

### Editor's Note

Due to its length, this article is published in two parts. Below is the article outline showing which sections are published in each the Winter 2021 edition (Vol. 72, Issue 3) and the Spring 2022 edition (Vol. 72, Issue 4) of the *Fire & Arson Investigator Journal*.

# Quality Assurance in Fire Investigations: The New NFPA 1321 Standard for Fire Investigation Units

## Part 1

### 1. Introduction<sup>1</sup>

This year marks a major milestone in the journey the fire investigation discipline is taking to improve the quality assurance for the delivery of fire investigation services. That milestone is NFPA's publication of the initial draft of a new standard: NFPA 1321 *Standard for Fire Investigation Units* (FIUs).<sup>2</sup> The main purpose of this article is to acquaint our readers with this new proposed standard and consider its potential role in quality assurance related to the administration and management of FIUs.

This article is in two parts. Part I begins by explaining four essential parts of quality assurance, reviewing where our field stands respecting each one, and considering how NFPA 1321 fits in. Next is an overview of the genesis of NFPA 1321. Then we introduce the NFPA 1321 technical committee and highlight the steps it took to develop the draft. Part I ends with an overview of NFPA 1321's content.

In Part II we have a look at how NFPA 1321 advances some of the recommendations by the OSAC<sup>3</sup> Fire and Explosion Investigation Subcommittee in its report, *Strengthening Fire and Explosion Investigation in the United States: A Strategic Vision for Moving Forward (the Strategic Vision Report)*.<sup>4</sup> We conclude with some areas to track in the development of NFPA 1321, and important dates in the *NFPA 1321* revision cycle.

### 2. Quality Assurance

Over several decades, the fire investigation discipline has made slow but continuous progress towards improving the quality of fire investigations in the interest of serving justice. How do we evaluate how our field is performing and the steps needed for further improvement? One approach is to determine the extent that our field has embraced the four key components of quality assurance in the delivery of fire investigations services:

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- 1) **Standardization**<sup>5</sup> of the procedures and practices followed by fire investigators;
- 2) **Certification**<sup>6</sup> of individual practitioners (fire investigators);
- 3) **Accreditation**<sup>7</sup> of FIUs, and;
- 4) **Proficiency Testing**<sup>8</sup> to evaluate practitioner (investigator) performance.

Together these four elements have been described visually as the "Forensic Quality Triangle,"<sup>9</sup> shown in Figure 1 below.



Figure 1: Forensic Quality Triangle, courtesy of John Lentini<sup>10</sup>

The quality triangle applies to all forensic science services including fire investigations.

The base of the triangle is "Standardization", which is important in two respects. First, it refers to the need for a given forensic discipline to develop consensus standards reflecting the methods and best practices to be employed

in the conduct of its services. Second, the other three aspects of quality assurance (certification, accreditation, and proficiency testing) all depend on the consensus standards for their realization.

To date, the NFPA standards development process is responsible for creating industry standards<sup>11</sup> for two of the above four key components of quality assurance:

- a) NFPA 921 *Guide for Fire and Explosion Investigations*,<sup>12</sup> which details the methods and best practices to be employed in conducting fire and explosion investigations. While it is not a mandatory standard, it has become recognized in the fire investigation discipline and in the courts as the standard of care for fire investigators.
- b) NFPA 1033 *Standard for Professional Qualifications of Fire Investigator*,<sup>13</sup> which specifies the mandatory minimum job performance requirements for serving as a fire investigator in the public or private sectors. It provides the framework for fire investigator certification programs, which also rely on NFPA 921.

Relating these two documents to the quality triangle, NFPA 921 is central to the base of the triangle, representing the standardization of the practice of fire investigations, even though it is not mandatory. NFPA 1033 provides the framework for fire investigator certification programs, which also rely on NFPA 921. This leaves two aspects of the quality triangle unaccounted for in the fire investigation discipline: accreditation and proficiency testing, which we define next.

### 3. Accreditation and Proficiency Testing

Accreditation is an independent assessment by a third party of a **service provider's** quality, administrative and technical systems.<sup>14</sup> In the context of this article, some examples of service providers are fire departments, police departments, insurance claims departments, and FIUs.

