

TEXAS COMMISSION ON FIRE PROTECTION
April 21, 2022, 9:00 a.m.
1701 N. Congress Ave., William B. Travis Building, Room 1-104, Austin, Texas

The meeting of the Texas Commission on Fire Protection will be held in-person at the physical location above. If you are not feeling well or were possibly exposed to COVID-19, please stay at home.

The Texas Commission on Fire Protection may discuss and/or take action on any of the following agenda items. The Commission may go into executive session on any agenda item listed below as authorized by the Open Meetings Act, Texas Government Code Chapter 551.

1. Call to order with invocation and pledge of allegiance.
2. Roll call and excuse of Commissioner absences.
3. Commission meeting minutes of January 19, 2022, and January 20, 2022.
4. The Budget and Strategic Plan Subcommittee may meet on April 21, 2022, during the commission meeting and provide a report relating to any recommendations developed by the subcommittee relating to modifications to the agency operating budget and strategic plan.
5. Reports from fire service interest groups and agencies on matters relating to their specific organizational purposes, functions, activities, and objectives, including reports from the Texas Fire Chiefs Association, the Texas State Association of Fire Fighters, the State Firefighters and Fire Marshals' Association of Texas, the Texas Fire Marshal's Association, the Texas Association of Fire Educators, the Texas A&M Forest Service, the National Fire Protection Association, Texas State Association of Fire and Emergency Districts, the Center for Public Safety Excellence, the State Fire Marshal's Office, and the National Fallen Fire Fighters Foundation.
6. Report from commission representative to the Texas Fire School Advisory Board or by representatives of the Texas Engineering Extension Service (TEEX) regarding fire protection training provided by TEEX through its Emergency Services Training Institute (ESTI).
7. Report from commission representative to the Homeland Security Council.
8. Report from the Health and Wellness ad-hoc committee.
9. Report from the Chapter 427 ad-hoc committee.
10. Subjects for future commission meeting agendas.
11. Future meeting dates.
12. Matters referred from the Fire Fighter Advisory Committee (FFAC), including, but not limited to:
 - A. Possible final adoption of the proposed amendments as follows:
 1. 37 Tex. Administrative Code, Part 13, Chapter 461, Incident Commander.
 2. 37 Tex. Administrative Code, Part 13, Chapter 437, Fees.
 - B. Proposed amendments regarding rule review of the following:
 1. 37 Tex. Administrative Code, Part 13, Chapter 435, Fire Fighter Safety.

2. 37 Tex. Administrative Code, Part 13, Chapter 403, Criminal Convictions and Eligibility For Certification.

3. 37 Tex. Administrative Code, Part 13, Chapter 423, Fire Suppression

4. 37 Tex. Administrative Code, Part 13, Chapter 425, Fire Service Instructors

5. 37 Tex. Administrative Code, Part 13, Chapter 439, Examinations For Certification

C. Report from the Curriculum and Testing Committee regarding recommended changes to the Fire Investigator Certification Curriculum Manual.

13. 37 Tex. Administrative Code, Part 13, new Chapter 463, Advisory Committees.

14. Proposed rule review for the following:

1. 37 TAC, Chapter 401, Administrative Practice and Procedure

2. 37 TAC, Chapter 421, Standards for Certification

3. 37 TAC, Chapter 429, Minimum Standards for Fire Inspectors

4. 37 TAC, Chapter 431, Fire Investigation

5. 37 TAC, Chapter 433, Driver/Operator

6. 37 TAC, Chapter 437, Fees

15. Review of 2021 data collected regarding fire fighter injuries and the development of recommendations to be submitted to the State Fire Marshal's Office for inclusion in its annual report.

16. Matters from the Agency Chief.

A. Update regarding agency duties and responsibilities.

B. Decisions of Agency Chief in contested cases and consent orders.

C. Status regarding division functions:

a. Training Approval & Testing – test administered, training approvals, record reviews and online training audits

b. Certification & Professional Development – training applications, IFSAC seals issued, certifications issued, training facilities, curriculum development, library resource requests

c. Compliance – biennial inspections, compliance officers training, issues involving regulated entities

d. Information Technology – public website design, FARM and FIDO improvements, CAPPS (Central Accounting Payroll/Personnel System), IT security policy, service requests

17. Personnel matters regarding the appointment, employment, compensation, evaluation, reassignment, and duties of the Agency Chief.

18. Adjourn meeting.

Any invocation that may be offered before the official start of the commission meeting shall be voluntary offering of a chaplain, to and for the benefit of the commission. The views or beliefs

expressed by the invocation speaker have not been previously reviewed or approved by the commission and do not necessarily represent the religious beliefs or views of the Council in part or as a whole. No member of the community is required to attend or participate in the invocation and such decision will have no impact on their right to participate actively in the business of the commission. Copies of the policy governing invocations and setting forth the procedure to have a volunteer deliver an invocation are available upon written request submitted to the commission Clerk.

- 1. Call to order with invocation and pledge of allegiance.**

2. Roll call and excuse of Commissioner absences.

3. Commission meeting minutes of January 19, 2022, and January 20, 2022.

TEXAS COMMISSION ON FIRE PROTECTION

Presiding Officer, J. P. Steelman at 2:00 p.m. called the January 19, 2022, Commission Workshop meeting to order at 1701 N. Congress Avenue, Room 1-104, Austin, Texas.

Attending	Chris Cantu Mike Jones J. P. Steelman	David Coatney Clyde Loll* Kelly Vandygriff	Sue De Villez Bob Morgan Rusty Wilson	Michael Glynn Mala Sharma*	Paul Hamilton Tim Smith
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*absent entire meeting
**absent part of meeting

Staff	Deborah Cowan Rosalind Hunt, Assistant Attorney General	Mike Wisko	Cliff Grant	Amanda Khan
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Guests	Kelly Ransdell	Leonard Chan
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1. **Roll call.** Bob Morgan, Secretary called roll and a quorum was present.

2. **Rule review process.**

After discussion a motion was made by Michael Glynn and seconded by David Coatney to have the fire fighter advisory committee review the rules and bring any recommendations back to the full commission. The motion carried.

3. **Records review process.**

After discussion, no action necessary.

4. **Ad-hoc committee regarding advisory committees including but not limited to, committee make-up, term limits, and meeting requirements.**

After discussion, a motion was made by Michael Glynn and seconded by Kelly Vandygriff to accept the plan that was presented to the commission. The motion carried.

After further discussion, the previous motion was withdrawn. The motion carried.

After more discussion, a motion was made by Michael Glynn to accept the term limits as presented with the changes as updated. The motion carried.

5. **Fee amounts.**

After discussion, a motion was made by David Coatney and seconded by Rusty Wilson to raise the International Fire Service Accreditation Congress (IFSAC) seals from \$15 to \$30 and to reduce the certification renewal fee from \$75 to \$60. The motion carried.

A motion was made by David Coatney and seconded by Michael Glynn to eliminate the IFSAC seal bundle package. The motion carried.

6. **37 Tex. Administration Code, Part 13, Chapter 439, Examinations For Certification.**

No action taken.

7. **Adjourn meeting.**

A motion was made by Michael Glynn and seconded by Rusty Wilson to adjourn at 5:05 p.m. The motion carried.

J. P Steelman, Presiding Officer

TEXAS COMMISSION ON FIRE PROTECTION

Presiding Officer, J. P. Steelman, at 9:00 a.m. called the January 20, 2022, meeting of the Texas Commission on Fire Protection to order at 1701 N. Congress Avenue, Room 1-104, Austin, Texas.

Attending	Chris Cantu Mike Jones J. P. Steelman	David Coatney Clyde Loll* Kelly Vandygriff	Sue DeVillez* Bob Morgan Rusty Wilson	Michael Glynn Mala Sharma*	Paul Hamilton Tim Smith
				*absent entire meeting **absent part of meeting	

Staff	Mike Wisko Amanda Khan	Deborah Cowan Rosalind Hunt, Assistant Attorney General	Grace Wilson	Cliff Grant	Rick Wallace
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Guests See Guest List attached.

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| 1. Invocation and Pledge of Allegiance | The invocation was given by Commissioner Russell Wilson and the Pledge of Allegiance was lead by Presiding Officer, J. P. Steelman. |
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| 2. Roll call and excuse of Commissioner absences | Secretary, Bob Morgan called the roll, and a quorum was present.

A motion was made by Mike Jones and seconded by David Coatney to excuse the absences of Commissioners Clyde Loll, Sue DeVillez, and Mala Sharma. The motion carried. |
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| 3. Recognition of Individual's Dedication to Texas Fire Service | Commissioner Rusty Wilson recognized Pat McAuliff, Chairman of the agency's Curriculum and Testing Committee for his fire service dedication. |
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| 4. Adoption of Minutes | A motion was made by Kelly Vandygriff and seconded by Rusty Wilson to approve the minutes of the October 28, 2021, commission meeting. The motion carried. |
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| 5. Report from Budget and Strategic Plan Subcommittee | No action necessary. |
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| 6. Reports from Interest Groups | A brief report was given by the Texas Fire Chief's Association, Texas State Association of Fire Fighters, Texas A&M Forest Service, National Fire Protection Association, Center for Public Safety Excellence, and the National Fallen Fire Fighters Foundation. |
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| 7. Report from TX Fire School Advisory Board | Agency representative Shawn Schneider was unable to attend the meeting. Gordon Lohmeyer gave a brief report on the activities of the board to date. |
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| 8. Report from Homeland Security Council | Commissioner Kelly Vandygriff reported that the council had not met since the last meeting. |
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| 9. Report from Health & Wellness Committee | Chairman, Mala Sharma was unable to attend the meeting. Chief Doug Boeker, Sugarland Fire Department gave a brief report in her absence. |
| 10. Update from Chapter 435 & Chapter 427 ad-hoc committees | Chairman of the Chapter 435 ad-hoc committee, Mike Jones gave a brief update on the committee's work. He also reported that the rule review was up for proposal on a later agenda item.
Chairman of the Chapter 427 ad-hoc committee, Paul Hamilton gave a brief update on the committee's work to date. He also reported that the committee will be meeting in February and hopefully have a rule review proposal for the commission's April 2022 meeting. |
| 11. Subjects for future meeting agendas | Proposed rule amendments in reference to Texas Government Code, §2001.024 |
| 12. Future meeting Dates | The commission previously scheduled April 21, 2022, for its next meeting |
| 13. Matters from Fire Fighter Advisory Committee | A. A motion was made by Tim Smith and seconded by Michael Glynn to approve for final adoption amendments to Chapter 455, §455.3 as discussed. The motion carried.
B. A motion was made by Michael Glynn and seconded by Mike Jones to approve the updates to the Fire Officer I, Fire Officer II, Fire Officer III, and Fire Officer IV curricula as discussed. The motion carried. |
| 14. 37 TAC, Chapter 435, Fire Fighter | After discussion, a motion was made by Paul Hamilton and seconded by Bob Morgan to send the proposed rule review to the Fire Fighter Advisory Committee for review at its March Safety meeting. The motion carried. |
| 15. 37 TAC, Chapter 461, Incident Commander | A motion was made by Mike Jones and seconded by Bob Morgan to propose for publication amendments to Chapter 461, §461.1 as discussed. The motion carried. |
| 16. Proposed rule Reviews | A motion was made by Mike Jones and seconded by Bob Morgan to have the Fire Fighter Advisory Committee review the rules for 37 TAC, Chapter 403, Criminal Convictions and Eligibility For Certification, 37 TAC, Chapter 423, Fire Suppression, 37 TAC, Chapter 425, Fire Service Instructor, and 37 TAC, Chapter 439, Examinations For Certification and submit recommendations back to the commission. The motion carried. |
| 17. Report from ad-hoc committee regarding advisory committees | After discussion, a proposed rule will be provided to the commission at its April meeting. |

18. Fee amount
For certificates
- A motion was made by Paul Hamilton and seconded by Mike Jones to raise the International Fire Service Accreditation Congress (IFSAC) seals from \$15 to \$30 and to reduce the certification renewal fee from \$75 to \$60. The motion carried.
- A motion was made by Michael Glynn and seconded by David Coatney to approve for publication amendments to Chapter 435, Fees, §435.7 and §437.15 as discussed. The motion carried.
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19. Matters from
Agency
Chief
- a. Mike Wisko, Agency Chief informed the commissioners the agency had no contested cases or consent orders to report.
- b. Mr. Wisko reported on agency division functions. He also provided commissioners with the agency's 2022 Regional Meeting Schedule.
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20. Executive
Session
- Presiding Officer, J. P. Steelman did not call for an Executive Session.
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21. Adjournment
- A motion to adjourn was made by Rusty Wilson and seconded by Michael Glynn. The motion carried.

J. P. Steelman, Presiding Officer

- 4. The Budget and Strategic Plan subcommittee may meet on April 21, 2022, during the commission meeting and provide a report relating to any recommendations developed by the subcommittee relating to modifications to the agency operating budget and strategic plan.**

Texas Commission on Fire Protection
Fiscal Year 2022 - Operating Budget
3/1/2022

Summary

	FY22		Balance	Remaining
	Budget	Expended		
Goals:				
Education, Information and Assistance	80,000.00	30,750.00	49,250.00	
Fire Department Standards	942,952.56	476,955.93	465,996.63	
Indirect Administration	552,402.00	280,072.46	272,329.54	
1001 - Salaries & Wages:	1,575,354.56	787,778.39	787,576.17	50%
Education, Information and Assistance	1,680.00	820.00	860.00	
Fire Department Standards	23,172.00	42,644.05	(19,472.05)	
Indirect Administration	41,960.00	2,760.00	39,200.00	
1002 - Other Personnel Costs	66,812.00	46,224.05	20,587.95	31%
Education, Information and Assistance	100.00	101.15	(1.15)	
Fire Department Standards	1,000.00	895.90	104.10	
Indirect Administration	2,800.00	447.95	2,352.05	
2001 - Professional Fees and Services:	3,900.00	1,445.00	2,455.00	63%
Education, Information and Assistance	495.00	204.05	290.95	
Fire Department Standards	4,000.00	5,798.96	(1,798.96)	
Indirect Administration	3,000.00	590.32	2,409.68	
2003 - Consumable Supplies:	7,495.00	6,593.33	901.67	12%
Education, Information and Assistance	10.00	0.00	10.00	
Fire Department Standards	3,260.00	3,630.97	(370.97)	
Indirect Administration	40.00	0.00	40.00	
2004 - Utilities:	3,310.00	3,630.97	(320.97)	-10%
Education, Information and Assistance	4,425.00	409.62	4,015.38	
Fire Department Standards	87,856.00	35,527.17	52,328.83	
Indirect Administration	19,274.82	8,367.04	10,907.78	
2005 - Travel:	111,555.82	44,303.83	67,251.99	60%
Education, Information and Assistance	10.00	0.00	10.00	
Fire Department Standards	90.00	0.00	90.00	
Indirect Administration	325.00	180.00	145.00	
2006 - Rent - Building (storage):	425.00	180.00	245.00	58%
Education, Information and Assistance	290.32	239.77	50.55	
Fire Department Standards	2,903.23	1,147.03	1,756.20	
Indirect Administration	1,306.45	573.53	732.92	
2007 - Rent - Machine and Other:	4,500.00	1,960.33	2,539.67	56%
Education, Information and Assistance	5,972.09	1,614.11	4,357.98	
Fire Department Standards	47,475.17	23,901.81	23,573.36	
Indirect Administration	31,306.67	33,183.57	(1,876.90)	
2009 - Other Operating Expense:	84,753.93	58,699.49	26,054.44	31%
Education, Information and Assistance	0.00	0.00	0.00	
Fire Department Standards	11,155.6	11,155.61	0.00	
Indirect Administration	0.00	0.00	0.00	
4000 - Grants:	11,155.61	11,155.61	0.00	0%
TOTAL - ALL EXPENDITURES		961,971.00		
APPROVED APPROPRIATION	1,881,488.00		907,290.95	48%

**Texas Commission on Fire Protection
Fiscal Year 2022 - Operating Budget
3/1/2022**

Summary		01	02	03	04	05	06			
Goals:		Sept	Oct	Nov	Dec	Jan	Feb	TOTALS	% Remaining	Budget
1001 - Salaries & Wages:	Education	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,250.00	\$ 5,250.00	\$ 5,250.00	\$ 30,750.00	61.56%	\$ 80,000
	Standards	\$ 80,523.47	\$ 79,845.68	\$ 73,629.91	\$ 73,096.53	\$ 87,395.61	\$ 82,464.73	\$ 476,955.93	49.42%	\$ 942,953
	Admin	\$ 45,658.92	\$ 45,658.92	\$ 45,658.92	\$ 48,437.25	\$ 47,351.18	\$ 47,307.27	\$ 280,072.46	49.30%	\$ 552,402
								\$ 787,778.39	50%	\$ 1,575,355
1002 - Other Personnel Costs	Education	\$ 120.00	\$ 140.00	\$ 140.00	\$ 140.00	\$ 140.00	\$ 140.00	\$ 820.00	51.19%	\$ 1,680
	Standards	\$ 1,676.25	\$ 7,707.97	\$ 2,146.73	\$ 15,432.30	\$ 1,235.83	\$ 14,444.97	\$ 42,644.05	-84.03%	\$ 23,172
	Admin	\$ 440.00	\$ 440.00	\$ 460.00	\$ 460.00	\$ 460.00	\$ 500.00	\$ 2,760.00	93.42%	\$ 41,960
								\$ 46,224.05	31%	\$ 66,812
2001 - Professional Fees/Services:	Education	\$ -	\$ -	\$ 101.15	\$ -	\$ -	\$ -	\$ 101.15	-1.15%	\$ 100
	Standards	\$ -	\$ -	\$ 895.90	\$ -	\$ -	\$ -	\$ 895.90	10.41%	\$ 1,000
	Admin	\$ -	\$ -	\$ 447.95	\$ -	\$ -	\$ -	\$ 447.95	84.00%	\$ 2,800
								\$ 1,445.00	63%	\$ 3,900
2003 - Consumable Supplies:	Education	\$ 0.98	\$ 101.94	\$ 26.31	\$ 47.31	\$ 0.22	\$ 27.29	\$ 204.05	58.78%	\$ 495
	Standards	\$ 770.40	\$ 741.42	\$ 1,114.47	\$ 1,981.13	\$ 115.49	\$ 1,076.05	\$ 5,798.96	-44.97%	\$ 4,000
	Admin	\$ 4.33	\$ 195.32	\$ 126.71	\$ 142.12	\$ 0.98	\$ 120.86	\$ 590.32	80.32%	\$ 3,000
								\$ 6,593.33	12%	\$ 7,495
2004 - Utilities:	Education	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100.00%	\$ 10
	Standards	\$ 445.24	\$ 444.97	\$ 444.97	\$ -	\$ 1,810.90	\$ 484.89	\$ 3,630.97	-11.38%	\$ 3,260
	Admin	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100.00%	\$ 40
								\$ 3,630.97	-10%	\$ 3,310
2005 - Travel:	Education	\$ 3.98	\$ 118.45	\$ 57.64	\$ 229.55	\$ -	\$ -	\$ 409.62	90.74%	\$ 4,425
	Standards	\$ 1,830.66	\$ 5,307.44	\$ 5,000.21	\$ 14,180.19	\$ 2,489.84	\$ 6,718.83	\$ 35,527.17	59.56%	\$ 87,856
	Admin	\$ 129.78	\$ 565.99	\$ 1,054.79	\$ 3,717.76	\$ 611.72	\$ 2,287.00	\$ 8,367.04	56.59%	\$ 19,275
								\$ 44,303.83	60%	\$ 111,556

**Texas Commission on Fire Protection
Fiscal Year 2022 - Operating Budget
3/1/2022**

Summary		01	02	03	04	05	06			
Goals:		Sept	Oct	Nov	Dec	Jan	Feb	TOTALS	% Remaining	Budget
2006 - Rent - Building (storage):	Education	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100.00%	\$ 10
	Standards	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100.00%	\$ 90
	Admin	\$ 60.00	\$ -	\$ -	\$ -	\$ 120.00	\$ -	\$ 180.00	44.62%	\$ 325
								\$ 180.00	58%	\$ 425
2007 - Rent - Machine and Other:	Education	\$ -	\$ 30.38	\$ 171.62	\$ -	\$ 37.77	\$ -	\$ 239.77	17.41%	\$ 290
	Standards	\$ -	\$ 269.00	\$ 543.59	\$ -	\$ 334.44	\$ -	\$ 1,147.03	60.49%	\$ 2,903
	Admin	\$ -	\$ 134.51	\$ 271.80	\$ -	\$ 167.22	\$ -	\$ 573.53	56.10%	\$ 1,306
								\$ 1,960.33	56%	\$ 4,500
2009 - Other Operating Expense:	Education	\$ 338.89	\$ 238.53	\$ 326.06	\$ 266.48	\$ 228.26	\$ 232.35	\$ 1,630.57	72.70%	\$ 5,972
	Standards	\$ 4,051.62	\$ 4,354.03	\$ 4,305.31	\$ 4,931.20	\$ 3,093.47	\$ 3,312.00	\$ 24,047.63	49.35%	\$ 47,475
	Admin	\$ 25,723.51	\$ 1,381.22	\$ 1,922.20	\$ 1,535.00	\$ 1,344.51	\$ 1,350.04	\$ 33,256.48	-6.23%	\$ 31,307
								\$ 58,934.68	30%	\$ 84,754
4000 - Grants:	Standards	\$ -	\$ 2,579.46	\$ 2,009.28	\$ 2,335.60	\$ 2,306.28	\$ 1,924.99	\$ 11,155.61	0%	\$ 11,156
		\$ 166,778.03	\$ 155,255.23	\$ 145,855.52	\$ 172,182.42	\$ 154,493.72	\$ 167,641.27	\$ 962,206.19	49%	\$ 1,869,262
Education, Information and Assistance								\$ 34,155.16	63%	\$ 92,982.41
Fire Department Standards								\$ 590,647.64	47%	\$ 1,112,708.96
Indirect Administration								\$ 326,247.78	50%	\$ 652,414.94

Fiscal Year 2022 - Operating Budget 13008
3/1/2022

Appr. 3008

PCA

4001

Goal A: Education and Assistance

	<u>Education & Assistance</u>	<u>Total</u>	<u>% Remaining</u>
Salaries and Wages:			
7002- Salaries	30,750.00	30,750.00	
	Budget:	80,000.00	
	Expended:	30,750.00	
1001 - Balance Salaries & Wages:	49,250.00	49,250.00	62%
Other Personnel Costs:			
7022- Longevity Pay	820.00	820.00	
	Budget:	1,680.00	
	Expended:	820.00	
1002 - Balance Other Personnel Costs	860.00	860.00	51%
Professional Fees and Services:			
7253- Other Professional Fees (EAP)	101.15	101.15	
	Budget:	100.00	
	Expended:	101.15	
2001 - Balance Professional Fees and Services:	(1.15)	(1.15)	-1%
Consumables:			
7300- Consumables	204.05	204.05	
	Budget:	495.00	
	Expended:	204.05	
2003 - Balance Consumable Supplies:	290.95	290.95	59%
Utilities:			
	Budget:	10.00	
	Expended:	0.00	
2004 - Balance Utilities:	10.00	10.00	100%
Travel:			
7101- Travel I/S - Public Transportation Fares	0.00	0.00	
7102- Mileage	8.85	8.85	
7105- Travel I/S - Incidental Expenses	26.55	26.55	
7106- Travel I/S - Meals & Lodging	362.70	362.70	
	Budget:	4,425.00	
	Expended:	409.62	
2005 - Balance Travel:	4,015.38	4,015.38	91%
Rent:			
7470- Rent Space - storage	0.00	0.00	
	Budget:	10.00	
	Expended:	0.00	
2006 - Balance Rent - Building (storage):	10.00	10.00	100%
Rent - Machine and Other:			
7406- Rental - Furnishings & Equipment (copier)	239.77	239.77	
	Budget:	290.32	
	Expended:	239.77	
2007 - Balance Rent - Machine and Other:	50.55	50.55	17%

**Fiscal Year 2022 - Operating Budget 13008
3/1/2022**

Appr. 3008

PCA

4001

Goal A: Education and Assistance

	Education & Assistance	Total	% Remaining
Other Operating Expense:			
7040- ERS-Retirement Contribution	153.75	153.75	
7042- ERS Insurance Payment	307.50	307.50	
7947- Workers Compensation Transfer (SORM)	112.69	112.69	
7961- STS Transfers-Telecommunications (TexAn)	530.32	530.32	
7962- Capitol Complex (CCTS)	212.60	212.60	
Budget:	5,972.09	5,972.09	
Expended:	1,614.11	1,614.11	
2009 - Balance Other Operating Expense:	4,357.98	4,357.98	73%
Budget:	92,982.41	92,982.41	
Expended:	34,138.70	34,138.70	
TOTAL BALANCE - 3008	58,843.71	58,843.71	63%
% Remaining	63%	63%	

Fiscal Year 2022 - Operating Budget - 13014
3/1/2022

Appr. 3014

PCA

4005

4006

4007

4008

**Goal B: Fire Department
Standards**

	<u>Compliance</u>	<u>Certification</u>	<u>Testing</u>	<u>Curriculum</u>	<u>Total</u>	<u>% Remaining</u>
Salaries and Wages:						
7002- Salaries	188,523.37	105,801.35	174,231.21	4,000.00	472,555.93	
7007- Salaries - Part-time			4,400.00			
	Budget:	380,641.32	214,615.80	299,695.44	48,000.00	942,952.56
	Expended:	188,523.37	105,801.35	178,631.21	4,000.00	476,955.93
1001 - Balance Salaries & Wages:	192,117.95	108,814.45	121,064.23	44,000.00	465,996.63	49%
Other Personnel Costs:						
7022- Longevity Pay	2,040.00	1,400.00	2,980.00	20.00	6,440.00	
7023- Lump Sum Termination	13,956.47	13,209.14	6,091.72	690.48	33,947.81	
7033- Employee Retirement - Other expenses	2,256.24	0.00	0.00	0.00	2,256.24	
	Budget:	8,640.00	9,492.00	4,800.00	240.00	23,172.00
	Expended:	18,252.71	14,609.14	9,071.72	710.48	42,644.05
1002 - Balance Other Personnel Costs	(9,612.71)	(5,117.14)	(4,271.72)	(470.48)	(19,472.05)	-84%
Professional Fees and Services:						
7253- Other Professional Fees (EAP)	346.80	144.50	346.80	57.80	895.90	
	Budget:	388.89	222.22	333.33	55.56	1,000.00
	Expended:	346.80	144.50	346.80	57.80	895.90
2001 - Balance Professional Fees and Services:	42.09	77.72	(13.47)	(2.24)	104.10	10%
Consumables:						
7300- Consumables	1,390.96	432.49	3,907.22	68.29	5,798.96	
	Budget:	1,555.56	888.89	1,333.33	222.22	4,000.00
	Expended:	1,390.96	432.49	3,907.22	68.29	5,798.96
2003 - Balance Consumable Supplies:	164.60	456.40	(2,573.89)	153.93	(1,798.96)	-45%
Utilities:						
7516- Telecom-Other (reg voice/internet)	2,902.17	364.40	364.40	0.00	3,630.97	
	Budget:	2,282.00	489.00	489.00	0.00	3,260.00
	Expended:	2,902.17	364.40	364.40	0.00	3,630.97
2004 - Balance Utilities:	(620.17)	124.60	124.60	0.00	(370.97)	-11%
Travel:						
7101- Travel I/S - Public Transportation Fares	2,710.32	0.00	1,327.00	0.00	4,037.32	
7102- Mileage	12,842.55	290.64	11.20	0.00	13,144.39	
7105- Travel I/S - Incidental Expenses	1,970.60	40.52	1,188.20	0.00	3,199.32	
7106- Travel I/S - Meals & Lodging	12,399.38	0.00	1,588.15	0.00	13,987.53	
	Budget:	74,677.60	4,392.80	8,785.60	0.00	87,856.00
	Expended:	30,320.33	747.44	4,459.40	0.00	35,527.17
2005 - Balance Travel:	44,357.27	3,645.36	4,326.20	0.00	52,328.83	60%
Rent:						
7470- Rent Space - storage	0.00	0.00	0.00	0.00	0.00	
	Budget:	35.00	20.00	30.00	5.00	90.00
	Expended:	0.00	0.00	0.00	0.00	0.00
2006 - Balance Rent - Building :	35.00	20.00	30.00	5.00	90.00	100%
Rent - Machine and Other:						
7406- Rental - Furnishings & Equipment (copier)	444.01	185.01	444.01	74.00	1,147.03	
	Budget:	1,129.03	645.16	967.74	161.29	2,903.23
	Expended:	444.01	185.01	444.01	74.00	1,147.03
2007 - Balance Rent - Machine and Other:	685.02	460.15	523.73	87.29	1,756.20	60%

Fiscal Year 2022- Operating Budget - 13800
3/1/2022

Appr. 3800

PCA

4801

4802

4803

Goal C: Indirect Administration

%

	<u>Exec Office</u>	<u>Fin Svcs</u>	<u>Commis</u>	<u>Total</u>	<u>Remaining</u>
Salaries and Wages:					
7001- Salaries & Wages - Exempt	61,420.43	0.00	0.00	61,420.43	
7002- Salaries & Wages - Non-Exempt	133,802.01	84,850.02	0.00	218,652.03	
	Budget:	386,202.00	166,200.00	0.00	552,402.00
	Expended:	195,222.44	84,850.02	0.00	280,072.46
1001 - Balance Salaries & Wages:	190,979.56	81,349.98	0.00	272,329.54	49%
Other Personnel Costs:					
7022- Longevity Pay	1,420.00	1,340.00	0.00	2,760.00	
	Budget:	38,654.00	3,306.00	0.00	41,960.00
	Expended:	1,420.00	1,340.00	0.00	2,760.00
1002 - Balance Other Personnel Costs	37,234.00	1,966.00	0.00	39,200.00	93%
Professional Fees and Services:					
7253- Other Professional Fees (EAP)	303.45	144.50	0.00	447.95	
	Budget:	2,488.89	311.11	0.00	2,800.00
	Expended:	303.45	144.50	0.00	447.95
2001 - Balance Professional Fees and Services:	2,185.44	166.61	0.00	2,352.05	84%
Consumables:					
7300- Consumables	372.89	217.43	0.00	590.32	
	Budget:	2,666.67	333.33	0.00	3,000.00
	Expended:	372.89	217.43	0.00	590.32
2003 - Balance Consumable Supplies:	2,293.78	115.90	0.00	2,409.68	80%
Utilities:					
	Budget:	35.56	4.44	0.00	40.00
	Expended:	0.00	0.00	0.00	0.00
2004 - Balance Utilities:	35.56	4.44	0.00	40.00	100%
Travel:					
7101- Travel I/S - Public Transportation Fares	818.09	0.00	772.50	1,590.59	
7102- Mileage	534.69	0.00	1,289.45	1,824.14	
7105- Travel I/S - Incidental Expenses	420.39	0.00	1,042.55	1,462.94	
7106- Travel I/S - Meals & Lodging	295.00	0.00	0.00	295.00	
7110- Travel I/S - Board Member Meals & Lodging	0.00	0.00	3,056.22	3,056.22	
	Budget:	1,927.48	0.00	17,347.34	19,274.82
	Expended:	2,079.69	0.00	6,287.35	8,367.04
2005 - Balance Travel:	(152.21)	0.00	11,059.99	10,907.78	57%
Rent:					
7470- Rent Space - storage	180.00	0.00	0.00	180.00	
	Budget:	288.89	36.11	0.00	325.00
	Expended:	180.00	0.00	0.00	180.00
2006 - Balance Rent - Building (storage):	108.89	36.11	0.00	145.00	45%
Rent - Machine and Other:					
7406- Rental - Furnishings & Equipment (copier)	388.52	185.01	0.00	573.53	
	Budget:	1,161.29	145.16	0.00	1,306.45
	Expended:	388.52	185.01	0.00	573.53
2007 - Balance Rent - Machine and Other:	772.77	(39.85)	0.00	732.92	56%

Fiscal Year 2022- Operating Budget - 13800

3/1/2022

Appr. 3800

PCA

4801

4802

4803

Goal C: Indirect Administration

%

	<u>Exec Office</u>	<u>Fin Svcs</u>	<u>Commis</u>	<u>Total</u>	<u>Remaining</u>
Other Operating Expense:					
7040- ERS Retirement Contribution	808.82	424.23	0.00	1,233.05	
7042- ERS Insurance Payment	1,940.52	848.52	0.00	2,789.04	
7201- Membership Dues	75.00	0.00	0.00	75.00	
7262- Maint & Repair - Computer Software	11,911.45	156.50	0.00	12,067.95	
7267- Maint & Repair - Computer Equipment	401.10	191.00	0.00	592.10	
7299- Purchased Contracted Services	52.50	25.00	0.00	77.50	
7380- Computer Software - Expensed	12,240.00	0.00	0.00	12,240.00	
7947- Workers Compensation Transfer (SORM)	338.07	160.99	0.00	499.06	
7961- STS Transfers-Telecommunications (TexAn)	1,590.92	757.57	0.00	2,348.49	
7962- STS transfer to GR (CCTS)	637.91	303.75	0.00	941.66	
Budget:	27,828.15	3,478.52	0.00	31,306.67	
Expended:	30,156.07	3,027.50	0.00	33,183.57	
2009 - Balance Other Operating Expense:	(2,327.92)	451.02	0.00	(1,876.90)	-6%

Budget:	461,252.92	173,814.68	17,347.34	652,414.94	
Expended:	230,123.06	89,764.46	6,287.35	326,174.87	
TOTAL - BALANCE Remaining 3800	231,129.86	84,050.22	11,059.99	326,240.07	50%

Texas Commission on Fire Protection
Fiscal Year 2022 - Operating Appropriations
Tuesday, March 1, 2022

Summary		BT01	BT04	BT11	BT12	BT13	BT15	BT16	
Appropriations		Appr Original Budget	Appr Transfers In	Est. Coll. Revenue	Cash Revenue	Excess Collected Revenue	Cash Expenditures	Cash Reserves - Payroll	Appr Cash Avail.
13008	Fire Safety Information	118,972.00	-	-	-	-	28,686.41	5,468.75	\$ 84,816.84
13014	Certify & Regulation	1,085,101.00	-	65,000.00	61,035.00	1,635.00	506,893.53	84,735.86	\$ 489,506.61
13800	Indirect Admin	652,415.00	-	-	-	-	278,646.46	47,601.32	\$ 326,167.22
23102	Benefit Replacement	-	1,500.00	-	-	-	-	-	\$ 1,500.00
90327	State Retirement	-	140,000.00	-	-	-	58,430.00	12,042.06	\$ 69,527.94
91142	OASI, State Match	-	120,000.00	-	-	-	50,725.68	9,987.66	\$ 59,286.66
97768	Convenience Fees	-	-	-	42,825.52	42,825.52	42,616.53	-	\$ 208.99
99327	Group Insurance	-	235,000.00	-	-	-	93,172.49	15,923.45	\$ 125,904.06
99906	Unappropriated General Rev	-	-	-	589,751.35	-	-	-	\$ 589,751.35
Totals		\$ 1,856,488.00	\$ 496,500.00	\$ 65,000.00	\$ 693,611.87	\$ 44,460.52	\$ 1,059,171.10	\$ 175,759.10	\$ 1,746,669.67

Revenue Comparison by Month 2021/2022

Tuesday, March 1, 2022
YTD Comparisons

FY21 Revenue					FY22 Revenue								
Appr 99906 - General Revenue			Appr 13014 Fund 0001- IFSAC		Appr 99906 - General Revenue			Appr 13014 Fund 0001 - IFSAC					
Sep-20	\$	442,435.00	12.6%	\$	11,220.00	19.7%	Sep-21	\$	356,057.50	9.6%	\$	10,275.00	16.8%
Oct-20	\$	1,994,050.00	56.6%	\$	9,510.00	16.7%	Oct-21	\$	1,903,302.50	51.2%	\$	9,300.00	15.2%
Nov-20	\$	610,523.62	17.3%	\$	7,950.00	13.9%	Nov-21	\$	867,508.41	23.3%	\$	9,885.00	16.2%
Dec-20	\$	179,706.46	5.1%	\$	10,530.00	18.5%	Dec-21	\$	231,723.87	6.2%	\$	13,140.00	21.5%
Jan-21	\$	161,562.50	4.6%	\$	9,435.00	16.5%	Jan-22	\$	215,027.50	5.8%	\$	10,080.00	16.5%
Feb-21	\$	135,047.50	3.8%	\$	8,385.00	14.7%	Feb-22	\$	142,999.98	3.8%	\$	8,355.00	13.7%
Mar-21			0.0%			0.0%	Mar-22	\$	-	0.0%	\$	-	0.0%
Apr-21			0.0%			0.0%	Apr-22	\$	-	0.0%	\$	-	0.0%
May-21			0.0%			0.0%	May-22	\$	-	0.0%	\$	-	0.0%
Jun-21			0.0%			0.0%	Jun-22	\$	-	0.0%	\$	-	0.0%
Jul-21			0.0%			0.0%	Jul-22	\$	-	0.0%	\$	-	0.0%
Aug-21			0.0%			0.0%	Aug-22	\$	-	0.0%	\$	-	0.0%
Totals	\$	3,523,325.08	100.0%	\$	57,030.00	100.0%		\$	3,716,619.76	100.0%	\$	61,035.00	100.0%

FY21 Revenue Collected **\$ 3,580,355 106.75%**

FY22 Revenue Collected **\$ 3,777,655 115.95%**

Revenue for Biennium:

	FY21	FY22
Annual GR & Appropriated Receipts	\$ 1,888,152	\$ 1,791,488
IFSAC Seals	\$ 65,000	\$ 65,000
GAA Other Direct & Indirect	\$ 491,003	\$ 496,500
Budget Rider	\$ 750,000	\$ 750,000
Subtotal	\$ 3,194,155	\$ 3,102,988
5% Contingency	\$ 159,708	\$ 155,149
Total Reqd	\$ 3,353,863	\$ 3,258,137

Amount Over or (Under) Required Revenue **\$ 226,492** **\$ 519,517**

FY21		FY22	
Collected	106.75%		115.95%
As of Date	3/1/2021		3/1/2022
Percentage of Revenue Collected			

Performance Measures

Texas Commission on Fire Protection Key Performance Measures.
Verification Report as of 3/29/2022 9:45 AM for Fiscal Year 2022.
 Run by **Michael Wisko.**

Metric						Method of Calculation
* - Reported to ABEST quarterly, Q1 - Quarter 1, Q2 - Quarter 2, Q3 - Quarter 3, Q4 - Quarter 4, FY YTD - Year to date based on fiscal year						
Number of inspections of regulated entities (Cumulative): <u>621</u>						Total number of inspections of regulated entities conducted within the reporting period is obtained from the commission's data system. The total number includes biannual inspections, inspections of training programs in progress (also called audits), an inspection of an entity as part of an investigation, and meetings associated with inspections.
	Q1	Q2	Q3	Q4	FY YTD	
Inspection	212	328	N/A	N/A	540	
Investigation	2	4	N/A	N/A	6	
Training Audits	8	17	N/A	N/A	25	
Inspection Related	42	8	N/A	N/A	50	
*Total Inspections	264	357	N/A	N/A	621	
Number of examinations administered (Cumulative): <u>12796</u>						Each written examination is counted. The measure records the total number of examinations administered for fire service certification purposes. A retest, usually conducted due to failure of an initial exam, is counted as an examination as well.
	Q1	Q2	Q3	Q4	FY YTD	
*Exams Administered	6515	6281	N/A	N/A	12796	
Exam pass rate (Non-Cumulative): <u>83.65%</u>						The total number of individuals who passed their examination as reflected in the agency data management system (numerator) is divided by the total number of individuals examined (denominator) and then multiplied by 100 to achieve a percentage. Persons taking an examination multiple times are counted each time they take the exam.
	Q1	Q2	Q3	Q4	FY YTD	
# Examined	6515	6281	1463	0	14259	
# Passed	5432	5205	1290	0	11927	
Pass Rate	83.38%	82.87%	88.17%	0%	83.65%	
Number of individuals certified (Non-cumulative):						The total number of individuals holding one or more certifications with the agency is obtained from the data system at the end of the reporting period. An individual who holds more than one certification is counted only once. The measure records the number of certified persons, regardless of whether the individuals are associated with a fire protection entity.
	Q1	Q2	Q3	Q4		
# Individuals	33859	34850	N/A	N/A		
Number of Training Providers Certified (Non-cumulative):						The total number of training providers with one or more active certifications is counted. A training provider that holds more than one certification is counted only once.
	Q1	Q2	Q3	Q4		
# Providers	355	361	N/A	N/A		
Average cost per inspection of regulated Facilities: <u>\$287.81</u>						Total cost related to inspection activities for the reporting period (numerator) is divided by the total number of inspections conducted during the same period (denominator) to determine the average cost. Costs used to perform the calculation include salaries of inspection personnel (including 25% of compliance manager's salary); travel costs directly related to inspections and inspection-related meetings with regulated entities; supplies; document review and handling; and notifications. Indirect costs are excluded.
	Q1	Q2	Q3	Q4	FY YTD	
Cost entered	\$90,738.26	\$87,990.34	N/A	N/A	\$178,728.60	
*Total Inspections	264	357	N/A	N/A	621	
*Avg cost per	\$343.71	\$246.47	N/A	N/A	\$287.81	

Report was run on 3/29/2022 9:45 AM

5. **Reports from fire service interest groups and agencies on matters relating to their specific organizational purposes, functions, and objectives, including, but not limited to, Texas Fire Chiefs Association, the Texas State Association of Fire Fighters, the State Firefighters and Fire Marshals' Association of Texas, the Texas Fire Marshal's Association, the Texas Association of Fire Educators, the Texas A&M Forest Service, the National Fire Protection Association, Texas State Association of Fire and Emergency Districts, the Center for Public Safety Excellence, the State Fire Marshal's Office, and the National Fallen Fire Fighters Foundation.**

- 6. Report from commission representative to the Texas Fire School Advisory Board or by representatives of the Texas Engineering Extension Service (TEEX) regarding fire protection training provided by TEEX through its Emergency Services Training Institute (ESTI).**

7. Report from commission representative to the Homeland Security Council.

8. Report from the Health and Wellness ad-hoc committee.

9. Update from the Chapter 427 ad-hoc committees.

10. Subjects for future commission agendas.

11. Future meeting dates.

12. Matters referred from the Fire Fighter Advisory Committee (FFAC), including, but not limited to:

A. Possible final adoption of the proposed amendments as follows:

- 1. 37 Tex. Administrative Code, Part 13, Chapter 461, Incident Commander.**



Texas Commission on Fire Protection Agenda Item Summary

MEETING: Commission

DATE: 04/21/22

Agenda Item #: 12-A(1)

Agenda Title: Chapter 461, Incident Commander

Action to be taken: Discussion and possible final adoption

Origin of Item: Texas A&M Forest Service

1. INTRODUCTION/PURPOSE

The purpose of the item is for discussion regarding request from Texas A&M Forest Service for approval of on-line courses.

2. DESCRIPTION/ JUSTIFICATION

The agenda item allows for discussion regarding the approval of an online hybrid course for (I-100, S-130, S-190 & L-180).

3. BUDGET IMPACT

No budget impact is anticipated

4. TIMELINE CONSIDERATIONS

This proposal is for possible final adoption.

5. RECOMMENDATION

Propose for final adoption.

6. REFERENCES

Title 37, Chapter 461, Incident Commander

CHAPTER 461
INCIDENT COMMANDER
MINIMUM STANDARDS FOR INCIDENT COMMANDER

§461.1. Incident Commander Certification.

(a) An Incident Commander is defined as an individual responsible for all incident activities, including the development of strategies and tactics and the ordering and release of resources, who has overall authority and responsibility for conducting and managing all incident operations at the incident site.

(b) All individuals holding an Incident Commander certification shall be required to comply with the continuing education requirements in Chapter 441 of this title (relating to Continuing Education).

~~[(c) Special temporary provision. Individuals are eligible to take the commission examination for Incident Commander by:]~~

~~[(1) holding as a minimum, Fire Officer II certification through the commission; and]~~

~~[(2) providing documentation of completion of the National Incident Management System courses 100, 200, 700 and 800; and]~~

~~[(3) providing documentation acceptable to the commission that the individual has successfully completed Incident Commander training that meets the minimum requirements of the National Fire Protection Association Standard 1026; or]~~

~~[(4) providing documentation acceptable to the commission, in the form of an affidavit from the individual's Head of Department or Chief Training Officer, that the individual has met the department's requirements to perform as an Incident Commander and has demonstrated proficiency as an Incident Commander.]~~

~~[(5) This subsection will expire on January 1, 2022.]~~

12. Matters referred from the Fire Fighter Advisory Committee (FFAC), including, but not limited to:

A. Possible final adoption of the proposed amendments as follows:

2. 37 Tex. Administrative Code, Part 13, Chapter 437, Fees.



Texas Commission on Fire Protection Agenda Item Summary

MEETING: Commission
DATE: 04/21/2022

Agenda Item #: 12-A(2)

Agenda Title: Chapter 437, Fees

Action to be taken: Discussion and possible final adoption

Origin of Item: Staff

1. INTRODUCTION/PURPOSE

The purpose of the item is for discussion regarding a decrease in renewal fees and an increase in IFSAC seals.

2. DESCRIPTION/ JUSTIFICATION

The agenda item allows for discussion regarding the approval of the decrease in renewal fees from \$75 to \$60 and the increase in IFSAC seals from \$15 to \$30.

3. BUDGET IMPACT

A minimal impact is anticipated

4. TIMELINE CONSIDERATIONS

This proposal is for possible final adoption.

5. RECOMMENDATION

Propose for final adoption.

6. REFERENCES

Title 37, Chapter 437, Fees

CHAPTER 437

FEES

§437.5. Renewal Fees.

(a) A non-refundable annual renewal fee of ~~\$60~~ [~~\$75~~] shall be assessed for each certified individual and certified training facility. If an individual or certified training facility holds more than one certificate, the commission may collect only one renewal fee of ~~\$60~~ [~~\$75~~], which will renew all certificates held by the individual or certified training facility.

(b) A regulated employing entity shall pay the renewal fee for each individual who is required to possess certification as a condition of employment.

(c) If a person re-enters the fire service whose certificate(s) has been expired for less than one year, the regulated entity must pay all applicable renewal fee(s) and any applicable additional fee(s). Upon payment of the required fees, the certificates previously held by the individual, for which he or she continues to qualify, will be renewed.

(d) If a person wishes to renew a certificate(s) which has been expired less than one year and the individual is not employed by a regulated employing entity as defined in subsection (b) of this section, the individual must pay all applicable renewal fee(s) and any applicable additional fee(s). Upon payment of the required fee(s), the certificate(s) previously held by the individual, for whom he or she continues to qualify, will be renewed.

(e) Nothing in this section shall prohibit an individual from paying a renewal fee for any certificate which he or she is qualified to hold providing the certificate is not required as a condition of employment.

(f) Certification renewal information will be sent to all regulated employing entities and individuals holding certification at least 60 days prior to October 31 of each calendar year. Certification renewal information will be sent to certified training facilities at least 60 days prior to February 1 of each calendar year.

(g) If renewal payment is submitted by mail, all certification renewal fees must be submitted with the renewal invoice to the commission.

(h) All certification renewal fees must be paid on or before the last day of the certification period (see subsection (i) of this section) to avoid additional fee(s).

(i) The certification period shall be a period not to exceed one year. The certification period for employees of regulated employing entities, and individuals holding certification is November 1 to October 31. The certification period of certified training facilities is February 1 to January 31.

(j) All certification renewal fees received from one to 30 days after the last day of the certification period will cause the individual or entity responsible for payment to be assessed a non-refundable late fee of ~~\$30~~ [~~\$37.50~~] in addition to the renewal fee for each individual or training provider for which a renewal fee was due.

(k) All certification renewal fees received more than 30 days after the last day of the certification period will cause the individual or entity responsible for payment to be assessed a non-refundable late fee of ~~\$60~~ ~~[\$75]~~ in addition to the renewal fee for each individual or training provider for which a renewal fee was due.

(l) In addition to any non-refundable late fee(s) assessed for certification renewal, the commission may hold an informal conference to determine if any further action(s) is to be taken.

(m) An individual or entity may petition the commission for a waiver of the late fees required by this section if the person's certificate expired because of the individual or regulated employing entity's good faith clerical error[,] or expired as a result of termination of the person's employment where the person has been restored to employment through a disciplinary procedure or a court action.

(1) Applicants claiming good faith clerical error must submit a sworn statement together with any supporting documentation that evidences the applicant's good faith efforts to comply with commission renewal requirements and that failure to comply was due to circumstances beyond the control of the applicant.

(2) Applicants claiming restoration to employment as a result of a disciplinary or court action must submit a certified copy of the order restoring the applicant to employment.

(n) An individual, who is a military service member, or returning from activation to military service, must notify the commission in writing if the individual wishes to renew an expired certification. Provided other qualifications for renewal are met, the individual will have any normally associated late fees waived and will be required to pay a renewal fee of ~~\$60~~ ~~[\$75]~~.

§437.15. International Fire Service Accreditation Congress (IFSAC) Seal Fees.

A non-refundable ~~\$30~~ ~~[\$15]~~ fee shall be charged for each IFSAC seal issued by the commission.



CITY OF HOUSTON

Fire Department

Promoting Excellence as the World's Largest Accredited Municipal Fire Agency

Sylvester Turner

Mayor

Samuel Peña
Fire Chief
500 Jefferson, 17th floor
Houston, Texas 77002

T. 832-394-6702
F. 832-394-6780
www.houstontx.gov

April 5, 2022

Texas Commission on Fire Protection
1701 N. Congress Ave Suite 1-105
Austin, TX 78701

RE: Proposed Changes to 37 Texas Administrative Code §437.5

Dear the Texas Commission on Fire Protection,

During the January 20, 2022 hearing, commissioners voted to publish proposed rules for public comment to lower certification renewal fees from \$75 to \$60 for each certified individual and certified training facility. According to the Texas Register, the earliest possible date for final adoption for lowering fees is April 10, 2022. **We are writing to strongly encourage members of the Texas Commission on Fire Protection to approve this proposed fee reduction as soon as allowable to enable local fire departments to dedicate additional resources towards equipment and training.**

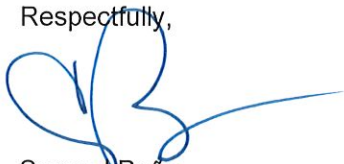
According to the Texas Sunset Licensing and Regulation Model (Licensing Model)'s standards, "a regulatory agency should generate sufficient funds and receive funding necessary to perform its duties to protect the public." Regulatory agencies, including the Texas Commission on Fire Protection, rely on fees to generate revenue. As part of the state's best practices, regulatory agencies deposit these revenues into the general fund and receive appropriations from general revenue to allow for the appropriate level of legislative oversight. The Legislature also requires an additional \$1.5 million per biennium from the Texas Commission on Fire Protection as part of a budget rider. Since the Legislature determines the Texas Commission on Fire Protection's functions and scope, increasing revenue does not lead to increased services. Furthermore, the Licensing Model states that "consideration should be given to lowering fees for licensees" if "collections greatly exceed appropriations." The Texas Sunset Advisory Commission's staff report released in November 2020 noted that Texas Commission on Fire Protection "sent \$2.8 million in certification fees to general revenue above the agency's costs, almost double its \$1.5 million requirement." Texas Commission on Fire Protection analysis and calculations discussed at its previous meeting also indicate that renewal fees may be lowered without compromising the agency's ability to meet its fiscal obligations.

When the Texas Commission on Fire Protection increased renewal fees by 142 percent from \$35 to \$85 in March 2011, local governments absorbed the cost at the expense of other municipal services or even fire service capabilities. Renewal fees have decreased slightly to \$75 in May 2016, which provided limited relief. The Texas Commission on Fire Protection has opted to lower fees in other areas more drastically, which has a more limited impact for municipal fire departments. For example, the Texas Commission on Fire Protection lowered processing fees for test applications from a high of \$85 in August 2011 to \$55 in May 2018 despite the higher administrative burden in the initial certification process. As previously noted, the current proposal of a \$15 reduction in certification renewal fees can be absorbed by the Texas Commission on Fire Protection. With over 3,600 certified personnel for the 2021-2022 fiscal year, Houston Fire Department would have at least an additional \$54,000 annually that no longer would be tied to certification renewal fees. The additional funds may be used for new sets of structure firefighting personal

protective equipment (PPE) for 18 new recruits, consumables for 70 cadets in the 9-month long academy class, or an all-hazards incident management team 5-day course. These investments would enhance firefighter and community safety.

We fully acknowledge the role the Texas Commission on Fire Protection plays in advancing the Texas fire service and the funds needed to accomplish its mission. Lowering administrative costs, however, for municipal fire departments allow additional resources to be dedicated in saving lives and protecting property. Thank you for accepting our public comment, and please contact us for any questions.

Respectfully,



Samuel Peña
Fire Chief

12. Matters referred from the Fire Fighter Advisory Committee (FFAC), including, but not limited to:

B. Proposed amendments regarding rule review of the following:

1. 37 Tex. Administrative Code, Part 13, Chapter 435, Fire Fighter Safety.

CHAPTER 435

FIRE FIGHTER SAFETY

§435.1. Protective Clothing.

