OSHA FIRE INVESTIGATOR OPERATIONS SAFETY CHECKLISTS

These checklists are provided as examples and are by no means all-inclusive. Fire service and law enforcement agencies should review them and add or delete items that do not apply to their operations. Organizations should also consult with OSHA officials within their respective jurisdictions to obtain information concerning the specific standards that may apply to their operations.

GENERAL SCENE SAFETY PROCEDURES

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
SCENE SURVEY AND SECURITY			
Have personnel been trained in applicable OSHA regulations that include: *Hazardous Waste Operations and Emergency Response* (HAZWOPER), *Respiratory Protection, Lockout/Tagout, Confined Space Entry, Bloodborne Pathogens, Electrical Safety and Hazard Communication*?			
Has a survey of the scene been completed to assess and establish the extent of the physical boundaries to prevent unauthorized people and vehicles from entering the scene?			
Has an exterior and interior survey been conducted to identify the presence of physical, toxicological and biological hazards? (*structural stability, toxic substances, electrical hazards, etc.*)			
Is an *Incident Management System* (IMS) in effect at the scene?			
Is a personal accountability system in-place and have investigators reported to the Incident Commander?			
Have barriers been established to identify the boundaries of the *"crime scene"* or *"hazard zone"*?			
Have precautions been implemented to eliminate or control potential slip, trip and fall hazards at the scene?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Have holes in floors, sidewalks or other walking surfaces been covered, repaired or otherwise made safe?			
Is there a need for demolition of the remaining structure to prevent injury prior to initiating investigative operations?			
Are safe means of access and egress provided to evacuate the area in the event of an emergency?			
Have appropriate measures been taken to protect all evidence from potential damage, contamination or destruction?			
ASSESSMENT OF THE HAZARDS AND RISKS			
Has a comprehensive hazard and risk assessment been performed to identify and evaluate the potential physical, chemical and biological hazards?			
Has air monitoring been performed to identify whether the atmosphere is safe to enter and the proper level of respiratory protection to be worn by personnel operating at the scene? (*oxygen deficiency, flammability, carbon monoxide (CO) levels, and other toxic hazards*)			
Can the hazards be controlled or eliminated through the use of engineering controls?			
Will the investigation expose personnel to hazardous chemicals or wastes?			
If confirmed to be present, has the specific identify of the hazardous substance(s) been identified?			
Have all necessary precautions been taken to protect against all spilled hazardous materials or liquids, including blood and other potentially infectious materials according to applicable regulations and proper standard operating procedures?			
Has the scene been rendered safe by disconnecting the utilities? Has it been confirmed through testing by qualified personnel?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Have alternate power sources been considered and ruled out?			
Have appropriate lockout/tagout procedures been implemented?			
Is the scene properly illuminated?			
Is the scene properly ventilated? **NOTE: The use of internal combustion engines in enclosed spaces may create a potential safety hazard and should be avoided**.			
Is the appropriate level of personal protective clothing and equipment being worn by personnel based on the hazards present?			
FIELD CLASSIFICATION OF THE SCENE			
If hazardous materials or wastes are present, have HAZMAT response team personnel been notified (or are they already present at the scene) so that operations can be properly coordinated and managed?			
Have investigators consulted with hazardous materials response personnel to review the results of air monitoring (if performed) to determine the concentrations of contaminants present? (*e.g., oxygen deficiency, flammability, toxicity*).			
If an explosive device was located, has the area been secured, evacuated and have Hazardous Devices/Bomb Technicians been notified?			
Have all personnel received appropriate hazardous materials response training and certification in accordance with OSHA 29 CFR 1910.120 to perform their duties?			
Have procedures been identified to dispose of all regulated waste in accordance with applicable federal, state, and local OSHA and EPA regulations?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
EVALUATION OF HAZARD INFORMATION AND RESOURCES			
Have technical resources and information centers been consulted to independently verify the information obtained from the hazard and risk assessment process?			
Are there sufficient resources available at the scene to safely and effectively manage the incident?			
Has an incident action plan been developed in conjunction with the Incident Commander?			
Is specialized equipment or resources required to enter and investigate the scene? (Bomb Squad, Collapse Rescue Team, K-9 Accelerant/Explosives Detection Teams, etc.)			
TACTICAL OPERATIONS			
Has a final action plan been approved for implementation?			
Does the incident action plan contain procedures based on the results of the hazard and risk assessment and has it been verified by the appropriate technical sources of information?			
Are there sufficient resources available at the scene to implement tactical operations?			
Have all personnel been properly trained and certified in the operations to be conducted at the scene?			
Has a Safety Officer been designated to monitor investigator safety and health issues?			
Are personnel familiar with the standard operating procedures established for the determination of the origin and cause of the incident?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
YOUR PERSONAL SAFETY IS THE FIRST PRIORITY			
Have all safety and health procedures and plans been developed with the safety of all personnel as the Number 1 priority?			
Have all personnel been accounted for upon the completion of the on-scene activities?			
Have all personal exposures been properly documented?			
Has a post-incident analysis and critique been conducted to identify problems, safety/health issues or possible changes in standard operating policies and procedures?			
Has a cause of the incident been documented in accordance with established policies and procedures?			
Have all operations, findings and follow-up activities been properly documented?			

