

Legal Liability and Risk Management Institute

National Fire Arson Investigation Training Institute



Welcome to
NFPA 1321 and your investigation
[Revised 01-2026]

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LLRMI would like to take this opportunity to thank you for attending.



"Conducting Comprehensive Fire investigations While Implementing NFPA® 1321 Standard for Fire Investigation Units"

1

If you receive or make a call during class, please feel free to step out of the room so others will not be disturbed.



Thank you for your cooperation.

3

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2

How can you get on the mailing list, or email list for the upcoming seminars, online classes and webinars?

https://www.llrmi.com/join_our_email/

Fill in the form, and receive all upcoming in-person classes, or webinars.

4



22 3/4 years in
Law Enforcement &
the Fire Service in Oklahoma.



Sharing information Nationally since 1996.

Teach or co-teach 6 different subject matters in fire investigation.

Subject matter expert with Legal and Liability Risk Management Institute.

A	=	1
T	=	20
T	=	20
I	=	9
T	=	20
U	=	21
D	=	4
E	=	5

100%



5

2

I am the messenger.

I am delivering the message.
The message is, NFPA® 1321.

7

To effectively tie everything together we will start with questions, suggestions, policies and procedures overviews.

1. We are going to start with the coming attractions or previews.
2. We will move on to the main feature.
3. We will finish with the credits.

8

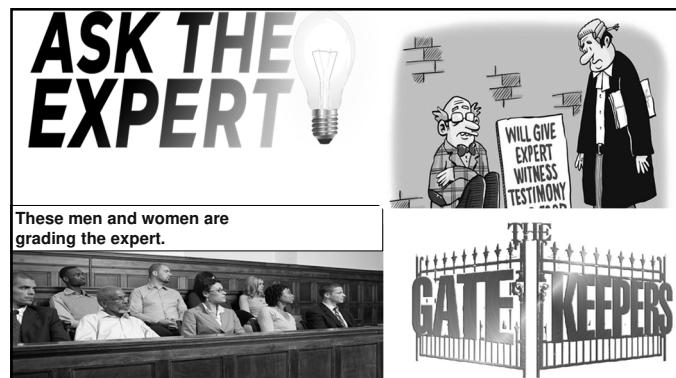


9

"Chance favors the prepared mind," attributed to French microbiologist Louis Pasteur. This means that opportunities are more likely to be recognized and seized by individuals who possess the necessary knowledge, skills, and mental readiness to take advantage of them. Credit Louis Pasteur. It emphasizes that "luck" isn't entirely random but often rewards those who have invested in learning and preparation, enabling them to see the significance of unusual observations and pursue them.

With the introduction of NFPA® 1321 standard, we must be prepared while possessing the necessary knowledge, skills, and mental readiness to answer all questions asked of us during legal challenges.

10



11

Discussing research.

I have approximately 221 hours of research and development involved for this presentation.

Referencing legal sites, anticipating great questions we could expect to receive from opposing attorneys, and other subject matter experts.

The research brought back a vast amount of information which could be used to question us as time moves forward.

As experts in this field of fire and explosion investigations, we must be ready for well-prepared challenges.

12

After researching, I noticed a profound difference in the new 1321 document and other NFPA® fire investigation documents current and past.



13

As I have read and followed previous NFPA® documents, including, NFPA 921® Guide for Fire and Explosion Investigations.

NFPA® 1033 Standard for Professional Qualifications for Fire Investigator.

Both identified or suggested necessary items to be accomplished, and how they could be accomplished.

NFPA® 1321 in my opinion explains to us what we need to do such as, develop a policy or procedure, however, the document leaves it to the reader, agency, or company how to develop the policy and procedure for their agency or company.

14

As an example, NFPA® 1321-4.2.1.3.2 The FIU shall have policies regarding conflicts of interest and management of identified conflicts. Credit NFPA®

In other NFPA® documents they would provide guidance; in this instance the document leaves it up to the reader, their research, and what the reader to what is necessary for their policy and procedures.

15

4.2.1.3.2 The FIU shall have policies regarding conflicts of interest and management of identified conflicts. Credit NFPA®

As the reader, we must conduct research and develop a clear, defined process for our FIU. After researching, approving and implementing our policies and procedures. An example from NFPA® 921 would include, 17.5.4.5 Collection of Solid Samples for Accelerant Testing. Solid accelerant may be common household materials and compounds or dangerous chemicals. Because some incendiary materials remain corrosive or reactive, care shall be taken in packaging to ensure that the corrosive residues do not attack the packaging container. In addition, such materials shall be handled carefully by personnel for their own safety. Credit NFPA®

16

1. Identify your research subject, NFPA® 1321, Define the issue or questions that need to be researched.
2. Conduct literature reviews including legal sites and definitions while ensuring that everyone understands the context and background of your research.
3. Formulate your hypotheses for research questions. Develop specific questions or hypotheses based on your research.
4. Select your methodology, choose qualitative or quantitative or mixed methods for your study.
5. Collect data. Gather research information through surveys, interviews, data research and legal definitions.

17

6. Analyze the data. Analyze the information received from research including interpretations, and accurate legal definitions for your research.
7. Summarize findings and research related to our original research questions.

By performing these tasks, we are now ready to prepare quality policies and procedures.

This type of format referenced from and credit to; Hamed Taherdoost, Vancouver British Columbia, Canada

The intent of this class is to simply inform you, prepare you, and make sure you are aware of how many policies and procedures you will have to prepared to survive potential challenges from opposing experts and attorneys if they reference NFPA® 1321.

19

Compliance with NFPA® 1321.

“Complying” definition, adhering to and following specific rules, regulations, or standards, often relates to laws, industry guidelines, or company policies.

It signifies that all actions and operations are being conducted legally, ethically, and within established parameters including your policies and procedures. Compliance ensures a fair, transparent, and legally sound environment for employees and protects the organization from legal risks and penalties.

Definition credit. <https://www.eqs.com/en-us/compliance>

20

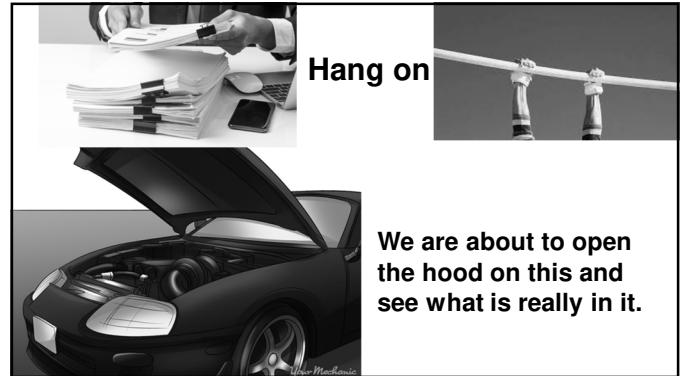
Examples of compliance.

Compliance can apply to various areas, including any of the following.

Legal. Adhering to laws and regulations. Following industry-specific standards and guidelines. In this case NFPA® 1321.

Internal policies and procedures. Adhering to your agency/company policies and procedures.

Ethical standards. Acting in accordance with ethical principles and codes of conduct.



21

22

The word policy twenty-five times.

The word procedures two times.

The word shall one hundred nineteen times.

The word policy and procedure-eleven times.

The word policy or procedure one-time.

It is up to investigators, attorney's and the courts to interpret the meaning for each topic.

Agencies and companies shall develop their own appropriate policies and procedures including necessary language that conforms to the standard, including the necessary documentation discussed within the fire investigation unit to ensure success when met with valid challenges.

We want to cross the finish line in first place.



23

24

Expert testimony. The courts (judges) may rely on NFPA® standards to support expert's opinions and did the expert demonstrate adherence to standard?

Expert challenges against fire investigators have resulted in investigators being limited or excluded for failing to meet certain NFPA® standards or sections of standards.

Legal action by regulatory agencies. Failure to meet NFPA® standards can result in legal action, fines, and penalties from regulatory agencies and fire marshals if the standards have been incorporated into local codes.

Credit: www.nfpa.org

While NFPA® 1033 and NFPA® 921 are consensus standards and not inherently law, they are frequently adopted by legal jurisdictions and can be referenced in court as the standard of care in fire investigation practices. Credit: www.nfpa.org

25



26

Recommendations

I would like to make a recommendation.

If you have access to The National Fire Codes® Subscription Service (NFCSS™). Helping you keep the most up-to-date, or NFPA® Link® a breakthrough digital platform providing instant access via your favorite device to NFPA® codes and standards, plus exclusive expert commentary, visual aids, and more, if you do not have access to these options,

I recommend you consider purchasing enough copies of NFPA® 1321, depending on the size of your investigative unit, so your investigators have access to the document.

27

All information in the section we cover during this course is credit and courtesy of, National Fire Protection Association.



28

Over the years, NFPA® has developed and distributed fire investigation documents for fire investigators.

Today I refer to these as the fire investigation trilogy.

They are NFPA® 921, NFPA® 1033, and NFPA® 1321.

They have referenced NFPA® 1521. Keep in mind during consolidation process, some standards change or are combined. The 1521 document has been combined into NFPA® 1550.

29

NFPA® 1033, 1521, 1321, and 1550 are all listed as standards, NFPA® 921 is a guide, however at least 14 federal courts have determined, it is a standard of care, McCoy versus Whirlpool, the Judge stated, 921 is the gold standard for methodology and best practices.

30

SHORT HISTORY OF...

National Fire Protection Association

31

NFPA® 1033-2022 Standard for Professional Qualifications for Fire Investigator.

However, in May of 1977 it was released as a three-part series titled as, NFPA® 1031 Standard for Professional Qualifications for Fire Inspector, Fire Investigator, and Fire Prevention Education Officer.

NFPA® 1033 was released as a stand alone document in 1987.

NFPA 1033

Standard for Professional Qualifications for Fire Investigator
2022

Image credit: NFPA®



NFPA® 921 originally released in 1992, the current edition is 2024.

Released as a guide, however there are federal courts who have ruled it is a standard of care.

NFPA 921

Guide for Fire and Explosion Investigations

Guide 2024

Image credit: NFPA®



33

NFPA® 1321-2025 edition. Standard for Fire Investigation Units. All NFPA® references are courtesy of and credit to, National Fire Protection Association.

NFPA 1321

Standard for Fire Investigation Units
2025

Image credit: NFPA®
National Fire Protection Association



34

NFPA® 1550
Standard for Emergency Responder Health and Safety

NFPA 1550

Standard for Emergency Responder Health and Safety

2024 Image credit: NFPA®

Includes
NFPA 1500 | NFPA 1521 | NFPA 1561



35

I generally, get a question, what is a NITMAM?

Under NFPA® rules, anyone wishing to make an allowable amending motion at an NFPA technical meeting shall declare their intentions by filing, within the published deadline, a Notice of intent to make a motion (NITMAM).

NITMAMs submitted on public comments (pc) can only be submitted by the original submitter of the pc or their duly authorized designated representative.

NITMAMs can be made by anyone if the NITMAM is on a committee comment, second revision, second correlating revision, or in the case of a new standard, a NITMAM to return the entire NFPA® standard.

Notice of Intent to Make a Motion.



37

Do you, your agency or company have your policies and procedures in place, clearly written, easy to understand?

Do all personnel understand the explanations within your policies and procedures?



39

With the release of NFPA® 1321-2025

I strongly recommend you setup a conference with your administration, legal counsel, prosecutors, insurance attorney's, SIU attorney's or other applicable professionals to discuss, and ensure you are NFPA® 1321 compliant.

40

In 1996, I started recommending attendees become familiar with NFPA® 921. I implemented the six-step scientific method into the class content, which later became seven steps. In 2024 after the release of NFPA® 921 2024 edition, the methodology precaution was implemented into my presentation. By September 2024, there had already been a case referencing the expert methodology they had developed for each question they had asked the expert. After disqualification, it was appealed to the Western Kentucky Federal Court in Louisville, KY for their opinion in December 2024.

41

My opinion, the new NFPA® 1321 will likely become just as important as we move forward.

Preparing and implementing your policies and procedures now this can save you long cross-examination periods if you are prepared and have all your answers regarding your agency or company policies and procedures.

NFPA® 921 and 1033 are being referenced today. Even though, NFPA® 1033 was introduced first, it took longer to be recognized among the legal community than NFPA ® 921 took to be referenced.

42



43

Avoiding The Path Of Least Resistance

Why embracing challenges leads to growth.

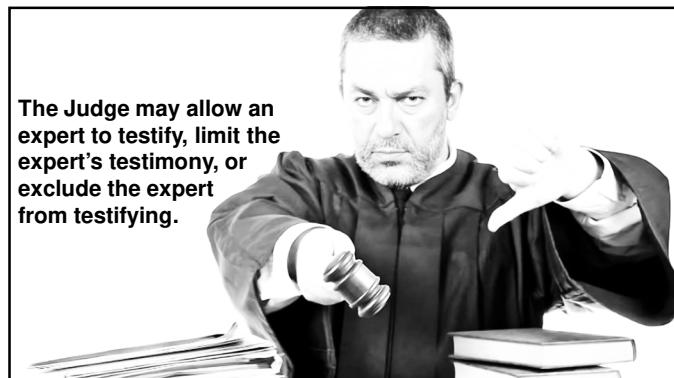
Some of the most used words in the document. Let's look at the numbers, This includes only chapters four through 8.

Safety 27 times.
 Policy 25 times.
 Procedures 2 times.
 Policies and Procedures 11 times
 Audit 3 times.
 Records Management system 2 times.
 Policy and procedure 11 times.

Standard operating procedures 1 time.
 Shall 119 times.
 Should 2 times, in the appendix
 Scope 6 times.
 MIS-Management Information System 2 times.
 Conflict 2 times
 Conflicts 2 times.

Total for all words=215

44



45

The Judge may allow an expert to testify, limit the expert's testimony, or exclude the expert from testifying.



46

If you are engaged in fire investigation and have two or more investigators, public or private sector, the NFPA® 1321 standard applies to you. This standard shall specify the minimum requirements relating to the establishment, structure, operation, and management of fire investigation units. 3.3.7 Fire Investigation Unit (FIU). A group or office of a public or private sector agency or entity that consists of two or more investigators with the responsibility for fire or explosion investigation. The standard does not restrict you from making your policies and procedures more stringent, it lists the minimum requirements.

47

This standard shall not provide requirements relating to fire investigation methodology. Why? It is already covered in chapter four of NFPA® 921

My recommendation is, reference chapter four in NFPA® 921 Guide for Fire and Explosion Investigations for methodology information.

This standard shall not provide requirements relating to professional qualifications of fire investigators.

For more information on professional qualifications, please reference NFPA® 1033 Standard for Professional Qualifications for Fire Investigator 2022 edition. Note, the 2027 edition updates are in progress.

You will see some language from NFPA® 1033 referenced in NFPA® 1321.

You will see the term NFPA® 1033 is used nine times in chapters 4-8 in NFPA® 1321-2025 edition.

49

Chapters of NFPA® 1321

Chapter 1 Policy and procedure.

Chapter 2 Referenced publications.

Chapter 3 Definitions.

Chapter 4 Management system requirements.

Chapter 5 Outside resources, facilities and equipment.

Chapter 6 Health and safety.

Chapter 7 Education, training and certification.

Chapter 8 Documentation and reports.



50



51



Let me promise you, NFPA® 1321 is going to raise the bar for expert testimony during fire scene examinations.

There is currently no documented case referencing NFPA® 1321 at the time of this writing, however, we could see one in the future.

52

Chapter 4

We just reviewed the previews of what you may expect in future challenges.

Now we will look at the main feature, this is where strategic questioning can be presented,

A worthy opponent would subpoena your policies and procedures and study relevant questions about your policies and procedures.

A worthy legal opponent will subpoena your fire investigation policies and procedures and examine the files for any inconsistency between your investigation and agency or company policies and procedures.

By highlighting deviations from standard protocol, they can challenge your expert testimony, discredit the investigation's findings, and undermine the credibility of your entire case.

Documentation. A good opposing counsel will scrutinize whether the fire scene was thoroughly documented with photographs, sketches/diagrams, and detailed notes, as required by your procedures. Failure to do so can raise "immediate red flags".

53

54

Evidence handling. Your policies outline the proper chain of custody for evidence. An opponent can use a subpoena to determine if there were any procedural lapses that could have contaminated, mishandled, or improperly analyzed evidence.

Scene examination. Our policies often specify a systematic method for examining a fire scene, such as working from areas of least damage toward the point of origin.

If the investigator deviated from this standard, the opponent could challenge the reliability of our conclusions.

Credibility. As an expert our credibility could be damaged if we failed to follow our organization's policies and procedures or if our training and certifications do not align with our stated policies, and certifications listed in NFPA® 1321.

55

Have you implemented your Information Management systems with information as discussed in NFPA® 1321?



56

Management Information system requirements.

Chapter four discusses; the fire investigation unit (FIU) shall establish, implement, and maintain a management system appropriate to the scope of its activities.

57

This includes documenting all relevant policies, systems, programs, procedures, and instructions, ensuring these are communicated, understood, and implemented by the appropriate personnel.

A key aspect of this management system is the annual performance of a management review to assess adherence to the standard's requirements.

Tailored management system. The FIU shall develop a management system that is not generic but is specifically designed for each organizational structure, resource allocation, and operational needs.

Documentation. All critical policies, systems, programs, procedures, and instructions shall be documented and readily available.

58

Communication and Implementation. The FIU shall ensure that all of their personnel understand the management system and are able to implement it effectively.

Annual management review. An annual review is crucial to ensure that our FIU continues to meet the requirements of NFPA® 1321 and that our management system is effective and up-to-date.

59

I would like to reference 4.1.2 The FIU shall document its policies, systems, policy operating procedures, procedures, guidelines, and instructions to the extent necessary to assure the quality of fire investigations. Credit: NFPA®

This documentation shall be readily available, understood, and implemented by relevant FIU personnel.

Our FIU shall document their internal processes, including how our FIU handles various aspects of fire investigations.

Scope. This documentation shall cover all relevant aspects of our FIU operations, including organizational structure, safety programs, budgeting, and interagency collaboration.

60

Quality assurance. The purpose of this documentation is to ensure that fire investigations are conducted consistently, reliably, and in accordance with established practices.

Communication and implementation. Our FIU shall ensure that all relevant personnel are aware of and understand our documented procedures and instructions.

Management review. Our FIU shall conduct annual management reviews to assess its performance against the NFPA® 1321 standard.

61

Our FIU documentation shall be extensive enough to guarantee the quality of our fire investigations.

NFPA® 1321, 4.1.2 emphasizes the importance of a well-defined and documented system for conducting fire investigations, ensuring consistency, reliability, and accuracy in the process.

By our FIU adhering to this standard, Our FIUs can demonstrate we have established, recognized procedures, leading to more thorough and effective investigations.

This is crucial for purposes including, expert testimony in legal cases or subrogation claims.

62

The standard outlines the overall importance of NFPA® 1321 in enhancing the quality of fire investigation work through various aspects, including, but not limited to the following,

Our organizational structure.

Education and professional development.

Safety and health protocols.

Documentation and reports.

Quality assurance and improvement.

63

Scope. Our FIU shall document its policies, systems, procedures, guidelines, and instructions to the extent necessary to ensure the quality of our fire investigations.

Purpose. This documentation serves to establish clear guidelines for our FIU operations and our personnel.

We ensure consistency in the methods and procedures used during our investigations.

64

We provide a record of our FIU's activities, which can be helpful in cases involving any legal disputes about our FIU investigations.

A record of a fire investigation's activities shall include a detailed synopsis, case background, and a methodology section that explains the techniques used to collect evidence. Activity logs.

Crucially, it shall contain findings, conclusions, and supporting documentation such as scene sketches or diagrams, photographs, witness statements, and evidence logs, all presented in a way that is logical and supported by forensic analysis.

Does your FIU have all the above mentioned forms?

65

Our FIU supports training and education of our FIU personnel.

We facilitate quality assurance and review of our FIU's performance.

66

Our policies related to fire scene safety, including the use of personal protective equipment (PPE).
Procedures for collecting and handling evidence.
Guidelines for determining the origin and cause of a fire.
Instructions for documenting the fire scene, including images, diagrams, notes, and all necessary forms.
Our FIU has systems for managing budget, strategic planning, and quality assurance.

67

NFPA 1321 4.1.3 The system's documentation shall be communicated to, understood by, available to, and implemented by appropriate personnel. Credit: NFPA®
This is a fundamental requirement for our FIU regarding our internal documentation and procedures.
NFPA® 1321 emphasizes the importance of ensuring that all relevant individuals within our FIU have access to, understand, and apply the established documentation, such as our policies, procedures, and guidelines that our FIU has implemented.

68

Communication. Our documentation shall be presented in a clear and accessible manner, ensuring that all our relevant personnel easily understand its contents.
Understanding. Our personnel shall have a clear understanding of the documentation and its meaning and implications for their FIU investigations.
This can be achieved through training, educational materials, online training, in person training, or other approved methods.
Availability. Our policies and procedures shall be readily accessible to all applicable FIU members within our unit, whether through physical or electronic formats.
This ensures that all personnel have the necessary information when they need it.

69

Implementation. Our documentation shall be followed and applied consistently across our organization.
This requires a commitment of adhering to the established procedures and guidelines.
Importance of compliance. Adhering to NFPA® 1321, including the documentation requirements, is crucial for ensuring the quality and reliability of our FIU investigations.
It further contributes to our operational efficiency, safety, and overall effectiveness.

70

Benefits of documentation. Effective documentation provides a record of our policies and procedures while ensuring consistency and assists our FIU in training and quality control.
It supports our investigation process by providing a framework for gathering and analyzing collected evidence when applicable.

71

The FIU shall perform and document a management review annually so they can assess the FIU's performance against all requirements of the standard. Credit: NFPA®
Our FIU is required to have a regular meetings, (at least annually). Our management team formally reviews the effectiveness of our FIU, while ensuring compliance with the NFPA® 1321 standard.
This review shall be documented, we shall have a record of when the meeting occurred, who was in attendance, what was discussed, what was the outcome, including any actions taken.

72

The review shall cover **all aspects** of NFPA® 1321, including policies, procedures, resources, personnel qualifications, quality assurance, safety, and all other relevant areas.

The purpose is to assess the unit's performance, identify areas for improvement, and ensure ongoing compliance with the standard.

This annual management review is a critical component of NFPA® 1321, intending to ensure the quality and effectiveness of our fire investigation unit.

The standard encourages continuous improvement and accountability within our organization.

73

NFPA 1321 discusses, Our FIU shall have written policies and procedures for our personnel, our administration, management, our records retention, and standardized practices and methods utilized by our unit.

Credit: NFPA®

Our FIU policies ensure consistency, efficiency, and compliance with our legal and operational requirements.

Personnel. Policies shall address roles, responsibilities, training, and qualifications of our FIU personnel.

Administration. This can include policies related to budgets, staffing, resource allocation, and organizational structure.

74

Management. Policies shall outline how our FIU is managed, including performance reviews, quality control, and continuous improvement.

Records retention. Our FIU shall establish clear procedures for creating, storing, maintaining, and disposing of records, ensuring compliance with relevant laws, standards and regulations.

Credit: FIU Records Management.

Standardized practices and methods. Our FIU policies shall define the applicable methods used for fire investigations, including evidence collection, analysis, and reporting. Credit: Blazestack.

75

1. Personnel management.

Training and qualifications.

Our FIU personnel shall have appropriate training, certifications, and experience in fire investigation techniques.

Evaluation and proficiency. Our FIU has regular evaluations of our personnel competency and proficiency.

It is crucial to ensure our FIU members are up-to-date with best and accepted practices in fire investigations.

Health and safety. Our FIU has a comprehensive health and safety program in place to protect our personnel.

76

2. Administration and management.

Management review. Our FIU management shall conduct regular reviews to assess our unit's performance and ensure compliance of our policies and procedures to ensure they are being implemented properly?

Documentation. Our FIU policies, procedures, and management decisions shall be clearly documented.

Communication. Policies and procedures shall be communicated effectively to our FIU personnel, ensuring they understand the policies and have implemented them.

To authenticate the information above, I would have everyone sign, they received and understand the policies and procedures. It protects everyone. Just an idea.

77

3. Records retention. Record management policy. Our FIU shall have a clear records management policy that complies with applicable laws and regulations.

A record management policy consists of documentation that defines our FIU's framework, standards, policies and procedures for managing all records created by our organization to ensure compliance, accountability, and efficient record keeping practices.

Retention periods. Specific retention periods for different types of records shall be established and followed as mandated by appropriate standards, laws, statute of limitations, or mandates.

Our FIU destruction procedures. Procedures for the proper destruction of records shall be in place and in compliance with legal statutes, laws, policies and procedures or statute of limitations.

78

4. Standardized practices and methods.

Investigation techniques. Our FIU follows standardized investigation techniques and methods that shall be used to ensure consistent and reliable findings, and relevant and applicable NFPA® and other standard organizations documents.

Data collection. Our FIU has established clear protocols for data collection and evidence preservation.

Reporting. Our FIU follows a standardized reporting procedure that shall be followed to ensure consistent and accurate reporting of our FIU findings.