(a) A regulated **entity** [~~fire department~~] shall:

(1) purchase, rent, lease, provide, and maintain a complete set of protective clothing for **each** [~~all~~] fire protection personnel who would be exposed to hazardous conditions from fire or other emergencies or where the potential for such exposure exists. A complete set of **properly fitting** protective clothing shall consist of garments including bunker coats, bunker pants, boots, gloves, helmets, and protective hoods, worn by fire protection personnel in the course of performing fire-fighting operations;

(2) ensure that all protective clothing [~~which are used by fire protection personnel assigned to fire suppression duties~~] **complies** [~~comply~~] with the minimum standards of the National Fire Protection Association suitable for the tasks the individual is expected to perform. The National Fire Protection Association standard applicable to protective clothing is the standard in effect at the time the entity contracts for new, **repaired** [~~rebuilt~~], or used protective clothing; and

(3) maintain, provide to the commission upon request, and comply with a departmental standard operating procedure regarding the use, selection, care, and maintenance of protective clothing which complies with NFPA 1851, Standard on Selection, Care, and Maintenance of Structural Fire Fighting Protective Ensembles **or its successor**.

(b) To ensure that protective clothing for fire protection personnel continues to be suitable for assigned tasks, risk assessments **must be** conducted in accordance with NFPA 1851 **or its successor** [~~shall be reviewed and revised as needed, but in any case, not more than five years following the date of the last risk assessment~~].

§435.3. Self-Contained Breathing Apparatus.

The **regulated** [~~employing~~] entity shall:

(1) [~~purchase,~~] provide, and maintain a complete self-contained breathing apparatus **that complies with the minimum standards of the National Fire Protection Association identified in NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters, or its successor** for each on-duty fire protection personnel who engage in operations where IDLH atmospheres may be encountered, where the atmosphere is unknown or would be exposed to hazardous atmospheres from fire or other emergencies or where the potential for such exposure exists;

[~~(2) ensure that all self-contained breathing apparatus used by fire protection personnel complies with the minimum standards of the National Fire Protection Association identified in NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters;~~]

(2) [(A)] the National Fire Protection Association standard applicable to a self-contained breathing apparatus is the standard in effect at the time the entity contracts for new, rebuilt, **repaired**, or used self-contained breathing apparatus;

(3) ~~[(B)]~~ an entity may continue to use a self-contained breathing apparatus in use or contracted for before a change in the National Fire Protection Association standard, unless the commission determines that the continued use of the self-contained breathing apparatus constitutes an undue risk to the wearer, in which case the commission shall order that the use be discontinued and shall set an appropriate date for compliance with the revised standard;

(4) ~~[(3)]~~ develop an air quality program that complies with the most recent edition of the NFPA 1989 Standard on Breathing Air Quality for Emergency Services Respiratory Protection **or its successor**;

(5) ~~[(4)]~~ maintain and supply upon request by the commission, records and reports documenting compliance with commission requirements concerning self-contained breathing apparatus and breathing air. Records of all tests shall be made, and the records shall be retained for a period of no less than three years;

(6) ~~[(5)]~~ maintain and provide upon request by the commission, **the entity's** ~~[a departmental]~~ standard operating procedure regarding the use of self-contained breathing apparatus; and

(7) ~~[(6)]~~ maintain and provide upon request by the commission, **the entity's** ~~[a department]~~ standard operating procedure regarding the selection, care, and maintenance of self-contained breathing apparatus that complies with the most recent edition of the NFPA 1852 Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA) **or its successor**.

(8) In any workplace where respiratory protection is necessary to protect the health of the employee or whenever respiratory protection is required by the employer, the employer shall establish and implement a written respiratory program that complies with NFPA 1500, Respiratory Protection Program. The program shall be updated as necessary to reflect those changes in workplace conditions that affect respiratory protection use. Documents related to this rule shall be provided to the Texas Commission on Fire Protection upon request.

§435.5. Commission Recommendations.

The commission recommends that all **regulated** ~~[employing]~~ entities use as a guide the **National Fire Protection Standard 1500 "Fire Department Occupational Safety and Health Program" or its successor.** ~~[following publications:]~~

~~[(1) NFPA 1403 "Live Fire Training Evolutions";]~~

~~[(2) NFPA 1500 "Fire Department Occupational Safety and Health Program;"]~~

~~[(3) IAFF/IAFC "Fire Service Joint Labor Management Wellness-Fitness Initiative."]~~

§435.7. Implementation of Mandatory NFPA Standards ~~[Fire Department Staffing Studies].~~

~~[(a)]~~ **Allow implementation of TCFP mandated NFPA standards at the Commissioners discretion up to 365 days from the effective date of the new NFPA standard.** ~~[Section 419.022(a)(4) Texas Government Code provides that the commission may on request, assist in performing staffing studies of fire departments. Staffing studies must take into consideration all the objectives and missions of the fire department. Many staffing studies have been developed that can be used to assist in evaluating the needs of a fire department.]~~

~~[(b) A city should ultimately decide on the level of fire protection it is willing to provide to its citizens. The city and fire department should, as a minimum, address the needs of prevention, investigation and suppression as outlined in the appropriate National Fire Protection Association Standards. That decision should be based on facts, the safety of its citizens, and the safety of the fire fighters providing that protection.]~~

~~[(c) The commission will assist by maintaining information pertinent to fire department staffing. The information shall be maintained in the Ernest A. Emerson Fire Protection Resource Library at the commission. Copies shall be made available, free of charge, to anyone requesting such information to the extent permitted by copyright laws.]~~

§435.9. Personal Alert Safety System (PASS).

The **regulated** ~~[employing]~~ entity shall:

(1) ~~[purchase,]~~ provide~~;~~ and maintain a PASS device **complying with the minimum standards of the National Fire Protection Association identified in NFPA 1982, Standard on Personal Alert Safety Systems (PASS) for Fire Fighters or its successor** for each on duty fire protection personnel who engage in operations where IDLH atmospheres may be encountered, or where the atmosphere is unknown, or where hazardous conditions from fire or other emergencies exist, or where the potential for such exposure exists;

(2) ensure that all PASS devices used by fire protection personnel comply with the minimum standards of the National Fire Protection Association identified in NFPA 1982, Standard on Personal Alert Safety Systems (PASS) for Fire Fighters.~~;~~ **The National Fire Protection Association standard applicable to a PASS device is the standard in effect at the time the entity contracts for new, rebuilt, repaired, or used PASS devices;**

~~[(A) the National Fire Protection Association standard applicable to a PASS device is the standard in effect at the time the entity contracts for new, rebuilt, or used PASS devices;]~~

~~[(B) an entity may continue to use a PASS device that meets the requirements of an earlier edition of NFPA 1982, unless the commission determines that the continued use of the PASS device constitutes an undue risk to the wearer, in which case the commission shall order that the use be discontinued and shall set an appropriate date for compliance with the revised standard;]~~

(3) ensure that the PASS device assigned to an individual user be inspected at the beginning of each duty period and before each use; **and** ~~[-]~~

(4) maintain and provide upon request by the commission, **the entity's** ~~[a departmental]~~ standard operating procedure regarding the proper use, selection, care, and maintenance of PASS devices.

§435.11. Incident Management System (IMS).

(a) The **regulated entity** ~~[fire department]~~ shall develop, maintain, and use an incident management system.

(b) The incident management system shall:

(1) include a written **standard** operating procedure for the management of emergency incidents;

(2) require that the IMS be used at all emergency incidents;

(3) require operations to be conducted in a manner that recognizes hazards and assists in the prevention of accidents and injuries;

(4) require that all fire protection personnel be trained in the use of the IMS; and

(5) require that the IMS be applied to all drills, exercises and all other situations that involve hazards similar to those encountered at an actual emergency.

(c) The IMS shall meet the requirements of ~~[the applicable sections of the]~~ NFPA 1561, Standard on **Emergency Services Incident Management System and Command Safety or its successor** [Fire Department Incident Management System].

~~[(d) The commission recommends departments follow the National Incident Management System (NIMS) when developing their incident management system.]~~

§435.13. Personnel Accountability System.

(a) The **regulated entity** ~~[fire department]~~ shall develop, maintain, and use a personnel accountability system that provides for a rapid accounting of all personnel at an emergency incident.

(b) The accountability system shall:

(1) require all fire protection personnel be trained in the use of the accountability system;

(2) require that the fire protection personnel accountability system be used at all incidents;

(3) require that all fire protection personnel operating at an emergency incident to actively participate in the personnel accountability system; and

(4) require that the incident commander be responsible for the overall personnel accountability system for the incident.

(c) The fire department shall be responsible for developing the system components required to make the personnel accountability system effective.

(d) The personnel accountability system shall meet the minimum standards required by the National Fire Protection Association 1561, Standard on **Emergency Services Incident Management System and Command Safety or its successor** [Fire Department Incident Management System. If the standard is revised, the fire department shall have one (1) year from the effective date of the new standard to comply].

§435.15. Operating At Emergency Incidents.

(a) The **regulated entity** ~~[fire department]~~ shall develop, maintain, and use a standard operating procedure for fire protection personnel operating at emergency incidents.

(b) The standard operating procedure shall:

(1) specify an adequate number of personnel to safely conduct emergency scene operations;

(2) limit operations to those that can be safely performed by personnel at the scene;

(3) require all personnel to be trained in and use the standard operating procedures; and

(4) comply with §435.17 (Procedures for Interior Structural Fire Fighting **(2-In / 2-Out Rule)**).

(c) The **regulated entity** ~~[fire department]~~ may use standards established by the National Fire Protection Association for fire protection personnel operating at an emergency incident.

§435.17. Procedures for Interior Structural Fire Fighting (2-In /2-Out Rule).

(a) The **regulated entity shall develop, maintain, and comply with written standard operating procedures that adhere** ~~[fire department shall develop written procedures that comply]~~ with the Occupational Safety and Health Administration's Final Rule, 29 CFR Section 1910.134(g)(4) by requiring:

(1) a team of at least four fire protection personnel must be assembled before an interior fire attack can be made when the fire has progressed beyond the incipient stage;

(2) at least two fire protection personnel to enter the IDLH atmosphere and remain in visual or voice (not radio) contact with each other;

(A) Visual means that the fire protection personnel must be close enough to see each other.

(B) Voice means that the fire protection personnel of the entry team must be close enough to speak to one another without the use of radios.

(3) at least two fire protection personnel remain located outside the IDLH atmosphere to perform rescue of the fire protection personnel inside the IDLH atmosphere;

(4) all fire protection personnel engaged in interior structural fire fighting use self-contained breathing apparatus and be clothed in a complete set of protective clothing as identified in Chapter 435;

(5) all fire protection personnel located outside the IDLH atmosphere be equipped with appropriate retrieval equipment where retrieval equipment would contribute to the rescue of the fire protection personnel that have entered the IDLH atmosphere;

(6) one of the outside fire protection personnel must actively monitor the status of the inside fire protection personnel and not be assigned other duties. The second outside fire protection personnel may be assigned to an additional role, including, but not limited to, incident commander, safety officer, driver-operator, command technician or aide, or fire fighter/EMS personnel, so long as this individual is able to perform assistance or rescue activities without jeopardizing the safety or health of any fire protection personnel working at the scene;

(7) **All fire protection personnel entering an IDLH atmosphere must be equipped with an operable portable radio** ~~[the fire protection personnel outside the IDLH atmosphere must remain in communication (including, but not limited to, radio) with the fire protection personnel in the IDLH atmosphere. Use of a signal line (rope) as a communications instrument for interior fire fighting is not permitted by the commission. This does not preclude the use of rescue guide ropes (guide line or lifeline or by whatever name they may be called) used during structural searches];~~ and

(8) each outside fire protection personnel must have a complete set of protective clothing and self-contained breathing apparatus, as identified in Chapter 435, immediately accessible for use if the need for rescue activities inside the IDLH atmosphere is necessary.

(b) The **regulated entity** [~~fire department~~] shall comply with the 2-in/2-out rule as described in this section except in **a reasonable belief of** an imminent life-threatening situation when immediate action could prevent the loss of life or serious injury before the team of four fire protection personnel are assembled.

(c) Whenever there is a variance to these procedures, a supplemental report must be submitted to the Texas Commission on Fire Protection, documenting the rationale used to deviate from these written procedures.

§435.19. Enforcement of Commission Rules.

(a) The commission shall enforce all commission rules at any time, including, but not limited to, commission investigations, fire department inspections, or upon receiving a [~~written~~] complaint from **any** [~~an identified~~] person or entity of an alleged infraction of a commission rule.

(b) The commission shall initiate a biennial inspection with an email notifying the fire department and requesting electronic copies of the Standard Operating Procedures (SOPs), training records, and/or other documentation needed for review, be submitted within 48 business hours of notification. The e-mail will also indicate the date range for an on-site inspection within the upcoming two-week period. Compliance officers may work with the Head of Department to ensure all necessary department representatives will be present at the time of the inspection. Compliance Officers may postpone an inspection for extenuating circumstances with the Compliance Manager's approval.

(c) Upon receipt of a [~~signed~~] complaint alleging a violation of a commission rule, the commission shall have 30 days to initiate an investigation and report back to the complainant its progress.

(d) Upon substantiating the validity of a [~~written~~] complaint, the commission shall follow the procedures outlined in Texas Government Code, Chapter 419, §419.011(b) and (c).

§435.21. Fire Service Joint Labor Management Wellness-Fitness Initiative.

(a) A **regulated entity** [~~fire department~~] shall assess the wellness and fitness needs of the personnel in the department. The procedure used to make this assessment shall be written and made available for Commission inspection.

(b) A **regulated entity** [~~fire department~~] shall develop and maintain a standard operating procedure to address those needs.

(c) The approach to the fitness needs of the **regulated entity** [~~department~~] shall be based on the local assessment and local resources.

(d) The standard operating procedure shall be made available to the Commission for inspection.

§435.23. Fire Protection Personnel [~~Fire Fighter~~] Injuries.

(a) A **regulated entity** [~~fire department~~] shall report all Texas Workers' Compensation Commission reportable injuries that occur to on-duty regulated fire protection personnel on the Commission form.

(b) Minor injuries are those injuries that do not result in the **fire protection personnel** [~~fire fighter~~] missing more than one duty period or does not involve the failure of personal protective equipment. Minor injuries shall be reported within 30 business days of the injury event.

(c) Major injuries are those that require the **fire protection personnel** [fire fighter] to miss more than one duty period. Major injuries shall be reported within five business days of the injury event.

(d) Investigatable **fire protection personnel** injuries are those resulting from the malfunction of personal protective equipment, failure of personal protective equipment to protect the **fire protection personnel** [fire fighter] from injury, or injuries sustained from failure to comply with any provision of Commission mandated department SOPs. Investigatable injuries shall be reported within five business days of the injury event.

(e) The regulated entity shall secure any personal protective equipment involved in **an investigatable fire protection personnel** [a fire fighter] injury and shall be made available to the Commission for inspection.

§435.25. Courage to be Safe So Everyone Goes Home Program.

~~[(a) In an effort to improve firefighter safety in the State of Texas, all regulated entities will ensure that the National Fallen Firefighters Foundation's "Courage to be Safe So Everyone Goes Home" program be completed as part of the continuing education required for certified fire protection personnel. Individuals will be credited with four hours of continuing education credit for completing this program.]~~

(a) ~~[(b)]~~ All fire protection personnel will be required to complete the National Fallen Firefighters Foundation's "Courage to be Safe So Everyone Goes Home" program training within one year following appointment to a **regulated entity** [fire department] if the individual has not previously completed the program. **Individuals will be credited with four hours of continuing education credit for completing this program.**

(b) ~~[(c)]~~ **Regulated entities** [Departments] will report the completion of training through the commission's **web-based** [web based] reporting system.

(c) ~~[(d)]~~ Failure to complete the National Fallen Firefighters Foundation's "Courage to be Safe So Everyone Goes Home" program before the required **deadline** [deadlines] will be considered a violation of continuing education rules found in Chapter 441 of this title (relating to Continuing Education).

§435.27. Live Fire Training Structure Evolutions.

The most current edition of NFPA 1403, Standard on Live Fire Training Evolutions **or its successor**, shall be used as a guide when developing standard operating procedures for conducting live fire training. The following requirements shall apply for all Live Fire Training Structure Evolutions conducted.

(1) The officer in charge or instructor will ensure that the water supply rate and duration for each individual Live Fire Training Structure Evolution is adequate to control and extinguish the training fire, the supplies necessary for backup lines to protect personnel, and any water needed to protect exposed property.

(2) The instructor-in-charge shall assign the following personnel:

(A) One instructor to each functional crew, which shall not exceed five students.

(B) One instructor to each backup line.

(C) Additional personnel to backup lines to provide mobility.

(D) One additional instructor for each additional functional assignment.

(3) The officer in charge or instructor will ensure that the buildings or props being utilized for live fire training are in a condition that would not pose an undue safety risk.

(4) A safety officer shall be appointed for all Live Fire Training Structure Evolutions. The safety officer shall have the authority, regardless of rank, to alter, suspend or control any aspect of the operations when, in his or her judgment, a potential or actual danger, accident, or unsafe condition exists. The safety officer shall not be assigned other duties that interfere with safety responsibilities.

(5) No person(s) shall play the role of a victim inside the building.

(6) Prior to the ignition of any fire, instructors shall ensure that all personal protective clothing and/or **self-contained** ~~[-self-contained]~~ breathing apparatus are NFPA compliant and being worn in the proper manner.

(7) Prior to conducting any live fire training, a pre-burn briefing session shall be conducted. All participants shall be required to conduct a walk-through of the structure in order to have a knowledge of, and familiarity with, the layout of the building and to be able to facilitate any necessary evacuation of the building.

(8) A standard operating procedure shall be developed and utilized for Live Fire Training Structure Evolutions. The standard operating procedure shall include, but not be limited to:

(A) a Personal Alert Safety System (PASS). A PASS device shall be provided for all participating in live fire training and shall meet the requirements in §435.9 of this title (relating to Personal Alert Safety System (PASS));

(B) a Personnel Accountability System that complies with §435.13 of this title (relating to Personnel Accountability System) shall be utilized;

(C) an Incident Management System;

(D) use of personal protective clothing and self-contained breathing apparatus;

(E) an evacuation signal and procedure; and

(F) pre-burn, burn and post-burn procedures.

§435.29. Federal Highway Administration Traffic Incident Management Program.

~~[(a) In an effort to improve firefighter safety in the State of Texas, all regulated entities will ensure that the Federal Highway Administration Traffic Incident Management program or an equivalent course that is approved by the commission be completed as part of the continuing education required for certified fire protection personnel by December 1, 2020. Individuals will be credited with four hours of continuing education credit for completing this program.]~~

~~[(b) All regulated fire protection personnel must complete the Federal Highway Administration Traffic Incident Management program or an equivalent course that is approved by the commission prior to December 1, 2020.]~~

(a) ~~[(c)]~~ All fire protection personnel ~~[appointed after December 1, 2020]~~ will be required to complete the Federal Highway Administration Traffic Incident Management program training or an

equivalent course that is approved by the commission within one year of appointment to a **regulated entity** [fire department]. **Individuals will be credited with four hours of continuing education credit for completing this program.**

(b) [(d)] Departments will report the completion of training through the commission's **web-based** [web-based] reporting system.

(c) [(e)] Failure to complete the Federal Highway Administration Traffic Incident Management program or an equivalent course that is approved by the commission before the required deadline will be considered a violation of continuing education rules found in Chapter 441 of this title (relating to Continuing Education).

§435.31. Firefighter Cancer Support Network Cancer Awareness Training Program.

(a) In an effort to improve firefighter safety in the State of Texas, all regulated entities will ensure that the Firefighter Cancer Support Network Cancer Awareness Training program be completed as part of the continuing education required for certified fire protection personnel by December 1, 2027. Individuals will be credited with 2 hours of continuing education credit for completing this program.

(b) All regulated fire protection personnel must complete the Firefighter Cancer Support Network Cancer Awareness Training program prior to December 1, 2027.

(c) All fire protection personnel appointed after December 1, 2027, will be required to complete the Firefighter Cancer Support Network Cancer Awareness Training program training within one year of appointment to a fire department.

(d) Departments will report the completion of training through the commission's web-based reporting system.

(e) Failure to complete the Firefighter Cancer Support Network Cancer Awareness Training program before the required deadline will be considered a violation of continuing education rules found in Chapter 441 of this title (relating to Continuing Education).

12. Matters referred from the Fire Fighter Advisory Committee (FFAC), including, but not limited to:

B. Proposed amendments regarding rule review of the following:

2. 37 Tex. Administrative Code, Part 13, Chapter 403, Criminal Convictions and Eligibility For Certification.

CHAPTER 403

CRIMINAL CONVICTIONS AND ELIGIBILITY FOR CERTIFICATION

§403.1. Purpose.

(a) The purpose of this chapter is to establish policy, procedures, and criteria on the eligibility of persons with a criminal conviction for a certificate or renewal of a certificate issued by the Texas Commission on Fire Protection (the commission) and to establish procedures for suspension, probation, revocation, or denial of a certificate held or applied for by persons with a criminal conviction pursuant to Chapter 53, Texas Occupations Code.

(b) The duties and responsibilities of persons who hold certifications issued by the commission each involve matters that directly relate to public safety, specifically to the reduction of loss of life and property from fire. Thus, conduct involving the injury to a person or the destruction of property by fire, relates directly to the fitness of the individual to be fire protection personnel. Fire protection personnel often have access to areas not generally open to the public. The public relies on the honesty, trustworthiness, and reliability of persons certified by the commission. Thus, crimes involving moral turpitude, including, but not limited to, fraud and dishonesty, are directly relevant. In addition, the ability of such persons to function unimpaired by alcohol or the illegal use of drugs, in dangerous or potentially dangerous circumstances, including, but not limited to, the operation of emergency vehicles is paramount in light of the duty to protect the health and safety of the public.

§403.3. Scope.

(a) The policy and procedures established in this chapter apply to a person who holds or applies for any certificate issued under the commission's regulatory authority contained in Government Code, Chapter 419.

(b) When a person is convicted of a crime of a sexual nature, the conviction of which would require the individual to be registered as a sex offender under Chapter 62 of the Code of Criminal Procedure; or

(c) When a person is convicted of a crime that is an offense under Title 7 of the Texas Penal Code, or a similar offense under the laws of the United States of America, another state, or other jurisdiction, the person's conduct directly relates to the competency and reliability of the person to assume and discharge the responsibilities of fire protection personnel. Such conduct includes, but is not limited to, intentional or knowing conduct, without a legal privilege, **which** ~~that~~ causes or is intended to cause a fire or explosion with the intent to injure or kill any person or animal or to destroy or damage any property. The commission may:

(1) deny a person the opportunity to be examined for a certificate;

(2) deny the application for a certificate;

(3) grant the application for a new certificate with the condition that a probated suspension be placed on the newly granted certificate;

(4) refuse to renew a certificate;

- (5) suspend, revoke, or probate the suspension or revocation of an existing certificate; or
- (6) limit the terms or practice of a certificate holder to areas prescribed by the commission.

(d) When a person's criminal conviction of a felony or misdemeanor directly relates to the duties and responsibilities of the holder of a certificate issued by the commission, the commission may:

- (1) deny a person the opportunity to be examined for a certificate;
- (2) deny the application for a certificate;
- (3) grant the application for a new certificate with the condition that a probated suspension be placed on the newly granted certificate;
- (4) refuse to renew a certificate;
- (5) suspend, revoke, or probate the suspension or revocation of an existing certificate; or
- (6) limit the terms or practice of a certificate holder to areas prescribed by the commission.

§403.5. Access to Criminal History Record Information.

(a) Criminal history record. The commission is entitled to obtain criminal history record information maintained by the Department of Public Safety, or another law enforcement agency to investigate the eligibility of a person applying to the commission for or holding a certificate.

(b) Confidentiality of information. All information received under this section is confidential and may not be released to any person outside the agency except in the following instances:

- (1) a court order;
- (2) with written consent of the person being investigated;
- (3) in a criminal proceeding; or
- (4) in a hearing conducted under the authority of the commission.

(c) Early review. **A regulated entity** ~~[fire department]~~ that employs a person regulated by the commission, a person seeking to apply for a beginning position with a regulated entity, a volunteer fire department, or an individual participating in the commission certification program may seek the early review under this chapter of the person's present fitness to be certified. Prior to completing the requirements for certification, the individual may request such a review in writing by following the required procedure. A decision by the commission based on an early review does not bind the commission if there is a change in circumstances. The following pertains to early reviews:

- (1) The commission will complete its review and notify the requestor in writing concerning potential eligibility or ineligibility within 90 days following receipt of all required and necessary information for the review.
- (2) A notification by the commission regarding the results of an early review is not a guarantee of certification, admission to any training program, or employment with a local government.

(3) A fee assessed by the commission for conducting an early review will be in an amount sufficient to cover the cost to conduct the review process, as provided in §437.19 of this title (relating to Early Review Fees).

(4) An early review request will be considered incomplete until the requestor submits all required and necessary information. Early review requests that remain incomplete for 90 days following receipt of the initial request will expire. If the request expires and an early review is still desired, a new request and fee must be submitted.

§403.7. Criminal Convictions Guidelines.

(a) The following crimes are considered to relate directly to the ability, capacity, and fitness required to perform the duties and discharge the responsibilities of persons certified by the commission:

(1) offenses under the Government Code, Chapter 419, relating to the Texas Commission on Fire Protection;

(2) offenses under the Texas Transportation Code Title 6 Roadways, which are punishable by fines greater than \$200, or imprisonment, or both fine and imprisonment;

(3) offenses under the Health and Safety Code, Chapter 481, concerning controlled substances;

(4) offenses under the Health and Safety Code, Chapter 483, concerning dangerous drugs;

(5) offenses under the following titles of the Texas Penal Code:

(A) Title 5--offenses against the person;

(B) Title 6--offenses against the family;

(C) Title 7--offenses against property;

(D) Title 8--offenses against public administration;

(E) Title 9--offenses against public order and decency;

(F) Title 10--offenses against public health, safety, and morals;

(G) Title 11--offenses involving organized crime; and

(H) Title 4--inchoate offenses Chapter 15 preparatory offenses to any of the offenses in this section;

(6) the offenses listed in this subsection are not inclusive, in that the commission may consider other particular crimes in special cases in order to promote the intent of the statutes administered by the commission.

(b) In all cases the commission shall consider:

(1) the nature and seriousness of the crime;

(2) the relationship of the crime to the purposes for requiring the certificate issued by the commission;

(3) the extent to which the certificate might offer an opportunity to engage in further criminal activity of the same type as that in which the person previously had been involved;

(4) the relationship of the crime to the ability, capacity, or fitness required to perform the duties and discharge the responsibilities of the certificate holder;

(5) the level and nature of supervision of the person by others; and

(6) the level and nature of access to public, commercial, and residential properties, including access after regular business hours and access to areas not open to the general public.

§403.9. Mitigating Factors.

(a) In addition to the factors that must be considered under §403.7 of this title (relating to Criminal Convictions Guidelines), in determining the present fitness of a person who has been convicted of a crime, the commission shall consider the following evidence:

(1) the extent and nature of the person's past criminal activity;

(2) the age of the person at the time of the commission of the crime;

(3) the amount of time that has elapsed since the person's last criminal activity;

(4) the conduct and work activity of the person prior to and following the criminal activity;

(5) evidence of the person's rehabilitation or rehabilitative effort while incarcerated or following release; and

(6) other evidence of the person's present fitness, including letters of recommendation from:

(A) prosecution, law enforcement, and correctional officers who prosecuted, arrested, or had custodial responsibility for the person;

(B) the sheriff or chief of police in the community where the person resides; and

(C) any other persons in contact with the convicted person.

(b) It shall be the responsibility of the applicant to the extent possible to secure and provide to the commission as required the recommendations of prosecution, law enforcement, and correctional authorities as required by statute and these rules upon request by the commission staff. The applicant shall upon request also furnish:

(1) a copy of the indictment, information, or complaint;

(2) a copy of the judgement(s) or order(s) of the court adjudicating guilt, granting probation, community supervision, deferred adjudication, or discharge from probation or community supervision;

(3) a record of steady employment in the form of a letter from current or former employers;

(4) a record that the applicant has supported his or her dependents in the form of a letter from a person in the applicant's community with personal knowledge of the circumstances;

(5) evidence that the applicant has paid all outstanding court costs, supervision fees, fines, and restitution as may have been ordered in all criminal cases in which he or she has been convicted, in

the form of copies of official records, documents, or a letter from the person's probation or parole officer where applicable concerning his or her current status; and

(6) a copy of the police or offense report(s).

§403.11. Procedures for Suspension, Revocation, or Denial of a Certificate to Persons with Criminal Backgrounds.

(a) If the commission proposes to suspend, revoke, limit, or deny a certificate based on the criteria in this chapter, the division shall notify the individual per Government Code, Chapter 2001. The notice of intended action shall specify the facts or conduct alleged to warrant the intended action.

(b) If the proposed action is to limit, suspend, revoke, or refuse to renew a current certificate, or deny an application for a new certificate, a written notice of intended action shall comply with the preliminary notice requirements of Government Code §2001.054(c). The individual may request, in writing, an informal conference with the commission staff in order to show compliance with all requirements of law for the retention of the certificate, pursuant to Government Code §2001.054(c). A written request for an informal staff conference must be submitted to the division director no later than 15 days after the date of the notice of intended action. If the informal staff conference does not result in an agreed consent order, a formal hearing shall be conducted in accordance with the Administrative Procedure Act, Government Code, Chapter 2001.

(c) If the individual does not request an informal staff conference or a formal hearing in writing within the time specified in this section, the individual is deemed to have waived the opportunity for a hearing, and the proposed action will be taken.

(d) If the commission limits, suspends, revokes, or denies a certificate under this chapter, a written notice shall be provided to the person that includes:

(1) the reasons for the decision;

(2) that the person may appeal the decision of the executive director to the commission in accordance with §401.63 of this title (relating to Final Decision and Orders) within 30 days from the date the decision is final and appealable;

(3) that the person, after exhausting administrative appeals, may file an action in a district court of Travis County, Texas, for judicial review of the evidence presented to the commission and its decision; and that such petition must be filed with the court no later than 30 days after the commission action is final and appealable.

§403.15. Report of Convictions by an Individual or a Department.

(a) A certificate holder must report to the commission, any conviction, other than a minor traffic offense (Class C misdemeanor) under the laws of this state, another state, the United States, or foreign country, within 14 days of the conviction date.

(b) A **regulated entity** [~~fire department~~] or local government entity shall report to the commission, any conviction of a certificate holder other than a minor traffic offense (class C misdemeanor) under the laws of this state, another state, the United States, or foreign country, that it has knowledge of, within 14 days of the conviction date.

(c) A certificate holder is subject to suspension, revocation, or denial of any or all certifications for violation of the requirements of subsection (a) of this section. Each day may be considered a separate offense.

(d) A **regulated entity** [~~fire department~~] or government entity regulated by the commission violating subsection (b) of this section may be subject to administrative penalties of up to \$500. Each day may be considered a separate offense.

(e) Notification may be made by mail, e-mail, or in person to the Texas Commission on Fire Protection (TCFP) Austin office. TCFP Form #014 shall be used.

12. Matters referred from the Fire Fighter Advisory Committee (FFAC), including, but not limited to:

B. Proposed amendments regarding rule review of the following:

3. 37 Tex. Administrative Code, Part 13, Chapter 423, Fire Suppression

CHAPTER 423**FIRE SUPPRESSION****SUBCHAPTER A****MINIMUM STANDARDS FOR STRUCTURE FIRE PROTECTION PERSONNEL CERTIFICATION****§423.1. Minimum Standards for Structure Fire Protection Personnel.**

- (a) Fire protection personnel who are appointed to structure fire protection duties must be certified by the commission within one year from the date of their appointment.
- (b) Prior to being appointed to structure fire protection duties, personnel must:
- (1) complete a commission approved basic structure fire protection program;
 - (2) successfully pass the commission examination as required by §423.3 of this title (relating to Minimum Standards for Basic Structure Fire Protection Personnel Certification); and
 - (3) successfully complete a commission recognized emergency medical training program. The commission recognizes the following emergency medical training:
 - (A) Department of State Health Services Emergency Medical Service Personnel certification training;
 - (B) an American Red Cross Emergency Response course, including the optional lessons and enrichment sections;
 - (C) an American Safety and Health Institute First Responder course;
 - (D) National Registry of Emergency Medical Technicians certification; or
 - (E) medical training deemed equivalent by the commission.
- (c) Personnel holding any level of structure fire protection personnel certification must comply with the continuing education requirements specified in Chapter 441 of this title (relating to Continuing Education).

§423.3. Minimum Standards for Basic Structure Fire Protection Personnel Certification.

- (a) In order to be certified as Basic Structure Fire Protection Personnel, an individual must:
- (1) possess valid documentation from the International Fire Service Accreditation Congress or the National Board on Fire Service Professional Qualifications issued by the Texas A&M Engineering Extension Service using the 2008 or later edition of the NFPA standard applicable to this discipline and meeting the requirements as specified in §439.1 of this title (relating to Requirements—General) as:
 - (A) Fire Fighter I, Fire Fighter II, Hazardous Materials Awareness Level Personnel; and
 - (B) Hazardous Materials Operations Level Responders including the Mission-Specific Competencies for Personal Protective Equipment and Product Control under the current edition; or

(C) NFPA 472 Hazardous Materials Operations prior to the 2008 edition; and

(D) meet the medical requirements outlined in §423.1 of this title (relating to Minimum Standards for Structure Fire Protection Personnel); or

(2) complete a commission approved basic structure fire protection program, meet the medical requirements outlined in §423.1(c) of this title (relating to Minimum Standards for Structure Fire Protection Personnel), and successfully pass the commission examination(s) as specified in Chapter 439 of this title (relating to Examinations for Certification). An approved basic structure fire suppression program shall consist of one or any combination of the following:

(A) completion of a commission approved Basic Fire Suppression Curriculum, as specified in the commission's Certification Curriculum Manual; or

(B) completion of an out-of-state, and/or military training program deemed equivalent to the commission approved Basic Fire Suppression Curriculum; or

(C) documentation of the receipt of a Fire Fighter II certificate, an advanced certificate, or confirmation of training from the State **Firefighters'** [~~Firemen's~~] and Fire Marshals' Association of Texas that is deemed equivalent to a commission approved Basic Fire Suppression Curriculum.

§423.5. Minimum Standards for Intermediate Structure Fire Protection Personnel Certification.

(a) Applicants for Intermediate Structure Fire Protection Personnel certification must complete the following requirements:

(1) hold, as a prerequisite, a Basic Structure Fire Protection Personnel certification as defined in §423.3 of this title (relating to Minimum Standards for Basic Structure Fire Protection Personnel Certification); and

(2) acquire a minimum of four years of fire protection experience and complete the training listed in one of the following options:

(A) Option 1--Successfully complete six semester hours of fire science or fire technology from an approved Fire Protection Degree Program and submit documentation as required by the commission that the courses comply with subsections (b) and (c) of this section; or

(B) Option 2--Completion of coursework from either the A-List or the B-List courses. Acceptable combinations of courses are as follows: two A-List courses; or eight B-List courses; or one A-List course and four B-List courses. (See the exception outlined in subsection (c) of this section); or

(C) Option 3--Completion of coursework from either the A-List or the B-List courses in combination with college courses in fire science or fire protection. Acceptable combinations of courses are three semester hours meeting the requirements of Option 1, with either one A-List course or four B-List courses (See the exception outlined in subsection (c) of this section).

(b) Non-traditional credit awarded at the college level, such as credit for experience or credit by examination obtained from attending any school in the commission's Certification Curriculum Manual or for experience in fire service, may not be counted toward this level of certification.

(c) The training required in this section must be in addition to any training used to qualify for any lower level of Structure Fire Protection Personnel certification. Repeating a course or a course of similar content cannot be used towards this level of certification.

§423.7. Minimum Standards for Advanced Structure Fire Protection Personnel Certification.

(a) Applicants for Advanced Structure Fire Protection Personnel certification must complete the following requirements:

(1) hold as a prerequisite an Intermediate Structure Fire Protection Personnel certification as defined in §423.5 of this title (relating to Minimum Standards for Intermediate Structure Fire Protection Personnel Certification); and

(2) acquire a minimum of eight years of fire protection experience and complete the training listed in one of the following options:

(A) Option 1--Successfully complete six semester hours of fire science or fire technology from an approved Fire Protection Degree Program and submit documentation as required by the commission that the courses comply with subsections (b) and (c) of this section; or

(B) Option 2--Completion of coursework from either the A-List or the B-List courses. Acceptable combinations of courses are as follows: two A-List courses; or eight B-List courses; or one A-List course and four B-List courses. (See the exception outlined in subsection (c) of this section); or

(C) Option 3--Completion of coursework from either the A-List or the B-List courses in combination with college courses in fire science or fire protection. Acceptable combinations of courses are three semester hours meeting the requirements of Option 1 with either one A-List course or four B-List courses (See the exception outlined in subsection (c) of this section).

(b) Non-traditional credit awarded at the college level, such as credit for experience or credit by examination obtained from attending any school in the commission's Certification Curriculum Manual or for experience in the fire service, may not be counted toward this level of certification.

(c) The training required in this section must be in addition to any training used to qualify for any lower level of Structure Fire Protection Personnel certification. Repeating a course or a course of similar content cannot be used towards this level of certification.

§423.9. Minimum Standards for Master Structure Fire Protection Personnel Certification.

(a) Applicants for Master Structure Fire Protection Personnel certification must complete the following requirements:

(1) hold as a prerequisite an Advanced Structure Fire Protection Personnel certification as defined in § 423.7 of this title (relating to Minimum Standards for Advanced Structure Fire Protection Personnel Certification); and

(2) acquire a minimum of twelve years of fire protection experience, and 60 college semester hours or an associate degree, which includes at least 18 college semester hours in fire science subjects.

(b) College level courses from both the upper and lower division may be used to satisfy the education requirement for Master Structure Fire Protection Personnel Certification.

§423.11. Higher Levels of Certification.

(a) An individual may receive higher levels of certification in structure fire protection while being assigned to another discipline, provided all requirements for the higher level or levels of certification are met.

(b) Repetitive training cannot be used toward higher levels of certification.

§423.13. International Fire Service Accreditation Congress (IFSAC) Seal.

(a) Individuals completing a commission approved basic structure fire protection program, meeting any other NFPA requirement, and passing the applicable commission examination(s) may be granted IFSAC seal(s) for Hazardous Materials Awareness Level Personnel, Hazardous Materials Operations Level Responders (including the Mission-Specific Competencies for Personal Protective Equipment and Product Control), Fire Fighter I, and/or Fire Fighter II by making application to the commission for the IFSAC seal(s) and paying applicable fees, provided they meet the following provisions:

(1) To receive the IFSAC Hazardous Materials Awareness Level Personnel seal, the individual must:

- (A) complete the Hazardous Materials Awareness section of a commission approved course; and
- (B) pass the Hazardous Materials Awareness section of a commission examination.

(2) To receive the IFSAC Hazardous Materials Operations Level Responders seal (including the Mission-Specific Competencies for Personal Protective Equipment and Product Control) the individual must:

- (A) complete the Hazardous Materials Operation section of a commission approved course; and
- (B) document possession of an IFSAC Hazardous Materials Awareness Level Personnel seal; and
- (C) pass the Hazardous Materials Operations section of a commission examination.

(3) To receive the IFSAC Fire Fighter I seal, the individual must:

- (A) complete a commission approved Fire Fighter I course; and
- (B) provide medical documentation as outlined in subsection **(b)** ~~{(c)}~~ of this section; and
- (C) document possession of an IFSAC Hazardous Materials Awareness Level Personnel seal; and
- (D) document possession of an IFSAC Hazardous Materials Operations Level Responders seal; and
- (E) pass the Fire Fighter I section of a commission examination.

(4) To receive the IFSAC Fire Fighter II seal, the individual must:

- (A) complete a commission approved Fire Fighter II course; and
- (B) document possession of an IFSAC Fire Fighter I seal; and
- (C) pass the Fire Fighter II section of a commission examination.

(b) In order to qualify for a Fire Fighter I seal, the individual must document successful completion of an emergency medical training course or program that includes those subject areas required by NFPA 1001.

(c) In order to qualify for an IFSAC seal, an individual must submit the application for the seal prior to the expiration of the examination.

12. Matters referred from the Fire Fighter Advisory Committee (FFAC), including, but not limited to:

B. Proposed amendments regarding rule review of the following:

4. 37 Tex. Administrative Code, Part 13, Chapter 425, Fire Service Instructors

CHAPTER 425

FIRE SERVICE INSTRUCTORS

§425.1. Minimum Standards for Fire Service Instructor Certification.

(a) Training programs that are intended to satisfy the requirements for fire service instructor certification must meet the curriculum and competencies based upon NFPA 1041, **Standard for Fire and Emergency Services Instructor Professional Qualifications or its successor**. All applicants for certification must meet the examination requirements of this section.

(b) Prior to being appointed to fire service instructor duties, all personnel must complete a commission approved fire service instructor program and successfully pass the commission examination pertaining to that curriculum.

(c) Personnel who receive probationary or temporary appointment to fire service instructor duties must be certified by the commission within one year from the date of appointment to such position.

(d) An out-of-state, military, or federal instructor training program may be accepted by the commission as meeting the training requirements for certification as a fire service instructor if the training has been submitted to the commission for evaluation and found to be equivalent to or to exceed the commission approved instructor course for that particular level of fire service instructor certification.

(e) An individual who holds a bachelor's degree or higher in education from a regionally accredited educational institution or a teaching certificate issued by the State Board for Educator Certification or an associate's degree with twelve semester hours of education instructional courses is considered to have training equivalent to the commission's curriculum requirements for Instructor I, II and III training.

(f) Personnel holding any level of fire service instructor certification must comply with the continuing education requirements specified in §441.21 of this title (relating to Continuing Education for Fire Service Instructor).

§425.3. Minimum Standards for Fire Service Instructor I Certification.

In order to be certified as a Fire Service Instructor I an individual must:

(1) have a minimum of three years of experience as defined in §421.5 of this title (relating to Definitions) in fire protection in one or more or any combination of the following:

(A) a paid, volunteer, or regulated non-governmental fire department; or

(B) a department of a state agency, education institution or political subdivision providing fire protection training and related responsibilities; and

(2) possess valid documentation as a Fire Instructor I, II or III from either:

(A) the International Fire Service Accreditation Congress (IFSAC); or

(B) the National Board on Fire Service Professional Qualifications issued by the Texas A&M Engineering Extension Service using the 2007 or later edition of the NFPA standard applicable to

this discipline and meeting the requirements as specified in §439.1(a)(2) of this title (relating to Requirements—General); or

(3) have completed the appropriate curriculum for Fire Service Instructor I contained in Chapter 8 of the commission's Certification Curriculum Manual, or meet the equivalence as specified in §425.1(d) or (e) of this title (relating to Minimum Standards for Fire Service Instructor Certification); and

(4) successfully pass the applicable commission examination as specified in Chapter 439 of this title (relating to Examinations for Certification).

§425.5. Minimum Standards for Fire Service Instructor II Certification.

In order to be certified as a Fire Service Instructor II, an individual must:

(1) hold as a prerequisite a Fire Instructor I certification as defined in §425.3 of this title (relating to Minimum Standards for Fire Service Instructor I Certification); and

(2) have a minimum of three years of experience as defined in §421.5 of this title (relating to Definitions) in fire protection in one or more or any combination of the following:

(A) a paid, volunteer, or regulated non-governmental fire department; or

(B) a department of a state agency, education institution or political subdivision providing fire protection training and related responsibilities; and

(3) possess valid documentation as a Fire Instructor II or III from either:

(A) the International Fire Service Accreditation Congress (IFSAC); or

(B) the National Board on Fire Service Professional Qualifications issued by the Texas A&M Engineering Extension Service using the 2007 or later edition of the NFPA standard applicable to this discipline and meeting the requirements as specified in §439.1(a)(2) of this title (relating to Requirements—General); or

(4) have completed the appropriate curriculum for Fire Service Instructor II contained in Chapter 8 of the commission's Certification Curriculum Manual, or meet the equivalence as specified in §425.1(d) or (e) of this title (relating to Minimum Standards for Fire Service Instructor Certification); and

(5) successfully pass the applicable commission examination as specified in Chapter 439 of this title (relating to Examinations for Certification).

§425.7. Minimum Standards for Fire Service Instructor III Certification.

In order to be certified as a Fire Service Instructor III an individual must:

(1) hold as a prerequisite, a Fire Instructor II Certification as defined in §425.5 of this title (relating to Minimum Standards for Fire Service Instructor II Certification); and

(2) have a minimum of three years of experience (as defined in §421.5(47) of this title (relating to Definitions)) in fire protection in one or more or any combination of the following:

(A) a paid, volunteer, or regulated non-governmental fire department; or

(B) a department of a state agency, education institution or political subdivision providing fire protection training and related responsibilities; and

(3) possess valid documentation of accreditation from the International Fire Service Accreditation Congress (IFSAC) as a Fire Instructor III; or

(4) have completed the appropriate curriculum for Fire Service Instructor III contained in Chapter 8 of the commission's Certification Curriculum Manual, or meet the equivalence as specified in §425.1(d) or (e) of this title (relating to Minimum Standards for Fire Service Instructor Certification); and

(5) successfully pass the applicable commission examination as specified in Chapter 439 of this title (relating to Examinations for Certification) and either:

(A) hold as a prerequisite an advanced structural fire protection personnel certification, an advanced aircraft fire protection personnel certification, advanced marine fire protection personnel certification, advanced inspector certification, advanced fire investigator, or advanced arson investigator certification; or

(B) have 60 college hours from a regionally accredited educational institution; or

(C) hold an associate's degree from a regionally accredited educational institution.

§425.9. Minimum Standards for Master Fire Service Instructor III Certification.

In order to be certified as a Master Fire Service Instructor III the individual must:

(1) hold as a prerequisite a Fire Service Instructor III certification; and

(2) be a member of a paid, volunteer, or regulated non-governmental fire department; or a department of a state agency, education institution or political subdivision providing fire protection training and related responsibilities; and

(3) hold as a prerequisite a master structural fire protection personnel certification, a master aircraft rescue fire fighting personnel certification, master marine fire protection personnel certification, master inspector certification, master fire investigator certification, or master arson investigator certification; or

(4) hold a bachelor's degree or higher in education from a regionally accredited educational institution or a teaching certificate issued by the Texas State Board of Education.

§425.11. International Fire Service Accreditation Congress (IFSAC) Seal.

(a) Individuals completing a commission approved Fire Service Instructor I training program and passing the applicable state examination may be granted an IFSAC seal for Instructor I by making application to the commission and paying the applicable fee.

(b) Individuals holding an IFSAC Instructor I seal, completing a commission approved Fire Service Instructor II training program, and passing the applicable state examination may be granted an IFSAC seal for Instructor II by making application to the commission and paying the applicable fee.

(c) Individuals holding an IFSAC Instructor II seal, completing a commission approved Fire Service Instructor III training program, and passing the applicable state examination may be granted an IFSAC seal for Instructor III by making application to the commission and paying the applicable fee.

(d) In order to qualify for an IFSAC seal, an individual must submit the application for the seal prior to the expiration of the examination.

February 28, 2022

Good Afternoon Mr. Wisko,

I am writing to discuss and request a review by the committee of TAC Rule 425.1 in reference to the Minimum Standards for Fire Service Instructors.

The current TAC Rule 425.1 reads as follows:

- (a) Training programs that are intended to satisfy the requirements for fire service instructor certification must meet the curriculum and competencies based upon NFPA 1041. All applicants for certification must meet the examination requirements of this section.*
- (b) Prior to being appointed to fire service instructor duties, all personnel must complete a commission approved fire service instructor program and successfully pass the commission examination pertaining to that curriculum.*
- (c) Personnel who receive probationary or temporary appointment to fire service instructor duties must be certified by the commission within one year from the date of appointment to such position.*
- (d) An out-of-state, military, or federal instructor training program may be accepted by the commission as meeting the training requirements for certification as a fire service instructor if the training has been submitted to the commission for evaluation and found to be equivalent to or to exceed the commission approved instructor course for that particular level of fire service instructor certification.*
- (e) An individual who holds a bachelor's degree or higher in education from a regionally accredited educational institution or a teaching certificate issued by the State Board for Educator Certification or an associate's degree with twelve semester hours of education instructional courses is considered to have training equivalent to the commission's curriculum requirements for Instructor I, II and III training.*
- (f) Personnel holding any level of fire service instructor certification must comply with the continuing education requirements specified in §441.21 of this title (relating to Continuing Education for Fire Service Instructor).*

As I have been explained by TCFP Auditor Kenneth Ashley Barnett, section (e) specifically states that the bachelor's degree or higher must be in "Education". I personally read as "bachelor degree or higher in education, as in it was not discipline specific. I was advised by Mr. Barnett that I was reading it incorrectly. I would like to see it changed so that it is considered that a bachelor's degree in any discipline meet the requirements. After completing at least 120 hours of course in higher education, a person has a good idea on how to instruct a course and has the discipline necessary to do so.

In addition, an Instructor Certification from the Texas Commission on Law Enforcement (TCOLE) should be considered as equivalent to the commission's curriculum requirements for Instructor I, II, and III training. The TCOLE Instructor curriculum covers instructional material and learning objectives to successfully create lesson plans, methods of evaluation, and testing and evaluation. Part of the course curriculum is to also use the material learned to create two separate presentations to teach to the class. Currently, the only TCOLE association between TCFP and TCOLE is that TCOLE service time is accepted towards the service time requirements of TCFP. I am attaching a copy of the TCOLE Basic Instructor Curriculum with this email.

Feel free to reach out to me if there are any questions or if any clarification is needed. I can be reached at anytime on my cell at 214-213-4007 or by email.

Thanks,

Brandon Ledbetter
TCFP Firefighter
TCOLE Advanced Peace Officer
PIN: 3293514
Cell: 214-213-4007

12. Matters referred from the Fire Fighter Advisory Committee (FFAC), including, but not limited to:

B. Proposed amendments regarding rule review of the following:

5. 37 Tex. Administrative Code, Part 13, Chapter 439, Examinations For Certification

CHAPTER 439

EXAMINATIONS FOR CERTIFICATION

SUBCHAPTER A

EXAMINATIONS FOR ON-SITE DELIVERY TRAINING

§439.1. Requirements—General.

- (a) The administration of examinations for certification, including performance skill evaluations, shall be conducted in compliance with commission rules and; as applicable, with:
- (1) International Fire Service Accreditation Congress (IFSAC) regulations; or
 - (2) National Board on Fire Service Professional Qualifications (Pro Board) regulations for examinations administered by the Texas A&M Engineering Extension Service. Only Pro Board examinations administered by the Texas A&M Engineering Extension Service will be accepted by the commission for certification. In order for a Pro Board document to be accepted for certification, it must:
 - (A) List the commission issued course approval number for which the examination was conducted;
 - (B) Indicate that the examination was conducted in English; and
 - (C) List any special accommodations provided to the examinee. The commission may not issue a certificate for an examination conducted under special accommodations other than those specified in §439.13 of this title (relating to Special Accommodations for Testing).
- (b) It is incumbent upon commission staff, committee members, training officers and field examiners to maintain the integrity of the state certification examination process (or portion thereof) for which they are responsible.
- (c) The commission shall reserve the authority to conduct an annual review of Pro Board examinations, procedures, test banks, and facilities utilized by the Texas A&M Engineering Extension Service. The commission may also conduct a review at any time for cause and as deemed necessary to ensure the integrity of the certification examination process.
- (d) Exams will be based on the job performance requirements and knowledge and skill components of the applicable NFPA standard for that discipline, if a standard exists and has been adopted by the commission. If a standard does not exist or has not been adopted by the commission, the exam will be based on curricula as currently adopted in the commission's Certification Curriculum Manual.
- (e) Commission examinations that receive a passing grade shall expire two years from the date of the examination.
- (f) An examination for Basic Structure Fire Protection shall consist of four sections: Fire Fighter I, Fire Fighter II, Hazardous Materials Awareness Level, and Hazardous Materials Operations Level including the Mission-Specific Competencies for Personal Protective Equipment and Product

Control. The examinee must pass each section of the examination with a minimum score of 70% in order to qualify for certification.

(g) An examination for Basic Fire Inspector shall consist of two sections: Inspector I, and Inspector II. The examinee must pass each section of the examination with a minimum score of 70% in order to qualify for certification.

(h) An examination for Basic Structure Fire Protection and Intermediate Wildland Fire Protection shall consist of five sections: Fire Fighter I, Fire Fighter II, First Responder Awareness, First Responder Operations, and Intermediate Wildland Fire Protection. The examinee must pass each section of the examination with a minimum score of 70% in order to qualify for certification.

(i) All other state examinations consist of only one section.

(j) The individual who fails to pass a commission examination for state certification will be given one additional opportunity to pass the examination or section(s) thereof. This opportunity must be exercised within 180 days after the date of the first failure. An examinee who fails to pass the examination within the required time may not sit for the same examination again until the examinee has re-qualified by repeating the curriculum applicable to that examination.

(k) An individual may obtain a new certificate in a discipline which was previously held by passing a commission proficiency examination.

