

## FISC BULLETIN BOARD

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### MILESTONES IN THE EVOLUTION OF STANDARDS FOR FIRE INVESTIGATORS AND LITIGATION

The following table marks historical milestones relating to the interrelationship of NFPA 921 *Guide for Fire and Explosion Investigations*, NFPA 1033 *Standard for Professional Qualifications for Fire Investigator*, and litigation. We hope you find this to be an interesting overview of the influence of *NFPA 921* and *NFPA 1033* on the testimony of fire experts!

DATE	EVENT
1923	<i>Frye v. United States</i> <sup>1</sup> creates the common law “general acceptance” test: Novel scientific evidence is only admissible if generally accepted by the relevant scientific community.
1972	The first NFPA technical committee responsible for developing professional qualifications standards for fire investigators through the NFPA standards-making system is established. <sup>2</sup>
1975	Federal Rules of Evidence, including Rule 702 on the admissibility of expert evidence became effective on June 1, 1975. <sup>3</sup> The majority of states implemented the same or similar rules. While unclear whether the <i>Frye</i> general acceptance test still governs the admissibility of novel scientific evidence, many state and federal courts continued to apply <i>Frye</i> . <sup>4</sup>
1987	Publication of NFPA 1033 <i>Standard for Professional Qualifications for Fire Investigator</i> : first edition. <sup>5</sup> Minimal educational qualifications are required for fire investigators—a high school diploma and the necessity to remain current with “investigation methodology, fire protection technology, and code requirements.” <sup>6</sup>
1992	Publication of NFPA 921 <i>Guide for Fire and Explosion Investigations</i> : first edition. <sup>7</sup> New editions continue to be published approx. every 3 years.
1993	NFPA 1033: second edition published. Educational qualifications for fire investigators remain the same as in <i>NFPA 1033</i> , 1987 ed.
1993	<i>Daubert v. Merrell Dow Pharmaceuticals, Inc.</i> : <sup>8</sup> United States Supreme Court (“USSC”) overruled <i>Frye</i> and interpreted FRE 702. The trial judge is a gatekeeper to ensure scientific expert evidence is admitted only if A) the expert is qualified, B) the expert evidence is relevant and fits the case, and; C) the expert evidence is reliable, measured by 5 non-definitive tests of 1) testing, 2) peer review and publication, 3) standards, 4) general acceptance, and 5) error rate.
1993	First Canadian reported court decision that specifically mentions <i>NFPA 921</i> . <sup>9</sup>
1994	<i>Weisgram v. Marley Co.</i> : USSC emphasizes that <i>Daubert</i> imposes an “exacting standard” for the reliability of expert evidence, by demonstrating how testimony by fire experts that is based on interpretation of physical evidence and fire patterns can be dismantled.
1995	U.S. Dept. of Justice, Federal Bureau of Investigation hosts an international symposium on arson investigations, including a paper and lecture on the impact of <i>NFPA 921</i> in the courtroom. <sup>10</sup>
1996	Fire investigations are brought under <i>Daubert</i> scrutiny in <i>Michigan Millers Mutual Ins. Corp. v. Benfield</i> , <sup>11</sup> which demonstrates how <i>NFPA 921</i> can be an effective tool in cross-examination to have a fire investigation expert’s testimony excluded under <i>Daubert</i> . The 11 <sup>th</sup> Circuit upheld this decision on appeal. <sup>12</sup>
1996-1997	The International Association of Arson Investigators and the National Fire Protection Association co-sponsor a series of regional seminars across the United States entitled <i>NFPA 921: Sword and Shield</i> , to introduce fire investigators to the various ways that <i>NFPA 921</i> can be used in court.