By implementing these policies and procedures, our FIU shall ensure that our operations are conducted efficiently, effectively, and in accordance with best and accepted practices, while promoting accountability and transparency.

79

NFPA 1321 discusses organization systems.

Credit: NFPA®

NFPA® 1321 Section 4.2 addresses Quality assurance program (QAP) Requirements.

Establishment and maintenance. Our FIU shall establish, implement, and maintain a Quality Assurance Program (QAP) that documents the policies and procedures governing our FIU operations.

QAP components. Our QAP is required to include a quality manual, quality procedures, technical procedures, forms, and records, these shall be available to all FIU personnel.

80

Our fire investigation unit's quality assurance program ensures our FIU investigations are conducted according to established procedures and best practices, using standardized methods and documentation to ensure accuracy and reliability.

Our program includes written SOPs, chain of custody procedures, evidence collection and storage protocols, including administrative and technical reviews of investigation reports.

1. Written Standard Operating Procedures (SOP's). Fire investigation units shall have clearly defined (SOPs) for all aspects of an investigation, from initial intake of the assignment, to scene assessment, and until the final report.

81

2. Chain of custody. A meticulous chain of custody shall be maintained for all evidence collected, documenting who handled it, when, and why, to ensure its integrity.

3. Evidence collection and storage protocols. Our FIU has implemented specific procedures that shall be in place for collecting, packaging, and storing evidence, including the collection of physical samples and documentation, to prevent contamination, loss or damage.

4. Administrative reviews. Investigative reports shall be reviewed by administrative personnel or approved subject matter experts to ensure accuracy, completeness, and compliance with our FIU (SOP's).

82

5. Data quality objectives (DQOs). These objectives define the quality criteria for data collected during the fire scene investigation, such as accuracy, precision, and completeness, to ensure the reliability of our conclusions.

6. Proficiency testing. Our FIU Fire investigators shall undergo regular proficiency testing to assess their skills in various aspects of fire investigation, including evidence collection and analysis, report writing, and hypothesis development.

7. Accreditation and certification. Fire investigation units and individual investigators MAY ELECT TO seek accreditation from recognized organizations. NFPA® 1321-7.2.2 The FIU management shall require personnel to maintain their certifications (or professional designations) in their respective disciplines through continuing education as determined by the FIU.

83

8. Documentation. All aspects of the investigation shall be meticulously documented, including scene photographs, witness statements, evidence analysis reports, and chain of custody records.

9. Standardization of procedures. Our fire investigation unit shall adopt industry-recognized standards, such as those outlined in NFPA® 921, NFPA® 1033 and NFPA® 1321, to ensure consistency and best practices.

84

10. Continuous improvement. Our quality assurance program shall be a continuously up-dated document, subject to periodic review and improvement based on feedback, lessons learned from investigations, and advancements in fire investigation techniques, and up-dated standards, guides and new case laws.

By implementing our FIU robust quality assurance program, our fire investigation unit can ensure our investigations are thorough, accurate, and reliable, leading to more credible and defensible conclusions.

85

1321 discusses administrative requirements. Credit: NFPA®

NFPA® 1321 4.2.1. Administrative requirements encompass a range of policies and procedures, from personnel management to facilities and equipment. Key elements include clear job descriptions, hiring practices, training programs, and ethical guidelines, along with established procedures for evidence handling and complaint management. Compliance with federal, state, and local laws is essential.

86

Key administrative requirements. Personnel management. This includes hiring, development, performance evaluations, disciplinary procedures, and ensuring non-discrimination and harassment policies are in place.

Training and continuing education. Our FIU shall have robust training programs to maintain proficiency in investigation techniques, evidence handling, and relevant regulations.

Ethical practices. Establishing clear ethical guidelines, including principles of independence and impartiality, is essential for maintaining the integrity of our investigations.

87

Facilities and equipment. Our FIU requires adequate facilities, including office space, evidence storage, equipment, and IT infrastructure.

Evidence handling. Procedures for collecting, preserving, and analyzing evidence shall be established to ensure the integrity of our investigations.

Complaint procedures. Our FIU has a formal process for submitting and handling complaints to ensure accountability and fairness.

88

Compliance with laws. Our FIU shall comply with relevant federal, state, commonwealth, and local laws and regulations related to fire investigation.

Clear policies and procedures. Our FIU, has well-defined policies and procedures for all aspects of our unit's operations, this is crucial for accountability and consistency.

89

1321 discusses 4.2.1.1 Organizational Structure. Credit: NFPA®

Written policies that establish the legal basis for the operation of the fire investigation unit

Compliance with applicable federal, state, and local law shall be maintained by the Authority Having Jurisdiction.

90

Our FIU has developed policies in establishing the legal basis for our FIU operations while ensuring compliance with applicable federal, state, commonwealth, and local laws.

Importance of our policies. Legal foundation. Our policies shall clearly define the specific laws, statutes, and regulations that grant our FIU the authority to operate and conduct investigations.

Compliance. Our written policies shall outline how our FIU adheres to all relevant federal, state, and local laws and regulations throughout our activities. This ensures the legal defensibility of our actions and findings.

91

Defined scope of services. Our policies shall clearly define the services our FIU will provide, including when, where, and how these services will be delivered.

Organizational structure. Our policies shall establish the basic organizational structure of our FIU and clearly defines the functions and responsibilities of our members.

Resource management. Our policies shall address how our FIU requests and utilizes resources from outside entities.

Mission statement and ethics. Our FIU written policies shall include a mission statement outlining the FIU's purpose and a code of ethics to guide the conduct of our members.

92

AHJ responsibility. Our AHJ and FIU is ultimately responsible for creating, maintaining, and enforcing the NFPA® 1321 policies to ensure our FIU operates within a legal framework.

Example policies. Our policies include procedures for requesting and accepting cases, evidence preservation, and reporting protocols.

NFPA® 1321 Role. The standard provides guidance for our FIU's operations, however the AHJ is responsible for tailoring these policies and procedures to its specific legal and operational context.

93

4.2.1.1.2 The FIU shall maintain an organizational chain of supervision and accountability outlined in written or graphic form. Credit: NFPA®

This structure shall include a documented chain of supervision and accountability.

Clarity of responsibilities. Our well-defined structure ensures everyone understands their roles and responsibilities within our FIU.

Effective communication and coordination. Clear lines of communication and authority facilitate efficient collaboration and information sharing among team members.

Each agency or company will have to develop their chain of supervision.

94

Accountability. Our FIU chain of supervision ensures there is clear oversight and accountability for all actions taken during an investigation, from scene processing to evidence handling and reporting.

Standardized procedures. Our formal procedures and policies, outlined in the organizational structure, promote consistency in our investigative processes and ensure adherence to relevant standards including but not limited to, NFPA® 921, NFPA® 1033, NFPA® 1321, NFPA® 1550.

Again, each agency or company will have to create their chain of supervision.

95

Quality control. Our supervisors are responsible for reviewing reports and ensuring the quality and credibility of investigative findings, contributing to the overall integrity of our FIU investigations.

How do we implement these policies into our FIU while meeting the heading of this section?

Written or graphic representation. The organizational structure shall be documented, either through written descriptions, organizational charts, or a combination of both.

96

Defined policies and procedures. Our policies and procedures cover many areas including, hiring, **training**, personnel evaluations, ethics, evidence handling, and other critical aspects of our FIU operations, they shall be clearly outlined and accessible to all FIU members.

Regular reviews. Our FIU management system adherence to documented policies and standards shall be formally reviewed annually or sooner if a question about our policy needs to be reviewed.

NFPA® 1321 section 4.2.1.1.2 highlights the importance of a formalized organizational structure for our FIU to ensure our FIU provides effective operations, accountability, trustworthiness and integrity during our fire investigations.

97

4.2.1.2 Mission Statement or scope of work. Credit: NFPA®

Our fire investigation unit operating under a framework of NFPA® 4.2.1.2 focuses on establishing a foundation for effective and standardized fire and explosion investigations.

Our mission or scope of work for our FIU unit includes the following.

Investigating the origin and cause at fire and explosion scenes. Our FIU examines fire and explosion scenes to determine origin and cause, fire causation while adhering to standards like NFPA® 921, 1033, and applicable sections of NFPA® 1321.

98

Determining the origin and cause of fires.

Gathering and preserving evidence. Our FIU when evidence is present, carefully collects, packages, transports and preserves the evidence for legal proceedings, while ensuring its integrity.

Documenting findings. Detailed documentation of our findings is essential to support conclusions and for potential court appearances.

99

Our FIU Adheres to standards, best practices and proper Protocols. Our FIUs follows established standards and procedures to ensure accuracy and professionalism.

Establishing and maintaining a management system. Our FIU has established and maintains a management system appropriate to the scope of our activities, ensuring quality assurance and consistent operations.

Professional development. Our FIU emphasizes continuous learning and professional development for our personnel as to stay current with advancements in fire science, fire dynamics, and other applicable investigation techniques.

100

Let's define only the words, scope of work.
Credit: NFPA®

Scope. NFPA® 1321 covers a wide range of topics related to fire investigation unit operations, including policies, procedures, and documentation.

Key areas. The standard addresses aspects including, scene safety, evidence handling, documentation, reports, and training requirements for fire investigators.

Focus on quality. Our FIU adhering to NFPA® 1321, our fire investigation unit can ensure their investigations are thorough, systematic, and adhere to best practices, leading to more reliable findings.

101

Organizational structure. The standard addresses the organizational structure of our FIU, including chain of supervision, accountability, and written protocols for services provided.

Training and competency. NFPA® 1321 emphasizes the importance of education, training, and certification for personnel involved in fire investigation activities.

It further requires our FIU management to evaluate and document the competency and proficiency of our FIU personnel.

102

4.2.1.2.1* The FIU shall have written protocols detailing services the unit will provide. Credit: NFPA®
This requirement ensures clarity and consistency in our FIU operations, covering areas including investigation processes, safety protocols, and resource utilization.
Our FIU written protocols act as a blueprint for our FIU, ensuring that all activities are conducted according to a defined structure.
Content. Our FIU protocols shall detail the various services our FIU offers, including investigation procedures, documenting how our fires scenes are investigated, from initial scene assessment to the end documentation.

103

Safety protocols. Our FIU has procedures for ensuring the safety of our personnel and additional staff or outside support at the scene during our investigations.

Resource utilization, defines how our FIU manages its resources, including personnel, equipment, and outside support.

Benefits. By having clear written protocol this assists us to ensure consistency throughout our FIU operations.

104

Improved efficiency and reduce errors.
This provides a basis for our FIU training and development, and continuing development of our FIU personnel.
Reducing the risk of legal challenges by demonstrating adherence to industry standards and best accepted practices.

105

4.2.1.2.2 The FIU shall document their commitment to allocate personnel, support, and resources to uphold the mission statement or scope of work. Credit: NFPA®

Here's how NFPA® 1321 assists our FIU demonstrate our commitment.

This ensures our FIU is adequately equipped to fulfill its responsibilities effectively.

Dedicated personnel. Our FIU requires the necessary personnel with the appropriate qualifications and training to conduct thorough, accurate, scientific, systematic and professional fire investigations.

106

Adequate support. Our FIU requires support systems, such as administrative support, access to specialized expertise, and collaboration with other agencies.
Sufficient resources. This includes allocating funding, equipment, facilities, and technology to support our FIU's operations.
Accountability. It demonstrates our FIU's commitment to supporting our FIU's mission and provides our FIU with the necessary framework for measuring success and addressing any deficiencies.

107

Effective operations. Proper allocation of resources ensures our FIU can effectively respond to and investigate fires efficiently and professionally.

Quality investigations. Adequate resources contribute to the quality and integrity of fire investigations, which is crucial for determining the origin and cause of fires or explosions, while supporting legal proceedings, and determining any fire prevention efforts.

Compliance. Documenting the commitment to resources is a requirement outlined in NFPA® 1321, it ensures our FIU can adhere to established standards.

108

4.2.1.3* Ethical Principles. & 4.2.1.3.1 The FIU shall have policies addressing integrity, accountability, independence and impartiality, respect, commitment, and conduct.

Credit: NFPA®

This section mandates our FIU has policies in place addressing integrity, accountability, independence, impartiality, respect, commitment, conduct, and ethical principles.

These policies ensure that our FIU operates ethically and transparently, while maintaining accountability, and demonstrating our integrity during our investigations.

109

Key components of our policies. Integrity. Our FIU shall demonstrate honesty, trustworthiness, and adherence to ethical standards in all aspects of our operations and investigations.

Accountability. There shall be clear procedures for assigning responsibility and holding individuals accountable for their actions and decisions.

Independence and impartiality. Our FIU members shall be free from undue influence and ensure that our investigations are conducted objectively and without bias.

Respect. The FIU shall treat all individuals with dignity and courtesy, regardless of their role or background.

110

Commitment. Our FIU shall demonstrate a strong commitment to our mission, objectives, and to the safety and well-being of the community we serve.

Conduct. Our FIU shall establish clear guidelines for the professional conduct of our members, including how they interact with the public, witnesses, and other investigators.

Ethical principles. Our FIU shall adopt and adhere to ethical principles that guide our operations and decision-making, such as fairness, justice, and transparency.

111

Importance of our policies.

Maintaining trust. Strong ethical policies build trust within our community and jurisdiction, including stakeholders, other agencies.

Ensuring accuracy and objectivity. Ethical policies assist us to ensure our investigations are conducted accurately and objectively, leading to reliable conclusions.

112

Protecting legal compliance. Ethical policies demonstrate our FIU complies with all applicable laws and regulations related to our investigation procedures and evidence handling.

Promoting a positive culture. Policies that emphasize integrity, accountability, and respect enforces our positive and productive work environment.

113

Honesty and integrity. Our Fire investigators shall be truthful and honest in their work assignments, reporting all findings accurately and avoiding any personal gain or manipulation of information.

Impartiality and fairness. Our FIU investigators shall approach each investigation without bias, treating all individuals involved with fairness and respect and strict professionalism while maintaining no bias regardless of any characteristics at the scene.

Professionalism and respect. Our FIU investigators shall conduct themselves in a manner that reflects positivity on the profession and maintains public trust.

114

4.2.1.3.2 The FIU shall have policies regarding conflicts of interest and management of identified conflicts.

Credit: NFPA®

Policy requirement. Our FIU has established clear written policies regarding conflicts of interest.

Conflict management. These policies shall outline mechanisms for identifying, avoiding, removing, and remedying any actual, perceived, or potential conflicts of interest that may arise.

Purpose. The purpose of our policies is to ensure objectivity, maintain the integrity of fire investigations, and prevent any undue influence on professional duties.

115

Professional ethics. NFPA® 1321 promotes a strong ethical foundation for our fire investigation unit, including principles of integrity and accountability.

Quality assurance. The standard was designed to improve the quality of work products and operations within our FIU.

Adherence to standards. Compliance with NFPA® 1321, includes its ethical guidelines, which demonstrates our credibility and professionalism.

116

Examples of conflicts of interest considerations for FIUs.

Financial interests. Our FIU ensures our FIU members do not have any financial interests in any fire investigation that could compromise their impartiality.

Personal relationships. Addressing situations where personal relationships could interfere with objective judgment.

Acceptance of gifts. Our FIU members are forbidden to accepting gifts or valuable considerations that could create the appearance of favoritism.

117

4.2.1.3.3 The FIU shall have policies and procedures identifying the management of information obtained or created through investigation activities to ensure the information is retained securely and only released in accordance with existing policies and procedures or legal mandates. Credit: NFPA®

This includes procedures for data protection, confidentiality, and access control.

Key aspects of our policies and procedures include, secure storage and handling:

By implementing our robust measures to safeguard information from unauthorized access, use, or disclosure.

118

Access control. Limit access to information based on roles and responsibilities, ensuring only authorized personnel can view, modify, or share sensitive data.

Dissemination protocols.

Our FIU has defined clear guidelines for releasing information, specifying the conditions under which information can be shared with other agencies, both domestic or foreign, and the necessary approvals required.

119

Validating. The process for confirming the information provided in the complaint, including interviews, follow ups, etc. from the original complainant.

Resolving. The procedures for investigating and resolving the complaint, which shall be fair, professional and efficient. NFPA® 1321 focuses on establishing, structuring, operating, and managing our FIU effectively.

Key aspects of NFPA® 1321 requirements regarding complaint handling include the following.

Receiving complaints. Our FIU has procedures for how complaints will be received, whether through formal channels or informal reports.

120

Recording complaints. Our FIU has implemented a systematic way to document complaints, including the date, time, details, and the person(s) making the complaint, all this information shall be entered, documented and made available for investigation.

Evaluating complaints. Our FIU shall have methods for assessing the validity and seriousness of each complaint.

Validating complaints. Our FIU verifies the information provided and determining if it warrants further investigation.

Resolving complaints. Our FIU has procedures for addressing complaints, which involve investigation, corrective actions, or other necessary steps.

By our FIU having written policies in place, we can ensure consistent and transparent handling of complaints, while we promote accountability during our complaint investigations.

121

Transparency and accountability.

Our FIU written policies ensures our FIU operates with transparency and accountability.

We provide clear expectations for how complaints will be addressed, reducing the potential for misinterpretations or inconsistent practices.

Fairness and due process is our promise.
Our policies outline procedures for receiving, reviewing, and addressing complaints, while ensuring fairness credibility, and due process for those involved.

122

4.2.2 Policies and procedures. **4.2.2.1** The FIU shall have written policies and procedures for personnel, administration, management, records retention, and standardized practices and methods utilized by the unit.

Credit: NFPA®

This standard ensures that our FIU maintains a high quality of work and operations.

Personnel. Policies and procedures related to job duties, hiring, personnel evaluations, supervision, disciplinary procedures, non-discrimination, harassment, training, continuing education, and human relations development.

123

4.2.2.2 Each policy or procedure shall include instructions for the safe performance of tasks, documentation, analysis, interpretation, and reporting. Credit: NFPA®

This ensures our FIU investigations are conducted thoroughly, systematically, and with accuracy.

NFPA® 1321 provides a framework for establishing, structuring, operating, and managing fire investigation units. This encourages our FIU to improve the quality of our work products and operations within our FIU.

Mandatory requirements. The standard explicitly states that each policy and procedure within our FIU shall include detailed instructions for the following key areas.

124

Safe performance of tasks. This ensures that our FIU investigators follow safe practices and protocols during their investigations.

Documentation. Our Policies shall outline how evidence is collected, preserved, and documented, ensuring a clear and accurate record of the investigation.

Analysis. Our FIU policies specify how our investigators analyze evidence and interpret findings to determine the origin and cause of fires.

Interpretation. Our Investigators shall have clear guidelines on interpreting evidence and drawing conclusions based on their analysis.

Reporting. Our policies shall define the process for creating accurate and comprehensive investigation reports, including the format, content, and review process.

125

4.3 Process systems. Credit: NFPA

NFPA® 1321 outlines the operational processes and policies for our FIU that shall be implemented to ensure effectiveness, and health and safety.

These processes, known as "process systems," cover areas like personnel management, equipment management, workload analysis, and health and safety for our FIU.

Complying with NFPA® 1321 assists our FIU to structure our operations for improved efficiency, standardization, and responsiveness to the publics needs in the public sector or, our client needs in the private sector.

126

4.3.1 Personnel management. Credit: NFPA
NFPA® 1321, Standard for Fire Investigation Units, provides our FIU with comprehensive guidance on personnel management within our FIU.

NFPA® 1321 outlines requirements for education, training, and certification, ensuring our FIU personnel are competent and proficient in their roles.

This section emphasizes the importance of having well-defined policies for managing personnel within our FIU. Specifically, it addresses the following.

Hiring. Policies for selecting and hiring qualified individuals for our FIU.

127

Training. Policies and procedures for providing adequate training and ensuring competency of our personnel.

This includes initial education and training, as well as ongoing professional development to maintain current in our knowledge and skills.

It also requires maintaining detailed training and education records for each of our FIU investigators.

128

Evaluations policies. We have implemented policies for evaluating personnel performance within our FIU ensuring our investigators are competent to perform their duties effectively, efficiently, and safely.

This includes the requirement for annual proficiency evaluations by experienced evaluators.

Health and safety. Procedures for health screenings and recurrent safety training for our FIU personnel, adhering to relevant legal standards including HIPAA for managing employee records.

129

4.3.1.1 The FIU shall have policies and procedures for the hiring and placement of personnel to operate in accordance with their defined mission or scope of work.
Credit: NFPA®

This is a crucial step for our agency or company; Our FIU shall ensure the effective operation and high-quality of our fire and explosion investigations conducted by our fire investigation personnel.

Our policies and procedures shall address the following areas.

130

4.3.1.2 The FIU shall maintain written job descriptions. Credit: NFPA®

Specifically, NFPA® 1321 Section 4.3.1.2 mandates that our FIU shall maintain written job descriptions.

Some agencies and companies may see this requirement falling under the broader category of process systems, which are the operational policies that define how resources, processes, and personnel are effectively managed within an FIU.

131

Ensuring clarity and accountability. Our FIU written job descriptions clearly outline the responsibilities, duties, and qualifications required for each position within our FIU.

Our FIU supports personnel management. Our FIU provides the basis for hiring, training, and performance evaluations.

Our FIU facilitates standardized practices. By defining roles and responsibilities, we contribute to providing consistent and effective operations within our FIU.

132

Contributions to overall quality assurance. Our FIU provides clear job descriptions, they are a component of our FIU's quality management system, assisting to ensure that our investigations are conducted with the required standards and expertise the public or clients expect.

In summary, NFPA® 1321, 4.3.1.2 is a critical element for effective FIU operations and ensures that the unit has a structured approach to managing our personnel.

133

4.3.1.3* The FIU or parent organization shall have policies for performance evaluations, supervision, discipline, discrimination and harassment, continuing education, maintenance of personnel records, document control, and periodic reviews.

Credit: NFPA®

134

4.3.1.4 & 4.3.1.4.1 The FIU shall have a written policy detailing the physical performance and medical screening required to identify individuals as fit for duty at predefined intervals.

Credit: NFPA®

The intent of our FIU policy is to ensure our personnel are "fit for duty." The standard emphasizes the importance of a comprehensive health and safety program, including health screenings and recurrent safety training.

Our policies ensure our personnel can perform their duties effectively and safely. Further, our policy is designed to protect the physical and mental well-being of our FIU personnel.

Our FIU documents the physical performance and medical screenings for our FIU investigators.

135

Our policy shall be aligned with applicable legal standards including, HIPAA while we manage our FIU employee records.

To be clear, NFPA® 1321 requires our FIU to have a documented process to ensure our personnel are physically and medically capable of carrying out their responsibilities of fire investigation at specified intervals, our FIU has implemented this policy to comply with the standard.

136

4.3.1.4.2 The FIU shall have policies in place to account for the recurrent safety awareness training of employees. Credit: NFPA®

This requirement is a critical section of our policies and procedures are paramount.

Our FIU has implemented training to ensure the safety of our fire investigators and other personnel involved in fire scene investigations.

Recurrent safety awareness is imperative, and we have implemented safety and health training on a reoccurring timeframe to maintain and ensure our investigators knowledge and skills are at the highest level for their safety.

137

Safe working practices. Our FIU addresses potential hazards at fire scenes and implementing appropriate safety measures.

Personal protective equipment (PPE). The proper selection, use, maintenance, and decontamination of PPE is one of the most important sections of safety.

Site safety risk assessments. Our FIU can Identifying and mitigate risks unique to each investigation scene by always conducting our site safety risk assessment before the fire or explosion investigation begins.

138

4.3.1.4.3 The FIU shall have documented procedures for the maintenance of employee health records in accordance with the Health Insurance Portability and Accountability Act (HIPAA). Credit: NFPA®

Our Fire Investigation Unit handles (Protected health information). We have documented procedures for maintaining employee health records in accordance with the Health Insurance Portability and Accountability Act (HIPAA).

Our FIU ensures compliance with data privacy regulations and protects the confidentiality of our FIU members health information.

139

HIPAA and PHI

HIPAA is a federal law that protects the privacy of individually identifiable health information, known as Protected Health Information (PHI).

This includes information on medical records, diagnoses, treatment plans, and more.

Our FIU responsibilities. Our FIU may encounter situations where they need to access or handle PHI, such as when investigating a fire incident involving an injured person or a victim's medical records.

140

4.3.1.5, 4.3.1.5.1 The FIU shall have documented procedures to ensure that outsourced subject matter experts are competent and comply with relevant requirements.

Credit: NFPA®

Our FIU shall have a formal system in place to verify that external experts we rely on are qualified and adhere to applicable regulations and standards.

Our procedures shall be documented; they shall be written and available for review.

This ensures consistency and provides a record of how our FIU manages outsourced experts if or when it is necessary.

141

4.3.1.5.2 The FIU shall have policies regarding coordination of multiunit investigations. Credit: NFPA®

This requirement ensures that when multiple fire investigation units are involved in a single investigation (e.g., a large-scale fire or explosion), there are clear protocols and procedures in place to ensure the following.

Establish communication channels and lines of authority.

This ensures that all units involved are operating with a clear understanding of roles, responsibilities, and communication protocols.

