: In the event blood borne pathogens are identified at the scene, the local public health authorities should be identified. Also, prior to the release of the scene, the steps outlined in Section F. should be followed.

a. Use of the structure

b. Contents of the structure

c. Number of and location of victims

d. Status and location of triage/treatment

e. Personal protection equipment required to match hazard

f. Decontamination appropriate for the hazard

g. Disposal appropriate for the hazard

3. Hazardous Chemicals

a. Building Use/Occupancy

(1.) Contents of Building

(2.) Location within building - Utility/Storage—office

Instructor Note: It may be obvious that hazardous chemicals are expected to present on the scene, e.g. Pesticide Manufacturer, Research Facility, or Educational Science Lab. Consideration should be given to the location of the event within the structure to determine the potential for the release of hazardous chemicals.

b. Related to Explosion Scene

1. Diffuse Phase Fuels, example Methane Gas
2. Condensed Phase Fuels, Explosives

c. Personal Protective Equipment

1. Select PPE appropriate for the hazard present
2. Decontamination appropriate for the hazard
3. Disposal appropriate for the hazard

d. Fire

1. A fire incident could occur as a result of a re-kindle, movement of debris and ignition of gases or vapors, electrical hazards, cutting or welding or spontaneous heating of chemicals.
2. Emergency Action Plan within Investigation Sector as required by Federal OSHA (see 29 CFR-1910.39)

4. Secondary Devices:

DANGER: Beware of secondary devices!

The scene may contain secondary explosive devices designed specifically to kill or maim public safety responders. Do not touch any suspicious items. If a suspected secondary device is located, immediately evacuate the area and contact bomb disposal personnel.

B. Use tools and personal protective equipment appropriate to the task during all operations.

Instructor Note: Law Enforcement first responders will have very limited equipment, but should have, at least, work and rubber (latex or similar) gloves for protection from some possible hazards. EMS and fire fighters will have a more extensive selection of tools and personal protective equipment (PPE) available.

C. Request and/or conduct a safety sweep of the area by personnel qualified to identify and evaluate additional hazards and safety concerns.

Instructor Note: This is a preliminary safety assessment to identify, isolate, and control on scene hazards. Establish a safety zone (the scene will dictate distance and location) and conduct on-going safety assessments.

D. Mark hazard areas clearly and designate safety zones to receive victims and evacuees.

Instructor Note: Mark hazard areas using barrier tape or flags. Maintain controlled entry/exit points to the scene (personnel accountability).

3. Administer Lifesaving Efforts

Principle: First responders' primary responsibility is to rescue living victims and provide treatment for life-threatening injuries. While performing emergency operations, they are to preserve evidence and avoid disturbing areas not directly involved in the rescue activities, including those areas containing fatalities.

Procedure: After performing a preliminary evaluation and establishing scene safety, first responders should:

A. Initiate rescues of severely injured and/or trapped victims.

B. Evacuate ambulatory victims, perform triage, and treat life-threatening injuries.

C. Leave fatalities and their surroundings undisturbed. Removal of fatalities will await authorization.

D. Avoid disturbing areas not directly involved in rescue activities.

Summary: Lifesaving efforts are first responders' priority. Additionally, care should be taken not to disturb areas where rescue activities are not taking place.

Instructor Note: The above A-D is self-explanatory. However, this is where you need to advise the first responders/investigators how to perform some of these tasks in some detail, e.g., how not to disturb or alter evidence, begin isolating areas and determining entry and exit pathways into the scene. This leads into the next section on security and control.

4. Establish Security and Control

Principle: First responders will establish control and restrict scene access to essential personnel, thereby aiding rescue efforts and scene preservation. First responders will initiate documentation.

Procedure: To establish security and control, first responders should:

A. Set up a security perimeter.

B. Restrict access into and out of the scene through the security perimeter (e.g., control media, bystanders, and non-essential personnel).

C. Establish staging areas to ensure that emergency vehicles have access into the area.

D. Initiate documentation of the scene as soon as conditions permit (e.g., taking notes, identifying witnesses, videotaping/photographing bystanders).

Summary: First responders will establish a controlled security perimeter, designate staging areas, and initiate documentation. This will set the stage for the subsequent investigation.

> **Instructor Note**: For the purposes of this section, inherent to crime scenes, the first responders that are responsible for securing and controlling the scene are considered to be law enforcement and fire/rescue personnel. Depending on the size and type of the incident, e.g. a mailbox bombing, the first responding law enforcement officer may transition to be the investigator.

A. Set up a security perimeter.

1. Techniques for perimeter establishment can be; barrier tape, rope, secured doors, natural barriers and staffed positions.

> **Instructor Note:** Define security perimeter as the outer most boundary used to keep the curious, press and others away from the scene operations. Usually, this is 1,000 feet or more. This outer perimeter is not to be confused with the inner perimeter, which will be discussed later.

B. Restrict access into and out of the scene through the security perimeter (e.g., control media, bystanders, and non-essential personnel).

C. Establish staging areas to ensure that emergency vehicles have access into the area.

> **Instructor Note:** Explain where and why staging areas are set-up and the types of vehicles or support services that would be allowed into these areas. Additionally, staging areas need to be free from potential evidence.

D. Initiate documentation of the scene as soon as conditions permit (e.g., taking notes, identifying witnesses, videotaping/photographing bystanders).

Instructor Note: Explain what types of documentation should be utilized and/or expected from first responders/investigators. Additionally, every effort should be made to positively identify witnesses so they can be located later for detailed interviews, should they not be interviewed prior to leaving the scene. Positive identification can be effected by the showing of photo identification cards, e.g., driver's license. The investigator should make every attempt to recover any form of documentation made by first responders e.g. location of victims, incident reports, sketches, diagrams, fire scene photos.

Section C. Evaluating the Scene

> **Instructor Note:** At the time the scene is determined to involve a bombing or other crime, the investigator must address legal requirements for scene access, search, and evidence seizure.

Areas included in this Section:

1. Define the Investigator Role
2. Ensure Scene Integrity
3. Conduct Scene Walkthrough
4. Secure Required Resources

1. Define the Investigator Role

Principle: The investigator must coordinate with the incident commander and first responders to determine what occurred and to assess the current situation. Subsequent procedures will vary depending on the magnitude of the incident.

Procedure: Upon arriving at and prior to entering the scene, the investigator should:

A. Identify and introduce himself or herself to the incident commander.

B. Interview the incident commander and first responders to evaluate the situation, including safety concerns, and determine the level of investigative assistance needed.

C. Conduct a briefing with essential personnel (e.g., law enforcement, fire, EMS, hazardous materials, and utility services personnel).

D. Assess legal considerations for scene access (e.g., exigent circumstances, consent, administrative/criminal search warrants).

Summary: The investigator will conduct a briefing to ensure scene safety and security, while addressing the issue of secondary devices.

A. Identify and introduce himself or herself to the incident commander.

> **Instructor Note:** The above is self-explanatory.