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1997	<i>General Electric Co. v. Joiner</i> : <sup>13</sup> USSC rules that the trial judge’s discretion to admit or exclude expert testimony will only be overturned on appeal if a palpable error was made (abuse of discretion standard).
1999	<i>Kumho Tire Co., Ltd. v. Carmichael</i> : <sup>14</sup> USSC holds that <i>Daubert</i> reliability tests apply to technical as well as scientific knowledge. Any dispute as to whether <i>Daubert</i> reliability tests apply to experts in fire investigations is now over— <i>Daubert</i> applies to fire investigators.
2000	The Federal Rules of Evidence are amended to codify the <i>Daubert</i> ruling.
2000	U.S. Dept. of Justice publishes <i>Fire and Arson Scene Evidence: A Guide for Public Safety Personnel</i> containing recommended practices for the collection and preservation of evidence at fire/arson scenes based largely on <i>NFPA 921</i> . <sup>15</sup>
2003	Publication of the first American decision that specifically mentions <i>NFPA 1033</i> . <sup>16</sup>
2006	Publication of the <i>Arson Review Report</i> <sup>17</sup> commissioned by the Innocence Project <sup>18</sup> to peer review the expert testimony in the death penalty cases of Cameron Todd Willingham and Ernest Ray Willis, both convicted in Texas of arson crimes based on invalid science debunked by <i>NFPA 921</i> . Recommendations include continuing and even remedial education <sup>19</sup> for fire investigators based on <i>NFPA 921</i> and <i>NFPA 1033</i> .
2009	Publication of the 2009 edition of <i>NFPA 1033</i> , raising the bar for education by requiring investigators to maintain a minimum basic knowledge, beyond the high school level, of a list of 13 topics, ranging from fire science and explosion dynamics, to fire investigation methodology and failure analysis. <sup>20</sup>
2009	Publication of the report prepared by Dr. Craig Beyler <sup>21</sup> , (“the <i>Beyler Report</i> ”) commissioned by the Texas Forensic Science Commission (“TFSC”) <sup>22</sup> in the course of its investigation into the debunked fire science that caused Willingham and Willis to be convicted of arson. The report concludes that the investigations in these cases did not meet the standard of care expressed in <i>NFPA 921</i> , 1992 ed. <sup>23</sup>
2009	A groundbreaking work on problems in forensic science prepared by the National Academy of Sciences, <i>Strengthening Forensic Science in the United States: A Path Forward</i> <sup>24</sup> (“the <i>NAS Report</i> ”), cites <i>NFPA 921</i> and briefly alludes to the same faults plaguing fire investigations that both the <i>Arson Review Report</i> and the <i>Beyler Report</i> discuss in detail. Recommendations in the <i>NAS Report</i> include implementing mandatory certification of forensic science practitioners <sup>25</sup> and that practitioners comply with industry standards that reflect the best practices in their fields. <sup>26</sup> Although this report addresses fire scene investigations only peripherally, it brings fire investigators under its umbrella. <sup>27</sup>
2010	By 2010 in the U.S., more than 135 written decisions from both state and federal jurisdictions specifically mention <i>NFPA 921</i> . Of these, more than 20 are from state and federal appellate courts and 2 are from state supreme courts. In the federal courts, cases include decisions of the 2 <sup>nd</sup> , 4 <sup>th</sup> , 6 <sup>th</sup> , 7 <sup>th</sup> , 8 <sup>th</sup> , 10 <sup>th</sup> , & 11 <sup>th</sup> circuits. Most of the decisions are the result of <i>Daubert</i> motions. Measuring the reliability of an expert’s evidence by measuring it against <i>NFPA 921</i> ’s recommendations has become common. In jurisdictions that use <i>Frye</i> to determine the admissibility of expert testimony, <i>NFPA 921</i> is used as an indicator of general acceptance.
2010	The Oklahoma State Senate passes a resolution urging “the judicial branch, law enforcement agencies and other relevant government entities in Oklahoma to employ <i>NFPA 921</i> when conducting fire investigations.” <sup>28</sup>
2010	Citing the <i>NAS Report</i> and <i>NFPA 921</i> , a federal district court judge reviews the standard of care for reasonable trial counsel in arson cases and finds that counsel should be familiar with problems in cause and origin investigation techniques and forensic sciences. <sup>29</sup>