142

4.3.1.5.3. The FIU shall have documented procedures for the selection of vendors and purchasing of supplies, equipment, and services to ensure they meet the requirements of the FIU. Credit: NFPA®

Quality assurance. Our FIU documented procedures assists us to carefully choose vendors and products that meet our FIU's quality standards, while ensuring the reliability and accuracy of investigations.

Transparency and accountability. Our clear procedures contribute to a transparent and accountable purchasing process, minimizing potential conflicts of interest and ensuring responsible use of resources.

143

4.3.2 Facilities and Equipment. The FIU shall have written procedures for the procurement, maintenance, and personnel training for fire investigation facilities and equipment. Credit: NFPA®

Procurement. Our FIUs has policies and procedures for acquiring new equipment and facilities.

This includes our FIU budgeting, vendor selection, and ensuring that equipment meets the needs of our unit.

Maintenance. Our FIU shall maintain equipment and facilities to ensure their proper function and longevity. This includes scheduled maintenance, repairs, and regular inspections.

144

Personnel training. Our FIU shall train our personnel on how to use and maintain our equipment. This includes both initial training and ongoing professional development to keep our personnel current on new technologies and techniques. These procedures are crucial for ensuring the safety and effectiveness of our FIU. The procedures assist us to protecting our personnel, while maintaining our integrity of investigations, and ensuring our FIUs are well-equipped to handle fire and explosion investigations.

145

4.3.3 Workload Analysis. 4.3.3.1* The FIU shall develop and maintain a management information system (MIS) to support the management of the FIU by providing the AHJ with data indicating the effectiveness of the FIU. Credit: NFPA®

Let's start with workload analysis, then we will move on to the MIS.

Workload analysis is a methodical process that evaluates how much and what kind of work our FIU can complete in a certain amount of time.

It is crucial for our effective resource allocation and project management, as it assists us to prevent burnout, improve efficiency, and ensure projects are completed on time.

146

Purpose. Our MIS is designed to facilitate the efficient and effective management of our FIU operations; it supports our adherence to our established policies and procedures.

Scope. Our MIS shall encompass various aspects of FIU operations, including, standard operating guidelines and standard operating procedures.

Records management system (RMS).

Quality management system (QMS).

Documentation and reporting.

Training and certification requirements.

147

Benefits. A well-maintained MIS assists our FIU maintain consistency and accuracy in our investigations.

This improves the quality of our work products and our operations.

It ensures compliance with NFPA® 1321 and other relevant standards.

Demonstrates accountability and transparency.

Examples. The MIS can include tools for managing case files, tracking resources, documenting training, and generating reports.

Everything is maintained in one place and is accessible.

148

4.3.3.3 The MIS shall provide a means of measuring performance outcomes and trends for each of the following: Credit: NFPA®

- (1) Case status.
- (2) Resource evaluation.
- (3) Benchmarking
- (4) Time accounting and productivity of personnel.

149

Example of how this could be used. Administration could use the MIS to identify cases that are taking longer than usual. Ask why? Any resolutions? Then investigate the potential causes and implement corrective actions, if there are any, or identify if the case was more complex and took more time to investigate properly.

A department head could use the resource evaluation reports to determine which areas if any, are overspending and adjust resource allocation accordingly.

150

An agency or private company could use benchmarking data to identify best practices from competitor's public or private sector and implement them within their own organization.

I have always been about, if someone has a better idea and is willing to share it, I appreciate it.

Human resources could use time tracking data to assess individual employee productivity and identify training needs or areas for improvement if necessary.

151

Purpose of the workload analysis. This requirement ensures our FIU can effectively manage its workload and meet the demands of fire and explosion investigations assignments.

Our analysis shall track important data, such as, case status, resource allocation, and productivity.

Benefits. Improved resource allocation. By understanding the workload, our FIU can allocate its personnel and resources more efficiently.

153

4.3.3.4- Workload analysis shall be carried out at least annually and be included in the annual documentation of the FIU. Credit: NFPA®

This is a key requirement of NFPA® 1321, Standard for our fire investigation unit.

NFPA® 1321 4.3.3.4 requires the following.

Annual workload analysis. A formal assessment of our FIU workload shall be conducted at least once per year.

Documentation. The analysis shall be included in our FIU's annual documentation.

152

Documentation of compliance. Our FIU records serve as documentation demonstrating that our FIU is operating in accordance with its established written policies and procedures.

This assists in ensuring the quality and integrity of our investigation process and can be critical for legal reviews or audits.

155

4.3.3.5. The FIU shall implement and utilize forms and records that aid in the collection of information and document the unit's compliance with written policies and procedures. Credit: NFPA®

Information collection. Forms and records are essential tools for gathering and preserving information related to fire investigations.

This could include details about the fire scene, witness statements, evidence or property logs, analysis results, and other relevant data.

You will have access to many forms fillable and non-fillable with this training module.

154

4.4 Management Systems. 4.4.1 Budget. Credit: NFPA®

4.4.1.1 The FIU shall have a budgetary system that supports the goals, objectives, and outcomes of the unit in accordance with accepted accounting practices. Credit: NFPA®

In essence, our FIU needs the following.

A budgetary system. A framework or process for managing finances.

Written policies. Clear guidelines for making purchases and selecting vendors.

156

Clear records. Our FIU maintains detailed records of all expenditures and funds received.

Adherence to accepted accounting practices. Ensuring financial operations are conducted in a standard and appropriate manner.

157

Resource allocation. Our FIU budget shall effectively allocate resources (personnel, equipment, etc.) to achieve the unit's goals and objectives.

Accepted accounting practices. Our FIU's financial operations shall adhere to recognized accounting standards.

Management systems. NFPA® 1321 emphasizes the importance of management systems, including budgeting and financial management, to provide a foundation for our FIU's strategic and financial operations.

158

4.4.1.2-The FIU shall have written policies and procedures detailing a system of accounts for financial administration to include records of funds received and expenditures. Credit: NFPA®

Our FIU, whether public or private sector organizations are responsible for investigating fires and explosions.

Written policies and procedures. Our FIU shall have formal, documented guidelines for managing our finances.

159

This requirement falls under Section 4, "Management Systems," which provides the foundation for the strategic and financial operations of our FIU.

Having a well-defined and properly managed budget is crucial for our FIU to effectively operate and achieve its mission.

160

4.4.1.3. Policies and procedures shall be implemented for the selection of vendors and purchasing of services, equipment, and supplies. Credit: NFPA®

Vendor selection. The standard emphasizes selecting vendors based on factors such as their ability to meet the unit's needs, their reputation, and their ability to provide cost-effective solutions.

Purchasing process. Our policies shall outline a clear and documented process for making purchases, ensuring transparency and accountability.

161

This could involve specifying budget allocation procedures, accepted accounting practices, and the selection of vendors based on specific criteria.

Quality assurance. NFPA® 1321 focuses on quality assurance in fire investigations, our policies related to purchasing shall ensure that all procured equipment and services meet relevant FIU quality standards.

This involves evaluating vendors based on their ability to meet quality standards and ensuring purchased items are aligned with the unit's operational needs.

Compliance with regulations. Our purchasing process shall align with any applicable federal, state, and local regulations.

Record keeping. Detailed records of all expenditures and received funds shall be maintained.

162

4.4.2 Strategic Planning-The FIU shall establish procedures for the review of the mission, goals, objectives, and effectiveness of the unit at pre-defined intervals. Credit: NFPA®

Strategic planning. Our FIU shall have a formal strategic planning process that outlines how we will achieve our mission and goals.

Regular reviews. Our FIU shall conduct regular reviews of its mission, goals, objectives, and effectiveness to ensure we are still relevant and achieving desired outcomes.

163

4.4.3 Quality assurance-management and Internal reviews. Credit: NFPA®

We will start with quality assurance-management.

Management system. Our FIU is required to establish, implement, and maintain a management system appropriate to the scope of our activities.

Documentation. Our system shall be documented, outlining policies, programs, procedures, and instructions necessary to ensure the quality of our investigations.

165

4.4.3.1 The FIU shall have a policy for the review of guiding documents and management systems.
Credit: NFPA®

Our FIU has a formal process for periodically reviewing and updating all the documents that guide our operations, such as policies, procedures, and standard operating guidelines (SOG's).

Our FIU also reviews our overall management system to ensure it is effective and aligns with the requirements of NFPA® 1321.

167

My recommendation.

Every FIU investigator shall receive an up-to-date copy of our FIU policy. Our FIU shall meet as a group and discuss and evaluate our policies, answer questions and concerns if any, and have each investigator sign they received a copy of our FIU policy. Each investigator shall be asked if they understand the contents of our policy. Every investigator shall have the opportunity to voice any concerns within our policies.

There shall be a provision for comments, suggestions, questions, or input to change something specific as seen as a potential issue for our FIU.

164

Benefits of compliance. Our compliance with NFPA® 1321 enhances our credibility and professionalism within our FIU.

Our FIU promotes effective and efficient investigations and reduces the risk of legal challenges.

166

Our FIU management system shall be assessed annually, at minimum and a report shall be generated to document the review and any recommended actions for improvement.

The findings of our review process shall be communicated to all relevant FIU and agency or company command personnel and be used to consider any policy and procedure updates, if or when necessary.

Implementing a robust policy for reviewing guiding documents and management systems, Our FIU will enhance our performance, ensure quality investigations, and maintain compliance with industry standards including, NFPA® 1321.

168

4.4.3.2 The FIU shall have a policy for the maintenance of documented corrective actions and preventative measures. Credit: NFPA®

Our policy shall ensure that documented corrective actions are implemented to address issues identified during investigations or annual reviews to prevent any recurrences.

Policy requirement. Our FIU is mandated to have written policies for documenting and maintaining corrective actions and preventative measures.

Documentation. Our policy shall outline how issues were identified during our investigations, such as safety hazards or procedural deficiencies, or other identified concerns, those identified issues shall be documented, and our FIU shall provide recommendations and documentation for our corrections.

169

Corrective actions. Our policy shall describe the process for implementing actions to address the identified issues, ensuring they are corrected and are no longer present.

Preventative measures. Our policy shall detail the process for implementing actions to prevent similar issues from occurring in the future.

Maintenance. Our policies shall specify how documented actions and preventative measures are tracked and monitored to ensure their effectiveness.

170

Chapter 5

171

Outside Resources, Facilities, and Equipment
5.1* **Outside Resources.** 5.1.1 Credit: NFPA®

This section covers aspects including, requesting additional resources, ensuring adequate facilities for our FIU's mission, and providing necessary tools and equipment for our FIU investigations.

The standard emphasizes the importance of interagency collaboration and quality assurance when using outside resources, facilities, and equipment.

172

5.1.3 The FIU shall have a written policy to identify the need to involve other resources and entities. Credit: NFPA®

1. Purpose. Identifying the need for external involvement. Our FIU has established clear criteria or scenarios that would necessitate the involvement of external resources or entities.

Ensuring effective response. It assists our FIU ensures that appropriate expertise and support are available when internal resources are insufficient or lack the necessary specialized skills or knowledge.

173

Compliance and best practices.

Our policy is driven by regulatory requirements, industry best practices, or organizational standards that mandate or encourage the involvement of external parties in certain situations including, but not limited to, NFPA® 921 NFPA® 1033 and NFPA® 1321.

174

5.1.4-The FIU written policy for evaluating the need for additional resources shall be based on when an event exceeds the FIU's capabilities or resources. Credit: NFPA®
Our FIU policy outlines the process for identifying when additional resources are needed, such as technical experts, law enforcement, or specialized labs.
Written policy. Our FIU has a written policy that details the criteria for requesting additional resources.
Our FIU policy shall be clearly defined and is readily accessible to all our FIU personnel.

175

5.2* Indoor/Outdoor Facilities. Credit: NFPA®
NFPA® 1321, specifically section 5.2, outlines the requirements for indoor and outdoor facilities used by fire investigation units (FIUs). This includes managing facilities where evidence is stored and processed, ensuring adherence to best practices for handling evidence, and ensuring proper storage and security of evidence and equipment.

176

5.2.1* The FIU shall have a written policy for the collection, intake, storage, security, processing, and evaluation of all evidence. Credit: NFPA®
Our FIU policies ensure a systematic and standardized approach to managing evidence throughout our investigation process.
Collection. This refers to our procedures for gathering evidence at fire scenes.
Intake. This outlines how our evidence is received and initially assessed.

177

5.2.2. Written policies, procedures, and controls to prevent and limit unauthorized access to evidence shall be established by the FIU. Credit: NFPA®
This is crucial for maintaining the integrity of our FIU evidence and ensuring it's admissible in court.
Purpose. The primary goal of our policies and controls includes safeguarding the evidence, chain of custody, and preventing any tampering or contamination.
Scope. These controls shall cover all aspects of evidence handling, from collection and preservation to storage and access, to courtroom presentation.

178

Implementation. Our FIU shall document our policies, procedures, and controls, our FIU provides training to personnel on how to implement and follow the policies and procedures correctly.
Importance. Adherence to our FIU policies and procedures is essential for maintaining the credibility of fire investigations and for ensuring that the evidence presented in court is reliable and trustworthy.

179

5.3 Systems and equipment. FIUs shall have the types and quantity of systems and equipment needed to perform their duties. Credit: NFPA®
This includes tools, technology, and resources needed for evidence collection, scene documentation, and thorough investigations.
Adequate systems and equipment. Our FIU has the tools and technology to effectively conduct investigations, including evidence collection tools, safety equipment, and technology for thorough investigations.

180

Specific Equipment. Examples of our equipment that may be required include, thermal imaging cameras, tools for scene documentation, evidence storage, and IT infrastructure.

Purpose. The goal is to ensure our FIU can effectively perform our duties, including investigating fire scenes, collecting evidence, and documenting our findings in accordance with NFPA® 1033.

Resourcefulness. If necessary, Our FIU can contract other entities for assistance with certain equipment or services.

Safety. NFPA® 1321 emphasizes the importance of safety, including a safety program that addresses fire scene safety, personal protective equipment (PPE), and workplace safety.

181

Personal Protective Equipment (PPE). Fire investigators shall always prioritize safety, utilizing PPE including approved boots, gloves, helmets, eye protection, and respiratory protection (SCBA or respirators).

Work uniforms are also essential for maintaining safety and visibility.

Fire investigation units use a combination of specialized equipment and investigative techniques to determine the origin and cause of fires.

This includes tools like laser scanners, infrared cameras, and software for fire modeling, as well as standard equipment for evidence collection and documentation.

182

Evidence collection kits. Ensures proper handling and preservation of evidence, including samples of materials that may have been involved in the fire.

Fire scene tool kits. These kits contain necessary investigation tools equipment, and instruments for accessing and examining fire scenes.

Cameras and sketching/diagramming. Our FIU captures images and prepares diagrams while documenting the scene. By creating detailed sketches/diagrams it assists in visualizing the fire's spread and origin.

Personal protective equipment (PPE). Essential for our FIU investigator(s) safety at the fire scene.

183

GPS and mapping software. Assists our FIU personnel with scene mapping and location tracking.

Laboratory equipment/collection containers. Essential equipment assists our FIU when evidence is collected including, identifying potential accelerants and other fire-related evidence materials.

Systems and procedures. Standardized procedures. Our FIU follows established procedures, including scene safety, preliminary examination, documentation, evidence collection, witness interviews, analysis, and reporting.

184

Documentation. Our FIU conducts thorough documentation of the fire scene, including photos, videos, sketches/diagrams, and detailed scene notes, all these items are crucial for accurate reconstruction and reporting.

Evidence collection and preservation. Our FIU ensures proper handling and preservation of evidence; this is vital to ensure its admissibility in legal proceedings.

Chain of custody. Our FIU maintains a documented chain of custody for our evidence; this is essential to prevent contamination and ensure its integrity.

185

The purpose of our systems and equipment used by the FIU. Ensuring operational readiness. The verification process assists us in confirming all necessary equipment is available and in good working order.

Ensuring tasks can be completed efficiently and effectively. Preventing delays and inefficiencies. Our FIU by verifying the availability and suitability of need equipment, all necessary evidence collection supplies, cameras and sufficient batteries and media, can ensure any potential issues have been considered, identified and addressed before they impact the investigation, this can include equipment failures, lack of tools to effectively conduct a task on the fire scene.

186

Using checklists and procedures. The FIU may consider using standardized checklists and procedures for verification of activities to ensure consistency and thoroughness was followed. 

Benefits-Improved efficiency, by following a checklist the FIU can ensure the proper equipment is available, tasks can be completed more efficiently and with fewer errors.

Reduced costs. For our FIU, preventing equipment failures and unnecessary delays can save time and resources.

Enhanced safety. For our FIU, regular safety is a necessity for all phases of the investigation. Regular testing of tools and equipment can assist in identifying any potential hazards, safety issues and reduce the risk of accidents and injuries.

187

Chapter 6 Health and safety.

188

Chapter 6, Health and Safety. **6.1 General.** The FIU shall have a health and safety program that meets the requirements of the authority having jurisdiction (AHJ). Credit: NFPA®

This ensures our FIU has safety protocols that conform with local, state, or national regulations.

NFPA® 1321 outlines the minimum requirements for our FIU.

Section 6.1. This section specifically addresses the importance of a health and safety program within our FIU.

189

AHJ. The authority having jurisdiction can include, fire marshal's, building inspectors, or other designated individuals responsible for enforcing fire safety regulations in a specific area.

FIU responsibilities. Our FIU shall ensure our health and safety program meets the AHJ's standards, demonstrating a commitment to our personal's safety.

This includes adhering to local, state, or national regulations.

Purpose. This requirement ensures our quality of work and ensures the safety of our personnel involved in our fire investigation unit.

190

Our FIU requires specific hazard communication requirements, including chemical evaluation, hazard identification, Material Safety Data Sheets, labeling, and hazard controls.

NFPA® 1321 emphasizes the importance of a well-defined health and safety program for our FIU that ensures we have met the requirements of the AHJ and operate in a safe manner.

191

What programs do you have in place, including safety, respiratory, PPE, Hazardous materials response etc.



192

Our FIU requires we conduct a site safety assessment before beginning our investigation so we can evaluate the environment and identify any potential hazards, including the time-based scene classification system. A comprehensive site safety risk assessment, particularly when incorporating a time-based scene classification system, involves identifying potential hazards, assessing their likelihood and severity, and implementing appropriate controls to minimize risks. This process shall be dynamic, considering the unique characteristics of each site and the potential for changes over time.

193

1. Hazard identification. On-site hazards. This includes physical hazards like equipment, materials, and work practices; environmental hazards like weather and natural disasters; and social hazards like unauthorized access or conflicts.

Time-based scene classification. Analyze how the site's layout, activities, and potential hazards might change over time including, day vs. night, peak vs. off peak hours, different weather conditions.

Use technology. Implement video analytics and AI-powered systems to automatically identify potential hazards and create alerts based on predefined rules and behavioral patterns.

194

A time-based scene classification system in fire investigation categorizes a fire scene based on the time elapsed since the fire was extinguished.

This method helps standardize safety procedures and guide the investigative approach, as a scene's condition and associated hazards change significantly over time.

Post-fire scenes are typically categorized into three or four main stages, defined by specific time intervals and atmospheric conditions. This system helps guide the safety protocols and evidence-gathering techniques for fire investigators.

195

Our FIU PPE can minimize the exposures of many hazards such as smoke, toxic gases, burned debris, small particles of combustion, and other potential harmful products depending on the type of scene we are investigating.

Our FIU shall provide training on how to properly conduct donning and doffing of our PPE, how to properly clean and care for the contaminated PPE.

Our FIU shall establish clear guidelines, standards, or requirements for the PPE use, decontamination and air monitoring which is crucial for protecting our investigators from avoidable exposures.

196

Best practices and resources. Our FIU shall provide the necessary resources and support to assist our investigators to protect themselves.

A Note* NFPA® 1033, The standard outlines requirements for fire investigators, including the need for a site safety assessment as well as 1321.

OSHA-Occupational Safety and Health Administration, provides regulations and guidance on safety and health in the workplace, including for fire investigators.

197

6.2.1* A health and safety program shall establish policies, procedures, and reporting specifications. Credit: NFPA® This ensures our FIU has a safe and organized operational environment for our investigators.

NFPA® 1321, the Standard for Fire Investigation Units, specifies that our FIU shall implement a health and safety program that covers various aspects, including, policies.

Policies. Our FIU policies define the overall principles and expectations for health and safety within our FIU, such as acceptable levels of risk, expected behavior at fire scenes, and guidelines for dealing with hazardous materials.

198

Our procedures. These are the detailed steps and methods for carrying out tasks safely, such as scene safety protocols, handling personal protective equipment (PPE), and injury reporting.

Our reporting specifications. This includes how injuries, near misses, and safety concerns are documented and reported by our FIU to ensure accountability and continuous improvement.

By establishing these policies, procedures, and reporting specifications, NFPA® 1321 assists our FIU to ensure our FIU prioritizes the safety and well-being of our personnel, while maintaining a safe and efficient operational environment.

199

Policies. These are broad statements of safety principles and expectations, outlining our organization's commitment to safety and its approach to risk management.

Procedures. Procedures provide step-by-step instructions for implementing policies and addressing specific safety concerns, such as equipment maintenance, hazard identification, or emergency procedures.

Reporting specifications. For our FIU, these outline how incidents, near misses, and safety concerns shall be reported, including the methods of reporting, the required information, and identification of command channels for follow-up.

200

Our FIU has a well-defined health and safety program ensures our FIU members understand their responsibilities, that hazards are promptly addressed, and that safety concerns are communicated effectively, ultimately contributing to a safer work environment.

Scene safety protocols. Our FIU has established and clear protocols for scene safety, including the establishment of hazard zones, communication of hazards to other personnel, and the use of appropriate personal protective equipment (PPE).

Protective equipment. Our FIU shall provide adequate PPE for our personnel, including respiratory protection, as post-fire scenes can contain various health hazards.

201

Training. Our FIU personnel shall receive comprehensive training on fire scene safety, hazard identification, and the proper use of PPE.

Local and state regulations. Our FIUs complies with all local, state, federal, and other jurisdictional regulations that apply to our FIU operations, including those related to health and safety.

Incident safety officer. Our FIU has a designated incident safety officer (ISO), or safety officer(SO), who provides a critical role in ensuring the safety of all personnel during fire scene investigations.

Our safety officer shall be proactive and conduct ongoing risk analysis, identifying and mitigating potential hazards for our FIU.

202

Health and safety committee. Our FIU benefits from having a health and safety committee to address safety concerns and provide recommendations.

Another recommendation, the AHJ shall document the training and have the members sign they have received the training and keep the documentation on file.

Documentation. All policies, procedures, and training shall be documented to ensure our personnel understand their responsibilities and the procedures for addressing hazards.

Regular review and updates. Our FIU health and safety program shall be regularly reviewed and updated to reflect any changes in regulations, research, or best practices.

203

6.2.3* The health and safety program shall include any local, state, provincial,(provinces) tribal, or federal health and safety regulations in place in the jurisdiction. Credit: NFPA®

This ensures our FIU's practices align with the legal requirements of the relevant jurisdictions.

NFPA® 1321 standard, provides the minimum requirements for our FIUs including, our established, structure, operation, and management.

204

6.2.4* A health and safety program shall describe and specify baseline personal protective equipment (PPE) needed to meet the policy requirements. Credit: NFPA®

Our FIU program shall ensure safety at fire scenes and in the workplace, including occupational exposures, disease, and trauma-related injuries.

Policy requirements. Our health and safety program shall include policies addressing mandatory aspects of personnel safety, including PPE, scene safety, and injury reporting.

205

Baseline PPE. Our FIU program shall specify the minimum PPE required for fire investigation work, ensuring it meets the needs of the unit's operations.

Hazard and risk assessment. A hazard site safety assessment shall identify hazards, assess risks, and outline how to control them, including the use of PPE.

Specialized PPE or equipment required for processing special scenes shall only be used by qualified personnel. Credit: Arkansas IAAI.

206

Training and drills. Our FIU personnel shall be thoroughly trained in the proper use, maintenance, and limitations of their PPE, as outlined in NFPA® 1550 Standard for Emergency Responder Health and Safety 2024 edition.

Vigilant monitoring. Our supervisors shall enforce PPE protocols and immediately correct any lapses. Credit: dcfemssafety.com.

207

6.2.5 The health and safety program shall be managed for compliance and include a means to address issues of noncompliance. Credit: NFPA® Our FIU program shall be designed and implemented to meet the requirements of the authority having jurisdiction (AHJ) and ensure the safety of our FIU personnel.

Compliance. Our FIU health and safety program shall be in alignment with local, state, federal, and other jurisdictional regulations applicable to our FIU operations.

Purpose. Our program is designed to protect our FIU personnel from occupational exposures, diseases, and injuries.

208

Key elements. Our FIU has policies and procedures addressing scene safety, personal protective equipment (PPE), and injury reporting.

Management. The program shall be managed to ensure that all aspects of personnel safety are addressed, and our FIU is operating in compliance with all documented safety regulations.

NFPA® 1321, the Standard for Fire Investigation Units, provides guidance on the establishment, structure, operation, and management of FIUs, including their health and safety programs.

AHJ. The Authority Having Jurisdiction (AHJ) is the organization that has the legal authority to enforce the relevant codes and regulations, and FIUs shall comply with their requirements.