By contrast, certification is, "the recognition by an independent body that an **individual** has acquired and demonstrated specialized knowledge, skills, and abilities in the standard practices necessary to execute the duties of their profession."<sup>15</sup> Certification addresses an investigator's knowledge, skills, and abilities. It does not evaluate the systems used by the individual in performing investigative services, such as management, technical or administrative systems, evidence handling or safety procedures.<sup>16</sup> Systems and standard procedures are matters for accreditation.

The fourth element of the quality triangle is proficiency testing. Proficiency testing evaluates the performance of individual practitioners, measured against pre-established criteria.<sup>17</sup> It can evaluate whether an individual's performance is competent and can also compare the performance of investigators among two or more FIUs. In the fire investigation field, an investigator's proficiency can be evaluated "through their reports, trial/deposition performance, mock reliability hearings, and reviews of investigations by independent third parties."<sup>18</sup>

Even though standardized practices, certification, accreditation, and proficiency testing are distinct from each other, they do not stand alone. They are inter-related, as shown by the following examples. Programs for certification, accreditation, and proficiency testing are all based on industry standards. Each of them will also depend, in part, on the standard practices in the field — which, for the fire investigation discipline, are in NFPA 921. Therefore, standardization is not separate from the other elements, it is an integral part of each of them.

Earlier in this article, we questioned the extent that our field has embraced the four key components of quality assurance. We have seen that NFPA 921 is available to guide investigators to use accepted methods and practices. Certification programs have been developed based on NFPA 1033 and NFPA 921. This leaves proficiency testing and accreditation.

Our discipline is not where it needs to be in terms of proficiency testing. This is a view expressed by the OSAC Fire and Explosion Investigation Subcommittee in its *Strategic Vision Report*.<sup>19</sup> The report identified a need to implement new proficiency testing programs to ensure that fire investigators are accurate in their determination of the causes of fires.<sup>20</sup> It also recommends that FIUs require proficiency testing for the training and continued monitoring of the work products of its investigators.<sup>21</sup>

Since fire pattern interpretation is an essential skill for fire investigators, it would be ideal if proficiency tests were readily available to determine the accuracy of individual investigators in this skill set. Unfortunately, proficiency tests of this nature are not yet available. Clearly, there is more work ahead for our discipline in terms of developing and implementing some relevant type of proficiency testing regime.

Finally, there is the issue of accreditation. This is another topic addressed by the OSAC *Strategic Vision Report*.<sup>22</sup> It states that very few FIUs are accredited, citing only four that were accredited as of 2019.<sup>23</sup>

It is not that information about accreditation has been entirely unavailable to the fire investigation community. The *Fire & Arson Investigator Journal* published a FISC Bulletin Board article in 2015 on this topic.<sup>24</sup> It describes the National Commission on Forensic Science (NCFS) recommendation for universal accreditation of forensic science service providers, which included FIUs.<sup>25</sup> Two of the FIUs that achieved accreditation in the wake of this recommendation are owned by leaders in the IAAI: Forensic Investigations Group, LLC (IAAI Immediate Past President Rick Jones, IAAI-CFI(V)), and; IRIS Fire Investigations, Inc. (IAAI President Robert K. Toth, IAAI-CFI).<sup>26</sup>

The paucity of FIUs that are accredited may be explained partly because at present, there is no standard designed specifically for the organization and operation of FIUs. With the advent of NFPA 1321, this situation is changing.

### 4. Origins of NFPA 1321

In 2016, the OSAC Fire and Explosion Investigation Subcommittee submitted a request to the NFPA to initiate

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a new project to develop a standard for FIUs.<sup>27</sup> The request included a draft of a Standard for the Organization and Operation of Fire Investigation Units (available for download on the subcommittee's webpage).<sup>28</sup> The stated purpose was to develop a standard that was suitable for the accreditation of FIUs.<sup>29</sup>

The NFPA published a news article in September 2017, describing the subcommittee's request and soliciting comments in support or opposition to the proposed new project.<sup>30</sup> The NFPA Standards Council later accepted the proposal and formed a new Technical Committee (TC) on FIUs in December 2018. For more information on the background of *NFPA 1321*, see the April 2019 FISC Bulletin Board article, *New Editions of NFPA 921 and 1033 Underway While NFPA Launches New Project*.<sup>31</sup>