SAFETY AND HEALTH PROGRAM

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Does the organization have a written *Safety and Health Program* that addresses the general safety and health program elements as well as management of hazards specific to the work site that is reviewed and updated on a regular basis?			
Is a single individual clearly responsible for the overall activities of the *Safety and Health Program*?			
Does the organization have a safety committee or group made up of management and labor representatives that meet regularly and reports in writing on its activities?			
Does the organization have a standard procedure for handling in-house employee complaints regarding safety and health issues?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Does the organization keep its employees advised of successful efforts and accomplishments that the employees and/or the safety committee have made in assuring a safe workplace?			
Has the organization considered incentives for employees who have excelled in reducing workplace injuries/illnesses?			
Does the organization use a systematic method to assign responsibility to all managers, supervisors and employees?			
Does the organization conduct regular inspections to identify and control existing and potential safety and health issues/hazards?			
Has the organization trained all employees in the appropriate safety practices to avoid potential injuries, illnesses and deaths?			

PERSONAL PROTECTIVE EQUIPMENT

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Has the organization assessed the workplace to determine if hazards that require the use of personal protective equipment (*e.g., head, eye, face, hand, or foot protection*) are present?			
If hazards or the likelihood of hazards are found, are employers selecting and having affected employees use properly fitted personal protective equipment suitable for protection from these hazards?			
Have employees been trained on personal protective equipment (PPE) procedures (*i.e., what PPE is necessary for a job task, when they need it, and how to properly adjust it*)?			
Are protective goggles or face shields provided and worn where there is any danger of flying particles or corrosive materials?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Are approved safety glasses required to be worn at all times in areas where there is a risk of eye injuries such as punctures, abrasions, contusions or burns?			
Are employees who need corrective lenses (glasses or contacts) in working environments having harmful exposures, required to wear only approved safety glasses, protective goggles, or use other medically approved precautionary procedures?			
Are protective gloves, aprons, shields, or other means provided and required where employees could be cut or where there is reasonably anticipated exposure to corrosive liquids, chemicals, blood, or other potentially infectious materials? (See 29 CFR 1910.1030(b) for the definition of *"other potentially infectious materials."*)			
Are hard hats provided and worn where the danger of falling objects exists?			
Are hard hats inspected periodically for damage to the shell and suspension system?			
Is appropriate foot protection required where there is a risk of foot injuries from hot, corrosive, or poisonous substances, falling objects, crushing or penetrating actions?			
Are approved respirators provided for regular or emergency use where needed?			
Is all protective equipment maintained in a sanitary condition and ready for use?			
Are there eye wash facilities and a quick drench shower available within the work area where employees are exposed to injurious corrosive materials?			
Is special equipment available for working with electrical hazards if needed?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Where food or beverages are consumed on the premises, are they consumed in areas where there is no exposure to toxic material, blood, or other potentially infectious materials?			
Is protection against the effects of occupational noise exposure provided when sound levels exceed those of the OSHA noise standard?			
Are adequate work procedures, protective clothing and equipment provided and used when working in areas where spilled toxic or other hazardous materials or liquids are present?			
Are there appropriate procedures in place for disposing of or decontaminating personal protective equipment contaminated with, or reasonably anticipated to be contaminated with blood or other potentially infectious materials?			
Does the employer have written certification and documentation of the hazard assessment and training conducted for employees?			

