

IDHS DIVISION OF TRAINING
FIRE INVESTIGATOR
PRACTICAL SKILLS AND EXAMINATION HANDBOOK



**FIRE INVESTIGATOR LEAD
EVALUATOR HANDBOOK**

Reference Material needed for this course:

NFPA 1033: Standard for Professional Qualifications for fire Investigator, 2009 Edition
Jones and Bartlett, Fire Investigator, 3rd Edition curriculum

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Purpose of the Skill Sheets

All skills listed in this packet are consistent with the 2009 Edition of the NFPA 1033 Standard for Professional Qualifications for Fire Investigator. The Board of Firefighting Personnel Standards and Education (BFFPSE) provide these skill sheets as the basis for Fire Investigator testing and certifications.

Description and Use

1. Use of this packet throughout an accredited training program, will assist in verifying candidate competency and completion of the Fire Investigator Training Record. For eligibility to complete the final certification examination, *a candidate must demonstrate competency in all skills during practical skills exam and satisfactorily complete all items on the Fire Investigator training record document.*
2. This packet is designed to encompass the requisite skills for Certified Fire Investigator and every skill sheet used for final testing and certification. Lead Evaluator and Certified Fire Investigator course instructors should utilize this evaluation packet during a course to prepare candidates for the certification practical exam.
3. The completion of the Certified Fire Investigator Training record (Evaluator's check off form) establishes a candidate's eligibility to take the state written exam. The Certified Fire Investigator Training Record shall become a permanent part of the candidate's local training record, and this information shall be kept on file in accordance with the local fire department procedures.

Grading Criteria

1. It is expected that all of the listed skill sheet elements will be taught and evaluated by the Certified Fire Investigator instructor throughout the course. During the final skills exam the candidate must be prepared to perform **all** the skills listed in this packet. There are specific critical points designated within the practical skill sheets, and the Lead Evaluator will require the candidate to repeat an individual practical skill station if all of the listed skill items on a selected sheet are not completed by the candidate.
2. Regardless of which final examination skills are selected, there are critical performance items that must be followed for satisfactory performance. Examples of unsatisfactory performance can include:
 - a. Exceeding limitations: time, safety, and equipment limitations.
 - b. Inadequate/insufficient personal protective equipment.
 - c. Lack of skill accuracy and task completion as defined on the skill evaluation sheet.

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- d. Poor judgment in skill performance (i.e.-wrong application of tool or equipment or safety violation)
- e. Failure to appropriately apply basic fire investigator knowledge as defined in the standard.
- f. Not competent in the specified task or skill steps.
- g. Outcome of the specified task is in doubt (i.e. – incorrectly performed or did not accomplish skill evaluation criteria)
- h. need for Evaluator intervention (i.e.-imminent health or safety risk to candidate or others)
- i. Failure to adhere to basic safety principles or guidelines

Final Skills Evaluation

The Lead Evaluator conducts the final evaluation and utilizes the practical skills evaluation sheets during the final examination process. Throughout the final examination, the Lead Evaluator has the overall test site authority and is required to perform his or her duties as outlined in the BFFPSE rules.

The Lead Evaluator is responsible for preparation of all test site equipment/materials and arranging designated evaluators for the date of the practical examination. The Lead Evaluator must verify that all required elements are adequate for testing and will approve all designated Evaluators. The Lead Evaluator shall conduct a safety inspection prior to the start of a practical skills exam to ensure scene is safe for candidates.

The Lead Evaluator shall verify completion of the Practical Skills Exam Evaluator's Checklist, and make part of the candidate's employment training record.

Addition Notes:

1. During the final practical examination it is expected that appropriate personal protective equipment (PPE) shall be worn for all skill stations, unless otherwise indicated within the skill evaluation sheet. Some scenarios require the candidate to perform skills while wearing SCBA/respiratory protection. Candidates shall don *all* PPE appropriate for the scenario to maintain "real world" conditions.
2. During some scenarios, a candidate may be instructed to perform other Certified Fire Investigator tasks not directly related to the specific skill sheet evaluation being tested. It is expected that the candidate shall perform all related Certified Fire Investigator skills to the standards.
3. Some skills require equipment to be prepared or assembled within the final skills examination. The candidate must demonstrate competency when preparing or assembling equipment.
4. Candidates must be prepared to complete skills under a variety of conditions. Training and skills practice is often done during optimum conditions, but candidate must be prepared to adapt to changing conditions that can occur in "real world" situations. It is important for candidates to identify and respond quickly and