## 5. NFPA Technical Committee on FIUs and Development of its Draft Standard

*NFPA 1321*'s scope states that it "shall cover the minimum requirements relating to the establishment, structure, operation, and management of fire investigation units," but shall not provide requirements for either fire investigation methodology (which *NFPA 921* addresses) or fire investigator professional qualifications (covered by *NFPA 1033*).<sup>32</sup> The TC's scope mirrors that of the standard, providing it, limiting its responsibility to "standards relating to the development and composition" of FIUs.<sup>33</sup>

The TC's chair is IAAI 1st Vice President, Charles "Randy" Watson, of S.E.A. Ltd. He is well known as the former chair of the *NFPA 921* TC, and a member of the *NFPA 1033* TC, as well as a leader in the IAAI.

As of December 10, 2021, the TC has 30 principal members (the maximum permitted) and 15 alternates. They represent a broad range of public agencies and private organizations from across the U.S. Some TC members represent particular organizations. IAAI Director Keith Paffrath is the IAAI representative, with Jon Ward as his alternate. The Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) and National Association of Fire Investigators (NAFI) also have representatives. Both IAAI President Toth and IAAI Immediate Past President Jones are members. The full list of TC members is available on the *NFPA 1321* Document Information Page.<sup>34</sup>

It has taken the TC close to 2 years of work to develop its draft for initial publication. Chair Watson has kindly summarized the steps involved in bringing the first draft to publication:<sup>35</sup>

- ➔ The TC had its first meeting *via* conference call in January 2019. It formulated a working definition of an FIU, which was the first goal.
- ➔ The next step was to decide whether the TC would write the new document as a standard or a guide. The TC voted to write it as a standard.

- ➔ Then the task was to prepare an outline. The NFPA Manual of Style determines the content of the first three chapters: Chapter 1 *Administration*, Chapter 2 *Referenced Publications*, and Chapter 3 *Definitions*. The question was what the rest of the standard would look like. A TC member moved to adopt the chapter outline as submitted to the NFPA (not the text). It was only at that time that the OSAC draft was shared with the TC.
- ➔ Once the chapters were identified, Chair Watson assigned Task Groups (TGs) to work on each chapter.
- ➔ Each TG's first assignment was to outline the chapter and submit to the full TC for approval, prior to developing any text. The TGs were not bound by the OSAC draft. They could use this material or consider it for informational purposes only.
- ➔ Each TG's chapter outline was reviewed by the full TC and approved.
- ➔ Next, each TG drafted text for their chapter.
- ➔ The chapter drafts were brought back to the TC for review and approval.
- ➔ After all the individual chapters were reviewed, chapters 1 through 3 were prepared.
- ➔ Finally, the full TC reviewed the entire document and voted to send it to the Standards Council for review, approval, and publication as a draft for Public Input.

The NFPA Standards Council approved the TC's draft, and then it was posted online, with a public input closing date of January 5, 2022.<sup>36</sup>

## 6. NFPA 1321's Content

Since *NFPA 1321* is written as an NFPA "Standard," the main text of the document, "contains only mandatory provisions using the word 'shall' to indicate requirements."<sup>37</sup> It is designed to be "generally suitable for mandatory reference by another standard or code or for adoption into law."<sup>38</sup> In summarizing *NFPA 1321*'s content, this article refers to the requirements in the main text of the standard as being mandatory. To clarify, while the language is framed in mandatory terms, *NFPA 1321* would only become mandatory after it is finalized and issued by the NFPA, if an authority having jurisdiction (AHJ) made it compulsory. NFPA defines an AHJ as, "An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure."<sup>39</sup>

Although the draft standard is brief, it covers a broad range of topics. Apart from the administrative chapters (Chapter 1 *Administration*, Chapter 2 *Referenced Publications*, and Chapter 3 *Definitions*), here is a

sampling of topics from each of the remaining chapters and the annexes:<sup>40</sup>

#### **Chapter 4 Organization, Process, and Management Systems:**

- Chapter 4 broadly addresses the organization of the FIU including its mission statement, ethical principles, and written policies and procedures governing every aspect of its operations and the services it provides.
- Process systems are addressed, including personnel hiring, management, and workload evaluation.
- Management systems are also covered that involve budgeting and strategy planning, procedures for the FIU's facilities and equipment, as well as ensuring quality assurance through periodic reviews of management systems and guiding documents.