HAND AND PORTABLE POWERED TOOLS

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Are all tools and equipment (both company and employee owned) used in the workplace in good condition?			
Are broken tools and equipment replaced promptly?			
Are employees made aware of the hazards caused by faulty or improperly used hand tools?			
Are appropriate safety glasses, face shields, etc. used while using hand tools or equipment which might produce flying materials or be subject to breakage?			
Are tools stored in dry, secure locations where they won't be tampered with?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Is appropriate eye and face protection used when operating tools and equipment?			
Is power-operated equipment provided with appropriate safety guards?			
Are power tools used with the correct shield, guard, or attachment, recommended by the manufacturer?			
Are rotating or moving parts of equipment guarded to prevent physical contact?			
Are all cord-connected, electrically operated tools and equipment effectively grounded or of the approved double insulated type?			
Are ground-fault circuit interrupters provided on all temporary electrical 15 and 20 ampere circuits, used during periods of construction?			
Are pneumatic and hydraulic hoses on power operated tools checked regularly for deterioration or damage?			

LOCKOUT/TAGOUT PROCEDURES

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Is all equipment capable of movement, required to be de-energized or disengaged and locked-out before operations commence?			
Where the power disconnecting means for equipment does not also disconnect the electrical control circuit: • Are the appropriate electrical enclosures identified? • Is means provided to assure the control circuit can also be disconnected and locked-out? • Is the locking-out of control circuits in lieu of locking-out main power disconnects prohibited?			
Are all equipment control valve handles provided with a means for locking-out?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Does the lockout procedure require that stored energy (mechanical, hydraulic, air, etc.) be released or blocked before equipment is locked-out for repairs?			
Are appropriate employees provided with individually keyed personal safety locks?			
Are employees required to keep personal control of their key(s) while they have safety locks in use?			
Is it required that only the employee exposed to the hazard, place or remove the safety lock?			
Is it required that employees check the safety of the lock-out by attempting a startup after making sure no one is exposed?			
Are employees instructed to always push the control circuit-stop button immediately after checking the safety of the lockout?			
Is there a means provided to identify any or all employees who are working on locked-out equipment by their locks or accompanying tags?			
Are a sufficient number of accident preventive signs or tags and safety padlocks provided for any reasonably foreseeable emergency?			
In the event that equipment or lines cannot be shut down, locked-out and tagged, is a safe job procedure established and strictly followed?			

CONFINED SPACE ENTRY

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Are confined spaces thoroughly emptied of any corrosive or hazardous substances, such as acids or caustics, before entry?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Are all lines to a confined space, containing inert, toxic, flammable, or corrosive materials sealed off and blanked or disconnected and separated before entry?			
Are all impellers, agitators, or other moving parts and equipment inside confined spaces locked-out if they present a hazard?			
Is either natural or mechanical ventilation provided prior to confined space entry?			
Are appropriate atmospheric tests performed to check for oxygen deficiency, toxic substances and explosive concentrations in the confined space before entry?			
Is adequate illumination provided for the work to be performed in the confined space?			
Is the atmosphere inside the confined space frequently tested or continuously monitored?			
Is there an assigned safety standby employee outside of the confined space?			
When required, has an individual been assigned the sole responsibility to observe work in progress, sound an alarm if necessary, and render assistance?			
Is the standby employee appropriately trained and equipped to handle an emergency if one arises?			
Is the standby employee (or other employees) prohibited from entering the confined space without lifelines and respiratory equipment if there is any question as to the cause of an emergency situation?			
Is approved respiratory equipment required if the atmosphere inside the confined space cannot be made acceptable for entry?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Is all portable electrical equipment used inside confined spaces either grounded and insulated, or equipped with ground fault protection?			
Before entering and working in a confined space, has the space been tested for an explosive atmosphere?			
If employees will be using oxygen-consuming equipment-such as salamanders, torches, and furnaces, in a confined space is sufficient air provided to assure combustion without reducing the oxygen concentration of the atmosphere below 19.5 percent by volume?			
Whenever combustion-type equipment is used in a confined space, are provisions made to ensure the exhaust gases are vented outside of the enclosure?			
Is each confined space checked for the presence of possible industrial waste that could contain toxic properties and decaying vegetation or animal matter that may produce methane?			
If the confined space is below the ground and near areas where motor vehicles will be operating, is it possible for vehicle exhaust or carbon monoxide to enter the space?			