B. Interview the incident commander and first responders to evaluate the situation, including safety concerns, and determine the level of investigative assistance needed.

1. The investigator should gain as much information about the incident prior to processing the explosion scene. The investigator should gather the following information:

(a.) Type (description) and number of explosions

(b.) Number of injuries/deaths and a brief description of injuries

(c.) Safety concerns

- hazmat issues (biological, nuclear, incendiary, chemical, explosives)
- structural integrity
- environmental/weather conditions
- secondary (multiple) devices
- site safety plan

(d.) Initial scene observations

- location of any fire/explosion
- odors
- location of victims

(e.) Fire fighting and first responder activities

- entry, suppression, overhaul, ventilation, etc.
- removal and transporting of victim

(f.) Identify and obtain names of all responders;

(1) First responders

- Law Enforcement,
- Fire,
- EMS,
- Emergency Management

(2) Others

- Occupants/employees,
- Public Utilities

(g.) Scene security measures in place

- security perimeter and staging areas

(h.) Evidence concerns

- location of evidence
- removal of items/evidence and their location

- contamination issues
- location and description of transient evidence
- chain of custody
- nature of the evidence, i.e. explosive, chemical

(i.) Search for secondary devices/explosives

- who conducted search and their qualifications
- how search was performed (visual inspection, K-9)
- location of any secondary devices/explosives
- render safe procedures/disposal of devices/explosives

2. The investigator should also interview other first responders to supplement information from the IC interview and corroborate facts about the scene.
3. The Investigator should determine the level of Investigative staffing needed based on:
   a. Size of the scene and physical staffing needs
   b. Specialized investigative needs
      - explosives K-9
      - bomb technicians
      - evidence technicians/teams for processing scene
   c. Need to contact other government agencies, e.g., Federal, State or Local

C. Conduct a briefing with essential personnel (e.g., law enforcement, fire, EMS, hazardous materials, and utility services personnel) to:

1. Evaluate initial scene safety to the extent possible prior to entry.
   a. hazmat issues
   b. utilities
   c. structural integrity
2. Ensure that a search for secondary explosive devices has been conducted.
   a. secondary (multiple) devices
   b. safety sweep/search for secondary devices
      - who performed it,
      - what areas were done

Caution: Only bomb disposal personnel should handle any suspected devices that are located. Take no further action until the devices have been identified or rendered safe.

3. Ensure that the scene has been secured, that a perimeter and staging areas for the investigation have been established, and that all personnel have been advised of the need to prevent contamination of the scene.
    a. The investigator should establish, if not already identified:
        - the physical boundaries of the security and evidence perimeters
        - crime scene zones
        - access points
        - who has authority to be in the various zones
        - physical control of the perimeters
        - the location of command post
        - the location of staging areas (for vehicles and equipment), support services, etc.
4. Ensure that the chain of custody is initiated for evidence that may have been previously collected.
    a. identify what evidence has already been collected or removed
    b. location of collected evidence and who has control of items
    c. ensure that proper documentation (written) of chain of custody has been initiated

D. Assess legal considerations for scene access (e.g., exigent circumstances, consent, administrative/criminal search warrants).

Instructor Note: After the exigent circumstances have been mitigated, your authority to remain may have changed.

1. After the original emergency response by personnel, the authority to remain at the scene or to continue to conduct the investigation may require the issuance of a search warrant or a written consent to search. (See the sample consent to search in Appendix A.)
    a. At a minimum, the consent to Search Form Should Include:
        - Name of the person giving consent;
        - Relationship of the person to the property;
        - Contact numbers for the person giving consent;

- Signature of the person giving consent;
- Name (legibly printed), contact numbers and signatures of the witnesses (2 recommended);
- Date and time consent obtained;
- Consent wording in a form acceptable in the relevant jurisdiction (local, state and/or federal).

2. The following is an outline for the protocol an investigator should follow in obtaining consent:
   a. Document that a determination has been made that the person is capable of understanding the English language or arrange for a translator who is qualified to translate the communications between the investigator and person whose consent is being sought, into a language in which the latter is fluent;
   b. As a matter of practice, establish identity;
   c. Document the determination that the person giving consent possesses sufficient health and mental capabilities to provide informed consent;
   d. Document the nature and extent of the person's proprietary interest or other in the property;
   e. Seek information about the identities of other persons whose consent may be required, such as corporate officers, co-owners or tenants;
   f. If a translator was used, modify the form to include a certification that the translator accurately and completely translated the contents of the form from the English language to the consentor's language, and obtain the printed name of the translator, the translator's employer or agency, contact numbers and signature.

2. Ensure Scene Integrity

Principle: The investigator must ensure the integrity of the scene by establishing security perimeters and staging areas, contamination control procedures, and evidence collection and control procedures.

Procedure: Prior to evidence collection, the investigator should:

A. Establish procedures to document personnel entering and exiting the scene.

B. Establish and document procedures to prevent scene contamination.

C. Establish and document procedures for evidence collection, control, and chain of custody (see the sample evidence recovery and chain of custody logs in appendix A).

Summary: The investigator will establish and document procedures to protect the integrity of the scene.

A. Establish procedures to document personnel entering and exiting the scene.

1. Identify entry and exit points and pathways to/through the scene
2. Use of "Access Control Logs" for designated areas of the scene
3. Designate/identify a person to maintain all access logs

B. Establish and document procedures to prevent scene contamination.

1. Brief all individuals on contamination prevention procedures
2. Follow agency specific SOP to prevent contamination, which should include:
   (a) use of PPE (gloves, tyvek)
   (b) staging area for tools and equipment
   (c) entry preparation areas
   (d) decontamination/cleaning stations for tools and equipment
   (e) decontamination area for personnel
3. Note kind and use of PPE on evidence log if no written plan is available
4. Follow established procedures to ensure personnel and equipment are free from contaminants.
   (a) Collect control samples from personnel and equipment as necessary
   (b) As appropriate, utilize single-use tools and supplies
   (c) When available, consider K-9 evaluation/screening of people and supplies
   (d) Assess use and placement of heavy equipment and fuel powered tools
   (e) Ensure cleanliness of evidence storage areas; this includes transport vehicles

Instructor Note: It is desirable that a written contamination prevention plan exist as part of the investigator's SOPs for processing a bombing crime scene. Every scene presents different challenges; therefore, refinements to SOPs may be necessary. When a written SOP is not in place, the investigator should make a written notation in his/her field notes as to what controls were used.

C. Establish and document procedures for evidence collection, control, and chain of custody (see the sample evidence recovery and chain of custody logs in appendix A).

1. Assign an evidence custodian
2. Prioritize the collection of evidence, e.g. potentially hazardous evidence, transient evidence, biological evidence, etc., collected prior to other evidence.

3. Preserve, collect, and package evidence
4. Inventory, transport, and store evidence

3. Conduct the Scene Walkthrough

Principle: The investigator must conduct a walkthrough to establish scene parameters and acquire an overview of the incident.