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appropriately to equipment malfunctions, improper application of tool usage, or other changes within a given scenario. If a candidate begins to use a piece of equipment incorrectly during final skills evaluation, he or she can potentially receive a credit for a station if the candidate quickly recognizes and corrects the situation within the scenario/station. In this circumstance, the Evaluator ultimately determines if the candidate has met the criteria specified on the skill(s) being evaluated.

5. For final examination, the performance of a skill, task, or evolution is not required to be done in the exact order of the steps (as outlined on the skill sheet) unless it is critical to a particular task. For example, a person must don turnout gear before donning an SCBA.
6. Some skills may require that a candidate verbalize information about a particular task or procedure. In such cases, any questions(s) from the Evaluator to the candidate must be limited to those that satisfy the criteria listed on the skills sheet, and a question cannot exceed the scope of the Certified Investigator requirements.

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Certified Fire Investigator Practical Skills Exam

The practical skills exam, consist of three scenarios.

1. Structure (accidental cause)
2. Structure (incendiary cause)
3. Vehicle

The fire investigations include scene examination, gathering information, writing reports, interviewing, courtroom proceedings, determining origin and cause of the fire, a complete case field for each fire investigation. The investigation shall consist of candidates working as a team on an investigation. Teams shall consist of 1 to 4 candidates and evaluator. Each team shall conduct one complete investigation from one of the scenarios listed above.

Each member of the team shall be assigned at least one individual task to be completed during the investigation. All individual tasks must be assigned and completed in the investigation.

All individual tasks must be assigned and completed in the investigation.

1. Photograph the scene
2. Sketch the scene and take measurements
3. Conduct interviews with First responders, owners, witnesses.
4. Gather information for data reports
5. Collect evidence

All members of the team shall work together to perform:

1. Secure scene
2. Exterior exam
3. Interior exam
4. Reconstruct the scene
5. Determine origin and cause
6. Create the case file for the fire
7. Present case

- *Note: The candidate's completed Training record (Evaluator's check off form) and signed Final Examination skill sheets shall be placed in the candidate's local training file in accordance with the fire department procedure.*

This skill is intended to be used by the evaluator of specific skills as outlined in the rules as established by the board of Firefighting personnel Standards and Education.

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Skill Sheet #1

Team of candidates meets at fire scene with evaluator, report to command post. (*NFPA 1033, 2009 Edition, 4.1.6*)

Task Steps	
1.	Conduct investigation utilizing unified command structure
2.	Establish lead investigator/case manger
3.	Team shall determine communication plan for on scene communications (radios, phones, etc) to communicate with each other during the investigation.
4.	Evaluator assigns team members individual task <ul style="list-style-type: none">• Photograph scene• Sketching and collect measurements• Interview first responders, owners, witnesses• Collect information for data report (includes names, addresses, insurance, utilities use, responding personnel, dispatch logs• Collect evidence

Prevent or prohibit any unsafe acts.

Contact the Lead Evaluator at any time with any questions

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Skill Sheet #2

Team receives briefing from Incident Commander

(NFPA 1033, 2009 Edition, 4.1.4, 4.1.6)

Task Steps	
1.	Document departments and agencies responding to incident
2.	Determine and document any injuries or fatalities
3.	Document any problems with fire suppression efforts
4.	Document when fire was 90% out
5.	Document and address any hazards and safety issues with the scene

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Skill Sheet #3

Team shall assess the scene by performing a 360-degree of the scene.