ELECTRICAL SAFETY

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Do SOPs require all employees to report as soon as practicable any obvious hazard to life or property observed in connection with electrical equipment?			
Are employees instructed to make preliminary inspections and/or appropriate tests to determine what conditions exist before working with electrical equipment or lines?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
When electrical equipment or lines are to be serviced, maintained or adjusted, are necessary switches opened, locked out and tagged whenever possible?			
Has a voltage test been performed to confirm that all electrical equipment has been de-energized before work begins?			
Are portable electrical tools and equipment grounded or of the double insulated type?			
Do extension cords being used have a grounding conductor?			
Are ground-fault circuit interrupters installed on each temporary 15 or 20 ampere, 120 volt AC circuit at locations where construction, demolition, modifications, alterations or excavations are being performed?			
Do suitable disconnecting switches or plug connectors at the junction with permanent wiring protect all temporary circuits?			
Is exposed wiring and cords with frayed or deteriorated insulation repaired or replaced promptly?			
Are flexible cords and cables free of splices or taps?			
Are clamps or other securing means provided on flexible cords or cables at plugs, receptacles, tools, equipment, etc., and is the cord jacket securely held in place?			
Are all cord, cable and raceway connections intact and secure?			
In wet or damp locations, are electrical tools and equipment appropriate for the use or location or otherwise protected?			
Is the location of electrical power lines and cables (*overhead, underground, under floors, other side of walls*) determined before work is begun?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Are metal measuring tapes, ropes, hand lines or similar devices with metallic thread woven into the fabric prohibited where they could come in contact with energized parts of equipment or circuit conductors?			
Is the use of metal ladders prohibited in areas where the ladder or the person using the ladder could come in contact with energized parts of equipment, fixtures or circuit conductors?			
Are all disconnecting switches and circuit breakers labeled to indicate their use or equipment served?			
Are disconnecting means always opened before fuses are replaced?			
Do all interior wiring systems include provisions for grounding metal parts of electrical raceways, equipment and enclosures?			
Are all electrical raceways and enclosures securely fastened in place?			
Are all energized parts of electrical circuits and equipment guarded against accidental contact by approved cabinets or enclosures?			
Is sufficient access and working space provided and maintained about all electrical equipment to permit ready and safe operations and maintenance?			
Are all unused openings (including conduit knockouts) in electrical enclosures and fittings closed with appropriate covers, plugs or plates?			
Are electrical enclosures such as switches, receptacles, and junction boxes, provided with tight-fitting covers or plates?			
Are disconnecting switches for electrical motors in excess of two horsepower, capable of opening the circuit when the motor is in a stalled condition, without exploding? (*Switches must be horsepower rated equal to or in excess of the motor hp rating*).			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Is low voltage protection provided in the control device of motors driving machines or equipment that could cause probable injury from inadvertent starting?			
Is each motor disconnecting switch or circuit breaker located within sight of the motor control device?			
Is each motor located within sight of its controller or the controller disconnecting means capable of being locked in the open position or is a separate disconnecting means installed in the circuit within sight of the motor?			
Is the controller for each motor in excess of two horsepower, rated in horsepower equal to or in excess of the rating of the motor it serves?			
Are employees who regularly work on or around energized electrical equipment or lines instructed in the cardiopulmonary resuscitation (CPR) methods?			