#### **Chapter 5 Resources, Facilities, and Equipment:**

- Policies are required for seeking additional resources for investigations that go beyond the capabilities, manpower, or expertise of the FIU.
- Policies are also required for "the collection, storage, security, and evaluation of all evidence" (s. 5.2), to include avoiding contamination, dealing with hazardous materials, and controlling unauthorized access to evidence.

#### **Chapter 6 Safety**

- This is the longest chapter. It requires that the FIU have a Safety Program that addresses fire scene safety, personal protective equipment (PPE), and safety in the workplace including "occupational exposure, disease, and trauma-related injuries" (s. 6.4).
- There is a section dealing with vehicle use and another addressing incident scenes that require specialized PPE or other considerations.

#### **Chapter 7 Education, Training, and Certification**

- This chapter sets forth the FIU's obligations for ensuring the education and training of its investigators, including a mandate to meet the requirements of *NFPA 1033*. It also obliges the FIU to be responsible for its investigators' continuing professional development.

- The FIU's fire investigators shall be certified to the *NFPA 1033* standard.

#### **Chapter 8 Documentation and Reports**

- Chapter 8 requires the FIU to provide the necessary tools so that scenes can be documented in accordance with *NFPA 1033*. It also necessitates a policy that "ensures the [investigation] report reflects all the aspects of the scientific method in accordance with *NFPA 1033*" (s. 8.3.1).
- Quality assurance measures are necessary for reports including administrative and technical reviews and approvals of investigation reports.

#### **Annex A Explanatory Material and Annex B Informational References**

- Annex A provides a lot of context necessary to understand what the TC had in mind when drafting various sections of the standard. To describe some of the matters an FIU may need to consider in creating the policies and procedures required by the main text, several checklists are provided. Even though Annex A contains only non-mandatory provisions, it has invaluable information that elucidates the main text of the standard.
- Annex B provides a list of documents relevant to different chapters of the standard. The only ones that form part of the standard are the few that are also listed in Chapter 2 Referenced Publications such as *NFPA 1033*. *NFPA* and *ASTM* standards on various subjects compose the largest part of Annex B's references.

This is just a small selection of the areas *NFPA 1321* tackles. To do it justice, *NFPA 1321* needs to be read over repeatedly, particularly with close attention to the Annex A material.

#### **7. Conclusion to Part I**

To this point, we have reviewed the four central elements of quality assurance and considered the potential role of *NFPA 1321* in quality assurance for the fire investigation discipline. We also summarized the origins of the *NFPA 1321* project, introduced the *NFPA 1321* technical committee, and outlined the content of the *NFPA 1321* draft. In Part II of this article, some of *NFPA 1321*'s proposed requirements are compared with relevant recommendations from the OSAC *Strategic Vision Report*.<sup>41</sup> This article concludes with some areas to track in the development of *NFPA 1321*, and dates to note in the *NFPA 1321* revision cycle.