DATE	EVENT
2011	In Texas, the TFSC issues its report on the Willingham and Willis cases (“ <i>TFSC Final Report</i> ”), <sup>30</sup> recommending that “fire investigators adhere to the standards of NFPA 921,” enhance their certification, and comply with <i>NFPA 1033</i> , including mandatory requirements that the investigator must maintain a minimum basic knowledge, beyond the high school level, of 13 topics listed in <i>NFPA 1033</i> .
2011	The Texas State Fire Marshal’s Office endorses the recommendations in the <i>TFSC Final Report</i> as appropriate and promises to undertake their implementation. <sup>31</sup>
2011-2012	Numerous cases and legal articles continue to be published referencing the <i>NAS Report</i> in the context of bad fire science. <sup>32</sup>
2012	Approximately 200 American and 30 Canadian court decisions specifically mentioning <i>NFPA 921</i> .
2014	New editions of both <i>NFPA 921</i> and <i>NFPA 1033</i> are scheduled. If the amendments to these documents are in keeping with the spirit of the early revision proposals, when taken together, these two documents will raise the bar even higher for the standards expected of investigators in the conduct of their investigations and for their qualifications.

## ENDNOTES

<sup>1</sup> 293 F. 1013 (D.C. Cir. 1923).

<sup>2</sup> NAT’L FIRE PROT. ASS’N TECHNICAL COMM. ON FIRE INVESTIGATOR PROFESSIONAL QUALIFICATIONS, *NFPA 1033 STANDARD FOR PROFESSIONAL QUALIFICATIONS FOR FIRE INVESTIGATOR 1* (2009 ed.).

<sup>3</sup> Edward R. Becker Aviva Orenstein, *The Federal Rules of Evidence After Sixteen Years—the Effect of “Plain Meaning” Jurisprudence, the Need for an Advisory Committee on the Rules of Evidence, and Suggestions for Selective Revision of the Rules*, 60 Geo. Wash. L. Rev. 857, 858 (1992).

<sup>4</sup> *Id.* at 877.

<sup>5</sup> NAT’L FIRE PROT. ASS’N TECHNICAL COMM. ON FIRE INVESTIGATOR PROFESSIONAL QUALIFICATIONS, *NFPA 1033 STANDARD FOR PROFESSIONAL QUALIFICATIONS FOR FIRE INVESTIGATOR 1* (2009 ed.).

<sup>6</sup> *NFPA 1033* §§1–3.2, 1–3.7, 1987 ed.

<sup>7</sup> NAT’L FIRE PROT. ASS’N TECHNICAL COMM. ON FIRE INVESTIGATIONS, *NFPA 921 GUIDE FOR FIRE AND EXPLOSION INVESTIGATIONS 1*.

<sup>8</sup> 509 U.S. 579 (1993).

<sup>9</sup> *Éditions Le Canada français ltée c. Brault & Bisailon* (1986) inc., 1993 Carswell Que. 1244, J.E. 93-730, EYB 1993-74461 (1993).

<sup>10</sup> Terry-Dawn Hewitt, *NFPA 921: Its Impact on Fire Investigators and Expert Witnesses in the Courtroom*, in F.B.I. LABORATORY DIV., U.S. DEPT. OF JUSTICE, ED., *PROCEEDINGS OF THE INTERNATIONAL SYMPOSIUM ON THE FORENSIC ASPECTS OF ARSON INVESTIGATIONS* 93 (1995).

<sup>11</sup> No. 93-1283-CIV-T-17A (M.D.Fla. 1996) (unreported).

<sup>12</sup> *Michigan Millers Mut. Ins. Corp. v. Benfield*, 140 F.3d 915 (11th Cir. 1998).

<sup>13</sup> 522 U.S. 136 (1997).

<sup>14</sup> 526 U.S. 137 (1999).

<sup>15</sup> NATIONAL INSTITUTE OF JUSTICE, U.S. DEPARTMENT OF JUSTICE, *FIRE AND ARSON SCENE EVIDENCE: A GUIDE FOR PUBLIC SAFETY PERSONNEL* (2000).

<sup>16</sup> *McCoy v. Whirlpool Corp.*, 214 F.R.D. 646 (D. Kan. 2003).