(l) If an individual who has never held certification in a discipline defined in §421.5 of this title (relating to Definitions), seeks certification in that discipline, the individual shall complete all certification requirements.

(m) If an individual completes a commission approved training program, or a program that has been evaluated and deemed equivalent to a certification curriculum approved by the commission, such as an out-of-state or military training program or a training program administered by the State Firemen's and Fire Marshals' Association of Texas, the individual may use only one of the following examination processes for certification:

(1) pass a commission examination; or

(2) submit documentation of the successful completion of the Pro Board examination process administered by the Texas A&M Engineering Extension Service; and

(3) meet any other certification requirements in order to become eligible for certification as fire protection personnel.

(4) An individual cannot use a combination of the two examination processes in this subsection from a single commission approved class for certification. An individual who chooses to submit to the commission examination process may not utilize the other process toward certification.

(n) An individual or entity may petition the commission for a waiver of the examination required by this section if the person's certificate expired because of the individual's or employing entity's good faith clerical error or expired as a result of termination of the person's employment where the person has been restored to employment through a disciplinary procedure or a court action. All required renewal fees including applicable late fees and all required continuing education must be submitted before the waiver request may be considered.

(1) Applicants claiming good faith clerical error must submit a sworn statement together with any supporting documentation that evidences the applicant's good faith efforts to comply with commission renewal requirements and that failure to comply was due to circumstances beyond the control of the applicant.

(2) Applicants claiming restoration to employment as a result of a disciplinary or court action must submit a certified copy of the order, ruling or agreement restoring the applicant to employment.

§439.3. Definitions.

The following words and terms, when used in this chapter, have the following definitions unless the context clearly indicates otherwise.

(1) Certificate of Completion--A statement by the provider of training certifying that an individual has successfully completed a commission-approved certification curriculum or phase program for a particular discipline, including having been evaluated by field examiners on performance skills identified by the commission. The certificate of completion qualifies an individual to take an original certification examination. The certificate expires two years from the date of completion. If an individual does not take the certification examination prior to the expiration of the certificate of completion, he or she must again complete the curriculum in order to obtain a new certificate of completion.

(2) Curriculum--The competencies established by the commission as a minimum requirement for certification in a particular discipline.

(3) Designee--An entity or individual approved by commission staff to administer commission certification examinations and/or performance skills in accordance with this chapter.

(4) Eligibility--A determination of whether or not an individual has met the requirements set by the commission and would therefore be allowed to take a commission examination.

(5) Endorsement of eligibility--A statement testifying to the fact that an individual has met all requirements specified by the commission and is qualified to take a commission examination. An endorsement of eligibility will be issued by a member of the commission staff.

(6) Examination--A state test which an examinee must pass as one of the requirements for certification.

(7) Examinee--An individual who has met the commission requirements and therefore qualifies to take the commission examination.

(8) Field examiner--An individual authorized to evaluate performance skills in commission approved curricula. The field examiner must possess a Fire Instructor Certification or other instructor qualification as allowed by §427.307(h) and (i) of this title (relating to On-Site and Distance Training Provider Staff Requirements) for Wildland courses only, complete the on-line commission field examiner course, and sign an agreement to comply with the commission's testing procedures. The field examiner must be approved by the commission to instruct all subject areas identified in the curriculum that he or she will be evaluating. The field examiner must repeat the examiner course every two years and submit a new Letter of Intent.

(9) Lead Examiner--A member of the commission staff or a designee who has been assigned by the commission to administer a commission examination.

(10) Letter of Intent--A statement, signed by an individual applying to the commission for field examiner status, that he or she is familiar with the commission's examination procedures, and agrees to abide by the policies and guidelines as set out in Chapter 439 of this title (relating to Examinations for Certification).

(11) Sectional examination—A test that covers one section of a multiple section examination.

§439.5. Procedures.

(a) Procedures for conducting examinations are determined by the commission.

(b) All application processing fees due to the commission must be paid in a timely manner. Late payments shall be assessed a late fee in accordance with §437.13 of this title (relating to Processing Fees for Test Application).

(c) Each examination must be administered by a lead examiner.

(d) The lead examiner must:

(1) ensure that the tests remain secure and that the examination is conducted under conditions warranting honest results;

(2) monitor the examination while in progress;

(3) control entrance to and exit from the test site;

(4) assign or re-assign seating; and

(5) bar admission to or dismiss any examinee who fails to comply with any of the applicable provisions of this chapter.

(e) All official grading and notification must come from the commission or its designee. The preliminary test results shall be made available within seven (7) business days after completion of the examination.

§439.7. Eligibility.

(a) An examination may not be taken by an individual who currently holds an active certificate from the commission in the discipline to which the examination pertains, unless required by the commission in a disciplinary matter, or test scores have expired and the individual is testing for IFSAC seals.

(b) An individual who passes an examination and is not certified in that discipline, will not be allowed to test again if the original examination grade is still active, unless required by the commission in a disciplinary matter.

(c) In order to qualify for a commission examination, the examinee must:

(1) meet or exceed the minimum requirements set by the commission as a prerequisite for the specified examination;

(2) submit a test application, meet any other prerequisite requirements, and submit the appropriate application processing fee(s);

(3) receive from the commission an "Endorsement of Eligibility" letter and provide this letter to the lead examiner;

(4) bring to the test site, and display upon request, a current and valid government issued identification which contains the name and photograph of the examinee;

(5) report on time to the proper location; and

(6) comply with all the written and verbal instructions of the lead examiner.

(d) No examinee shall be permitted to:

(1) violate any of the fraud provisions of this section;

(2) disrupt the examination;

(3) bring into the examination site any books, notes, or other written materials related to the content of the examination;

(4) refer to, use, or possess any such written material at the examination site;

(5) give or receive answers or communicate in any manner with another examinee during the examination;

(6) communicate at any time or in any way, the contents of an examination to another person for the purpose of assisting or preparing a person to take the examination;

(7) steal, copy, or reproduce any part of the examination;

(8) engage in any deceptive or fraudulent act either during an examination or to gain admission to it;

(9) solicit, encourage, direct, assist, or aid another person to violate any provision of this section; or

(10) bring into the examination site any electronic devices.

(e) No person shall be permitted to sit for any commission examination who has an outstanding debt owed to the commission.

§439.9. Grading.

(a) If performance skills are required as a part of the examination, the examinee must demonstrate performance skill objectives in a manner consistent with performance skill evaluation forms provided by the Commission. The evaluation format for a particular performance skill will determine the requirements for passage of the skill. Each performance skill evaluation form will require successful completion of one of the following formats:

(1) all mandatory tasks; or

(2) an accumulation of points to obtain a passing score as indicated on the skill sheet; or

(3) a combination of both paragraphs (1) and (2) of this subsection.

(b) The minimum passing score on each written examination or section thereof shall be 70%. This means that 70% of the total possible active questions must be answered correctly. The commission may, at its discretion, invalidate any question.

(c) If the commission invalidates an examination score for any reason, it may also, at the discretion of the commission, require a retest to obtain a substitute valid test score.

§439.11. Commission-Designated Performance Skill Evaluations.

(a) The commission-designated performance evaluations are randomly selected from each subject area within the applicable curriculum containing actual skill evaluations. This applies only for curricula in which performance standards have been developed.

(b) The training provider shall test the commission designated performance skills for competency. The skill evaluations may only take place after all training on the identified subject area has been completed. The date(s), time(s) and location(s) for the commission designated skill evaluations must be submitted on the commission designated skill schedule contained within the Training Prior Approval system. The commission must be notified immediately of any deviation from the submitted commission designated skill schedule. All skills must be evaluated by a commission approved field examiner. The individual who served as the instructor of a particular subject may not evaluate the performance skill for the subject.

(c) In order to qualify for the commission certification examination, the student must successfully complete and pass all designated skill evaluations. The student may be allowed two attempts to complete each skill. A second failure during the evaluation process will require remedial training in the failed skill area with a certified instructor before being allowed a third attempt. A third failure shall require that the student repeat the entire certification curriculum.

(d) If performance skill evaluations are not conducted for a student during the course of instruction, they must be conducted within ninety days (90) following the end date of the course. In a case such as this the training provider must also obtain a new set of commission designated skills for which to evaluate the student; the provider may not use the same set of skills provided during the original course of instruction. If performance skill evaluations are not conducted within the ninety day (90) period, the student must repeat the course. The ninety (90) day period may be extended for students who were unable to complete their performance skill evaluations due to injury, illness, military commitment, or other situation beyond their control.

(e) The training facility must maintain records (electronic or paper) of skills testing on each examinee. Test results must be recorded and saved on the applicable performance skill sheets provided in the commission Curriculum Skills Manual, and must include all information called for on the skill sheet.

(f) For certification disciplines in which an IDLH environment may exist, all skill testing participants shall have available for use NFPA compliant PPE and SCBA as defined in §435.1 of this title (relating to Protective Clothing) and §435.3 of this title (relating to Self-Contained Breathing Apparatus).

§439.13. Special Accommodations for Testing.

(a) Special accommodation testing is for those individuals that have a documented disability which may hamper their success on a Texas Commission on Fire Protection written examination. Some accommodations that can be allowed are:

(1) A testing room to oneself (examinee is allowed to read the questions out loud to him or herself). To accommodate the request the examinee will have to test in the Commission's Austin headquarters location or any location deemed appropriate by the Commission.

(2) The test to be split in two with up to an hour break in between (no access to the first half of the examination will be allowed during or after the break). To accommodate the request the examinee will have to test in the commission's Austin headquarters location or any location deemed appropriate by the Commission.

(3) The questions to be printed in a larger font (approximately 7% larger).

(4) The test to be copied on off-white paper (i.e., cream colored).

(5) The use of highlighters or a highlighter sheet.

(6) Any requests that changes the condition of the examination or the examination process.

(b) If the applicant is seeking a special accommodation test, the applicant must submit written documentation of the disability and a written statement as to which of the allowable accommodations is being requested. The applicant may ask for accommodations not listed above. The request will be reviewed and the applicant will receive a written response regarding the Commission's position on the request.

§439.19. Number of Test Questions.

(a) Each examination may have two types of questions: pilot and active. Pilot questions are new questions placed on the examination for statistical purposes only. These questions do not count against an examinee if answered incorrectly. The maximum possible number of pilot questions will be 10% of the number of exam questions, rounded up.

(b) The number of questions on an examination, sectional examination, or retest will be based upon the specific examination, or number of recommended hours for a particular curriculum or section as shown in the table below. Any pilot questions added to an examination, sectional examination, or retest will be in addition to the number of exam questions.

Figure: 37 TAC §439.19(b)

Examination	Section	Number of Exam Questions	Maximum Possible Number of Pilot Questions	Time Allowed
Basic Structure FP	Hazardous Materials Awareness	25		
	Hazardous Materials Operations	25		
	Firefighter I	100		
	Firefighter II	75		
	TOTAL	225	25	4.5 Hours
Basic Fire Inspector	Inspector I	50		
	Inspector II	50		
	TOTAL	100	15	2.0 Hours
Basic Structure FP/ Intermediate Wildland FP	Hazardous Materials Awareness	25		
	Hazardous Materials Operations	25		
	Firefighter I	100		
	Firefighter II	75		
	Intermediate Wildland FP	25		
	TOTAL	250	25	5.0 Hours
FOR ALL OTHER EXAMINATIONS, SECTIONAL EXAMINATIONS, AND RETESTS				
	Recommended Hours	Number of Exam Questions	Maximum Possible Number of Pilot Questions	Time Allowed
IF THE RECOMMENDED HOURS FOR THE	Less than 30	25	3	30 Minutes
	31 to 100	50	5	1.0 Hour
	101 to 200	75	8	1.5 Hours

CURRICULUM OR SECTION IS:	201 to 300	100	10	2.0 Hours
	301 to 400	125	13	2.5 Hours
	401 or More	150	15	3.0 Hours

CHAPTER 439
EXAMINATIONS FOR CERTIFICATION
SUBCHAPTER B
EXAMINATIONS FOR DISTANCE TRAINING

§439.201. Requirements—General.

The examination requirements for those completing distance training shall be the same as those in Subchapter A of this chapter, except as noted in this subchapter.

§439.205. Performance Skill Evaluation.

If the performance skill portion of a state exam is to be evaluated by an approved field examiner who will not observe the completion of the skill while in the immediate physical presence of the examinee, a letter of assurance from the candidate's training officer or fire chief is required stating that the fire department assures the integrity of the evaluation procedure. If the candidate is not a member of a fire department, then a certified fire instructor, fire chief, or training officer may provide a letter of assurance that meets the requirements of this section. The provider of distance training is required to keep a record of this assurance and provide it to the commission upon request.

12. Matters referred from the Fire Fighter Advisory Committee (FFAC), including, but not limited to:

C. Report from the Curriculum and Testing Committee regarding recommended changes to the Fire Investigator Certification Curriculum Manual.

CERTIFICATION CURRICULUM MANUAL

CHAPTER FIVE

FIRE INVESTIGATOR

NFPA 921, 2021 Edition
NFPA 1033, ~~2014~~2022 Edition

Effective June 1, ~~2021~~2022



Texas Commission on Fire Protection
P.O. Box 2286 Austin, Texas 78768-2286 (512) 936-3838

REFERENCE LIST FOR THE FIRE INVESTIGATOR CURRICULUM

This Reference List is provided as a general guide for both instructors and students to locate information pertaining to the specific objectives in the TCFP Curriculum. This list is **not** all-inclusive and does not in any way limit TCFP development and use of questions to test the objectives of the curriculum.

Required References

Certification Curriculum Manual. Austin, TX: Texas Commission on Fire Protection.

Emergency Response Guidebook, (Current ed.) U.S. Department of Transportation Research and Special Programs Administration, Office of Hazardous Materials Initiatives and Training.

Fire Inspection and Code Enforcement (8th ed.) (2016). Stillwater, OK: Fire Protection Publications. International Fire Service Training Association.

Fire Investigator: Principles and Practice (5th ed.) (2019). Burlington, MA: Jones and Bartlett Learning.

Icove, David J., *Kirk's Fire Investigation*, (8th ed.) (2018). New York, NY: Pearson Education, Inc.

Lentini, John J., *Scientific Protocols for Fire Investigation* (3rd ed.) (2019). Boca Raton, FL: CRC Press.

NFPA 921: Guide for Fire and Explosion Investigations (2021 ed.) Quincy, MA: National Fire Protection Association. NFPA Publications.

NFPA 1033: Standard for Professional Qualifications for Fire Investigator (~~2014~~ 2022 ed.) Quincy, MA: National Fire Protection Association. NFPA Publications.

Standards Manual for Fire Protection Personnel. Austin, TX: Texas Commission on Fire Protection.

ASTM E620 *Standard Practice for Reporting Opinions of Scientific or Technical Experts* (current ed.)

ASTM E678 *Standard Practice for Evaluation of Scientific or Technical Data* (current ed.)

ASTM E860 *Standard Practice for Examining and Preparing Items That Are Or May Become Involved in Criminal or Civil Litigation* (current ed.)

ASTM E1188 *Standard Practice for Collection and Preservation of Information and Physical Items by a Technical Investigator* (current ed.)

ASTM E1459 *Standard Guide for Physical Evidence Labeling and Related Documentation* (current ed.)

Recommended References

The most current edition of the following publications and media are recommended (not required) supplemental material for program use.

ASTM E1020 *Standard Practice for Reporting Incidents that May Involve Criminal or Civil Litigation* (current ed.)

ASTM E1492 *Standard Practice for Receiving, Documenting, Storing, and Retrieving Evidence in a Forensic Science Laboratory* (current ed.)

ASTM E2917 *Standard Practice for Forensic Science Practitioner Training, Continuing Education, and Professional Development Programs* (current ed.)

Building Construction Related to the Fire Service (4th ed.) (2016). Stillwater, OK: Fire Protection Publications. International Fire Service Training Association.

Cole, Lee S., *Investigation of Motor Vehicles*, (current ed.). Lee Books.

Crime Scene Investigation: A Guide for Law Enforcement (current ed.). Largo, FL: National Forensic Science Technology Center. (On 5/06/21 this publication was available online at <https://nist.gov/system/files/documents/forensics/crime-scene-investigation.pdf>)

Emergency Field Guide, (current ed.). NFPA.
<https://catalog.nfpa.org/Emergency-Field-Guide-P13872.aspx>

Crime Laboratory Service Manual Part II: Handbook. Texas Department of Public Safety. Current edition.
<https://txdpslabs.qualtraxcloud.com/showdocument.aspx?ID=67707>

Fent, Kenneth. "Contamination of firefighter personal protective equipment and skin and the effectiveness of decontamination procedures." *Journal of Occupational and Environmental Hygiene*. (2017).

Fire and Arson Scene Evidence: A Guide for Public Safety Personnel, (current ed.). Washington, DC: US Department of Justice, Office of Justice Programs.

(On 5/06/21 this publication was available online at
<https://www.ncjrs.gov/pdffiles1/nij/181584.pdf>)

Fire Protection, Detection, and Suppression Systems (5th ed.)(2016). Stillwater, OK: Fire Protection Publications. International Fire Service Training Association (IFSTA).

Fire Protection Handbook (current ed.). National Fire Protection Association.

Fires in Texas, Annual Fire Statistics report (current ed.) Texas State Fire Marshals Office. Department of Insurance, TEXFIRS section. A link to the report can be found on their website: www.tdi.texas.gov/fire/

Gorbett, Gregory E. *Fire Dynamics* (2nd ed.) (2016). Boston: Pearson.

Guide to Wildland Fire Origin and Cause Determination (PMS 412)(current ed.), National Wildfire Coordinating Group. (On 5/06/21 this publication was available online at
<https://www.nwccg.gov/sites/default/files/publications/pms412.pdf>)

Health Hazard Evaluation Report 96-0171-2692. Bureau of Alcohol, Tobacco, and Firearms. Washington D.C. May 1988.

Konefal, Joseph and Edward Nordskog. *Fire Death Scene Investigation*. (2019). Self-published. www.arsonprofiler.com.

Munday, James W., *Safety at Scenes of Fire and Related Incidents* (current ed.). London: The Fire Protection Association.

NFPA 170: Standard for Fire Safety and Emergency Symbols (current ed.) Quincy, MA: National Fire Protection Association. NFPA Publications.

NFPA 472: Standard for Professional Competence of Responders to Hazardous Materials Incidents (current ed.). Quincy, MA: National Fire Protection Association. NFPA Publications.

NFPA 556: Guide on Methods for Evaluating Fire Hazard to Occupants of Passenger Road Vehicles (current ed.) Quincy, MA: National Fire Protection Association. NFPA Publications.

NFPA 1037: Standard on Fire Marshal Professional Qualifications (current ed.). Quincy, MA: National Fire Protection Association. NFPA Publications.

NFPA 1730: Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public

Education Operations (current ed.). Quincy, MA: National Fire Protection Association. NFA Publications.

NIJ Research Report: *Death Investigation: A Guide for the Scene Investigator* (current ed.). US Department of Justice, Office of Justice Programs, National Institute of Justice. (On 5/06/21 this publication was available online at <https://www.ncjrs.gov/pdffiles1/nij/234457.pdf>)

Passenger Vehicle Identification Manual (current ed.) National Insurance Crime Bureau, 1111 E. Touhy Avenue, Suite 400, Des Plaines, IL 60018-2805.

Physical Evidence Handbook (current ed.). Texas Department of Public Safety. (On 5/06/21 this publication was available online at <https://www.dps.texas.gov/CrimeLaboratory/documents/PEHmanual.pdf>)

Pocket Guide to Fire and Arson Investigation (P7923) (current ed.). Factory Mutual Global.

Rules of Criminal Evidence, latest edition. (On 5/06/21, this information was available online at <http://www.txcourts.gov/rules-forms/rules-standards.aspx>).

[Strengthening Fire and Explosion Investigation in the United States: A Strategic Vision for Moving Forward. 1 Apr. 2021,](https://doi.org/10.29325/OSAC.TG.0005)
[https://doi.org/10.29325/OSAC.TG.0005. Accessed 27 Apr. 2021.](https://doi.org/10.29325/OSAC.TG.0005)

[Strengthening Fire and Explosion Investigation in the United States: A Strategic Vision for Moving Forward. Available online at](https://doi.org/10.29325/OSAC.TG.0005)
[https://doi.org/10.29325/OSAC.TG.0005, April 2021](https://doi.org/10.29325/OSAC.TG.0005)

Strengthening Forensic Science in the United States: A Path Forward, (current ed.) (Committee on Identifying the Needs for the Forensic Sciences Community. National Research Council. (On 5/06/21 this publication was available online at <https://www.ncjrs.gov/pdffiles1/nij/grants/228091.pdf>)

Texas Code of Criminal Procedure, latest edition. (On 5/06/21, this information was available online at <http://www.statutes.legis.state.tx.us/>).

Texas Family Code, current ed. (On 5/06/21, this information was available online at <http://www.statutes.legis.state.tx.us/>).

Texas Insurance Code, current ed. (On 5/06/21, this information was available online at <http://www.statutes.legis.state.tx.us/>).

Texas Penal Code, current ed. (On 5/06/21, this information was available online at <http://www.statutes.legis.state.tx.us/>).

Texas Public Information Act Handbook, current ed. (On 5/06/21, this information

was available online at http://www.oag.state.tx.us/AG_publications/pdfs/publicinfo_hb.pdf. It is available through the Texas Attorney General's office.)

United States Constitution. (On 5/06/21, this information was available online at <http://www.archives.gov/exhibits/charters/charters.html>).

**CHAPTER FIVE
FIRE INVESTIGATOR
COURSE OUTLINE**

SECTION	SUBJECT	RECOMMENDED HOURS
501-1	Commission on Fire Protection Rules and Regulations	2
501-2	NFPA 1033 - Administration	
501-3	Definitions	
501-4	Basic Methodology	2
501-5	Basic Fire Science	16
501-6	Fire Effects and Fire Patterns	20
501-7	Building Systems	2
501-8	Active Fire Protection Systems	4
501-9	Electricity and Fire	8
501-10	Building Fuel Gas Systems	4
501-11	Fire-Related Human Behavior	4
501-12	Legal Considerations	12
501-13	Safety	4
501-14	Sources of Information	6
501-15	Planning the Investigation	2
501-16	Documentation of the Investigation	12
501-17	Physical Evidence	12
501-18	Origin Determination	8
501-19	Fire Cause Determination	4
501-20	Analyzing the Incident for Cause and Responsibility	4
501-21	Failure Analysis and Analytical Tools	8
501-22	Explosions	8
501-23	Incendiary Fires	8
501-24	Fire and Explosion Deaths and Injuries	4
501-25	Appliances	2
501-26	Motor Vehicle Fires	8
501-27	Wildfire Investigations	8
501-28	Management of Complex Investigations	2
501-29	Marine Fire Investigations	2
501-30	Practical Exercises	24
TOTAL HOURS RECOMMENDED		200

* The recommended hours includes time for skills evaluation and is based on 12 students. Actual hours needed will depend on the number of students, the number of examiners, availability of equipment, and the student skill level.

NFPA 1033 MATRIX

2014 Objective	LOCATION IN CURRICULUM	SKILL
4.1	GENERAL	
4.1.1	1	None
4.1.2	4	None
4.1.3	13, 15, 26	None
4.1.4	14, 15	None
4.1.5	12	None
4.1.6	15, 28	None
<u>4.1.7</u>	<u>4,5,7,8,9,10,13,16,17,20,21,22</u>	<u>None</u>
4.2	SCENE EXAMINATION	
4.2.1	15, 17	1
4.2.2	13, 18	2, 26
4.2.3	18,	3
4.2.4	5, 6, 26	4, 5
4.2.5	5, 6, 7, 18, 26	5
4.2.6	5, 17, 26	6
4.2.7	6	7
4.2.8	7, 8, 9, 10, 14, 25	8
4.2.9	22	6
4.3	DOCUMENTING THE SCENE	
4.3.1	16, 17	9
4.3.2	16	10
4.3.3	12, 16	11
4.4	EVIDENCE COLLECTION/PRESERVATION	
4.4.1	11, 17, 24	12
4.4.2	12, 17	12
4.4.3	14, 17	12
4.4.4	12, 17	13
4.4.5	17	14
4.5	INTERVIEW	
4.5.1	14	15
4.5.2	14	16
4.5.3	14	17
4.6	POST-INCIDENT INVESTIGATION	
4.6.1	14, 16, 20, 21	18
4.6.2	16, 20, 21	19
4.6.3	12, 14, 15, 20, 21	20
4.6.4	11, 20, 21, 23	21
4.6.5	11, 18, 19, 20, 21, 23	22
4.7	PRESENTATIONS	
4.7.1	16, 30	23
4.7.2	30	24
4.7.3	12, 30	25
Annex A	EXPLANATORY MATERIAL	
A.1.1	26, 27, 29	

Course Instructor Information

Fire Investigator

Overview

The Fire Investigator curriculum is designed to provide clear guidance that ensures adequate presentation of the information required to meet the Job Performance Requirements (JPRs) of National Fire Protection Association (NFPA) 1033, *Standard for Professional Qualifications for Fire Investigator*, 20~~22~~¹⁴ edition.

The Fire Investigator curriculum is Chapter 5 of the Texas Commission on Fire Protection (TCFP) Curriculum Manual.

Certification Level	TCFP Chapter Number	NFPA 1033 Chapter
Fire Investigator	5	4

Layout

The NFPA numbering sequence is mirrored to allow easy correlation between this document and the NFPA Standard. For example, 501-5.5.1 identifies the section in Fire Investigator that corresponds to *NFPA 921, Guide for Fire and Explosion Investigation (2021 Edition)* section 5.5.1.

TCFP Standards Manual

It is critical that the Course Instructor review the chapters in the TCFP Standards Manual that apply to this curriculum. Of primary importance are the following chapters: Chapter 421, Standards for Certification; Chapter 437, Fees; Chapter 431, Fire Investigator Certification; Chapter 439, Examinations for Certification; Chapter 449.5, Certification as Head of a Prevention Only Department. These chapters do not address every issue that could impact this curriculum; therefore, the Course Instructor is encouraged to become familiar with the TCFP Standards Manual.

Supplemental Information

Instructors are expected to provide supplemental information if the main reference text does not provide adequate information to ensure successful completion of the Job Performance Requirements as listed in the curriculum.

Components of the Curriculum

Each section of the curriculum identifies the NFPA JPR in NFPA 1033, *Standard for Professional Qualifications for Fire Investigator*, ~~2014~~²⁰²² Edition and knowledge components in *NFPA 921, Guide for Fire and Explosion Investigations, 2021 Edition* and subdivides them into learning components.

For example:

4.6 Post-Incident Investigation.

Duties shall include the investigation of all factors beyond the fire scene at the time of the origin and cause determination.

NFPA 1033 4.6.5* Formulate an opinion concerning origin, cause, or responsibility for the fire, given all investigative findings, so that the opinion regarding origin, cause, or responsibility for a fire is supported by the data, facts, records, reports, documents, and evidence.

(A) Requisite Knowledge: Analytical methods and procedures (e.g., hypothesis development and testing, systems analysis, time lines, link analysis, fault tree analysis, and data reduction matrixing).

(B) Requisite Skills: Analytical and assimilation skills.

501-19.1 **The Investigator candidate shall define fire cause and identify fire cause factors.**

19.1.1 *Fire Cause Factors*

19.1.2 *First Fuel Ignited*

19.1.3 *Ignition Source*

19.1.4 *Oxidant*

19.1.5 *Ignition Sequence*

501-19.2 **The Investigator candidate shall utilize the scientific method as the overall methodology.**

19.1.1 *Consideration of Data*

19.1.2 *Sequence of Activities*

19.1.3 *Point and Area of Origin*

501-19.3 **The Investigator candidate shall identify the data that needs to be collected for fire cause determination.**

Skills

NFPA’s “Requisite Skills” requirements are addressed in the corresponding Skill Sheets and are based on the JPRs in National Fire Protection Association (NFPA) 1033, *Standard for Professional Qualifications for Fire Investigator*, 20~~22~~²⁴ edition.

Descriptions of Certification Levels

A Fire Investigator is an individual who has demonstrated the skills and knowledge necessary to conduct, coordinate, and complete a fire investigation.

Fire Investigator

A Fire Investigator is an individual who has demonstrated the knowledge, skills, and abilities necessary to conduct, coordinate, and complete a fire investigation employing all the elements of the scientific method as the operating analytical process throughout the investigation. A Fire Investigator can competently determine the origin and cause of a fire and has mastered all the job performance requirements of NFPA 1033: *Standard for Professional Qualifications for Fire Investigator*.

SECTION 1

COMMISSION ON FIRE PROTECTION

RULES AND REGULATIONS

4.1 General

NFPA 1033 4.1.1 The fire investigator shall meet the job performance requirements defined in Sections 4.2 through 4.7.

References:

Certification Curriculum Manual
Standards Manual for Fire Protection Personnel

501-1.1 **The Investigator candidate shall describe the purpose of the NFPA standard and guide applicable to Fire Investigators.**

- 1.1.1 NFPA 1033 *Standard for Professional Qualifications for Fire Investigator*, ~~2014~~-2022 edition.
- 1.1.2 NFPA 921 *Guide for Fire and Explosion Investigations*, 2021 edition.

501-1.2 **The Investigator candidate shall identify rules applicable to the Fire/Arson Investigator certification adopted by the Texas Commission on Fire Protection.**

- 1.2.1 The Investigator candidate shall identify the requirements for certification as a Fire Investigator as stated in the *Standards Manual for Fire Protection Personnel*, Chapter 431.
- 1.2.2 The Investigator candidate shall identify the requirements for certification as an Arson Investigator as stated in the

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Standards Manual for Fire Protection Personnel, Chapter 431.

1.2.3 The Investigator candidate shall identify the various levels of certification for Fire and/or Arson Investigator, as stated in the *Standards Manual for Fire Protection Personnel*, Chapter 431.

- 1.2.3.1 Basic
- 1.2.3.2 Intermediate
- 1.2.3.3 Advanced
- 1.2.3.4 Master

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SECTION 2

NFPA 1033

NFPA 1033 1.1* Scope. This standard shall identify the professional level of job performance requirements for fire investigators.

1.2 * Purpose. This standard shall specify the minimum JPRs for serving as a fire investigator in both the private and public sectors.

1.2.1 This standard shall define the fire investigator position.

1.2.2 The intent of this standard shall be to ensure that individuals who serve as fire investigators are qualified to do so.

1.2.3 It shall not be the intent of this standard to restrict any jurisdiction from exceeding or combining these minimum requirements.

1.2.4 JPRs for each duty are the tasks personnel shall be able to perform to successfully carry out that duty.

1.2.5 Fire investigators who perform or support fire investigations shall remain current with the general knowledge, skills, and JPRs.

1.2.6 Fire investigators who perform or support fire investigations shall remain current with practices and applicable standards.

1.3 Application.

The application of this standard shall be to specify the JPRs that shall apply to specific personnel who perform and support fire investigations.

1.3.1 The JPRs shall be accomplished in accordance with the requirements of the AHJ and all applicable NFPA and other standards development organization (SDO) standards.

1.3.2 Priority.

1.3.2.1 * It shall not be required that the JPRs be mastered in the order in which they appear.

1.3.2.2 The AHJ shall establish instructional priority and the training program content to prepare personnel to meet the JPRs of this standard.

1.3.2.3 * The performance of each requirement of this chapter shall be evaluated by personnel approved by the AHJ.

1.3.2.4 The JPRs for fire investigators shall be completed in accordance with recognized practices and procedures or as defined by law or by the AHJ.

1.3.2.5 Fire investigators who perform or support fire investigations shall meet the requirements of this standard for each fire investigation performed.

1.3.2.6 The AHJ shall provide the necessary personal protective equipment (PPE), force protection, and clothing to conduct assignments.

1.3.2.7 JPRs involving exposure to products of combustion shall be performed in approved PPE.

1.3.2.8 Prior to training to meet the requirements of this standard, personnel shall meet the following requirements:

(1) Be at least age 18

(2) Have a high school diploma or equivalent

(3) Be subjected to a thorough background and character investigation by the AHJ prior to being accepted as an individual candidate for certification as a fire investigator

~~**1.2* Purpose.** The purpose of this standard shall be to specify the minimum job performance requirements for serving as a fire investigator in both the private and public sectors.~~

~~**1.2.1** It is not the intent of this standard to restrict any jurisdiction from exceeding the minimum requirements.~~

~~**1.2.2** Job performance requirements for each duty are the tasks an individual must be able to perform in order to successfully carry out that duty; however, they are not intended to measure a level of knowledge. Together, the duties and job performance requirements define the parameters of the job of fire investigator.~~

~~**1.3 General.**~~

~~**1.3.1** The fire investigator shall be at least age 18.~~

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~~1.3.2~~ The fire investigator shall have a high school diploma or equivalent.

~~1.3.3~~ The authority having jurisdiction shall conduct a thorough background and character investigation prior to accepting an individual as a candidate for certification as a fire investigator.

~~1.3.4~~ The job performance requirements for fire investigator shall be completed in accordance with established practices and procedures or as they are defined by law or by the authority having jurisdiction.

~~1.3.5*~~ The job performance requirements found in this standard are not required to be mastered in the order they appear. Training agencies or authorities shall establish instructional priority and the training program content to prepare individuals to meet the job performance requirements of this standard.

~~1.3.6*~~ Evaluation of job performance requirements shall be by individuals who are qualified and approved by the authority having jurisdiction.

~~1.3.7*~~ The investigator shall have and maintain at a minimum an up-to-date basic knowledge of the following topics beyond the high school level:

- ~~(1) Fire science~~
- ~~(2) Fire chemistry~~
- ~~(3) Thermodynamics~~
- ~~(4) Thermometry~~
- ~~(5) Fire dynamics~~
- ~~(6) Explosion dynamics~~
- ~~(7) Computer fire modeling~~
- ~~(8) Fire investigation~~
- ~~(9) Fire analysis~~
- ~~(10) Fire investigation methodology~~
- ~~(11) Fire investigation technology~~
- ~~(12) Hazardous materials~~
- ~~(13) Failure analysis and analytical tools~~
- ~~(14) Fire protection systems~~
- ~~(15) Evidence documentation, collection, and preservation~~
- ~~(16) Electricity and electrical systems~~

~~1.3.8*~~ The fire investigator shall remain current in the topics listed in 1.3.7 by attending formal education courses, workshops and seminars and/or through professional publications and journals.

4.1.1* The fire investigator shall meet the job performance requirements defined in Sections 4.2 through 4.7. (see below)

4.1.2* The fire investigator shall employ all elements of the scientific method as the operating analytical process throughout the investigation and for the drawing of conclusions.

4.1.3* Because fire investigators are required to perform activities in adverse conditions, site safety assessments shall be completed on all scenes and regional and national safety standards shall be followed and included in organizational policies and procedures.

4.1.4* The fire investigator shall maintain necessary liaison with other interested professionals and entities.

4.1.5* The fire investigator shall adhere to all applicable legal and regulatory requirements.

4.1.6 The fire investigator shall understand the organization and operation of the investigative team within an incident management system.

4.1.7 * In order to successfully complete the tasks identified in the JPRs of Sections 4.2 through 4.7, the fire investigator shall remain current in the subjects listed as “requisite knowledge” as they relate to fire investigations, which include the following:

(1) Fire science:

1. (a) Fire chemistry
2. (b) Thermodynamics
3. (c) Fire dynamics
4. (d) Explosion dynamics

(2) Fire investigation:

5. (a) Fire analysis
6. (b) Fire investigation methodology
7. (c) Fire investigation technology
8. (d) Evidence documentation, collection, and preservation
9. (e) Failure analysis and analytical tools

(3) Fire scene safety:

10. (a) Hazard recognition, evaluation, and basic mitigation procedures
11. (b) Hazardous materials
12. (c) Safety regulations

(4) Building systems:

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- 13. (a) Types of construction
- 14. (b) Fire protection systems
- 15. (c) Electricity and electrical systems
- 16. (d) Fuel gas systems

4.1.7.1 The fire investigator shall remain current in the subjects listed as “requisite knowledge” for the JPRs and as summarized in 4.1.7.

4.1.7.2 The fire investigator shall remain current by attending formal education courses, workshops, in-person or online seminars, and/or through professional publications, journals, and treatises.

4.1.6 4.1.7.3 The fire investigator shall complete and document a minimum of 40 hours of continuing education training every five years by attending formal education courses, workshops, and seminars.

28 Job Performance Requirements (Annex C, Table C.1)

- 1-Secure the fire ground (4.2.1)
- 2-Conduct an exterior survey (4.2.2)
- 3-Conduct an interior survey (4.2.3)
- 4-Interpret fire patterns (4.2.4)
- 5-Interpret and analyze fire patterns (4.2.5)
- 6-Examine and remove fire debris (4.2.6)
- 7-Reconstruct the area of origin (4.2.7)
- 8-Inspect the performance of building systems (4.2.8)
- 9-Discriminate the effects of explosions (4.2.9)
- 10-Diagram the Scene (4.3.1)
- 11-Photographically document the scene (4.3.2)
- 12-Construct investigative notes (4.3.3)
- 13-Utilize proper procedures for managing victims and fatalities (4.4.1)
- 14-Locate, document, collect, label, package, and store evidence (4.4.2)
- 15-Select evidence for analysis (4.4.3)
- 16-Maintain a chain of custody (4.4.4)
- 17-Dispose of evidence (4.4.5)
- 18-Develop an interview plan (4.5.1)
- 19-Conduct interviews (4.5.2)
- 20-Evaluate interview information (4.5.3)
- 21-Gather reports and records (4.6.1)
- 22-Evaluate the investigative file (4.6.2)
- 23-Coordinate expert resources (4.6.3)
- 24-Establish evidence as to motive and/or opportunity (4.6.4)
- 25-Formulate an opinion concerning origin, cause, or responsibility for the fire (4.6.5)
- 26-Prepare a written report (4.7.1)
- 27-Express investigative findings verbally (4.7.2)
- 28-Testify during legal proceedings (4.7.3)

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SECTION 3

DEFINITIONS

References:
NFPA 921 2021 edition

501-3.1 ***The Investigator candidate shall define the terms used in Chapter 3 of NFPA 921. Guide for Fire and Explosion Investigations (2021 Edition).***

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SECTION 4

BASIC METHODOLOGY

4.1 General

NFPA 1033 4.1.2 The fire investigator shall employ all elements of the scientific method as the operating analytical process throughout the investigation and for the drawing of conclusions.

4.1.7 In order to successfully complete the tasks identified in the JPRs of Sections 4.2 through 4.7, the fire investigator shall remain current in the subjects listed as “requisite knowledge” as they relate to fire investigations, which include the following: (2)(b) Fire Investigation Methodology.

References:

J & B, chapter 2
Lentini, chapter 4

501-4.1 **The Investigator candidate shall describe the nature of fire investigations.**

501-4.2 **The Investigator candidate shall apply the principles of the systematic approach of the scientific method.**

501-4.3 **The Investigator candidate shall describe the steps of the scientific method relating to fire investigations.**

4.3.1 Recognize the Need

4.3.2 Define the Problem

4.3.3 Collect Data

4.3.4 Analyze the Data

4.3.5 Develop a Hypotheses (Inductive Reasoning)

4.3.6 Test the Hypotheses (Deductive Reasoning)

4.3.7 Select Final Hypothesis

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4.3.8 Avoid Presumption

4.3.9 Expectation Bias

4.3.10 Confirmation Bias

501-4.4 ***The Investigator candidate shall describe the basic method of fire investigation.***

4.4.1 Receiving the Assignment

4.4.2 Preparing for the Investigation

4.4.3 Conducting the Investigation

4.4.4 Collecting and Preserving Evidence

4.4.5 Analyzing the Incident

4.4.6 Conclusions

501-4.5 ***The Investigator candidate shall properly distinguish between the different levels of certainty.***

4.5.1 Probable versus Possible

4.5.2 Suspected

4.5.3 Expert Opinions

501-4.6 ***The Investigator candidate shall develop "review procedures."***

4.6.1 Administrative Review

4.6.2 Technical Review

4.6.3 Peer Review

501-4.7 ***The Investigator candidate shall describe different reporting procedures.***

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SECTION 5

BASIC FIRE SCIENCE

NFPA 1033 4.1.7 In order to successfully complete the tasks identified in the JPRs of Sections 4.2 through 4.7, the fire investigator shall remain current in the subjects listed as “requisite knowledge” as they relate to fire investigations, which include the following: (1)(a) Fire Chemistry, (b) Thermodynamics, (c) Fire Dynamics.

4.2 Scene Examination.

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.
~~Duties shall include inspecting, evaluating, and evaluating analyzing the fire scene, or evidence of the scene and/or conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action act or activity that brought ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2.4 Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that each pattern is identified and analyzed with respect to the burning characteristics of the material involved, the stage of fire development, the effects of ventilation within the context of the scene, the relationship with all patterns observed, and the understanding of the methods of heat transfer that led to the formation of the patterns identified and analyzed, and the sequence in which the patterns were produced.
~~Interpret fire patterns, given standard equipment and tools and some structural or content remains, so that each individual pattern is evaluated with respect to the burning characteristics of the material involved and in context and relationship with all patterns observed and the mechanisms of heat transfer that led to the formation of the pattern.~~

(A) Requisite Knowledge. Fire dynamics, fire development, and the interrelationship of heat release rate, form, and ignitibility of materials.

(B) Requisite Skills. Ability to interpret the effects of burning characteristics on different types of materials.

NFPA 1033 4.2.5 Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that fire development is determined, methods and effects of suppression are evaluated, false origin area patterns are recognized, and all areas of origin are correctly identified.

(A) Requisite Knowledge. Fire behavior and spread based on fire chemistry, fire dynamics, and physics, fire suppression effects, building construction.

(B) Requisite Skills. Ability to interpret variations of fire patterns on different materials with consideration given to heat release rate, form, and ignitibility; distinguish impact of different types of fuel loads; evaluate fuel trails; and analyze and synthesizes information.

NFPA 1033 4.2.6 Examine and remove fire debris, given standard equipment and tools, so that all debris is checked for fire cause evidence, potential ignition source(s) is identified, and evidence is preserved without investigator-inflicted damage or contamination.

(A) Requisite Knowledge. Basic understanding of ignition processes, characteristics of ignition

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sources, and ease of ignition of fuels; debris-layering techniques; use of tools and equipment during the debris search; types of fire cause evidence commonly found in various degrees of damage; and evidence-gathering methods and documentation.

(B) Requisite Skills. Ability to employ search techniques that further the discovery of fire cause evidence and ignition sources, use search techniques that incorporate documentation, and collect and preserve evidence.

References:
J&B, chapter 3
Kirk's, chapter 2
Lentini, chapter 1-2

501-5.1 **The Investigator candidate shall define and describe fire science.**

- 5.1.1 Fire and Energy
- 5.1.2 Energy
- 5.1.3 Power
- 5.1.4 Heat Flux
- 5.1.5 Identify and describe the elements of the fire tetrahedron.
 - 5.1.5.1 Define fuel and describe the three states in which fuel exists.
 - 5.1.5.2 Describe the action of oxidizing agents.
 - 5.1.5.3 Describe the relationship of heat in the combustion process.
 - 5.1.5.4 Describe the uninhibited chemical chain reaction of combustion.

501-5.2 **The Investigator candidate shall be able to discuss fire chemistry as the study of chemical processes that occur in fires, including changes of state, decomposition, and combustion.**

- 5.2.1 Phase Changes and Thermal Decomposition
- 5.2.2 Combustion

501-5.3 **The Investigator candidate shall identify and describe products of combustion.**

501-5.4 **The Investigator candidate shall identify and describe fluid**

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**flows generated by mechanical forces or by buoyant forces
generated by temperature differences.**

- 5.4.1 General
- 5.4.2 Buoyant Flows
- 5.4.3 Fire Plumes
- 5.4.4 Ceiling Jets
- 5.4.5 Vent Flows

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501-5.5 **The Investigator candidate shall define and describe methods of heat transfer.**

- 5.5.1 General
- 5.5.2 Conduction
- 5.5.3 Convection
- 5.5.4 Radiation
- 5.5.5 Thermometry
 - 5.5.5.1 Different systems
 - 5.5.5.2 Empirical Temperature Scales
 - 5.5.5.3 Thermodynamic (Absolute) Temperature Scales

501-5.6 **The Investigator candidate shall define and describe the fuel load, fuel packages, and properties of flame.**

- 5.6.1 Fuel Load
- 5.6.2 Fuel Items and Fuel Package
- 5.6.3 Heat Release Rate
- 5.6.4 Properties of Flames
- 5.6.5 Thermal Structure of a Flame
 - 5.6.5.1 Continuous Flaming Region
 - 5.6.5.2 Intermittent Flame Region
 - 5.6.5.3 Plume Region
- 5.6.6 Heat Fluxes from Flames
 - 5.6.6.1 Heat Fluxes from Flames to Contacted Surfaces
 - 5.6.6.2 Heat Fluxes from Flames to Remote Surfaces

501-5.7 **The Investigator candidate shall describe the different forms and mechanisms of ignition.**

- 5.7.1 Ignition in General
- 5.7.2 Ignition of Flammable Gases

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5.7.3 Ignition of Liquids

5.7.4 Ignition of Solids

501-5.8 ***The Investigator candidate shall describe the different flame spreads and their characteristics.***

5.8.1 General

5.8.1.1 Counterflow Flame Spread

5.8.1.2 Concurrent Flame Spread

5.8.1.3 Fire Spread on Sloped Surfaces

5.8.2 Flame spread on Liquids

5.8.3 Flame spread on Solids

501-5.9 ***The Investigator candidate shall describe the different methods of fire spread in a compartment.***

5.9.1 General

5.9.2 Fire Spread

5.9.2.1 Fire Spread by Flame Impingement

5.9.2.2 Fire Spread by Remote Ignition

501-5.10 ***The Investigator candidate shall describe compartment fire development.***

5.10.1 General

5.10.2 Compartment Fire Phenomena

5.10.3 Compartment Vent Flows

5.10.4 Flashover

5.10.5 Fully Developed Compartment Fires

5.10.6 Effects of Enclosures on Fire Growth

5.10.6.1 Room Volume and Ceiling Height

5.10.6.2 Location of the Fire in the Compartment

501-5.11 ***The Investigator candidate shall identify fire spread between compartments.***

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5.11.1 Fire Spread via Openings

5.11.2 Fire Spread via Barriers

501-5.12 ***The Investigator candidate shall describe the paths of smoke spread in buildings.***

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SECTION 6

FIRE EFFECTS AND FIRE PATTERNS

4.2 Scene Examination.

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.
~~Duties shall include inspecting and evaluating the fire scene, or evidence of the scene and/or conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2.4 Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that each pattern is identified and analyzed with respect to the burning characteristics of the material involved, the stage of fire development, the effects of ventilation within the context of the scene, the relationship with all patterns observed, and the understanding of the methods of heat transfer that led to the formation of the patterns identified and analyzed, and the sequence in which the patterns were produced is determined.
~~4 Interpret fire patterns, given standard equipment and tools and some structural or content remains, so that each individual pattern is evaluated with respect to the burning characteristics of the material involved and in context and relationship with all patterns observed and the mechanisms of heat transfer that led to the formation of the pattern.~~

(A) Requisite Knowledge. Fire dynamics, fire development, and the interrelationship of heat release rate, form, and ignitibility of materials.

(B) Requisite Skills. Ability to interpret the effects of burning characteristics on different types of materials.

NFPA 1033 4.2.5 Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that fire development is determined, methods and effects of suppression are evaluated, false origin area patterns are recognized, and all areas of origin are correctly identified.

(A) Requisite Knowledge. Fire behavior and spread based on fire chemistry, fire dynamics, and physics, fire suppression effects, building construction.

(B) Requisite Skills. Interpret variations of fire patterns on different materials with consideration given to heat release rate, form, and ignitibility; distinguish impact of different types of fuel loads; evaluate fuel trails; and analyze and synthesize information.

NFPA 1033 4.2.7 Reconstruct potential area(s) of origin, given standard and, if needed, special equipment and tools as well as sufficient personnel, so that all protected areas and fire patterns are identified and correlated to contents or structural remains; and items potentially critical to cause determination are returned to their prefire location as a means of hypothesis testing, such that the area(s) or point(s) of origin is discovered.
~~Reconstruct the area of origin, given standard and, if needed, special equipment and tools as well as sufficient personnel, so that all protected areas and fire patterns are identified and correlated to contents or structural remains, items potentially critical to cause determination and photo documentation are returned to their prefire location, and the area(s) or point(s) of origin is discovered.~~

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(A) Requisite Knowledge. The effects of fire on different types of material and the importance and uses of reconstruction.

(B) Requisite Skills. Ability to examine all materials to determine the effects of fire, identify and distinguish among different types of fire-damaged contents, and return materials to their original position using protected areas and fire patterns.

References:
J&B, chapter 4
Kirk's, chapter 5
Lentini, chapter 3

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501-6.1 ***The Investigator candidate shall define fire effects and fire patterns.***

501-6.2 ***The Investigator candidate shall be able to identify fire effects.***

- 6.2.1 Fire Effects
 - 6.2.1.1 Deformation
 - 6.2.1.2 Deposition
 - 6.2.1.3 Discoloration
 - 6.2.1.4 Mass Loss

- 6.2.2 Characteristics and context of fire effects

501-6.3 ***The Investigator candidate shall be able to analyze the following fire effects.***

- 6.3.1 Introduction

- 6.3.2 Char
 - 6.3.2.1 Char Observations
 - 6.3.2.2 Material Sciences – Surface Effect of Char
 - 6.3.2.3 Pyrolysis
 - 6.3.2.4 Analysis of Char
 - 6.3.2.5 Depth of Char Diagram
 - 6.3.2.6 Measuring Depth of Char
 - 6.3.2.7 Measuring Depth of Char
 - 6.3.2.8 Missing Wood
 - 6.3.2.9 Depth of Char Surveys with fuel Gases
 - 6.3.2.10 Appearance of Char
 - 6.3.2.11 Limitations with Char
 - 6.3.2.12 Rate of Wood Charring

- 6.3.3 Clean Burn
 - 6.3.3.1 Clean Burn Observations
 - 6.3.3.2 Material Sciences Related to Clean Burn
 - 6.3.3.3 Analysis of Clean Burn
 - 6.3.3.4 Limitations

- 6.3.4 Color Change
 - 6.3.4.1 Color Changes Observations
 - 6.3.4.2 Material Sciences Related to Color Changes
 - 6.3.4.3 Fabric Dyes
 - 6.3.4.4 Light
 - 6.3.4.5 Analysis of Color Changes

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- 6.3.4.6 Limitations
- 6.3.5 Deposition of Smoke on Surfaces
 - 6.3.5.1 Deposition of Smoke on Surfaces Observations
 - 6.3.5.2 Smoke Characteristics
 - 6.3.5.3 Material Sciences for Deposition of Smoke
 - 6.3.5.4 Analysis Related to Deposition of Smoke on Surfaces
 - 6.3.5.5 Location of Objects
 - 6.3.5.6 Position of Switches
 - 6.3.5.7 Limitations
- 6.3.6 Distorted Lightbulbs
 - 6.3.6.1 Observations for Distorted Lightbulbs
 - 6.3.6.2 Material Science for Distorted Lightbulbs
 - 6.3.6.3 Distorted Lightbulb Analysis
 - 6.3.6.4 Limitations
- 6.3.7 Furniture Springs
 - 6.3.7.1 Furniture Springs Observations
 - 6.3.7.2 Material Science Related to Furniture Springs
 - 6.3.7.3 Analysis of Furniture Springs
 - 6.3.7.4 Limitations
- 6.3.8 Gypsum Wallboard
 - 6.3.8.1 Gypsum Wallboard Observations
 - 6.3.8.2 Material Science related to Gypsum Wallboard
 - 6.3.8.3 Analysis of Gypsum Wallboard
 - 6.3.8.4 Mass Loss and Density
 - 6.3.8.5 General Indications of Calcination
 - 6.3.8.6 Depth of Calcination Survey
 - 6.3.8.7 Depth of Calcination Diagram
 - 6.3.8.8 Measuring Depth of Calcination
 - 6.3.8.9 Limitations
- 6.3.9 Mass Loss of Material
 - 6.3.9.1 Mass Loss Observations
 - 6.3.9.2 Fire-Damaged Materials and Exemplar Materials
 - 6.3.9.3 Material Science Related to Mass Loss
 - 6.3.9.4 Analysis of Mass Loss Observations
 - 6.3.9.5 Limitations

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- 6.3.9.6 Other conditions of nonuniformity
- 6.3.10 Melting of Materials
 - 6.3.10.1 Melting Observations
 - 6.3.10.2 Material Science Related to Melting
 - 6.3.10.3 Common Metals
 - 6.3.10.4 Thermoplastics
 - 6.3.10.5 Glass
 - 6.3.10.6 Alloying of Metals
 - 6.3.10.7 Analysis of Melting Effects in Fires
 - 6.3.10.8 Limitations
- 6.3.11 Oxidation
 - 6.3.11.1 Observations
 - 6.3.11.2 Galvanized Steel
 - 6.3.11.3 Uncoated Iron or Steel
 - 6.3.11.4 Oxidation Versus Melting
 - 6.3.11.5 Stainless Steel
 - 6.3.11.6 Copper
 - 6.3.11.7 Rocks and Soil
 - 6.3.11.8 Materials Science Related to Oxidation
 - 6.3.11.9 Analysis of Oxidation Observations
 - 6.3.11.10 Limitations
- 6.3.12 Rainbow Effect
 - 6.3.12.1 Rainbow Effect Observations
 - 6.3.12.2 Material Science for Rainbow Effects
 - 6.3.12.3 Analysis of Rainbow Effect
 - 6.3.12.4 Limitations
- 6.3.13 Smoke Alarms - Enhanced Soot Deposition, or Acoustic Soot Agglomeration
 - 6.3.13.1 Smoke Alarm Observations
 - 6.3.13.2 Enhanced Soot Deposition, or Acoustic Agglomeration
 - 6.3.13.3 Analysis of Smoke Alarms
 - 6.3.13.4 Limitations
- 6.3.14 Spalling
 - 6.3.14.1 Observations
 - 6.3.14.2 Material Science Related to Spalling
 - 6.3.14.3 Analysis for Spalling
 - 6.3.14.4 Limitations

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- 6.3.15 Thermal Expansion and Deformation of Materials
 - 6.3.15.1 Observations of Thermal Expansion and Deformation of Materials
 - 6.3.15.2 Material Science of Thermal Expansion and Deformation of Materials
 - 6.3.15.3 Bending and Buckling
 - 6.3.15.4 Metal Construction Elements
 - 6.3.15.5 Analysis of Thermal Expansion and Deformation
 - 6.3.15.6 Piping Systems
 - 6.3.15.7 Plastered Surfaces
 - 6.3.15.8 Limitations
 - 6.3.15.9 Collapse

- 6.3.16 Victim Injuries
 - 6.3.16.1 Victim Injuries Observations
 - 6.3.16.2 Material Science of Victim Injuries
 - 6.3.16.3 Skin
 - 6.3.16.4 The Body as Fuel
 - 6.3.16.5 Analysis of Victim Injuries
 - 6.3.16.6 Limitations

- 6.3.17 Window Glass
 - 6.3.17.1 Window Glass Observations
 - 6.3.17.2 Material Science of Glass
 - 6.3.17.3 Tempered Glass
 - 6.3.17.4 Analysis of Glass
 - 6.3.17.5 Limitations

- 6.3.18 Fire Patterns
 - 6.3.18.1 Introduction
 - 6.3.18.2 Location of Patterns
 - 6.3.18.3 Location of Objects
 - 6.3.18.4 Penetrations of Horizontal Surfaces
 - 6.3.18.5 Depth of Char Patterns with Fuel Gases

- 6.3.19 Fire Pattern Generation
 - 6.3.19.1 Plume-Generated Patterns
 - 6.3.19.2 Ventilation-Generated Patterns
 - 6.3.19.3 Hot Gas Layer-Generated Patterns
 - 6.3.19.4 Full Room Involvement-Generated Patterns
 - 6.3.19.5 Suppression-Generated Patterns
 - 6.3.19.6 Undetermined-Generated Patterns

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- 6.3.20 Fire Pattern Geometry
 - 6.3.20.1 V Patterns on Vertical Surfaces
 - 6.3.20.2 Inverted Cone (Triangular) Patterns
 - 6.3.20.3 Hourglass Patterns
 - 6.3.20.4 U-Shaped Patterns
 - 6.3.20.5 Circular-Shaped Patterns
 - 6.3.20.6 Truncated Cone Patterns
 - 6.3.20.7 Irregular Patterns
 - 6.3.20.8 Doughnut-Shaped Patterns
 - 6.3.20.9 Linear Patterns
 - 6.3.20.10 Area Patterns
- 6.3.21 Arc Mapping
- 6.3.22 Pointer and Arrow Patterns

501-6.4 ***The Investigator candidate shall be able to analyze fire patterns.***

- 6.4.1 Types of Fire Patterns
 - 6.4.1.1 Fire Spread (Movement) Patterns
 - 6.4.1.2 Heat (Intensity) Patterns
 - 6.4.1.3 Combination of Patterns

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SECTION 7

BUILDING SYSTEMS

NFPA 1033 4.1.7 In order to successfully complete the tasks identified in the JPRs of Sections 4.2 through 4.7, the fire investigator shall remain current in the subjects listed as "requisite knowledge" as they relate to fire investigations, which include the following: (4)(a) Types of Construction, (b) Fire Protection Systems, (c) Electricity and Electrical Systems, (d) Fuel Gas Systems.