209

6.2.6. The health and safety program shall contribute to the budget process of the parent agency to ensure funding for health and safety requirements. Credit: NFPA®

Monetary dependent?

My opinion only. In the real world, the public sector can request needed items in their budget proposals or ask for specific funding, however the funding requested may not be fully allocated due to budget constraints.

Let me assure you in a union agency, the union will likely want to have input from the rank and file as well.

6.2.7 The health and safety program shall include a regular periodic review of policies and procedures on no less than an annual basis. Credit: NFPA®

This review ensures our FIU program remains effective and up-to-date, addressing any changes or improvements needed in safety protocols.

NFPA® 1321, addresses this section and specifically addresses the requirements for our fire investigation unit's health and safety program.

Other sections may also provide additional details on training, resources, and other aspects of our FIU unit.

211

Regular, periodic review. The 1321 standard emphasizes the need for ongoing review of our policies and procedures, not just a one-time check.

This review shall occur at least annually, but more frequently may be necessary depending on the specific needs of the unit.

Purpose of the review. This review assists our FIU to ensure our FIU program remains relevant, addresses any changes in regulations or technology, and incorporates lessons learned from past investigations or incidents.

212

Retrospective reviews. NFPA® 1321 also requires our FIU to develop a policy for retrospective reviews of reports.

This involves our FIU to regularly examining reports to ensure that documentation and reporting practices are consistent with established policies, and to identify any areas that require improvement.

NFPA® 1550. While NFPA® 1321 focuses on fire investigation, NFPA® 1550 2024 edition, Standard For Emergency Responder and Health Safety focuses on health and safety.

213

A comprehensive FIU health and safety program shall include.

Regular inspections. The inspections shall be conducted to identify potential hazards in the workplace and ensure compliance with current safety standards.

Hazard identification and assessment. This process involves evaluating the potential risks associated with various tasks and activities performed by fire our FIU investigators.

Corrective actions. Any identified hazards shall be addressed with appropriate corrective actions to minimize any future risks.

214

Training and education. Our FIU personnel shall receive regular training on safety protocols, including the use of personal protective equipment (PPE) and emergency procedures.

Monitoring and evaluation. Our FIU program shall be regularly reviewed and evaluated to ensure its effectiveness and to make necessary improvements.

Key resources for fire investigator health and safety.

NFPA® 1321, This standard covers the minimum requirements for the establishment, structure, operation, and management of our FIU, including our health and safety program.

NFPA® 1033 standard outlines the professional qualifications for fire investigators, including their knowledge of safety procedures and best practices.

215

NFPA® 921, chapter 13, provides guidance on the for safety at fire scenes, scientific-based investigation of fire and explosion incidents and includes fire investigator safety, health, and wellness.

NFPA® 1550, the Standard for Emergency Responder Health and Safety, provides guidance for developing Standard Operating Procedures (SOPs) and operating guidelines for emergency services.

By regularly reviewing and updating our FIU policies and procedures, our FIU can ensure we are providing a safe and healthy work environment for our FIU personnel.

216

6.2.8-The health and safety program shall have a process for the investigating and reporting of any workplace incidents, injuries, or illnesses sustained by FIU members. Credit: NFPA®

This ensures that any workplace accidents or health issues, including occupational exposure, disease, or trauma-related injuries, are promptly reported and investigated.

Incident investigation. Our FIU has outlined procedures for investigating incidents, including how to gather information, analyze the situation, and identify potential causes.

Reporting. Our FIUs has implemented a system for reporting incidents, injuries, and illnesses, ensuring that relevant personnel are notified, and documentation is maintained.

217

6.2.9. The information gathered and lessons learned from the health and safety program shall be considered and addressed in policy review and change. Credit: NFPA®

This ensures that our FIU safety program is continuously evolving and improving, and our policies remain relevant and effective.

Data gathering. NFPA® 1321 emphasizes the importance of collecting data from the health and safety program. Our FIU data includes incident reports, near-miss reports, training records, and other relevant information.

Policy review. The collected information shall be used to review our existing policies and procedures.

This review shall identify areas where our policies need to be updated, clarified, or strengthened.

218

Policy changes. Based on our FIU policy review, changes shall be made to address any gaps or weaknesses in the safety program if any are discovered.

This may involve updating policies, procedures, and training programs.

Continuous improvement. The process of collecting data, reviewing policies, and making changes is an ongoing process that aims to continuously improve the safety program and ensure its effectiveness.

NFPA® 1321 6.2.9 emphasizes the importance of learning from experience and using that knowledge to make improvements to our organization's safety program.

219

6.2.10* A health and safety program shall have policies addressing the following. (1)* Baseline medical screening, including the use of specialized equipment. Credit: NFPA®

This ensures our FIU is providing a safe working environment for our personnel.

Baseline medical screening. This shall involve initial medical evaluations to assess the health status of individuals joining our FIU.

Specialized equipment. The use of specialized medical equipment may be necessary for certain screenings and procedures.

220

Purpose. Our policies are designed to identify any pre-existing health conditions that could be exacerbated by the physical demands of fire investigation work or to ensure that personnel are fit to perform their duties.

Incorporate legal standards. Our policies shall be compliant with relevant legal standards, such as HIPAA, which regulates the handling of employee records.

Importance. This ensures that our FIU is prioritizing the safety and health of our personnel and are taking appropriate steps to prevent potential hazards.

221

Health and safety program. Our FIU health and safety program shall address the use of PPE, respiratory protection, and other necessary equipment to mitigate potential hazards in the fire scene.

Periodic examinations. Our FIU shall have regular medical evaluations, including periodic examinations.

They are important for monitoring the health of our investigators and can address any changes in an investigator's health status.

NFPA® standards: Standards like NFPA® 1321 and NFPA® 1580, 2025 edition. Standard for Emergency Responder Occupational Health and Wellness.

222

NFPA® 1580 Standard for Emergency responder Occupational Health and Wellness 2025 edition.
NOTE THE ISSUE HERE, NFPA® 1582 has combined with NFPA® 1580 2025 edition. Imagine the attorney's arguing the new combined standard arguing fire investigator shall be held to the same standard as firefighters, the court will have to rule on the motion.
Occupational medical evaluations shall be conducted at baseline and annually thereafter.

223

13.1.1* The occupational medical evaluation shall be an individualized assessment of the individual's ability to safely and effectively perform the essential job tasks in accordance with Section 13.3.

13.3 Essential Job Tasks of a Firefighter.

13.3.1 The fire department physician shall use the list of essential job tasks in 10.1.1 in evaluating the ability of an individual to safely and effectively perform each essential job task.

224

10.1.1 The fire department shall evaluate the following 15 essential job tasks against the types and levels of emergency services provided to the local community by the fire department, the types of structures and occupancies in the community, and the configuration of the fire department to determine which tasks, apply to individuals.

225

- (1) Wearing personal protective equipment (PPE) and self-contained breathing apparatus (SCBA) while performing firefighting tasks (e.g., hose line operations, extensive crawling, lifting and carrying heavy objects, ventilating roofs or walls using power or hand tools, forcible entry), rescue operations, and other emergency response actions under stressful conditions, including working in extremely hot or cold environments for prolonged time periods.
- (2) Wearing the respirators required by the jurisdiction (e.g., N-95, half-face elastomeric, SCBA, which includes a demand-valve-type positive-pressure facepiece or filter respirator, achieving a successful fit-test and tolerating increased respiratory workloads.

226

- (3) Exposure to toxic fumes, irritants, particulates, biological (i.e., infectious) and nonbiological hazards, or heated gases, despite the use of PPE and SCBA.
- (4) Climbing at least six flights of stairs or walking a similarly strenuous distance and incline in jurisdictions without tall buildings while wearing PPE and SCBA, commonly weighing 40–50 lb. (18–23 kg) and carrying equipment/tools weighing an additional 20–40 lb. (9–18 kg).
- (5) Wearing PPE and SCBA that is encapsulating and insulated, which will result in significant fluid loss that frequently progresses to clinical dehydration and can elevate core temperature to levels exceeding 102.2°F (39°C).

227

- (6) Working alone while wearing PPE and respirators required by the jurisdiction, searching, finding, and rescue-dragging or carrying victims to safety in hazardous conditions and low visibility.
- (7) While wearing PPE and SCBA, advancing water-filled hose lines up to 1 3/4 in. (45 mm) in diameter from fire apparatus to occupancy [approximately 150 ft (50 m)], which can involve negotiating multiple flights of stairs, ladders, and other obstacles.
- (8) While wearing PPE and SCBA, climbing ladders, operating from heights, walking or crawling in the dark along narrow and uneven surfaces that might be wet or icy, and operating in proximity to electrical power lines or other hazards.

228

- (9) Unpredictable, prolonged periods of extreme physical exertion as required by emergency operations without benefit of a warm-up period, scheduled rest periods, meals, access to medication(s), or hydration.
- (10) Operating fire apparatus or other vehicles in an emergency mode with emergency lights and sirens.
- (11) Critical, time-sensitive, complex problem solving during physical exertion in stressful, hazardous environments, including hot, dark, tightly enclosed spaces, that is further aggravated by fatigue, flashing lights, sirens, and other distractions.

229

- (12) Ability to communicate (i.e., give and comprehend written or verbal orders) while wearing PPE and respirators required by the jurisdiction under conditions of high background noise, poor visibility, and drenching from hose lines or fixed protection systems (e.g., sprinklers).
- (13) Functioning as an integral component of a team, where sudden incapacitation of a member can result in mission failure or in risk of injury or death to members of the public or other team members.
- (14) Working in shifts, including during nighttime, that can extend beyond 12 hours.
- (15) Performing emergency medical service (EMS) tasks, such as cardiopulmonary resuscitation (CPR) or lifting or moving patients, while wearing PPE and respirators required by the jurisdiction.

230

13.1.2* The occupational medical evaluation shall include a medical history, examination, and any medical tests required to assess medical conditions that can affect an individual's ability to safely and effectively perform the essential job tasks.

13.1.3 The occupational medical evaluation shall include an assessment of and motivation for wellness and fitness necessary to safely and effectively perform the essential job tasks.

231

6.3 Personal Protective Equipment (PPE). Credit: NFPA®
Personal protective equipment (PPE), and workplace safety, including protection from occupational exposures, diseases, and injuries.

NFPA® 1321 standard offers guidance to improve the quality of our FIU work products and operations by specifying policies for organizations, including management systems, resources, health and safety, and documentation.

232

Here's a more detailed look at the key aspects of NFPA® 1321 regarding PPE.

Mandatory safety program. Our FIU is required to have a comprehensive safety program that addresses fire scene safety, including the proper use of our PPE.

PPE requirements. The standard specifies our FIU shall provide and require the use of appropriate PPE for all personnel involved in fire investigations.

PPE training. Our FIU shall provide training on the proper use, care, and maintenance of PPE, ensuring that all FIU personnel are proficient in their use of their PPE.

233

Risk assessment. Our FIU shall conduct thorough life safety risk assessments to identify potential hazards and ensure that the appropriate PPE is selected for each situation.

PPE storage and maintenance. Our FIU shall have a designated area for storing PPE and establish procedures for our proper maintenance and inspection.

PPE compliance. Our FIU shall ensure that all personnel comply with PPE requirements, including the use of appropriate PPE for all fire scene activities.

234

Specific PPE. While NFPA® 1321 doesn't specify the exact type of PPE, it requires, the PPE used by our FIU investigators shall be suitable for the hazards they encounter.

This often includes specialized PPE including, protective clothing, helmets, eye protection, and respiratory protection devices.

Integration with other standards. NFPA® 1321 often references other NFPA® standards, such as NFPA® 1851 (Standard on Selection, Care, and Maintenance of Structural and Proximity Firefighting PPE), to ensure that PPE used by our FIUs meets industry standards.

235

6.3.1 Members of an FIU shall be provided with PPE applicable to their prescribed duties. Credit: NFPA®

Our FIU personnel shall have access to the necessary protective PPE to safely perform their tasks at fire and explosion scenes.

NFPA® 1321. outlines the minimum requirements for FIU operations.

PPE. This refers to the equipment used to protect our investigators from hazards, such as fire, smoke, toxic materials, and injuries.

Fire Investigation Unit (FIU). These are specialized teams responsible for investigating the origin and cause of fires and explosions.

236

6.3.2 Members of an FIU shall be trained in the use, care, and decontamination of PPE. Credit: NFPA®

This training is crucial for ensuring the safety and effectiveness of our FIU personnel while investigating fire scenes.

NFPA® 1321 emphasizes the importance of proper PPE use and decontamination to protect against potential exposures at fire scenes.

Use. Training ensures our FIU members understand how to properly select and use PPE for different fire investigation scenarios, including the specific types of PPE required and when to use them.

237

Safety. Proper training on PPE use ensures our FIU investigators can protect themselves from hazards encountered at fire scenes, such as hazardous materials, smoke, structural instability, and biological contaminants.

Equipment effectiveness. Training on care and decontamination of our PPE assists in maintaining our equipment's functionality and extends its lifespan.

Compliance. Adhering to NFPA® 1321 requirements for PPE training assists our FIU to comply with industry standards and best practices.

238

6.3.3 All PPE shall meet or exceed the requirements set forth in the applicable regulations or standards published by public and private agencies and the applicable NFPA standards. Credit: NFPA

This identifies our PPE used by our FIU investigators shall comply with all relevant standards from various sources to ensure the safety of personnel during their investigations.

PPE. Refers to our protective PPE worn by our personnel, including but not limited to footwear, eye protection, head protection, respiratory protection, and protective outerwear.

239

Applicable regulations or standards published by public and private agencies.

This encompasses regulations and standards developed by various organizations, both governmental and non-governmental, that set safety and performance requirements for PPE.

For example, the National Institute for Occupational Safety and Health (NIOSH) is a public agency involved in setting standards for PPE.

240

Applicable NFPA standards. The National Fire Protection Association publishes a wide range of standards related for fire safety, including those for PPE. NFPA® 1321 emphasizes that PPE shall meet these specific NFPA® standards.

Meet or exceed the requirements. This means our PPE shall be at least as protective as the standards dictate and can even offer a higher level of protection.

241

These requirements are primarily found in OSHA regulations specifically Subpart I of 29 CFR 1910 and in NFPA standards.

They outline general requirements for providing, maintaining, and ensuring the safe use of PPE to protect employees from workplace hazards.

242

OSHA (Occupational Safety and Health Administration).

OSHA regulations, particularly those found in Subpart I (29 CFR 1910.132 et seq.), dictate the requirements for PPE in general industry, including for fire investigators.

These standards cover various aspects of PPE, such as selection, use, and maintenance.

243

NFPA® develops and publishes various standards related to fire safety and fire investigation, including NFPA® 1321, 2025 edition. (Standard for Emergency Responder Health and Safety 2024 edition). NFPA® 1585 Standard for Exposure and Contamination Control, 2025 edition.

These standards provide guidance on the specific PPE needed for different fire investigation tasks and hazards.

244

NFPA® 1321, emphasizes safety and the importance of using proper PPE. Section 6.3.3 specifically addresses the requirements for PPE, ensuring it meets or exceeds industry standards. Scope. This section applies to all PPE used by members of our FIU, regardless of their specific duties. It also applies to specialized PPE used in special scene processing, ensuring that only qualified personnel use it.

245

Compliance. NFPA® 1321 standard requires PPE to be selected, purchased, issued, and maintained. This ensures our PPE used by our FIU is issued and meets the necessary safety requirements.

Risk assessment. A risk assessment shall be conducted before purchasing new PPE, considering the hazards encountered by firefighters or investigators.

This ensures our PPE selected is appropriate for the specific hazards we encounter.

246

Other helpful resource documents.

NFPA® standards, such as NFPA® 1970-2025 edition, Standard on Protective Ensembles for Structural and Proximity Firefighting, Work Apparel, Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and Personal Alert Safety Systems (PASS)

NFPA® 1970. is the newly consolidated standard that combines NFPA® 1971, NFPA® 1975, NFPA® 1981, and NFPA® 1982, covering a broader range of emergency response and responder safety needs.

247

These standards ensure that our PPE provides adequate protection from thermal, environmental, physical, and bloodborne pathogen hazards.

They also address the need for protection from particulate and gas exposure.

NFPA® 1850-2025 edition Standard on Protective Ensembles for Structural and Proximity Firefighting and Self-Contained Breathing Apparatus (SCBA).

248

NFPA® 1850 outlines the proper selection, care, and maintenance procedures for structural and proximity firefighting PPE.

This standard emphasizes routine inspections after each use, cleaning and decontamination, storage, and repair procedures.

Adhering to NFPA® 1850 assists our FIU in maintaining the protective effectiveness of our PPE and minimizes the risk of health and safety issues associated with improper maintenance or contamination.

Just a note* NFPA® 1850 and NFPA® 1851, and NFPA® 1852 are consolidating to the NFPA® 1850-2025 edition.

249

NFPA® 70-E Standard for Electrical Safety in the Workplace 2024 edition.

NFPA® 1955-2025 edition. Standard on Personal Protective Equipment (PPE) for Surface Water Operations and Contaminated Water Operations.

250

6.3.4* The FIU shall train their personnel in site safety assessment of a fire scene prior to the determination of applicable PPE and other health and safety issues.
Credit: NFPA®

This ensures that our personnel are equipped to handle various hazards and risks present at a fire scene, including environmental conditions, structural integrity, and other factors.

NFPA® 1321 mandates our fire investigation unit (FIUs) shall train our personnel on site safety assessments before determining appropriate personal protective equipment (PPE) and addressing other health and safety issues at a fire scene.

251

6.3.5* An FIU shall have a policy for conducting a site safety assessment to evaluate environmental conditions, weather, structural integrity, and other factors prior to determining what PPE and safety control measures to use at any scene.
Credit: NFPA®

This assessment evaluates environmental conditions, weather, structural integrity, and other factors to determine the appropriate personal protective equipment (PPE) and safety controls needed.

This ensures the safety of our FIU investigators and other personnel present while conducting our investigations.

252

6.3.6* Minimum PPE based on the identified hazards shall include the following. Credit: NFPA®

- (1) Protective outerwear, structural fire suppression outerwear, or other protective garments.
- (2) Foot protection.
- (3) Eye protection.
- (4) Head protection.
- (5) Hearing protection.
- (6) Respiratory protection.
- (7) Hand protection.
- (8) Disposable gloves for evidence removal and recovery.

253

6.3.7 Employers shall have a policy or procedure for the method of disposal or transport of used PPE in a manner that will not contaminate vehicles, tools, or clothing worn by fire investigation unit members after the scene is cleared and decontamination has occurred. Credit: NFPA®

NFPA® 1321, specifically section 6.3.7, mandates that our FIU to implement procedures for the safe disposal or transportation of used PPE after fire investigations.

This is critical because PPE can become contaminated with hazardous materials, and improper handling can contaminate vehicles, tools, and the clothing of fire investigation unit members.

254

Key aspects of this requirement include. Policies or procedures establishing a documented policy and procedure for handling contaminated PPE.

Contamination prevention. The policy shall ensure that contaminated PPE is handled in a manner that prevents cross-contamination.

Disposal or transport. Our policy outlines how contaminated PPE is either disposed of properly or transported to a designated area for decontamination.

Safety. The primary goal of our FIU is to protect the health and safety of our FIU members by preventing exposure to hazardous materials, or conditions.

255

Additional points to consider.

Documentation. Maintain records of all PPE decontamination and disposal procedures.

Manufacturer's guidelines. Our FIU follows the manufacturer's recommendations for cleaning, maintenance, and disposal of PPE.

Evidence handling. If evidence is collected during the investigation, our FIU ensures it is handled properly while applying all proper procedures to prevent cross-contamination and maintain the evidence integrity.

256

Employee training. Our FIU Provides adequate training to fire investigation unit members on how to properly handle contaminated PPE and evidence.

Decontamination. Decontamination processes shall be effective in removing or neutralizing most contaminants.

Specialized equipment. Consider using specialized storage bags for transporting contaminated PPE.

257

DOT regulations. Our FIU members have been properly trained on the proper DOT regulations regarding the transportation of hazardous materials, which may apply to contaminated PPE.

Cross-Contamination Control Program (CCCP). Our FIU has Implement a CCCP program to prevent the spread of contamination within our organization.

258

OSHA and safety standards. OSHA regulations and safety standards require employers and our FIU to ensure PPE is properly maintained and that used PPE is handled safely to prevent cross-contamination.

Decontamination procedures. Our FIU specific procedures include we have dedicated areas for removing PPE, cleaning contaminated items, and storing cleaned PPE before it can be used again.

PPE disposal. Depending on the level of contamination and the specific type of PPE used, our FIU may deem it necessary to properly dispose of used PPE to prevent the spread of harmful substances.

259

Training. Our Fire investigation trains our personnel on proper PPE handling, including decontamination and disposal procedures.

Specific PPE. Our FIU policies cover a variety of PPE items, including, SCBA's, turnout gear, and other specialized protective equipment.

Our FIU's goal is to prevent contamination. Used or contaminated PPE can carry hazardous substances from fire scenes, such as smoke, soot, and chemical residues.

If our FIU does not properly handle these contaminants properly, they can spread to vehicles, tools, and even clothing, posing health risks.

260

Protecting our personnel. Contaminated PPE can lead to exposure to harmful substances, causing skin irritation, respiratory problems, and other health issues.

Our FIU priority is to protect our investigators from contamination through our thorough policies and procedures.

Maintaining the integrity of the investigation.

Contamination can compromise the evidence found at a fire scene, making it difficult to determine the origin and cause of the fire.

261

Decontamination procedures. Our FIU policy outlines how PPE will be decontaminated to remove any hazardous substances.

This shall involve washing with specific detergents, using specialized decontamination methods, or discarding PPE that cannot be effectively decontaminated.

Transport procedures. Our FIU policy states that contaminated PPE shall be transported from the fire scene to a designated decontamination area.

Our policy states, we shall use separate containers or bags for contaminated PPE to prevent cross-contamination.

The bags or containers shall not be transported in the passenger compartment of our units.

262

Disposal procedures. Our FIU policy addresses how contaminated PPE that cannot be decontaminated will be disposed of properly, such as through hazardous waste disposal or incineration.

Training. Our FIU policy requires our FIU personnel to be trained on proper decontamination, transport, and disposal procedures.

Equipment. Our FIU policy ensures the FIU has the necessary equipment and supplies for decontamination, such as cleaning solutions, decontamination stations, and appropriate personal protective equipment.

263

Our FIU policy states the following.

1. After use, all PPE shall be inspected for contamination.
2. Contaminated PPE shall be placed in a designated containers or bags.
3. PPE shall be decontaminated according to our specified policies.
4. If contamination cannot be removed, our PPE shall be discarded in a designated hazardous waste container.
5. Personnel involved in decontamination shall wear appropriate PPE.
6. Regular training on decontamination procedures shall be provided to our FIU investigators.

264

Our FIU's mission, is to provide a comprehensive policies and procedures in place to protect our FIU members.

Our FIU is trained to effectively manage the use, transportation, and disposal, if necessary, of any contaminated PPE.

Our FIU policy minimizes the risk of contamination to our members while protecting the health and safety of our personnel and the public we serve.

265

This section emphasizes the importance of protecting our personnel from hazards encountered during fire investigation work, whether it be at fire scenes, in evidence processing areas, or in the general office or laboratory setting.

It highlights the need to address various potential hazards and the importance of implementing measures to mitigate risks related to the following.

Occupational exposure. This involves exposures to various contaminants, residues, or hazardous materials present at fire scenes or in collected evidence.

267

Site safety assessment. Before commencing our work at any scene or in a laboratory/workplace area, a safety assessments shall be conducted to identify potential hazards and determine appropriate safety precautions.

Personal protective equipment (PPE). Our FIU shall ensure our personnel have access to and are trained in the proper use, care, and decontamination of appropriate PPE, such as turnout gear, helmets, gloves, and respiratory protection, depending on the specific hazards present.

Consideration for Level A protection if required, Level B with highest level of respiratory protection if required.

269

6.4 Safety in the Laboratory or Workplace Area Occupational Exposure, Disease, and Other Trauma-Related Injuries. Credit: NFPA®

Here's a more detailed look at what NFPA® 1321 6.4 entails.

This section is a crucial part of the standard's focus on health and safety protocols that our FIU shall follow.

6.4 of NFPA® 1321 requires our FIUs to have a safety program that addresses our workplace safety, including occupational exposure, disease, and trauma-related injuries.

Our program encompasses policies and procedures to ensure the well-being of our personnel, particularly those working in laboratory or workplace areas involved in fire investigations.

266

Disease. Our FIU shall implement measures to prevent the spread of infectious diseases or other health risks that could arise from contact with materials or individuals involved in our investigations.

Developing and implementing a comprehensive safety program. Our program shall outline policies and procedures for hazard identification, risk assessment, control measures, personal protective equipment (PPE), and injury reporting.

268

OSHA Standards. Our FIU has access to the Occupational Exposure to Hazardous Chemicals in Laboratories standard (29 CFR 1910.1450) this ensures our technicians are informed about chemical hazards and protected from exceeding permissible exposure limits.