Procedure: During the scene walkthrough, the investigator should:

A. Reevaluate scene requirements (e.g., boundaries, personnel, equipment).

B. Establish an entry and exit path for personnel.

C. Be alert to safety concerns (e.g., structural damage, secondary devices, unconsumed explosive materials, failed utilities, hazardous materials) and to the locations of physical evidence.

D. Ensure preservation and/or collection of transient evidence.

1. Identify, secure, preserve, and/or collect transient evidence following established evidence collection procedures.

E. Attempt to locate the seat(s) of the explosion(s).

Summary: The investigator's initial walkthrough will be an opportunity to identify evidence and the presence of safety hazards.

A. Reevaluate scene requirements (e.g., boundaries, personnel, equipment).

1. The investigator should continuously monitor, and adjust as necessary:
    a. security, safety, and evidence perimeters
    b. locations of staging areas
    c. staffing levels needed for investigative functions
    d. equipment and supplies resources
    e. requirements for special resources (lighting, tents, etc.)

Instructor Note: This is an opportunity for the investigator to determine the need for additional resources that will be necessary to safely and efficiently process the scene.

B. Establish an entry and exit path for personnel.

1. Identify and mark logical paths for personnel and equipment to enter and exit the scene (these may be separate paths)

    a. Criteria for entry and exit paths should include distance, ease of access, contamination issues, and safety

    (b) Limit access through various perimeters to essential personnel

C. Be alert to safety concerns (e.g., structural damage, secondary devices, unconsumed explosive materials, failed utilities, hazardous materials) and to the locations of physical evidence.

1. Re-evaluate scene safety issues and establish a scene safety plan

    a. hazmat issues (biological, nuclear, incendiary, chemical, explosives)

    b. structural integrity

    c. environmental/weather conditions

    d. secondary (multiple) devices

D. Ensure preservation and/or collection of transient evidence.

1. Identify, secure, preserve, and/or collect transient evidence following established evidence collection procedures.

E. Attempt to locate the seat(s) of the explosion(s).

Instructor Note: Provide guidance regarding how to locate the seat/epicenter of an explosion with identification characteristics.

4. Secure Required Resources

Principle: Following the walkthrough, the investigator should meet with available emergency responders and investigative personnel to determine what resources, equipment, and additional personnel may be needed.

Procedure: During the course of this meeting, the investigator should:

Instructor Note: It is during the initial walkthrough that the investigator assesses the scene to make a determination as to what PPE Level is required as well as other safety issues. This is the time that resources and assistance are obtained. See Section B

A. Assess the nature and scope of the investigation through information obtained during the walkthrough and from all available personnel.

B. Advise personnel of any secondary devices or other hazards found at the scene.

C. Ensure that one list of victims/potential witnesses is developed and that their accounts of the incident are documented.

D. Ensure that required evidence collection equipment, as well as processing and storage facilities, are available.

E. Secure required equipment as determined by the scene conditions, such as lighting, equipment, hand tools, specialty equipment, and personal safety items.

F. Ensure that sufficient utilities and support services are requested (e.g., electricity, food, trash removal, sanitary services, other public services, security).

G. Advise emergency responders and the investigation team of their assignments for scene documentation and processing.

H. Remind personnel that evidence can take many forms; it is not limited solely to components of the device(s).

Summary: The investigator will meet with emergency responders and investigative personnel in preparation for scene documentation and processing.

Instructor Note: The above A – H are self-explanatory.

Section D. Documenting the Scene

Areas included in this Section:

1. Develop Written Documentation
2. Photograph/Videotape the Scene
3. Locate and Interview Victims and Witnesses

1. Develop Written Documentation

Principle: The investigator will prepare written scene documentation to become part of the permanent record.

Procedure: The investigator should:

A. Document access to the scene (see the sample access control log in appendix A).

B. Document activities, noting dates and times, associated with the incident and the investigation (see the sample activity log in appendix A).

C. Describe the overall scene in writing, noting physical and environmental conditions (e.g., odors, weather, and structural conditions) (see the sample narrative description in appendix A).

D. Diagram and label scene features using sketches, floor plans, and architectural or engineering drawings.

E. Describe and document the scene with measuring equipment, which may include surveying equipment, GPS (global positioning system) technology, or other available equipment.

Summary: Investigators must prepare written scene documentation as part of the permanent record of the incident, which will serve as the foundation for any incident reconstructions and future proceedings.

A. Document Access to the Scene (see the sample access control log in appendix A).

> **Instructor's Note:** Determine extent of legal authority to enter scene and document legal authority to enter and remain at the scene. Guidance was previously provided in Section C.1.D.

1. An Access Control Log must be established to control the integrity of the scene. At a minimum it should contain the following:

    a. Day, date and time log is established;

    b. Page number for each page;

    c. Information about the person(s) maintaining the log:

    - Name, position, and agency of the person controlling the log;
    - Day, date and time the person takes control of the log;
    - Day, date and time the person turns over control of the log to another.

    d. Information about persons accessing the scene:

    - Name of person entering scene;
    - That person's position or title and agency;
    - Purpose of entry;
    - Day date and time of entry to scene;
    - Day date and time of exiting the scene.

B. Document activities, noting dates and times, associated with the incident and the investigation (see the sample activity log in Appendix A).

1. Establish an activity log that summarizes all events taking place at the scene in relation to the investigation. Activities include investigative steps and other events occurring at the scene, including emergency response, health and safety precautions, work of utilities' employees, and investigative functions. The activity log may pass from person to person depending on the length of the scene investigation but is typically completed by the incident commander or his designee. At a minimum, the activity log shall contain the following information:

    a. Location of the incident;

    b. Case identifier;

    c. Name, position and agency of person preparing activity log;

    d. Day, date and time of arrival;

    e. Personnel on scene at time of arrival (see Activity Log);

    f. Date and time of scene control acquisition;

    g. Person from whom scene control was acquired;

    h. Description of nature and extent of scene security at time of acquisition.

C. Describe the overall scene in writing, noting physical and environmental conditions (e.g. odors, weather, and structural conditions) (See the sample Narrative Description in Appendix A)

1. On preliminary survey, make notes describing the overall condition of exterior and interior of scene, including lighting, climatic conditions, and any special situations or conditions such as health hazards or safety concerns. It may be of assistance to document anti-contamination measures taken by the investigators to include clothing, protective equipment, and decontamination methodology.