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## ENDNOTES

- 1 **Disclaimer:** To the extent that this article contains opinions, they are the opinions of the authors and not of the International Ass'n of Arson Investigators (IAAI), the IAAI Fire Investigation Standards Committee (FISC), or the National Fire Protection Association.
- 2 NAT'L FIRE PROT. ASS'N TECHNICAL COMM. ON FIRE INVESTIGATION UNITS, NFPA 1321 STANDARD FOR FIRE INVESTIGATION UNITS, PROPOSED EDITION (2021) [hereinafter NFPA 1321 DRAFT FOR PUBLIC INPUT, 2021], available through a link on the "Next Edition" tab of the NFPA 1321 Document Information Page, <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1321&tab=nextedition>. It is necessary to have (or create) a free NFPA account to access the draft standard.
- 3 "OSAC" is the acronym for "Organization of Scientific Area Committees for Forensic Science," administered by NIST. More information is available on the NIST-OSAC webpages, available at <https://www.nist.gov/osac>.
- 4 ORG. OF SCI. AREA COMM. FOR FORENSIC SCI., FIRE & EXPLOSION INVESTIGATION SUBCOMM., *OSAC Technical Guidance Document 0005—Strengthening Fire and Explosion Investigation in the United States: A Strategic Vision for Moving Forward* (2021), <https://doi.org/10.29325/OSAC.TG.0005> (last visited Dec. 12, 2021) [hereinafter OSAC STRATEGIC VISION REPORT].
- 5 See, e.g., the following:
  - a) Comm. on Identifying the Needs of the Forensic Sci. Cmty. et al., Nat'l Research Council of the Nat'l Acads., *Strengthening Forensic Science in the United States: A Path Forward* (2009), available at <https://www.ncjrs.gov/pdffiles1/nij/grants/228091.pdf> [hereinafter NRC REPORT], 23-25 (Forensic science practitioners comply with industry standards that reflect the best practices in their fields.).
  - b) Nat'l Comm'n on Forensic Sci., *Recommendation on Proficiency Testing* (Adopted at NCFS Meeting #11 - September 12, 2016); Nat'l Comm'n on Forensic Sci., *Views on Certification of Forensic Science Practitioners* (Adopted at NCFS Meeting #11 - September 12, 2016); and, *Recommendation on Universal Accreditation* (Approved by the NCFS Apr. 30, 2015, Reconciled at NCFS Meeting #9 - March 21-22, 2016), all available at <https://www.justice.gov/archives/ncfs/work-products-adopted-commission> (last visited Dec. 10, 2021). In these and other NCFS work products, the NCFS supports standardization and supports forensic science practitioners following industry standards.
  - c) OSAC STRATEGIC VISION REPORT, *supra* note 4, at 120 ("OSAC was established to review existing forensic science standards to identify or create best practices or new standards that forensic science practitioners need to adhere to in their daily operations to facilitate a better criminal justice system that relies on solid science.").
- 6 See, e.g., the following:
  - a) NRC REPORT, *supra* note 5(a), Recommendation #7 at 25 ("Laboratory accreditation and individual certification of forensic science professionals should be mandatory ....").
  - b) Nat'l Comm'n on Forensic Sci., *Views on Certification of Forensic Science Practitioners* (Adopted at NCFS Meeting #11 - September 12, 2016), available at <https://www.justice.gov/archives/ncfs/work-products-adopted-commission> (last visited Dec. 10, 2021), at 1 ("The implementation of robust and standardized certification programs using accredited certification bodies complements the accreditation of forensic science providers for the overall improvement of forensic science."), and at 2 ("[A]ll forensic science practitioners should ... [o]btain certification within 5 years from implementation of this document. Personnel entering the field after implementation shall obtain certification within 1 year of eligibility or within the required time limit of the certifying body.").
  - c) OSAC STRATEGIC VISION REPORT, *supra* note 4, at 117 (citing Nat'l Comm'n on Forensic Sci., *Views on Certification of Forensic Science Practitioners* (September 12, 2016), (agreeing with the NCFS, "that fire investigators, as forensic science practitioners, should become certified.")).