Safety data sheets. SDS provide crucial information about the hazards of chemicals. Our FIU has access to the pertinent safety data sheets for products in our agency, and labs when applicable for common products produced by fire and the fire effects.

270

6.4.1 A methodology to track occupational exposure, disease, and trauma-related injuries shall be developed, implemented, maintained, and audited on a 6-month basis.
Credit: NFPA®

This is part of the standard's focus on fire investigation unit safety and quality assurance.

Tracking system. Our FIU implemented a method to track incidents related to occupational exposures, diseases, and trauma-related injuries experienced by our personnel.

Implementation and maintenance. Our tracking system shall be implemented and be maintained to ensure its effectiveness.

271

Development of a methodology. The standard mandates the creation of a systematic process or methodology to track health and safety-related incidents experienced by our personnel.

Tracking categories. The methodology shall specifically focus on occupational exposure.

Tracking exposure to hazardous substances or conditions encountered during fire investigation work, such as chemicals, smoke, and other carcinogens.

272

Disease. Tracking the incidence of work-related diseases or illnesses within our FIU personnel.

Trauma-related injuries. Tracking physical and psychological injuries sustained during investigations.

Implementation and maintenance. The developed methodology shall be put into practice and kept up-to-date.

Regular audits. The methodology shall be audited on a 6-month basis to ensure its effectiveness and compliance with the standard.

273

6.4.2 The employer shall have a policy for ensuring that all employees at the time of initial assignment to the FIU or private company comply the requirements of the AHJ.

Credit: NFPA®

Our compliance policy shall be in place at the time of the initial assignment of our FIU members.

Policy. Our FIU has developed a written policy that outlines the procedures for ensuring compliance with AHJ requirements.

Training and education. Our policy shall address how new investigators entering our FIU shall be trained on the relevant fire investigations policies and best practices.

274

6.4.3* The FIU shall have a policy for the completion of a site safety assessment prior to starting scene examination.
Credit: NFPA®

Our policy shall ensure a systematic process for identifying hazards, assessing risks, and implementing control measures to effectively manage potential hazards at every fire/explosion scene.

Site safety assessment. Our assessment is a crucial step to identify potential hazards, evaluate any risks associated with those hazards, and develop strategies to mitigate those risks, including proper documentation of how the hazard(s) was/were mitigated.

275

Prior to a scene examination. The safety assessment shall be conducted before investigators begin their examination of the fire scene.

Policy requirement. Our FIU is required to implement a documented policy outlining the procedures for conducting the safety assessment.

Purpose of safety assessment. To ensure the safety of investigators and other personnel by identifying and mitigating potential hazards like structural instability, hazardous materials, or other identified risks.

Importance. This requirement is essential for protecting the health and safety of our FIU investigators and other personnel involved in the fire investigation process.

276



277

6.4.4* A site safety assessment shall include the following components. Credit: NFPA®

Hazard identification. This involves identifying potential hazards at investigation sites, including sources of ignition, first fuels ignited, and other factors that could contribute to the fire.

Risk assessment. Our step evaluates the likelihood and severity of potential risks associated with each identified hazard.

Controlling the hazard. This section outlines different methods to mitigate or eliminate identified hazards, such as, elimination or removing the hazard entirely.

278

Substitution. Replacing the hazard with a less dangerous alternative.

Engineering controls. Implementing physical changes to the site to reduce the hazard.

Administrative controls. Using procedures, training, and rules to manage the hazard.

Personal protective equipment (PPE). Providing appropriate protective PPE for our investigators.

Monitoring and review (Audit). This step ensures that our site safety assessment is regularly reviewed and updated to reflect any changes that need to be updated.

279

6.4.5 The employer (FIU) shall develop, implement, maintain, and manage a cross-contamination control program (CCCP) to prevent cross contamination of personnel involved in the investigation of fires and similar events. Credit: NFPA®

Purpose. To prevent the unintentional transfer of hazardous materials or contaminants from a fire scene to individuals, vehicles, and other areas, which could compromise health and safety or affect our FIU's evidence integrity.

Policies and procedures. Our FIU shall develop and implement detailed policies and procedures with respect to CCCP. Our FIU policies have been written, approved and implemented.

280

Personal protective equipment (PPE). Proper use, care, and decontamination of our PPE is an essential component of our CCCP.

Safety program integration. Our CCCP shall be an integrated part of our overall FIU safety program.

Review. NFPA® 1321 6.4.5 mandates our Fire Investigation Unit creates and maintains a Cross-Contamination Control Program to safeguard our personnel and evidence from any potential or harmful substances encountered during our investigations.

281

Equipment handling and cleaning.

Contamination control protocols at the scene.

Safe storage and transportation of evidence.

Personnel training and awareness.

282

Our FIU cross-contamination control program (CCCP) for our fire investigation unit is designed to prevent the spread of contaminants during the investigation process, ensuring the integrity of evidence and protecting our personnel.

Our program includes policies and procedures for handling, transporting, and storing evidence, and for protecting workspaces and personnel from contamination.

This program is important for our investigators safety and designed for maintaining accurate and reliable investigation information.

283

Benefits of our FIU CCCP.

Evidence Integrity. Our FIU ensures that collected evidence is not contaminated. Our FIU maintains its integrity and reliability for court.

Safety. The goal for our FIU is to protect our FIU investigators from exposure to hazardous materials and substances.

Accurate Investigations. Our FIU's stringent policies and procedures ensures accuracy, proper collection methods, prevention of contamination, and supporting documentation that our policies and procedures are accurately applied during every FIU investigation.

284

Our Legal compliance.

By meeting the legal requirements for evidence handling, and preservation it demonstrates our policies and procedures were followed to ensure all stakeholders, the courts and our administration, our FIU has followed all relevant policies while ensuring no cross-contamination has occurred.

285

6.5 Vehicle use. The FIU shall establish a vehicle use policy that covers operation, maintenance, damage, decontamination, and necessary equipment.

Credit: NFPA®

Our policy shall address how our vehicles maintained, and decontaminated to ensure they remain safe, disinfected and effective for our investigations.

Vehicle operation. Our policy shall outline proper driving techniques, safety protocols for responding to calls, and procedures for operating specialized vehicles or equipment.

286

Vehicle maintenance. This includes routine maintenance, inspections, and necessary repairs to ensure our FIU vehicles are in optimal working condition.

Damage. Our policy specifies mandates by our FIU policies, that members shall report and address any vehicle damage, whether from accidents or routine wear and tear.

Decontamination. During a fire investigation, our FIU vehicles may be exposed to dirt, grime, smoke, products of combustion, hazardous materials or debris.

Our policy shall outline procedures for decontaminating our vehicles, and PPE, while protecting our FIU personnel and the environment.

287

Necessary equipment. This includes any specialized equipment required for fire investigations, such as tools, cameras, or other investigative equipment that may be carried in the vehicles.

By implementing a comprehensive vehicle use policy, our FIU shall ensure the safety and efficiency of our operations, as well as complying with NFPA® 1321 requirements.

Operation. Our policy shall include guidelines for safe and efficient vehicle operation, including driving procedures, traffic laws, and use of emergency equipment.

Maintenance. Procedures for routine maintenance, such as oil changes, tire rotations, and inspections, shall be outlined to keep vehicles in optimal condition.

288

Operation. Our policy shall include guidelines for safe and efficient vehicle operation, including driving procedures, traffic laws, and use of emergency equipment.

Decontamination. Our FIU protocols for cleaning and disinfecting FIU vehicles after exposure to hazards such as fire, toxic substances, or biohazards has been established.

Necessary equipment. Our policy shall list the essential equipment that shall be available in our FIU vehicles, such as first-aid kits, tools for vehicle recovery, and communication devices.

289

6.6 Special Scenes **6.6.1** Scenes shall be considered special scenes when they require the use of PPE, equipment, investigative techniques, or other methods beyond the capabilities of the responding agency.

Credit: NFPA®

A fire scene is considered "special" when it demands the use of personal protective equipment (PPE), specialized equipment, advanced investigative techniques, or other methods that exceed the typical capabilities of first responding units.

Essentially, when our FIU investigators recognizing when a scene requires resources and expertise beyond the standard fire investigation unit's normal capabilities.

290

Specialized PPE. This can include specialized PPE like hazmat suits, respiratory protection, or other equipment needed for specific hazards at the scene.

Specialized equipment. This may involve advanced imaging equipment, specialized testing equipment, or other tools needed for our investigations.

In the event our FIU does not have access to these items, they shall call for mutual aid.

291

Special scenes require specialized methods including forensic analysis, trace evidence collection, or reconstruction techniques that may require the expertise beyond a typical fire investigator's skillset.

Other methods. This can include seeking outside assistance from other agencies or specialists including a hazardous materials team or a forensic scientist.

292

NFPA® 1321 emphasizes that only qualified personnel shall handle these special scenes, and that the use of specialized PPE and equipment shall be limited to those who have been properly trained and are qualified to use this type of equipment.

NFPA® 1321 was designed to set the benchmark for fire scene safety, documentation, and evidence handling, and provides guidelines on how to protect our investigators well-being.

For example, a scene of a suspected incendiary fire might be considered a special scene if it requires specialized analysis of accelerant residues or if there's a high risk of exposure to toxic materials.

293

They are designated as special because they present unique hazards that necessitate the use of specific protective measures to ensure the safety of individuals and protect the scene from contamination.

Our FIU has specialized trained personnel, if the scene exceeds our training or protective equipment, we shall contact appropriate personnel for the specific expertise required by an appropriate agency or specialized unit that possess the necessary expertise.

294

6.6.2 Specialized PPE or equipment required for the processing of special scenes shall only be used by qualified personnel.

This ensures our personnel or the outside agency is using advanced tools or techniques and are properly trained and capable of handling the specific hazards and procedures involved for the current FIU response.

Specialized scenes. These are scenes that require more than standard investigative procedures, such as those involving specific types of materials, equipment, or hazards.

295

Qualified personnel. The requirement that only qualified personnel use specialized PPE and equipment emphasizes our FIU requirements for proper training and experience in handling these specific situations.

This may involve specialized training in hazardous materials handling, forensic techniques, or other relevant areas.

Safety. This rule is crucial for ensuring the safety of our FIU investigators while preventing accidents or errors that could compromise our investigations.

296

NFPA® 1321, Standard for Fire Investigation Units, emphasizes the importance of qualified personnel using specialized equipment and techniques.

Other relevant standards. NFPA® 1033, outlines the job performance requirements for our FIU investigators.

Examples of specialized PPE include advanced respirators, chemical protective suits, and specialized tools for collecting evidence and analyzing debris.

297

Ensuring safety. Proper FIU training ensures that our investigators can handle specialized equipment and techniques while safely, minimizing risk to themselves and others.

Maintaining integrity of investigations. Our qualified investigators ensure our investigations are conducted in a reliable and consistent manner, preserving the integrity of evidence and our findings.

298



299

Chapter 7 Education, Training, and Certification
7.1 Education and training. Credit: NFPA®

NFPA® 1321, emphasizes our FIU personnel shall receive training in the field of fire and explosion investigation, and our FIU management shall require personnel to maintain their certifications or professional designations through continuing education.

The standard's intent is to improve the quality of work by ensuring our personnel are qualified and up-to-date on the latest techniques and protocols.

300

Basic education and training. Our FIU personnel shall meet basic education and training requirements in fire and explosion investigation.

Continuing education. Our FIU management requires our personnel to maintain their qualifications through continuing education, as determined by our FIU and AHJ.

Documentation. Our FIU shall maintain comprehensive records of training and education, including CVs, qualifications, and training history for each investigator.

301

Proficiency testing. Our FIU shall implement proficiency testing to ensure our FIU investigators maintain their skills and knowledge.

NFPA® 1033. The standard for professional qualifications for fire investigator, outlines the job performance requirements (JPR's) for our FIU investigators.

NFPA® 921. Provides the framework for fire investigator certification programs and is referenced for scientific-based investigation and analysis.

302

NFPA® 1321 addresses our educational and training needs for our FIU including. Minimum education standards.

Fire investigators shall meet the education requirements outlined in NFPA® 1033. JPR's, sixteen post-secondary educational requirements.

Training programs. The standard discusses the development of comprehensive training programs for various roles within our FIU, including evidence collection technicians and fire protection engineers, tailored to our specific needs when necessary.

Professional development. NFPA® 1321 emphasizes the importance of ongoing professional development for our FIU personnel.

303

Certification. The standard outlines requirements for certification, ensuring that investigators have the necessary qualifications and experience.

Specific training topics. Training shall cover a range of topics, including fire behavior, scene management, documentation, report writing, and legal aspects of fire investigations.

External training. Our FIUs may require the utilization of outside resources for specialized training, which NFPA® 1321 addresses.

304

By focusing on education, training, and certification, NFPA® 1321 assists our FIU to ensure our fire investigation unit is staffed with competent and qualified personnel who can effectively perform their duties.

305

Specialized courses. Specific courses such as fire Investigation, origin and cause Investigation provide in-depth knowledge and practical skills.

Hands-on experience. Practical experience at real fire scenes, including evidence collection and documentation, is a crucial part of the training process.

Continuing education. Fire investigators are required to maintain their skills through continuing education, often with a minimum of 40 hours every five years. Credit. NFPA® 1033.

306

State-level certifications. Many states have their own fire investigator certifications, often based on NFPA® 1033 standards.

Key training topics. Fire behavior. Understanding how fires spread, their characteristics, and the factors that influence them.

Scene analysis. Examining fire scenes to identify the origin and cause of the fire.

Evidence collection. Preserving and collecting evidence at the scene to support the investigation.

307

Fire investigation. Investigating potential incendiary fire cases, including evidence collection and interviews.

Legal aspects. Understanding legal frameworks related to fire investigations, including evidence admissibility and courtroom procedures.

Examples of training courses. IAAI Fundamentals of Fire Investigation. A foundational course for aspiring fire investigators.

National Fire Academy Courses, (NFA) Opened again in June 2025.

308

7.1.1 Personnel in the FIU shall receive education and training in the field of fire and explosion investigation.

Credit: NFPA®

This ensures that our FIU members possess the necessary skills and knowledge to perform investigations effectively and safely.

This ensures our FIU investigators are equipped with the necessary skills and knowledge to conduct thorough, scientific, and effective investigations.

NFPA® 1321 and FIUs. NFPA® 1321 is designed to improve the quality of fire investigations, including ongoing training.

309

Education and training. NFPA® 1321 emphasizes the importance of ongoing education and training for our FIU personnel to stay up-to-date on best practices and advancements in our field.

NFPA® 1321. This standard focuses on the organization, operation, and management of Fire Investigation Units, with the intent to improve the quality of our FIU work products.

Fire investigation unit. This refers to a dedicated unit within a fire department, agency, or company that is responsible for investigating fires and explosions to determine origin and cause.

310

NFPA® 1033. This standard, related to professional qualifications for fire investigators, is a key reference for the training and certification requirements outlined in NFPA® 1321.

Quality assurance. NFPA® 1321 also includes requirements for quality assurance programs to ensure that our FIU investigations are conducted according to established standards and procedures.

Importance of training. Adequate training is crucial for our FIU personnel to ensure they can accurately identify ignition sources, understand fire behavior, fire dynamics, fire effects, fire patterns, analyze evidence, and prepare detailed investigation reports.

311

Job performance requirements. Our FIU training shall be consistent with the areas discussed in NFPA® 1033, that specifies JPRs for fire investigators.

Purpose of training. Training ensures investigators are up-to-date on the latest techniques, technologies, and safety protocols, contributing to the reliability and accuracy of fire investigations.

Beyond NFPA® 1321. While NFPA® 1321 focuses on the FIU structure and operation, other standards including NFPA® 921 provide guidance on scientific methodology for fire investigation, origin and cause determination, proper methodology, and twenty-nine chapters of information for investigators.

312

7.1.1.1 The FIU shall establish procedures for education and training for members to remain current on the requirements listed in NFPA 1033 and critical tasks related to fire investigation, as adopted by the FIU. Credit: NFPA®

Our FIU shall ensure that our personnel have the necessary skills and knowledge to conduct fire investigations effectively and safely, while adhering to the standards set by NFPA® 1033.

NFPA® 1033 standard sets the minimum qualifications for fire investigators, including education, training, and experience requirements.

313

NFPA® 1033 and FIU training. Our FIU shall ensure our members are trained in accordance with NFPA® 1033, which sets the standard for professional qualifications for fire investigators.

This includes specific knowledge and skills required for conducting fire investigations.

314

Critical fire investigation tasks. This includes skills including, identifying the origin and cause of fires, documenting evidence, and preparing reports.

Continuing education. Our FIU shall have procedures in place to provide ongoing training and education for our FIU investigators to maintain their skills and knowledge.

315

Continuing education and training. Our FIU shall have procedures in place for ongoing education and training, ensuring members shall remain updated on the latest techniques and best practices in fire investigation.

This may include annual training, conferences, or other professional development opportunities.

316

Maintaining competency. Our FIU shall implement measures to ensure that our personnel retain their certifications or professional designations through continuing education, as determined by the FIU.

Management responsibility. Our FIU management has a responsibility to ensure our personnel adhere to the requirements for certification and ongoing training.

Prior to the expiration date of our FIU investigators certifications, our FIU shall consult with the investigator and ensure they have the necessary documented hours necessary to re-certify.

317

7.1.1.2 The procedures required in 7.1.1.1 shall address funding, support, and types of training. Credit: NFPA®

Our fire investigation unit shall have.

Funding. A plan for how to financially support the education and training for our personnel.

Support. Our FIU policies are in place to support personnel in pursuing training and continuing education.

Types of training. Procedures that specify the types of training needed to ensure our personnel remain current with relevant standards (including, NFPA® 1033) and critical fire investigation tasks.

318

The 1321 standard emphasizes the importance of a well-defined and supported training program for our FIU personnel, ensuring they have the necessary knowledge and skills to perform their duties effectively and to maintain the quality of our work product.

Support. Our FIU shall provide the necessary resources and assistance provided by our organization to support our investigator's training efforts, including administrative support, access to training facilities, and guidance on training requirements.

Facilities and equipment. Our FIUs shall have adequate facilities and equipment to achieve our mission, including office space, evidence storage, tools, reference materials, and IT infrastructure.

319

Support. This encompasses resources and assistance provided by our organization to support our training efforts for our investigators, including administrative support, access to training facilities, and guidance on training requirements.

Facilities and equipment. Our FIUs shall have adequate facilities and equipment to achieve our mission, including office space, evidence storage, tools, reference materials, and IT infrastructure.

Personnel management. Our FIU has clear policies for hiring, training, and evaluating our FIU personnel.

Health and safety. Our policies for health screenings and recurrent safety training, complying with legal standards, are essential for our FIU investigators.

320

Types of training. This refers to the various training programs that our fire investigation unit including initial training for new investigators.

Continuing education for experienced investigators to stay up-to-date with the latest techniques and knowledge.

Specialized training in specific areas of fire investigation including fire/arson investigation, fire science, or engineering for the FIU's employing engineers.

Training on NFPA® standards, including NFPA® 921 Guide for Fire and Explosion Investigations and NFPA® 1033 Standard for Professional Qualifications for Fire Investigator.

321

Importance of training. Proper training is essential for ensuring the quality and reliability of fire investigation work. Credit: Blaze Stack website.

Alignment with other NFPA® standards. NFPA® 1321 requires our FIU to align their education and training procedures with the requirements of other relevant NFPA standards, such as NFPA® 1033 and NFPA® 921, and others based on the AHJ policies and procedures.

322

Legal issues. Our FIU training includes, legal issues related to fire investigations, including search warrants, consent to search and other legal topics.

NFPA® standards. Our FIU Fire investigators shall be familiar with all applicable and relevant NFPA® standards.

Scientific method. Our Fire investigators shall be trained in proper use of the scientific method to investigate fires, which includes personal observations, hypothesis formulation, and testing.

323

7.1.2 Minimum education requirements. 7.1.2.1 The fire investigator shall meet the education requirements of NFPA® 1033. Credit: NFPA®

NFPA® 1033 defines the specific knowledge prerequisites in areas that include fire science, fire chemistry, and investigation methodology.

This interpretation is indicating, our FIU investigators shall have completed the training and educational programs outlined in NFPA® 1033 to be qualified as a fire investigator.

324

NFPA® 1321. The standard focuses on the organization and operation of fire investigation units (FIUs), including requirements for personnel education, training, and certification.

NFPA® 1033. This standard provides the framework for fire investigator certification programs, defining the minimum qualifications and competencies required for fire investigators in both the public and private sectors.

325

Education requirements. NFPA® 1033 outlines specific educational and experiential (which means involving or based on experience and observation) requirements, requiring individuals to demonstrate competency through examination and maintain ongoing professional development.

Job Performance Requirements (JPRs). NFPA® 1033 specifies the job performance requirements (JPRs) necessary for fire investigators to conduct thorough and accurate investigations.

Continuing education. Fire investigators shall stay current with the general knowledge, skills, and JPRs addressed for each level or position of qualification.

326

7.1.2.2 Personnel assigned a supporting role in the FIU shall meet the education requirements and professional qualifications specific to their discipline (e.g., evidence collection technician, fire protection engineer).

Credit: NFPA®

NFPA® 1321 provides minimum requirements for fire investigation units (FIU's), including their organization, operation, and personnel qualifications.

The 1321 standard intends to improve our quality of our FIU work products by establishing requirements for areas including resources, personnel qualifications, and quality assurance programs.

327

Some of the support personnel qualifications may include, Evidence Collection Technician.

Evidence collection technicians are responsible for the proper identification, collection, documentation, and preservation of physical evidence found at fire scenes.

They play a crucial role in ensuring the integrity of the evidence collected, which is vital for accurate fire investigations.

Requirements for evidence collection technicians often include experience in a fire investigation related industry, specific training in evidence collection techniques, and demonstration of proficiency through practical exams.

328

Fire Protection Engineer. Fire protection engineers may be involved in analyzing the structural and fire-related aspects of a fire scene.

Their expertise can be valuable in understanding fire behavior, identifying fire causes, and evaluating the effectiveness of fire protection systems when equipped.

They typically have formal education in engineering, often with a specialization in fire protection, and may hold professional engineering licenses or certifications in relevant areas.

329

Specific requirements.

Education. Supporting personnel shall have an education relevant to their role within or supporting our FIU. For example, a support role in fire science might require a degree in fire science, fire protection, or a related field.

Professional qualifications. Beyond education, our personnel shall demonstrate professional qualifications relevant to their specific role, such as certifications or designations recognized within their discipline.

330

Disciplines. The specific requirements will vary depending on the role, with examples including fire science, fire/arson investigation, fire protection, criminal justice, and related fields.

Training. Our FIU management is encouraged to provide training and encourage professional development to ensure personnel maintain current knowledge and skills.

Examples. A technician supporting the analysis of evidence might need to demonstrate proficiency in laboratory analysis, while a support role in documentation could require expertise in legal documentation practices.

331

Why this matters? Quality of our work.

By ensuring our FIU personnel have the necessary education and qualifications, our FIU can maintain the quality and reliability of our investigations.

Credibility. Meeting the requirements of NFPA® 1321, 921 and 1033, demonstrates our commitment to professional standards and builds credibility within the fire investigation and legal systems.

Safety. Our properly trained and qualified personnel are better equipped to handle the hazards and responsibilities associated with fire investigation.

332

Specific qualifications. Personnel supporting our FIU shall meet the specific educational and professional qualifications required for their specific discipline.

This means that a support role involving laboratory analysis might require different credentials than a role involving evidence collection or documentation.

Example. The National Institute of Standards and Technology (NIST) outlines specific requirements for subcontractors, such as having written requirements for their qualifications. Credit: NIST

NFPA® Standards. Organizations like the National Fire Protection Association (NFPA®) develops standards for fire investigation, including qualifications for fire investigators and supporting personnel.

333

7.1.3 Records. 7.1.3.1 Education and training records shall be maintained by the individual FIU personnel as well as the FIU in accordance with the management information system (MIS) as prescribed in Chapter 4. Credit: NFPA®

Our FIU ensures our investigators meet educational requirements when managing training records, documentation and information within our FIU organization.

Our FIU maintains records centrally through our MIS, for our FIU investigators to track their training progress and ensure compliance with relevant standards.

334

Record keeping. Our FIU and our personnel are required to maintain detailed records of our units training and continuing education.

Management Information System (MIS). These records shall be stored within our Management Information System (MIS), which is a system used for tracking and managing our FIU's data and operations.

Compliance with chapter 4. Our record-keeping practices shall comply with the guidelines and procedures outlined in Chapter 4 of NFPA® 1321, which details the requirements for an FIU's management system.

335

Why are these requirements important?

Our FIU ensures we provide qualified personnel. Maintaining records ensures our personnel are appropriately trained and their competency is maintained.

Quality assurance. Our records allow our FIU to review and update our management procedures while ensuring quality assurance.

Compliance with standards. Adhering to these requirements and standards ensures our FIU is meeting the standard and demonstrating our personnel possess the necessary skills and knowledge for effective, scientific, and professionally conducted fire investigations.