D. Diagram and label scene features using sketches, floor plans, and architectural or engineering drawings.

1. Sketches are a useful tool in scene documentation and are normally completed at the scene using paper and writing instruments in a hand-drawn fashion. These drawings typically are utilized to show the relationship of an object (evidence) to another object or fixed feature. These drawings are typically not to scale and may be re-drawn in a formal fashion at a later date.
2. Floor Plans are typically prepared at the scene and may be hand-drawn utilizing drafting tools such as straight edges, compasses, etc. The purpose of the floor plan is to depict rooms or other spaces in relation to each other and to the hot zone. A floor plan usually depicts a footprint of the structure or area represented.
3. Architectural drawings or engineering drawings are often available upon request from local government building or zoning departments. They may likewise be obtained from the building owner or from the architect involved in the structure's creation or renovation. Engineering drawings show engineering details of building systems such as electrical, plumbing, HVAC, etc.
4. Obtain "As-built" drawings if available. "As-builts" are preferable, if available, because they show the building as it was in fact constructed rather than how it was originally proposed. This may be particularly important in analyzing structural damage. These drawings also may be obtained from the local building or zoning departments or sometimes from the contractor.
5. The investigator may wish to make several types of drawings, depending on the complexity of the explosion scene. See NFPA 921 Guide for Fire and Explosion Investigations, current edition.
6. The employment of computer equipment and computer assisted drawing (CAD) software allows the investigator to place multiple drawings and photographs on the same slide, showing the relationship of evidence to landmarks and other important features at the scene.

E. Describe and document the scene with measuring equipment, which may include surveying equipment, GPS (global positioning system) technology, or other available equipment.

2. Photograph / Videotape Scene

Principle: The investigator must ensure that photographic documentation is included in the permanent scene record. The documentation should begin before the removal or disturbance of any items and continue during the evidence collection phase.

Procedure: The investigator should:

A. Record overall views of the scene (e.g., wide angle, aerial, 360-degree) to spatially relate items within and to the scene and surrounding area. (A combination of still photography, video-taping, and other techniques is most effective.)

B. Consider muting the audio portion of any video recording unless there is narration.

C. Minimize the presence of scene personnel in photographs/videos.

D. Consider photographing/videotaping the assembled crowd.

E. Maintain photo and video logs (see the sample photographic log in appendix A).

Summary: The investigator will ensure the photographic documentation of the scene to supplement the written documentation in preparation for scene reconstruction efforts and any future proceedings.

A. Record overall views of the scene (e.g., wide angle, aerial, 360-degree) to spatially relate items within and to the scene and surrounding area.

> **Instructor Note:** A combination of still photography, video-taping, and other techniques is most effective.

1. Photographic Techniques: A record of the overall scene to spatially relate items within the scene and surrounding area is required and may be accomplished through several techniques:

> **Instructor Note:** Use of a wide-angle lens allows the investigator to capture a panoramic view of each portion of the scene, which establishes the relationship of evidence or other items of interest in perspective to the scene as a whole. If a wide-angle lens is not available, the investigator may take a series of two or three photographs from a single viewpoint, later overlapping those views resulting in a mosaic of the scene.

2. Aerial photography: Depending on the size of the scene, the use of an aerial ladder, a fixed wing or rotary aircraft allows the investigator to create a footprint of the entire scene in a photograph. Pre-incident aerial photographs are sometimes available from public or private sources.

Instructor Note: When the investigator wants to document the condition and location of a particular item of evidence, a sequence or series of still photographs is taken, starting from a distance and moving to a close-up shot. This technique establishes the location and relationship of evidence to other known objects.

3. Varied photographic techniques may be utilized in documenting the scene and surrounding area. Photographs should be taken at incremental distances (distant, mid range and close-up) to include an exterior view of the scene, interior views, specific items of evidence, and the assembled crowd.

B. Consider muting the audio portion of any video recording unless there is structured narration.

Instructor Note: Background noises and possible inappropriate comments can be distracting and embarrassing for the investigator should the tape be played in court.

C. Minimize the presence of scene personnel in photographs/videos.

Instructor Note: This gives a more professional appearance. In addition, the accuracy of the scene in its natural state is captured.

D. Consider photography/videotaping the assembled crowd.

Instructor Note: Documentation of the assembled crowd provides a record of possible suspects and witnesses.

E. Maintain photo and video logs (See the sample photographic log in Appendix A)

1. At a minimum, photo and video logs should contain the following:

a. Photograph number;

b. Description of photo subject matter;

c. Day, date, and if applicable, time of each photo;

d. Name of the photographer;

e. A contact sheet of still photograph negatives assists in establishing the order in which photos were taken.

f. Use a diagram to show photograph locations. See, for example, NFPA 921, current edition.

3. Locate and Interview Victims and Witnesses

Principle: The investigator will obtain victims'/witnesses' identities, statements, and information concerning their injuries.

Procedure: The investigator should:

A. Identify and locate witnesses (e.g., victims who may have been transported, employees, first responders, delivery/service personnel, neighbors, passers-by) and prioritize interviews.

B. Attempt to obtain all available identifying data regarding victims/witnesses (e.g., full name, address, date of birth, work, and home telephone numbers) prior to their departure from the scene.

C. Establish each witness' relationship to or association with the scene and/or victims.

D. Establish the basis of the witness' knowledge: How does the witness have knowledge of the incident?

E. Obtain statements from each witness.

F. Document thoroughly victims' injuries and correlate victims' locations at the time of the incident with the seat(s) of the explosion(s).

G. Interview the medical examiner/coroner and hospital emergency personnel regarding fatalities and injuries.

Summary: The investigator must attempt to determine the locations of all victims and witnesses. Victim and witness statements and information about their injuries may be essential to establishing the nature of the device and the circumstances of the incident.

A. Identify and locate witnesses (e.g., victims who may have been transported, employees, first responders, delivery/service personnel, neighbors, passers-by) and prioritize interviews.

Instructor Note: See Section B 1, D: Witness/Victim Identification

B. Attempt to obtain all available identifying data regarding victims/witnesses (e.g. full name, address, date of birth, work, and home telephone numbers) prior to their departure from the scene.

Instructor Note: It is recommended that the witness provide official government photo identification, such as driver's license, green card, or passport.

C. Establish each witness's relationship to or association with the scene and/or victims.

Instructor Note: Witnesses many times do not realize that they have observed important investigative information. Also, in canvassing for witnesses, the suspect may be identified, as the "witness" is the suspect.

D. Establish the basis of the witness' knowledge: How does the witness have knowledge of the incident?

Instructor Note: The above is self-explanatory

E. Obtain statements from each witness.

Instructor Notes: It may be useful to obtain copies of key diagrams or photographs depicting the scene to use during the interview. It may be beneficial to report the facts gained through interviews during daily team meetings. This may result in the identification of further witnesses and the necessity of further interviews. The team can also outline points to be covered in particular interviews.

F. Document thoroughly victims' injuries and correlate victims' locations at the time of the incident with the seat(s) of the explosion(s).

Instructor Note: The above is self-explanatory

G. Interview the medical examiner/coroner and hospital emergency personnel regarding fatalities and injuries.

Instructor Note: Injuries should be documented with photographs, appropriate x-rays, clothing, or bomb debris removed from body and written notes or reports.

Section E. Processing Evidence at the Scene

Areas included in this Section:

1. Assemble the Evidence Processing Team
2. Organize Evidence Processing
3. Control Contamination
4. Identify, Collect, Preserve, Inventory, Package and Transport Evidence
5.