- 7 See, e.g., the following:
  - a) NRC REPORT, *supra* note 5(a), Recommendation #7 at 25 ("Certification requirements should include, at a minimum, written examinations, supervised practice, proficiency testing, continuing education, recertification procedures, adherence to a code of ethics, and effective disciplinary procedures.").
  - b) Nat'l Comm'n on Forensic Sci., *Recommendation on Universal Accreditation* (Approved by the NCFS Apr. 30, 2015, Reconciled at NCFS Meeting #9 - March 21-22, 2016), <https://www.justice.gov/archives/ncfs/file/477851/download> (last visited Dec. 10, 2021), at 1 ("It is recommended that all forensic science service providers (FSSPs) become accredited.").
  - c) OSAC STRATEGIC VISION REPORT, *supra* note 4, at iv ("The field of fire and explosion investigation needs to move toward accreditation of all fire and explosion investigation units.").
- 8 See, e.g., the following:
  - a) NRC REPORT, *supra* note 5(a), Recommendation #6 at 24-25 (funding should be authorized to develop proficiency testing in forensic science, "A particular need exists for routine, mandatory proficiency testing that emulates a realistic, representative cross-section of casework ...."); Recommendation #7 at 25 ("Certification requirements should include, at a minimum, written examinations, supervised practice, proficiency testing, continuing education, recertification procedures, adherence to a code of ethics, and effective disciplinary procedures.").
  - b) Nat'l Comm'n on Forensic Sci., *Recommendation on Proficiency Testing* (Adopted at NCFS Meeting #11 - September 12, 2016), <https://www.justice.gov/archives/ncfs/work-products-adopted-commission> (last visited Dec. 10, 2021), at 1 ("View: The National Commission on Forensic Science (NCFS) has previously adopted the policy recommendation on the Universal Accreditation of all Forensic Science Service Providers (FSSPs). Proficiency testing is required of all accredited FSSPs. As a recognized quality control tool, it is the view of the Commission that proficiency testing should also be implemented by non-accredited FSSPs in disciplines where proficiency tests are available from external organizations.").
  - c) OSAC STRATEGIC VISION REPORT, *supra* note 4, at xx-xxi ("[F]ire investigators need competency as well as proficiency testing."); and at xxiii ("New training and proficiency testing programs should be implemented to assure that fire investigators have the skills and knowledge to come to the correct conclusion about the causes of fires.").
- 9 John Lentini, *Forensic Science Standards: Where They Come from and How They Are Used*, 1 Forensic Science Policy and Management, 10, 10-11 (2009).
- 10 JOHN LENTINI, SCIENTIFIC PROTOCOLS FOR FIRE INVESTIGATION, 563 (3d ed. CRC Press 2018). The authors would like to thank Mr. Lentini for his permission to reproduce the Forensic Quality Triangle in this article.
- 11 "Standards" in this sense is used in the generic sense of documents that have been prepared through NFPA's standards development system, including mandatory standards and guides.
- 12 NAT'L FIRE PROT. ASS'N TECHNICAL COMM. ON FIRE INVESTIGATIONS, NFPA 921 GUIDE FOR FIRE AND EXPLOSION INVESTIGATIONS [hereinafter NFPA 921] (1992 ed., 1995 ed., 1998 ed., 2001 ed., 2004 ed., 2008 ed., 2011 ed., 2014 ed., 2017 ed., 2021 ed.). We use the short form, "NFPA 921" when referring generally to that document, in whatever edition is applicable in the context.
- 13 NAT'L FIRE PROT. ASS'N TECHNICAL COMM. ON FIRE INVESTIGATOR PROFESSIONAL QUALIFICATIONS, NFPA 1033 STANDARD FOR PROFESSIONAL QUALIFICATIONS FOR FIRE INVESTIGATOR [hereinafter NFPA 1033] (1987 ed., 1993 ed., 1998 ed., 2003 ed., 2009 ed., 2014 ed., 2022 ed.). We use the short form, "NFPA 1033" when referring generally to that document, in whatever edition is applicable in the context.
- 14 Nat'l Comm'n on Forensic Sci., *Recommendation on Universal Accreditation* (Approved by the NCFS Apr. 30, 2015, Reconciled at NCFS Meeting #9 - March 21-22, 2016), <https://www.justice.gov/archives/ncfs/file/477851/download> (last visited Dec. 10, 2021), App. B.
- 15 *Id.*