336

7.1.3.2 The education and training records shall include a current curriculum vitae (CV) for each investigator, including all supporting documentation. Credit: NFPA®

Documentation of qualifications. Our investigators CV serves as a comprehensive record of our investigator's qualifications, including their educational background, certifications, and work experience.

337

Quality assurance. By reviewing our FIU investigator's CV and supporting documentation, our FIU can verify our investigators possess the necessary training and expertise to conduct effective fire investigations, while contributing to our quality assurance.

Compliance with standards. Maintaining up-to-date CV's assists our FIU while documenting our fire investigation unit complies with NFPA® 1321 requirements related to personnel qualifications.

338

Support for legal proceedings. In the event of legal proceedings, our FIU investigator's CV and supporting documentation can be crucial for establishing their expertise and credibility as an expert witness.

We request our FIU in investigators to include the following information in their CV's.

Personal information. Full name, contact details, and professional social media profiles including LinkedIn, Facebook etc.

Professional summary. A concise overview of their our investigators qualifications, experiences, and skills.

Work experience. A Detailed history of relevant employment, including job titles, company names, locations, and dates of employment, highlighting accomplishments and contributions.

339

Education and certifications. Academic background (degrees, institutions, graduation dates) and relevant certifications (e.g., CFI, CFEI).

Skills and abilities. Key technical and soft skills relevant to fire investigation.

Training and professional development. Relevant courses, workshops, and certifications demonstrating commitment to continuous learning.

Professional affiliations. Memberships in relevant organizations like the IAAI, NAFI or NFPA®.

Publications and presentations. Contributions to professional literature or conferences.

340

Supporting documentation may include. Copies of degrees and certifications, training certificates, and proof of experience.

In summary, NFPA® 1321-7.1.3.2 emphasizes the importance of maintaining a current CV and supporting documentation for fire our FIU investigators as part of their training and education records, ensuring qualifications, quality, and legal compliance.

341

Training history. Our FIU investigators are required to document all training courses completed, including dates, instructors, and course content, ensuring the investigator is up-to-date with the latest knowledge and techniques.

Supporting documentation. This may include certificates, transcripts, and other documents that support the claims made in the investigator's CV and training records.

Ongoing education. Our FIU ensures our investigators are engaged in ongoing professional development to maintain their skills and knowledge.

Ethical conduct. Our FIU emphasizes the importance of ethical conduct and training in this area for our investigators.

342

Our FIU's position is, NFPA® 1321 mandates our FIU shall maintain a detailed and verifiable record of our investigator's education, training, and professional development to ensure competence, quality, and accountability in fire investigations.

Our FIU supports this mandate and ensures each of our investigators understands the importance of verifying their educational background, updating their training record after the training is completed. Our investigators commitment to keeping an up-to-date Curriculum vitae is vital for testifying and depositions.

343

7.1.4 Management shall evaluate the technical competencies of personnel prior to assigning them to conduct independent work. Credit: NFPA

Competency evaluation. Before assigning our FIU personnel to independent tasks, our FIU management shall assess their technical skills and knowledge to ensure they are qualified and capable of performing the work safely and effectively.

Independent work. This is when our FIU specifically addresses situations where our investigators investigate fires within our FIU without direct supervision.

344

Safety & compliance. This requirement highlights the importance of matching personnel's technical abilities to the demands of the job, particularly in potentially hazardous environments like those governed by NFPA® standards.

NFPA® 1321, outlines specific requirements for our personnel, including their education, training, and certification.

The standard emphasizes personnel qualifications as a key component of safety and effective operations within our FIU.

NFPA® 1321 requires our FIU to establish and implement procedures for evaluating the technical competencies of our personnel to ensure they are adequately prepared to perform independent tasks, emphasizing safety and compliance.

345

Benefits of our FIU evaluation.

Evaluating technical competencies ensures that our FIU personnel are adequately trained and competent, leading to accurate investigations, professional evidence handling, and the highest quality of work ethics during our investigations.

346

Ongoing evaluation and feedback. Our FIU has implemented ongoing evaluation methods, including shadowing, case review, and performance testing, to assess and improve personnel competence.

Annual proficiency evaluations. Our FIU requires annual proficiency evaluations to maintain personnel competence.

Continuous Improvement. Our FIUs continuously assess our training programs and procedures to ensure they are aligned with the needs of our FIU unit, updated documents, and the changing requirements for fire investigation as required.

Documentation. All competency evaluations and training records shall be documented for accountability and review.

347

The following two slides are something you may want to consider when working with new FIU investigators.

This is not a part of 1321, only a suggestion to demonstrate accountability and professionalism.

Our FIU may test new members skills when performing the following skills.

1. Combine technical and cognitive skill testing.
2. It is recommended to not just focus on technical skills; assess cognitive abilities like critical thinking, problem-solving, and analytical skills shall be considered as well.
3. Make skill assessments an ongoing process.
4. Regularly assess investigator's skills to identify areas for improvement and ensure ongoing competency development.
5. Blend behavioral assessments into the process. Consider behavioral traits and personality characteristics relevant to our defined investigation roles and skills.

349

6. Customize assessments for remote roles, adapt assessment methods to suit the remote work environment.

7. Consider competency frameworks. Develop a competency framework that outlines the specific skills, knowledge, and behaviors required for different roles.

8. Authorization of personnel. Once deemed competent, authorize personnel to perform assigned work without oversight, specifying the steps needed to reach this point (e.g., training, supervision, successful testing).

By implementing these practices our FIU can ensure our personnel are adequately prepared to handle independent work, leading to improved performance and reduced errors while following our policies and procedures.

350

National Wildfire Coordinating Group
National Interagency Fire Center 3833 South Development Avenue Boise, Idaho 83705

Image credit:
National Wildfire Coordinating Group



351

Position-specific competency standards. NWCG standards (PMS 310-1) outline specific competencies required for various fire-related positions.

NWCG standards for fire investigation unit management primarily focus on the qualifications of personnel and the proper conduct of investigations to ensure safety and accuracy, as well as providing a framework for effective coordination among different agencies.

Key areas include work/rest guidelines, adhering to standards such as NFPA® 1033 and referencing scientific-based investigations and analysis, NFPA® 921).

352

Key aspects of NWCG standards for fire investigation unit management.

Personnel qualifications. The NWCG position catalog provides specific qualification requirements for various fire-related positions, including fire investigation positions.

NFPA® 1033 outlines the job performance requirements for fire investigators, ensuring they meet the standards for safe and accurate investigations.

Investigation standards. NFPA® 921 is the considered standard for scientific-based investigation and analysis of fire and explosion incidents, providing a guide for determining origin, cause, and responsibility.

353

Coordination and collaboration. NWCG's intent is to coordinate programs among different wildfire management agencies to avoid duplication and improve effectiveness.

Safety and well-being. Work/rest guidelines are crucial, with a minimum 2:1 work to rest ratio recommended (2 hours of work or travel followed by 1 hour of sleep or rest).

Adherence to codes of practice. Fire and rescue services are expected to investigate the origin and cause of fires, while adhering to relevant codes of practice and conduct.

354

7.1.4.1* Management shall develop and implement a method for the annual evaluation of the proficiency of FIU personnel by an experienced and competent evaluator. Credit: NFPA®

This system shall be designed and executed by experienced and competent individuals, ensuring the skills and abilities of our FIU personnel are regularly assessed.

The evaluation process shall be documented, including the competency and proficiency levels for each FIU investigator.

355

Our FIU shall have a formal process in place to evaluate how our FIU investigators are performing their duties.

This evaluation shall be conducted annually and overseen by personnel who are qualified and experienced in fire investigation.

The purpose of this requirement is to ensure the quality of our FIU fire and explosion investigations.

By periodically reviewing the techniques and skills of our investigators, our FIU can maintain adherence to recommended practices and improve the overall effectiveness of our operations.

356

Methods for evaluating proficiency shall include.

Shadowing investigators at fire scenes.

Reviewing case files.

Observing investigators present their cases.

Engaging in discussions with investigators.

Administering proficiency tests.

357

This ensures that there is a record of each investigator's qualifications and performance.

This section is part of the larger NFPA® 1321 standard, which outlines minimum requirements for the establishment, structure, operation, and management of Fire Investigation Units (FIUs).

The standard is designed to assist our FIU improve our quality of work performed by our unit.

358

Annual evaluation. Our FIU shall have a formal process to assess the proficiency of our personnel at least once a year.

Experienced evaluators. Our evaluations shall be conducted by individuals who possess the necessary knowledge and experience to accurately assess the skills and capabilities of our FIU personnel.

Documented proficiency. The results of our FIU evaluations, including our assessments of competency and proficiency, shall be documented and maintained.

359

Purpose. This requirement is designed to ensure our FIU personnel maintain their skills and abilities, contributing to the overall quality and effectiveness of our fire investigations.

Quality assurance. This annual evaluation process is a key element of our quality assurance program within our FIU.

360

Our FIU has implemented an annual evaluation for our FIU personnel.

Proficiency, a performance-based system used, focusing on observing and documenting our investigators skills and knowledge.

This system shall include a competent evaluator, established standards, and a clear documentation process.

361

1. Establish performance standard for our FIU.

Our FIU has developed a clear set of performance standards for each FIU position based on NFPA® 1033 and other relevant standards.

These standards outline the required knowledge, skills, and abilities for each task.

Our FIU details the specific tasks and responsibilities for each position, including required levels of proficiency.

Our FIU Identifies critical competencies and behaviors that are essential for effective fire investigation, including analysis, documentation, and communication.

362

2. Select competent evaluators.

Our FIU shall choose experienced and qualified fire investigators to serve as evaluators.

Our FIU evaluators possess a strong understanding of fire investigation principles and practices.

Our FIU may consider the use of third-party evaluators with specialized expertise in fire investigation, especially for specialized areas in fire investigation, this will eliminate accusations of our FIU just passed everyone.

Our FIU ensures evaluators are familiar with the performance standards of fire investigation, the documents we supply and apply during investigations and when we evaluate potential candidates.

363

3. Develop evaluation methods.

Shadowing and review.

Experienced evaluators shall shadow our FIU personnel during investigations and case reviews to assess their skills and techniques.

Case file reviews. Our FIU regularly reviews completed case files to assess the accuracy, thoroughness, and completeness of our investigations.

Presentations and discussions. Our FIU requires FIU personnel to present cases or participate in discussions to demonstrate their understanding of their investigation process and their ability to communicate it effectively.

364

Competency and proficiency testing. Our FIU utilizes competency tests including passing national certifications, and proficiency testing including ongoing training and testing to assess specific knowledge and skills.

Performance-based evaluations. Our FIU observes and evaluates our investigators during simulations, exercises, or actual investigations to assess their ability to perform critical tasks in real-world conditions.

365

4. Document evaluation results. Our FIU maintains detailed records of evaluations, including observations, findings, and recommendations.

Our FIU uses standardized forms or systems to document the evaluation process and results.

Our FIU provides our investigators with feedback on their performance and when applicable any needed areas for improvement.

366

5. Continuous improvement.

Our FIU regularly reviews our evaluation process to identify areas for improvement and ensure it remains effective and relevant.

Our FIU provides our personnel with opportunities for continuing education and professional development to enhance their skills and knowledge.

Our FIU has integrated evaluation results into training plans to address any identified deficiencies.

367

Our FIU has implemented a structured process for annual evaluations and proficiency assessments of our personnel while utilizing experienced and competent evaluators.

This process shall include a clear performance assessment framework, regular feedback, and opportunities for professional development.

Our FIU evaluator(s) shall have expertise in fire investigation and a thorough understanding of relevant standards including NFPA® 921, NFPA® 1033 and NFPA® 1321.

368

Performance assessment framework.

Define performance expectations. Our FIU shall clearly articulate the core competencies, skills, and knowledge required for our FIU investigators, by following NFPA® 921,1033 1321 and other relevant standards.

Develop performance metrics. Our FIU has established measurable indicators for evaluating performance, such as technical, accurate and scientific investigations, report accuracy, evidence handling, and adherence to our policies and procedures.

369

Create evaluation forms. Our FIU has designed standardized evaluation forms that allow for comprehensive assessment and performance against up-to-date established criteria.

We include self-assessment. Our FIU encourages FIU personnel to engage in self-reflection and provide their own performance assessment of themselves and the need for additional training or resources, if any.

Annual evaluation process. Our FIU establishes a consistent schedule for annual evaluations, ensuring that our personnel are evaluated within the specified annual time frames.

370

Performance discussions. Our FIU schedules regular one-on-one meetings with our FIU personnel to discuss performance, provide feedback, and identify areas for any identified improvements.

Documentation. Our FIU maintains thorough documentation of our evaluations, including performance reviews, feedback sessions, and any professional development plans.

Competent and experienced evaluators. Our evaluator(s) possesses expertise in fire investigations, and our evaluator(s) possess a strong understanding of fire investigation principles, procedures, and evidence handling techniques.

371

Neutral and objective. Our FIU evaluators shall be impartial, unbiased, neutral and objective in their assessments, while providing constructive feedback and avoiding personal opinions about IU investigators or candidates.

In other words, there shall be no personality conflicts between the investigator and the candidate, just an accurate rating of their performance.

Professional development. Our FIU investigators and evaluator(s) shall be encouraged to attend training and professional development opportunities to stay current with all best accepted practices in our fire investigation community.

372

Proficiency testing and consider proficiency tests.

Our FIU provides proficiency tests to assess the practical skills and knowledge of our fire investigators and future candidates.

Some FIU's consider competent third-party evaluators. If proficiency tests are used, they shall be administered by a competent third party and if accredited, it should follow standards including, ISO 17043.

ISO 17043 specifies the general requirements for the competence and impartiality of proficiency testing providers, ensuring valid evaluations of participants performance.

373

Our FIU has implemented an in-depth evaluation process, that shall ensure our FIU personnel are competent and proficient in their roles, contributing to the safety and well-being of the community.

374

7.1.4.2 Management shall document the competency and proficiency of FIU personnel. Credit: NFPA®

The NFPA 1321 standard is designed to improve the quality of work performed by our FIU, by outlining minimum requirements for our establishment, structure, operation, and management.

Documentation. Some FIU management personnel prefer to keep records that demonstrate their personnel's qualifications and skills in fire investigation.

375

Competency. This refers to having the necessary knowledge, skills, and abilities to conduct fire investigations effectively, which can be demonstrated through achievements like passing relevant certification examinations including, (IAAI-CFI), and available endorsements, (NAFI-CFEI), and (NAFI-CVFI) etc.

Proficiency. This refers to the ongoing advancement of knowledge and skills, which is demonstrated through ongoing training and successful completion of proficiency testing.

376

NFPA® 1321, emphasizes the importance of a structured approach to personnel management within our FIU.

This includes ensuring initial qualifications, maintaining ongoing skill development, and thoroughly documenting these processes.

This assists our FIU to guarantee that our FIU personnel are capable, and their work meets established standards.

377

NFPA® 1033. Fire investigators in our FIU shall be certified according to NFPA® 1033, which sets the minimum job performance requirements for fire investigators, including the sixteen post-secondary education requirements.

Continuing education. FIUs are responsible for ensuring that our FIU personnel maintain their certifications and professional designations through continuing education.

378

Tracking progress. It allows our FIU to monitor and track the development and improvement of our FIU's skills and knowledge over time.

Meeting legal requirements. This provides our FIU with documentation to support any questions about our investigations, training and professionalism when asked.

Improving quality. It assists us to maintain high standards of work quality and consistency within our FIU.

379

7.2 Certification. 7.2.1 Fire investigators in an FIU shall be certified as meeting the requirements of NFPA 1033.

Credit: NFPA®

A certification and proper training ensures our FIU investigator possess the necessary knowledge, skills, and competency to conduct fire investigations.

NFPA® 1321. This standard outlines the minimum requirements for the establishment, structure, operation, and management of Fire Investigation Units (FIUs).

NFPA® 1033. The standard specifies the professional qualifications for fire investigators, including the required education, training, and experience.

380

NFPA® 1321 mandates that fire investigators working within an FIU shall meet the qualifications outlined in NFPA® 1033.

NFPA® 1033, Standard for Professional Qualifications for Fire Investigator, specifies the necessary job performance requirements and requisite knowledge for fire investigators, including aspects like fire science, investigation methodology, safety, and evidence handling.

This certification requirement ensures that fire investigators possess the foundational skills and knowledge needed to conduct thorough and reliable fire investigations.

NFPA® 1321 covers other crucial aspects of our FIU operations, such as organization, safety, training, and quality assurance, intending to improve the overall quality of our fire investigation investigators.

381

7.2.2 The FIU management shall require personnel to maintain their certifications (or professional designations) in their respective disciplines through continuing education as determined by the FIU.

Credit: NFPA

Mandatory continuing education. This section specifically mandates our FIU management requires our personnel to maintain their certifications and professional designations.

This is achieved through continuous education.

Determined by the FIU. The standard allows our FIU to determine the specific continuing education requirements that align with our operational needs and the specific disciplines of our FIU personnel, while complying with the standards of our fire investigation industry.

382

Importance up-to-date knowledge. This requirement ensures that our FIU investigators and support personnel within our FIU remain current with the latest techniques, technologies, safety protocols, and industry standards in fire and explosion investigations.

Part of a larger framework. This requirement is part of the broader NFPA® 1321 standard, which sets minimum requirements for our organization and operation of our FIU, encompassing aspects like personnel qualifications, education, training, safety, and quality assurance.

383

7.3 Professional development. Credit: NFPA®

NFPA® 1321 sets the minimum requirements for establishing, structuring, operating, and managing our fire investigation unit, including the education and professional development of our personnel.

NFPA® 1321 and professional development.

The 2025 standard for Fire Investigation Units mandates our fire investigation unit shall have policies in place for the education, training, and certification of our FIU personnel.

384

Focus areas. NFPA® 1321 requires professional development, this encompass not just training but also the overall structure and operation of our FIU, including the need for education, certification, and ongoing professional development.

Importance of education. The standard emphasizes the importance of ongoing education for fire investigators, recognizing that staying current with best practices and new technologies is crucial for effective investigations.

385

Beyond training. While training is a core component of professional development, NFPA® 1321 considers the broader aspects of our FIU's structure, including policies for requesting outside resources, ensuring safety and health, and facilitating interagency cooperation.

386

Formal education and training.

Fire investigation training programs. Many training programs combine classroom instruction with field work and research, covering topics like fire chemistry and physics, investigation procedures, evidence gathering, and fire/arson detection.

Some FIU's require an associate degrees and certifications, while others require certifications.

Some FIU programs can lead to associate degrees in fire science or related fields, and some may offer opportunities to earn certifications like the International Association of Arson Investigators (IAAI) Fire Investigation Technician (IAAI-FIT). (NAFI) CFEI and (CVFI).

387

National Fire Academy. They offer various courses, including online options, that cover fire investigation principles, techniques, and best practices.

State and local fire academies. There are states, counties, and local jurisdictions that have their own fire academies that offer fire investigation training and certification programs.

Continuing professional development. IAAI Professional development opportunities. The IAAI offers continuing education through international and chapter-level classes, professional conferences, and the Fire & Arson Investigator Journal.

388

National Association of Fire Investigators. NAFI offers training, has newsletters and newsletter archives. They offer their conference each year in a variety of places for each year. They offer the Vehicle Fire Investigation class every other year. It involves 4-Days and twenty-eight-hours.

<https://www.cfitrainer.net>: This online platform offers modules, podcasts, and other resources for fire investigators to enhance their knowledge and skills.

NFPA Standards. The National Fire Protection Association standards, particularly NFPA® 1033 (Standard for Professional Qualifications for Fire Investigator) and NFPA® 921 (Guide for Fire and Explosion Investigations), and NFPA® 1321 Standard for Fire Investigation Units provide guidance for fire investigation.

389

Self-study programs. Many organizations offer self-paced learning programs to allow investigators to document their knowledge and competency.

Specific training areas. Fire dynamics, Fire chemistry and physics.

Understanding the fundamentals of fire behavior, including ignition, combustion, and spread of flames.

Investigation procedures. Learning how to locate the origin and cause of fires, including documenting evidence and interviewing witnesses.

390

Evidence handling. Proper collection, preservation, and documentation of fire-related evidence.

Legal and ethical considerations. Understanding the legal framework for fire investigations and adhering to ethical standards.

Arson detection and investigation. Identifying indicators of arson, understanding arson techniques, and conducting arson investigations when necessary.

Forensic data recovery. Utilizing forensic tools and techniques to recover data from electronic devices involved in fire investigations.

391

7.3.1* The FIU shall establish a written protocol for all personnel operating within the FIU to attend ongoing professional development. Credit: NFPA®

Our FIU has a structured and documented process to ensure that all individuals working within our FIU participate in and benefit from continuous learning and skill enhancement.

Credit: Based on the provided information from Florida International University (FIU), a potential written protocol for ongoing professional development within the FIU could include the following elements.

392

- 1. Policy statement.** Our FIU personnel are expected to complete a minimum of ____ hours of professional development annually, focusing on enhancing skills relevant to their roles and future opportunities.
- 2. Learning goals and planning.** Our FIU investigators shall establish a learning goal as part of their annual performance evaluation, collaborating with supervisors to identify suitable opportunities.
- 3. Acceptable forms of professional development.** This includes participation in in-house programs, external events, department-specific training, required university programs, professional certifications, self-directed learning, online platforms, lecture series, and external professional development.

393

- 4. Documentation and reporting.** External development activities shall be documented by hours, copies of certificate, or proof of attendance, and the FIU shall maintain records for compliance.
- 5. Approval process.** A process for submitting, reviewing, and approving professional development requests shall be established.
- 6. Integration with performance evaluation.** Professional development efforts shall be discussed during performance evaluations.

This suggested protocol is based on suggestion, you may need to customize this information for your FIU, if you wish to implement it, or want to document the information in this format.

394

NFPA® 1321 sets the minimum requirements for the establishment, operation, and management of our FIU.

It refers to our FIU or department within a fire service, law enforcement agency, or private company that is responsible for investigating fires and determining their causes.

Ongoing professional development. Our FIU personnel within our FIU shall continuously update their knowledge and skills through training, education, and experience.

395

7.3.2 The FIUs shall have a policy to provide funding, support, and opportunities for continuing professional development. Credit: NFPA®

Providing funding. This ensures that our personnel have the financial resources to participate in training programs, attend conferences, and pursue relevant certifications.

Offering support. This encompasses various forms of assistance, such as dedicated time for training, access to resources, and guidance from experienced colleagues.

396

Creating opportunities for continuing professional development. This can involve making a range of learning experiences available to our personnel, including advanced training, specialized courses, and opportunities for hands-on experience.

In the field of fire investigation, ongoing professional development is crucial for several reasons.

Staying updated. Fire investigation techniques, technologies, and scientific understanding are constantly evolving.

Continuing education ensures that our FIU investigators remain current with the latest advancements and best practices.

397

Maintaining competency. Regular training and professional development assists our FIU investigators maintain the necessary skills and knowledge to conduct thorough, accurate, and scientifically sound investigations.

Ensuring compliance. NFPA® 1321 aligns with other important standards, such as NFPA® 1033, which outlines professional qualifications for fire investigators.

By investing in professional development, our FIU ensures our personnel meet and maintain these essential standards.

Improving our quality of work. Ultimately, supporting ongoing professional development leads to higher quality investigations, which benefits the entire fire investigation process, from determining origin and cause to providing credible expert testimony.

398

By adhering to NFPA® 1321 Section 7.3.2, our fire investigation unit demonstrates our commitment to the ongoing growth and development of our personnel, which is critical for ensuring our effectiveness and reliability of our fire investigations.

399

7.3.3* The FIU shall establish a written policy for minimum hourly training requirements. Credit: NFPA®

Our FIU policy shall outline the specific types and hours of training required to maintain competence in fire investigation practices.

Section 7.3.3 specifically addresses the need for a written policy regarding training requirements. Our policy shall detail the minimum amount of training required for our fire investigators to receive annually.

Training topics. What specific areas of fire investigation shall be covered in the training (e.g., origin and cause determination, evidence handling, reporting, etc.).

400

Training methods. Our FIU shall determine how the training will be delivered, whether in-house, external courses, seminars, online training etc.).

Training frequency. Our FIU shall determine how often personnel shall receive refreshers or updated training.

Training evaluation. Our FIU shall determine the effectiveness of our training program, and we will assess and whether additional training is needed.

401

Documentation. Our FIU training records shall be maintained to demonstrate compliance with our policies.

By establishing a clear written policy for training, our FIU can ensure our personnel are adequately trained and qualified to conduct fire investigations to our highest standards.

402

Why and how.

Why establish a written policy? Our FIU mandates training.

We require training for our FIU investigators not only to stay current with fire investigation trends, also to complete specific training hours for certifications or renewals.

Continuous learning. Our FIU personnel shall stay current with the latest advancements in fire investigation techniques, technology, and legal requirements.

Standardization. A written policy ensures consistency in training procedures and expectations for our FIU members.

403

Documentation. A formal policy provides a record of training activities and helps demonstrate our compliance with regulatory standards.

How to establish a written policy?

1. Identify training needs. Our FIU considers the specific skills and knowledge required for our FIU personnel to perform their duties effectively.
2. Consult with experts when necessary. Involve experienced FIU members, training professionals, and regulatory bodies to develop a comprehensive policy.