> **Note:** At the time the scene is determined to involve a bombing or other crime, the investigator must address legal requirements for scene access, search, and evidence seizure.

1. Assemble the Evidence Processing Team

Principle: Effective organization and composition of the evidence processing team ensure the proper collection and preservation of evidence.

Procedure: The size of the evidence processing team depends on the magnitude of the scene, but the investigator needs to ensure that the following roles and expertise are addressed:

> **Instructor Note:** Pre-planning, e.g., the identification of specific personnel to perform the listed duties is essential before the incident occurs. Do not wait until it happens to identify and train personnel. There may also be a need to establish other Groups, Divisions, branches, etc. under ICS to meet the needs of the overall investigation.

A. Team Leader.
B. Photographer
C. Sketch Preparer
D. Evidence Recorder/Custodian
E. Evidence Recovery Personnel
F. Specialists

Summary: Attention to the organization and composition of the evidence processing team facilitates effective evidence collection and preservation.

A. Team Leader.

Instructor Note: Of the listed personnel, special attention should be given to the selection of a team leader. Historically, team leaders should have managerial skills as well as technical expertise and experience in the investigation of bombing crime scenes. . The Team Leader may be the investigator who wears two hats: one of being in charge of the collection of evidence as well as the person responsible for conducting the field investigation. Or, the Team Leader may have the responsibility of supervising other team members in the collection of evidence. In this case, he/she would work/report to an investigator-in-charge of the entire investigation. In situations where more than one evidence collection/processing team is used in large or complex bombing scenes, the Team Leader may be one of many Team Leaders who report to an investigator-in-charge or another designated individual responsible for the overall collection of evidence.

1. Team Leader Responsibilities:

   a. Assumes control of the crime scene inner perimeter and monitors safety of personnel and security at scene

   b. Conduct walk-through for purposes of making a preliminary survey, evaluating potential evidence and preparing a narrative description

   c. Determine search patterns and make appropriate assignments for team members

   d. Designate various locations for processing team.

Instructor Note: The Team Leader may, depending on the level of responsibility he/she has at the scene, also designate the location of the command post. This command post may also serve as the evidence collection control area at the edge of the inner perimeter. However, the Team Leader will usually not have that responsibility when he/she is not the investigator-in-charge and the command post is utilized to "command" the overall investigation, not just the processing of the scene. In this instance, the command post will usually be outside of the outer perimeter.

   e. Ensure that sufficient supplies and equipment are available for personnel

   f. Ensures that access to the scene is controlled and appropriate access logs are established and maintained.

g. Continually reevaluate efficiency of search during entire course of the operation

h. Release of the scene after a final survey and inventory of the evidence

Instructor Note: As in the guidance provided in 1. a, above, the Team Leader may or may not actually release the scene as he/she may not be the investigator-in-charge. In the situation where the Team Leader is not the investigator-in-charge, he/she should advise the investigator of the appropriateness of releasing the scene, e.g., evidence processing has or has not been completed.

i. Ensure team members are qualified and reliable to perform their respective duties

B. Photographer

1. Photographer Responsibilities:

a. Photograph entire area before it is entered

b. Photograph victims, crowd and vehicles

c. Photograph entire scene with overall, medium, and close-up coverage.

d. Photograph major items of evidence.

e. Photograph maps, blueprints or diagrams.

f. Obtain previous photographs of scene, as appropriate.

g. Ensure a photographic log and sketch is maintained.

h. Photograph scene as it appears prior to release. (e.g. formal securing of facility/room, location of contents, etc.)

C. Sketch Preparer

1. Sketch Preparer Responsibilities:

a. Diagram/map immediate area.

b. Sketch major items of evidence and coordinate nomenclature with Evidence Recorder/Custodian and Evidence Recovery Personnel

c. Designate search areas (grids, patterns, etc) and advise Team Leader and all search members of nomenclature for designated areas

D. Evidence Recorder/Custodian

1. Evidence Recorder/Custodian Responsibilities:

a. Prepare evidence recovery log

b. Coordinate proper evidence packaging and preservation

c. Coordinate evidence nomenclature with Sketch Preparer and Evidence Recovery Personnel

d. Receive and record all evidence

e. Maintain custody and control of evidence at the scene

f. Maintain chain of custody

g. Coordinate transmittal of evidence to case investigator, or to crime laboratory, per agency guidelines

E. Evidence Recovery Personnel

1. Evidence Recovery Personnel Responsibilities:

Instructor Note: The responsibilities of the evidence recovery personnel are to locate evidence. The methods of evidence collection, preservation, labeling and so on are provided in other sections. Additionally, the types of evidence resulting from the bomb explosion are provided in other lessons.

F. Specialists

Instructor Note: The Team Leader is responsible for the initial survey to determine the requirements for specific team members. Depending on the magnitude and complexity of the scene, not all listed personnel will be required. Additionally, unless the team leader is also the lead investigator, the team leader should work with the investigator to determine requirements or composition of the team.

1. Factors in selection of Specialists:

a. The competence and reliability of the specialist

b. The ability of the specialist to work within law enforcement guidelines at a scene

c. The role of the specialist in presenting expert testimony in court

2. Types of Specialists:

a. Bomb Technician

b. Forensic Technician

c. Hazardous Materials Technician/Specialist

d. Professional, academic, specialized fire service or other law enforcement personnel, e.g.:

a. Medical Examiner/Coroner

b. Chemist

c. Odontologist
d. Anthropologist
e. Entomologist
f. Blood Pattern Analyst
g. Geologist
h. Surveyor
i. Engineer
j. Safety Personnel
k. Procurement Personnel
l. Structural Collapse Rescue
m. Hazardous Materials Technician

2. Organize Evidence Processing

Principle: Good organization is essential to evidence collection and preservation. The investigator must continually evaluate the scene, adapt to changes as they occur, and brief the team.

Procedure: Before deploying the team, the investigator should:

A. Review and reevaluate:
   1. The boundaries of the scene.
   2. Safety concerns.
   3. Command post
   4. Staging locations
   5. Evidence processing and storage locations.
   6. Personnel and equipment requirements.
   7. Legal and administrative considerations.
B. Identify the search procedure for the scene.
C. Ensure that transient physical evidence has been preserved and collected.
D. Consider onsite explosives detection (e.g., trace explosives detection, use of canines, chemical tests) by qualified personnel.
E. Brief the team and review assignments.

Summary: Prior to evidence collection and throughout the process, the investigator will review the scene, adapt to changes, and brief the team.