<sup>17</sup> INNOCENCE PROJECT ARSON REVIEW COMM., *REPORT ON THE PEER REVIEW OF THE EXPERT TESTIMONY IN THE CASES OF STATE OF TEXAS V. CAMERON TODD WILLINGHAM AND STATE OF TEXAS V. ERNEST RAY WILLIS* (2006), available at <http://www.innocenceproject.org/docs/ArsonReviewReport.pdf>.

<sup>18</sup> *Mission Statement*, InnocenceProject.org, <http://www.innocenceproject.org/about/Mission-Statement.php> (last visited August 7, 2012) (“[A]n independent nonprofit organization closely affiliated with Cardozo School of Law at Yeshiva University, the Innocence Project’s mission is nothing less than to free the staggering

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numbers of innocent people who remain incarcerated and to bring substantive reform to the system responsible for their unjust imprisonment.”).

<sup>19</sup> INNOCENCE PROJECT ARSON REVIEW COMM., REPORT ON THE PEER REVIEW OF THE EXPERT TESTIMONY IN THE CASES OF *STATE OF TEXAS V. CAMERON TODD WILLINGHAM* AND *STATE OF TEXAS V. ERNEST RAY WILLIS* 40 (2006), available at <http://www.innocenceproject.org/docs/ArsonReviewReport.pdf>.

<sup>20</sup> NFPA 1033 (2009 ed.), § 1.3.8.

<sup>21</sup> CRAIG L. BEYLER, ANALYSIS OF THE FIRE INVESTIGATION METHODS AND PROCEDURES USED IN THE CRIMINAL ARSON CASES AGAINST ERNEST RAY WILLIS AND CAMERON TODD WILLINGHAM (August, 2009), reprinted in TEX. FORENSIC SCI. COMM’N, FINAL REPORT WILLINGHAM/WILLIS INVESTIGATION Ex. 7 (April 15, 2009), available at <http://www.fsc.state.tx.us/documents/FINAL.pdf>.

<sup>22</sup> *About Us*, TEX. FORENSIC SCI. COMM’N (2012) <http://fsc.state.tx.us/about/>. The Texas Forensic Science Commission was established in 2005. It “investigates complaints that allege professional negligence or misconduct by a laboratory, facility or entity that has been accredited by the Director of the Texas Department of Public Safety that would substantially affect the integrity of the results of a forensic analysis. The term ‘forensic analysis’ means a medical, chemical, toxicological, ballistic, or other examination or test performed on physical evidence, including DNA evidence, for the purpose of determining the connection of the evidence to a criminal action.” *Id.*

<sup>23</sup> NAT’L FIRE PROT. ASS’N TECHNICAL COMM. ON FIRE INVESTIGATIONS, NFPA 921 GUIDE FOR FIRE AND EXPLOSION INVESTIGATIONS (1992 ed.).

<sup>24</sup> 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 NAS REPORT].

<sup>25</sup> *Id.*, at 25.

<sup>26</sup> *Id.*, at 23–25.

<sup>27</sup> *Id.*, at 172–3 (*citations omitted*).

<sup>28</sup> S.R. 99, (Okla. 2010), available at <https://www.sos.ok.gov/documents/legislation/52nd/2010/2R/SR/99.pdf>.

<sup>29</sup> *United States v. Hebshie*, 754 F.Supp.2d 89, 92 (D. Mass. 2010).

<sup>30</sup> TEX. FORENSIC SCI. COMM’N, FINAL REPORT WILLINGHAM/WILLIS INVESTIGATION 39-41 (April 15, 2009), available at <http://www.fsc.state.tx.us/documents/FINAL.pdf>.

<sup>31</sup> TEX. FORENSIC SCI. COMM’N, ADDENDUM TO THE APRIL 15, 2011 REPORT 5 (Oct. 28, 2009), available at [http://www.innocenceproject.org/docs/2011/Willingham\\_Willis\\_Addendum\\_2011.pdf](http://www.innocenceproject.org/docs/2011/Willingham_Willis_Addendum_2011.pdf).

<sup>32</sup> *See, e.g. Ex Parte Robbins*, 360 S.W.3d 446, 453 (Tex.Crim.App., 2011) *reh'g denied* (Sept. 21, 2011), *cert. denied*, 132 S. Ct. 2374 (U.S. 2012) (3–4 decision).