(NFPA 1033, 2009 Edition, 4.1.3, 4.2.2)

Task Steps	
1.	Complete 360 of scene
2.	Document and address any hazards and safety issues with the scene
3.	Determine entry point for the scene and/or structure
4.	Document other structures that may be involved with scene
5.	Identify and document any victims(s) and/or fatalities
6.	<p>Determine appropriate PPE for the investigation</p> <p>a) personal Protective Equipment (PPE) this may vary due to the condition under which an Investigator may be assessing scene. At a very minimum the Investigator shall use:</p> <ul style="list-style-type: none"> ○ safety shoes or boots ○ gloves ○ head protection ○ protective clothing such as coveralls or structural PPE ○ filtered mask or Self Contained breathing Apparatus (SCBA) ○ eye protection <p>b) appropriate PPE is determined by air monitoring the CO level and hazards present at the scene</p> <p>c) did the team select the appropriate PPE?(according to AHJ, SOP & SOG)</p> <p>d) did team members wear appropriate PPE during investigation; was air monitoring used inside structure</p>

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Skill Sheet #4

Team shall secure the scene (*NFPA 1033, 2009 Edition, 4.2.1*)

Task Steps	
1.	Designate entry/exit point of personnel
2.	Use marking device to cordon off scene and/or room (for a room and contents fire)

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Skill Sheet # 5

Team shall perform exterior exam (*NFPA 1033, 2009 Edition, 4.2.2; 4.2.3*)

Task Steps	
1.	Document fire damage to structure or vehicle
2.	Document the impact of fire suppression efforts on fire flow
3.	Determine security of structure or vehicle (doors, windows)
4.	Document entry and location of utilities
5.	Document and mark potential evidence found on exterior

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Skill Sheet # 6

Individual task- photograph scene (*NFPA 1033, 2009 Edition, 4.3.2, 4.3.3*)

Task Steps	
1.	Identify the camera used; indicate on photo log name of investigator, time, date and location on incident
2.	Begin on the outside of the fire building, establish the location of the scene, landmarks, and building as it sets in relationship to street
3.	Take photos of exterior , interior, area of origin, potential evidence, items that team request photographed
4.	Photos <ul style="list-style-type: none">• Exterior photos include 360 view of structure or vehicle• Photos of scene around the structure or vehicle• Exterior photos of fire and building damage• Exterior photos of items marked by the team• Interior photos of fire and smoke damage• Interior photos of rooms and contents• Interior photos of area of origin• Photos of utilities (electrical panel, HVAC systems, and building components)• Photos of items marked by team members
5.	Complete photo log for each photo
6.	May include use of video equipment
7.	Photos indicate proper flash and focal point
8.	Photos presented in electronic file format (CD or DVD)

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Skill Sheet # 7

Individual task – sketch scene (*NFPA 1033, 2009 Edition, 4.3.1*)

Directions

Task Steps	
1.	Take measurements of structure, rooms (note on sketches)
2.	Sketch of structure layout including rooms, utilities, doorways, windows and other structure features
3.	Sketch room and contents where fire origin is determined
4.	Identify location of furniture and other contents
5.	Identify area/points of origin
6.	Identify burn patterns, fire travel paths, smoke patterns, and travel
7.	Identify fire detection or suppression systems and devices
8.	Identify location of evidence

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Skill Sheet # 8

Individual task- gather information for data reports (*NFPA 1033, 2009 Edition, 4.3.3, 4.6.1, 4.6.2, 4.6.4, 4.6.5*)

Task Steps	
1.	Document owner's names and contact information on data form or report
2.	Document occupants names and contact information
3.	Document company name of utilities, type of services
4.	Obtain dispatch log (incident times)
5.	VIN (for vehicle fire investigation)
6.	Obtain a list of contents of structure or vehicle

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Skill Sheet # 9

Individual task- interviews (*NFPA 1033, 2009 Edition, 4.5.1, 4.5.2, 4.5.3*)

Task Steps	
1.	Individual task – interviews
2.	Interview owner and occupants
3.	Interview first responders (first in firefighters, first on scene responders)
4.	Interview witnesses and/or bystanders
5.	Investigator introduces themselves
6.	Investigator will positively identify the person being interviewed and document them by name, SSN, DOB, address, home and work phone number and a physical description, driver license number
7.	Investigator should document time, date and location of interview
8.	Investigator should outline purpose of the interview
9.	During interview, investigator should remain calm, professional , positive, and focused
10	Investigator should ask “open-ended questions”
11	Document all responses to questions, note any discrepancies, note nonverbal indicators, and general impressions of the interview
12	Close the interview and allow the interviewee a chance to provide any additional information
13	Organize and analyze all information collected
14	Identify any gaps in the investigative data
15	Document analysis of information
16	Document and/or record interviews
17	Obtain written statements from interviewees after interview