A. Review and reevaluate:

1. The boundaries of the scene
    a. Expand or reduce scene boundaries as appropriate. (It is easier to reduce than expand boundaries)
    b. Ensure interior (crime scene) boundary is of sufficient distance from the outer boundary to prevent unauthorized media access (e.g., long lensed cameras)
    c. Consider closing overhead air space through Federal Aviation Administration (FAA)
2. Safety concerns
    a. Secondary Devices
    b. Structural integrity
    c. Blood borne pathogens
    d. Hazardous materials (e.g., chemicals, gases, asbestos)
    e. Condition/status of Utilities
3. Command Post

Instructor Note: During an incident or investigation, there is only one "Command Post" which directs the entire investigation. In most previous instruction, the location, which controlled the collection of evidence, was called the "command post". This is incorrect as the "command post" controls the entire investigation and is well outside the outer perimeter. However, depending on the needs of the specific function, there may be a need to establish "Operational Centers" by investigative function, e.g., evidence collection.

    a. Distance of Command Post from the scene.
    b. Secure and protected from elements and unauthorized personnel.
    c. Necessary communication established with evidence collection operational center.
4. Staging locations
    a. Appropriate locations for the collection of equipment prior to dispatch into the crime scene
    b. Location in which to stage evidence and equipment to/from scene
    c. Equipment security at staging location

d. Briefing location for personnel prior to entering scene

5. Evidence processing, transportation and secure storage locations.

   a. Should have controlled access and protection from adverse environmental elements and cross-contamination

   b. Vehicles should not be used for long term storage

Instructor Note: Whenever possible, a single vehicle large enough to transport evidence should be used.

   c. Evidence Recorder/Custodian should have a pre-set location outside inner perimeter to receive and document recovered evidence

Instructor Note: This location may be in the evidence group or branch Operations Center (Command Post)

6. Personnel and equipment requirements

   a. Personal protective equipment as required (e.g., safety boots, hard hats, tyvek, respiratory protection, rubber and work gloves)

7. Legal and administrative considerations

   a. Consider obtaining a legal opinion from a prosecutor relative to requirements for a consent to search, search warrant, and security of scene, particularly for multi-day crime scene processing

Instructor Note: This should have already been done (has been mentioned in several previous sections) – wording should address any changes in legal status on scene.

B. Identify the search procedure for the scene

- Line search
- Spiral
- Grid

Instructor Note: The purpose of selecting a specific methodology for searching the bombing crime scene is to establish a systematic search methodology and minimize the potential of missing evidence.

1. Grid Search Pattern
    a. Preferable for bombing crime scene investigations for mapping and evidence collection.
    b. Size of grids should be determined using the following factors:
        - Size of the area to be searched
        - Quantity of evidence or debris at scene
        - Severity of explosion
    c. The size of the individual grids does not have to be equal in size or configuration. Depending on terrain, natural barriers and distance from seat of the explosion the grid size may vary.
2. Line Search Pattern
    a. Applicable for searching large areas, regardless of location, urban, suburban, rural.
    b. A line search can be conducted within a specific grid (large).
3. Spiral and Circular
    a. Least preferable for bombing crime scene investigations, but frequently used in wild fire investigations.

C. Ensure that transient physical evidence has been preserved and collected
1. Personnel should be concerned about the weather conditions at the scene (e.g., wind, rain, sun light can move, alter or destroy evidence)
2. Evidence may be removed from the scene by unwitting EMS and recovery personnel
3. Check first responders shoes and vehicle tires as appropriate

D. Consider onsite explosives detection (e.g., trace explosives detection, use of canines, chemical tests) by qualified personnel
1. Consider canines' limitations; consult with the canine's handler.
2. Be aware of current technological developments and improvement in detection equipment and methods

E. Brief the team and review assignments
1. Detail requirements and provide overview of the crime scene

2. Ensure team members understand their respective assignments
3. Provide overview of evidence collection procedures
4. Emphasize personal safety requirements

3. Control Contamination

Principle: Preventing contamination protects the integrity of the scene and other search areas, the integrity of the evidence for forensic analyses, and the safety of personnel.

Procedure: The investigator should ensure that evidence processing personnel:

A. Use clean protective outer garments and equipment as applicable for each scene.
B. Consider obtaining control samples as applicable (e.g., evidence containers, swabs of equipment and personnel).
C. Package collected evidence in a manner that prevents loss, degradation, or contamination.
D. Package, store, and transport evidence from different scenes or searches in separate external containers.

Summary: Proper collection, packaging, transportation, and storage will minimize contamination and ensure the integrity of the evidence.

A. Use clean protective outer-garments and equipment as applicable for each scene

> **Instructor Note:** Personnel who have been involved with the evidence processing of a bombing crime scene, should refrain from participating in a related search of a suspects possessions due to cross-contamination concerns. However, should the same personnel be required to search a suspects possessions, clothing worn at the scene should removed and replaced with tyvek coveralls, gloves, booties and hood.

1. Protective Outer-Garments
    a. Tyvek with non-powdered gloves, booties, and hood
    b. Clean or new overalls
    c. Do not wear the same clothing/shoes worn during explosives disposal, firearms training or fire suppression
2. Tools and Equipment

a. Use new, disposable-type tools and materials as appropriate (e.g., plastic forceps, barrier tape, plastic buckets, and plastic bags)

b. Non-disposable tools should be cleaned with high pressure washer and liquid detergent soap (e.g., shovels, sifting screens, hand tools)

B. Consider obtaining control samples as applicable (e.g., evidence containers, swabs of equipment and personnel)

Instructor Note: reference difference between "control vs. comparison" samples.

1. Furnish comparison or control sample of containers to laboratory.

C. Package collected evidence in a manner that prevents loss, degradation, or contamination

1. Evidence requiring residue analysis should be in heat sealed nylon bags, unlined metal bags or other-like type of containers
2. Liquids should be placed in unlined metal cans or properly protected, clean glass jars
3. Blood contaminated material should be air dried and placed in paper bags
4. Residue swabbing materials should be placed in properly protected glass containers
5. General evidence should use paper or plastic, re-sealable bags

D. Package, store, and transport evidence from different scenes or searches in separate external containers.

4. Identify, Collect, Preserve, Inventory, Package, and Transport Evidence

Principle: The search focuses on the discovery of physical evidence that may establish that a crime was committed and link elements of the crime to possible suspects.

Procedure: To maximize the recovery and evaluation of all types of physical evidence, the investigator should ensure:

A. The preparation of an evidence recovery log (see the sample in appendix A) that documents information such as:

1. Item number.
2. Description.

3. Location found (grid number if used).
4. Collector's name.
5. Markings (either directly on the item or indirectly on the package).
6. Packaging method.
7. Miscellaneous comments.

B. The identification of evidence by:
   1. Assigning personnel to designated search areas.
   2. Initiating scene-specific search pattern(s) and procedures, including examination of immobile structures for possible evidence.
   3. Attempting to determine the method of bomb delivery.
   4. Establishing the seat(s) of the explosion(s), if present.
   5. Documenting blast effects (e.g., structural damage, bent signs, thermal effects, fragmentation).
   6. Examining the crater, vehicles, structures, etc.
   7. Documenting the location(s) of victims prior to and after the explosion.
   8. Ensuring that victims are examined for bomb component fragments.
   9. Autopsies should include full-body x-rays.