4.2 Scene Examination.

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.
~~Duties shall include inspecting and evaluating the fire scene, or evidence of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2.5 Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that fire development is determined, methods and effects of suppression are evaluated, false origin area patterns are recognized, and all areas of origin are correctly identified.

(A) Requisite Knowledge. Fire behavior and spread based on fire chemistry, fire dynamics, and physics, fire suppression effects, building construction.

(B) Requisite Skills. Interpret variations of fire patterns on different materials with consideration given to heat release rate, form, and ignitability; distinguish impact of different types of fuel loads; evaluate fuel trails; and analyze and synthesize information.

NFPA 1033 4.2.8 Inspect and analyze the performance of building systems, including fire protection, detection and suppression systems, HVAC, electricity and electrical systems, fuel gas systems, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources; an operating system's impact on fire growth and spread is considered in identifying origin areas; defeated and failed systems are identified; and the system's potential as a fire cause is recognized.
~~Inspect the performance of building systems, including detection, suppression, HVAC, utilities, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources, an operating system's impact on fire growth and spread is considered in identifying origin areas, defeated and/or failed systems are identified, and the system's potential as a fire cause is recognized.~~

(A) Requisite Knowledge. Different types of detection, suppression, HVAC, utility, and building compartmentation such as fire walls and fire doors; types of expert resources for building systems; the impact of fire on various systems; common methods used to defeat a system's functional capability; and types of failures.

(B) Requisite Skills. Ability to determine the system's operation and its effect on the fire; identify alterations to, and failure indicators of, building systems; and evaluate the impact of suppression efforts on building systems.

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References:
J&B, chapter 5

501-7.1 **The Investigator candidate shall recognize the reaction of buildings and building assemblies to fire.**

501-7.2 **The Investigator candidate shall evaluate the features of design, construction and structural elements in evaluating fire development.**

7.2.1 General

7.2.2 Building design

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- 7.2.2.1 General
- 7.2.2.2 Building Loads
- 7.2.2.3 Room Size
- 7.2.2.4 Compartmentation
- 7.2.2.5 Concealed and Interstitial Spaces
- 7.2.2.6 Planned Designs as Compared to “As-Built” Condition
- 7.2.3 Materials
 - 7.2.3.1 Ignitability
 - 7.2.3.2 Flammability
 - 7.2.3.3 Thermal Inertia
 - 7.2.3.4 Thermal Conductivity
 - 7.2.3.5 Toxicity
 - 7.2.3.6 Physical State and Heat Resistance
 - 7.2.3.7 Orientation, Position, and Placement
- 7.2.4 Occupancy
- 7.2.5 Computer Fire Model Survey of Building Component Variations
- 7.2.6 Explosion Damage

501-7.3 **The Investigator candidate shall identify the different types of building construction.**

****Note** (Only 501-7.3.1)**

The following section is not contained in NFPA 921, *Guide for Fire and Explosion Investigations*. The reference for this material is found in IFSTA, *Fire Inspection and Code Enforcement and Fire Investigator*.

- 7.3.1 General
 - 7.3.1.1 Type I – fire resistive
 - 7.3.1.2 Type II – non-combustible
 - 7.3.1.3 Type III – ordinary
 - 7.3.1.4 Type IV – heavy timber
 - 7.3.1.5 Type V – wood frame
- 7.3.2 Wood Frame (Type V)
 - 7.3.2.1 Platform Frame Construction
 - 7.3.2.2 Balloon Frame
 - 7.3.2.3 Plank and Beam
 - 7.3.2.4 Post and Frame

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- 7.3.2.5 Heavy Timber
- 7.3.2.6 Alternative Residential Construction
 - 7.3.2.6.1 Manufactured homes (Mobile Homes)
 - 7.3.2.6.2 Modular Homes
 - 7.3.2.6.3 Steel Frame Residential Construction
- 7.3.2.7 Manufactured Wood Structural Elements

7.3.3 Ordinary Construction (Type III)

7.3.4 Mill Construction (Type IV)

7.3.5 Noncombustible Construction (Type II)

- 7.3.5.1 General
- 7.3.5.2 Metal Construction
- 7.3.5.3 Concrete or Masonry Construction

501-7.4 ***The Investigator candidate shall identify the different construction assemblies.***

- 7.4.1 General
- 7.4.2 Floor/Ceiling/Roof Assemblies
- 7.4.3 Walls
- 7.4.4 Doors
- 7.4.5 Concealed Spaces

501-7.5 ***The Investigator candidate shall describe the different construction materials.***

- 7.5.1 Structural Steel
- 7.5.2 Reinforced Concrete
- 7.5.3 Wood

501-7.6 ***The Investigator candidate shall analyze the impact of passive fire protection systems on the investigation.***

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501-7.7 **The Investigator candidate should analyze the design and installation parameters when the passive fire protection system is determined to be a factor.**

501-7.8 **The Investigator candidate should produce the additional documentation and data collection when the passive fire protection system is determined to be a factor.**

501-7.9 **The Investigator candidate shall perform the required additional analysis.**

- 7.9.1 Code Analysis
- 7.9.2 Design Analysis
- 7.9.3 Installation Analysis
- 7.9.4 System Performance
- 7.9.5 Testing and Maintenance Analysis
- 7.9.6 Origin and Cause Determination

501-7.10 **The Investigator candidate shall maintain a basic understanding of heating systems commonly encountered in residential and light commercial fire incidents.**

- 7.10.1 Systems components
 - 7.10.1.1 Fuel Storage and Supply
 - 7.10.1.2 Heat Producing Devices
 - 7.10.1.3 Chimney/Vent
 - 7.10.1.4 Control and Safety Devices
- 7.10.2 Installation
- 7.10.3 Operation and maintenance
- 7.10.4 Potential fire causes
 - 7.10.4.1 Improper Installation of Fuel Delivery Systems
 - 7.10.4.2 Improper Installation of Heat Producing Systems
 - 7.10.4.3 Improper Installation of Control and Safety Devices

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- 7.10.4.4 Improper Installation of Chimneys and Vents
- 7.10.4.5 Airspace Requirement Violations
- 7.10.4.6 Utilizing Non-Listed Devices and Accessories
- 7.10.4.7 Circumvented or Failed Control and Safety Components
- 7.10.4.8 Inadequate Maintenance or Cleaning
- 7.10.4.9 Improper Usage
- 7.10.4.10 Electrical Events

- 7.10.5 Documentation and Data Collection

- 7.10.6 Analysis of Origin and Causes

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SECTION 8

ACTIVE FIRE PROTECTION SYSTEMS

NFPA 1033 4.1.7 In order to successfully complete the tasks identified in the JPRs of Sections 4.2 through 4.7, the fire investigator shall remain current in the subjects listed as “requisite knowledge” as they relate to fire investigations, which include the following: (4)(b) Fire Protection Systems.

4.2. Scene Examination

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire. ~~Duties shall include inspecting and evaluating the fire scene, or evidence of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire~~

NFPA 1033 4.2.8 ~~Inspect and analyze the performance of building systems, including fire protection, detection and suppression systems, HVAC, electricity and electrical systems, fuel gas systems, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources; an operating system’s impact on fire growth and spread is considered in identifying origin areas; defeated and failed systems are identified; and the system’s potential as a fire cause is recognized.~~ ~~Inspect the performance of building systems, including detection, suppression, HVAC, utilities, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources, an operating system’s impact on fire growth and spread is considered in identifying origin areas, defeated and/or failed systems are identified, and the system’s potential as a fire cause is recognized.~~

(A) Requisite Knowledge. Different types of detection, suppression, HVAC, utility, and building compartmentation such as fire walls and fire doors; types of expert resources for building systems; the impact of fire on various systems; common methods used to defeat a system’s functional capability; and types of failures.

(B) Requisite Skills. Ability to determine the system’s operation and its effect on the fire; identify alterations to, and failure indicators of, building systems; and evaluate the impact of suppression efforts on building systems.

References:

J&B, chapter 6

IFSTA, Fire Inspection, chapter 12-14

501-8.1 **The Investigator candidate shall develop basic understanding of active fire protection systems.**

501-8.2 **The Investigator candidate shall develop basic understanding of documentation of fire protection systems.**

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- 8.2.1 Design Documentation
- 8.2.2 Permit History
- 8.2.3 Invoices and Contracts
- 8.2.4 Installation Documentation
- 8.2.5 Inspection and Maintenance Records
- 8.2.6 Product Literature
- 8.2.7 Alarm / Activation History

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501-8.3 ***The Investigator candidate shall identify the basic components and operation of a fire alarm system.***

- 8.3.1 General information
 - 8.3.1.1 Purpose of Systems
 - 8.3.1.2 System Components
 - 8.3.1.3 General System Operation

- 8.3.2 Key Components of Systems
 - 8.3.2.1 Fire Alarm Control Unit (FACU)
 - 8.3.2.2 Power Supply
 - 8.3.2.3 Initiating Devices
 - 8.3.2.4 Smoke Detection
 - 8.3.2.5 Heat Detection
 - 8.3.2.6 Other Types of Detectors
 - 8.3.2.7 Notification Appliances

- 8.3.3 Operations and Installation Parameters of the System
 - 8.3.3.1 FACU Features
 - 8.3.3.2 Location and Spacing of Devices
 - 8.3.3.3 Internal System Communication
 - 8.3.3.4 Means of Alarm Transmission
 - 8.3.3.5 Systems Monitored and Controlled

- 8.3.4 Analysis
 - 8.3.4.1 System Documentation and Data Collection
 - 8.3.4.2 Code Analysis
 - 8.3.4.3 Design Analysis
 - 8.3.4.4 Installation Analysis
 - 8.3.4.5 Testing and Maintenance Analysis
 - 8.3.4.6 System Performance
 - 8.3.4.7 Development of Timeline
 - 8.3.4.8 Thermal Damage
 - 8.3.4.9 Fire Alarm Effectiveness
 - 8.3.4.10 Impact on Human Behavior

501-8.4 ***The Investigator candidate shall identify the basic components and operation of a water-based fire suppression system.***

- 8.4.1 General Information
 - 8.4.1.1 Purpose of Systems
 - 8.4.1.2 General System Operation

- 8.4.2 Key Components of Water-Based Systems

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- 8.4.2.1 Sprinklers/Nozzles
- 8.4.2.2 Piping
- 8.4.2.3 Systems Valves
- 8.4.2.4 Water Supply

- 8.4.3 Operation and Installation Parameters of the System
 - 8.4.3.1 Location and Spacing of Sprinklers
 - 8.4.3.2 Pipe Sizing and Arrangement
 - 8.4.3.3 Sprinkler Coverage and Distribution
 - 8.4.3.4 Water Flow Rate and Pressure
 - 8.4.3.5 Activation Mechanisms and Criteria
 - 8.4.3.6 Systems Monitored and Controlled

- 8.4.4 Analysis
 - 8.4.4.1 System Documentation and Data Collection
 - 8.4.4.2 Code Analysis
 - 8.4.4.3 Design Analysis
 - 8.4.4.4 Hazard Protected

501-8.5 ***The Investigator candidate shall identify the basic components and operation of a non-water-based fire suppression system.***

- 8.5.1 General Information
 - 8.5.1.1 Purpose of Systems
 - 8.5.1.2 Method of Application
 - 8.5.1.3 Suppression Agents

- 8.5.2 Key Components of Systems
 - 8.5.2.1 Suppression Agent Supply
 - 8.5.2.2 Pressure Sources
 - 8.5.2.3 Distribution Piping
 - 8.5.2.4 Valves, Hoses, and Fittings
 - 8.5.2.5 Proportioners
 - 8.5.2.6 Distribution Nozzles
 - 8.5.2.7 Actuation System
 - 8.5.2.8 System Monitoring and control

- 8.5.3 Operation and Installation Parameters of the System
 - 8.5.3.1 Location and Spacing of Nozzles
 - 8.5.3.2 Pipe Sizing and Arrangement
 - 8.5.3.3 Nozzle Coverage and Distribution
 - 8.5.3.4 Activation Mechanisms and Criteria
 - 8.5.3.5 Systems Monitored and Controlled

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- 8.5.4 Analysis
 - 8.5.4.1 General Information and Codes
 - 8.5.4.2 Design Analysis

501-8.6 ***The Investigator candidate shall identify spoliation issues regarding the documentation of the fire protection system.***

****Note****

The following sections (501-8.7 through 501-8.12) are not contained in NFPA 921, *Guide for Fire and Explosion Investigations*. The reference for this material is found in IFSTA, *Fire Inspection and Code Enforcement, chapter 12-14*.

501-8.7 ***The Investigator candidate shall describe the types and characteristics of automatic sprinkler systems.***

- 8.7.1 Identify various types of automatic sprinkler systems.
 - 8.7.1.1 Wet pipe
 - 8.7.1.2 Dry pipe
 - 8.7.1.3 Pre-action
 - 8.7.1.4 Deluge
 - 8.7.1.5 Residential
- 8.7.2 Identify reasons for unsatisfactory performance of an automatic sprinkler system.
- 8.7.3 Describe fire sprinkler components and operations.

501-8.8 ***The Investigator candidate shall describe the types, operations, capabilities and the effects of proper application of "special agent" fire extinguishing systems.***

- 8.8.1 Dry chemical
- 8.8.2 Wet chemical
- 8.8.3 Halogenated agent
- 8.8.4 Carbon dioxide
- 8.8.5 Foam
- 8.8.6 Gaseous agent

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501-8.9 ***The Investigator candidate shall identify the classes and capabilities of standpipe and hose systems.***

- 8.9.1 Class I systems
- 8.9.2 Class II systems
- 8.9.3 Class III systems

501-8.10 ***The Investigator candidate shall identify alarm-initiating devices.***

- 8.10.1 Local system
- 8.10.2 Auxiliary system
- 8.10.3 Remote station
- 8.10.4 Proprietary system
- 8.10.5 Central station system

501-8.11 ***The Investigator candidate shall identify fire detection systems.***

- 8.11.1 Smoke
- 8.11.2 Flame
- 8.11.3 Heat
- 8.11.4 Gas

501-8.12 ***The Investigator candidate shall describe Heating Ventilation and Air Conditioning (HVAC) system components and their relation to smoke and fire spread.***

- 8.12.1 Smoke dampers
- 8.12.2 Automatic shutoffs
- 8.12.3 Ductwork
- 8.12.4 Pipe and duct chases

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SECTION 9

ELECTRICITY AND FIRE

NFPA 1033 4.1.7 In order to successfully complete the tasks identified in the JPRs of Sections 4.2 through 4.7, the fire investigator shall remain current in the subjects listed as “requisite knowledge” as they relate to fire investigations, which include the following: (4)(c) Electricity and Electrical Systems.

4.2 Scene Examination.

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.
~~Duties shall include inspecting and evaluating the fire scene, or evidence of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2.8 Inspect and analyze the performance of building systems, including fire protection, detection and suppression systems, HVAC, electricity and electrical systems, fuel gas systems, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources; an operating system’s impact on fire growth and spread is considered in identifying origin areas; defeated and failed systems are identified; and the system’s potential as a fire cause is recognized.
~~Inspect the performance of building systems, including detection, suppression, HVAC, utilities, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources, an operating system’s impact on fire growth and spread is considered in identifying origin areas, defeated and/or failed systems are identified, and the system’s potential as a fire cause is recognized.~~

(A) Requisite Knowledge. Different types of detection, suppression, HVAC, utility, and building compartmentation such as fire walls and fire doors; types of expert resources for building systems; the impact of fire on various systems; common methods used to defeat a system’s functional capability; and types of failures.

(B) Requisite Skills. Ability to determine the system’s operation and its effect on the fire; identify alterations to, and failure indicators of, building systems; and evaluate the impact of suppression efforts on building systems.

References:

J&B, chapter 7
Kirk’s, chapter 3-4
Lentini, chapter 6

501-9.1 The Investigator candidate shall understand the basic principles of physics that relate to electricity and fire, including systems and equipment.

501-9.2 The Investigator candidate shall describe basic electrical

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theory.

- 9.2.1 General
- 9.2.2 Comparing Electricity to Hydraulics
- 9.2.3 Ampacity
- 9.2.4 Conductivity of Conductors
- 9.2.5 Ohm's Law
- 9.2.6 Electrical Power
- 9.2.7 Ohm's Law Wheel
- 9.2.8 Applying Ohm's Law

501-9.3 ***The Investigator candidate shall describe the typical building electrical systems and its components.***

- 9.3.1 General
- 9.3.2 Electrical Service
 - 9.3.2.1 Single-Phase Service
 - 9.3.2.2 Three-Phase Service
- 9.3.3 Meter and Base
- 9.3.4 Significance

501-9.4 ***The Investigator candidate shall identify the functions of service equipment.***

501-9.5 ***The Investigator candidate shall identify the principle of grounding.***

- 9.5.1 General
- 9.5.2 Floating Neutral (Open Neutral)

501-9.6 ***The Investigator candidate shall describe the components of overcurrent protection.***

- 9.6.1 General

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- 9.6.2 Fuses
 - 9.6.2.1 Operations
 - 9.6.2.2 Plug Fuses
 - 9.6.2.3 Type S Fuses
 - 9.6.2.4 Time-Delay Fuses
 - 9.6.2.5 Cartridge Fuses

- 9.6.3 Circuit Breakers
 - 9.6.3.1 Operations
 - 9.6.3.2 Main Breakers
 - 9.6.3.3 Branch Circuit Breakers
 - 9.6.3.4 Ground Fault Circuit Interrupters (GFCI)

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9.6.3.5 Arc Fault Circuit Interrupter (AFCI)

9.6.4 Circuit Breaker Panels

501-9.7 ***The Investigator candidate shall describe a branch circuit and its components.***

9.7.1 Conductors

9.7.2 Size of Conductors

9.7.3 Copper Conductors

9.7.4 Aluminum Conductors

9.7.5 Insulation

501-9.8 ***The Investigator candidate shall identify and describe the different types of outlets and devices found in a branch circuit.***

9.8.1 Switches

9.8.2 Receptacles

9.8.3 Other Outlets, Devices, or Equipment

501-9.9 ***The Investigator candidate shall describe how the use of improper electrical components can create sufficient heat for ignition.***

9.9.1 General

9.9.2 Resistance Heating

9.9.3 Overcurrent and Overload

9.9.4 Arcs

9.9.4.1 General

9.9.4.2 High-Voltage Arcs

9.9.4.3 Static Electricity

9.9.4.4 Parting Arcs

9.9.4.5 Arcing Across a Carbonized Path

9.9.5 Sparks

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9.9.6 High-Resistance Faults

501-9.10 ***The Investigator candidate shall identify and describe types of damage encountered in electrical systems.***

9.10.1 General

9.10.2 Short-Circuit and Ground-Fault Parting Arcs

9.10.3 Arcing Through a Carbonized Path Due to Thermal Means (Arcing Through Char)

9.10.4 Overheating Connections

9.10.5 Overload

9.10.6 Effects Not Caused by Electricity

9.10.6.1 Conductor Surface Colors

9.10.6.2 Melting by Fire

9.10.6.3 Alloying

9.10.6.4 Mechanical Gouges

9.10.7 Insulation Damage

501-9.11 ***The Investigator candidate shall identify arc melting of electrical conductors.***

9.11.1 Melting Caused by Electrical Arcing

9.11.2 Melting Caused by Fire

9.11.3 Eutectic Melting

9.11.4 Extraneous Melting

9.11.5 Undersized Conductors

9.11.6 Nicked or Stretched Conductors

9.11.7 Deteriorated Insulation

9.11.8 Overdriven or Misdriven Staple

9.11.9 Short Circuit

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9.11.10 Beaded Conductor

501-9.12 ***The Investigator candidate shall describe the role of static electricity in an ignition sequence.***

9.12.1 Introduction to Static Electricity

9.12.2 Generation of Static Electricity

9.12.2.1 General

9.12.2.2 Ignitable Liquids

9.12.2.3 Charges on the Surface of a Liquid

9.12.2.4 Switch Loading

9.12.2.5 Spraying Operations

9.12.2.6 Gases

9.12.2.7 Dusts and Fibers

9.12.2.8 Static Electric Discharge from the Human Body

9.12.2.9 Clothing

9.12.3 Incendive Arc

9.12.4 Ignition Energy

9.12.5 Controlling Accumulations of Static Electricity

9.12.5.1 Humidification

9.12.5.2 Bonding and Grounding

9.12.6 Conditions Necessary for Static Arc Ignition

9.12.7 Investigating Static Electric Ignitions

9.12.8 Lightning

9.12.8.1 General

9.12.8.2 Lightning Characteristics

9.12.8.3 Lightning Strikes

9.12.8.4 Lightning Damage

9.12.8.5 Lightning Detection Networks

501-9.13 ***The Investigator candidate shall describe characteristics common to most lithium-ion batteries.***

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SECTION 10

BUILDING FUEL GAS SYSTEMS

NFPA 1033 4.1.7 In order to successfully complete the tasks identified in the JPRs of Sections 4.2 through 4.7, the fire investigator shall remain current in the subjects listed as “requisite knowledge” as they relate to fire investigations, which include the following: (4)(d) Fuel Gas Systems.

4.2 Scene Examination.

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire. ~~Duties shall include inspecting and evaluating the fire scene, or evidence of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2.8 ~~Inspect and analyze the performance of building systems, including fire protection, detection and suppression systems, HVAC, electricity and electrical systems, fuel gas systems, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources; an operating system’s impact on fire growth and spread is considered in identifying origin areas; defeated and failed systems are identified; and the system’s potential as a fire cause is recognized. Inspect the performance of building systems, including detection, suppression, HVAC, utilities, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources, an operating system’s impact on fire growth and spread is considered in identifying origin areas, defeated and/or failed systems are identified, and the system’s potential as a fire cause is recognized.~~

(A) Requisite Knowledge. Different types of detection, suppression, HVAC, utility, and building compartmentation such as fire walls and fire doors; types of expert resources for building systems; the impact of fire on various systems; common methods used to defeat a system’s functional capability; and types of failures.

(B) Requisite Skills. Ability to determine the system’s operation and its effect on the fire; identify alterations to, and failure indicators of, building systems; and evaluate the impact of suppression efforts on building systems.

References:

J&B, chapter 8
Kirk’s, chapter 4
Lentini, chapter 6

501-10.1 **The Investigator candidate shall describe building fuel gas systems.**

10.1.1 Impact of Fuel Gases on Fire and Explosions Investigations

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10.1.2 Additional Fire Spread

501-10.2 ***The Investigator candidate shall identify the different fuel gases.***

10.2.1 Natural Gas

10.2.2 Commercial Propane

10.2.3 Other Fuel Gases

10.2.3.1 Commercial Butane

10.2.3.2 Propane HD5

10.2.3.3 Manufactured Gases

10.2.4 Odorization

501-10.3 ***The Investigator candidate shall identify different natural gas systems.***

10.3.1 Transmission Pipelines

10.3.2 Main Pipelines (Mains)

10.3.3 Service Lines

10.3.4 Metering

501-10.4 ***The Investigator candidate shall identify different LP-Gas Systems.***

10.4.1 LP-Gas Storage Containers

10.4.1.1 Tanks

10.4.1.2 Cylinders

10.4.2 Container Appurtenances

10.4.2.1 Pressure Relief Devices

10.4.2.2 Connections for Flow Control

10.4.2.3 Liquid Level Gauging Devices

10.4.2.4 Pressure Gauges

10.4.3 Pressure Regulation

10.4.4 Vaporizers

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501-10.5

The Investigator candidate shall identify common fuel gas system components.

10.5.1 Pressure Regulations-(Reduction)

10.5.2 Service Piping Systems

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- 10.5.3 Valves
- 10.5.4 Gas Burners
 - 10.5.4.1 Manual Ignition
 - 10.5.4.2 Pilot Lights
 - 10.5.4.3 Pilotless Igniters

501-10.6 ***The Investigator candidate shall identify the common piping in buildings.***

- 10.6.1 Size of Piping
- 10.6.2 Piping Materials
- 10.6.3 Joints and Fittings
- 10.6.4 Piping Installation
- 10.6.5 Main Shutoff Valves
- 10.6.6 Prohibited Locations
- 10.6.7 Electrical Bonding and Grounding

501-10.7 ***The Investigator candidate shall identify common appliance and equipment requirements.***

- 10.7.1 Installation
- 10.7.2 Venting and Air Supply
- 10.7.3 Appliance Controls

501-10.8 ***The Investigator candidate shall identify common fuel gas utilization equipment.***

- 10.8.1 Air Heating
- 10.8.2 Water Heating
- 10.8.3 Cooking
- 10.8.4 Refrigeration and Cooling
- 10.8.5 Engines

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10.8.6 Illumination

10.8.7 Incinerators, Toilets, and Exhaust Afterburners

501-10.9 ***The Investigator candidate shall explain investigating fuel gas systems.***

10.9.1 Recognize Limitations

10.9.2 Fuel Gas System Analysis

10.9.3 Compliance with Codes and Standards

10.9.4 Leakage

10.9.5 Pressure Testing

10.9.6 Locating Leaks

10.9.7 Testing Flow Rates and Pressures

10.9.8 Collection of Gas Piping

10.9.9 Underground Migration of Fuel Gases

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SECTION 11

FIRE-RELATED HUMAN BEHAVIOR

4.4 Evidence Collection/Preservation

Duties shall include using proper physical and legal procedures to identify, document, collect, and preserve evidence required within the investigation.

NFPA 1033 4.4.1 Utilize proper procedures for managing victims and fatalities, given a protocol and appropriate personnel, so that all evidence is discovered and preserved and the protocol procedures are followed.

(A) Requisite Knowledge: Types of evidence associated with fire victims and fatalities and evidence preservation methods.

(B) Requisite Skills: Observational skills and the ability to apply protocols to given situations.

4.6 Post-Incident Investigation.

Duties shall include the investigation of all factors beyond the fire scene at the time of the origin and cause determination.

NFPA 1033 4.6.4: Establish evidence as to motive and/or opportunity, given an incendiary fire, so that the evidence is supported by documentation and meets the evidentiary requirements of the jurisdiction.

(A) Requisite Knowledge: Types of motives common to incendiary fires, methods used to discover opportunity, and human behavioral patterns relative to fire-setting.

(B) Requisite Skills: Financial analysis, records gathering and analysis, interviewing, and interpreting fire scene information and evidence for relationship to motive and/or opportunity.

NFPA 1033 4.6.5 Formulate an opinion concerning origin, cause, or responsibility for the fire, given all investigative findings, so that the opinion regarding origin, cause, or responsibility for a fire is supported by the data, facts, records, reports, documents, and evidence.

(A) Requisite Knowledge: Analytical methods and procedures (e.g., hypothesis development and testing, systems analysis, time lines, link analysis, fault tree analysis, and data reduction matrixing).

(B) Requisite Skills: Analytical and assimilation skills.

References:
J&B, chapter 9

501-11.1 **The Investigator candidate shall recognize that the analyses of fire related human behavior will often be an integral part of the investigation.**

501-11.2 **The Investigator candidate shall recall the history of research as related to fire related human behavior.**

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501-11.3 ***The Investigator candidate shall identify and describe general considerations of human response to fires.***

- 11.3.1 Individual
 - 11.3.1.1 Physical Limitations
 - 11.3.1.2 Cognitive Comprehension Limitations
 - 11.3.1.3 Familiarity and Physical Setting

- 11.3.2 Groups
 - 11.3.2.1 Group Size
 - 11.3.2.2 Group Structure
 - 11.3.2.3 Group Permanence
 - 11.3.2.4 Roles and Norms

- 11.3.3 Characteristics of the Physical Setting
 - 11.3.3.1 Locations of Exits
 - 11.3.3.2 Number of Exits
 - 11.3.3.3 Height of Structure
 - 11.3.3.4 Fire Alarm Systems
 - 11.3.3.5 Fire Suppression Systems

- 11.3.4 Characteristics of the Fire
 - 11.3.4.1 Presence of Flames
 - 11.3.4.2 Presence of Smoke
 - 11.3.4.3 Effects of Toxic Gases and Oxygen Depletion

501-11.4 ***The Investigator candidate shall identify and describe the factors related to fire initiation.***

- 11.4.1 Factors Involved in Accidental Fires
 - 11.4.1.1 Improper Maintenance and Operations
 - 11.4.1.2 Housekeeping
 - 11.4.1.3 Product Labels, Instructions, and Warnings
 - 11.4.1.4 Purpose of Labels
 - 11.4.1.5 Purpose of Instructions
 - 11.4.1.6 Purpose of Warnings
 - 11.4.1.7 Key Elements of a Proper Warning
 - 11.4.1.8 Standards on Labels, Instructions, and Warnings

- 11.4.2 Recalls

- 11.4.3 Other Considerations

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11.4.4 Violations of Fire Safety Codes and Standards

501-11.5 ***The Investigator candidate shall identify and describe the factors related to youth fire-setting behavior.***

11.5.1 Developmental Stages

11.5.2 Mental Health

501-11.6 ***Incendiary fires – see SECTION 501-23.4 for additional information.***

501-11.7 ***The Investigator candidate shall identify and describe human factors related to fire spread.***

501-11.8 ***The Investigator candidate shall identify the basic concepts in recognition and response to fires.***

11.8.1 Perception of the Danger (Sensory Cues)

11.8.2 Decision to Act (Response)

11.8.3 Action Taken

11.8.4 Escape Factors

11.8.5 Information Received from Survivors

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SECTION 12

LEGAL CONSIDERATIONS

4.1 General

NFPA 1033 4.1.5* The fire investigator shall adhere to all applicable legal and regulatory requirements.

4.3 Documenting the Scene

Duties shall include diagramming the scene, photographing, and taking field notes to be used to compile a final report.

NFPA 1033 4.3.3 Construct investigative notes, given a fire scene, available documents (e.g., prefire plans and inspection reports), and interview information, so that the notes are accurate, provide further documentation of the scene, and represent complete documentation of the scene findings.

(A) Requisite Knowledge. Relationship between notes, diagrams, and photos, how to reduce scene information into concise notes, and the use of notes during report writing and legal proceedings.

(B) Requisite Skills. Data-reduction skills, note-taking skills, and observational and correlating skills.

4.4 Evidence Collection/Preservation.

Duties shall include using proper physical and legal procedures to identify, document, collect and preserve evidence required within the investigation.

NFPA 1033 4.4.2 Locate, document, collect, label, package and store evidence, given standard or special tools and equipment and evidence collection materials, so that evidence is identified, preserved, collected, packaged and stored for use in testing, legal, or other proceedings and examinations, ensuring cross-contamination and investigator-inflicted damage and the chain of custody is established.

(A) Requisite Knowledge. Types of evidence, authority requirements, impact of removing evidentiary items on civil or criminal proceedings (exclusionary or fire-cause supportive evidence), types, capabilities, and limitations of standard and special tools used to locate evidence, types of laboratory tests available, packaging techniques and materials, and impact of evidence collection on the investigation.

(B) Requisite Skills. Ability to recognize different types of evidence and determine whether evidence is critical to the investigation.

NFPA 1033 4.4.4 Maintain a chain of custody, given standard investigative tools, marking tools, and evidence tags or logs, so that written documentation exists for each piece of evidence and evidence is secured.

(A) Requisite Knowledge. Rules of custody and transfer procedures, types of evidence (e.g., physical evidence obtained at the scene, photos, and documents), and methods of recording the chain of custody.

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(B) Requisite Skills. Ability to execute the chain of custody procedures and accurately complete necessary documents.

4.6 Post-Incident Investigation.

Duties shall include the investigation of all factors beyond the fire scene at the time of the origin and cause determination.

NFPA 1033 4.6.3 Coordinate expert resources, given the investigative file, reports, and documents, so that the expert's competencies are matched to the specific investigation needs, financial expenditures are justified, and utilization clearly furthers the investigative goals of determining cause or affixing responsibility.

(A) Requisite Knowledge. How to assess one's own expertise, qualification to be called for expert testimony, types of expert resources (e.g., forensic, CPA, polygraph, financial, human behavior disorders, and engineering), and methods to identify expert resources.

(B) Requisite Skills. Ability to apply expert resources to further the investigation by networking with other investigators to identify experts, questioning experts relative to their qualifications, and developing a utilization plan for use of expert resources.

4.7 Presentations.

Duties shall include the presentation of findings to those individuals not involved in the actual investigations.

NFPA 1033 4.7.3 Testify during legal proceedings, given investigative findings, contents of reports, and consultation with legal counsel, so that all pertinent investigative information and evidence are presented clearly and accurately and the investigator's demeanor and attire are appropriate to the proceedings.

(A) Requisite Knowledge. Types of investigative findings, types of legal proceedings, professional demeanor requirements, and an understanding of due process and legal proceedings.

(B) Requisite Skills. Communication and listening skills and ability to differentiate facts from opinion and determine accepted procedures, practices, and etiquette during legal proceedings.

References:
J&B, chapter 10

501-12.1 ***The Investigator candidate shall recognize the legal consideration impact on every phase of the fire investigation.***

501-12.2 ***The Investigator candidate shall ensure that constitutional considerations are observed.***

12.2.1 Amendment Four

12.2.2 Amendment Five

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12.2.3 Amendment Six

501-12.3 ***The Investigator candidate shall observe all legal considerations during the investigation.***

12.3.1 Authority to Conduct the Investigation

12.3.2 Right of Entry

12.3.3 Method of Entry

12.3.3.1 Consent

12.3.3.2 Exigent Circumstance

12.3.3.3 Administrative Search Warrant

12.3.3.4 Criminal Search Warrant

12.3.4 The Questioning of Suspects

12.3.5 Spoliation of Evidence

12.3.5.1 Responsibility

12.3.5.2 Documentation

12.3.5.3 Remedies for Spoliation

12.3.5.4 Notification to Interested Parties

12.3.5.5 Documentation Prior to Alteration

12.3.5.6 Alteration and Movement of Evidence

12.3.5.7 Notification Prior to Destructive Testing

501-12.4 ***The Investigator candidate shall recognize pretrial legal considerations.***

12.4.1 Introduction

12.4.2 Forms of Discovery

12.4.2.1 Request to Produce

12.4.2.2 Interrogatories

12.4.2.3 Depositions

12.4.2.3.1 Procedure

12.4.2.3.2 Discovery Depositions

12.4.2.3.3 Trial Depositions

12.4.2.4 Reports

12.4.3 Motions

501-12.5 ***The Investigator candidate shall identify the trial procedures in criminal and civil cases.***

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- 12.5.1 Rules of Evidence
- 12.5.2 Types of Evidence
 - 12.5.2.1 Demonstrative Evidence
 - 12.5.2.1.1 Photographs/Illustrative Forms of Evidence
 - 12.5.2.1.2 Samples
 - 12.5.2.2 Documentary Evidence
 - 12.5.2.3 Testimonial Evidence
 - 12.5.2.3.1 Fact Witnesses
 - 12.5.2.3.2 Expert Witnesses
 - 12.5.2.3.3 Admissibility of Expert Testimony
 - 12.5.2.3.4 Relevance
 - 12.5.2.3.5 Qualifications of Expert
 - 12.5.2.3.6 Reliability of Opinions
- 12.5.3 Forms of Examination
 - 12.5.3.1 Direct Examination
 - 12.5.3.2 Cross-Examination
- 12.5.4 Forms of Testimony
 - 12.5.4.1 Affidavits
 - 12.5.4.2 Answers to Interrogatories
 - 12.5.4.3 Depositions and Trial Testimony
- 12.5.5 Burden of Proof
- 12.5.6 Criminal Prosecution
 - 12.5.6.1 Arson
 - 12.5.6.2 Arson Statutes
 - 12.5.6.3 Factors to be Considered
 - 12.5.6.4 Other Fire-Related Criminal Acts
 - 12.5.6.5 Arson-Reporting/Immunity Statutes
- 12.5.7 Civil Litigation
 - 12.5.7.1 Negligence
 - 12.5.7.2 Codes, Regulations, and Standards
 - 12.5.7.3 Product Liability
 - 12.5.7.4 Strict Liability

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SECTION 13

SAFETY

4.1 General

NFPA 1033 4.1.3* Because fire investigators are required to perform activities in adverse conditions, site safety assessments shall be completed on all scenes and regional and national safety standards shall be followed and included in organizational policies and procedures.

NFPA 1003 4.1.7

4.2 Scene Examination.

~~Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire. Duties shall include inspecting and evaluating the fire scene, or evidence of the scene and/or conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2.2* Conduct an exterior survey, given standard equipment and tools, so that evidence is identified and preserved, fire damage is interpreted, hazards are identified to avoid injuries, accessibility to the property is determined, and all potential means of ingress and egress are discovered.

(A) Requisite Knowledge. The types of building construction and the effects of fire on construction materials, types of evidence commonly found in the perimeter, evidence preservation methods, the effects of fire suppression, fire behavior and spread, fire patterns, and a basic awareness of the dangers of hazardous materials.

(B) Requisite Skills. Ability to assess fire ground and structural condition, observe the damage from and effects of the fire, and interpret fire patterns.

References:

J&B, chapter 11

Journal of Occupational and Environmental Hygiene, "Contamination of Firefighter Personal Protective Equipment and Skin and the Effectiveness of Decontamination Procedures"

The Bureau of Alcohol, Tobacco and Firearms, HETA 96-0171-2692, Health Hazard Evaluation Report

501-13.1 The Investigator candidate shall describe the safety issues as they relate to the fire investigation.

13.1.1 General Injury/Health Statistics

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- 13.1.2 Health and Safety Programs
 - 13.1.2.1 Five Critical Elements of Safety and Health Programs
 - 13.1.2.1.1 Management Commitment and Employee Participation
 - 13.1.2.1.2 Hazard and Risk Assessment
 - 13.1.2.1.3 Hazard Prevention and Control
 - 13.1.2.1.4 Safety and Health Training and Education
 - 13.1.2.1.5 Long- Term Commitment

501-13.2 ***The Investigator candidate shall describe factors that have an influence on general fire scene safety.***

- 13.2.1 Investigating the Scene Alone
- 13.2.2 Investigator Fatigue
- 13.2.3 Working Above or Below Grade Level
- 13.2.4 Working Around Mechanized Equipment
- 13.2.5 Safety of Bystanders
- 13.2.6 Status of Suppression
- 13.2.7 First Aid Kit and Emergency Notification Numbers
- 13.2.8 Emergency Notification Signal

501-13.3 ***The Investigator candidate shall describe general and particular hazards of the fire scene.***

- 13.3.1 Physical Hazards
- 13.3.2 Structural Stability Hazards
- 13.3.3 Electrical Hazards
- 13.3.4 Chemical Hazards
- 13.3.5 Biological Hazards
- 13.3.6 Mechanical Hazards
- 13.3.7 Miscellaneous Hazards

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- 13.3.7.1 Radiological Hazards
- 13.3.7.2 Utilities
- 13.3.7.3 Mechanized Equipment Hazards

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501-13.4 **The Investigator candidate shall describe safety plans that may be part of the investigative process.**

- 13.4.1 Hazard and Risk Assessment
 - 13.4.1.1 Identify the Hazards
 - 13.4.1.2 Determine the Risk of the Hazard
 - 13.4.1.3 Control the Hazard
 - 13.4.1.3.1 Engineering Controls
 - 13.4.1.3.2 Administrative Controls
 - 13.4.1.3.3 Proper Selection and Use of Personal Protective Equipment (PPE)
- 13.4.2 Site-Specific Safety Plans
 - 13.4.2.1 Hazard Communication Site Plan (HazCom Plan)
 - 13.4.2.2 Confined Space Program
- 13.4.3 Management of Plans and Site Safety
- 13.4.4 Safety Meetings and Briefings

501-13.5 **The Investigator candidate shall describe factors associated with chemical and contaminant exposure.**

- 13.5.1 Types of Exposure Effects
 - 13.5.1.1 Local Effect
 - 13.5.1.2 Systemic Effect
- 13.5.2 Routes of Exposure
 - 13.5.2.1 Inhalation
 - 13.5.2.2 Cutaneous
 - 13.5.2.3 Ingestion
 - 13.5.2.4 Injection
 - 13.5.2.5 Ocular Exposure Route
- 13.5.3 Toxicity Exposure Levels
 - 13.5.3.1 Acute Exposure
 - 13.5.3.2 Chronic Exposure
 - 13.5.3.3 Cumulative Exposure
 - 13.5.3.4 Latency Period

501-13.6 **The Investigator candidate shall understand the utilization of personal protective equipment on fire and explosion scenes.**

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- 13.6.1 Proper Selection and Use of Personal Protective Equipment (PPE)
 - 13.6.1.1 Safety Clothing and Equipment
 - 13.6.1.2 PPE Use
 - 13.6.1.3 Decontamination
- 13.6.2 Examples of Personal Protective Equipment (PPE)
 - 13.6.2.1 Respiratory Protection
 - 13.6.2.2 Hand Protection
 - 13.6.2.3 Other Specialized Equipment

501-13.7 ***The Investigator candidate shall describe the potential emergency situations that could occur while processing a fire scene and the different types of emergency action plans needed.***

- 13.7.1 Emergency Evacuation Plans
- 13.7.2 Medical Emergency Plans
- 13.7.3 Severe Weather Plans
- 13.7.4 Fire Emergency Plan
- 13.7.5 Additional Emergency Action Plans

501-13.8 ***The Investigator candidate shall describe post-scene safety activities.***

- 13.8.1 Decontamination
- 13.8.2 Medical Screening

501-13.9 ***The Investigator candidate shall describe safety considerations in off-scene investigation activities.***

501-13.10 ***The Investigator candidate shall identify the special hazards associated with investigating the fire scene.***

- 13.10.1 Criminal Acts or Acts of Terrorism
 - 13.10.1.1 Secondary Devices
- 13.10.2 Residue Chemicals

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13.10.3 Biological and Radiological Terrorism

13.10.4 Drug Labs

****Note****

The following part of Section 13 (501-13.11 through 501-13.15) is not contained in NFPA 921, *Guide for Fire and Explosion Investigations*. The reference for this material is found in IFSTA, *Fire Inspection and Code Enforcement*. See also the *Emergency Response Guidebook (ERG)*.

501-13.11 **The Investigator candidate shall demonstrate knowledge of safety principles applicable to hazardous materials response.**

501-13.12 **The Investigator candidate shall identify the difference between hazardous materials incidents and other emergencies.**

501-13.13 **The Investigator candidate, utilizing the Emergency Response Guidebook, shall:**

- 1) Identify the Three Methods for Determining the Appropriate Guide Page for a Specific Hazardous Material.
 - a) Locate UN Number in the Yellow-Bordered Pages.
 - b) Locate Name of Material in the Alphabetic Listing in the Blue-Bordered Pages.
 - c) Locate a Matching Placard in the Table of Placards and Consult the Two-Digit Guide Number Located Next to the Similar Placard.
- 2) Identify Two General Types of Hazards Found on each Guide Page.
 - a) Fire/Explosive
 - b) Health

501-13.14 **The Investigator candidate, given an example of an NFPA 704 marking, shall identify the significance of the following components.**

- 1) Three Categories of Hazard
 - a) Health - Blue Color
 - b) Flammability - Red Color
 - c) Instability - Yellow Color
- 2) Special Hazards that may be Indicated

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- a) OX (or OXY)
 - b) COR
 - c) ALK
 - d) ACID
- 3) Numerical rating system of hazards

501-13.15 ***The Investigator candidate shall identify the following information from safety data sheets (SDS).***

- 1) The Investigator Candidate Shall List Four Organizations from Which to Obtain a Safety Data Sheet (SDS)
 - a) Manufacturer of the Material
 - b) Supplier
 - c) Facility Hazard and Communication Plan
 - d) Local Emergency Planning Committee (LEPC)
- 2) The Investigator Candidate Shall be Familiar with the Different SDS Chapters

SECTION 14

SOURCES OF INFORMATION

4.1 General

NFPA 1033 4.1.4 The fire investigator shall maintain necessary liaison with other interested professionals and entities.

4.2 Scene Examination.

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire. ~~Duties shall include inspecting and evaluating the fire scene, or evidence of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2. Inspect and analyze the performance of building systems, including fire protection, detection and suppression systems, HVAC, electricity and electrical systems, fuel gas systems, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources; an operating system's impact on fire growth and spread is considered in identifying origin areas; defeated and failed systems are identified; and the system's potential as a fire cause is recognized. ~~Inspect the performance of building systems, including detection, suppression, HVAC, utilities, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources, an operating system's impact on fire growth and spread is considered in identifying origin areas, defeated and/or failed systems are identified, and the system's potential as a fire cause is recognized.~~

(A) Requisite Knowledge. Different types of detection, suppression, HVAC, utility, and building compartmentation such as fire walls and fire doors; types of expert resources for building systems; the impact of fire on various systems; common methods used to defeat a system's functional capability; and types of failures.

(B) Requisite Skills. Determine the system's operation and its effect on the fire; identify alterations to, and failure indicators of, building systems; and evaluate the impact of suppression efforts on building systems.

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4.4 Evidence Collection/Preservation.

Duties shall include using proper physical and legal procedures to identify, document, collect, and preserve evidence required within the investigation.

NFPA 1033 4.4.3 Select evidence for analysis given all information from the investigation, so that items for analysis support specific investigation needs.

(A) Requisite Knowledge. Purposes for submitting items for analysis, types of analytical services available, and capabilities and limitations of the services performing the analysis.

(B) Requisite Skills. Evaluate the fire incident to determine forensic, engineering, or laboratory needs.

4.5 Interview.

Duties shall include obtaining information regarding the overall fire investigation from others through verbal communication.

NFPA 1033 4.5.1 Develop an interview plan, given no special tools or equipment, so that the plan reflects a strategy to further determine the fire cause and affix responsibility and includes a

relevant questioning strategy for each individual to be interviewed that promotes the efficient use of the investigator's time.

(A) Requisite Knowledge. Persons who can provide information that furthers the fire cause determination or the affixing of responsibility, types of questions that are pertinent and efficient to ask of different information sources (first responders, neighbors, witnesses, suspects, and so forth), and pros and cons of interviews versus document gathering.

(B) Requisite Skills. Planning skills, development of focused questions for specific individuals, and evaluation of existing file data to help develop questions and fill investigative gaps.

NFPA 1033 4.5.2 Conduct interviews, given incident information, so that pertinent information is obtained, follow-up questions are asked, responses to all questions are elicited, and the response to each question is documented accurately.

(A) Requisite Knowledge. Types of interviews, personal information needed for proper documentation or follow-up, documenting methods and tools, and types of nonverbal communications and their meaning.

(B) Requisite Skills. Ability to Adjust interviewing strategies based on deductive reasoning, interpret and analyze verbal and nonverbal communications, apply appropriate legal requirements, applicable, and exhibit strong listening skills.

NFPA 1033 4.5.3 Evaluate interview information, given interview transcripts or notes and incident data, so that all interview data is individually analyzed and correlated with all other interviews, corroborative and conflictive information is documented, and new leads are developed.

(A) Requisite Knowledge. Types of interviews, report evaluation methods, and data correlation methods.

(B) Requisite Skills. Data correlation skills and the ability to evaluate source information (e.g., first responders and other witnesses).

4.6 Post-Incident Investigation.

Duties shall include the investigation of all factors beyond the fire scene at the time of the origin and cause determination.

NFPA 1033 4.6.1 Gather reports and records, given no special tools, equipment, or materials, so that all gathered documents are applicable to the investigation, complete, and authentic; the chain of custody is maintained; and the material is admissible in a legal proceeding.

(A) Requisite Knowledge: Types of reports needed that facilitate determining responsibility for the fire (e.g. police reports, insurance policies, financial records, deeds, private investigator reports, outside photos, and videos) and location of these reports.

(B) Requisite Skills: Identify the reports and documents necessary for the investigation, implement the chain of custody, and organizational skills.

NFPA 1033 4.6.3 Coordinate expert resources, given the investigative file, reports, and documents, so that the expert's competencies are matched to the specific investigation needs, financial expenditures are justified, and utilization clearly furthers the investigative goals of determining cause or affixing responsibility.

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(A) Requisite Knowledge: How to assess one's own expertise, qualification to be called for expert testimony, types of expert resources (e.g., forensic, CPA, polygraph, financial, human behavior disorders, and engineering), and methods to identify expert resources.

(B) Requisite Skills: Apply expert resources to further the investigation by networking with other investigators to identify experts, questioning experts relative to their qualifications, and developing a utilization plan for use of expert resources.