HAZARD COMMUNICATION

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Is there a list of hazardous substances used in the workplace available to employees?			
Does the employer have a written *Hazard Communication Program* dealing with Material Safety Data Sheets (MSDS), labeling, and employee training?			
Is each container for a hazardous substance labeled with product identity and a hazard warning (*communication of the specific health hazards and physical hazards*)?			
Are Material Safety Data Sheets (MSDSs) readily available for each hazardous substance used?			
Is there an employee training program for hazardous substances?			

RECOMMENDED ELEMENTS/PRACTICES	YES	NO	COMMENTS
Does the program include an explanation of what an MSDS is and how to use and obtain one? (MSDS contents for each hazardous substance or class of substances)?			
Does the program identify where employees can review the employer's written *Hazard Communication Program* and where hazardous substances are present in their work areas?			
Does the program outline the physical and health hazards of substances in the work area, and specific protective measures to be used?			
Does the program include details of the *Hazard Communication Program*, including how to use the labeling system and MSDSs?			
Are personnel trained in the following:			
How to recognize tasks that might result in occupational exposure?			
How to use work practices, engineering controls and personal protective equipment and to recognize their limitations?			
How to obtain information on the types, selection, proper use, location, removal handling, decontamination, and disposal of personal protective equipment?			
Who to contact and what to do in an emergency?			

GENERAL SCENE SAFETY PROCEDURES

Investigators should adopt and practice the following safety principles at all fire and explosion scenes:

- Life safety/personnel protection is always the number one priority at any incident.
- Investigators should never enter a fire or explosion scene until all potential atmospheric, physical and mechanical hazards have been identified and the proper procedures to protect personnel are identified and implemented.
- Investigators should ensure that adequate ventilation is provided and that this equipment does not interfere with their means of entry and exit.
- Investigators should continuously monitor the scene for oxygen deficiency, flammable, combustible and toxic atmospheres since it is possible for conditions to change at any time.
- If investigators are not sure of the appropriate actions to take, they should isolate the area, deny entry and call for assistance.
- Safety must be an integral element of all operations and it is the responsibility of every investigator.
- The selection of strategies and tactics to minimize any direct exposure to the hazards involved should always be the first line of defense.
- Investigators should not become lax during incident operations - site safety procedures must be continuously enforced to ensure the highest level of safety.
- Ensure that all personnel and equipment are positioned in a safe location.
- Ensure that hazard control zones are established, identified and constantly monitored and that the locations are communicated to all personnel.
- Investigators should consider the location of the Command Post and Staging Area for personnel and equipment at the scene of a major incident in relation to the location of hazardous areas.
- Ensure that all personnel in potentially hazardous areas always wear the proper level of personal protective clothing and equipment, and are familiar with its use and operation.
- Organizations should consider the designation of a Safety Officer who is responsible for investigator safety and health issues at all incidents.

- Always provide a barrier to prevent unauthorized persons from entering the scene and minimize the number of personnel operating in hazardous areas.

- Avoid walking through or placing equipment near hazardous / contaminated areas.

- Incident Commanders should brief all personnel on the applicable site safety policies and procedures.
- Personnel should always have an escape route and ensure that all personnel are familiar with emergency communication practices.

- Investigators should ensure that all tasks and responsibilities are identified before attempting entry into the scene. If necessary, unfamiliar operations should be practiced prior to entry.

- Investigators should always use the *"buddy system"* for all entry operations and ensure that properly equipped back-up crews are in place.

- Investigators should never attempt a rescue unless they are part of a designated rescue team and have the proper knowledge, training, skills and equipment to perform a safe rescue.

- Maintain radio communications between entry, back-up crews and the Safety Officer (whenever possible).

- Prohibit drinking, smoking and any other practices that increase the possibility of hand-to-mouth transfer in all contaminated areas.

- Follow decontamination and personal cleanliness practices before eating, drinking, or smoking after leaving the contaminated area.