404

3. Specify training requirements. Our FIU defines the types and duration of training needed, including initial training, ongoing education, and specific certifications.
4. Outline procedures. Our FIU shall establish procedures for accessing training resources, tracking attendance, and documenting training completion.
5. Regularly review and update. Our FIU policy states, we shall review and update our policies periodically to ensure we remain relevant and effective.

405

Key elements of a written training policy.

Scope and purpose. Our FIU clearly defines the purpose and scope of our policy.

Training requirements. Our FIU specifies the minimum training hours, types of training, and certifications required for FIU personnel.

Training resources. Our FIU outlines how our FIU members can access training opportunities, including internal training, external courses, and online resources.

406

Chapter 8

Documentation and Report Writing

407

Documentation and Reports 8.1 Introduction. FIUs shall have a policy for documenting fire scenes and be capable of reporting investigative findings. Credit: NFPA®

It is crucial that our fire investigation unit has a clear policy for documenting fire scenes and reporting our investigative findings.

This ensures thoroughness, accuracy, and adherence to legal and professional standards.

408

This ensures accountability, compliance with NFPA® 1033, and effective communication of investigative findings. Our FIU shall provide the necessary tools for documenting scenes according to NFPA® 1033 standard.

Policy for documentation. Our FIU has established written policies and procedures for documenting fire scenes, including recording evidence, maintaining records, and ensuring the integrity of our investigations.

Reporting investigative findings. Our FIU shall have a reporting policy that aligns with NFPA® 1033 and our FIU's standard operating procedures (SOPs).

409

Tools for documentation. Our FIU shall have the necessary tools and resources to effectively document our FIU fire scenes, including cameras, measuring tools, and documentation software.

NFPA® 1033 Compliance. Our FIU shall follow the requirements outlined in NFPA® 1033, which covers the qualifications of fire investigators and the investigative process.

Importance of documentation. Proper documentation is crucial for establishing the origin and cause of fires and preserving our evidence while ensuring our investigations are conducted thoroughly and legally.

410

Reporting findings. Our FIU shall have a policy ensuring our investigation reports are comprehensive, accurate, and consistent with NFPA® 1033 and our (SOP's).

This includes documenting the origin and cause of the fire, any evidence used to support our conclusions, and any further recommendations.

411

Documentation of fire scenes.

Standardized tools.

Our FIU shall have a documented policy for using tools including cameras, tablets, sketches/diagrams, and notes while capturing essential details of the fire scene, as outlined in NFPA® 1033.

Comprehensive documentation. This includes our detailed notes, observations, and descriptions of the scene, including written documentation describing the fire's origin, and cause as suggested by the National Institute of Justice (NIJ). Credit: NIJ Visual records. Our FIU Investigators take photographs/images from multiple angles to provide a visual record; they diagram the scene to document key items and take comprehensive notes to describe the scene's condition and relevant observations.

412

Legal compliance. Our FIU documentation shall be completed while following all legally acceptable methods necessary for court.

Reporting investigative findings. Our FIU Investigators shall follow the scientific method, as outlined in NFPA® 921, and in NFPA® 1033 discusses the scientific method in section 4.1.2

NFPA® 1321 uses the term scientific knowledge in 3.3.17 scientific conclusions in 8.4.2.2, and scientifically valid in 8.4.2.3

413

Written reports. Our FIU Investigators shall prepare written reports that document our investigations, including their methodology, findings, and conclusions.

Clear structure. Our FIU reports shall have a clear structure, including an introduction, methodology, findings, and conclusions.

Accuracy and conciseness. Our FIU reports shall be detailed, accurate, and concise, providing an organized, comprehensive and an accurate record of our investigation.

414

Expert testimony. When required, our FIU investigators shall present their findings in Preliminary hearings, Grand Juries, State, County, Township, Parish court, Federal courts or any other venue while testifying as expert witnesses.

Our FIU investigators are trained to be prepared, honest, ethical, knowledgeable, truthful and transparent while effectively providing their expert testimony.

415

8.2 Documentation. 8.2.1* FIUs shall have a policy for the use of the tools necessary to document a fire scene in accordance with NFPA 1033. Credit: NFPA® NFPA® 1321 establishes the standard for the organization and operation of fire investigation units.

NFPA® 1033 sets the professional qualifications for fire investigators, including the knowledge and skills needed for fire scene investigation.

416

Mandatory policy. Our FIU is required to have policies that govern the use of our tools and equipment necessary for documenting a fire scene.

This includes tools for evidence collection, scene preservation, and reporting.

Photography, sketches, and notes, is handled consistently and effectively.

417

Purpose of documentation. The primary goal of fire scene documentation is to create a comprehensive and accurate record of the scene's condition as it was found at the time of our investigation.

This documentation is crucial for a thorough investigation, including determining the origin and cause of the fire.

418

Tools for documentation. Our FIUs shall have access to and utilize a variety of tools necessary to adequately document our fire scenes.

Sketches/diagrams. Creating diagrams of the scene to note the positions of key items and objects.

Notes. Recording detailed observations and relevant information about the scene's condition.

Video documentation if applicable. Capturing video to document the scene and any relevant events.

419

NFPA® 1033 Alignment. The policy for documentation shall be aligned with the requirements outlined in NFPA® 1033, which specifies the minimum job performance requirements for fire investigators.

Importance of a policy. A clear and well-defined policy ensures our FIU personnel are aware of the expected documentation procedures, and all scenes are documented consistently, regardless of who the investigator(s) are involved in our investigation.

Quality assurance. The documentation process shall include quality assurance measures to ensure our reports are accurate, complete, and well-documented.

420

Alignment with scientific method. Our FIUs ensures that our investigation reports align with the scientific method, as detailed in NFPA® 1033.

This involves proper documentation, evidence analysis, and logical reasoning in forming our conclusions.

Tools and equipment. Our FIU shall provide adequate facilities and equipment, including tools and equipment for scene documentation, evidence storage, and analysis.

421

Here's why and what NFPA® 1033 entails.

Ensuring consistency. NFPA® 1033 mandates specific qualifications and job performance requirements for fire investigators, including the ability to effectively document our fire scenes.

Our FIU policy ensures that our investigators within our FIU follow consistent procedures for evidence collection and documentation, our FIU members shall meet the requirements of NFPA® 1033.

Tool documentation. Our FIU policy shall detail the specific tools used for documentation, such as photography equipment, sketching/diagramming materials, measuring tapes, and digital recording devices, tablets, scanners and other FIU tools not listed here.

422

Training and education. Our FIU policy outlines training and educational requirements for fire investigators to maintain their knowledge and skills in documenting fire scenes according to NFPA® 1033 standards.

Adherence to standards. NFPA® 1033 establishes the standard for fire investigation, and our policy ensures our FIU's adherence to those standards and their documentation practices.

423

8.2.2 FIUs shall have a policy related to the reception, retention, and security (i.e., protection) of the data received during and after an investigation. Credit: NFPA® Our FIU policy is crucial for ensuring the integrity and admissibility of evidence.

Section 8.2.2 specifically addresses the critical aspect of data management, mandating that our FIU establishes a policy covering the reception, retention, and security of data collected during and after an investigation.

424

Data reception. Our FIU shall have a defined process for how we receive data from various sources, ensuring the data is accurately and completely documented and preserved.

Data retention: Our FIU archiving policy shall be established that dictates how data and documentation shall be stored long-term, while preserving the integrity of our investigative findings.

This includes defining retention periods for different types of data, such as felony investigation records which may require extended retention requirements.

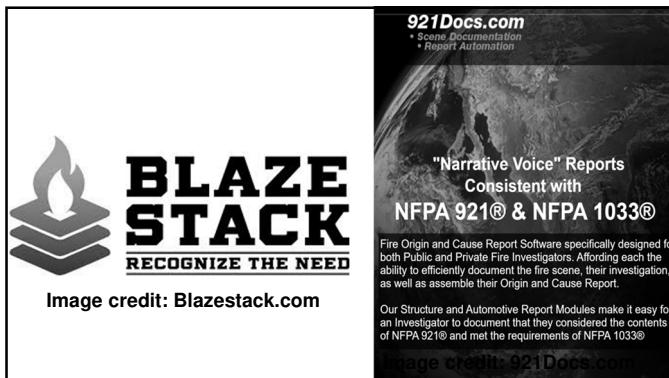
425

Public records management.

Our FIU manages public records, including fire investigation and incendiary fire investigation files, fire reports, but not all fire-related information is considered public.

Criminal investigation files are typically exempt from public disclosure unless closed.

426



427

8.2.3* FIUs shall have a data and documentation archiving policy. Credit: NFPA®

This is a crucial policy for maintaining the integrity, security, and accessibility of our investigative information over time.

Long-term storage. Our policy shall dictate how data and documentation are stored long-term.

This ensures the preservation of investigative materials for potential future reference, such as legal proceedings or quality assurance audits.

428

Data security. Our FIU policy shall address the security and protection of collected data to prevent unauthorized access.

This includes measures to secure electronic and physical records.

Accessibility. Our policy shall outline how authorized personnel can access archived data and documentation when needed.

429

Process for preservation. Our clear process for preserving investigative materials shall be established. This ensures data integrity and prevents loss or degradation of information.

Maintaining evidence integrity. Adhering to this standard ensures the admissibility and integrity of our evidence we collected during fire investigations.

Compliance and accountability. Having a comprehensive documentation and archiving policy assists our FIUs to meet our reporting requirements, ensuring accountability and compliance with industry standards.

430

Ensuring consistent practices. Standardized procedures for data handling and archiving contribute to operational efficiency and consistency in our investigative process.

NFPA® 1321 highlights the critical importance of a structured approach to managing and preserving fire investigation data and documentation, contributing to quality assurance, legal compliance, and the integrity of our FIU investigative process.

431

Evidence preservation.

Proper archiving assists our FIU in preserving our evidence, ensuring it remains available for future analysis, court proceedings, or training purposes.

Future reference, archiving provides a readily accessible record of past investigations for research, trend analysis, or learning from previous cases.

NFPA® 1321 requirement. NFPA® 1321 emphasizes the importance of documentation and records management for our FIU by highlighting the need for a structured archiving policy.

432

Access control. Our FIU establishes clear access control measures to ensure that only authorized personnel have access to data.

Data security. Our FIU Implemented measures to protect data from unauthorized access, damage, or loss, including encryption, backups, and disaster recovery plans.

Data integrity. Our FIU ensures the accuracy and completeness of data throughout the archiving process.

433

Destruction. Our FIU specifies how data will be securely destroyed when or if it is no longer needed, following legal and procedural guidelines, statute of limitations, all appeals exhausted, death of the incarcerated individual(s). Note* I would highly recommend your FIU request a court order.

Training. Our FIU training discusses implementing an archive policy and ensuring all personnel understand their responsibilities; they shall receive a copy of the policy for their records as well.

Regular review and updates. Our FIU regularly reviews and updates our archiving policy to ensure it remains relevant and effective.

434

Training. Our FIU training for our personnel discusses how we shall implement the archiving policy and ensure all relevant personnel understand their responsibilities. Each person shall receive a copy of the policy for their records.

Regular review and updates. Our FIU regularly reviews and updates our archiving policy to ensure it remains relevant and effective.

Example of archiving data and documentation.

Documentation. All FIU documentation, including but not limited to, photographs, videos, sketches/diagrams, notes, and reports, shall be archived.

435

Evidence. Evidence collected during an investigation, including items such as accelerant containers artifacts, any other materials, or evidence collected, shall be archived according to the relevant laws and agency/company policies.

Case files. Completed case files, including all documentation and evidence, shall be archived to ensures all necessary retrieval and preservation integrity.

By implementing a comprehensive data and documentation archiving policy, our FIU can ensure all information related to our fire investigations is handled properly, preserved for future use, and protects the integrity of the investigation process.

436

Our FIU shall have quality records and forms.

Our FIU uses standardized forms and records to facilitate data collection and demonstrate compliance with our FIU procedures.

Credit www.nist.gov

Our FIU shall demonstrate competency and proficiency throughout our investigations.

Our FIU evaluates the competency and proficiency of personnel through ongoing training, testing, and shadowing.

437

8.3 Reports. 8.3.1*

NFPA® 1321 8.3.1 emphasizes the need for a policy that ensures investigation reports reflect all aspects of the scientific method, aligning with NFPA® 1033.

Our FIU reports shall clearly outline the systematic process used during the investigation, including the following.

Data collection: How information and evidence were collected.

Analysis. How the collected data and evidence were analyzed to form our hypotheses.

438

Key elements of a fire investigation report.

Our incident date and time.

The precise date and time the fire was reported, occurred, or was discovered.

Investigation date and time when our FIU began the investigation.

Responding investigators. A list of our FIU investigator(s) and support personnel dispatched.

439

Testing of hypotheses. How our hypotheses were tested to determine consistency with our origin and cause of the fire.

Conclusion. The final findings based on the analysis and testing.

Additionally, the requirement for a policy that ensures adherence to the scientific method while emphasizing the importance of quality assurance measures, including administrative and technical reviews of our investigation reports.

These reviews are designed to verify the following.

440

- Completeness and accuracy of the report.
- Validity of scientific conclusions.
- Proper support for all results, opinions, and interpretations.
- By incorporating the scientific method and quality assurance measures into our reporting process, NFPA® 1321 8.3.1 intent is to ensure that our fire investigation reports are reliable, objective, and accurate.

441

Evidence-based findings. Our reports shall be based on evidence and findings and shall not contain subjective opinions or speculation.

Quality control and audit. Our FIU shall have quality control and audit policies and procedures for our reports, ensuring they meet the standards of our organization and relevant legal requirements.

442

Incident address. Detailed location, including city, state, address(s), unit or units number affected.

Type of building description of the structure whether residential, commercial, storage area, detached garage, storage building, etc.

443

Estimated losses. Our FIU assesses damage caused by the fire.

Fire ignition and first fuel ignited. Our FIU analysis of the potential causes of the first fuel ignited and the ignition source shall be documented if known.

Evidence collection. Our FIU documents all collected evidence, including photographs, sketches/diagrams, and notes, along with a completed chain of custody.

444

Fire behavior and development. Our FIU Describes how the fire spread and developed from our investigative findings.

Fire detection and suppression. If present, our FIU details the presence and effectiveness of any fire detection or suppression systems including, any activations, failure to activate, any tampering to the system, or failures documented to the system.

445

Origin and cause determination. Our FIU investigator's conclusion on the fire's origin and cause.

Findings and recommendations. Our FIU investigators give a summary of the investigation findings and any recommendations.

Reports for litigation, criminal or civil. Our FIU ensures our reports meet legal requirements for admissibility.

446

8.3.1.1 The investigator responsible for the overall report per the FIU shall ensure that the data is reliable, and its contents and collection are in accordance with NFPA 1033 and the FIU's SOPs.

Credit: NFPA®

Responsibility of our FIU investigator. The primary investigator overseeing the investigation report is accountable for its content and the data contents.

Reliable data. Our FIU investigator shall confirm that all information and data used in the report is accurate, honest, ethical, and transparent.

447

NFPA® 1033 Compliance. The collection and reporting of our data shall be consistent with the principles and practices outlined in NFPA® 1033, Standard for Professional Qualifications for Fire Investigator.

The NFPA® 1033 standard outlines the minimum job performance requirements and requisite knowledge for our FIU investigators, it emphasizes fire science, investigation methodology, evidence handling, and scene safety.

448

FIU SOP Compliance. Our investigation and reporting procedures shall align with the FIU's established standard operating procedures (SOP's). Our (SOP's) are specific, rigid methods that shall be followed for certain tasks within our FIU, ensuring consistency and efficiency.

Quality assurance. This section emphasizes the importance of quality assurance in fire investigation reports.

Adherence to standards. Our FIU ensures our fire investigation units maintain consistency and quality with our reporting practices by adhering to NFPA® 1033, NFPA® 1321 and our FIU's internal (SOP's).

449

Data integrity and admissibility. By following these guidelines our FIU ensures that our data is collected and presented in a way that maintains its integrity and increases its likelihood of being admissible in legal proceedings, when necessary.

Accountability. This section clearly defines our investigator's responsibility in ensuring their report's accuracy and adherence to established standards.

Credible reports. Our FIU adheres to NFPA® 1033, it emphasizes expert analysis and the scientific method, our report shall be considered more credible and reliable.

450

NFPA® 1321 Section 8.3.1.1 highlights our FIU's critical role as responsible investigators we ensure the accuracy, reliability, and adherence to established standards (NFPA® 1033, NFPA® 1321 and our FIU (SOP's) for all fire investigation reports, ultimately contributing to the overall quality and integrity of our investigation process.

451

8.3.2* The FIU shall develop a policy to ensure that fire and explosion origin and cause reports are authored by qualified fire investigators with the minimum qualifications outlined in NFPA 1033. Credit: NFPA®

NFPA® 1321, This standard, issued by the National Fire Protection Association (NFPA), covers the minimum requirements for establishing, structuring, operating, and managing FIUs.

NFPA® 1033, This standard, sets the minimum qualifications for fire investigators, including their required knowledge and experience in areas including fire science, investigation methodologies, and evidence handling.

452

FIU Policy. Our FIU policy ensures that fire and explosion origin and cause reports are authored by qualified investigators, adhering to NFPA® 1033 standards.

Our policy shall outline the minimum qualifications, training requirements, and procedures for fire investigation reports.

Importance of qualifications. Qualified investigators are crucial for accurately determining the origin and cause of fires, which is essential for legal proceedings, insurance claims, and understanding fire hazards.

453

NFPA® 1033 standard defines the qualifications for fire investigators.

Fire origin and cause reports. Our FIU reports are crucial for understanding the dynamics of a fire incident, identifying ignition sources, and determining the sequence of events.

Minimum qualifications. NFPA® 1321, in section 8.3.2, emphasizes that our FIU shall have a policy in place to ensure that only qualified investigators, meeting the requirements of NFPA® 1033, are responsible for creating these reports.

Credibility and expert analysis. By adhering to NFPA® 1033, our policy ensures our fire origin and cause reports are based on expert analysis, enhancing our credibility and reliability.

454

1. Adherence to industry standards.

NFPA® 1033. The standard outlines the minimum qualifications for fire investigators, including education, experience, and training.

NFPA® 921 This guide provides a framework for our FIU when conducting fire investigations, including systematic approaches, evidence collection, and report writing.

455

2. Establishing clear policies. Report structure and content.

Our FIU policies shall define the required format, sections, and information included in our origin and cause reports.

Qualifications of our investigators. Our FIU clearly states that only qualified investigators with the necessary certifications and experience shall author reports.

Training and continuing education. Our FIU requires regular training and updates concerning best practices and emerging technologies are crucial for maintaining investigator qualifications.

456

3. Ensuring credibility and accuracy.

Expert analysis. Our FIU reports are based on expert analysis and interpretation of evidence, ensuring they are reliable and defensible in legal contexts.

Independent review. Our FIU has implemented a process requiring our FIU reports shall be reviewed by a second qualified investigator to ensure objectivity and accuracy.

457

4. Importance of qualified investigators.

Expert testimony. Our qualified FIU investigators can provide expert testimony in courts, or depositions which is crucial in litigations involving fire investigations.

Accurate findings. Our qualified FIU investigators identify the origin and cause of a fires, preventing misinterpretations and ensuring accurate findings.

458

Minimizing disputes. Our FIU reports are authored by qualified investigators, while following the best accepted practices and standards of our industry, our goal is to ensure they are accepted by prosecutors, insurance companies, defense attorney's and other stakeholders, while minimizing disputes.

Our FIU adheres to industry standards and establishing clear policies, we can ensure that our fire and explosion reports are authored by qualified individuals, leading to more credible, accurate, and reliable investigations.

459

8.3.3 The investigator responsible for the overall report per the FIU shall ensure that the data is reliable, and its contents and collection are in accordance with NFPA 1033 and the FIU's SOPs. Credit: NFPA

This ensures adherence to industry standards and promotes quality assurance in fire investigations.

NFPA® 1033. The standard outlines the professional qualifications and training requirements for fire investigators, ensuring they possess the necessary knowledge and skills to conduct thorough and accurate investigations.

460

Fire Investigation Unit (FIU) (SOP's). Our FIU's (SOP's) provide specific procedures for our investigation process, ensuring consistency and adherence to our unit's policies.

Data reliability. Our FIU investigators shall verify the accuracy and validity of all data collected during the investigation, ensuring it is reliable and trustworthy for use in the report.

461

Data Collection and contents. Our FIU investigators shall ensure that the methods used to collect data, and the contents of the report adhere to the guidelines outlined in NFPA® 1033 and our FIU's (SOP's).

This includes documentation, evidence handling, and the overall structure of the report.

462

Our FIU policy regarding NFPA® 1321 section 8.3.3 emphasizes our documentation of details, and the importance of conducting fire investigations according to established standards and procedures, which contributes to the reliability and quality of our FIU fire investigation reports.

Data reliability. Our FIU investigator shall ensure that the information collected is accurate and verifiable.

This includes verifying the source of the data, ensuring proper documentation, and using reliable methods for data collection.

463

To summarize, NFPA® 1321, the intent is to enhance the quality of fire investigation work products and operations, including documentation and reports, by specifying requirements for FIU's and organizations.

NFPA® 1321 ensures our FIU maintains accountability, compliance, and effective communication through our documentation and reporting processes.

465

Importance. Adherence to this policy ensures that our FIU investigators documentation can be used effectively in court proceedings, minimizing the risk of having reports rejected or deemed inadmissible. Chapter 8 focus. NFPA® 1321 Chapter 8, focuses on documentation and reporting requirements for FIUs.

This section ensures that all investigation reports, including those for litigation, align with NFPA® 1033 and the FIU's standard operating procedures.

467

8.3.3.1 FIUs shall have a policy to check with the appropriate client or agency to ensure that litigation reports meet the necessary requirements.

Credit: NFPA®

This section emphasizes the importance of aligning our investigation reports with specific client or agency needs, especially when reports are intended for legal proceedings.

The goal is to ensure the reports are admissible and comply with the necessary legal standards.

464

Determining the specific requirements for litigation reports, including format, content, and evidence admissibility.

Checking with the client or agency to ensure that the reports comply with all necessary legal and evidentiary requirements.

For any of my newer investigators, the language in the above paragraph, let me clarify something right now.



I DO NOT CHANGE MY REPORT FOR ANYONE AS FAR AS THE FACTS AND FINDING OF THE CASE, AND FINAL CONCLUSIONS. GRAMMER, I UNDERSTAND HOWEVER, FACTS ARE FACTS AND WILL NOT BE CHANGED

466

Legal admissibility. Reports used in litigation shall meet specific legal standards for admissibility.

Client/Agency requirements. Clients or agencies involved in the investigation such as insurance companies, their attorney's may have their own reporting requirements or standards that shall be adhered to.

Avoiding legal issues. Failure to meet these requirements can lead to the report being rejected or excluded from evidence in court, undermining the investigation's purpose.

468

Data reliability. Our FIU report's reliability is crucial. Our FIU investigator is responsible and shall ensure the data is accurate and collected according to established methods.

SOPs. Standard operating procedures (SOPs) for our FIU shall be in place to guide the investigation process and ensure consistent reporting practices.

A well-defined policy assists our FIU to ensure our FIU reports are not only accurate and thorough they are legally sound and meet the specific needs of the client or agency involved.

469

8.4 Quality Assurance/Quality Control. Credit: NFPA

NFPA® 1321, "Standard for Fire Investigation Units," addresses Quality Assurance (QA) and Quality Control (QC) as crucial components for effective operation and management of our Fire Investigation Unit (FIUs) while we ensure high-quality investigations.

Policy requirements. NFPA® 1321 specifies policy requirements for organizations, including management systems, resources, health and safety, and documentation and reports, which all contribute to quality assurance.

470

Documentation and reporting.

The standard emphasizes the importance of thorough documentation, including evidence collection, analysis, and storage, to maintain a high level of scrutiny and integrity throughout the investigation process.

Administrative and technical reviews. NFPA® 1321 mandates administrative and technical reviews of investigation reports to ensure quality and compliance with standards. These reviews shall be conducted before any final report is released.

471

Personnel qualification and training. The standard specifies policy requirements for our personnel including education, training, and certification to ensure our investigators have the necessary competence.

This assists our FIU in improving the quality of our work products and operations.

Adherence to standards. Compliance with NFPA® 1321 acts as a quality assurance tool, ensuring investigative methods are up-to-date with industry standards.

This leads to reliable findings and reduced risk of errors.

472

Proficiency testing. While not explicitly stated in section 8.4 proficiency testing is a common quality assurance measure used to monitor performance and quality through the examination and interpretation of prepared samples.

In summary, NFPA® 1321 8.4 focuses on establishing a robust framework for Quality Assurance and Quality Control within our fire investigation unit.

473

This includes our FIU implementing policies and procedures to govern our operations, ensuring thorough documentation, implementing review processes, maintaining personnel competence, and adhering to industry standards.

These measures contribute to our overall quality and reliability of fire and explosion investigations.

474

Compliance with NFPA® 1321. Our FIU investigators comply with NFPA® 1321 it outlines the minimum requirements for our FIU organization, our operations, and management, including quality assurance requirements.