References:

J&B, chapter 12
ASTM E678
ASTM E860
ASTM 1188

501-14.1 ***The Investigator candidate shall identify sources of information and assistance available to the Investigator during a fire investigation.***

- 14.1.1 Purpose of Obtaining Information
- 14.1.2 Number and Diversity of Informational Sources
- 14.1.3 Data Relevance, Accuracy, and Reliability

501-14.2 ***The Investigator candidate shall describe the legal considerations on sources of information.***

- 14.2.1 Freedom of Information Act
- 14.2.2 Privileged Communications
- 14.2.3 Confidential Communications
- 14.2.4 Privacy Considerations
- 14.2.5 Authorizations for Release of Information

501-14.3 ***The Investigator candidate shall identify the ASTM standards for collecting, preserving and evaluating data.***

501-14.4 ***The Investigator candidate shall distinguish differing forms of information.***

- 14.4.1 Verbal Information
- 14.4.2 Written and Printed Information

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14.4.3 Visual Information

14.4.4 Digital Information

501-14.5 ***The Investigator candidate shall identify sources of non-scene data.***

14.5.1 Witness Data

14.5.2 Property Data

14.5.3 Electronically Stored Information

14.5.4 Existing Research and Publications

14.5.5 Experimentation and Testing

14.5.6 Governmental Sources of Information

14.5.7 Federal Government

14.5.8. Other Federal Agencies

501-14.6 ***The Investigator candidate shall identify private sources of information useful during a fire investigation.***

14.6.1 National Fire Protection Association (NFPA)

14.6.2 Society of Fire Protection Engineers (SFPE)

14.6.3 American Society for Testing and Materials (ASTM)

14.6.4 American National Standards Institute (ANSI)

14.6.5 National Association of Fire Investigators (NAFI)

14.6.6 International Association of Arson Investigators (IAAI)

14.6.7 Regional Fire Investigations Organizations

14.6.8 Real Estate Industry

14.6.9 Abstract and Title Companies

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- 14.6.10 Financial Institutions
- 14.6.11 Insurance Industry
- 14.6.12 Educational Institutions
- 14.6.13 Utility Companies
- 14.6.14 Trade Organizations
- 14.6.15 News Organizations
- 14.6.16 Lightning Detection Networks

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SECTION 15

PLANNING THE INVESTIGATION

4.1 General

NFPA 1033 4.1.3 Because fire investigators are required to perform activities in adverse conditions, site safety assessments shall be completed on all scenes and regional and national safety standards shall be followed and included in organizational policies and procedures.

NFPA 1033 4.1.4 The fire investigator shall maintain necessary liaison with other interested professionals and entities.

NFPA 1033 4.1.6 The fire investigator shall understand the organization and operation of the investigative team within an incident management system.

4.2 Scene Examination.

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.
~~Duties shall include inspecting and evaluating the fire scene, or evidence of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2.1 Secure the fire ground, given marking devices, sufficient personnel, and special tools and equipment, so that unauthorized persons can recognize the perimeters of the investigative scene and are kept from restricted areas and all evidence or potential evidence is protected from damage or destruction.

(A) Requisite Knowledge. Fire ground hazards, types of evidence, and the importance of fire scene security, evidence preservation, and issues relating to spoliation.

(B) Requisite Skills. Use of marking devices.

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4.6 Post-Incident Investigation

Duties shall include the investigation of all factors beyond the fire scene at the time of the origin and cause determination.

NFPA 1033 4.6.3 Coordinate expert resources, given the investigative file, reports, and documents, so that the expert's competencies are matched to the specific investigation needs, financial expenditures are justified, and utilization clearly furthers the investigative goals of determining cause or affixing responsibility.

(A) Requisite Knowledge. How to assess one's own expertise, qualifications to be called for expert testimony, types of expert resources (e.g. forensic, CPA, polygraph, financial, human behavior disorders, an engineering), and methods to identify expert resources.

(B) Requisite Skills. Apply expert resources to further the investigation by networking with other investigators to identify experts, questioning experts relative to their qualifications, and developing a utilization plan for use of expert resources.

References:

J&B, chapter 13
Kirk's, chapters 1 and 5
Lentini, chapter 4

501-15.3 The Investigator candidate shall be able to organize the basic investigation functions that are commonly performed in each investigation.

501-15.4 The Investigator candidate shall identify the goals of a pre- investigation team meeting.

15.4.1 Equipment and Facilities

15.4.2 Personal Safety Equipment

15.4.3 Tools and Equipment

501-15.5 The Investigator candidate shall identify the specialized personnel and technical consultants that may be needed to provide technical assistance.

501-15.6 The Investigator candidate shall identify a method to organize information generated throughout the investigation and coordinate the efforts of the various people involved.

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SECTION 16

DOCUMENTATION OF THE INVESTIGATION

NFPA 1033 4.1.7 In order to successfully complete the tasks identified in the JPRs of Sections 4.2 through 4.7, the fire investigator shall remain current in the subjects listed as “requisite knowledge” as they relate to fire investigations, which include the following: (2)(c) Fire Investigation Technology.

4.3 Documenting the Scene.

Duties shall include diagramming the scene, photographing, and taking field notes to be used to compile a final report.

NFPA 1033 4.3.1 Diagram the scene, given standard tools and equipment, so that the scene is accurately represented and evidence, pertinent contents, significant patterns, and area(s) or point(s) of origin are identified.

(A) Requisite Knowledge. Commonly used symbols and legends that clarify the diagram, types of evidence and patterns that need to be documented, and formats for diagramming the scene.

(B) Requisite Skills. Ability to sketch the scene, basic drafting skills, and evidence recognition and observational skills.

NFPA 1033 4.3.2 Photographically document the scene, given standard tools and equipment, so that the scene is accurately depicted and the photographs support scene findings.

(A) Requisite Knowledge. Working knowledge of high-resolution camera and flash, the types of film, media, and flash available, and the strengths and limitations of each.

(B) Requisite Skills. Ability to use a high-resolution camera, flash, and accessories.

NFPA 1033 4.3.3 Construct investigative notes, given a fire scene, available documents (e.g., prefire plans and inspection reports), and interview information, so that the notes are accurate, provide further documentation of the scene, and represent complete documentation of the scene findings.

(A) Requisite Knowledge. Relationship between notes, diagrams, and photos, how to reduce scene information into concise notes, and the use of notes during report writing and legal proceedings.

(B) Requisite Skills. Data-reduction skills, note-taking skills, and observational and correlating skills.

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4.6 Post-Incident Investigation.

Duties shall include the investigation of all factors beyond the fire scene at the time of the origin and cause determination.

NFPA 1033 4.6.1 Gather reports and records, given no special tools, equipment, or materials, so that all gathered documents are applicable to the investigation, complete, and authentic; the chain of custody is maintained; and the material is admissible in a legal proceeding.

(A) Requisite Knowledge. Types of reports needed that facilitate determining responsibility for the fire (e.g., police reports, fire reports, insurance policies, financial records, deeds, private investigator reports, outside photos, and videos) and location of these reports.

(B) Requisite Skills. Ability to identify the reports and documents necessary for the investigation, implement the chain of custody, and organizational skills.

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NFPA 1033 4.6.2 Evaluate the investigative file, given all available file information, so that areas for further investigation are identified, the relationship between gathered documents and information is interpreted, and corroborative evidence and information discrepancies are discovered.

(A) Requisite Knowledge. File assessment and/or evaluation methods, including accurate documentation practices, and requisite investigative elements.

(B) Requisite Skills. Information assessment, correlation, and organizational skills.

4.7 Presentations

Duties shall include the presentation of findings to those individuals not involved in the actual investigations.

NFPA 1033 4.7.1 Prepare a written report, given investigative findings, so that the report accurately reflects the facts, data, and scientific principles on which the investigator relied; clearly identifies and expresses the investigator's opinions and conclusions; and contains the reasoning by which each opinion or conclusion was reached in order to meet the requirements of the intended audience(s).

(A) Requisite Knowledge. Elements of writing, typical components of a written report, and types of audiences and their respective needs or requirements.

(B) Requisite Skills. Writing skills, ability to analyze information and determine the reader's needs or requirements.

References:

J&B, chapter 14
Kirk's, chapter 6
Lentini, chapter 4
ASTM E860
ASTM E620

501-16.1 **The Investigator candidate shall describe the purpose of recording the fire scene.**

501-16.2 **The Investigator candidate shall describe the purpose of fire scene photography and the importance of timing.**

16.2.1 General

16.2.2 Timing

16.2.3 Basics

16.2.3.1 Types of Cameras

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- 16.2.4 Understanding the Parts of a Camera
 - 16.2.4.1 Lenses
 - 16.2.4.2 Focal Length
 - 16.2.4.3 Depth of Field
 - 16.2.4.4 Filters
 - 16.2.4.5 Shutter Speed
- 16.2.5 Lighting
- 16.2.6 Special Types of Photography
 - 16.2.6.1 Composition and Techniques
 - 16.2.6.2 Sequential Photographs
 - 16.2.6.3 Mosaic Photographs
 - 16.2.6.4 Photo Diagram
 - 16.2.6.5 Assisting Photographer
 - 16.2.6.6 Photography and the Courts
- 16.2.7 Video
- 16.2.8 Suggested Activities to Be Documented
 - 16.2.8.1 During the Fire
 - 16.2.8.2 Overhaul Photographs
 - 16.2.8.3 Bystander Photographs
 - 16.2.8.4 Exterior Photographs
 - 16.2.8.5 Structural Photographs
 - 16.2.8.6 Interior Photographs
 - 16.2.8.7 Utility Photographs
 - 16.2.8.8 Evidence Photographs
 - 16.2.8.9 Victim Photographs
 - 16.2.8.10 Witness Viewpoint Photographs
 - 16.2.8.11 Aerial Photographs
 - 16.2.8.12 Satellite Imagery
- 16.2.9 Photography Tips
- 16.2.10 Presentation of Photographs

501-16.3 ***The Investigator candidate shall describe the importance of note taking.***

- 16.3.1 Forms of Incident Field Notes
- 16.3.2 Forms for Collecting Data
- 16.3.3 Dictation of Field Notes

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501-16.4 ***The Investigator candidate shall explain the importance of diagrams and drawings.***

- 16.4.1 Types of Drawings
 - 16.4.1.1 Sketches
 - 16.4.1.2 Diagrams
- 16.4.2 Selection of Drawings
- 16.4.3 Drawing Tools and Equipment
- 16.4.4 Diagram Elements
 - 16.4.4.1 General Information
 - 16.4.4.2 Identification of Compass Orientation
 - 16.4.4.3 Scale
 - 16.4.4.4 Symbols
 - 16.4.4.5 Legend
- 16.4.5 Drawings
 - 16.4.5.1 Site or Area plans
 - 16.4.5.2 Floor Plans
 - 16.4.5.3 Elevations
 - 16.4.5.4 Details and Sections
 - 16.4.5.5 Exploded View Diagrams
 - 16.4.5.6 Three-Dimensional (3D) Representations
 - 16.4.5.7 Specialized Fire Investigation Diagrams
- 16.4.6 Prepared Design and Construction Drawings
 - 16.4.6.1 General
 - 16.4.6.2 Architectural and Engineering Drawings
 - 16.4.6.3 Architectural and Engineering Schedules
 - 16.4.6.4 Specifications
 - 16.4.6.5 Appliances and Building Equipment

501-16.5 ***The Investigator candidate must understand the purpose of the report to effectively communicate the observations analyses and conclusions made during an investigation.***

- 16.5.1 Purpose
- 16.5.2 Report Organization
- 16.5.3 Descriptive Information

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16.5.4 Opinions and Conclusions

16.5.5 Pertinent Facts

16.5.6 Reference to Methodology

****Note: The following part of Section 16 does not come from NFPA 921**
The reference for this material is found in ASTM E620 *Standard Practice for Reporting Opinions of Scientific or Technical Experts* (current ed.)**

501-16.6 The Investigator candidate shall identify and describe the process of preparing and completing a final, accurate and concise report.

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SECTION 17

PHYSICAL EVIDENCE

NFPA 1033 4.1.7 In order to successfully complete the tasks identified in the JPRs of Sections 4.2 through 4.7, the fire investigator shall remain current in the subjects listed as “requisite knowledge” as they relate to fire investigations, which include the following: (2)(d) Evidence Documentation, Collection, and Preservation.

4.2 Scene Examination.

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.
~~Duties shall include inspecting and evaluating the fire scene, or evidence of the scene if the scene, and/or conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2.1 Secure the fire ground, given marking devices, sufficient personnel, and special tools and equipment, so that unauthorized persons can recognize the perimeters of the investigative scene and are kept from restricted areas and all evidence or potential evidence is protected from damage or destruction.

(A) Requisite Knowledge. Fire ground hazards, types of evidence, and the importance of fire scene security, evidence preservation, and issues relating to spoliation.

(B) Requisite Skills. Use of marking devices.

NFPA 1033 4.2.6 Examine and remove fire debris, given standard equipment and tools, so that all debris is checked for fire cause evidence, potential ignition source(s) is identified, and evidence is preserved without investigator-inflicted damage or contamination.

(A) Requisite Knowledge. Basic understanding of ignition processes, characteristics of ignition sources, and ease of ignition of fuels; debris-layering techniques; use of tools and equipment during the debris search; types of fire cause evidence commonly found in various degrees of damage; and evidence-gathering methods and documentation.

(B) Requisite Skills. Employ search techniques that further the discovery of fire cause

(C) evidence and ignition sources, use search techniques that incorporate documentation, and collect and preserve evidence.

4.3 Documenting the Scene.

Duties shall include diagramming the scene, photographing, and taking field notes to be used to compile a final report.

NFPA 1033 4.3.1 Diagram the scene, given standard tools and equipment, so that the scene is accurately represented and evidence, pertinent contents, significant patterns, and area(s) or point(s) of origin are identified.

(A) Requisite Knowledge. Commonly used symbols and legends that clarify the diagram.

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4.4 Evidence Collection/Preservation

Duties shall include using proper physical and legal procedures to retain evidence required within the investigation.

NFPA 1033 4.4.1 Utilize proper procedures for managing victims and fatalities, given a protocol and appropriate personnel, so that all evidence is discovered and preserved and the protocol procedures are followed.

(A) Requisite Knowledge. Types of evidence associated with fire victims and fatalities and evidence preservation methods.

(B) Requisite Skills. Observational skills and the ability to apply protocols to given situations.

NFPA 1033 4.4.2* Locate, collect, and package evidence, given standard or special tools and equipment and evidence collection materials, so that evidence is identified, preserved, collected, and packaged to avoid contamination and investigator-inflicted damage and the chain of custody is established.

(A) Requisite Knowledge. Types of evidence, authority requirements, impact of removing evidentiary items on civil or criminal proceedings (exclusionary or fire-cause supportive evidence), types, capabilities, and limitations of standard and special tools used to locate evidence, types of laboratory tests available, packaging techniques and materials, and impact of evidence collection on the investigation.

(B) Requisite Skills. Ability to recognize different types of evidence and determine whether evidence is critical to the investigation.

NFPA 1033 4.4.3 Select evidence for analysis given all information from the investigation, so that items for analysis support specific investigation needs.

(A) Requisite Knowledge. Purposes for submitting items for analysis, types of analytical services available, and capabilities and limitations of the services performing the analysis.

(B) Requisite Skills. Evaluate the fire incident to determine forensic, engineering, or laboratory needs.

NFPA 1033 4.4.4 Maintain a chain of custody, given standard investigative tools, marking tools, and evidence tags or logs, so that written documentation exists for each piece of evidence and evidence is secured.

(A) Requisite Knowledge. Rules of custody and transfer procedures, types of evidence (e.g., physical evidence obtained at the scene, photos, and documents), and methods of recording the chain of custody.

(B) Requisite Skills. Ability to execute the chain of custody procedures and accurately complete necessary documents.

NFPA 1033 4.4.5 Dispose of evidence, given jurisdictional or agency regulations and file information, so that the disposal is timely, safely conducted, and in compliance with jurisdictional or agency requirements.

(A) Requisite Knowledge. Disposal services available and common disposal procedures and problems.

(B) Requisite Skills. Documentation skills.

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References:

J&B, chapter 15

Kirk's, chapter 7

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Lentini, chapter 4
ASTM E1188
ASTM E1459

501-17.1 ***The Investigator candidate shall describe the recommended and accepted methods of processing physical evidence.***

501-17.2 ***The Investigator candidate shall define physical evidence.***

501-17.3 ***The Investigator candidate shall describe the importance of preservation of the fire scene and physical evidence.***

17.3.1 General

17.3.2 Fire Patterns as Physical Evidence

17.3.3 Artifact Evidence

17.3.4 Protecting Evidence

17.3.5 Role and Responsibilities of Fire Suppression Personnel
in Preserving the Fire Scene

17.3.5.1 General

17.3.5.2 Preservation

17.3.5.3 Caution in Fire Suppression Operations

17.3.6 Roles and Responsibilities of the Fire Investigator

17.3.7 Practical Considerations

501-17.4 ***The Investigator candidate shall describe contamination of physical evidence.***

17.4.1 Contamination of Evidence Containers

17.4.2 Contamination During Collection

17.4.3 Contamination by Fire Fighters

501-17.5 ***The Investigator candidate shall describe methods of collection.***

17.5.1 General

17.5.2 Documenting the Collection of Physical Evidence

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- 17.5.3 Collection of Traditional Forensic Physical Evidence
- 17.5.4 Collection of Evidence for Accelerant Testing
 - 17.5.4.1 Liquid Accelerant Characteristics
 - 17.5.4.2 Canine-Handler Teams
 - 17.5.4.3 Collection of Liquid Samples for Ignitable Liquid Testing
 - 17.5.4.4 Collection of Liquid Evidence Absorbed by Solid Materials
 - 17.5.4.5 Collection of Solid Samples for Accelerant Testing
 - 17.5.4.6 Comparison Samples
- 17.5.5 Collection of Gaseous Samples
- 17.5.6 Collection of Electrical Equipment and System Components
- 17.5.7 Collection of Appliances or Small Electrical Equipment

501-17.6 ***The Investigator candidate shall identify and describe different types of evidence containers.***

- 17.6.1 General
- 17.6.2 Liquid and Solid Accelerant Evidence Containers
 - 17.6.2.1 Metal Cans
 - 17.6.2.2 Glass Jars
 - 17.6.2.3 Special Evidence Bags
 - 17.6.2.4 Common Plastic Bags

501-17.7 ***The Investigator candidate shall understand the benefits and limitations of utilizing Canine-Handler Teams.***

- 17.7.1 Preferred Designation
- 17.7.2 Other Designations for IGL Canines
- 17.7.3 Investigators' Discretion
- 17.7.4 Handlers' Expertise
- 17.7.5 Canine-Handler Teams

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17.7.6 Purpose of Canine-Handler Team

17.7.7 Limitations on the Use of Alerts by Canine-Handler Teams

17.7.8 Canine-Handler Teams and Accelerant Detection

17.7.9 Coordinating the Investigation with the Handler

17.7.10 Safety of Canine, Handler, and Others

501-17.8 ***The Investigator candidate shall identify the ASTM standards related to physical evidence.***

501-17.9 ***The Investigator candidate shall describe the proper methods of transportation and storage of physical evidence.***

17.9.1 Hand Delivery

17.9.2 Shipment

17.9.3 Storage of Evidence

501-17.10 ***The Investigator candidate shall identify and describe the evidence chain of custody of physical evidence.***

501-17.11 ***The Investigator candidate shall identify types of analytical methods and tests applicable to certain fire investigations, and the capabilities and limitations of the services that perform the analysis.***

17.11.1 Evidence Collection or Inspections Involving Alteration Without Changes to the Evidentiary Value of the Artifacts

17.11.2 Test Methods

17.11.3 Sufficiency of Samples

17.11.4 Comparative Examination and Testing

501-17.12 ***The Investigator candidate shall describe the proper procedure for evidence disposition.***

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SECTION 18

ORIGIN DETERMINATION

4.2 Scene Examination.

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire. ~~Duties shall include inspecting and evaluating the fire scene, or evidence of the scene and/or conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2.2* Conduct an exterior survey, given standard equipment and tools, so that evidence is identified and preserved, fire damage is interpreted, hazards are identified to avoid injuries, accessibility to the property is determined, and all potential means of ingress and egress are discovered.

(A) Requisite Knowledge. The types of building construction and the effects of fire on construction materials, types of evidence commonly found in the perimeter, evidence preservation methods, the effects of fire suppression, fire behavior and spread, fire patterns, and a basic awareness of the dangers of hazardous materials.

(B) Requisite Skills. Assess fire ground and structural condition, observe the damage from and effects of the fire, and interpret fire patterns.

NFPA 1033 4.2.3 Conduct an interior survey, given standard equipment and tools, so that areas of potential evidentiary value requiring further examination are identified and preserved, the evidentiary value of contents is determined, and hazards are identified in order to avoid injuries.

(A) Requisite Knowledge. The types of building construction and interior finish and the effects of fire on those materials, the effects of fire suppression, fire behavior and spread, evidence preservation methods, fire patterns, effects of building contents on fire growth, the relationship of building contents to the overall investigation, weather conditions at the time of the fire, and fuel moisture.

(B) Requisite Skills. Assess structural conditions, observe the damage and effects of the fire, discover the impact of fire suppression efforts on fire flow and heat propagation, and evaluate protected areas to determine the presence and/or absence of contents.

NFPA 1033 4.2.5 Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that fire development is determined, methods and effects of suppression are evaluated, false origin area patterns are recognized, and all areas of origin are correctly identified.

(A) Requisite Knowledge. Fire behavior and spread based on fire chemistry, fire dynamics, and physics, fire suppression effects, building construction.

(B) Requisite Skills. Ability to interpret variations of fire patterns on different materials with consideration given to heat release rate, form, and ignitability; distinguish impact of different types of fuel loads; evaluate fuel trails; and analyze and synthesize information.

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4.6 Post-Incident Investigation.

Duties shall include the investigation of all factors beyond the fire scene at the time of the origin and cause determination.

NFPA 1033 4.6.5* Formulate an opinion concerning origin, cause, or responsibility for the fire, given all investigative findings, so that the opinion regarding origin, cause, or responsibility for a fire is supported by the data, facts, records, reports, documents, and evidence.

(A) Requisite Knowledge: Analytical methods and procedures (e.g., hypothesis development and testing, systems analysis, time lines, link analysis, fault tree analysis, and data reduction matrixing).

(B) Requisite Skills: Analytical and assimilation skills.

References:

J&B, chapter 16

Kirk's, chapters 1 and 5

Lentini, chapter 4

501-18.1 ***The Investigator candidate shall identify witness information and/or electronic data, fire patterns, and fire dynamics used in origin determination.***

501-18.2 ***The Investigator candidate shall identify and describe the overall methodology of conducting a scene assessment.***

18.2.1 Scientific Method

18.2.2 Sequence of Activities

18.2.3 Sequential Pattern Analysis

18.2.4 Systematic Procedure

18.2.5 Recommended Methodology

501-18.3 ***The Investigator candidate shall identify the data collection process for origin determination.***

18.3.1 Initial Scene Assessment

18.3.1.1 Safety Assessment

18.3.1.2 Scope of the Examination

18.3.1.3 Order of the Examination

18.3.1.4 Surrounding Areas

18.3.1.5 Structure Exterior

18.3.1.6 Structure Interior

18.3.1.7 Post-Fire Alterations

18.3.1.8 Determination of the Safety of the Fire Scene

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- 18.3.2 Excavation and Reconstruction
 - 18.3.2.1 Scope of Excavation and Reconstruction
 - 18.3.2.2 Safety
 - 18.3.2.3 Excavation
 - 18.3.2.4 Heavy Equipment
 - 18.3.2.5 Avoiding Spoliation
 - 18.3.2.6 Avoiding Contamination
 - 18.3.2.7 Washing Floors
 - 18.3.2.8 Contents

- 18.3.3 Additional Data Collection Activities for Origin Determination
 - 18.3.3.1 Pre-Fire Conditions
 - 18.3.3.2 Description of Fuels
 - 18.3.3.3 Structure Dimensions
 - 18.3.3.4 Weather Conditions
 - 18.3.3.5 Electrical Systems
 - 18.3.3.6 Electrical Loads
 - 18.3.3.7 HVAC Systems
 - 18.3.3.8 Fuel Gas Systems
 - 18.3.3.9 Liquid Fuel Systems
 - 18.3.3.10 Fire Protection Systems
 - 18.3.3.11 Fire Protection Systems Data
 - 18.3.3.12 Security Cameras
 - 18.3.3.13 Intrusion Alarm Systems
 - 18.3.3.14 Witness Observations

501-18.4 ***The Investigator candidate shall recognize the importance of analyzing the following data.***

- 18.4.1 Fire Patterns Analysis
 - 18.4.1.1 Consideration of All Patterns
 - 18.4.1.2 Sequence of Patterns
 - 18.4.1.3 Pattern Generation
 - 18.4.1.4 Ventilation
 - 18.4.1.5 Movement and Intensity Patterns
 - 18.4.1.6 Evaluation of Every Pattern
- 18.4.2 Heat and Flame Vector Analysis
 - 18.4.2.1 Complementary Vectors
 - 18.4.2.2 Heat Source
 - 18.4.2.3 Additional Tools for Pattern Visualization

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18.4.3 Analysis of Sequential Events

18.4.4 Fire Dynamics

18.4.5 Origin Matrix Analysis

501-18.5 ***The Investigator candidate shall identify the process of developing origin hypotheses.***

18.5.1 Initial Hypothesis

18.5.2 Modifying the Initial Hypothesis

501-18.6 ***The Investigator candidate shall identify means and methods for testing the validity of the origin hypothesis.***

18.6.1 Means of Hypothesis Testing

18.6.2 Analytical Techniques and Tools

18.6.2.1 Time Line Analysis

18.6.2.2 Fire Modeling

18.6.2.3 Experimental Testing

501-18.7 ***The Investigator candidate shall select a final hypothesis.***

18.7.1 Defining the Area of Origin

18.7.2 Inconsistent Data

18.7.3 Case File Review

501-18.8 ***The Investigator candidate shall identify when there is insufficient data to define the origin.***

18.8.1 Large Area Adequate for Determination

18.8.2 Justification of a Large Area of Origin

18.8.3 Eyewitness Evidence of Origin Area

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SECTION 19

FIRE CAUSE DETERMINATION

4.6 Post-Incident Investigation.

Duties shall include the investigation of all factors beyond the fire scene at the time of the origin and cause determination.

NFPA 1033 4.6.5* Formulate an opinion concerning origin, cause, or responsibility for the fire, given all investigative findings, so that the opinion regarding origin, cause, or responsibility for a fire is supported by the data, facts, records, reports, documents, and evidence.

(A) Requisite Knowledge. Analytical methods and procedures (e.g., hypothesis development and testing, systems analysis, time lines, link analysis, fault tree analysis, and data reduction matrixing).

(B) Requisite Skills. Analytical and assimilation skills.

References:

J&B, chapter 17

Kirk's, chapters 1 and 5

501-19.1 **The Investigator candidate shall define fire cause and identify fire cause factors.**

- 19.1.1 Fire Cause Factors
- 19.1.2 First Fuel Ignited
- 19.1.3 Ignition Source
- 19.1.4 Oxidant
- 19.1.5 Ignition Sequence

501-19.2 **The Investigator candidate shall utilize the scientific method as the overall methodology.**

- 19.2.1 Consideration of Data
- 19.2.2 Sequence of Activities
- 19.2.3 Point and Area of Origin

501-19.3 **The Investigator candidate shall identify the data that needs to be collected for fire cause determination.**

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- 19.3.1 Identify Fuels in the Area of Origin
- 19.3.2 Identify Source and Form of the Heat of Ignition
- 19.3.3 Identify Items and Activities in Area of Origin
- 19.3.4 Identify the Oxidant
- 19.3.5 Identify Ignition Sequence Data

501-19.4 ***The Investigator candidate shall demonstrate the proper use of the scientific method to analyze the data.***

- 19.4.1 Fuel Analysis
 - 19.4.1.1 Geometry and Orientation
 - 19.4.1.2 Ignition Temperature
 - 19.4.1.3 Quantity of Fuel
- 19.4.2 Ignition Source Analysis
- 19.4.3 Oxidant
- 19.4.4 Ignition Sequence

501-19.5 ***The Investigator candidate shall develop cause hypotheses.***

501-19.6 ***The Investigator candidate shall test the cause hypothesis for validity.***

- 19.6.1 Scientific Method
- 19.6.2 Deductive Reasoning
- 19.6.3 Hypotheses Testing Questions
- 19.6.4 Means of Hypothesis Testing
 - 19.6.4.1 Scientific Literature
 - 19.6.4.2 Fundamental Principles of Science
 - 19.6.4.3 Physical Experiments or Testing
 - 19.6.4.4 Cognitive Experiments
 - 19.6.4.5 Time Lines
 - 19.6.4.6 Fault Trees
 - 19.6.4.7 Additional Techniques

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- 19.6.5 Appropriate Use of the Process of Elimination
 - 19.6.5.1 Cause Undetermined
 - 19.6.5.2 Ignition Source vs. Fire Cause

501-19.7 ***The Investigator candidate shall demonstrate the proper selection of a final hypothesis.***

- 19.7.1 Establishing the Cause
- 19.7.2 Inconsistent Data
- 19.7.3 Safety Devices and Features
- 19.7.4 Undetermined Fire Cause

501-19.8 ***The Investigator candidate shall use a set of prescribed incident classification system when classification is required of the investigator.***

(1) NFIRS - National Fire Incident Reporting System

(2) NFPA 901 - Standard Classifications for Fire and

Emergency Services Incident Reporting

(3) BATS - Bombs Arson Tracking System

(4) UCR - Uniform Crime Reporting Program

(5) The Canadian Code Structure

(6) NIBRS - National Incident Based Reporting System

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SECTION 20

ANALYZING THE INCIDENT FOR CAUSE AND RESPONSIBILITY

NFPA 1033 4.1.7 In order to successfully complete the tasks identified in the JPRs of Sections 4.2 through 4.7, the fire investigator shall remain current in the subjects listed as “requisite knowledge” as they relate to fire investigations, which include the following: (2)(a) Fire Analysis, (e) Failure Analysis and Analytical Tools.

4.6 Post-Incident Investigation.

Duties shall include the investigation of all factors beyond the fire scene at the time of the origin and cause determination.

NFPA 1033 4.6.1 Gather reports and records, given no special tools, equipment, or materials, so that all gathered documents are applicable to the investigation, complete, and authentic; the chain of custody is maintained; and the material is admissible in a legal proceeding.

(A) Requisite Knowledge. Types of reports needed that facilitate determining responsibility for the fire (e.g., police reports, fire reports, insurance policies, financial records, deeds, private investigator reports, outside photos, and videos) and location of these reports.

(B) Requisite Skills. Ability to identify the reports and documents necessary for the investigation, implement the chain of custody, and organizational skills.

NFPA 1033 4.6.2 Evaluate the investigative file, given all available file information, so that areas for further investigation are identified, the relationship between gathered documents and information is interpreted, and corroborative evidence and information discrepancies are discovered.

(A) Requisite Knowledge. File assessment and/or evaluation methods, including accurate documentation practices, and requisite investigative elements.

(B) Requisite Skills. Information assessment, correlation, and organizational skills.

NFPA 1033 4.6.3 Coordinate expert resources, given the investigative file, reports, and documents, so that the expert’s competencies are matched to the specific investigation needs, financial expenditures are justified, and utilization clearly furthers the investigative goals of determining cause or affixing responsibility.

(A) Requisite Knowledge. How to assess one’s own expertise, qualification to be called for expert testimony, types of expert resources (e.g., forensic, CPA, polygraph, financial, human behavior disorders, and engineering), and methods to identify expert resources.

(B) Requisite Skills. Ability to apply expert resources to further the investigation by networking with other investigators to identify experts, questioning experts relative to their qualifications, and developing a utilization plan for use of expert resources.

NFPA 1033 4.6.4 Establish evidence as to motive and/or opportunity, given an incendiary fire, so that the evidence is supported by documentation and meets the evidentiary requirements of the jurisdiction.

(A) Requisite Knowledge. Types of motives common to incendiary fires, methods used to discover opportunity, and human behavioral patterns relative to fire-setting

(B) Requisite Skills. Financial analysis, records gathering and analysis, interviewing, and interpreting fire scene information and evidence for relationship to motive and/or opportunity.

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NFPA 1033 4.6.5 Formulate an opinion concerning origin, cause, or responsibility for the fire, given all investigative findings, so that the opinion regarding origin, cause, or responsibility for a fire is supported by the data, facts, records, reports, documents, and evidence.

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- (A) Requisite Knowledge.** Analytical methods and procedures (e.g., hypothesis development and testing, systems analysis, time lines, link analysis, fault tree analysis, and data reduction matrixing).
- (B) Requisite Skills.** Analytical and assimilation skills.

References:
J&B, chapter 19
Kirk's, chapters 1 and 5

501-20.1 ***The Investigator candidate shall describe methods for analyzing the incident for cause and responsibility.***

- 20.1.1 (1) The cause of the fire or explosion.
- (2) The cause of damage to property resulting from the incident.
- (3) The cause of bodily injury or loss of life.
- (4) The degree to which human fault contributed to any one or more of the causal issues described in 20.1.1(1), 20.1.1(2), and 20.1.1(3).
- 20.1.2 Based on the scope of the assignment, an individual investigator may not have responsibility or be required to address all of the aspects of this chapter.
- 20.1.3 The cause of a fire or the causes of damage or casualties may be grouped in broad categories for general discussion, for assignment of legal responsibility or culpability, or for reporting purposes.

501-20.2 ***The Investigator candidate shall identify the competent ignition source, the fuel first ignited, and the events that brought them together.***

501-20.3 ***The Investigator candidate shall describe the causes of damage to property resulting from the Incident.***

- 20.3.1 Considerations
- 20.3.2 Fire/Smoke Spread
 - 20.3.2.1 Compartmentation
 - 20.3.2.2 Change of occupancy/hazard
 - 20.3.2.3 Detection/alarm systems

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- 20.3.2.4 Human behavior
- 20.3.2.5 Fire suppression
- 20.3.2.6 Fuel loads
- 20.3.2.7 Housekeeping
- 20.3.2.8 Ventilation
- 20.3.2.9 Code violations
- 20.3.2.10 Structural failure

20.3.3 Other consequential damage

501-20.4 ***The Investigator candidate shall describe the causes of bodily injury or loss of life. See Chapters 11 and 24.***

- 20.4.1 Fire/Smoke Spread
 - 20.4.1.1 Toxicity
 - 20.4.1.2 Hazardous materials
 - 20.4.1.3 Compartmentation
 - 20.4.1.4 Change of occupancy/hazard
 - 20.4.1.5 Detection/alarm systems
 - 20.4.1.6 Human behavior
 - 20.4.1.7 Fire suppression
 - 20.4.1.8 Housekeeping
 - 20.4.1.9 Fuel loads
 - 20.4.1.10 Ventilation
 - 20.4.1.11 Code violations
 - 20.4.1.12 Means of egress/refuge
 - 20.4.1.13 Structural failure
 - 20.4.1.14 Intentional acts

20.4.2 Emergency Preparedness

501-20.5 ***The Investigator candidate shall describe the determination of responsibility.***

- 20.5.1 Nature of Responsibility
- 20.5.2 Definition of Responsibility
- 20.5.3 Assessing of Responsibility
- 20.5.4 Degrees of Responsibility

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SECTION 21

FAILURE ANALYSIS AND ANALYTICAL TOOLS

NFPA 1033 4.1.7 In order to successfully complete the tasks identified in the JPRs of Sections 4.2 through 4.7, the fire investigator shall remain current in the subjects listed as “requisite knowledge” as they relate to fire investigations, which include the following: (2)(e) Failure Analysis and Analytical Tools.

4.6 Post-Incident Investigation.

Duties shall include the investigation of all factors beyond the fire scene at the time of the origin and cause determination.

NFPA 1033 4.6.1 Gather reports and records, given no special tools, equipment, or materials, so that all gathered documents are applicable to the investigation, complete, and authentic; the chain of custody is maintained; and the material is admissible in a legal proceeding.

(A) Requisite Knowledge. Types of reports needed that facilitate determining responsibility for the fire (e.g., police reports, fire reports, insurance policies, financial records, deeds, private investigator reports, outside photos, and videos) and location of these reports.

(B) Requisite Skills. Ability to identify the reports and documents necessary for the investigation, implement the chain of custody, and organizational skills.

NFPA 1033 4.6.2 Evaluate the investigative file, given all available file information, so that areas for further investigation are identified, the relationship between gathered documents and information is interpreted, and corroborative evidence and information discrepancies are discovered.

(A) Requisite Knowledge. File assessment and/or evaluation methods, including accurate documentation practices, and requisite investigative elements.

(B) Requisite Skills. Information assessment, correlation, and organizational skills.

NFPA 1033 4.6.3 Coordinate expert resources, given the investigative file, reports, and documents, so that the expert’s competencies are matched to the specific investigation needs, financial expenditures are justified, and utilization clearly furthers the investigative goals of determining cause or affixing responsibility.

(A) Requisite Knowledge. How to assess one’s own expertise, qualification to be called for expert testimony, types of expert resources (e.g., forensic, CPA, polygraph, financial, human behavior disorders, and engineering), and methods to identify expert resources.

(B) Requisite Skills. Ability to apply expert resources to further the investigation by networking with other investigators to identify experts, questioning experts relative to their qualifications, and developing a utilization plan for use of expert resources.

NFPA 1033 4.6.4 Establish evidence as to motive and/or opportunity, given an incendiary fire, so that the evidence is supported by documentation and meets the evidentiary requirements of the jurisdiction.

(A) Requisite Knowledge. Types of motives common to incendiary fires, methods used to discover opportunity, and human behavioral patterns relative to fire-setting.

(B) Requisite Skills. Financial analysis, records gathering and analysis, interviewing, and interpreting fire scene information and evidence for relationship to motive and/or opportunity.

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NFPA 1033 4.6.5 Formulate an opinion concerning origin, cause, or responsibility for the fire, given all investigative findings, so that the opinion regarding origin, cause, or responsibility for a fire is supported by the data, facts, records, reports, documents, and evidence.

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(A) Requisite Knowledge. Analytical methods and procedures (e.g., hypothesis development and testing, systems analysis, time lines, link analysis, fault tree analysis, and data reduction matrixing).
(B) Requisite Skills. Analytical and assimilation skills.

References:
J&B, chapter 20
Kirk's, chapters 1 and 5

501-21.1 **The Investigator candidate shall describe failure analysis and the use of analytical tools.**

501-21.2 **The Investigator candidate shall describe time lines available for use in analyzing fire cause.**

- 21.2.1 General
- 21.2.2 Hard Time (Actual)
- 21.2.3 Soft Time (Estimated)
- 21.2.4 Benchmark Events
- 21.2.5 Multiple Time Lines

501-21.3 **The Investigator candidate shall describe system analysis techniques.**

- 21.3.1 Fault Trees
- 21.3.2 Failure Mode and Effects Analysis (FMEA)

501-21.4 **The Investigator candidate shall describe the purpose for mathematical modeling.**

- 21.4.1 General and Limitations of Mathematical Modeling
- 21.4.2 Heat Transfer Analysis
- 21.4.3 Flammable Gas Concentrations
- 21.4.4 Hydraulic Analysis
- 21.4.5 Thermodynamic Chemical Equilibrium Analysis

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- 21.4.6 Structural Analysis
- 21.4.7 Egress Analysis
- 21.4.8 Fire Dynamics Analysis
- 21.4.9 Guidelines for Selection and Use of a Fire Model

501-21.5 ***The Investigator candidate shall describe the role of fire testing.***

- 21.5.1 Role of Fire Testing
- 21.5.2 Fire Test Methods
- 21.5.3 Limitations of Fire Testing

501-21.6 ***The Investigator candidate shall identify the data required for modeling and testing.***

- 21.6.1 Materials and Contents
- 21.6.2 Ventilation

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SECTION 22

EXPLOSIONS

NFPA 1033 4.1.7 In order to successfully complete the tasks identified in the JPRs of Sections 4.2 through 4.7, the fire investigator shall remain current in the subjects listed as “requisite knowledge” as they relate to fire investigations, which include the following: (1)(e) Explosion Dynamics.

4.2 Scene Examination.

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.
~~Duties shall include inspecting and evaluating the fire scene, or evidence of the scene, and/or conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2.9 Discriminate the effects of explosions from other types of damage, given standard equipment and tools, so that an explosion is identified and its evidence is preserved.

(A) Requisite Knowledge. Different types of explosions and their causes, characteristics of an explosion, and the difference between low- and high-order explosions.

(B) Requisite Skills. Identify explosive effects on glass, walls, foundations, and other building materials; distinguish between low- and high-order explosion effects; and analyze damage to document the blast zone and origin.

References:

J&B, chapter 21
Kirk’s, chapter 3

501-22.1 **The Investigator candidate shall define the term “explosion”.**

501-22.2 **The Investigator candidate shall identify the different types of explosions.**

22.2.1 Mechanical Explosions

22.2.2 Boiling Liquid Expanding Vapor Explosion (BLEVE)

22.2.3 Chemical Explosions

22.2.4 Electrical Explosions

22.2.5 Nuclear Explosions

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501-22.3 ***The Investigator candidate shall distinguish between the characterization of explosion damage.***

22.3.1 Low-Order Damage

22.3.2 High-Order Damage

501-22.4 ***The Investigator candidate shall be able to describe the effects of explosions.***

22.4.1 Blast Overpressure and Wave Effect

22.4.1.1 General

22.4.1.2 Positive Pressure Phase

22.4.1.3 Negative Pressure Phase

22.4.1.4 Shape of Blast Wave (Front)

22.4.1.5 Rate of Pressure Rise versus Maximum Pressure

22.4.2 Shrapnel Effect (Projectiles)

22.4.3 Thermal Effect

22.4.4 Seismic Effect (Ground Shock)

501-22.5 ***The Investigator candidate shall identify the factors controlling explosion effects.***

22.5.1 Fuel

22.5.2 Turbulence

22.5.3 Nature of Confining Space

22.5.4 Location and Magnitude of Ignition Source

22.5.5 Venting

22.5.6 Blast Pressure Wave (Blast Pressure Front) Modification by Reflection

22.5.7 Blast Pressure Front Modification by Refraction and Blast Focusing

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501-22.6 ***The Investigator candidate shall be able to identify a seated explosion.***

- 22.6.1 General
- 22.6.2 Explosives
- 22.6.3 Boiler and Pressure Vessels
- 22.6.4 Confined Fuel Gas and Liquid Vapor
- 22.6.5 Boiling Liquid Expanding Vapor Explosion (BLEVE)

501-22.7 ***The Investigator candidate shall be able to identify a non-seated explosion.***

- 22.7.1 Fuel Gases
- 22.7.2 Pool Flammable/Combustible Liquids
- 22.7.3 Dusts
- 22.7.4 Backdraft (Smoke Explosion)

501-22.8 ***The Investigator candidate shall be able to describe the characteristics of gas/vapor combustion explosions.***

- 22.8.1 Ignition of Gases and Vapors
- 22.8.2 Interpretation of Explosion Damage
 - 22.8.2.1 Fuel-to-Air Ratio
 - 22.8.2.2 Specific Gravity
- 22.8.3 Underground Migration of Fuel Gases
- 22.8.4 Multiple Explosions

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501-22.9 ***The Investigator candidate shall describe the characteristics of dust explosions.***

- 22.9.1 General
- 22.9.2 Particle Size
- 22.9.3 Concentration
- 22.9.4 Turbulence in Dust Explosions
- 22.9.5 Moisture
- 22.9.6 Minimum Temperature and Ignition Energy for Dust
- 22.9.7 Multiple Explosions

501-22.10 ***The Investigator candidate shall be able to describe backdraft (smoke explosions).***

501-22.11 ***The Investigator candidate shall be able to identify an unconfined vapor cloud explosion.***

501-22.12 ***The Investigator candidate shall be able to distinguish the two types of explosives.***

- 22.12.1 Low Explosives
- 22.12.2 High Explosives

501-22.13 ***The Investigator candidate shall describe the complexity of the investigation of explosive incidents.***

501-22.14 ***The Investigator candidate shall be able to investigate the explosion scene.***

- 22.14.1 General
- 22.14.2 Securing the Scene
 - 22.14.2.1 Establishing the Scene
 - 22.14.2.2 Obtain Background Information
 - 22.14.2.3 Establish the Scene Search Pattern
 - 22.14.2.4 Safety at the Explosion Scene

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- 22.14.3 Initial Scene Assessment
 - 22.14.3.1 General
 - 22.14.3.2 Identify Explosion or Fire
 - 22.14.3.3 Document Damage
 - 22.14.3.4 Seated or Nonseated Explosion
 - 22.14.3.5 Identify Type of Explosion
 - 22.14.3.6 Identify Potential General Fuel Type
 - 22.14.3.7 Establish the Origin
 - 22.14.3.8 Establish Ignition Source
- 22.14.4 Detailed Scene Assessment
 - 22.14.4.1 Identify Damage Effects of Explosion
 - 22.14.4.2 Identify Pre-Blast and Post-Blast Fire Damage
 - 22.14.4.3 Locate and Identify Articles of Evidence
 - 22.14.4.4 Identify Force Vectors

501-22.15 ***The Investigator candidate shall analyze the origin (epicenter) of an explosion scene.***

501-22.16 ***The Investigator candidate shall analyze a fuel source.***

501-22.17 ***The Investigator candidate shall analyze the ignition source.***

501-22.18 ***The Investigator candidate shall analyze to establish cause.***

- 22.18.1 General
- 22.18.2 Time Line Analysis
- 22.18.3 Damage Pattern Analysis
 - 23.18.3.1 Debris Analysis
 - 23.18.3.2 Relative Structural Damage Analysis
- 22.18.4 Correlation of Explosion Type and Energy with Damage Incurred
- 22.18.5 Analysis of Damaged Items and Structures
- 22.18.6 Correlation of Thermal Effects

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SECTION 23

INCENDIARY FIRES

4.6 Post-Incident Investigation.

Duties shall include the investigation of all factors beyond the fire scene at the time of the origin and cause determination.

NFPA 1033 4.6.4 Establish evidence as to motive and/or opportunity, given an incendiary fire, so that the evidence is supported by documentation and meets the evidentiary requirements of the jurisdiction.

(A) Requisite Knowledge. Types of motives common to incendiary fires, methods used to discover opportunity, and human behavioral patterns relative to fire-setting.

(B) Requisite Skills. Financial analysis, records gathering and analysis, interviewing, and interpreting fire scene information and evidence for relationship to motive and/or opportunity.

NFPA 1033 4.6.5 Formulate an opinion concerning origin, cause, or responsibility for the fire, given all investigative findings, so that the opinion regarding origin, cause, or responsibility for a fire is supported by the data, facts, records, reports, documents, and evidence.

(A) Requisite Knowledge: Analytical methods and procedures (e.g., hypothesis development and testing, systems analysis, time lines, link analysis, fault tree analysis, and data reduction matrixing).

(B) Requisite Skills: Analytical and assimilation skills.

References:

J&B, chapter 21
Kirk's, chapter 11
Lentini, chapter 8

501-23.1 **The Investigator candidate shall define "incendiary" fires.**

501-23.2 **The Investigator candidate shall identify and describe indicators of incendiary fires.**

23.2.1 Multiple Fires

23.2.2 Trailers

23.2.3 Lack of Expected Fuel Load and Ignition Sources

23.2.4 Unusual Fuel Load or Configuration

23.2.5 Burn Injuries

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- 23.2.6 Incendiary Devices
- 23.2.7 Assessment of Fire Growth and Fire Damage

501-23.3 ***The Investigator candidate shall identify and explain potential indicators of incendiary fires not directly related to combustion.***

- 23.3.1 Remote Locations with View Blocked or Obscured
- 23.3.2 Forced Entry
- 23.3.3 Fires Near Service Equipment and Appliances
- 23.3.4 Removal or Replacement of Contents Prior to the Fire
 - 23.3.4.1 Replacement
 - 23.3.4.2 Removal
 - 23.3.4.3 Absence of Personal Items Prior to the Fire
- 23.3.5 Entry Blocked or Obstructed
- 23.3.6 Sabotage to the Structure or Fire Protection Systems
 - 23.3.6.1 Definition of Sabotage
 - 23.3.6.2 Damage to Fire-Resistive Assemblies
 - 23.3.6.3 Damage to Fire Protection Systems
- 23.3.7 Open Windows and Exterior Doors

501-23.4 ***The Investigator candidate shall identify and describe other evidentiary factors associated with incendiary fires.***

- 23.4.1 Evidentiary Factors that should be recorded and examined
- 23.4.2 Analysis of Confirmed Incendiary Fires
 - 23.4.2.1 Geographic Areas, or Clusters
 - 23.4.2.2 Temporal Frequency
 - 23.4.2.3 Materials and Method
- 23.4.3 Evidence of Other Crimes, Crime Concealment
- 23.4.4 Indications of Financial Stress
- 23.4.5 Existing or History of Code Violations

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- 23.4.6 Owner with Fires at Other Properties
- 23.4.7 Overinsurance
- 23.4.8 Timed Opportunity
 - 23.4.8.1 Fires During Severe Natural Conditions
 - 23.4.8.2 Fires During Civil Unrest
 - 23.4.8.3 Fire Department Unavailable
- 23.4.9 Motives for Firesetting Behavior
 - 23.4.9.1 Define “Motive”
 - 23.4.9.2 Motive Versus Intent
 - 23.4.9.3 Classifications of Motive
 - 23.4.9.3.1 Introduction
 - 23.4.9.3.2 Vandalism
 - 23.4.9.3.2.1 Willful and Malicious Mischief
 - 23.4.9.3.2.2 Peer or Group Pressure
 - 23.4.9.3.3 Excitement
 - a. Thrill Seeking
 - b. Attention Seeking
 - c. Recognition
 - d. Sexual Gratification or Perversion
 - 23.4.9.3.4 Revenge
 - a. Personal Retaliation
 - b. Societal Retaliation
 - c. Institutional Retaliation
 - d. Group Retaliation
 - 23.4.9.3.5 Crime Concealment
 - a. Murder Concealment
 - b. Burglary Concealment
 - c. Destruction of Records or Documents
 - 23.4.9.3.6 Profit
 - 23.4.9.3.7 Extremism
 - a. Terrorism
 - b. Riot/Civil Disturbance

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SECTION 24

FIRE AND EXPLOSION DEATHS AND INJURIES

4.4 Evidence Collection/Preservation.

Duties shall include using proper physical and legal procedures to identify, document, collect and preserve evidence required within the investigation.

NFPA 1033 4.4.1 Utilize proper procedures for managing victims and fatalities, given a protocol and appropriate personnel, so that all evidence is discovered and preserved and the protocol procedures are followed.

(A) Requisite Knowledge. Types of evidence associated with fire victims and fatalities and evidence preservation methods.

(B) Requisite Skills. Observational skills and the ability to apply protocols to given situations.

References:

J&B, chapter 23

Kirk's, chapter 12

Konefal, Fire Death Scene Investigation

ASTM E678

501-24.1 The Investigator candidate shall demonstrate the ability to utilize specialized skills associated with death and injuries from fire and explosions.

501-24.2 The Investigator candidate shall identify the mechanisms of death and injury.