- 16 NCFS *Recommendation on Universal Accreditation*, *supra* note 14, at App. B.
- 17 Nat'l Comm'n on Forensic Sci., *Recommendation on Proficiency Testing* (Adopted at NCFS Meeting #11 - September 12, 2016), <https://www.justice.gov/archives/ncfs/work-products-adopted-commission> (last visited Dec. 10, 2021), App. B.
- 18 OSAC STRATEGIC VISION REPORT, *supra* note 4, at xxi. For a summary of this report, see IAAI Fire Investigation Standards Committee (FISC), *OSAC Releases its Strategic Vision for Fire Investigators*, 72 Issue 2 Int'l Assoc. of Arson Investigators, Fire & Arson Investigator J. 28 (Fall 2021).
- 19 OSAC STRATEGIC VISION REPORT, *supra* note 4.
- 20 OSAC STRATEGIC VISION REPORT, *supra* note 4, at xxiii.
- 21 OSAC STRATEGIC VISION REPORT, *supra* note 4, at xxvi.
- 22 OSAC STRATEGIC VISION REPORT, *supra* note 4. For a summary of this report, see IAAI Fire Investigation Standards Committee (FISC), *OSAC Releases its Strategic Vision for Fire Investigators*, 72 Issue 2 Int'l Assoc. of Arson Investigators, Fire & Arson Investigator J. 28 (Fall 2021).
- 23 OSAC STRATEGIC VISION REPORT, *supra* note 4, at 24 ("As of 2019, there were three private sector agencies and one public sector agency accredited by the American Association for Laboratory Accreditation (A2LA) to conduct fire scene investigations. ATF National Response Team is accredited by ANSI National Accreditation Board (ANAB).").
- 24 IAAI Fire Investigation Standards Committee (FISC), *Implementing the NRC/NAS Report: Trending: Universal Accreditation for Public and Private Fire Investigation Service Providers*, 65 Issue 4 Int'l Assoc. of Arson Investigators, Fire & Arson Investigator J. 33 (Apr. 2015).
- 25 *Id.*
- 26 Each of these commercial fire investigation companies received A2LA accreditation to the ISO/IEC 17020 standard, which specifies requirements for the competence of bodies performing inspections.
- 27 Craig Beyler on behalf of NIST OSAC Fire & Explosion Subcommittee, *New Project Initiation Form: Proposed Standard for the Organization and Operation of Fire Investigation Units*, (June 2016).
- 28 OSAC Fire and Explosion Investigation Subcommittee, *OSAC Proposed Standard: Standard for the Organization and Operation of Fire Investigation Units*, v. 1.0, Aug. 2019, available at <https://www.nist.gov/osac/fire-explosion-investigation-subcommittee>.
- 29 Craig Beyler, *OSAC Fire and Explosion Investigation Subcommittee Proposes Standard for the Organization and Operation of Fire Investigation Units*, OSAC Newsletter, Sept. 2017, available at <https://www.nist.gov/topics/organization-scientific-area-committees-forensic-science/osac-newsletter-september-2017>.
- 30 *Id.*
- 31 69 Issue 4 Int'l Assoc. of Arson Investigators, Fire & Arson Investigator J. 32 (Apr. 2019).
- 32 NFPA 1321 Document Information Page, "View Document Scope" line, <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1321>.
- 33 NFPA 1321 Document Information Page, "Technical Committee" tab, <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1321&tab=committee>.
- 34 *Id.*
- 35 Email from Charles (Randy) Watson, Director, Technical Training, S.E.A. Ltd., Chair of the NFPA 1321 TC, to Terry-Dawn Hewitt, McKenna Hewitt, Chair of FISC (Dec. 13, 2021, 7:48 AM) (on file with the authors).
- 36 See NFPA 1321 Document Information Page, "Next Edition" tab, <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1321&tab=nextedition>.
- 37 Definition of *Standard*, NAT'L FIRE PROT. ASS'N TECHNICAL COMM. ON FIRE INVESTIGATION UNITS, NFPA 1321 STANDARD FOR FIRE INVESTIGATION UNITS, PROPOSED EDITION (2021) s. 3.2.5. [hereinafter NFPA 1321 DRAFT FOR PUBLIC INPUT, 2021], available through a link on the "Next Edition" tab of the NFPA 1321 Document Information Page, <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1321&tab=nextedition>. It is necessary to have (or create) a free NFPA account to access the draft standard.
- 38 *Id.*
- 39 Definition of *Authority Having Jurisdiction*, NFPA 1321 DRAFT FOR PUBLIC INPUT, 2021, *supra* note 37, s. 3.2.2.
- 40 See NFPA 1321 DRAFT FOR PUBLIC INPUT, 2021, *supra* note 2.
- 41 OSAC STRATEGIC VISION REPORT, *supra* note 4.