Employee training. Our FIU personnel shall be properly trained and qualified to perform their assigned tasks, ensuring adherence to quality assurance and quality control procedures.

475

Benefits of quality assurance and quality control.

Accurate origin and cause determination. By adhering to QA/QC procedures, our FIU ensures that our investigations are based on sound scientific evidence, ensuring accurate determinations of our fire origin and cause conclusions.

Increased credibility and confidence. Our FIU QA/QC procedures build confidence in the results of fire investigations, both internally and externally, enhancing the credibility of our FIU.

476

Protection of legal interests. Our proper documentation and adherence to QA/QC procedures assist our FIU to protect the legal interests of our FIU and the jurisdictions it serves, minimizing the risk of disputes or litigation.

Improved efficiency and effectiveness. Our well-defined (SOP's) and QA/QC procedures streamline the investigation process while it demonstrates we are efficient and effective.

Promoting best practices. Our QA/QC programs assists our FIU to adopt and maintain best accepted practices in fire investigations including, referencing all applicable NFPA® documents during our investigation. Our FIU ensures we are at the forefront of our field.

477

8.4.1.1 Administrative reviews shall be conducted to determine whether all the steps outlined in an organization's SOPs have been followed and all appropriate documentation is present in the file. Credit: NFPA®

These reviews are a quality assurance measure before a final report is released, verifying adherence to established procedures and documentation requirements.

Purpose of administrative reviews. These reviews are crucial for ensuring that all fire investigations adhere to established protocols and maintain a high standard of accuracy and consistency.

478

Scope of the review.

The administrative review specifically focuses on two key aspects, adherence to our SOPs, It confirms that all documented procedures outlined in our organization's (SOP's) have been followed during our investigation.

Documentation completeness. It verifies that all necessary documentation, including evidence logs, photos, reports, diagrams, and other relevant information, is present in the file.

479

Importance of administrative reviews.

Quality assurance. By verifying adherence to our (SOP's) our administrative reviews ensure our investigation process is consistent and reliable.

Legal and forensic integrity. Proper documentation and adherence to our (SOP's) are vital for the legal and forensic integrity of our investigation, as they demonstrate a thorough and evidence-based process.

Prevention of errors. Administrative reviews assist in identifying and correcting any errors or omissions in the investigation process, ensuring a more accurate and complete final report.

480

Context of NFPA® 1321.

NFPA® 1321, the Standard for Fire Investigation Units, provides the framework for the establishment, structure, and operation of our fire investigation unit.

This standard emphasizes the importance of having comprehensive (SOP's) and administrative procedures for all aspects of fire investigation.

481

Relationship to other NFPA® Standards:

NFPA® 1321 often references other NFPA standards, such as NFPA® 1033 (Standard for Professional Qualifications for Fire Investigators) and NFPA® 921 (Guide for Fire and Explosion Investigations).

These standards provide more specific guidance on the technical aspects of fire investigation, while NFPA® 1321 focuses on the organizational and administrative aspects.

An administrative review examines a fire investigation file to ensure that all evidence was collected according to the organization's (SOP's), and proper documentation was maintained for all evidence, and our investigation process was thoroughly documented in a final report.

482

8.4.1.2 An administrative review shall be conducted before any final report is released. Credit: NFPA®

NFPA® 1321 specifies a requirement related to the process of releasing a final report. It states, an administrative review is a mandatory step that shall be conducted prior to the official release of the report.

Administrative reviews involve a careful examination of documents or decisions to ensure accuracy, compliance with regulations, and fairness.

The specific purpose of this review before a report's release could be for any of the following reasons.

Verification of Information, reviewing to ensure all data and conclusions in the report are accurate and supported by appropriate evidence.

483

Compliance check. confirmation the report meets all relevant legal and procedural requirements.

Quality assurance. Ensuring the report is well-written, clear, accurate and comprehensive.

Stakeholder consideration. Ensuring potential impacts on relevant parties have been considered and addressed.

Policy adherence. Confirming the report corresponds with the organization's policies and procedures.

484

In summary, our administrative review serves as a safeguard to ensure our final report is accurate, compliant, transparent, honest, factual and ready for official release.

The specific details of what our review entails would depend on the type of report and type of fire loss.

485

8.4.2 Technical Reviews. The FIU shall develop a policy for technical reviews that ensures the report reflects all the aspects of the investigation in accordance with NFPA 1033. Credit: NFPA

Our policy shall ensure that the final report accurately reflects all aspects of the investigation, following the principles outlined in NFPA® 921 and 1033.

This includes ensuring the report reflects all aspects of the scientific method were applied, and the investigator(s) met the qualifications outlined in NFPA® 1033.

486

Technical reviews. Our FIU has established a formal process for reviewing the work of fire investigators, including both written reports and verbal simulations of testimony.

Policy requirement. Our policy shall define how technical reviews shall be conducted, who will be involved, and what aspects of the investigation will be reviewed.

NFPA® 1033 Alignment. Our policy shall ensure that all investigation reports adhere to the requirements of NFPA® 1033, which includes the scientific method, job performance criteria, and competency requirements.

487

Importance of NFPA® 1321.

NFPA® 1321 sets the minimum requirements for FIUs, including their structure, operations, and management, and emphasizes the importance of quality assurance in fire investigation.

Impact on reports. A well-developed technical review policy will lead to more accurate, thorough, and defensible investigation reports, ultimately contributing to the effective determination of fire origin and cause.

488

8.4.2.1 The technical review shall be an evaluation of the sufficiency of a case record with regard to the tests that were conducted and the observations and conclusions contained in the report. Credit: NFPA®

Our technical review assesses the quality of our FIU investigation report.

It ensures the report shall meet all investigation standards, particularly those in NFPA® 1033.

The reviewer evaluates the case record to verify the conclusions and opinions in the report are based on sound scientific knowledge and supported by our collected data.

489

The review examines any tests conducted, observations made, and conclusions reached to confirm our FIU accuracy and reliability.

The reviewer who performs our technical review shall be a qualified fire investigator with expertise relevant to the specific case. (They shall have all pertinent investigative findings, reports, and documentation available to the reviewer.

It is crucial for the reviewer to maintain objectivity, the technical reviewer shall not be the original author of the report.

490

8.4.2.2 The technical review shall prove that there is sufficient basis for the scientific conclusions contained in the report. Credit: NFPA®

Scientific validity. The technical review shall verify that the conclusions and opinions in the report are based on validated scientific knowledge and an appropriate methodology.

Data-driven conclusions. The review shall confirm if the conclusions are supported by the data collected during the investigation.

491

Quality assurance. This technical review serves as a crucial step in the quality assurance process for our fire investigation unit (FIU), ensuring our reports meet high standards and are reliable.

492

8.4.2.3 The scope of the technical review shall ensure, at a minimum, the following. The scope of the technical review shall ensure, at a minimum, the following. Credit: NFPA®

- (1) The results, opinions, and interpretations are accurate, properly qualified, and supported by the case records.
- (2) The applicable policies and procedures were used.
- (3) The written reports contain all the required information.
- (4) The results are scientifically valid.

493

(1) The results, opinions, and interpretations are accurate, properly qualified, and supported by the case records. Credit: NFPA®
Accuracy of results, opinions, and interpretations. The technical review ensures that our FIU conclusions reached in our investigation are accurate and unbiased.

Properly qualified and supported by the case record. All findings shall be supported by evidence, and any limitations or qualifications shall be clearly stated.

Compliance with NFPA® 1033. Our review shall ensure that the investigation process and findings comply with the job performance requirements outlined in NFPA® 1033.

494

(2) The applicable policies and procedures were used. Credit: NFPA®

Validity of scientific conclusions. The technical review shall assess whether our conclusions are within the bounds of validated scientific knowledge.

Sufficiency of the case record. The review shall evaluate whether the investigation was conducted thoroughly and whether there is sufficient evidence to support our findings.

495

(3) The written reports contain all the required information. Credit: NFPA®

Our technical review acts as a crucial quality control measure, ensuring that fire investigation reports are accurate, reliable, and consistent with established standards, policies and procedures we further ensure that our reports contain all required information for the technical review.

(4) The results are scientifically valid. Credit: NFPA®

Our FIU technical reviews mandates that all results shall be scientifically valid. Our technical reviewers specifically substantiate our investigator(s) followed and documented the scientific methodology throughout our investigation.

496

8.4.2.4 The person performing the technical review shall be qualified as a fire investigator and be technically competent in the areas specific to the scenario. Credit: NFPA®

Qualified as a fire investigator. This authenticates the reviewer possesses the necessary knowledge and skills to conduct fire investigations.

This involves meeting the requirements outlined in standards like NFPA® 1033, such as education, training, and certification.

Technically competent in the areas specific to the scenario. This means the reviewer has specialized knowledge or expertise relevant to the aspects of the fire incident being investigated.

497

For example, if the fire involved a complex industrial factory, the reviewer shall have technical knowledge in that area of expertise.

This requirement ensures the quality and accuracy of our fire investigation reports.

A qualified and technically competent reviewer can evaluate the sufficiency of the case record, validate scientific conclusions, and ensure the opinions and interpretations in our report are accurate and well-supported.

NFPA® 1321 8.4.2.4 intent is to ensure that technical reviews are conducted by individuals with the appropriate knowledge and expertise to maintain the highest standards of our fire investigation.

498

Technically competent. Our reviewer shall possess the specific knowledge and skills required to evaluate the investigation's methodology, findings, and conclusions within the context of the reviewed fire or explosion investigation.

For example, if the investigation involves a specific type of fuel or ignition source, the reviewer shall have expertise in that area of expertise.

Technical review purpose. Our technical review is a critical step in the fire investigation process, ensuring that our investigation adheres to established standards, where our conclusions are supported by evidence, and demonstrates our work product is accurate and reliable.

499

8.4.2.5 The person performing the technical review shall not be the author(s) of the report. Credit: NFPA®

This requirement ensures a more thorough and objective review of our report's findings, as it prevents potential bias or subjectivity in the review process.

Objectivity. A separate reviewer can offer a fresh perspective and identify potential weaknesses or errors in the original report that the author might have missed.

Simple. It is difficult sometimes to grade your own work when someone could miss something that someone else may find.

500

Quality control. This process ensures our report's accuracy, completeness, and clarity, leading to more reliable and defensible conclusions.

Independent verification. The technical review serves as an independent verification of the author's findings, adding credibility to our report.

NFPA® 1321 emphasizes the importance of separating the author from the reviewer to maintain the integrity and objectivity of the fire investigation report.

501

8.4.2.6 The technical review procedures shall include provisions for the resolution of disagreements. Credit: NFPA®

This ensures that any differences in opinions during the review process are addressed and resolved appropriately, ultimately ensuring the quality and consistency of our fire investigation unit's work.

Disagreement resolution. The standard requires that our technical review procedures have built-in mechanisms to handle disagreements.

Quality assurance. This requirement is part of a larger effort to improve our quality and consistency of our fire investigation unit, work products, while we ensure ethical, honesty and transparency.

502

Why it's necessary. Disagreements can arise during fire investigations, especially in complex cases or when multiple parties are involved whether public sector, private investigators, insurance companies SIU personnel or legal teams).

Addressing these disagreements proactively ensures a more efficient and fair investigation process.

How do we resolve and disagreements in our FIU?

Our FIU has developed written agreements to avoid misunderstandings and potential delays.

503

If there are disagreements, we shall have unbiased parties conduct a technical review and administratively review the case again when necessary.

Sharing information. Our FIU shares all collected data, so we ensure all interested parties have access to the same information through our discovery process.

Utilizing industry-standard technology. Our FIU uses modern technology to streamline the investigation process and ensure everyone has access to relevant information.

Cost-sharing. Sharing expenses for equipment or other costs that benefit all parties involved is one way to acquire all needed technology.

504

8.4.2.7 The technical reviewer shall document the scope of the review and specifically detail any limitations or restrictions placed on the reviewer that could adversely affect the review process. Credit: NFPA®

Transparency and accountability. Documenting the scope of the review ensures that all parties involved understand what was included and excluded in the review, if applicable.

Accuracy and integrity of our report. Detailing any limitations or restrictions on the reviewer helps to assess the validity and reliability of the technical review.

If the reviewer is unable to examine all aspects of the report or investigation due to restrictions, this information is crucial for evaluating the thoroughness of the review.

505

Maintaining objectivity. By specifically identifying and documenting limitations, the reviewer can maintain objectivity and avoid making assumptions based on incomplete information.

Compliance with standards. This documentation is a requirement of NFPA® 1321, ensuring that the review process meets the established standards for quality assurance in fire investigations.

NFPA® 1321 8.4.2.7 emphasizes the importance of our investigators providing a clear and transparent technical review process, highlighting the need for the reviewer to be honest and transparent about what they examined, were there any constraints that would have affected their review?

506

8.4.2.8 The FIU shall develop a policy to review expert witness testimony given by its investigators at a court or other proceeding. Credit: NFPA®

This policy is a crucial component of the standard's focus on quality assurance and improving the professionalism of our FIU.

Accountability. The FIU shall have a documented process to ensure the accuracy and reliability of testimony given by its personnel.

Quality control. Reviewing expert witness testimony assists in maintaining credibility and effectiveness of our FIU's work products.

507

Professional development. We promotes adherence to industry standards and ethical conduct in legal proceedings.

Our policy shall outline procedures for reviewing reports and testimony transcripts. This includes evaluating the sufficiency of the case record, validity of conclusions, and accuracy of interpretations.

Providing feedback and training. To assist our investigators, improve their courtroom performance and ensure consistency in their approach.

Addressing discrepancies or concerns. If any issues are identified, our policy shall define steps for resolution and remedial action.

508

By implementing our policy, our FIU can enhance the quality of our work and ensure our investigators are well-prepared to provide unbiased, clear, and factual testimony.

This ultimately contributes to a more effective and fair legal process.

509

Here's a breakdown of our key implications of this policy requirement.

1. Quality assurance and accuracy. Our review policy ensures the accuracy and reliability of the expert testimony given by our FIU investigators.

It serves as a mechanism to identify potential errors, inconsistencies, or areas for improvement in our FIU's analysis and presentation of findings.

510

2. Maintaining credibility and professionalism. Reviewing expert witness testimony assists our FIU in maintaining our credibility and professionalism of our FIU and investigators.

We demonstrate a commitment to providing high-quality and reliable expert opinions in legal and other proceedings.

3. Identifying training needs. Our review process assists us in identify areas where our FIU investigators may need additional training or development.

This can lead to improvements in our investigator's ability to analyze evidence, articulate findings, and present expert testimony effectively.

511

4. Standardization and best practices. Our policy contributes to the standardization of expert witness testimony practices within our FIU.

It assists in establishing our FIU best practices for our investigators to follow when preparing and delivering expert testimony.

5. Accountability and transparency. Our review policy promotes accountability within our FIU for the quality of expert witness testimony.

It enhances transparency by ensuring that the basis of our methodology and our investigator's opinions or conclusions have been thoroughly reviewed.

512

In conclusion, NFPA® 1321 requires us to have a policy for reviewing expert witness testimony.

This is a crucial element of quality assurance for our FIU.

It assists us to ensure that our investigator(s) expert opinions are accurate, reliable, and professionally presented, contributing to the integrity of our fire investigations and the overall credibility of our FIU.

513

Quality control. Our FIU ensures consistency, accuracy, and adherence to the standards discussing expert testimony.

Professional development. Our FIU Identifies any areas where our investigators may need additional training or support with their testimony.

Legal compliance. Our FIU ensures our testimony complies with legal requirements and evidence admissibility rules.

Organizational reputation. Our FIU maintains the credibility and reputation for our FIU.

Continuous improvement. Our FIU provides feedback to improve the overall quality of fire our investigations.

514

Scope. Define what types of testimony may be included such as depositions, court or trial testimony, administrative hearings.

Clarify that our investigators are subject to this policy? Any FIU consisting of two or more investigators.

Review process. Pre-testimony reviews of all case materials. Review our case files, reports, and all supporting documentation.

Reviews of proposed testimony and any exhibits or presentations.

Our FIU may provide mock trial testimony and practice sessions to evaluate presentation skills and preparedness, while our FIU mandates ethics, honesty, integrity and fairness by our FIU members when they testify or provide depositions.

515

Post-testimony review. Our FIU requires a formal review of transcripts, records or recordings of testimony.

Feedback sessions with the investigator and a designated reviewer shall occur.

Documentation of the review process and all findings.

516

Our FIU feedback mechanism.

1. Our FIU has developed a structured process for providing feedback to our investigators.
2. Our FIU outlines how feedback will be documented and used for training and improvement.
3. Confidentiality. Our FIU address the confidentiality of our review process.
4. Our FIU ensures the protection of sensitive information discussed during our reviews.

517

Our FIU policy review and updates.

Our FIU has established a schedule for reviewing and updating the policy to reflect any changes in standards, guidelines, legal procedures, or best accepted practices.

Policy title. Review of expert witness testimony by fire investigators.

Our FIU reviews and focuses on expert qualifications and demeanor in trial, depositions, grand juries etc.

Policy statement. Our Fire Investigation Unit is committed to providing accurate, reliable, truthful, honest and professional expert witness testimony.

518

Review process. Pre-testimony and post-testimony process described.

Reviewer qualifications. Requirements listed.

Review criteria. Specific criteria details.

Feedback mechanism. How to provide and document feedback.

Confidentiality. Requirements for maintaining confidentiality.

Policy review. Timeline and process.

Enforcement. Consequences for policy violations.

519

Additional considerations.

Consult with legal counsel for advice on our policy's legal implications, if there are any.

Consider using a standardized checklist to ensure a consistent review process.

We use our policy as a tool for continuous improvement within our FIU.

By implementing a thorough review policy, our FIU can enhance the quality and credibility of our investigations and expert witness testimony.

520

Qualification and expertise.

Training and experience. Our investigators shall demonstrate they have the necessary knowledge, training, and experience to form an expert opinion or conclusion.

Methodology. It is imperative to demonstrate our investigators follow the best accepted practices and methods in forming our conclusions.

Staying up to date. Keeping up with the latest fire science, technologies, and legal precedents is crucial.

Explain your continuing education, CFI Trainer, in-person training, CFI Trainer, webinars etc.

521

Testimony preparation and content.

Case review, be thorough, reviewing all case materials is essential, be prepared, know the case. If you worked the case, it is worth winning the case.

Expert reports, detailed reports outlining our expert's opinions or conclusions, the basis for those opinions or conclusions, and the data considered while forming the conclusions.

Exhibit support. Any exhibits to be used to support the testimony shall be prepared and reviewed and will likely need to be discoverable before any court actions.

Clear and factual testimony. shall be unbiased, clear, and based on facts, you are the expert testifying to your findings.

522

Courtroom procedures and communication.

Courtroom training. Fire investigators shall receive training on courtroom procedures and testimony.

Effective communication. Practicing public speaking and refining communication skills are important for credibility.

Addressing uncertainties. Acknowledge limitations or uncertainties in your findings, if applicable.

Professional demeanor. Presenting and representing your FIU, be professional and respectful, it builds credibility, you are the expert, you know more about the case than anyone else in the room, you worked the case, you wrote the report, and you are in control of your testimony.

523

Review and quality control. Review all data collected during your investigation, spell check and correct punctuation, make sure all facts are correctly stated.

Internal review. Some fire investigation units have a process for internal review of expert testimony before it's presented in court. If you do not, ask another investigator from without or within your agency or company to review your report for accuracy and spelling.

Feedback and improvement. Always ask for honest feedback and ways you could improve, find another investigator and ask him/her if they will review your work, ask if they have any suggestions for changes.

524

8.5* Audit. The FIU shall develop a policy regarding retrospective reviews of reports to ensure that the expressed policy is implemented. Credit: NFPA®

Retrospective reviews. Our FIU conducts retrospective reviews to ensure compliance with established documentation and reporting practices. These reviews help identify areas for improvement if found during our reviews.

The reviews assist our fire investigation unit to ensure the quality of our investigation product and operations by adhering to our policies.

525

Key aspects of the retrospective review policy.

Compliance. Our FIU ensures all documentation and reporting practices align with our FIU's established policies and procedures.

Improvement. It assists our FIU to identify areas where documentation and reporting processes could be enhanced.

Quality assurance contributes to maintaining the quality of work products and operations for our FIU.

Policy Adherence. This ensures our FIU is adhering to our established policies and procedures.

526

Why our FIU retrospective reviews are important.

They ensure consistency. Our regular reviews ensure that all reports are consistent in their format, content, and documentation.

We can demonstrate our FIU has standards in place to prevent discrepancies or potential errors.

Identifying improvement areas. By examining our past reports, our FIU can identify any perceived weaknesses in our documentation and reporting processes, leading to improvements in our quality and efficiency.

527

Maintaining quality control. Our FIU retrospective reviews act as a quality control measure, ensuring that all our reports meet the required standards and guidelines for our investigations by conducting them thoroughly and accurately.

Adhering to NFPA® 1321. Standard for Fire Investigation Units, mandates that our FIU develops policies for conducting retrospective reviews.

What to we expect in a retrospective review? Our FIU conducts a review of all documentation. The reviews will allow our FIU to examine the completeness, accuracy, and clarity of all documentation related to our fire investigation.

528

Assessment of reporting practices. Our FIU reviews assess whether our reporting practices adhere to the established policies and guidelines of our FIU. If applicable, this assessment will allow our FIU to identify any areas that need improvement. The reviews will identify any areas where our documentation or reporting processes could be improved. **Actionable recommendations.** Our FIU reviews could result in actionable recommendations for improvements in our documentation and reporting.

529

Benefits of retrospective reviews.
Improved quality of our FIU work products.
By identifying and addressing any perceived weaknesses in the documentation and reporting processes, our retrospective reviews lead us to change or review sections that need improvement to enhance our quality of investigations.
Enhanced efficiency. Any improvements in our documentation and reporting will lead to greater efficiency in our fire investigation unit.

530

Better compliance. Our FIU retrospective reviews ensures we are following NFPA® 1321 and other relevant standards and policies. **Increased confidence.** Our regular review within our FIU builds confidence in the accuracy and reliability of our fire investigation reports. The review provides checks and balances to ensure our FIU is following the best accepted practices of our industry.

531

Compliance with standards.
Our FIU mandates compliance with NFPA® 921 Guide for Fire and Explosion Investigations 2024 edition. NFPA® 1033 Standard for Professional Qualifications for Fire Investigator 2022 edition. NFPA® 1321 Standard for Fire Investigation Units 2025 edition. Our FIU operates in accordance with relevant regulations and standards recognized by experts, when necessary, beyond the above listed documents.

532

Training and education. Our FIU identifies our training needs based on the findings of retrospective reviews, assisting to enhance the skills and knowledge of our FIU personnel. **Continuous improvement.** Using the insights gained from retrospective reviews they assist our FIU in developing and implementing improvements, our FIU ensures effective and accurate findings for our fire investigations.

533

Benefits of retrospective reviews.
Improved investigation quality.
By identifying and perceived weaknesses and identifying any possible areas for improvement, retrospective reviews can lead to more thorough and accurate fire investigations. **Enhanced compliance.** Our FIU regular reviews ensures that the FIU is compliant with relevant regulations and standards.

534

Better reporting. Retrospective reviews assist our FIU to improve our quality and consistency in fire investigation reports, ensuring they are accurate and comprehensive.

Increased efficiency. By streamlining our policies and procedures, identifying any areas needing improvement, retrospective reviews can contribute to increased efficiency within our FIU.

Reduced bias. By examining our past cases and identifying potential areas of bias if any are found, retrospective reviews can help to ensure objectivity in fire investigations.

Credit: <https://Ohiopublicdefender.gov>

535

We need to demonstrate our FIU has in place policies and procedures that align with NFPA® 1321.



536



537

We have just completed an in-depth analysis of the new NFPA® 1321. My greatest desire is, I hope you are prepared for the questions you may receive when referencing testifying or providing depositions NFPA® 1321 may referenced during these challenges .

538

If I am the opposing attorney, this is the path of least resistance.

Like the scientific method before in the 1990's I would try to exclude you or limit your testimony based on NFPA® 1321.

Most questions may be asked would involve all the various sections of NFPA® 1321.

Then I would say, your honor it is apparent they are not well versed in the document , I move to exclude or limit the investigators testimony in this case.

539



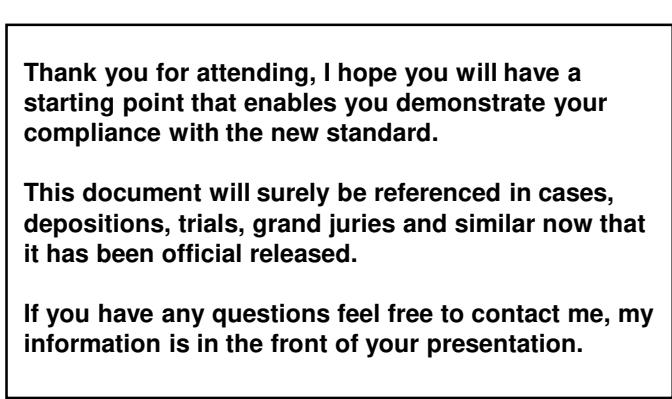
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