C. The collection of evidence, including:
   1. Suspected bomb components and fragments, including those recovered from victims.
   2. Suspected materials used in the construction and transportation of the explosive device(s) (e.g., tape, batteries, manuals, vehicles).
   3. Crater material.
   4. Residues and other trace evidence (using swabbing techniques).
   5. Additional items of evidence (e.g., blood, hair, fiber, fingerprints, tire tracks, weapons, documents, tools).
   6. Comparison samples of indigenous materials.

D. That evidence is:
   1. Photographed.
   2. Packaged and preserved in containers.
   3. Labeled (e.g., date, collector's initials, item number, location).
   4. Recorded in the evidence recovery log.

5. Secured in the designated storage location.

E. The labeling, transportation, and storage of evidence by:--

1. Placing evidence from different locations or searches in separate external containers.
2. Labeling evidence for storage and shipment, including identification of hazards.
3. Arranging for transportation of the evidence.

Summary: Identification, collection, preservation, and packaging of evidence must be conducted in a manner that protects the item, minimizes contamination, and maintains the chain of custody. These steps assist in establishing the elements of a possible crime and provide the basis for thorough, accurate, and objective investigation and prosecution processes.

A. The preparation of an evidence recovery log (see the sample in appendix A) that documents information such as:

1. Item number.
2. Description.
3. Location found (grid number if used).
4. Collector's name.
5. Markings (either directly on the item or indirectly on the package).
6. Packaging method.
7. Miscellaneous comments

Instructor Note: The evidence label should contain, at a minimum, the following: Case/file number, date found, brief description, location found and collector's name.

B. The identification of evidence by:

1. Assigning personnel to designated search areas.
2. Initiating scene-specific search pattern(s) and procedures, including examination of immobile structures for possible evidence.
3. Attempting to determine the method of bomb delivery.
4. Establishing the seat(s) of the explosion(s), if present.
5. Documenting blast effects (e.g., structural damage, bent signs, thermal effects, fragmentation).

6. Examining the crater, vehicles, structures, etc.
7. Documenting the location(s) of victims prior to and after the explosion.
8. Ensuring that victims are examined for bomb component fragments. Autopsies should include full-body x-rays.

Instructor Note: Physical evidence is found by using one or more of the following organized search techniques: visual, sifting, vacuum, and swabbing

C. The collection of evidence, including:
   1. Suspected bomb components and fragments, including those recovered from victims
      a. Ensure evidence is collected from hospitals, morgues, and ambulances
   2. Suspected materials used in the construction and transportation of the explosive device(s) (e.g., tape, batteries, manuals, vehicles).

Instructor Note: The above is self-explanatory

   3. Crater material
      a. Protect crater from weather, recovery operations, and other evidence collection methods
   4. Residues and other trace evidence (using swabbing techniques)

Instructor Note: Use current protocols for the collection of swabbing materials.

   5. Additional items of evidence (e.g., blood, hair, fiber, fingerprints, tire tacks, weapons, documents, tools)

Instructor Note: Use current protocols for the collection of the above materials

   6. Comparison samples of indigenous materials
      a. Wire, tape, paper electronic components and shipping containers

D. That evidence is:
   1. Photographed
      a. Before collection or movement, with and without scale

b. Only significant items of evidence need to be individually photographed, e.g., assembled fuzing system, items that when moved may alter configuration

2. Packaged and preserved in containers

Instructor Note: When using the grid search method, like items of evidence within a single grid can be placed in the same evidence bag.

3. Labeled (e.g., date, collector's initials, item number, location).

Instructor Note: The above is self-explanatory**.**

4. Recorded in the evidence recovery log.

Instructor Note: The above is self-explanatory**.**

5. Secured in the designated storage location

Instructor Note: Resolve any potential cross-contamination issues prior to storage location use. Additionally, if bomb scene is moved to another location for processing, ensure location is free of materials, which could present cross-contamination issues.

E. The labeling, transportation, and storage of evidence by:

1. Placing evidence from different locations or searches in separate external containers

Instructor Note: The above is self-explanatory.

2. Labeling evidence for storage and shipment, including identification of hazards
    a. Ensure OSHA, DOT and other state/local compliance
    b. Unconsumed explosives should be stored in approved facilities
    c. Prior permission is required from Federal laboratories before unconsumed explosives and initiators can be shipped for their examination
3. Arranging for transportation of the evidence.

Instructor Note: Request shipping instructions from the forensic laboratory prior to shipment of live explosives

Section F: Completing and Recording the Scene Investigation

Areas included in this Section:

1. Ensure that all Investigative Steps are Documented
2. Ensure that Scene Processing is Complete
3. Release the Scene
4. Submit Reports to the Appropriate National Databases

1. Ensure That All Investigative Steps Are Documented

Principle: To ensure that the permanent record will be complete, the investigator should review all documentation before releasing the scene.

Procedure: The investigator should verify that the following have been addressed:

A. Documentation of major events and time lines related to the incident.
B. Personnel access log (see the sample in appendix A).
C. Activity log (see the sample in appendix A).
D. Review of interviews and events.
E. Narrative description of the scene (see the sample in appendix A).
F. Photo and video logs (see the sample in appendix A).
G. Diagrams, sketches, and evidence mapping.
H. Evidence recovery log (see the sample in appendix A).

Summary: By accounting for all investigative steps prior to leaving the scene, the investigator ensures an accurate and thorough representation of the scene for the permanent record.

A. Documentation of major events and time lines related to the incident.
    1. See the activity log sample in Appendix A for a listing of activities that should be documented.
B. Personnel access log (see sample in appendix A).
    2. Review the personnel access log to make sure it is complete. Any deficiencies should be resolved.

Instructor Note: There should be a minimum of one log per day (assuming that only one person is in charge of scene access).

3. There are situations when the size of the scene and/or the numbers of personnel does not necessitate the use of a log per se. In these instances, the information concerning personnel access is documented in other investigative reports, i.e. investigator's log, chronology of events, etc.

C. Activity log (see the sample in appendix A).

1. Review the activity log to make sure it is complete. Any deficiencies should be completed.
2. Activity log information comprises only a part of all the information needed for completion of the timeline.
3. Ensure that activities that occurred prior to the arrival of investigators have been documented. For example, activities of medical personal, search and rescue teams, and other witnesses are recorded. These activities will most likely be "documented" through interviews, but noted in the activity log.

D. Review of interviews and events.

1. Review lead tracking sheet to ensure that all interviews have been completed and reported.
2. Review the reports related to all investigative activity/events as they pertain to the scene prior to its release.
3. With complex scene investigations where processing takes several days, it may not be prudent to wait until the scene has been completed before conducting a review. At a minimum, briefings should be conducted daily under these circumstances.

E. Narrative description of the scene (see the sample form in appendix A).

1. The narrative description of the scene and investigation details should be included in future reports (e.g., Report of Investigation)
2. The investigator's narrative will supplement and compliment the information captured through photographs, and diagrams. For example, the description of damage includes information of building use/occupancy, monetary estimate of damages, collateral damage.