24.2.1 Carbon Monoxide

24.2.2 Cyanide

24.2.3 Other Toxic Gases

24.2.4 Hyperthermia

24.2.5 Skin Burns

24.2.6 Inhalation of Hot Gases

24.2.7 Soot and Smoke

24.2.8 Hypoxia

24.2.9 Sublethal Inhalation Exposure Effects on the Individual

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- 24.2.9.1 Narcotic Gases
- 24.2.9.2 Irritant Gases
- 24.2.9.3 Smoke

- 24.2.10 Explosion-Related Injuries
 - 24.2.10.1 Blast Pressure Injuries
 - 24.2.10.2 Shrapnel Injuries
 - 24.2.10.3 Thermal Injuries
 - 24.2.10.4 Building Collapse Injuries

501-24.3 ***The Investigator candidate shall describe the consumption of the body by fire.***

- 24.3.1 Skin
- 24.3.2 Muscle
- 24.3.3 Bone
- 24.3.4 Fat

501-24.4 ***The Investigator candidate shall describe the postmortem changes that a deceased body will undergo when exposed to heat and to death.***

- 24.4.1 Lividity
- 24.4.2 Rigor Mortis

501-24.5 ***The Investigator candidate shall describe the considerations to be made before the investigation of a fatal fire.***

- 24.5.1 Notification
- 24.5.2 The Fire Department
- 24.5.3 Team Investigation
- 24.5.4 Safety
- 24.5.5 Scene Documentation
- 24.5.6 Victim Documentation

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- 24.5.7 Recovery of Bodies and Evidence
 - 24.5.7.1 Layering of Debris
 - 24.5.7.2 Sifting of Debris
 - 24.5.7.3 Body Removal
 - 24.5.7.4 Victim Clothing
- 24.5.8 Collection of Other Physical Evidence

501-24.6 ***The Investigator candidate shall describe the steps of investigating fire scenes with injuries.***

- 24.6.1 Notification Laws
- 24.6.2 Scene Documentation
- 24.6.3 Victim Documentation
- 24.6.4 Victim Timeline
- 24.6.5 Physical Evidence

501-24.7 ***The Investigator candidate shall describe the documentation of an explosion incident where injury and/or death has occurred.***

- 24.7.1 Collecting Physical Evidence from Explosions

501-24.8 ***The Investigator candidate shall describe post scene investigation of injuries.***

- 24.8.1 Burns
 - 24.8.1.1 Degree of Burns
 - 24.8.1.2 Body Area (Distribution)
- 24.8.2 Inhalation Medical Evidence
- 24.8.3 Hospital Tests and Documentation
- 24.8.4 Access to Medical Evidence

501-24.9 ***The Investigator candidate shall describe the fire death pathological and toxicological examination.***

- 24.9.1 The Coroner or Medical Examiner

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- 24.9.2 Identifying the Remains
 - 24.9.2.1 Human vs. Animal Remains
 - 24.9.2.2 Visual Identification
 - 24.9.2.3 Identification by Clothing and Personal Effects
 - 24.9.2.4 Fingerprint Identification
 - 24.9.2.5 X-ray Identification
 - 24.9.2.6 DNA Identification
- 24.9.3 X-ray Examination
- 24.9.4 Carbon Monoxide Levels
- 24.9.5 Cyanide Levels
- 24.9.6 Presence of Other Toxicants
- 24.9.7 Smoke and Soot Exposure
- 24.9.8 Burns
- 24.9.9 Physical Trauma and Wounds
- 24.9.10 Stomach Contents
- 24.9.11 Internal Body Temperature
- 24.9.12 Pre-Existing Medical Conditions
- 24.9.13 Death Pre-Fire
- 24.9.14 Death from a Medical Condition

501-24.10 ***The Investigator candidate shall describe how to analyze the data developed from the death or injury investigation and correlate it with the other data from the investigation.***

- 24.10.1 Timeline Development
- 24.10.2 Victim Activity
- 24.10.3 Pre-Fire Victim Impairment
- 24.10.4 Medical History

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- 24.10.5 Fire Pattern
- 24.10.6 Burns
- 24.10.7 Clothing
- 24.10.8 Applications of Toxicology in Fire Investigation
 - 24.10.8.1 Toxicological Analysis Techniques
 - 24.10.8.2 Physiological Models
 - 24.10.8.2.1 The Steward Equation
 - 24.10.8.2.2 The Colburn Forster Kane (CFK) Equation

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SECTION 25

APPLIANCES

4.2 Scene Examination.

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.
~~Duties shall include inspecting and evaluating the fire scene, or evidence of the scene, and/or conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2.8 Inspect and analyze the performance of building systems, including fire protection, detection and suppression systems, HVAC, electricity and electrical systems, fuel gas systems, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources; an operating system's impact on fire growth and spread is considered in identifying origin areas; defeated and failed systems are identified; and the system's potential as a fire cause is recognized.
~~Inspect the performance of building systems, including detection, suppression, HVAC, utilities, and building compartmentation, given standard and special equipment and tools, so that a determination can be made as to the need for expert resources. an operating system's impact on fire growth and~~

References:

J&B, chapter 24
Kirk's, chapter 4
Lentini, chapter 6

501-25.1 ***The Investigator candidate shall analyze appliances as it relates to investigation of the cause of fires.***

501-25.2 ***The Investigator candidate shall record the scene involving an appliance.***

- 25.2.1 Recording Specific Appliances
- 25.2.2 Measurements of the Location of the Appliances
- 25.2.3 Positions of Appliance Controls
- 25.2.4 Document Appliance Information
- 25.2.5 Gathering All of the Parts from the Appliance

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501-25.3 ***The Investigator candidate shall analyze the origin of fires involving appliances.***

- 25.3.1 Relationship of the Appliance to the Origin
- 25.3.2 Fire Patterns
- 25.3.3 Plastic Appliance Components
- 25.3.4 Reconstruction of the Area of Origin

501-25.4 ***The Investigator candidate shall analyze the cause of fires involving appliances.***

- 25.4.1 How the Appliance Generated Heat
- 25.4.2 The Use and Design of the Appliance
- 25.4.3 Electrical Appliances as Ignition Sources
- 25.4.4 Photographing Appliance Disassembly
- 25.4.5 Obtaining Exemplar Appliances
- 25.4.6 Testing Exemplar Appliances

501-25.5 ***The Investigator candidate shall describe each of the common parts or components that might be found in various appliances.***

- 25.5.1 Appliance Housings
- 25.5.2 Power Sources
 - 25.5.2.1 Power Cords
 - 25.5.2.2 Voltages Less than 120
 - 25.5.2.3 Batteries
 - 25.5.2.4 Overcurrent Protection
- 25.5.3 Switches
 - 25.5.3.1 Manual Switches
 - 25.5.3.2 Automatic Switches
- 25.5.4 Solenoids and Relays

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- 25.5.5 Transformers
- 25.5.6 Motors
- 25.5.7 Heating Elements
- 25.5.8 Lighting
 - 25.5.8.1 Fluorescent Lighting Systems
 - 25.5.8.2 High Intensity Discharge Lighting Systems
- 25.5.9 Miscellaneous Components

501-25.6 ***The Investigator candidate shall describe the operation and components of common residential appliances.***

- 25.6.1 Range or Oven
- 25.6.2 Coffee Makers
- 25.6.3 Toaster
- 25.6.4 Electric Can Opener
- 25.6.5 Refrigerator
- 25.6.6 Dishwasher
- 25.6.7 Microwave Oven
- 25.6.8 Portable Space Heater
- 25.6.9 Electric Blanket
- 25.6.10 Window Air Conditioner Unit
- 25.6.11 Hair Dryer and Hair Curler
- 25.6.12 Clothes Iron
- 25.6.13 Clothes Dryer
- 25.6.14 Consumer Electronics
- 25.6.15 Lighting

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SECTION 26

MOTOR VEHICLE FIRES

Annex A Explanatory Material

NFPA 1033 A.1.1 The intent of this standard applies to all fire investigation, including outside, wildland, vehicle, and structural fires.

4.1 General

NFPA 1033 4.1.3 Because fire investigators are required to perform activities in adverse conditions, site safety assessments shall be completed on all scenes and regional and national safety standards shall be followed and included in organizational policies and procedures.

4.2 Scene Examination.

Duties shall include inspecting, evaluating, and analyzing the fire scene or evidence of the scene, and conducting a comprehensive review of documentation generated during the examination(s) of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and action or activity that brought the ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.
~~Duties shall include inspecting and evaluating the fire scene, or evidence of the scene if the scene is no longer available, so as to determine the area or point of origin, source of ignition, material(s) ignited, and act or activity that brought ignition source and materials together and to assess the subsequent progression, extinguishment, and containment of the fire.~~

NFPA 1033 4.2.4 Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that each pattern is identified and analyzed with respect to the burning characteristics of the material involved, the stage of fire development, the effects of ventilation within the context of the scene, the relationship with all patterns observed, and the understanding of the methods of heat transfer that led to the formation of the patterns identified and analyzed, and the sequence in which the patterns were produced is determined.
~~Interpret fire patterns, given standard equipment and tools and some structural or content remains, so that each individual pattern is evaluated with respect to the burning characteristics of the material involved and in context and relationship with all patterns observed in the mechanisms of heat transfer that lead to the formation of the pattern.~~

(A) Requisite Knowledge. Fire dynamics, fire development, and the interrelationship of heat release rate, form, and ignitability of materials.

(B) Requisite Skills. Ability to interpret the effects of burning characteristics on different types of materials.

NFPA 1033 4.2.5 Interpret and analyze fire patterns, given standard equipment and tools and some structural or content remains, so that fire development is determined, methods and effects of suppression are evaluated, false origin area patterns are recognized, and all areas of origin are correctly identified.

(A) Requisite Knowledge. Fire behavior and spread based on fire chemistry, fire dynamics, and physics, fire suppression effects, building construction.

(B) Requisite Skills. Interpret variations of fire patterns on different materials with consideration given to heat release rate, form, and ignitability; distinguish impact of different types of fuel loads; evaluate fuel trails; and analyze and synthesize information.

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NFPA 1033 4.2.6 Examine and remove fire debris, given standard equipment and tools, so that all debris is checked for fire cause evidence, potential ignition source(s) is identified, and evidence is preserved without investigator-inflicted damage or contamination.

(A) Requisite Knowledge. Basic understanding of ignition processes, characteristics of ignition sources, and ease of ignition of fuels; debris-layering techniques; use of tools and equipment during the debris search; types of fire cause evidence commonly found in various degrees of damage; and evidence-gathering methods and documentation.

B) Requisite Skills. Employ search techniques that further the discovery of fire cause evidence and ignition sources, use search techniques that incorporate documentation, and collect and preserve evidence.

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References:
J&B, chapter 25
Kirk's, chapter 7

501-26.1 **The Investigator candidate shall describe the factors related to the investigation of fires involving motor vehicles.**

501-26.2 **The Investigator candidate shall describe the differences in safety related concerns that burned vehicles pose as compared to those found in structure fires.**

501-26.3 **The Investigator candidate shall describe and identify the different types of fuels that may be involved in vehicle fires.**

26.3.1 Ignitable Liquids
26.3.1.1 Hot Surface Ignition

26.3.2 Gaseous Fuels

26.3.3 Solid Fuels

501-26.4 **The Investigator candidate shall describe and identify the different ignition sources that can be present in vehicle fires.**

26.4.1 Open Flames

26.4.2 Electrical Sources
26.4.2.1 Recreational Vehicles
26.4.2.2 Overloaded Wiring
26.4.2.3 Electrical High Resistance Connections
26.4.2.4 Electrical Short Circuits and Arcs - Electric Discharge
26.4.2.5 Arc, Carbon, Tracking
26.4.2.6 Lamp Bulbs and Filaments
26.4.2.7 External Electrical Sources Used in Vehicles

26.4.3 Hot Surfaces

26.4.4 Mechanical Sparks

26.4.5 Smoking Materials

501-26.5 **The Investigator shall identify the different types of systems that a motor vehicle may possess and their respective functions.**

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- 26.5.1 Fuel Systems
 - 26.5.1.1 Vacuum/Low-Pressure Carbureted Systems
 - 26.5.1.2 High-Pressure Fuel-Injected Systems
 - 26.5.1.3 Diesel Fuel System
 - 26.5.1.4 Natural Gas
 - 26.5.1.5 Propane Fuel
 - 26.5.1.6 Turbochargers
- 26.5.2 Emission Control System
- 26.5.3 Motor Vehicle Electrical Systems
- 26.5.4 Mechanical Power Systems
- 26.5.5 Mechanical Power Distribution
- 26.5.6 Accessories to the Mechanical Power System
- 26.5.7 Hydraulic Braking System
- 26.5.8 Windshield Washer Systems

501-26.6 ***The Investigator candidate shall identify the different body systems that can be found within or upon motor vehicles.***

- 26.6.1 Interior Finishes and Accessories
- 26.6.2 Cargo Areas

501-26.7 ***The Investigator candidate shall identify and employ the proper technique for investigating motor vehicle fires.***

- 26.7.1 Vehicle Identification
- 26.7.2 Vehicle Fire Scene History
- 26.7.3 Vehicle Particulars
- 26.7.4 Documenting the Vehicle at the Fire Scene
- 26.7.5 Documenting the Vehicle Away from the Scene

501-26.8 ***The Investigator candidate shall identify factors related to the examination of motor vehicles after they have burned.***

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- 26.8.1 General
- 26.8.2 Examination of Vehicle Systems
- 26.8.3 Switches, Handles, and Levers

501-26.9 **The Investigator candidate shall define total burns as it relates to motor vehicle fires and describe the actions that should be taken when these types of fires are encountered.**

501-26.10 **The Investigator candidate shall identify factors related to incendiary vehicle fires.**

501-26.11 **The Investigator shall identify components of the vehicle's ignition system as they relate to the fire investigation.**

501-26.12 **The Investigator candidate shall identify factors concerning vehicle fires in structures and evaluate them as a potential source of fire ignition.**

501-26.13 **The Investigator candidate shall identify and describe the factors relative to the investigation of recreational vehicle fires.**

501-26.14 **The Investigator candidate shall identify the factors related to fire investigations involving heavy equipment.**

- 26.14.1 Medium- and Heavy-Duty Trucks, and Buses
- 26.14.2 Mass Transit Vehicles
- 26.14.3 Earth-Moving Equipment
- 26.14.4 Forestry/Logging Equipment
- 26.14.5 Landfill Equipment
- 26.14.6 Agricultural Equipment

501-26.15 **The Investigator candidate shall identify the factors related to fire investigations involving self-propelled agricultural equipment and drawn implements.**

- 26.15.1 Agricultural Equipment Investigation Safety

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26.15.2 Equipment Classification and Description

26.15.3 Unique Safety Concerns

26.15.4 Unique Fire Cause Concerns

26.15.5 Fuels

26.15.6 Ignition Sources

501-26.16 ***The Investigator candidate shall identify factors related to the investigation of fires involving hybrid vehicles.***

26.16.1 Hybrid Vehicle Investigation Safety

26.16.2 Hybrid Vehicle Technology

26.16.3 Investigation of Hybrid Vehicle Fires

501-26.17 ***The Investigator candidate shall identify factors related to towing or vehicle transport as it relates to fire investigations.***

501-26.18 ***The Investigator candidate shall identify factors related to the investigation of fires involving hydrogen fueled vehicles.***

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SECTION 27

WILDFIRE INVESTIGATIONS

Annex A Explanatory Material

NFPA 1033 A.1.1 The intent of this standard applies to all fire investigation, including outside, wildland, vehicle, and structural fires.

References:

J&B, chapter 26

Kirk's, chapter 7

501-27.1 **The Investigator candidate shall identify the specialized techniques, practices, equipment, and terminology associated with the investigation of wildfires.**

501-27.2 **The Investigator candidate shall identify and describe wildfire fuels.**

27.2.1 Fuel Condition Analysis

27.2.2 Ground Fuels

27.2.2.1 Duff

27.2.2.2 Roots

27.2.3 Surface Fuels

27.2.3.1 Fine Dead Wood

27.2.3.2 Dead Leaves and Coniferous Litter

27.2.3.3 Grass

27.2.3.4 Downed logs, Stumps, and Large Limbs

27.2.3.5 Low Brush and Reproduction

27.2.4 Aerial Fuels

27.2.4.1 Tree Branches and Crowns

27.2.4.2 Tree Moss

27.2.4.3 High Brush

27.2.5 Species

27.2.6 Fuel Size

27.2.7 Fuel Moisture Content

27.2.8 Oil Content

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501-27.3 ***The Investigator candidate shall identify and describe the effects of weather on fire spread.***

- 27.3.1 Weather History
- 27.3.2 Temperature
- 27.3.3 Relative Humidity
- 27.3.4 Wind Influences
 - 27.3.4.1 Meteorological Winds
 - 27.3.4.2 Diurnal Winds
 - 27.3.4.3 Foehn Winds
 - 27.3.4.4 Fire Winds

501-27.4 ***The Investigator candidate shall identify, describe and interpret the effect of topography on fire spread.***

- 27.4.1 Slope
- 27.4.2 Aspect

501-27.5 ***The Investigator candidate shall be able to describe fire shape.***

- 27.5.1 Fire Head
- 27.5.2 Fire Flanks
- 27.5.3 Fire Heel
- 27.5.4 Factors Affecting Fire Spread
 - 27.5.4.1 Lateral Confinement
 - 27.5.4.2 Fuel Influence
 - 27.5.4.3 Suppression
- 27.5.5 Other Natural Mechanisms of Fire Spread
 - 27.5.5.1 Embers and Firebrands
 - 27.5.5.2 Fire Storms
 - 27.5.5.3 Animals

501-27.6 ***The Investigator candidate shall identify and describe indicators of a wildfire.***

- 27.6.1 Wildfire V-Shaped Patterns

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- 27.6.2 Degree of Damage
- 27.6.3 Grass Stems
- 27.6.4 Angle of Char
- 27.6.5 White Ash Deposit
- 27.6.6 Cupping
- 27.6.7 Die-Out Pattern
- 27.6.8 Exposed and Protected Fuels
- 27.6.9 Staining and Sooting
- 27.6.10 Depth of Char
- 27.6.11 Spalling
- 27.6.12 Foliage Freeze
- 27.6.13 Curling

501-27.7 ***The Investigator candidate shall identify the area of origin of a wildfire.***

- 27.7.1 Initial Area of Investigation
- 27.7.2 General Origin Area
- 27.7.3 General Origin Investigation Techniques
- 27.7.4 Specific Origin Investigation Techniques
- 27.7.5 Search Equipment

501-27.8 ***The Investigator candidate shall determine the cause of a wildfire.***

- 27.8.1 Natural Fire Cause
- 27.8.2 Human Fire Cause

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501-27.9 ***The Investigator candidate shall recognize that evidence protection, preservation, collection, and documentation at wildfires are similar to other fires.***

501-27.10 ***The Investigator candidate shall identify special safety considerations associated with investigation of wildfires.***

501-27.11 ***The Investigator candidate shall identify sources of information as prescribed in Annex B and Section B.11.***

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SECTION 28

MANAGEMENT OF COMPLEX INVESTIGATIONS

NFPA 1033 4.1 General

NFPA 1033 4.1.6 The fire investigator shall understand the organization and operation of the investigative team within an incident management system.

References: J&B, chapter

501-28.1 **The Investigator candidate shall distinguish those issues that are unique to managing investigations that are complex due to size, scope, or duration.**

- 28.1.1 Governmental Inquiry
- 28.1.2 Intent
- 28.1.3 Purpose
- 28.1.4 Interested Parties
- 28.1.5 Chapter Definitions

501-28.2 **The Investigator candidate shall describe the basic information and documents associated with complex investigations.**

501-28.3 **The Investigator candidate shall recognize the importance of communications among interested parties.**

- 28.3.1 Notice to Interested Parties
 - 28.3.1.1 Entity in Control
 - 28.3.1.2 All Interested Parties
 - 28.3.1.3 Roster of Interested Parties
 - 28.3.1.4 Notification of Changes
 - 28.3.1.5 Making Notification
 - 28.3.1.6 Content of Notification
 - 28.3.1.7 Subsequent Notifications
- 28.3.2 Meetings
 - 28.3.2.1 Preliminary Meeting
 - 28.3.2.2 Meetings as the Investigation Progresses

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- 28.3.3 Website
- 28.3.4 Additional Dissemination of Information

501-28.4 ***The Investigator candidate shall recognize the complexity of the investigation and ensure that all known interested parties are afforded an opportunity to investigate the incident and protect their respective interests, understandings or agreements.***

- 28.4.1 Purposes
- 28.4.2 Scheduling
- 28.4.3 Cost Sharing
- 28.4.4 Nondisclosure Agreements
- 28.4.5 Protocols
- 28.4.6 Information Sharing
- 28.4.7 Interviews
- 28.4.8 Amendments to Agreements
- 28.4.9 Disagreements

501-28.5 ***The Investigator candidate shall identify and describe the components of managing a complex investigation.***

- 28.5.1 Organizational Models
- 28.5.2 Control of the Site and Scene
 - 28.5.2.1 Securing the Site and Scene
 - 28.5.2.2 Delegation of Control
 - 28.5.2.3 Transfer of Control
 - 28.5.2.4 Site and Scene Access
 - 28.5.2.5 Site-Specific Restrictions or Requirements
 - 28.5.2.6 Scene Integrity
 - 28.5.2.7 Release of Information

501-28.6 ***The Investigator candidate shall recognize the unique components of handling evidence of a complex investigation.***

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- 28.6.1 Evidence Control
 - 29.6.1.1 Evidence Custodian
 - 29.6.1.2 Interested Party Responsibility
- 28.6.2 Evidence Removal from the Scene
- 28.6.3 Evidence Storage
- 28.6.4 Evidence Inspections
 - 28.6.4.1 Nondestructive Inspections
 - 28.6.4.2 Destructive Inspections
 - 28.6.4.3 Testing of Evidence

501-28.7 ***The Investigator candidate shall identify logistical support needs involving the complex investigation.***

- 28.7.1 Transportation
- 28.7.2 Equipment
- 28.7.3 Investigation Site Security
- 28.7.4 Decontamination
- 28.7.5 Environmental
- 28.7.6 Communications
- 28.7.7 Sanitary and Comfort Needs
- 28.7.8 Trash Disposal and Removal
- 28.7.9 Snow and Ice Removal
- 28.7.10 Lighting
- 28.7.11 Evidence Storage

501-28.8 ***The Investigator candidate shall distinguish the unique characteristics of safety at the complex investigation site.***

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SECTION 29

MARINE FIRE INVESTIGATION

Annex A Explanatory Material

NFPA 1033 A.1.1 The intent of this standard applies to all fire investigation, including outside, wildland, vehicle, and structural fires.

References:

J&B, chapter 28

Kirk's, chapter 7

501-29.1 **The Investigator candidate shall identify the factors related to the investigations of fires involving recreational boats.**

501-29.2 **The Investigator candidate shall define the following terms as they relate to Power Boat and Sailboat terminology.**

29.2.1 Accommodation space

29.2.2 Adrift

29.2.3 Afloat

29.2.4 Aft

29.2.5 Aground

29.2.6 Beam

29.2.7 Below

29.2.8 Bilge

29.2.9 Boat

29.2.10 Bulkhead

29.2.11 Cabin

29.2.12 Capsize

29.2.13 Chain plate

29.2.14 Deck

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- 29.2.15 Dock
- 29.2.16 Dorade Vent
- 29.2.17 Fender
- 29.2.18 Forward
- 29.2.19 Freeboard
- 29.2.20 Galley
- 29.2.21 Gear
- 29.2.22 Gunwale
- 29.2.23 Hatch
- 29.2.24 Hold
- 29.2.25 Hull
- 29.2.26 Inboard
- 29.2.27 Inboard/Out-Drive (I/O)
- 29.2.28 Outboard
- 29.2.29 Overboard
- 29.2.30 Port
- 29.2.31 Rub Rail
- 29.2.32 Shore Power
- 29.2.33 Shroud
- 29.2.34 Sole
- 29.2.35 Starboard
- 29.2.36 Superstructure

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- 29.2.37 Topside
- 29.2.38 Transom
- 29.2.39 Underway
- 29.2.40 Vessel
- 29.2.41 Waterline

501-29.3 ***The Investigator candidate shall recognize the importance of boat investigation safety.***

- 29.3.1 Safety Assessment
- 29.3.2 Inspection of Boats on Land
- 29.3.3 Inspection of Boats Afloat
- 29.3.4 Underwater Inspections
- 29.3.5 Specific Safety Concerns
 - 29.3.5.1 Confined Spaces
 - 29.3.5.1.1 Automatic Fire Suppression Systems Inactive/Deactivated
 - 29.3.5.2 Airborne Particulates
 - 29.3.5.3 Identify and Assess Energy Sources
 - 29.3.5.3.1 Batteries
 - 29.3.5.3.2 Inverters
 - 29.3.5.3.3 Shore Power
 - 29.3.5.4 Fuel Leaks
 - 29.3.5.5 Sewage Holding Tank
 - 29.3.5.6 Hydrogen Gas
 - 29.3.5.7 Other Hydrocarbon Contaminants
 - 29.3.5.8 Stability
 - 29.3.5.9 Damage to the Structure of the Boat
 - 29.3.5.10 Wharves, Docks, and Jetties
 - 29.3.5.11 Submerged Boat
 - 29.3.5.12 Visual Distress Signals and Pyrotechnics
- 29.3.6 Openings

501-29.4 ***The Investigator candidate shall identify the different marine systems and functions.***

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- 29.4.1 Fuel Systems: Propulsion and Auxiliary
 - 29.4.1.1 Vacuum/Low Pressure Carbureted
 - 29.4.1.2 High-Pressure/Marine Fuel Injection Systems, Including Return Systems
 - 29.4.1.3 Diesel
- 29.4.2 Fuel Systems: Cooking and Heating
 - 29.4.2.1 Liquefied Petroleum Gases
 - 29.4.2.2 Compressed Natural Gas
 - 29.4.2.3 Alcohol
 - 29.4.2.4 Solid Fuels
 - 29.4.2.5 Diesel
- 29.4.3 Turbochargers/Super Chargers
- 29.4.4 Exhaust System
 - 29.4.4.1 Dry Exhaust Systems
 - 29.4.4.2 Wet Exhaust Systems
 - 29.4.4.3 De-watered Exhaust Systems
- 29.4.5 Electrical Systems
 - 29.4.5.1 Alternating Current (AC)
 - 29.4.5.2 Direct Current (DC)
- 29.4.6 Engine Cooling Systems
- 29.4.7 Ventilation
- 29.4.8 Transmissions
 - 29.4.8.1 Mechanical Gear Transmissions
 - 29.4.8.2 Hydraulic-Geared Transmissions
- 29.4.9 Accessories

501-29.5 ***The Investigator candidate shall identify the exterior construction of the vessel.***

- 29.5.1 Hull Construction
- 29.5.2 Superstructure Construction Material
- 29.5.3 Deck
- 29.5.4 Exterior Accessories

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501-29.6 **The Investigator candidate shall identify the interior construction of the vessel.**

- 29.6.1 Construction Materials

- 29.6.2 Finishes
 - 29.6.2.1 Accommodation Furnishings
 - 29.6.2.2 Interior Accessories
 - 29.6.2.3 Engine/Machinery Compartments
 - 29.6.2.4 Flammable/Explosive Vapor Detectors
 - 29.6.2.5 Storage and Holds
 - 29.6.2.6 Fuel Tanks

501-29.7 **The Investigator candidate shall identify the propulsion system of the vessel.**

- 29.7.1 Electric Systems

- 29.7.2 Fuels for Boats with Motorized Propulsion Systems
 - 29.7.2.1 Fuel Systems
 - 29.7.2.1.1 Engines
 - 29.7.2.1.1.1 Outboard Engines (Outboard Motors)
 - 29.7.2.1.1.2 Inboard Gasoline Engines
 - 29.7.2.1.1.3 Diesel Engines
 - 29.7.2.1.1.4 Propulsion System Fluids
 - 29.7.2.1.2 Inboard Gasoline Engines
 - 29.7.2.1.3 Diesel Engines
 - 29.7.2.1.4 Propulsion System Fluids
 - 29.7.2.2 Appliance Fuel Systems
 - 29.7.2.3 Electric Generators

- 29.7.3 Other Fuel Systems Used for Propulsion

501-29.8 **The Investigator candidate shall identify common ignition sources found in marine vessels.**

- 29.8.1 Open Flames

- 29.8.2 Electrical Sources
 - 29.8.2.1 Overloaded Wiring
 - 29.8.2.2 Electrical Short Circuiting and Arcs
 - 29.8.2.3 Electrical Connections
 - 29.8.2.4 Lightning
 - 29.8.2.5 Static Electricity and Incendive Arcs

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- 29.8.3 Hot Surfaces
 - 29.8.3.1 Manifolds
 - 29.8.3.2 Exhaust Systems
 - 29.8.3.3 Cooking Surfaces
 - 29.8.3.4 Heating Systems
- 29.8.4 Mechanical
 - 29.8.4.1 Bearing Failures
 - 29.8.4.2 Friction
- 29.8.5 Smoking Materials

501-29.9 ***The Investigator candidate shall describe proper documentation of the boat fire scene.***

- 29.9.1 On Land
- 29.9.2 In Water
 - 29.9.2.1 Moored
 - 29.9.2.2 Anchored and Underway
 - 29.9.2.3 Underwater
- 29.9.3 Boat Identification
 - 29.9.3.1 Hull Identification Number (HIN)
 - 29.9.3.2 Registration Numbers
 - 29.9.3.3 U.S. Coast Guard Documentation Numbers
 - 29.9.3.4 Boat Name and Hailing Port
 - 29.9.3.5 Boat History
 - 29.9.3.6 Fire Scene History
 - 29.9.3.6.1 Actions Before the Fire
 - 29.9.3.6.2 Actions During the Fire
 - 29.9.3.6.3 Actions After the Fire
- 29.9.4 Boat Particulars

501-29.10 ***The Investigator candidate shall identify the steps of a proper boat examination.***

- 29.10.1 General
- 29.10.2 Examination of Boat Systems

501-29.11 ***The Investigator candidate shall describe marine fire investigations of boats in structures.***

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501-29.12 ***The Investigator candidate shall describe legal considerations related to marine fire investigations.***

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SECTION 30

PRACTICAL EXERCISES

4.7 Presentations.

Duties shall include the presentation of findings to those individuals not involved in the actual investigations.

NFPA 1033 4.7.1 Prepare a written report, given investigative findings, so that the report accurately reflects the facts, data, and scientific principles on which the investigator relied; clearly identifies and expresses the investigator's opinions and conclusions; and contains the reasoning by which each opinion or conclusion was reached in order to meet the requirements of the intended audience(s).

(A) Requisite Knowledge. Elements of writing, typical components of a written report, and types of audiences and their respective needs or requirements.

(B) Requisite Skills. Writing skills, ability to analyze information and determine the reader's needs or requirements.

NFPA 1033 4.7.2 Express investigative findings verbally, given investigative findings, notes, a time allotment, and a specific audience, so that the information is accurate, the presentation is completed within the allotted time, and the presentation includes only need-to-know information for the intended audience.

(A) Requisite Knowledge. Types of investigative findings, the informational needs of various types of audiences, and the impact of releasing information.

(B) Requisite Skills. Communication skills and ability to determine audience needs and correlate findings.

NFPA 1033 4.7.3 Testify during legal proceedings, given investigative findings, contents of reports, and consultation with legal counsel, so that all pertinent investigative information and evidence are presented clearly and accurately and the investigator's demeanor and attire are appropriate to the proceedings.

(A) Requisite Knowledge. Types of investigative findings, types of legal proceedings, professional demeanor requirements, and an understanding of due process and legal proceedings.

(B) Requisite Skills. Communication and listening skills and ability to differentiate facts from opinion and determine accepted procedures, practices, and etiquette during legal proceedings.

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The Investigator candidate shall demonstrate proficiency in all required skills in the TCFP Fire Investigator Skills Manual.

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13.37 Tex. Administrative Code, Part 13, new Chapter 463, Advisory Committees.



Texas Commission on Fire Protection Agenda Item Summary

MEETING: Commission
DATE: 04/21/2022

Agenda Item #: 13

Agenda Title: New Chapter 463, Advisory Committees

Action to be taken: Discussion and possible publication

Origin of Item: Commissioners & Staff

1. INTRODUCTION/PURPOSE

The purpose of the item is for discussion per the recommendation of the commission's Sunset Report regarding its advisory committees.

2. DESCRIPTION/ JUSTIFICATION

The proposed new chapter will re-establish all agency advisory committees by rule and include the purpose and tasks, the manner in which the committees will report to the commission, annually evaluate each advisory committee's work, usefulness, cost and assign an abolishment date for each committee.

3. BUDGET IMPACT

No budget impact is anticipated

4. TIMELINE CONSIDERATIONS

This proposal is for possible publication

5. RECOMMENDATION

Propose for publication

6. REFERENCES

Title 37, new Chapter 463, Advisory Committees

CHAPTER 463
ADVISORY COMMITTEES
SUBCHAPTER A
PRACTICE AND PROCEDURES

§463.1. PURPOSE AND OBJECTIVES.

(a) The Texas Commission on Fire Protection (TCFP) is organized to aid in the protection of lives and property of Texas citizens through the development and enforcement of recognized professional standards for individuals and the fire service. To achieve the goals of TCFP, each committee will evaluate, make recommendations, and issue reports to the Commission on any issue in the committee's purview. Committees shall represent TCFP in advocacy for or opposition to projects and issues upon the specific authority of the Commission or such authority as may be clearly granted upon general powers delegated by the Commission to that committee.

(b) The commission has established a Fire Fighter Advisory Committee, Curriculum and Testing Committee, and Health and Wellness Committee. The committee's purpose, eligibility, terms, and meeting procedures are identified in the following Subchapters.

§463.3. GENERAL.

(a) The Chairperson of the Commission, by and with the approval of the Commission, shall approve all committees and appoint all Committee Chairs. Committee Chairs are responsible for selecting committee members, which are then presented to the Commission for final approval.

(b) The Chairperson of the Commission, with the approval of the Commission, may convene additional committees that are deemed to be in the best interest of the Texas Commission on Fire Protection (TCFP) and its mission.

(c) All committees shall be subject to, and governed by, these bylaws.

(d) Committees shall nominate from among its members a Committee Chair. The Chairperson of the Commission, by and with the approval of the Commission, will appoint the chairs, who serve at the pleasure of the Commission and may remain in this position for two (2) years before reappointment.

(e) Committees should be composed of a reasonable odd number of members, with a minimum of 9 and a maximum of 15 members.

(f) The committees shall meet at least twice each calendar year at the call of either the committee chair or the Commission.

(g) All committees shall be reviewed for relevance by the Commission every odd year and will either be renewed or discontinued.

(h) Committee Chairs may form ad hoc committees when in the judgment of the Chair it will enhance or provide guidance for a specific purpose and time limit/period. Committee Chairs may determine committee selection, but membership is limited only to the ad hoc committee and will disband once the purpose has been met.

(i) Every October each Committee Chair will present to the Commission an end of year status report.

CHAPTER 463
ADVISORY COMMITTEES
SUBCHAPTER B
FIREFIGHTER ADVISORY

§463.201. PURPOSE.

The Firefighter advisory committees' purpose is to assist the commission in matters relating to fire protection personnel, fire departments, along with suggested guidance to volunteer firefighters and volunteer fire departments. The committee shall periodically review commission rules relating to fire protection personnel, fire departments, other firefighters, and organizations subject to the regulation of TCFP and recommend changes in the rules when applicable. The committee shall be composed of nine members appointed by the commission. Six members of the committee must be certified fire protection personnel who collectively represent various areas in the field of fire protection. Three members of the committee must be certified instructors of fire protection personnel. At least one member of the committee must be a volunteer fire chief or volunteer firefighter.

§463.203. ELIGIBILITY.

(a) Any person, association, corporation, partnership, or other entity having an interest in the above-recited objectives shall be eligible for membership.

(b) Committee composition should have representatives from each fire protection stakeholder group, with consideration on department size, region, and mission.

(c) Interested candidates may apply for committee appointments between Jan 1 – Mar 31 of each year. The list of candidates will then be presented to the Commission during their April meeting for consideration. Each October, the Commission will appoint committee members and select alternates at the same time in the event committee members cannot fulfill their tenure and/or replacement members are needed. Terms shall begin in January following approval.

§463.205. TERMS.

One-third of committee members should be appointed annually to serve six (6) year terms of office, with the intent to stagger and to ensure continuity of membership from year to year. Committee members serve six-year terms and may serve consecutively; however, after a second six-year term, the member will not be eligible for another term until after a lapse of two years.

§463.207. MEETINGS.

(a) Committee Chairs, or a designated Committee member when the Chair is unavailable, shall conduct all committee meetings.

(b) Committee meetings should be held in Austin, Texas. Committee meetings cannot be held outside of the state of Texas.

(c) Committees shall post meeting times, locations, and agendas with the Secretary of State in accordance with the Open Meetings Act, Texas Government Code Chapter 551. Committees shall keep minutes in accordance with the Open Meetings Act. When feasible, Committees may allow members of the public to participate in a meeting from a remote location by videoconference call pursuant to Texas Government Code §551.127(k) to encourage access and participation throughout the state.

(d) Committee chairs may limit discussion times if in the opinion of the Chair it is warranted. Participants who fail to follow the above rules may be subject to removal from the meeting.

(e) Committees may meet by videoconference calls, but only if they follow requirements of Texas Government Code §551.127, but still must have a physical location for the public to attend. The member presiding over the meeting must attend in person, while other members and staff may attend remotely.

§463.209. LIMITATIONS OF POWERS.

No action by any Committee Chair or its members shall be binding upon, or constitute an expression of, the policy of TCFP until it has been approved or ratified by the Commission. It shall be the function of the committees to evaluate, to make recommendations, and to report only to the Commission. Committees shall represent TCFP in advocacy for or opposition to projects and issues upon the specific authority of the Commission or such authority as may be clearly granted upon general powers delegated by the Commission to that committee.

§463.211. TESTIMONY.

Once committee action has been approved by the Chairperson of the Commission, and approved by the Commission, testimony and or presentations may be given and made before stakeholders, governmental agencies, or any other entity as deemed appropriate by the Chairperson of the Commission.

§463.213. EXPULSION.

After written notice and a hearing before the Commission, any Committee member may be expelled from a Committee for conduct that is unbecoming or prejudicial to the aims or repute of TCFP or expelled for lack of attendance to more than half of the scheduled Committee meetings in a calendar year.

CHAPTER 463
ADVISORY COMMITTEES
SUBCHAPTER C
CURRICULUM AND TESTING

§463.301. PURPOSE.

The purpose of the Curriculum and Testing Committee is to develop and review curricula, test questions, procedures, and the testing process leading to certifications based on applicable NFPA standards while maintaining compliance with the accreditation process as required by the International Fire Service Accreditation Congress (IFSAC) when applicable to paid firefighters. Meetings determining final exam development and review (test questions) should be closed meetings per Texas Government Code §551.088 and comply with the requirements of the Open Meetings Act, Texas Government Code Chapter 551.

§463.303. ELIGIBILITY.

(a) Any person, association, corporation, partnership, or other entity having an interest in the above-recited objectives shall be eligible for membership.

(b) Committee composition should have representatives from each fire protection stakeholder group, with consideration on department size, region, and mission.

(c) Interested candidates may apply for committee appointments between Jan 1 – Mar 31 of each year. The list of candidates will then be presented to the Commission during their April meeting for consideration. Each October, the Commission will appoint committee members and select alternates at the same time in the event committee members cannot fulfill their tenure and/or replacement members are needed. Terms shall begin in January following approval.

§463.305. TERMS.

One-third of committee members should be appointed annually to serve six (6) year terms of office, with the intent to stagger and to ensure continuity of membership from year to year. Committee members serve six-year terms and may serve consecutively; however, after a second six-year term, the member will not be eligible for another term until after a lapse of two years.

§463.307. MEETINGS.

(a) Committee Chairs, or a designated Committee member when the Chair is unavailable, shall conduct all committee meetings.

(b) Committee meetings should be held in Austin, Texas. Committee meetings cannot be held outside of the state of Texas.

(c) Committees shall post meeting times, locations, and agendas with the Secretary of State in accordance with the Open Meetings Act, Texas Government Code Chapter 551. Committees shall keep minutes in accordance with the Open Meetings Act. When feasible, Committees may allow

members of the public to participate in a meeting from a remote location by videoconference call pursuant to Texas Government Code §551.127(k) to encourage access and participation throughout the state.

(d) Committee chairs may limit discussion times if in the opinion of the Chair it is warranted. Participants who fail to follow the above rules may be subject to removal from the meeting.

(e) Committees may meet by videoconference calls, but only if they follow requirements of Texas Government Code §551.127, but still must have a physical location for the public to attend. The member presiding over the meeting must attend in person, while other members and staff may attend remotely.

§463.309. LIMITATIONS OF POWERS.

No action by any Committee Chair or its members shall be binding upon, or constitute an expression of, the policy of TCFP until it has been approved or ratified by the Commission. It shall be the function of the committees to evaluate, to make recommendations, and to report only to the Commission. Committees shall represent TCFP in advocacy for or opposition to projects and issues upon the specific authority of the Commission or such authority as may be clearly granted upon general powers delegated by the Commission to that committee.

§463.311. TESTIMONY.

Once committee action has been approved by the Chairperson of the Commission, and approved by the Commission, testimony and or presentations may be given and made before stakeholders, governmental agencies, or any other entity as deemed appropriate by the Chairperson of the Commission.

§463.313. EXPULSION.

After written notice and a hearing before the Commission, any Committee member may be expelled from a Committee for conduct that is unbecoming or prejudicial to the aims or repute of TCFP or expelled for lack of attendance to more than half of the scheduled Committee meetings in a calendar year.

CHAPTER 463
ADVISORY COMMITTEES
SUBCHAPTER D
HEALTH AND WELLNESS

§463.401. PURPOSE.

The purpose of the Health & Wellness committee is to provide factual data and practical guidance regarding key areas of health and wellness to educate, inform, and facilitate the development of action guides for individuals and departments.

§463.403. ELIGIBILITY.

(a) Any person, association, corporation, partnership, or other entity having an interest in the above-recited objectives shall be eligible for membership.

(b) Committee composition should have representatives from each fire protection stakeholder group, with emphasis on department size, region, and mission.

(c) Interested candidates may apply for committee appointments between Jan 1 – Mar 31 of each year. The list of candidates will then be presented to the Commission during their April meeting for consideration. Each October, the Commission will appoint committee members and select alternates at the same time in the event committee members cannot fulfill their tenure and/or replacement members are needed. Terms shall begin in January following approval.

§463.405. TERMS.

One-third of committee members should be appointed annually to serve six (6) year terms of office, with the intent to stagger and to ensure continuity of membership from year to year. Committee members serve six-year terms and may serve consecutively; however, after a second six-year term, the member will not be eligible for another term until after a lapse of two years.

§463.407. MEETINGS.

(a) Committee Chairs, or a designated Committee member when the Chair is unavailable, shall conduct all committee meetings.

(b) Committee meetings should be held in Austin, Texas. Committee meetings cannot be held outside of the state of Texas.

(c) Committees shall post meeting times, locations, and agendas with the Secretary of State in accordance with the Open Meetings Act, Texas Government Code Chapter 551. Committees shall keep minutes in accordance with the Open Meetings Act. When feasible, Committees may allow members of the public to participate in a meeting from a remote location by videoconference call pursuant to Texas Government Code §551.127(k) to encourage access and participation throughout the state.

(d) Committee chairs may limit discussion times if in the opinion of the Chair it is warranted. Participants who fail to follow the above rules may be subject to removal from the meeting.

(e) Committees may meet by videoconference calls, but only if they follow requirements of Texas Government Code §551.127, but still must have a physical location for the public to attend. The member presiding over the meeting must attend in person, while other members and staff may attend remotely.

§463.409. LIMITATIONS OF POWERS.

No action by any Committee Chair or its members shall be binding upon, or constitute an expression of, the policy of TCFP until it has been approved or ratified by the Commission. It shall be the function of the committees to evaluate, to make recommendations, and to report only to the Commission. Committees shall represent TCFP in advocacy for or opposition to projects and issues upon the specific authority of the Commission or such authority as may be clearly granted upon general powers delegated by the Commission to that committee.

§463.411. TESTIMONY.

Once committee action has been approved by the Chairperson of the Commission, and approved by the Commission, testimony and or presentations may be given and made before stakeholders, governmental agencies, or any other entity as deemed appropriate by the Chairperson of the Commission.

§463.413. EXPULSION.

After written notice and a hearing before the Commission, any Committee member may be expelled from a Committee for conduct that is unbecoming or prejudicial to the aims or repute of TCFP or expelled for lack of attendance to more than half of the scheduled Committee meetings in a calendar year.

14. Proposed rule review for the following:

1. 37 TAC, Chapter 401, Administrative Practice and Procedure

CHAPTER 401
ADMINISTRATIVE PRACTICE AND PROCEDURE
SUBCHAPTER A
GENERAL PROVISIONS AND DEFINITIONS

§401.1. Purpose and Scope.

(a) Purpose. The purpose of this chapter is to provide a system of procedures for practice before the commission that will promote the just and efficient disposition of proceedings and public participation in the decision-making process. The provisions of this chapter shall be given a fair and impartial construction to attain these objectives.

(b) Scope.

(1) This chapter shall govern the initiation, conduct, and determination of proceedings required or permitted by law in matters regulated by the commission, whether instituted by order of the commission or by the filing of an application, complaint, petition, or any other pleading.

(2) This chapter shall not be construed so as to enlarge, diminish, modify, or otherwise alter the jurisdiction, powers, or authority of the commission, its staff, or the substantive rights of any person.

(3) This chapter shall not apply to matters related solely to the internal personnel rules and practices of this agency.

(4) To the extent that any provision of this chapter is in conflict with any statute or substantive rule of the commission, the statute or substantive rule shall control.

(5) In matters referred to the State Office of Administrative Hearings (SOAH), hearings or other proceedings are governed by 1 TAC Chapter 155 (relating to Rules of Procedures) adopted by SOAH. To the extent that any provision of this chapter is in conflict with SOAH Rules of Procedures, the SOAH rules shall control.

§401.3. Definitions.

The following terms, when used in this chapter, shall have the following meanings, unless the context or specific language of a section clearly indicates otherwise:

(1) Advisory Committee--An advisory committee that is required to assist the commission in its rule-making function and whose members are appointed by the commission pursuant to Government Code, §419.008, or other law.

(2) Agency--Includes the commission, the executive director, and all divisions, departments, and employees thereof.

(3) APA--Government Code, Chapter 2001, The Administrative Procedure Act, as it may be amended from time to time.

(4) Applicant--A person, including the commission staff, who seeks action from the commission by written application, petition, complaint, notice of intent, appeal, or other pleading that initiates a proceeding.

- (5) Application--A written request seeking a license from the commission, petition, complaint, notice of intent, appeal, or other pleading that initiates a proceeding.
- (6) Authorized Representative--A person who enters an appearance on behalf of a party, or on behalf of a person seeking to be a party or otherwise to participate in a commission proceeding.
- (7) Chairman--The commissioner who serves as presiding officer of the commission pursuant to Government Code, §419.007.
- (8) Commission--The Texas Commission on Fire Protection.
- (9) Commissioner--One of the appointed members of the decision-making body defined as the commission.
- (10) Complainant--Any person, including the commission's legal staff, who files a signed written complaint intended to initiate a proceeding with the commission regarding any act or omission by a person subject to the commission's jurisdiction.
- (11) Contested Case--A proceeding, including but not restricted to, the issuance of certificates, licenses, registrations, permits, etc., in which the legal rights, duties, or privileges of a party are to be determined by the agency after an opportunity for adjudicative hearing.
- (12) Days--Calendar days, not working days, unless otherwise specified in this chapter or in the commission's substantive rules.
- (13) Division--An administrative unit for regulation of specific activities within the commission's jurisdiction.
- (14) Executive Director--The executive director appointed by the commission pursuant to Government Code, §419.009.
- (15) Hearings Officer--An administrative law judge on the staff of the State Office of Administrative Hearings assigned to conduct a hearing and to issue a proposal for decision, including findings of fact and conclusions of law, in a contested case pursuant to Government Code, Chapter 2003.
- (16) License--Includes the whole or part of any agency permit, certificate, approval, registration, license, or similar form of permission required or permitted by law.
- (17) Licensee--A person who holds an agency permit, certificate, approval, registration, license, or similar form of permission required or permitted by law.
- (18) Licensing--Includes the agency process respecting the granting, denial, renewal, revocation, suspension, annulment, withdrawal, or amendment of a license.
- (19) Party--Each person or agency named or admitted as a party in a contested case.
- (20) Person--Any individual, partnership, corporation, association, governmental subdivision, or public or private organization of any character other than the commission.
- (21) Pleading--A written document submitted by a party, or a person seeking to participate in a proceeding, setting forth allegations of fact, claims, requests for relief, legal argument, and/or other matters relating to a commission proceeding.
- (22) Preliminary Staff Conference—A conference with commission staff for the purpose of showing compliance with all requirements of law, or to discuss informal disposition of any complaint or contested case.

(23) Presiding Officer--The chairman, the acting chairman, the executive director, or a duly authorized hearings officer.

(24) Proceeding--Any hearing, investigation, inquiry, or other fact-finding or decision-making procedure, including the denial of relief or the dismissal of a complaint.

(25) Respondent--A person under the commission's jurisdiction against whom any complaint or appeal has been filed or who is under formal investigation by the commission.

(26) SOAH—State Office of Administrative Hearings

§401.5. Delegation of Authority.

All decisions to suspend, revoke, or deny an application for any certificate or approval, to reprimand or place on probation the holder of such certificate or approval, or to impose an order for restitution, remedial action, or administrative penalties pursuant to Government Code, Chapter 419, shall be made by the executive director or designee.

§401.7. Construction.

(a) A provision of a rule referring to the commission, the executive director, or a provision referring to the presiding officer, is construed to apply to the commission or chairman if the matter is within the jurisdiction of the commission, to the executive director if the matter is within the jurisdiction of the executive director.

(b) Unless otherwise provided by law, any duty imposed on the commission, the chairman, or the executive director may be delegated to a duly authorized representative. In such case, the provisions of any rule referring to the commission, the chairman, or the executive director, shall be construed to also apply to the duly authorized representative of the commission, the chairman, or the executive director.

§401.9. Records of Official Action.

All official acts of the commission or the executive director shall be evidenced by a recorded or written record. Official action of the commission or the executive director shall not be bound or prejudiced by any informal statement or opinion made by any member of the commission, the executive director, or the employees of the agency.

§401.11. Conduct of Commission and Advisory Meetings.

(a) Statements concerning items which are part of the commission's posted agenda. Persons who desire to make presentations to the commission concerning matters on the agenda for a scheduled commission or fire fighter advisory committee meeting shall complete registration cards which shall be made available at the entry to the place where the scheduled meeting is to be held. The registration cards shall include blanks in which all of the following information must be disclosed:

- (1) name of the person making a presentation;
- (2) a statement as to whether the person is being reimbursed for the presentation; and if so, the name of the person or entity on whose behalf the presentation is made;
- (3) a statement as to whether the presenter has registered as a lobbyist in relationship to the matter in question;
- (4) a reference to the agenda item which the person wishes to discuss before the commission;

(5) an indication as to whether the presenter wishes to speak for or against the proposed agenda item; and

(6) a statement verifying that all factual information to be presented shall be true and correct to the best of the knowledge of the speaker.

(b) Discretion of the presiding officer. The presiding officer of the commission or the advisory committee, as the case may be, shall have discretion to employ any generally recognized system of parliamentary procedures, including, but not limited to Robert's Rules of Order for the conduct of commission or committee meetings, to the extent that such parliamentary procedures are consistent with the Texas Open Meetings Act or other applicable law and these rules. The presiding officer shall also have discretion in setting reasonable limits on the time to be allocated for each matter on the agenda of a scheduled commission meeting or advisory committee meeting and for each presentation on a particular agenda item. If several persons wish to address the commission or advisory committee on the same agenda item, it shall be within the discretion of the chair to request that persons who wish to address the same side of the issue coordinate their comments, or limit their comments to an expression in favor of views previously articulated by persons speaking on the same side of an issue.

(c) Requests for issues to be placed on an agenda for discussion. Persons who wish to bring issues before the commission shall first address their request in writing to the Executive Director. Such requests should be submitted at least 15 days in advance of commission or fire fighter advisory committee meetings. The decision whether to place a matter on an agenda for discussion before the full commission, or alternatively before the fire fighter advisory committee, or with designated staff members, shall be within the discretion of the appropriate presiding officer.

§401.13. Computation of Time.

(a) Computing Time. In computing any period of time prescribed or allowed by these rules, by order of the Agency, or by any applicable statute, the period shall begin on the day after the act, event, or default in controversy and conclude on the last day of such computed period, unless it be a Saturday, Sunday, or a legal holiday, in which event, the period runs until the end of the next day which is neither a Saturday, Sunday, nor a legal holiday. A party or attorney of record notified under §401.61 of this title (relating to Record) is deemed to have been notified on the date which notice is sent.

(b) Extensions. Unless otherwise provided by statute, the time for filing any pleading, except a notice of protest, may be extended by order of the executive director or designee, upon the following conditions:

(1) A written motion must be duly filed with the executive director or designee prior to the expiration of the applicable period of time allowed for such filings.

(2) The written motion must show good cause for such extension and that the need is not caused by the neglect, indifference, or lack of diligence on the part of the movant.

(3) A copy of any such motion shall be served upon all other parties of record to the proceeding contemporaneously with the filing thereof.

§401.15. Agreements To Be in Writing.

(a) Unless precluded by law, informal disposition may be made of any contested case by stipulation, agreed settlement, consent order, or default.

(b) No stipulation or agreement between the parties, their attorneys or representatives, with regard to any matter involved in any proceeding before the Agency, shall be enforced unless it shall have been reduced to writing and signed by the parties or their authorized representatives, or unless it shall have been dictated into the record by them during the course of a hearing, or incorporated in an order bearing their written approval. This rule does not limit a party's ability to waive, modify, or stipulate any right or privilege afforded by these rules, unless precluded by law.

CHAPTER 401
ADMINISTRATIVE PRACTICE AND PROCEDURE
SUBCHAPTER B
RULEMAKING PROCEEDINGS

§401.17. Requirements.

Except for the requirements of mandatory rule development by the fire fighter advisory committee provided for by law, the procedure for rulemaking is governed by Subchapter B of the Administrative Procedure Act (APA).

§401.19. Petition for Adoption of Rules.

- (a) Any person may petition the commission requesting the adoption of a new rule or an amendment to an existing rule as authorized by the APA, §2001.021.
- (b) Petitions shall be sent to the executive director. Petitions shall be deemed sufficient if they contain:
- (1) the name and address of the person or entity on whose behalf the application is filed;
 - (2) specific reference to the existing rule which is proposed to be changed, amended, or repealed;
 - (3) the exact wording of the new, changed, or amended proposed rule with new language underlined and deleted language dashed out;
 - (4) the proposed effective date; and
 - (5) a justification for the proposed action set out in narrative form with sufficient particularity to inform the commission and any other interested person of the reasons and arguments on which the petitioner is relying.
- (c) The executive director shall direct that the petition for adoption of rules be placed on the next agenda for discussion by the commission or the fire fighter advisory committee with subject matter jurisdiction in accordance with §401.11 of this title (relating to Conduct of Commission and Advisory Meetings).
- (d) A request for clarification of a rule shall be treated as a petition for a rule change. The commission staff may request submission of additional information from the applicant to comply with the requirements of subsection (b) of this section.

CHAPTER 401
ADMINISTRATIVE PRACTICE AND PROCEDURE
SUBCHAPTER C
EXAMINATION APPEALS PROCESS

§401.21. Examination Challenge.

(a) An examinee who seeks to challenge the failure of an examination must submit a written request to the executive director or his designee to discuss informal disposition of the complaint(s).