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Skill Sheet # 10

Individual task – collecting evidence (*NFPA 1033, 2009 Edition, 4.4.1, 4.4.2, 4.4.3, 4.4.4*)

Task Steps	
1.	Identify items as evidence (use marking device)
2.	Document specific location of the evidence at the scene
3.	Document a description of the evidence and any unique markings or labeling
4.	Document date, time and location the evidence was collected
5.	Complete evidence bag
6.	Collect evidence <ul style="list-style-type: none">• Use proper collection techniques• Use proper storage package or container
7.	Maintain chain of custody of evidence
8.	Document and maintain security of evidence

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Skill Sheet # 11

Team conducts interior exam (minimum two candidates) (*NFPA 1033, 2009 Edition, 4.2.3, 4.2.4, 4.2.5, 4.2.3, 4.2.7, 4.2.8, 4.6.3*)

Task Steps	
1.	<p>Team members wearing appropriate PPE for conditions</p> <p>a. Personal Protective Equipment (PPE) this may vary due to the condition under which an Investigator may be assessing a scene. At very minimum, the Investigator should use:</p> <ul style="list-style-type: none"> ○ Safety shoes or boots ○ Gloves ○ Head protection ○ Protective clothing such as coveralls or structural PPE ○ Filtered mask or self Contained Breathing Apparatus (SCBA) ○ Eye protection <p>b. Appropriate PPE is determined by air monitoring the CO level and hazards present at the scene</p>
2.	Observe and document fire damage from least to worst
3.	Document smoke layering
4.	Observe and document damage and effect of fire
5.	Determine impact of fire suppression efforts on fire
6.	Document protected areas
7.	Determine presence and/or absence of contents
8.	Interpret the effects of burning characteristics on different types of materials
9.	Interpret variation of fire patterns on different materials
10.	Employ search techniques that further the discovery of the origin and cause of the fire
11.	Return content items to their original position showing protected areas and fire patterns
12.	<p>Locate and document conditions of building systems, (HVAC, utilities, and building components)</p> <ul style="list-style-type: none"> ○ Determine systems' operations

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	<ul style="list-style-type: none">○ Determine effects on the fire○ Identify any alterations to systems○ Identify indicators of system failures○ Identify an impact from systems on suppression efforts
13	Identify and document any explosive effects on glass, walls, foundation, and other building materials
14	Distinguish between low-and high-order explosion effects
15	Demonstrate proper use of investigation tools and equipment
16	Determine if expert resources are needed for further investigation
17	Identify and document ignition sources(s)

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Skill Sheet # 12

Team shall create case file. (NFPA 1033, 2009 Edition, 4.7.1, 4.7.2)

Task Steps	
1.	Gather all information, data, photos, videos (if used) interview statements and/or recordings
2.	Team shall determine what information to include in case file
3.	Case file submitted to evaluator within period set by the evaluator
4.	Team creates a case report that includes: <ul style="list-style-type: none">○ Data reports (report from provided by evaluator)○ Sketches○ Photos (photo file on CD or DVD)○ Photo log○ Interviews○ Evidence log○ Narrative Determine and document conclusion of case <ul style="list-style-type: none">○ Area or point of origin○ Determine of fire cause (natural, accidental, incendiary, undetermined)

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Skill Sheet #13

Team presents case to legal panel (courtroom presentation) (*NFPA 1033, 2009 Edition, 4.7.2, 4.7.3, 4.7.4*)

Task Steps	
1.	Each team member is involve in the presentation
2.	Candidate was able to answer questions correctly according to case file
3.	Team presented case professional and accurately
4.	Team members attire are professional (example: dress shirt, ties, slacks, dress shoes)
5.	Presentation shall include items listed in 12-D and 12-E

****Note to evaluator:

1. Legal panel shall consist of positions for prosecutor , defense attorney, and court judge
2. There shall be questioning from the prosecutor and defense attorney
3. Presentation and proceedings shall last at least 30 minutes per team
4. Room shall be setup as a courtroom for this section
5. Each team member shall present parts of the case file they were assigned to complete

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