F. Photo and video logs (see the sample in appendix A).

1. Review the photo and video logs to make sure they are complete.

2. Any deficiencies in the logs should be addressed.

G. Diagrams, sketches, and evidence mapping.
   1. Review the diagrams, sketches, etc., to make sure they are complete.
   2. Any deficiencies should be corrected by the original assigned personnel.

H. Evidence recovery log (see the sample in appendix A).
   1. Review the evidence log to make sure it is complete.
   2. Any deficiencies in the logs should be completed by the evidence custodian.

2. Ensure That Scene Processing Is Complete

Principle: The scene may be released only upon conclusion of the onsite investigation and a thorough evidence collection process.

Procedure: The investigator should perform a critical review of the scene investigation with all personnel, to include the following actions:

A. Discuss with team members, including those not present at the scene, preliminary scene findings and critical issues that arose during the incident.
B. Ensure that all identified evidence is in custody.
C. Recover and inventory equipment.
D. Decontaminate equipment and personnel.
E. Photograph and/or videotape the final condition of the scene just before it is released.
F. Address legal considerations.
G. Discuss post scene issues (e.g., forensic testing, insurance inquiries, interview results, criminal histories).
H. Communicate and document post scene responsibilities.

Summary: The investigator will review the scene investigation to ensure that it is complete and that post scene issues are addressed.

A. Discuss with team members, including those not present at the scene, preliminary scene findings and critical issues that arose during the incident.

1. Can be completed at the final scene debriefing.
2. Discuss evidence that led to the preliminary findings.
3. Discuss additional investigative activity required to further leads developed during scene examination.
4. At some point prior to the release of the scene, all investigators should be familiar with the evidence that has been collected. This is important where there were multiple persons involved in evidence collection, because some evidence may have been identified by someone in one area, and similar evidence was observed in another area but not deemed of evidentiary value by another person.

B. Ensure that all identified evidence is in custody.

1. Ensure the evidence Recovery Logs have been reviewed for accuracy and completeness. The Evidence Recovery Log should reflect evidence actually collected and verify chain of custody.

C. Recover and inventory equipment.

1. Some tools or equipment may not be suitable for reuse.

Instructor Note: Equipment could be damaged and in need of repair, broken or lost. The evidence recovery kit should be restocked and readied for the next crime scene.

D. Decontaminate equipment and personnel.

1. Dispose of any hand tools that cannot be decontaminated and Tyvek suits, gloves, booties, etc., used at a post-blast explosive scene.
2. Contaminated equipment exposed to trace explosives during scene examination should be cleaned using high pressure water, a liquid soap solution, and a stiff bristle brush.
3. Contaminated clothing should be commercially washed, dry cleaned or destroyed depending on the explosive encountered and amount of contamination.

Instructor Note: Review ATF Interim Guidelines for the Prevention of Explosives Contamination.

E. Photograph and/or videotape the final condition of the scene just before it is released.

1. Document condition/security of the scene for future legal or historical reference

F. Address legal considerations.

1. Document the notification to party in charge of the property of any physical or environmental hazards remaining at the scene.
2. Liability issues could arise in multi-tenant buildings with regard to restricted access to property. The same could be true for other types of property, namely vehicles parked within crime scene perimeter.

Instructor Note: Consult with prosecutors and others regarding search warrants, consent forms, the destruction of hazardous evidence, and other legal issues.

G. Discuss post scene issues (e.g., forensic testing, insurance inquiries, interview results, criminal histories).

1. These issues should be discussed at the final scene debriefing.
2. These issues should continue to be discussed at periodic follow-up investigation status briefings.
3. Some laboratory examinations may be destructive and/or hinder other types of examinations. The investigator should communicate with the forensic laboratory in order to prioritize examinations.
4. For accurate/detailed weather information, the investigator can acquire written data documented by weather professionals to be included in the case file, e.g., lightning strike data, temperature readings, humidity, etc.
5. In some cases, accurate information regarding building security and alarm/fire detection system activations is available through private companies maintaining security for the structure in question.
6. The 911 Emergency Operations Center is another valuable source of police and fire activities prior to the arrival of investigators.
7. Video surveillance cameras operated by various businesses or governmental organizations can also be accessed as a resource.
8. Requests for information from insurance representatives should be handled in a manner consistent with the established procedures for criminal or non-criminal (accidental cause) investigations.
9. Depending on the direction of the investigation, criminal history checks may be prudent.

H. Communicate and document post scene responsibilities.

1. Final review of all of the above processes.

3. Release the Scene

Principle: The release of the scene must be documented. The investigator should ensure communication of known scene-related health and safety issues to a receiving authority at the time of release.

Procedure: Upon releasing the scene, the investigator should:

A. Address public health and safety issues by performing the following tasks:
   1. Contacting public utilities.
   2. Evaluating biological and chemical hazards.
   3. Evaluating structural integrity issues.
   4. Assessing environmental issues.

B. Identify a receiving authority for the scene.

C. Ensure disclosure of all known health and safety issues to a receiving authority.

D. Document the time and date of release, to whom the scene is being released, and by whom.

Summary: The investigator will ensure communication of known health and safety issues to a receiving authority upon releasing the scene and will document the release.

A. Address public health and safety issues by performing the following tasks:
   1. Contacting public utilities.

Instructor Note: The above is self-explanatory.

   2. Evaluating biological and chemical hazards.
      a. Coordinate with the Federal or State authorities.
   3. Evaluating structural integrity issues.
      a. Document notification of structural integrity/safety issues to party in charge.
   4. Assessing environmental issues.
      a. Coordinate with Federal or State authorities.

B. Identify a receiving authority for the scene.

Instructor Note: Owner or other legal party in charge.

C. Ensure disclosure of all known health and safety issues to a receiving authority.

Instructor Note: As noted above in (A).

D. Document the time and date of release, to whom the scene is being released, and by whom.

Instructor Note: The above is self-explanatory.

4. Submit Reports to the Appropriate National Databases

Principle: Detailed technical information regarding explosive devices is collected, integrated, and disseminated via national databases. These data help authorities identify the existence of serial bombers, the sophistication of explosive devices being used, and the need for uniform procedures and further development of equipment.

Procedure: The investigator or authorized agency's administration should submit detailed reports to these databases:

A. Arson and Explosives National Repository (Bureau of Alcohol, Tobacco, Firearms, and Explosives).

B. Bomb Data Center (Federal Bureau of Investigation).

C. Uniform Crime Reports, National Incident-Based Reporting System, and National Fire Incident Reporting System.

Summary: The investigator contributes to the compilation of national databases that identify trends in explosions and other incidents involving explosives.

A. Arson and Explosives National Repository (Bureau of Alcohol, Tobacco, Firearms, and Explosives).

1. Complete report following instructions.

B. Bomb Data Center (Federal Bureau of Investigation).

1. Complete report following instructions.

C. Uniform Crime Reports, National Incident - Based Reporting System, and National Fire Incident Reporting System.

1. Complete report following instructions.