(b) An examination may be challenged only on the basis of examination content, failure to comply with commission rules by a certified training facility, or problems in the administration of the examination.

(c) The written request must identify the examinee, the specific examination taken, the date of the examination, and the basis of the appeal.

(d) An examinee who challenges the content of an examination must identify the subject matter of the question(s) challenged and is not entitled to review the examination due to the necessity of preserving test security.

(e) The request must be submitted within 30 days from the date the grade report is posted on the website.

(f) Commission staff shall schedule a preliminary staff conference with the applicant in accordance with §401.41 of this title (relating to Preliminary Staff Conference) to discuss the challenge within 30 days of the request or as soon as practical. The examinee may accept or reject the settlement recommendations of the commission staff. If the examinee rejects the proposed agreement, the examinee must request in writing a formal administrative hearing as described in Subchapter F of this chapter (relating to Contested Cases) within 30 days of the action complained of.

§401.23. Examination Waiver Request.

(a) An individual who is required to take a commission examination may petition the commission for a waiver of the examination if the person's certificate or eligibility expired because of a good faith clerical error on the part of the individual or an employing entity.

(b) The waiver request must include a sworn statement together with any supporting documentation that evidences the applicant's good faith efforts to comply with commission requirements and that failure to comply was due to circumstances beyond the control of the certificate holder or applicant.

(c) Commission staff shall schedule a preliminary staff conference with the applicant in accordance with §401.41 of this title (relating to Preliminary Staff Conference) to discuss the waiver request within 30 days of the request, or as soon as practical. The applicant may accept or reject the settlement recommendations of the commission staff. If the examinee rejects the proposed agreement, the applicant must request in writing a formal administrative hearing as described in Subchapter F of this chapter (relating to Contested Cases) within 30 days of the action complained of.

CHAPTER 401
ADMINISTRATIVE PRACTICE AND PROCEDURE
SUBCHAPTER D
DISCIPLINARY PROCEEDINGS

§401.31. Disciplinary Proceedings in Contested Cases.

(a) If the commission staff recommends administrative penalties or any other sanction for alleged violations of laws or rules, the respondent may request a preliminary staff conference.

(b) Commission staff shall schedule a preliminary staff conference with the applicant to discuss the alleged violations of laws or rules within 30 days of the request or as soon as practical. The respondent may accept or reject the settlement recommendations of the commission staff. If the respondent rejects the proposed agreement, the respondent must request in writing a formal administrative hearing as described in Subchapter F of this chapter (relating to Contested Cases) within 30 days of the notice of the staff's recommended disciplinary action.

CHAPTER 401
ADMINISTRATIVE PRACTICE AND PROCEDURE
SUBCHAPTER E
PREHEARING PROCEEDINGS

§401.41. Preliminary Staff Conference.

(a) General. After receipt of notice of alleged violations of laws or rules administered or enforced by the commission and its staff, the holder of the certificate, applicant or regulated entity may request a conference with the commission's staff for the purpose of showing compliance with all requirements of law, or to discuss informal disposition of any complaint or contested case.

(b) Representation. The certificate holder, applicant or regulated entity may be represented by counsel or by a representative of his or her choice. The commission shall be represented by one or more members of its staff and by commission legal counsel.

(c) Informal Proceedings. The conference shall be informal, and will not follow procedures for contested cases. The commission's representative(s) may prohibit or limit attendance by other persons; may prohibit or limit access to the commission's investigative file by the licensee, the licensee's representative, and the complainant, if present; and may record part or all of the staff conference. At the discretion of the commission's representative(s), the licensee, the licensee's representative, and the commission staff may question witnesses; make relevant statements; and present affidavits, reports, letters, statements of persons not in attendance, and such other evidence as may be appropriate.

(d) Settlement Conference. At the discretion of the commission's representative(s), the preliminary staff conference may be concluded, and a settlement conference initiated to discuss staff recommendations for informal resolution of the issues. Such recommendations may include any disciplinary actions authorized by law, including administrative penalties, restitution, remedial actions, or such reasonable restrictions that may be in the public interest. These recommendations may be modified by the commission's representative(s) based on new information, a change of circumstances, or to expedite resolution in the interest of protecting the public. The commission's representative(s) may also recommend that the investigation be closed or referred for further investigation.

(e) Proposed Consent Order. The licensee may accept or reject the settlement recommendations of the commission staff. If the licensee accepts the recommendations, the licensee shall execute a settlement agreement in the form of a proposed consent order as soon thereafter as practicable. If the licensee rejects the proposed agreement, the matter may be scheduled for a hearing as described in Subchapter F of this chapter.

(f) Approval of Consent Order. Following acceptance and execution of the settlement agreement recommended by staff, said proposed agreement shall be submitted to the executive director for approval. If the order is approved, it shall be signed by the executive director. If the proposed order is not approved, the licensee shall be so informed and the matter shall be referred to the commission staff for appropriate action to include dismissal, closure, further negotiation, further investigation, or a formal hearing.

(g) Preliminary Notice. A revocation, suspension, annulment, denial, or withdrawal of a certificate or license is not effective unless, before the institution of contested case proceedings, the holder of

the certificate receives preliminary notice of the facts or conduct alleged to warrant the intended action and an opportunity to show compliance with all requirements of law.

(h) Request for Formal Hearing. Except as otherwise provided by law, if an applicant's original application or request for a certificate is denied, he or she shall have 30 days from the date of denial to make a written request for a formal hearing, and if so requested, the formal hearing will be granted and the provisions of the APA and this chapter with regard to contested cases shall apply.

CHAPTER 401
ADMINISTRATIVE PRACTICE AND PROCEDURE
SUBCHAPTER F
CONTESTED CASES

§401.51. Opportunity for Hearing.

In general, except as otherwise provided by law, the procedure for the grant, denial, renewal, revocation, suspension, annulment, or withdrawal of a certificate is governed by Government Code, Chapter 2001, pertaining to Administrative Procedures and by 1 TAC Chapter 155 (relating to Rules of Procedures) adopted by SOAH.

§401.53. Contested Case Hearing.

(a) The commission appoints SOAH to be its finder of fact in contested cases. The commission does not delegate to the hearings officer and retains for itself the right to determine the sanctions and make the final decision in a contested case.

(b) SOAH hearings of contested cases shall be conducted in accordance with the APA by a hearings officer assigned by SOAH. Jurisdiction over the case is acquired by SOAH when the commission staff files a request to docket case.

(c) The commission may serve the notice of hearing on the respondent at his or her last known address as shown by commission records. The notice may be served by registered U. S. mail or by certified mail, return receipt requested.

§401.57. Filing of Exceptions and Replies to Proposal for Decision.

(a) A copy of the proposal for decision in a contested case shall be simultaneously delivered or mailed by certified mail, return receipt requested, to each party representative of record.

(b) Exceptions to the proposal for decision shall be filed within 20 days of the date of the proposal for decision.

(c) Replies to exceptions shall be filed within 15 calendar days after the date of filing of the exceptions and briefs.

(d) The exceptions shall be specifically and concisely stated. The evidence relied upon shall be stated with particularity, and any evidence or arguments relied upon shall be grouped under the exceptions to which they relate.

(e) The hearings officer will rule on all exceptions, briefs, replies, and requests for extension of time and notify the parties of decisions and any amendments to the proposal for decision.

§401.59. Orders.

After the time for filing exceptions and replies to exceptions expires, the hearings officer's proposal for decision will be considered by the executive director and either adopted or modified and adopted. All final decisions or orders of the commission or the executive director shall be in writing and signed. A final decision shall include findings of fact and conclusions of law separately stated.

Findings of fact, if set forth in statutory language, shall be accomplished by a concise and explicit statement of the underlying facts supporting the findings. Parties shall be notified either personally or by certified mail of any decision or order, and a copy of the decision or order shall be delivered or mailed to any party and to his or her authorized representative.

§401.61. Record.

(a) The record in a contested case includes the matters listed in the APA, Government Code, §2001.060.

(b) Proceedings, or any part of them, shall be transcribed on written request of any party. The party requesting the proceeding to be transcribed shall make the initial payment for the transcription. Ultimately, however, the commission or executive director has the authority to assess, in addition to an administrative penalty, the costs of transcribing the administrative hearing.

(c) Appeal. The costs of transcribing the testimony and preparing the record for an appeal by judicial review shall be paid by the party who appeals.

§401.63. Final Decision and Orders.

(a) Commission action. A copy of the final decision or order shall be delivered or mailed to any party and to the attorney of record.

(b) Recorded. All final decisions and orders shall be in writing. A final order shall include findings of fact and conclusions of law, separately stated.

(c) Changes stated in final order. If the hearings officer's proposed findings of fact or conclusions of law are modified, the final order shall reflect the specific reason and legal basis for each change made.

(d) In general. Any party aggrieved of a final decision or order of the executive director in a contested case may appeal to the commission after the decision or order complained of is final. An appeal to the commission for review of action of the executive director shall be made within 30 days from the date that the writing evidencing the official action or order complained of is final and appealable, but for good cause shown, the commission may allow an appeal after that date. A motion for rehearing is not a prerequisite for an appeal to the commission.

(e) Oral argument. On the request of any party, the commission may allow oral argument prior to the final determination of an appeal of a decision or order of the executive director.

(f) If the executive director's final decision or order is appealed to the commission, the matter shall be set for the next available commission meeting and the commission shall take action in open session. A copy of the commission decision shall be delivered or mailed to any party and to the attorney of record.

§401.67. Motions for Rehearing.

(a) In the absence of a finding of imminent peril, a motion for rehearing is a prerequisite to a judicial appeal. A motion for rehearing must be filed by a party within 20 days after the date the party representative is notified of the final decision or order.

(b) Replies to a motion for rehearing must be filed with the agency within 30 days after the date the party representative is notified of the final decision or order.

(c) Agency action on the motion for rehearing must be taken within 45 days after the date a party representative is notified of the final decision or order. If agency action is not taken within the 45-day period, the motion for rehearing is overruled by operation of law 45 days after the date the party representative is notified of the final decision or order.

(d) The commission may rule on a motion for rehearing at a meeting or by mail, telephone, telegraph, facsimile transmission, or another suitable means of communication. The motion shall be deemed overruled by operation of law, unless a majority of the commissioners serving vote to grant the motion within the time provided by law for ruling on the motion for rehearing.

(e) The agency may, by written order, extend the period of time for filing the motions or replies and taking agency action, except that an extension may not extend the period for agency action beyond 90 days after the date a party representative is notified of the final order or decision.

(f) In the event of an extension, the motion for rehearing is overruled by operation of law on the date fixed by the order, or in the absence of a fixed date, 90 days after the date the party representative is notified of the final decision or order.

CHAPTER 401
ADMINISTRATIVE PRACTICE AND PROCEDURE
SUBCHAPTER G
CONDUCT AND DECORUM, SANCTIONS, AND PENALTIES

§401.105. Administrative Penalties.

(a) Following the hearing the administrative law judge shall issue a proposal for decision containing findings of facts and conclusions of law. While the administrative law judge may recommend a sanction, findings of fact and conclusions of law are inappropriate for sanction recommendations, and sanction recommendations in the form of findings of fact and conclusions of law are an improper application of applicable law and these rules. In all cases, the commission or executive director has the discretion to impose the sanction that best accomplishes the commission's legislatively-assigned enforcement goals. The commission or executive director is the ultimate arbiter of the proper penalty.

(b) The commission, acting through the executive director may, after notice and hearing required by Government Code, Chapter 2001, Administrative Procedure Act, impose an order requiring payment of an administrative penalty or monetary forfeiture in an amount not to exceed \$1,000 for each violation of Government Code, Chapter 419, or rule promulgated there under, as provided by Government Code, §419.906.

(c) In determining the amount of the administrative penalty or monetary forfeiture the commission or the executive director shall consider:

(1) the seriousness of the violation, including but not limited to the nature, circumstances, extent, and gravity of the prohibited act, and the hazard or potential hazard created to the health and safety of the public;

(2) the economic damage to property or the public's interests or confidences caused by the violation;

(3) the history of previous violations;

(4) any economic benefit gained through the violation;

(5) the amount necessary to deter future violations;

(6) the demonstrated good faith of the person, including efforts taken by the alleged violator to correct the violation;

(7) the economic impact of imposition of the penalty or forfeiture on the person; and

(8) any other matters that justice may require.

(d) The commission or executive director retains the right to increase or decrease the amount of an administrative penalty based on the circumstances in each case. In particular, the commission or executive director may increase the amount of administrative penalties when the respondent has committed multiple violations (e.g. some combination of different violations).

(e) Because it is the policy of the commission to pursue expeditious resolution of complaints when appropriate, administrative penalties in uncontested cases may be less than the amounts assessed in contested cases. Among other reasons, this may be because the respondent admits fault, takes steps to rectify matters, timely responds to commission concerns, or identified mitigating circumstances, and because settlements avoid additional administrative costs.

(f) The commission or executive director may impose an administrative penalty alone or in addition to other permitted sanctions.

CHAPTER 401
ADMINISTRATIVE PRACTICE AND PROCEDURE
SUBCHAPTER H
REINSTATEMENT

§401.111. Application for Reinstatement of License or Certificate.

(a) At the expiration of one year from the date of revocation or suspension, or upon the conclusion of any specified period of suspension, the commission may consider a request for reinstatement by the former licensee or certificate holder (applicant).

(b) The request for reinstatement must be submitted to the commission office in writing and should include a short and plain statement of the reasons why the applicant believes the license should be reinstated.

(c) Upon denial of any application for reinstatement, the commission may not consider a subsequent application until the expiration of one year from the date of denial of the prior application.

(d) In taking action to revoke or suspend a license or certificate, the commission may, in its discretion, specify the terms and conditions upon which reinstatement shall be considered.

§401.113. Evaluation for Reinstatement.

In considering reinstatement of a suspended or revoked license or certificate, the commission will evaluate:

- (1) the severity of the act which resulted in revocation or suspension of the license or certificate;
- (2) the conduct of the applicant subsequent to the revocation or suspension of the license or certificate;
- (3) the lapse of time since revocation or suspension;
- (4) the degree of compliance with all conditions the commission may have stipulated as a prerequisite for reinstatement;
- (5) the degree of rehabilitation attained by the applicant as evidenced by sworn notarized statements sent directly to the commission from qualified people who have personal and professional knowledge of the applicant; and
- (6) the applicant's present qualifications to perform duties regulated by the commission.

§401.115. Procedure upon Request for Reinstatement.

(a) An applicant for reinstatement of a revoked or suspended license or certificate must personally appear before an administrative law judge designated by the commission at a scheduled date and time to show why the license or certificate should be reinstated.

(b) Upon submission of proof of past revocation or suspension of the applicant's license or certificate, the applicant has the burden of proof to show present fitness and/or rehabilitation to perform duties regulated by the commission.

(c) Upon receipt of a written request for reinstatement as required by §401.111 of this title (relating to Application for Reinstatement of License or Certificate), the applicant will be notified of a date and time of an appearance before the administrative law judge.

§401.117. Commission Action Possible upon Reinstatement.

After evaluation, the commission may:

- (1) deny reinstatement of a suspended or revoked license or certificate;
- (2) reinstate a suspended or revoked license or certificate and probate the practitioner for a specified period of time under specific conditions;
- (3) authorize reinstatement of the suspended or revoked license or certificate;
- (4) require the satisfactory completion of a specific program of remedial education approved by the commission; and/or
- (5) reinstate a suspended or revoked license or certificate after verification through examination of required knowledge and skills appropriate to the suspended or revoked license or certificate. All applicable procedures shall be followed and all applicable fees shall be paid.

§401.119. Failure To Appear for Reinstatement.

An applicant for reinstatement of a revoked or suspended license or certificate who makes a commitment to appear before the administrative law judge, and fails to appear at a hearing set with notice by the agency, shall not be authorized to appear before the administrative law judge before the expiration of six months. For good cause shown, the executive director may authorize an exception to this rule.

CHAPTER 401
ADMINISTRATIVE PRACTICE AND PROCEDURE
SUBCHAPTER I
NOTICE AND PROCESSING PERIODS FOR CERTIFICATE APPLICATIONS

§401.121. Purpose of Establishing Time Periods.

In order to minimize delays, this subchapter establishes time periods within which the commission shall review and process certificate applications efficiently and provides for an appeal process should the agency violate these periods in accordance with the Government Code, Chapter 2005.

§401.123. Notice of Deficiency.

Written notice that an application is deficient must be mailed to the applicant or delivered by such means as will reasonably provide actual notice.

§401.125. Processing Periods.

(a) Notice to applicant. Within 30 days from receipt of an application for a certificate or approval issued pursuant to the Government Code, Chapter 419, the agency shall determine a filing to be complete or deficient and issue written notice in accordance with §401.123 of this title (relating to Notice of Deficiency) to the applicant regarding the status of the application.

(1) Complete application.

(A) The written notice for a complete application shall state that the application is complete and accepted for filing and shall advise the applicant of the time period in which the agency must deny or approve the application unless such information has previously been provided to the applicant.

(B) For purposes of this section, an application is complete upon agency determination that it is in compliance with the content and form prescribed by the agency.

(2) Deficient application.

(A) The written notice for a deficient application shall state that the application is not complete, set out the specific additional information that is required for completion, and advise the applicant that the agency may disapprove an application that is not complete. After one written notice of deficiency has been issued, another is not required for an application resubmitted in whole or in part with deficiencies.

(B) In addition to notice issued under subparagraph (A) of this paragraph, the agency may notify the applicant, in any manner, of deficiencies in the application.

(b) Processing of application. Within 60 days after receipt of a complete application, the agency shall:

(1) issue the certificate on payment of the appropriate fees and successful completion of all required examinations; or

(2) deny the certificate.

§401.127. Appeal.

(a) Hearing.

(1) Notice. An applicant who does not receive notice as to the complete or deficient status of a certificate application within the period established in this subchapter for such application may petition for a hearing to review the matter.

(2) Processing. An applicant whose permit is not approved or denied within the period established in this subchapter for such certificate may petition for a hearing to review the matter.

(3) Procedure. A hearing under this section shall be in accordance with the Administrative Procedure Act and Subchapter E of this chapter (relating to Contested Cases).

(b) Petition. A petition filed under this section must be in writing and directed to the executive director. The petition shall identify the applicant, indicate the type of certificate sought and the date of the application, specify each provision in this subchapter that the agency has violated, and describe with particularity how the agency has violated each provision. The petition shall be filed with the office of the executive director.

(c) Decision. An appeal filed under this section shall be decided in the applicant's favor if the executive director finds that:

(1) the agency exceeded an established period under this subchapter; and

(2) the agency failed to establish good cause for exceeding the period.

(d) Good cause. The agency is considered to have good cause for exceeding a notice or processing period established for a permit if:

(1) the number of certificates to be processed exceeds by 15% or more the number of certificates processed in the same calendar quarter of the preceding year;

(2) the agency must rely on another public or private entity for all or part of its certificate processing, and the delay is caused by the other entity;

(3) the hearing and decision-making process results in reasonable delay under the circumstances;

(4) the applicant is under administrative review; or

(5) any other conditions exist giving the agency good cause for exceeding a notice or processing period.

(e) Commission review. A permit applicant aggrieved by a final decision or order of the executive director concerning a period established by these sections may appeal to the commission in writing after the decision or order complained of is final, in accordance with §401.63 of this title (relating to Final Decision and Orders).

(f) Relief.

(1) Complete or deficient status. An applicant who maintains a successful appeal under subsection (c) of this section for agency failure to issue notice as to the complete or deficient status of an application shall be entitled to notice of application status.

(2) Certificate approval or denial. An applicant who maintains a successful appeal under subsection (c) of this section for agency failure to approve or deny a certificate shall be entitled to such approval or denial of the certificate and to full reimbursement of all filing fees that have been paid to the agency in connection with the application.

CHAPTER 401
ADMINISTRATIVE PRACTICE AND PROCEDURE
SUBCHAPTER J
CHARGES FOR PUBLIC RECORDS

§401.129. Charges for Public Records.

(a) The commission is subject to Texas Government Code, Chapter 552, Texas Public Information Act. The Act gives the public the right to request access to government information.

(b) The commission adopts by reference Title 1, Part 13, Chapter 70, Cost of Copies of Public Information, as promulgated by the Office of the Attorney General.

(c) The executive director may waive or reduce a charge for copies when furnishing the information benefits to the general public.

CHAPTER 401
ADMINISTRATIVE PRACTICE AND PROCEDURE
SUBCHAPTER K
HISTORICALLY UNDERUTILIZED BUSINESSES

§401.131. Historically Underutilized Businesses.

The commission adopts by reference Title 34, Part 1, Chapter 20, Texas Procurement and Support Services, Subchapter B, Historically Underutilized Business Program, as promulgated by the Comptroller of Public Accounts.

14. Proposed rule review for the following:

2. 37 TAC, Chapter 421, Standards for Certification

CHAPTER 421

STANDARDS FOR CERTIFICATION

§421.1. Procedures for Meetings.

- (a) The Commission may maintain advisory committees and ad hoc committees to assist with rulemaking, curriculum development, and the performance of the Commission's duties. These committee names, make up, term limits, roles and meeting requirements will be outlined within this rule. These committees shall exist for no more than five (5) years and shall be reviewed and evaluated for continuance before the end of the fifth year.
- (b) Time and place. The committees shall meet at such time and place in the State of Texas as they deem proper.
- (c) Meeting called. Meetings shall be called by the chairman, by the Commission, or upon the written request of a quorum of members.
- (d) Quorum. A majority of members shall constitute a quorum.
- (e) Members. Committee members serve at the will of the Commission and may serve six-year staggered terms but may not serve more than two (2) consecutive terms.
- (f) Officers. Committee Officers shall consist of a chairman and vice-chairman appointed by the Commission.
- (g) Responsibility. Committee responsibilities shall be established by the Commission.
- (h) Effective Date. All committees will have designated effective dates not to exceed five years without review and reestablishment by the Commission.
- (i) Removal. It is a ground for removal from an advisory committee appointed by the Commission if a member is absent from more than half of the regularly scheduled committee meetings that the member is eligible to attend during a calendar year unless the absence is excused by a majority vote of the committee.
- (j) Effective in 2021, the Commission established three (3) advisory committees, the Curriculum and Testing, Firefighter Advisory, and Health and Wellness. These committees will expire in 2026 unless reviewed and reestablished by the Commission. The Commission has established two (2) ad hoc committees, 427 and 435, which will exist for the period of time needed, not to exceed two years.

§421.3. Minimum Standards Set by the Commission.

- (a) General statement. It shall be clearly understood that the specified minimum standards described in this section are designated as a minimum program. Employing entities are encouraged to exceed the minimum program wherever possible. Continuous in-service training beyond the minimum standards for fire protection personnel is strongly recommended. Nothing in these regulations shall limit or be construed as limiting the powers of the Civil Service Commission, or the

employing entity, to enact rules and regulations which establish a higher standard of training than the minimum specified, or which provides for the termination of the services of unsatisfactory employees during or upon completion of the prescribed probationary period.

(b) Functional position descriptions.

(1) Structural Fire Protection personnel. The following general position description for structural fire protection personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the fire fighter operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. Successfully complete a commission approved course; achieve a passing score on written and performance certification examinations; must be at least 18 years of age; generally, the knowledge and skills required show the need for a high school education or equivalent; ability to communicate verbally, via telephone and radio equipment; ability to lift, carry, drag, and balance weight equivalent to the average human weight; ability to interpret in English, written and oral instructions; ability to work effectively in high stress situations; ability to work effectively in an environment with loud noises and flashing lights; ability to function through an entire work shift; ability to calculate weight and volume ratios; ability to read and understand English language manuals including chemical, medical and technical terms, and road maps; ability to accurately discern street signs and address numbers; ability to document in English, all relevant information in prescribed format in light of legal ramifications of such; ability to converse in English with coworkers and other emergency response personnel. Good manual dexterity with ability to perform all tasks related to the protection of life and property; ability to bend, stoop, and crawl on uneven surfaces; ability to withstand varied environmental conditions such as extreme heat, cold, and moisture; and ability to work in low or no light, confined spaces, elevated heights and other dangerous environments.

(B) Competency. A basic fire fighter must demonstrate competency handling emergencies utilizing equipment and skills in accordance with the objectives in Chapter 1 of the commission's Certification Curriculum Manual.

(2) Aircraft Rescue Fire Fighting personnel. The following general position description for aircraft rescue fire fighting personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of aircraft rescue fire fighting personnel operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. In addition to the qualifications for basic structural fire protection personnel: familiarity with geographic and physical components of an airport; ability to use and understand communication equipment, terminology, and procedures utilized by airports; ability and knowledge in the application of fire suppression agents; and ability to effectively perform fire suppression and rescue operations.

(B) Competency. Basic fire fighting and rescue personnel must demonstrate competency handling emergencies utilizing equipment and skills in accordance with the objectives in Chapter 2 of the commission's Certification Curriculum Manual.

(3) Marine Fire Protection personnel. The following general position description for marine fire protection personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the marine fire fighter operating in the State of Texas. It is

ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. In addition to the qualifications for basic structural fire protection personnel: familiarity with geographic and physical components of a navigable waterway; ability to use and understand communication equipment, terminology, and procedures used by the maritime industry; and knowledge in the operation of fire fighting vessels.

(B) Competency. A marine fire fighter must demonstrate competency in handling emergencies utilizing equipment and skills in accordance with the objectives in Chapter 3 of the commission's Certification Curriculum Manual.

(4) Fire Inspection personnel. The following general position description for fire inspection personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the fire inspector operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. Successfully complete a commission approved course; achieve a passing score on certification examinations; must be at least 18 years of age; generally, the knowledge and skills required to show the need for a high school education or equivalent; ability to communicate verbally, via telephone and radio equipment; ability to lift, carry, and balance weight equivalent to weight of common tools and equipment necessary for conducting an inspection; ability to interpret written and oral instructions; ability to work effectively with the public; ability to work effectively in an environment with potentially loud noises; ability to function through an entire work shift; ability to calculate area, weight and volume ratios; ability to read and understand English language manuals including chemical, construction and technical terms, building plans and road maps; ability to accurately discern street signs and address numbers; ability to document, in writing, all relevant information in a prescribed format in light of legal ramifications of such; ability to converse in English with coworkers and other personnel. Demonstrate knowledge of characteristics and behavior of fire, and fire prevention principles. Good manual dexterity with the ability to perform all tasks related to the inspection of structures and property; ability to bend, stoop, and crawl on uneven surfaces; ability to climb ladders; ability to withstand varied environmental conditions such as extreme heat, cold, and moisture; and the ability to work in low light, confined spaces, elevated heights, and other dangerous environments.

(B) Competency. A fire inspector must demonstrate competency in conducting inspections utilizing equipment and skills in accordance with the objectives in Chapter 4 of the commission's Certification Curriculum Manual.

(5) Fire Investigator personnel. The following general position description for fire investigator personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the fire investigator operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. Successfully complete a commission approved course; achieve a passing score on certification examinations; be at least 18 years of age; generally, the knowledge and skills required to show the need for a high school education or equivalent; ability to communicate verbally, via telephone and radio equipment; ability to lift, carry, and balance weight equivalent to weight of common tools and equipment necessary for conducting an investigation; ability to

interpret written and oral instructions; ability to work effectively with the public; ability to work effectively in a hazardous environment; ability to function through an entire work shift; ability to calculate area, weight and volume ratios; ability to read and understand English language manuals including chemical, legal and technical terms, building plans and road maps; ability to accurately discern street signs and address numbers; ability to document, in writing, all relevant information in a prescribed format in light of legal ramifications of such; ability to converse in English with coworkers and other personnel. Good manual dexterity with the ability to perform all tasks related to fire investigation; ability to bend, stoop, and walk on uneven surfaces; ability to climb ladders; ability to withstand varied environmental conditions such as extreme heat, cold and moisture; and the ability to work in low light, confined spaces, elevated heights, and other potentially dangerous environments.

(B) Competency. A fire investigator or arson investigator must demonstrate competency in determining fire cause and origin utilizing equipment and skills in accordance with the objectives in Chapter 5 of the commission's Certification Curriculum Manual.

(6) Hazardous Materials Technician personnel. The following general position description for hazardous materials personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the hazardous materials technician operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. In addition to the qualifications for basic structural fire protection personnel: successfully complete a commission approved course; achieving a passing score on the certification examination; the ability to analyze a hazardous materials incident, plan a response, implement the planned response, evaluate the progress of the planned response, and terminate the incident.

(B) Competency. A hazardous materials technician must demonstrate competency handling emergencies resulting from releases or potential releases of hazardous materials, using specialized chemical protective clothing and control equipment in accordance with the objectives in Chapter 6 of the commission's Certification Curriculum Manual.

(7) Hazardous Materials Incident Commander personnel. The following general position description for Hazardous Materials Incident Commander serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the Hazardous Materials Incident Commander operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. In addition to the qualifications for awareness and operations level personnel, the Hazardous Materials Incident Commander is an individual who has met all the job performance requirements of Hazardous Materials Incident Commander as defined in Chapter 8 of NFPA 472, Competence of Responders to Hazardous Materials Incidents/Weapons of Mass Destruction. The individual should demonstrate knowledge in the policies, plans, and procedures regarding hazardous materials response as adopted by the local jurisdiction; and all components of the incident command system and their proper utilization.

(B) Competency. In addition to the competencies of awareness and operations level personnel, a Hazardous Materials Incident Commander must demonstrate competency in such areas as: analyzing an incident via the collection of information and an estimation of potential outcomes; planning appropriate response operations; implementing a planned response; evaluating the progress of a planned response and revising as necessary; terminating an incident; conducting a

post-incident critique; and reporting and documenting an incident in a manner consistent with local, state, and federal requirements.

(8) Driver/Operator-Pumper personnel. The following general position description for driver/operator-pumper personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the driver/operator-pumper of a fire department pumper operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. In addition to the qualifications for basic structural fire protection personnel: ability to perform specified routine test, inspection, and maintenance functions; ability to perform practical driving exercises; ascertain the expected fire flow; ability to position a fire department pumper to operate at a fire hydrant; ability to produce effective streams; and supply sprinkler and standpipe systems.

(B) Competency. A driver/operator-pumper must demonstrate competency operating a fire department pumper in accordance with the objectives in Chapter 7 of the commission's Certification Curriculum Manual.

(9) Fire Officer I personnel. The following general position description for Fire Officer I personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the Fire Officer I operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. In addition to the qualifications for basic structural fire protection and Fire Instructor I personnel: the ability to supervise personnel, and assign tasks at emergency operations; the ability to direct personnel during training activities; the ability to recommend action for member-related problems; the ability to coordinate assigned tasks and projects, and deal with inquiries and concerns from members of the community; the ability to implement policies; the ability to perform routine administrative functions, perform preliminary fire investigation, secure an incident scene and preserve evidence; the ability to develop pre-incident plans, supervise emergency operations, and develop and implement action plans; the ability to deploy assigned resources to ensure a safe work environment for personnel, conduct initial accident investigation, and document an incident.

(B) Competency. A Fire Officer I must demonstrate competency in handling emergencies and supervising personnel utilizing skills in accordance with the objectives in Chapter 9 of the commission's Certification Curriculum Manual.

(10) Fire Officer II personnel. The following general position description for Fire Officer II personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the Fire Officer II operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. In addition to the qualifications for Fire Officer I and Fire Instructor I personnel: the ability to motivate members for maximum job performance; the ability to evaluate job performance; the ability to deliver life safety and fire prevention education programs; the ability to prepare budget requests, news releases, and policy changes; the ability to conduct pre-incident planning, fire inspections, and fire investigations; the ability to supervise multi-unit emergency operations, identify unsafe work environments or behaviors, review injury, accident, and exposure reports.

(B) Competency. A Fire Officer II must demonstrate competency in supervising personnel and coordinating multi-unit emergency operations utilizing skills in accordance with the objectives in Chapter 9 of the commission's Certification Curriculum Manual.

(11) Fire Officer III personnel. The following general position description for Fire Officer III personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the Fire Officer III operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. A Fire Officer III is a midlevel supervisor who performs both supervisory and first-line managerial functions. In addition to the qualifications and competency for Fire Officer II, the Fire Officer III is an individual who has met all the job performance requirements of Fire Officer III as defined in Chapter 6 of NFPA 1021, Standard for Fire Officer Professional Qualifications. Typical duties of an individual at the Fire Officer III level include: establishing procedures for hiring, assignment, and professional development of personnel; developing public service/partnership and programs; preparing budgets and budget management systems; planning for organizational resource management; evaluating inspection and public safety programs and plans; managing multi-agency plans and operations; serving as Incident Commander at expanding emergency incidents for all hazard types; and developing and managing a departmental safety program.

(B) Competency. A Fire Officer III must demonstrate competency doing research; analyzing data and using evaluative techniques; developing proposals; developing, preparing, and implementing various procedures and programs within an organization; managing personnel resources; preparing and managing budgets; utilizing techniques to encourage personnel participation and development; and working in top-level positions within the incident command system.

(12) Fire Officer IV personnel. The following general position description for Fire Officer IV personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the Fire Officer IV operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. A Fire Officer IV is an upper level supervisor who performs both supervisory and managerial functions. In addition to the qualifications and competency for Fire Officer III, the Fire Officer IV is an individual who has met all the job performance requirements of Fire Officer IV as defined in Chapter 7 of NFPA 1021, Standard for Fire Officer Professional Qualifications. Typical duties of an individual at the Fire Officer IV level include: administering job performance requirements; evaluating and making improvements to department operations; developing long-range plans and fiscal projections; developing plans for major disasters; serving as Incident Commander at major incidents for all hazard types; and administering comprehensive risk management programs.

(B) Competency. A Fire Officer IV must demonstrate competency in appraising and evaluating departmental programs to ensure adherence to current laws and best practices; developing medium and long-range plans for organizations; and assuming a top-level leadership role in both the organization and community.

(13) Fire Service Instructor I personnel. The following general position description for Fire Service Instructor I personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the Fire Service Instructor I operating in the State of Texas. It is

ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. In addition to successfully completing a commission approved course and achieving a passing score on the certification examination: must have the ability to deliver instructions effectively from a prepared lesson plan; the ability to use instructional aids and evaluation instruments; the ability to adapt to lesson plans to the unique requirements of both student and the jurisdictional authority; the ability to organize the learning environment to its maximum potential; the ability to meet the record-keeping requirements of the jurisdictional authority.

(B) Competency. A Fire Service Instructor I must demonstrate competency in delivering instruction in an environment organized for efficient learning while meeting the record-keeping needs of the authority having jurisdiction, utilizing skills in accordance with the objectives in Chapter 8 of the commission's Certification Curriculum Manual.

(14) Fire Service Instructor II personnel. The following general position description for Fire Service Instructor II personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the Fire Service Instructor II operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. In addition to successfully completing a commission approved course, achieving a passing score on the certification examination, and meeting the qualifications for Fire Service Instructor I: the ability to develop individual lesson plans for a specific topic, including learning objectives, instructional aids, and evaluation instruments; the ability to schedule training sessions based on the overall training plan of the jurisdictional authority; the ability to supervise and coordinate the activities of other instructors.

(B) Competency. A Fire Service Instructor II must demonstrate competency in developing individual lesson plans; scheduling training sessions; and supervising other instructors, utilizing skills in accordance with the objectives in Chapter 8 of the commission's Certification Curriculum Manual.

(15) Fire Service Instructor III personnel. The following general position description for Fire Service Instructor III personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the Fire Service Instructor III operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. In addition to successfully completing a commission approved course, achieving a passing score on the certification examination, and meeting the qualifications for Fire Service Instructor II: the ability to develop comprehensive training curricula and programs for use by single or multiple organizations; the ability to conduct organizational needs analysis; and the ability to develop training goals and implementation strategies.

(B) Competency. A Fire Service Instructor III must demonstrate competency in developing comprehensive training curricula and programs; conducting organizational needs analysis; and developing training goals and implementation strategies, utilizing skills in accordance with the objectives in Chapter 8 of the commission's Certification Curriculum Manual.

(16) Incident Safety Officer personnel. The following general position description for Incident Safety Officer personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the Incident Safety Officer operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. An Incident Safety Officer is an individual who has met the requirements of Fire Officer Level I specified in NFPA 1021, Standard for Fire Officer Professional Qualifications and Chapter 6 of NFPA 1521, Standard for Fire Department Safety Officer and has the knowledge, skill, and abilities to manage incident scene safety. Typical Incident Safety Officer duties include risk and resource evaluation; hazard identification and communication; action plan reviews; safety briefings; accident investigation; post incident analysis; and participation in safety committee activities.

(B) Competency. An Incident Safety Officer must demonstrate competency in management of incident scene safety through a working knowledge of the various emergency operations as prescribed by the local jurisdiction; an understanding of building construction; fire science and fire behavior; managing an organization's personnel accountability system; and incident scene rehabilitation methodology.

(17) Basic Wildland Fire Protection personnel. The following general position description for Basic Wildland Fire Protection personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the Basic Wildland Fire Fighter operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. A Basic Wildland Fire Fighter is an individual who has met the requirements of Chapter 5 of NFPA 1051, Standard for Wildland Fire Fighter Professional qualifications, and should demonstrate knowledge in: wildland fire behavior; fireline safety and use; limitations of personal protective equipment; fire shelter use; fire suppression tactics and techniques in wildland settings; and have an understanding of the fire fighter's role within the local incident management system.

(B) Competency. A Basic Wildland Fire Fighter must demonstrate competency in such areas as: maintaining personal protective equipment and assigned fire suppression tools and equipment; the ability to quickly prepare for a response when notified; recognizing hazards and unsafe situations in a wildland fire; securing a fire line; mopping up a fire area; and patrolling a fire area so as to ensure fire control.

(18) Intermediate Wildland Fire Protection personnel. The following general position description for Intermediate Wildland Fire Protection personnel serves as a guide for anyone interested in understanding the qualifications, competencies, and tasks required of the Intermediate Wildland Fire Fighter operating in the State of Texas. It is ultimately the responsibility of an employer to define specific job descriptions within each jurisdiction.

(A) Qualifications. In addition to the qualifications and competency for the Basic Wildland Fire Fighter, the Intermediate Wildland Fire Fighter is an individual who has met the requirements of Chapter 6 of NFPA 1051, Standard for Wildland Fire Fighter Professional qualifications, and should demonstrate knowledge in: basic map reading; use of a locating device such as a compass; radio procedures as adopted by the local jurisdiction; and record keeping.

(B) Competency. An Intermediate Wildland Fire Fighter must demonstrate competency in such areas as: the ability to lead a team of fire fighters in the performance of assigned tasks while

maintaining the safety of personnel; implementing appropriate fireline construction methods and other techniques for protection of exposed property; operation of water delivery equipment; securing an area of suspected fire origin and associated evidence; and serving as a lookout in a wildland fire.

§421.5. Definitions.

The following words and terms, when used in the Standards Manual, shall have the following meanings, unless the context clearly indicates otherwise.

- (1) Admission to employment--An entry level full-time employee of a local government entity in one of the categories of fire protection personnel.
- (2) Appointment--The designation or assignment of a person to a discipline regulated by the commission. The types of appointments are:
 - (A) permanent appointment--the designation or assignment of certified fire protection personnel or certified part time fire protection employees to a particular discipline (See Texas Government Code, Chapter 419, §419.032); and
 - (B) probationary or temporary appointment--the designation or assignment of an individual to a particular discipline, except for head of a fire department, for which the individual has passed the commission's certification and has met the medical requirement of §423.1(c) of this title (relating to Minimum Standards for Structure Fire Protection Personnel), if applicable, but has not yet been certified. (See Texas Government Code, Chapter, §419.032.)
- (3) Approved training--Any training used for a higher level of certification must be approved by the commission and assigned to either the A-List or the B-List. The training submission must be in a manner specified by the commission and contain all information requested by the commission. The commission will not grant credit twice for the same subject content or course. Inclusion on the A-List or B-List does not preclude the course approval process as stated elsewhere in the Standards Manual.
- (4) Assigned/work--A fire protection personnel or a part-time fire protection employee shall be considered "assigned/working" in a position, any time the individual is receiving compensation and performing the duties that are regulated by the commission and has been permanently appointed, as defined in this section, to the particular discipline.
- (5) Assistant fire chief--The officer occupying the first position subordinate to the head of a fire department.
- (6) Auxiliary fire fighter--A volunteer fire fighter.
- (7) Benefits--Benefits shall include, but are not limited to, inclusion in group insurance plans (such as health, life, and disability) or pension plans, stipends, free water usage, and reimbursed travel expenses (such as meals, mileage, and lodging).
- (8) Chief Training Officer--The individual, by whatever title he or she may be called, who coordinates the activities of a certified training facility.
- (9) Class hour--Defined as not less than 50 minutes of instruction, also defined as a contact hour; a standard for certification of fire protection personnel.

(10) Code--The official legislation creating the commission.

(11) College credits--Credits earned for studies satisfactorily completed at an institution of higher education accredited by an agency recognized by the U.S. Secretary of Education and including National Fire Academy (NFA) open learning program colleges, or courses recommended for college credit by the American Council on Education (ACE) or delivered through the National Emergency Training Center (both EMI and NFA) programs. A course of study satisfactorily completed and identified on an official transcript from a college or in the ACE National Guide that is primarily related to Fire Service, Emergency Medicine, Emergency Management, or Public Administration is defined as applicable for Fire Science college credit, and is acceptable for higher levels of certification. A criminal justice course related to fire and or arson investigation that is satisfactorily completed and identified on an official transcript from a college or in the ACE National Guide may be used to qualify for Master Arson Investigator certification.

(12) Commission--Texas Commission on Fire Protection.

(13) Commission-recognized training--A curriculum or training program which carries written approval from the commission, or credit hours that appear on an official transcript from an accredited college or university, or any fire service training received from a nationally recognized source, i.e., the National Fire Academy.

(14) Compensation--Compensation is to include wages, salaries, and "per call" payments (for attending drills, meetings or answering emergencies).

(15) Expired--Any certification that has not been renewed on or before the end of the certification period.

(16) Federal fire fighter--A person as defined in Texas Government Code, Chapter 419, §419.084(h).

(17) Fire chief--The head of a fire department.

(18) Fire department--A department of a local government that is staffed by one or more fire protection personnel or part-time fire protection employees.

(19) Fire protection personnel--Any person who is a permanent full-time employee of a fire department or governmental entity and who is appointed duties in one of the following categories/disciplines: fire suppression, fire inspection, fire and arson investigation, marine fire fighting, aircraft rescue fire fighting, fire training, fire education, fire administration and others employed in related positions necessarily or customarily appertaining thereto.

(20) Fire Code Inspection—Also called Fire Safety Inspection as referenced in Texas Government Code, Chapter 419, §419.909. An inspection performed for the purpose of determining and enforcing compliance with an adopted fire code.

(21) Fire suppression duties--Engaging in the controlling or extinguishment of a fire of any type or performing activities which are required for and directly related to the control and extinguishment of fires or standing by on the employer's premises or apparatus or nearby in a state of readiness to perform these duties.

(22) Full-time--An officer or employee is considered full-time if the employee works an average of 40 hours a week or averages 40 hours per week or more during a work cycle in a calendar year. For the purposes of this definition paid leave will be considered time worked.

- (23) Government entity--The local authority having jurisdiction as employer of full-time fire protection personnel in a state agency, incorporated city, village, town or county, education institution or political subdivision.
- (24) High school--A school accredited as a high school by the Texas Education Agency or equivalent accreditation agency from another jurisdiction.
- (25) Immediately dangerous to life or health (IDLH)--An atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.
- (26) Incipient stage fire--A fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers, Class II standpipe or small hose systems without the need for protective clothing or breathing apparatus.
- (27) Instructor:
- (A) Lead Instructor--Oversees the presentation of an entire course and assures that course objectives are met in accordance with the applicable curriculum or course material. The lead instructor should have sufficient experience in presenting all units of the course so as to be capable of last-minute substitution for other instructors.
 - (B) Instructor (also Unit Instructor for wildland courses)--Responsible for the successful presentation of one or more areas of instruction within a course, and should be experienced in the lesson content they are presenting.
 - (C) Guest Instructor--An individual who may or may not hold Instructor certification but whose special knowledge, skill, and expertise in a particular subject area may enhance the effectiveness of the training in a course. Guest instructors shall teach under the endorsement of the lead instructor.
- (28) Interior structural fire fighting--The physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage. (See 29 CFR §1910.155.)
- (29) Military active duty (or active duty)--Current full-time military service in the armed forces of the United States, or full-time military service as a member of the Texas military forces or a similar service of another state.
- (30) Military service member--A person who is on active duty.
- (31) Military spouse--A person who is married to a military service member.
- (32) Military veteran--A person who has served on active duty and who was discharged or released from active duty.
- (33) Municipality--Any incorporated city, village, or town of this state and any county or political subdivision or district in this state. Municipal pertains to a municipality as defined in this section.

(34) National Fire Academy semester credit hours--The number of hours credited for attendance of National Fire Academy courses is determined as recommended in the most recent edition of the "National Guide to Educational Credit for Training Programs," American Council on Education (ACE).

(35) National Fire Protection Association (NFPA)--An organization established to provide and advocate consensus codes and standards, research, training, and education for fire protection.

(36) National Wildfire Coordinating Group (NWCG)--An operational group designed to establish, implement, maintain, and communicate policy, standards, guidelines, and qualifications for wildland fire program management among participating agencies.

(37) Non-self-serving affidavit--A sworn document executed by someone other than the individual seeking certification.

(38) Participating volunteer fire fighter--An individual who voluntarily seeks certification and regulation by the commission under the Texas Government Code, Chapter 419, Subchapter D.

(39) Participating volunteer fire service organization--A fire department that voluntarily seeks regulation by the commission under the Texas Government Code, Chapter 419, Subchapter D.

(40) Part-time fire protection employee--An individual who is appointed as a part-time fire protection employee and who receives compensation, including benefits and reimbursement for expenses. A part-time fire protection employee is not full-time as defined in this section.

(41) Personal alert safety system (PASS)--Devices that are certified as being compliant with NFPA 1982 and that automatically activates an alarm signal (which can also be manually activated) to alert and assist others in locating a fire fighter or emergency services person who is in danger.

(42) Political subdivision--A political subdivision of the State of Texas that includes, but is not limited to the following:

(A) city;

(B) county;

(C) school district;

(D) junior college district;

(E) levee improvement district;

(F) drainage district;

(G) irrigation district;

(H) water improvement district;

(I) water control and improvement district;

(J) water control and preservation district;

(K) freshwater supply district;

(L) navigation district;

(M) conservation and reclamation district;

(N) soil conservation district;

(O) communication district;

(P) public health district;

(Q) river authority;

(R) municipal utility district;

(S) transit authority;

(T) hospital district;

(U) emergency services district;

(V) rural fire prevention district; and

(W) any other governmental entity that:

(i) embraces a geographical area with a defined boundary;

(ii) exists for the purpose of discharging functions of the government; and

(iii) possesses authority for subordinate self-government through officers selected by it.

(43) Pre-fire Planning—Also called a Pre-fire Survey. A walk-through performed by fire fighters for the purpose of gaining familiarity with a building, its contents, and its occupancy.

(44) Reciprocity for IFSAC seals and TEEEX Pro Board certificates--Valid documentation of accreditation from the International Fire Service Accreditation Congress and the National Board on Fire Service Professional Qualifications issued by the Texas A&M Engineering Extension Service used for commission certification may only be used for obtaining an initial certification.

(45) Recognition of training--A document issued by the commission stating that an individual has completed the training requirements of a specific phase level of the Basic Fire Suppression Curriculum.

(46) School--Any school, college, university, academy, or local training program which offers fire service training and included within its meaning the combination of course curriculum, instructors, and facilities.

(47) Structural fire protection personnel--Any person who is a permanent full-time employee of a government entity who engages in fire fighting activities involving structures and may perform other emergency activities typically associated with fire fighting activities such as rescue, emergency medical response, confined space rescue, hazardous materials response, and wildland fire fighting.

(48) Trainee--An individual who is participating in a commission approved training program.

(49) Volunteer fire protection personnel--Any person who has met the requirements for membership in a volunteer fire service organization, who is assigned duties in one of the following categories: fire suppression, fire inspection, fire and arson investigation, marine fire fighting, aircraft rescue fire fighting, fire training, fire education, fire administration and others in related positions necessarily or customarily appertaining thereto.

(50) Volunteer fire service organization--A volunteer fire department or organization not under mandatory regulation by the commission.

(51) Years of experience--For purposes of higher levels of certification or fire service instructor certification:

(A) Except as provided in subparagraph (B) of this paragraph, years of experience is defined as full years of full-time, part-time or volunteer fire service while holding:

(i) a commission certification as a full-time, or part-time employee of a government entity, a member in a volunteer fire service organization, and/or an employee of a regulated non-governmental fire department; or

(ii) a State Firemen's and Fire Marshals' Association advanced fire fighter certification and have successfully completed, as a minimum, the requirements for an Emergency Care Attendant (ECA) as specified by the Department of State Health Services (DSHS), or its successor agency, or its equivalent; or

(iii) an equivalent certification as a full-time fire protection personnel of a governmental entity from another jurisdiction, including the military, or while a member in a volunteer fire service organization from another jurisdiction, and have, as a minimum, the requirements for an ECA as specified by the DSHS, or its successor agency, or its equivalent; or

(iv) for fire service instructor eligibility only, a State Firemen's and Fire Marshals' Association Level II Instructor Certification, received prior to June 1, 2008 or Instructor I received on or after June 1, 2008 or an equivalent instructor certification from the DSHS or the Texas Commission on Law Enforcement. Documentation of at least three years of experience as a volunteer in the fire service shall be in the form of a non self-serving sworn affidavit.

(B) For fire service personnel certified as required in subparagraph (A) of this paragraph on or before October 31, 1998, years of experience includes the time from the date of employment or membership to date of certification not to exceed one year.

§421.9. Designation of Fire Protection Duties.

(a) An individual who performs one or more fire protection duties, listed in the Texas Government Code, §419.021(3)(C), for a fire department of local government entity shall be designated to only one of the following categories:

- (1) fire protection personnel;
- (2) a part-time fire protection employee; or
- (3) a volunteer fire fighter or other auxiliary fire fighter.

(b) A fire department regulated by the Commission may not designate the same person under more than one category under this section. The designation shall be made on the records of the department and the designation shall be made available for inspection by the Commission or sent to the Commission on request.

(c) A fire department regulated by the Commission shall report the appointment of fire protection personnel to a regulated discipline via the Commission's online management program, or the appropriate form if available. Fire protection personnel who are assigned to a regulated discipline as part of their regularly assigned duties shall be appointed to that discipline with the Commission. No individual may be appointed to a discipline without approval by the Commission. The Commission shall not approve an initial appointment to a regulated discipline until it has reviewed and approved a person's fingerprint-based criminal history record. Termination of fire protection personnel or part-time fire protection employees shall be reported to the Commission via the Commission's online management program, or the appropriate form if available within 14 calendar days of the action. In the case of termination, the employing entity shall report an individual's last known home address to the Commission. A Removal from Appointment form may be submitted without the employee's signature.

(d) A fire department may not in a calendar year compensate, reimburse, or provide benefits to a person the department has designated as a volunteer or other auxiliary fire fighter in an amount that is equal to or more than what a person receives working 2,080 hours at the federal minimum wage.

(e) A person certified as fire protection personnel in one fire department may be employed and designated as a part-time fire protection employee in another fire department without additional certification as a part-time fire protection employee.

§421.11. Requirement To Be Certified Within One Year.

(a) Except for subsection (c) and (d) of this section, fire protection personnel or part-time fire protection employees of a fire department who are appointed duties identified as fire protection personnel duties must be certified by the commission in the discipline(s) to which they are assigned within one year of their appointment to the duties or within two years of successfully passing the applicable commission examination, whichever is less. The commission shall not approve an initial certification for a regulated discipline until it has reviewed and approved a person's fingerprint-based criminal history record. An individual who accepts appointment(s) in violation of this section shall be removed from the appointment(s) and will be subject to administrative penalties. A department or local government that appoints an individual in violation of this section will also be subject to administrative penalties.

(b) An individual who has been removed from appointment to duties identified as fire protection personnel duties for violation of this section must petition the commission in writing for permission to be reappointed to the duties from which they were removed. The petition will be considered only if the individual has obtained all appropriate certification(s) applicable to the duties to which the individual seeks reappointment.

(c) A military spouse may be appointed to fire protection personnel duties with a regulated fire department without being required to obtain the applicable certification, provided the military spouse submits the following to the commission prior to appointment and has received confirmation of approval from the commission:

- (1) notification to the commission of intent to perform regulated fire protection duties;
- (2) documentation of equivalent certification from another jurisdiction;
- (3) a fingerprint-based criminal history record using the commission approved system;
- (4) proof of residency in Texas; and
- (5) a copy of the individual's military identification card.

(d) A military spouse appointed to fire protection duties under this section may engage in those duties only for the period in which the military service member to whom the spouse is married is stationed at a military installation in Texas, but not to exceed three years from the date the military spouse receives approval from the commission to engage in those duties.

§421.13. Individual Certificate Holders.

(a) Employment is not mandatory for certification. An individual may hold or renew any certificate issued by the commission for which they maintain their qualifications.

(b) An individual certificate holder must notify the commission of a change of his or her home address within 14 calendar days of a change of address.

§421.15. Extension of Training Period.

A fire department may apply to the commission for an extension of the one-year training period, identified in §419.032(c) of the Government Code, for a time period not exceeding two years from the date of original appointment as follows:

- (1) the request for extension shall be placed on the Fire Fighter Advisory Committee's (FFAC's) agenda to be heard at its next regular or special called meeting after submission of the request;
- (2) after review by the FFAC, the application along with the FFAC's recommendations will be sent to the commission to be heard at its next regular meeting. If the request for extension is approved by the commission, the extension shall become effective immediately; and
- (3) the one-year extension of training time, if granted, shall run from the date of forfeiture and removal or, at the latest, from one year after the original date training began, whichever occurs first.

§421.17. Requirement to Maintain Certification.

- (a) All full-time or part-time employees of a fire department or local government assigned duties identified as fire protection personnel duties must maintain certification by the commission in the discipline(s) to which they are assigned for the duration of their assignment.
- (b) In order to maintain the certification required by this section, the certificate(s) of the employees must be renewed annually by complying with §437.5 of this title (relating to Renewal Fees) and Chapter 441 of this title (relating to Continuing Education) of the commission standards manual.
- (c) Except for subsection (d) of this section, or upon determination by the Executive Director when special circumstances are presented, an individual whose certificate has been expired for one year or longer may not renew the certificate previously held. To obtain a new certification, an individual must meet the requirements in Chapter 439 of this title (relating to Examinations for Certification).
- (d) A military service member whose certificate has been expired for three years or longer may not renew the certificate previously held. To obtain a new certification, the person must meet the requirements in Chapter 439 of this title (relating to Examinations for Certification). In order to qualify for this provision, the individual must have been a military service member at the time the certificate expired and continued in that status for the duration of the three-year period.
- (e) The commission will provide proof of current certification to individuals whose certification has been renewed.

14. Proposed rule review for the following:

3. 37 TAC, Chapter 429, Minimum Standards for Fire Inspectors

CHAPTER 429
FIRE INSPECTOR AND PLAN EXAMINER
SUBCHAPTER A
MINIMUM STANDARDS FOR FIRE INSPECTOR CERTIFICATION

§429.1. Minimum Standards for Fire Inspector Personnel.

- (a) Fire code enforcement is defined as the enforcement of laws, codes, and ordinances of the authority having jurisdiction pertaining to fire prevention.
- (b) To qualify for appointment to fire code enforcement duties, individuals must be certified as a Fire Inspector, or meet the requirements in subsections (c) and (d) of this section.
- (c) Individuals may be appointed to fire code enforcement duties on a probationary or temporary status if they have successfully passed the commission exam for Fire Inspector, as specified in Chapter 439 of this title (relating to Examinations for Certification).
- (d) Individuals appointed to fire code enforcement duties in subsection (c) of this section must be certified as a Fire Inspector within one year of the appointment.
- (e) Individuals holding any level of fire inspector certification shall be required to comply with the continuing education requirements in §441.13 of this title (relating to Continuing Education for Fire Inspection Personnel).

§429.3. Minimum Standards for Basic Fire Inspector Certification.

In order to be certified as a Basic Fire Inspector, an individual must:

- (1) possess valid documentation as an Inspector I and Inspector II from either:
- (A) the International Fire Service Accreditation Congress; or
 - (B) the National Board on Fire Service Professional Qualifications issued by the Texas A&M Engineering Extension Service using the 2009 or later edition of the NFPA standard applicable to this discipline and meeting the requirements as specified in §439.1(a)(2) of this title (relating to Requirements—General); or
- (2) complete a commission approved fire inspector training program and successfully pass the commission examination(s) as specified in Chapter 439 of this title (relating to Examinations for Certification). An approved training program shall consist of one or any combination of the following:
- (A) completion of the commission approved Basic Fire Inspector Curriculum, as specified in the commission's Certification Curriculum Manual; or

(B) successful completion of an out-of-state, NFA, and/or military training program which has been submitted to the commission for evaluation and found to meet the minimum requirements as listed in the commission approved Basic Fire Inspector Curriculum as specified in the commission's Certification Curriculum Manual; or

(C) successful completion of the following college courses:

(i) Fire Protection Systems, three semester hours;

(ii) Fire Prevention Codes and Inspections, three semester hours;

(iii) Building Construction in the Fire Service or Building Codes and Construction, three semester hours; and

(iv) Hazardous Materials I, II, or III, three semester hours (total semester hours, (12)); or

(D) documentation of the receipt of Fire Inspector I and Fire Inspector II certificates issued by the State Firemen's and Fire Marshals' Association of Texas that are deemed equivalent to a commission approved Basic Fire Inspector curriculum.

§429.5. Minimum Standards for Intermediate Fire Inspector Certification.

(a) Applicants for Intermediate Fire Inspector Certification must meet the following requirements:

(1) hold as a prerequisite Basic Fire Inspector Certification as defined in §429.3 of this title (relating to Minimum Standards for Basic Fire Inspector Certification); and

(2) acquire a minimum of four years of fire protection experience and complete the training listed in one of the following options:

(A) Option 1--Successfully complete six semester hours of fire science or fire technology from an approved Fire Protection Degree Program and submit documentation as required by the commission that the courses comply with subsections (b) and (c) of this section; or

(B) Option 2--Completion of coursework from either the A-List or the B-List courses. Acceptable combinations of courses are as follows: two A-List courses; or eight B-List courses; or one A-List course and four B-List courses. (See the exception outlined in subsection (c) of this section); or

(C) Option 3--Completion of coursework from either the A-List or the B-List courses in combination with college courses in fire science or fire protection. Acceptable combinations of courses are three semester hours meeting the requirements of Option 1 with either one A-List course or four B-List courses. (See the exception outlined in subsection (c) of this section.)

(b) Non-traditional credit awarded at the college level, such as credit for experience or credit by examination obtained from attending any school in the commission's Certification Curriculum Manual or for experience in the fire service, may not be counted toward this level of certification.

(c) The training required in this section must be in addition to any training used to qualify for any lower level of fire inspector certification. Repeating a course or a course of similar content cannot be used towards this level of certification.

§429.7. Minimum Standards for Advanced Fire Inspector Certification.

(a) Applicants for Advanced Fire Inspector Certification must complete the following requirements:

(1) hold as a prerequisite an Intermediate Fire Inspector Certification as defined in §429.5 of this title (relating to Minimum Standards for Intermediate Fire Inspector Certification); and

(2) acquire a minimum of eight years of fire protection experience and complete the training listed in one of the following options:

(A) Option 1--Successfully complete six semester hours of fire science or fire technology from an approved Fire Protection Degree Program and submit documentation as required by the commission that the courses comply with subsections (b) and (c) of this section; or

(B) Option 2--Completion of coursework from either the A-List or the B-List courses. Acceptable combinations of courses are as follows: two A-List courses; or eight B-List courses; or one A-List course and four B-List courses. (See the exception outlined in subsection (c) of this section); or

(C) Option 3--Completion of coursework from either the A-List or the B-List courses in combination with college courses in fire science or fire protection. Acceptable combinations of courses are three semester hours meeting the requirements of Option 1 with either one A-List course or four B-List courses. (See the exception outlined in subsection (c) of this section.)

(b) Non-traditional credit awarded at the college level, such as credit for experience or credit by examination obtained from attending any school in the commission's Certification Curriculum Manual or for experience in the fire service, may not be counted toward this level of certification.

(c) The training required in this section must be in addition to any training used to qualify for any lower level of fire inspector certification. Repeating a course or a course of similar content cannot be used towards this level of certification.

§429.9. Minimum Standards for Master Fire Inspector Certification.

(a) Applicants for Master Fire Inspector Certification must complete the following requirements:

(1) hold as a prerequisite an Advanced Fire Inspector Certification as defined in §429.7 of this title (relating to Minimum Standards for Advanced Fire Inspector Certification); and

(2) acquire a minimum of 12 years of fire protection experience, and 60 college semester hours or an associate degree, which includes at least 18 college semester hours in fire science subjects.

(b) College level courses from both the upper and lower division may be used to satisfy the education requirement for Master Fire Inspector Certification.

§429.11. International Fire Service Accreditation Congress (IFSAC) Seal.

(a) Individuals who pass the applicable sections of the state examination may be granted IFSAC seal(s) for Inspector I and Inspector II by making application to the commission for the IFSAC seal(s) and paying the associated fees, provided they meet the following provisions:

(1) To receive the IFSAC Inspector I seal, the individual must:

(A) complete the Inspector I section of a commission approved course; and

(B) pass the Inspector I section of a commission examination.

(2) To receive the IFSAC Inspector II seal, the individual must:

(A) complete the Inspector II section of a commission approved course;

(B) document possession of an IFSAC Inspector I seal; and

(C) pass the Inspector II section of a commission examination.

(b) In order to qualify for an IFSAC seal, an individual must submit the application for the seal prior to the expiration of the examination.

CHAPTER 429
FIRE INSPECTOR AND PLAN EXAMINER
SUBCHAPTER B
MINIMUM STANDARDS FOR PLAN EXAMINER

§429.201. Minimum Standards for Plan Examiner Personnel.

Plan examiner duties are defined as the review of building or other structure plans for the purpose of determining compliance with adopted fire codes and standards.

§429.203. Minimum Standards for Plan Examiner I Certification.

In order to be certified as a Plan Examiner I, an individual must:

(1) possess valid documentation as a Plan Examiner I from either:

(A) the International Fire Service Accreditation Congress; or

(B) the National Board on Fire Service Professional Qualifications issued by the Texas A&M Engineering Extension Service using the 2009 or later edition of the NFPA standard applicable to this discipline and meeting the requirements as specified in §439.1(a)(2) of this title (relating to Requirements—General); or

(2) complete a commission approved Plan Examiner I training program and successfully pass the commission examination as specified in Chapter 439 of this title (relating to Examinations for Certification). An approved training program shall consist of one of the following:

(A) completion of the commission approved Plan Examiner I Curriculum, as specified in the commission's Certification Curriculum Manual; or

(B) successful completion of an out-of-state, NFA, and/or military training program which has been submitted to the commission for evaluation and found to meet the minimum requirements as listed in the commission approved Plan Examiner I Curriculum as specified in the commission's Certification Curriculum Manual; or

(C) documentation of the receipt of a Plan Examiner I certificate issued by the State Firemen's and Fire Marshals' Association of Texas that is deemed equivalent to a commission approved Plan Examiner I curriculum.

§429.205. International Fire Service Accreditation Congress (IFSAC) Seal.

(a) Individuals who pass the state examination may be granted an IFSAC seal for Plan Examiner I by making application to the commission for the IFSAC seal and paying the associated fee.

(b) In order to qualify for an IFSAC seal, an individual must submit the application for the seal prior to the expiration of the examination.

14. Proposed rule review for the following:

4. 37 TAC, Chapter 431, Fire Investigation

CHAPTER 431
FIRE INVESTIGATION
SUBCHAPTER A
MINIMUM STANDARDS FOR ARSON INVESTIGATOR CERTIFICATION

§431.1. Minimum Standards for Arson Investigation Personnel.

(a) Fire protection personnel who are appointed arson investigation duties must be certified, as a minimum, as a basic arson investigator as specified in §431.3 of this title (relating to Minimum Standards for Basic Arson Investigator Certification) within one year from the date of initial appointment to such position.

(b) Prior to being appointed to arson investigation duties, fire protection personnel must complete a commission approved basic fire investigator training program, successfully pass the commission examination pertaining to that curriculum, and possess a current peace officer license from the Texas Commission on Law Enforcement or document that the individual is a federal law enforcement officer.

(c) Personnel holding any level of arson investigation certification shall be required to comply with the continuing education requirements in §441.15 of this title (relating to Continuing Education for Arson Investigator or Fire Investigator).

§431.3. Minimum Standards for Basic Arson Investigator Certification.

In order to be certified as a Basic Arson Investigator an individual must:

(1) possess a current basic peace officer's license from the Texas Commission on Law Enforcement or documentation that the individual is a federal law enforcement officer;

(2) hold a current license as a peace officer and notify the commission on the prescribed form regarding the law enforcement agency currently holding the individual's peace officer license; and

(3) possess valid documentation of accreditation from the International Fire Service Accreditation Congress as a Fire Investigator; or

(4) complete a commission approved basic fire investigation training program and successfully pass the commission examination as specified in Chapter 439 of this title (relating to Examinations for Certification). An approved fire investigation training program shall consist of one of the following:

(A) completion of the commission approved Fire Investigator Curriculum, as specified in Chapter 5 of the commission's Certification Curriculum Manual;

(B) successful completion of an out-of-state, NFA, or military training program which has been submitted to the commission for evaluation and found to meet the minimum requirements as listed in the commission approved Fire Investigator Curriculum as specified in Chapter 5 of the commission's Certification Curriculum Manual; or

(C) successful completion of the following college courses: Fire and Arson Investigation I or II, 3 semester hours; Hazardous Materials I, II, or III, 3 semester hours; Building Construction in the Fire Service or Building Codes and Construction, 3 semester hours; Fire Protection Systems, 3 semester hours. Total semester hours, 12.

§431.5. Minimum Standards for Intermediate Arson Investigator Certification.

(a) Applicants for Intermediate Arson Investigator Certification must complete the following requirements:

(1) hold as a prerequisite a Basic Arson Investigator Certification as defined in §431.3 of this title (relating to Minimum Standards for Basic Arson Investigator Certification); and

(2) acquire a minimum of four years of fire protection experience and complete the requirements listed in one of the following options:

(A) Option 1--Successfully complete six semester hours of fire science or fire technology from an approved Fire Protection Degree Program and submit documentation as required by the commission that the courses comply with subsections (b) and (c) of this section; or

(B) Option 2--Completion of coursework from either the A-List or the B-List courses. Acceptable combinations of courses are as follows: two A-List courses; or eight B-List courses; or one A-List course and four B-List courses (See the exception outlined in subsection (c) of this section); or

(C) Option 3--Completion of coursework from either the A-List or the B-List courses in combination with college courses in fire science or fire protection. Acceptable combinations of courses are three semester hours meeting the requirements of Option 1 with either one A-List course or four B-List courses (See the exception outlined in subsection (c) of this section); or

(D) Option 4--Hold current Intermediate Peace Officer certification from the Texas Commission on Law Enforcement with four additional law enforcement courses applicable for fire investigations (See exception outlined in subsection (c) of this section).

(b) Non-traditional credit awarded at the college level, such as credit for experience or credit by examination obtained from attending any school in the commission's Certification Curriculum Manual or for experience in the fire service, may not be counted toward this level of certification.

(c) The training required in this section must be in addition to any training used to qualify for any lower level of Arson Investigator Certification. Repeating a course or a course of similar content cannot be used towards this level of certification.

§431.7. Minimum Standards for Advanced Arson Investigator Certification.

(a) Applicants for Advanced Arson Investigator certification must complete the following requirements:

(1) hold as a prerequisite an Intermediate Arson Investigator Certification as defined in §431.5 of this title (relating to Minimum Standards for Intermediate Arson Investigator Certification); and

(2) acquire a minimum of eight years of fire protection experience and complete the requirements listed in one of the following options:

(A) Option 1--Successfully complete six semester hours of fire science or fire technology from an approved Fire Protection Degree Program and submit documentation as required by the commission that the courses comply with subsections (b) and (c) of this section; or

(B) Option 2--Completion of coursework from either the A-List or the B-List courses. Acceptable combinations of courses are as follows: two A-List courses; or eight B-List courses; or one A-List course and four B-List courses (See the exception outlined in subsection (c) of this section); or

(C) Option 3--Completion of coursework from either the A-List or the B-List courses in combination with college courses in fire science or fire protection. Acceptable combinations of courses are three semester hours meeting the requirements of Option 1 with either one A-List course or four B-List courses (See the exception outlined in subsection (c) of this section); or

(D) Option 4--Advanced Arson for Profit or Complex Arson Investigative Techniques (Bureau of Alcohol, Tobacco, Firearms, and Explosives resident or field course, 80 hours); or

(E) Option 5--Hold current Advanced Peace Officer certification from the Texas Commission on Law Enforcement with four additional law enforcement courses applicable for fire investigations (See exception outlined in subsection (c) of this section).

(b) Non-traditional credit awarded at the college level, such as credit for experience or credit by examination obtained from attending any school in the commission's Certification Curriculum Manual or for experience in the fire service, may not be counted toward this level of certification.

(c) The training required in this section must be in addition to any training used to qualify for any lower level of Arson Investigator Certification. Repeating a course or a course of similar content cannot be used towards this level of certification.

§431.9. Minimum Standards for Master Arson Investigator Certification.

(a) Applicants for Master Arson Investigator Certification must complete the following requirements:

(1) hold as a prerequisite an Advanced Arson Investigator Certification as defined in §431.7 of this title (relating to Minimum Standards for Advanced Arson Investigator Certification); and

(2) acquire a minimum of twelve years of fire protection experience, and 60 college semester hours or an associate's degree, either of which includes at least 18 college semester hours in fire science or criminal justice subjects.

(b) College level courses from both the upper and lower division may be used to satisfy the education requirement for Master Arson Investigator Certification.

§431.11. Minimum Standards for Arson Investigator Certification for Law Enforcement Personnel.

(a) A law enforcement officer employed or commissioned by a law enforcement agency as a peace officer who is designated as an arson investigator by an appropriate local authority is eligible for certification on a voluntary basis by complying with this chapter.

(b) An individual holding commission certification as a fire investigator who becomes a law enforcement officer employed or commissioned by a law enforcement agency as a peace officer, and who is designated as an arson investigator by an appropriate local authority will qualify for a

similar level arson investigator certification. To obtain an arson investigator certification the individual must make application to the commission to include confirmation of commission.

§431.13. International Fire Service Accreditation Congress (IFSAC) Seal.

Individuals completing a commission approved basic fire investigator program and passing the applicable state examination may be granted an IFSAC seal as a Fire Investigator by making application to the commission for the IFSAC seal and paying applicable fees. In order to qualify for an IFSAC seal, an individual must submit the application for the seal prior to the expiration of the examination.

CHAPTER 431

FIRE INVESTIGATION

SUBCHAPTER B

MINIMUM STANDARDS FOR FIRE INVESTIGATOR CERTIFICATION

§431.201. Minimum Standards for Fire Investigation Personnel.

(a) Fire protection personnel who receive temporary or probationary appointment to fire investigation duties must be certified as a fire investigator by the Commission within one year of appointment to such duties.

(b) Prior to being appointed to fire investigation duties, personnel must:

(1) complete a commission approved basic fire investigator training program and successfully pass the commission examination pertaining to that curriculum; or

(2) hold current certification as structure fire protection personnel.

(c) Individuals holding a Fire Investigator certification shall be required to comply with the continuing education requirements in §441.15 of this title (relating to Continuing Education for Arson Investigator or Fire Investigator).

(d) Individuals certified under this subchapter shall limit their investigation to determining fire cause and origin. If evidence of a crime is discovered, custody and control of the investigation shall be immediately transferred to a certified arson investigator or licensed peace officer.

(e) Individuals who previously held arson investigator certification, who no longer hold a current commission as a peace officer, will qualify for certification as a fire investigator of similar level upon notice to the commission. To obtain a fire investigator certification the individual will be required to make application to the commission.

§431.203. Minimum Standards for Fire Investigator Certification.

(a) In order to be certified as a Fire Investigator an individual must complete the requirements specified in §431.3(a)(3) or (4) of this title (relating to Minimum Standards for Basic Arson Investigator Certification).

(b) A person who holds or is eligible to hold a certificate as a Fire Investigator may be certified as an Arson Investigator by meeting the requirements of Chapter 431, Subchapter A, but shall not be required to repeat the applicable examination requirements.

§431.205. Minimum Standards for Intermediate Fire Investigator Certification.

(a) Applicants for Intermediate Fire Investigator must complete the following requirements:

(1) hold as a prerequisite a Basic Fire Investigator Certification as defined in §431.203 of this title (relating to Minimum Standards for Fire Investigator Certification); and

(2) acquire a minimum of four years of fire protection experience and complete the training listed in one of the following options:

(A) Option 1--Successfully complete six semester hours of fire science or fire technology from an approved Fire Protection Degree Program and submit documentation as required by the commission that the courses comply with subsections (b) and (c) of this section; or

(B) Option 2--Completion of coursework from either the A-List or the B-List courses. Acceptable combinations of courses are as follows: two A-List courses; or eight B-List courses; or one A-List and four B-List courses. (See the exception outlined in subsection (c) of this section); or

(C) Option 3--Completion of coursework from either the A-List or the B-List courses in combination with college courses in fire science or fire protection. Acceptable combinations of courses are three semester hours meeting the requirements of Option 1 with either one A-List course or four B-List courses. (See the exception outlined in subsection (c) of this section).

(b) Non-traditional credit awarded at the college level, such as credit for experience or credit by examination obtained from attending any school in the commission's Certification Curriculum Manual or for experience in the fire service, may not be counted toward this level of certification.

(c) The training required in this section must be in addition to any training used to qualify for any lower level of Fire Investigator Certification. Repeating a course or a course of similar content cannot be used towards this level of certification.

§431.207. Minimum Standards for Advanced Fire Investigator Certification.

(a) Applicants for Advanced Fire Investigator must complete the following requirements

(1) hold as a prerequisite an Intermediate Fire Investigator Certification as defined in §431.203 of this title (relating to Minimum Standards for Fire Investigator Certification); and

(2) acquire a minimum of eight years of fire protection experience and complete the training listed in one of the following options:

(A) Option 1--Successfully complete six semester hours of fire science or fire technology from an approved Fire Protection Degree Program and submit documentation as required by the commission that the courses comply with subsections (b) and (c) of this section; or

(B) Option 2--Completion of coursework from the either A-List or the B-List courses. Acceptable combinations of courses are as follows: two A-List courses; or eight B-List courses; or one A-List and four B-List courses. (See the exception outlined in subsection (c) of this section); or

(C) Option 3--Completion of coursework from either the A-List the B-List courses in combination with college courses in fire science or fire protection. Acceptable combinations of courses are three semester hours meeting the requirements of Option 1 with either one A-List course or four B-List courses. (See the exception outlined in subsection (c) of this section).

(b) Non-traditional credit awarded at the college level, such as credit for experience or credit by examination obtained from attending any school in the commission's Certification Curriculum Manual or for experience in the fire service, may not be counted toward this level of certification.

(c) The training required in this section must be in addition to any training used to qualify for any lower level of Fire Investigator Certification. Repeating a course or a course of similar content cannot be used towards this level of certification.

§431.209. Minimum Standards for Master Fire Investigator Certification.

(a) Applicants for Master Fire Investigator Certification must complete the following requirements:

(1) hold as a prerequisite an Advanced Fire Investigator Certification as defined in §431.207 of this title (relating to Minimum Standards for Advanced Fire Investigator Certification); and

(2) acquire a minimum of twelve years of fire protection experience; and

(3) sixty college semester hours or an associate degree, that must include at least eighteen college semester hours in fire science or criminal justice subjects.

(b) College level courses from both the upper and lower division may be used to satisfy the education requirement for Master Fire Investigator Certification.

§431.211. International Fire Service Accreditation Congress (IFSAC) Seal--Fire Investigator.

Individuals completing a commission approved basic fire investigator program and passing the applicable state examination may be granted an IFSAC seal as a Fire Investigator by making application to the commission for the IFSAC seal and paying applicable fees. In order to qualify for an IFSAC seal, an individual must submit the application for the seal prior to the expiration of the examination.

14. Proposed rule review for the following:

5.37 TAC, Chapter 433, Driver/Operator

CHAPTER 433
DRIVER/OPERATOR
SUBCHAPTER A
MINIMUM STANDARDS FOR DRIVER/OPERATOR-PUMPER

§433.1. Driver/Operator-Pumper Certification.

A driver/operator - pumper is defined as an individual who safely operates a fire pumper in accordance with all state and local laws; operates a fire pump in a safe manner; and determines effective fire stream calculations and pump discharge pressures. Responsibilities include routine apparatus tests, maintenance, inspections, and servicing functions.

§433.3. Minimum Standards for Driver/Operator-Pumper Certification.

(a) In order to obtain Driver/Operator-Pumper certification, the individual must:

(1) hold certification as Structural Fire Protection Personnel, Aircraft Rescue Fire Fighting Personnel, or Marine Fire Protection Personnel; and

(2) possess valid documentation as a Driver/Operator-Pumper from either:

(A) the International Fire Service Accreditation Congress; or

(B) the National Board on Fire Service Professional Qualifications issued by the Texas A&M Engineering Extension Service using the 2009 or later edition of the NFPA standard applicable to this discipline and meeting the requirements as specified in §439.1 of this title (relating to Requirements—General); or

(3) complete a commission approved Driver/Operator-Pumper Curriculum and successfully pass the commission examination as specified in Chapter 439 of this title (relating to Examinations for Certification). An approved driver/operator-pumper program must consist of one of the following:

(A) complete a commission approved Driver/Operator-Pumper Curriculum as specified in Chapter 7 of the commission's Certification Curriculum Manual;

(B) complete an out-of-state training program that has been submitted to the commission for evaluation and found to be equivalent to or exceeds the commission approved Driver/Operator-Pumper Curriculum; or

(C) complete a military training program that has been submitted to the commission for evaluation and found to be equivalent to or exceeds the commission approved Driver/Operator-Pumper Curriculum.

(b) Out-of-state or military training programs, which are submitted to the commission for the purpose of determining equivalency, will be considered equivalent if all competencies set forth in Chapter 7 (pertaining to Driver/Operator-Pumper) of the commission's Certification Curriculum Manual are met.

§433.5. Examination Requirements.

(a) Examination requirements of Chapter 439 of this title (relating to Examinations for Certification) must be met in order to receive driver/operator-pumper certification.

(b) Individuals will be permitted to take the commission examination for driver/operator-pumper by documenting, as a minimum, completion of the NFPA 1001 Fire Fighter I training, and completing a commission approved driver/operator-pumper curriculum.

§433.7. International Fire Service Accreditation Congress (IFSAC) Seal.

Individuals completing a commission approved driver/operator-pumper program; documenting, as a minimum, an IFSAC seal for Fire Fighter I; and passing the applicable state examination may be granted an IFSAC seal as a Driver/Operator-Pumper by making application to the commission for the IFSAC seal and paying applicable fees. In order to qualify for an IFSAC seal, an individual must submit the application for the seal prior to the expiration of the examination.

CHAPTER 433**DRIVER/OPERATOR****SUBCHAPTER B****MINIMUM STANDARDS FOR DRIVER/OPERATOR-AERIAL APPARATUS****§433.201. Driver/Operator-Aerial Apparatus Certification.**

A Driver/Operator-Aerial Apparatus is defined as an individual who operates an aerial apparatus safely and in accordance with all state and local laws; safely and correctly maneuvers, positions, stabilizes, and operates an aerial apparatus and device; and effectively deploys and operates an elevated master stream from a water source. Other responsibilities include routine apparatus testing, maintenance, inspections, and servicing functions.

§433.203. Minimum Standards for Driver/Operator-Aerial Apparatus Certification.

(a) In order to obtain Driver/Operator-Aerial Apparatus certification, the individual must:

(1) hold certification as Structural Fire Protection Personnel, Aircraft Rescue Fire Fighting Personnel, or Marine Fire Protection Personnel; and

(2) possess valid documentation as a Driver/Operator-Aerial Apparatus from either:

(A) the International Fire Service Accreditation Congress; or

(B) The National Board on Fire Service Professional Qualifications issued by the Texas A&M Engineering Extension Service using the 2014 or later edition of the NFPA standard applicable to this discipline and meeting the requirements as specified in 439.1 of this title (relating to Requirements-General); or

(3) complete a commission approved Driver/Operator-Aerial Apparatus training program and successfully pass the commission examination as specified in Chapter 439 of this title (relating to Examinations for Certification). An approved driver/operator-aerial apparatus training program must consist of one of the following:

(A) completion of an in-state driver/Operator-Aerial Apparatus program meeting the requirements of the applicable NFPA standard and conducted by a commission certified training provider, that was submitted and approved through the commission's training prior approval system; or

(B) completion of an out-of-state training program that has been submitted to the commission for evaluation and found to meet the requirements of the applicable NFPA standard; or

(C) completion of a military training program that has been submitted to the commission for evaluation and found to meet the requirements of the applicable NFPA standard.

(b) Out-of-State or military training programs submitted to the commission for the purpose of determining equivalency will be considered equivalent if the training addresses all job performance requirements of the applicable NFPA standard.

§433.205. Examination Requirements.

(a) Examination requirements in Chapter 439 of this title (relating to Examinations for Certification) must be met in order to receive Driver/Operator-Aerial Apparatus certification.

(b) Individuals will be permitted to take the commission examination for Driver/Operator-Aerial Apparatus by documenting, as a minimum, completion of the NFPA 1001 Fire Fighter I training, and completing a commission approved Driver/Operator-Aerial Apparatus training program.

§433.207. International Fire Service Accreditation Congress (IFSAC) Seal.

Individuals completing a commission approved Driver/Operator-Aerial program; documenting an NFPA 1001 Fire Fighter I IFSAC seal and passing the applicable state examination, may be granted an IFSAC seal for Driver/Operator-Aerial by making application to the commission for the IFSAC seal and paying applicable fees. Individuals must submit the application and fee for the seal prior to the expiration of the examination in order to qualify for the IFSAC seal.

14. Proposed rule review for the following:

6. 37 TAC, Chapter 437, Fees

CHAPTER 437

FEES

§437.1. Purpose and Scope.

(a) The purpose of this chapter is to set forth requirements governing the fees charged by the commission as prescribed by Texas Government Code, Chapter 419, §419.025 and §419.026, and commission rule.

(b) This chapter shall govern all proceedings before and dealing with the commission concerning fees. Hearings and appellate proceedings regarding these fees shall be governed by this chapter where applicable and by the rules of the practice and procedure of the commission and the Administrative Procedure Act and Texas Register Act, Chapter 2001, of the Texas Government Code.

(c) If a fee submitted in the form of a check is returned for insufficient funds the certification, seal or test for which the fee was collected will be invalidated.

(d) Additional fees, such as those charged for exam administration or criminal background checks, may be charged to applicants and regulated entities by service providers other than the commission. The commission does not charge and will not collect these additional fees. Payment of the additional fees shall be made via a separately established agreement between the individual or regulated entity and the applicable service providers.

§437.3. Certification Application Processing Fees.

(a) A non-refundable application processing fee of \$85 is required for each certificate issued by the commission. If a certificate is issued within the time provided in §401.125 of this title (relating to Processing Periods), the fee will be applied to the certification. If the certificate is denied, the applicant must pay a new certification application processing fee to file a new application.

(b) The regulated employing entity shall be responsible for all certification application processing fees required as a condition of appointment.

(c) Nothing in this section shall prohibit an individual from paying a certification application processing fee for any certificate which he or she is qualified to hold, providing the certificate is not required as a condition of appointment (see subsection (b) of this section concerning certification fees).

(d) A facility that provides training for any discipline for which the commission has established a curriculum must be certified by the commission. The training facility will be charged a separate certification application processing fee for each discipline or level of discipline for which application is made.

(e) The certification application processing fee is waived for a military service member or military veteran whose military service, training, or education substantially meets the requirements for commission certification, and is applying for the first time for a certification required by commission rules for appointment to duties.

(f) The certification application processing fee is waived for a military service member, military veteran, or military spouse who holds a current license or certification issued by another jurisdiction

that has requirements substantially equivalent to the requirements for commission certification, and is applying for the first time for a certification required by commission rules for appointment to duties.

§437.5. Renewal Fees.

(a) A non-refundable annual renewal fee of \$75 shall be assessed for each certified individual and certified training facility. If an individual or certified training facility holds more than one certificate, the commission may collect only one renewal fee of \$75, which will renew all certificates held by the individual or certified training facility.

(b) A regulated employing entity shall pay the renewal fee for each individual who is required to possess certification as a condition of employment.

(c) If a person re-enters the fire service whose certificate(s) has been expired for less than one year, the regulated entity must pay all applicable renewal fee(s) and any applicable additional fee(s). Upon payment of the required fees, the certificates previously held by the individual, for which he or she continues to qualify, will be renewed.

(d) If a person wishes to renew a certificate(s) which has been expired less than one year and the individual is not employed by a regulated employing entity as defined in subsection (b) of this section, the individual must pay all applicable renewal fee(s) and any applicable additional fee(s). Upon payment of the required fee(s), the certificate(s) previously held by the individual, for whom he or she continues to qualify, will be renewed.

(e) Nothing in this section shall prohibit an individual from paying a renewal fee for any certificate which he or she is qualified to hold providing the certificate is not required as a condition of employment.

(f) Certification renewal information will be sent to all regulated employing entities and individuals holding certification at least 60 days prior to October 31 of each calendar year. Certification renewal information will be sent to certified training facilities at least 60 days prior to February 1 of each calendar year.

(g) If renewal payment is submitted by mail, all certification renewal fees must be submitted with the renewal invoice to the commission.

(h) All certification renewal fees must be paid on or before the last day of the certification period (see subsection (i) of this section) to avoid additional fee(s).

(i) The certification period shall be a period not to exceed one year. The certification period for employees of regulated employing entities, and individuals holding certification is November 1 to October 31. The certification period of certified training facilities is February 1 to January 31.

(j) All certification renewal fees received from one to 30 days after the last day of the certification period will cause the individual or entity responsible for payment to be assessed a non-refundable late fee of \$37.50 in addition to the renewal fee for each individual or training provider for which a renewal fee was due.

(k) All certification renewal fees received more than 30 days after the last day of the certification period will cause the individual or entity responsible for payment to be assessed a non-refundable late fee of \$75 in addition to the renewal fee for each individual or training provider for which a renewal fee was due.

(l) In addition to any non-refundable late fee(s) assessed for certification renewal, the commission may hold an informal conference to determine if any further action(s) is to be taken.

(m) An individual or entity may petition the commission for a waiver of the late fees required by this section if the person's certificate expired because of the individual or regulated employing entity's good faith clerical error, or expired as a result of termination of the person's employment where the person has been restored to employment through a disciplinary procedure or a court action.

(1) Applicants claiming good faith clerical error must submit a sworn statement together with any supporting documentation that evidences the applicant's good faith efforts to comply with commission renewal requirements and that failure to comply was due to circumstances beyond the control of the applicant.

(2) Applicants claiming restoration to employment as a result of a disciplinary or court action must submit a certified copy of the order restoring the applicant to employment.

(n) An individual, who is a military service member, or returning from activation to military service, must notify the commission in writing if the individual wishes to renew an expired certification. Provided other qualifications for renewal are met, the individual will have any normally associated late fees waived and will be required to pay a renewal fee of \$75.

§437.7. Standards Manual and Certification Curriculum Manual Fees.

(a) Current versions of the Standards Manual for Fire Protection Personnel and Certification Curriculum Manual are available on the commission's website.

(b) The commission does not provide printed copies of the manuals. A printed copy of the commission's standards may be obtained from Thomson West, 610 Opperman Drive, Eagan, MN 55123, by requesting "Title 37, Public Safety and Corrections" of the Texas Administrative Code. The web address for Thomson West is www.west.thomson.com.

§437.11. Copying Fees.

(a) All photographic reproduction of records or documents in the files of the commission and prepared on standard office machines will be furnished for a fee.

(b) A fee will be charged for address and telephone number lists of fire service agencies.

(c) A fee will be charged for mailing peel-off labels of fire service agencies.

§437.13. Processing Fees for Test Application.

(a) A non-refundable application processing fee of \$55 shall be charged for each examination.

(b) A non-refundable application processing fee of \$35 shall be charged for each sectional examination.

(c) Fees will be paid in advance with the application or the certified training provider may be invoiced or billed if previous arrangements have been approved by the commission in writing via mail, e-mail or fax.

(1) Any payment postmarked from 61 to 90 days after the invoice date will cause the provider of training to be assessed a non-refundable late fee of one half the amount shown on the invoice. This late fee is in addition to the amount shown on the invoice for test application processing fees.

(2) Any payment postmarked more than 90 days after the invoice date will cause the provider of training to be assessed a non-refundable late fee in an amount equal to the amount shown on the invoice. This late fee is in addition to the amount shown on the invoice for test application processing fees.

(d) The test application processing fee is waived for a military service member or military veteran whose military service, training, or education substantially meets the training requirements for a commission examination. This subsection applies to initial examinations for certifications required by commission rules for appointment to duties. Retests following a failed initial examination or an examination to regain a certification that was lost are not included.

(e) The test application processing fee is waived for a military service member, military veteran, or military spouse who holds a current license or certification issued by another jurisdiction that has requirements substantially equivalent to the training requirements for a commission examination. This subsection applies to initial examinations for certifications required by commission rules for appointment to duties. Retests following a failed initial examination or an examination to regain a certification that was lost are not included.

§437.15. International Fire Service Accreditation Congress (IFSAC) Seal Fees.

A non-refundable \$15 fee shall be charged for each IFSAC seal issued by the commission.

§437.17. Records Review Fees.

(a) A non-refundable fee of \$75 shall be charged for each training records review conducted by the commission for the purpose of determining equivalency to the appropriate commission training program or to establish eligibility to test. Applicants submitting training records for review shall receive a written analysis from the commission.

(b) The fee provided for in this section shall not apply to an individual who holds an advanced or Fire Fighter II certificate from the State Firemen's and Fire Marshals' Association of Texas.

§437.19. Early Review Fees.

A non-refundable fee of \$75 will be charged for each early review conducted by the commission for the purpose of determining the eligibility of a person to be certified by the commission based upon a review of their criminal history.

15. Review of 2021 data collected regarding fire fighter injuries and the development of recommendations to be submitted to the State Fire Marshal's Office for inclusion in its annual report.

2021 INJURY REPORT

An Annual Summary of Fire Fighter Injuries, Exposures, and Cancer Diagnoses Reported to the Texas Commission on Fire Protection for Calendar Year 2021

By
Grace Wilson
of the
Texas Commission on Fire Protection

Published in cooperation with the Health and Wellness Committee of the Texas Commission on Fire Protection, July 2022



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*Copies of this publication can be downloaded free of charge on-line:
<https://www.tcfp.texas.gov/services/injury-reports>*

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Mission

The commission shall gather and evaluate data on fire protection personnel injuries and develop recommendations for reducing injuries.

Why we are collecting injury data

Under Texas Government Code §419.048, the Texas Legislature charged the commission with gathering and evaluating data on injuries. The rules requiring regulated entities to report injuries to the commission are in Texas Administrative Code §435.23. The commission encourages volunteer entities to report injuries so that it can gain as accurate a picture as possible concerning injury trends in the Texas fire service. The injury reporting program began in March 2010.

Information the commission collects

- Minor, serious, and fatal injuries,
- Exposures (toxic and pathogenic)
- Cancer diagnoses
- Activities where fire personnel are injured
- Types of injuries (burns, strain-sprains, wounds, etc.)
- Body parts being injured
- Tasks performed at the time of injury
- Missed time
- Work assignment after injury
- Malfunctions/failures of personal protective equipment (PPE), self-contained breathing apparatus (SCBA), personal alert safety systems (PASS devices) and standard operating procedures (SOPs)

How this will help the fire service

- Identify common injuries and exposures
- Identify trends in injuries and exposures
- Identify needed training
- Evaluate and find improvements in procedures

Executive Summary

The information in this report is collected by the Texas Commission on Fire Protection (TCFP) via an on-line injury reporting application. The report is a comprehensive analysis of injuries and exposures to Texas fire fighters. These injuries and exposures were reported to the TCFP in 2021 by fire departments throughout the state, and this report contains charts and graphs depicting the results of the information that was collected. The report also compares Texas fire fighter injury statistics with national statistics that were gathered by the National Fire Protection Association (NFPA) in 2020.

Under Texas Government Code §419.048, the Texas Commission on Fire Protection is charged with developing and establishing criteria to receive and analyze injury information pertaining to Texas fire fighters. The commission reviews this information to develop recommendations to help reduce injuries to fire protection personnel. The commission provides this information to the State Fire Marshal's Office (SFMO) by September 1 of each year for inclusion in the SFMO's annual Firefighter Fatality Investigations Report. The commission has enacted rules about reporting injuries in the Texas Administrative Code (TAC) Title 37, Chapter 435, and has established the criteria and policies for reporting and analyzing the information.

The commission originally built the data systems necessary to gather this information in 2010. In 2017 the data systems were migrated from a Microsoft Access database structure to a new system which was developed in-house and designed specifically to meet the information resource needs of the TCFP. Fine-tuning of this newer system is ongoing as we receive feedback from stake-holders. The reporting process is accomplished online via TCFP's FIDO system. Fire departments regulated by the commission have been notified of the requirement to report. Several volunteer departments, which are not regulated by the commission, are also participating voluntarily.

This report concludes with recommendations from the commission to help reduce the number of fire fighter injuries in Texas and to improve the injury reporting program.

A Note About COVID-19

The on-going COVID-19 pandemic continued to cause the numbers of injuries and exposures to spike sharply in the areas of EMS-related duties (i.e., patient care) and station duties (i.e., contact with contagious co-workers) compared to previous years. Please keep this in mind as you review the report.

Abstract

This report contains data submitted by regulated and non-regulated entities.

Grand Totals – 2021

Total number of incidents (injury reports) submitted: 5,536

Total number of individuals who sustained an injury or exposure: 5,706*

Total number of injuries reported: 2,979

Total number of exposures reported: 2,974

**Note that an individual could have more than one injury or could have an injury and an exposure. This explains why the total number of individuals who sustained an injury is less than the total number of injuries + total number of exposures. (5,706 < 2,979 + 2,974)*

Because the on-line injury reporting system was reconfigured in 2018, the information collected by the TCFP has evolved over the last couple of years. **It's important to remember that one incident report can have multiple individuals involved, and each of those individuals can have one or more injuries.** For example:

Joe and Bob were burned in a fire while on duty. This resulted in:

- One incident (one injury report), with
- Two individuals who...
- Sustained three injuries
 - Joe was burned on the hand and arm (two injuries)
 - Bob was burned on the leg (one injury)

The "Bird's Eye View"

Reporting Rate 72%. 559 of the 772 regulated departments used TCFP's injury reporting system in 2021.

Top 5 activities that resulted in injuries or exposures

1. EMS = 2,303 injured individuals (40% of the total reported injuries/exposures)
2. Station Duties = 1,451 (25% of the total)
3. Fire Suppression = 670 (12% of the total)
4. Wellness/Fitness = 421 (7% of the total)
5. Skills Training = 398 (7% of the total)

State of Texas vs. NFPA

Comparison between the State of Texas (2020) and National Fire Protection Association (NFPA) U.S. Firefighter Injuries (2020)

For the purposes of comparison, the commission has mapped its categories to the NFPA categories as follows:

- “*Fireground*” includes the commission’s Fire Suppression and Rescue – Fire Related categories.
- “*Non-Fire*” includes Rescue Non-Fire, EMS and Hazmat.
- “*Other On-Duty*” includes Fire Prevention, Station Duties and Wellness/Fitness.

The NFPA’s “Responding and Returning” and “Training” categories appear to correspond closely to the commission’s categories. (The NFPA numbers include Texas statistics, although the reporting populations may not be the same.)

Please keep in mind that Table 1 and Figure 1 reflect 2020 data, and not 2021 data as in the rest of this report. NFPA’s 2021 injury data will not be published and available until 2023.

Comparing Texas 2020 and NFPA 2020

Table 1: Texas 2020 vs. NFPA 2020

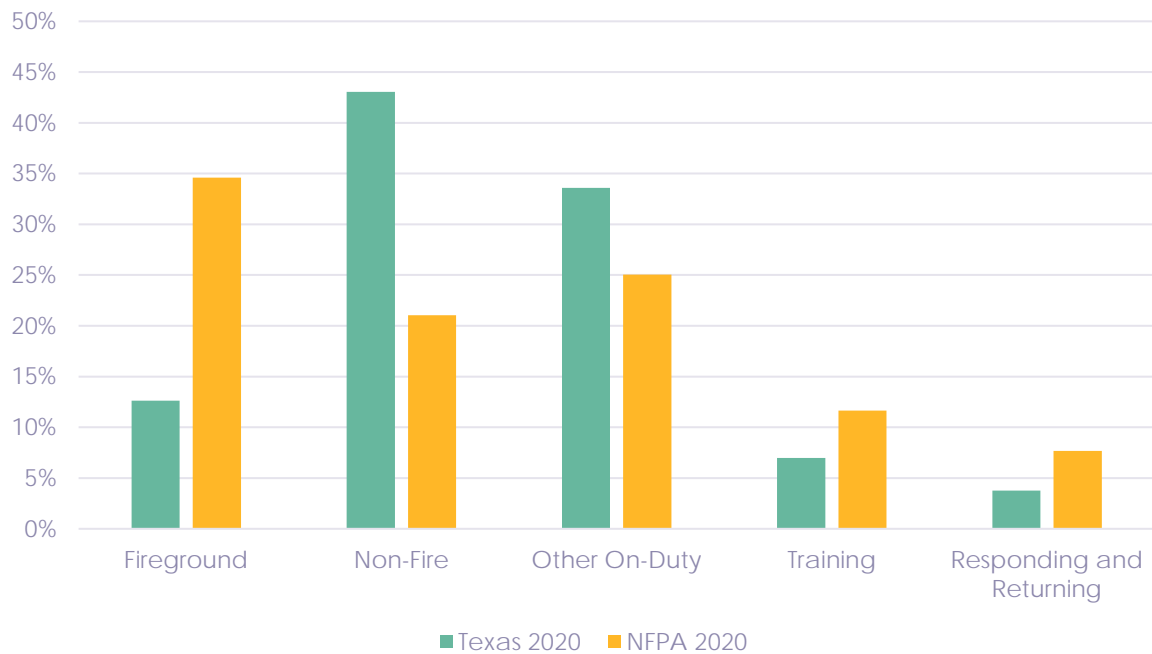
Category	Texas 2020		NFPA 2020	
	Count	Percent	Count	Percent
Fireground	720	13%	22,450	35%
Non-Fire	2,457	43%	13,650	21%
Other On-Duty	1,916	34%	16,250	25%
Training	398	7%	7,550	12%
Responding and Returning	215	4%	4,975	8%
Total	5,706	100%	64,875	100%

NFPA data is from the [Firefighter Injuries in the United States in 2020](#) report, copyright 2021 National Fire Protection Association, Quincy, MA.

Special note about COVID-19

The NFPA estimates there were 20,900 exposures to infectious diseases in 2020. This is more than two and a half times the 7,675 exposures in 2019. In Texas, we had 3,600 reports of infectious diseases in 2020, while in 2019 we had only 23.

Figure 1: Injuries by Activity, percentages
(Comparing Texas 2020 and NFPA 2020)

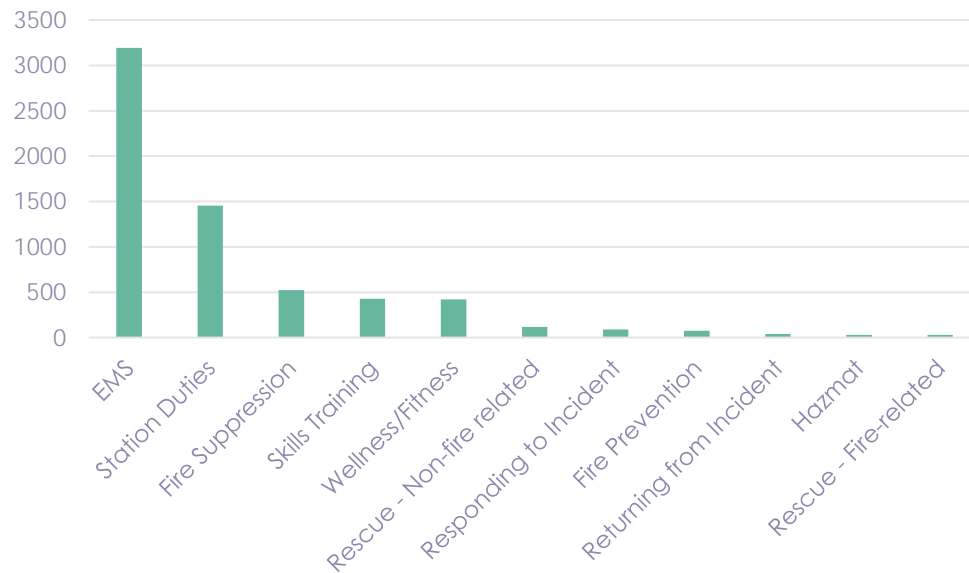


Fire Protection Personnel Injuries

Table 2: Total Injured or Exposed Individuals by Activity and Severity, 2021

Activity	Minor	Serious	Fatal	Total	2020	2019
EMS	1,633	667	3	2,303	3,192	922
Station Duties	750	701	0	1,451	1,454	739
Fire Suppression	522	147	1	670	525	763
Wellness/Fitness	290	131	0	421	422	469
Skills Training	284	114	0	398	429	407
Responding to Incident	117	35	0	152	91	157
Rescue - nonfire	89	22	0	111	118	143
Returning from Incident	40	23	0	63	41	60
Rescue - fire-related	40	10	0	50	29	53
Fire prevention	35	9	0	44	76	26
Hazmat	40	3	0	43	29	41
Total	3,840	1,862	4	5,706	6,406	3,780

Figure 2: Total Injured or Exposed Individuals by Activity, 2021



Injuries/Exposures by Activity

EMS activities resulted in the highest number of minor injuries in 2021 (see Table 3), which is consistent with the previous five years. The total numbers of minor and serious injuries and exposures is up significantly in 2021 compared with the years prior to 2021 due to the continuing COVID-19 pandemic.

Definitions

Minor = An injury/exposure that does not result in the employee missing a full duty period.

Serious = An injury/exposure that results in the employee missing one or more full duty periods.

Fatal = The injured/exposed individual did not survive.

Table 3: Minor Injury/Exposure Activities, 2017 – 2021

Activity	2017		2018		2019		2020		2021	
	Count	%	Count	%	Count	%	Count	%	Count	%
EMS	929	29%	843	30%	776	26%	2,529	56%	1,633	43%
Station Duties	481	15%	437	15%	591	20%	722	16%	750	20%
Fire Suppression	662	21%	607	21%	616	21%	397	9%	522	14%
Wellness/Fitness	254	8%	286	10%	290	10%	306	7%	290	8%
Skills Training	291	9%	277	10%	330	11%	304	7%	284	7%
Responding to Incident	156	5%	99	3%	114	4%	68	2%	117	3%
Rescue - Non-Fire	206	7%	157	6%	140	5%	89	2%	89	2%
Hazmat	21	1%	27	1%	24	1%	22	0%	40	1%
Rescue - Fire Related	113	4%	39	1%	37	1%	26	1%	40	1%
Returning from Incident	42	1%	57	2%	39	1%	28	1%	40	1%
Fire Prevention	50	2%	69	2%	46	2%	49	1%	35	1%
Total	3,155	100%	2,829	100%	2,957	100%	4,491	100%	3,840	100%

(Numbers in red above = least amount of injuries for the five-year period.)

Table 4: Serious Injury/Exposure Activities, 2017 – 2021

Activity	2017		2018		2019		2020		2021	
	Count	%	Count	%	Count	%	Count	%	Count	%
Station Duties	185	21%	201	20%	147	19%	731	39%	701	38%
EMS	147	17%	184	19%	146	19%	660	35%	667	36%
Fire Suppression	157	18%	191	19%	145	19%	127	7%	147	8%
Wellness/Fitness	129	15%	131	13%	117	15%	116	6%	131	7%
Skills Training	120	14%	123	13%	139	18%	125	7%	114	6%
Responding to Incident	53	6%	64	7%	28	4%	23	1%	35	2%
Returning from Incident	28	3%	34	3%	14	2%	13	1%	23	1%
Rescue - Non-Fire	27	3%	26	3%	17	2%	29	2%	22	1%
Rescue - Fire Related	1	0%	1	0%	2	0%	3	0%	10	1%
Fire Prevention	15	2%	21	2%	14	2%	27	1%	9	0%
Hazmat	7	1%	5	1%	4	1%	7	0%	3	0%
Total	869	100%	981	100%	773	100%	1,861	100%	1,862	100%

(Numbers in red above = least amount of injuries for the five year period.)

Fatalities

The commission's 2021 injury report includes three fatalities (two from COVID-19 and one from colon cancer). Fatalities noted in this report include only those reported to the Texas Commission on Fire Protection (TCFP) by the entities it regulates.

The State Fire Marshal's Office conducted four Texas fire fighter fatality incident investigations in 2021. Comprehensive information about the investigations may be found on their website at the following web address:

<https://www.tdi.texas.gov/fire/fmloddannuuals.html>

Table 5: Number of Individuals Who Sustained Fatal Injuries/Exposures, 2021

Activity	Count	Percent
EMS	2	67%
Fire Suppression	1	33%
Total	3	100%

Emergency vs. Non-Emergency Injuries

Table 6: Number of Injured Individuals by Emergency Activity and Severity, 2021

Activity	Minor	Serious	Fatal	Total
EMS	1,633	667	3	2,303
Fire Suppression	522	147	1	670
Rescue - Non-fire related	89	22	0	111
Responding to Incident	117	35	0	152
Returning from Incident	40	23	0	63
Hazmat	40	3	0	43
Rescue - Fire related	40	10	0	50
Total	2,481	907	4	3,392

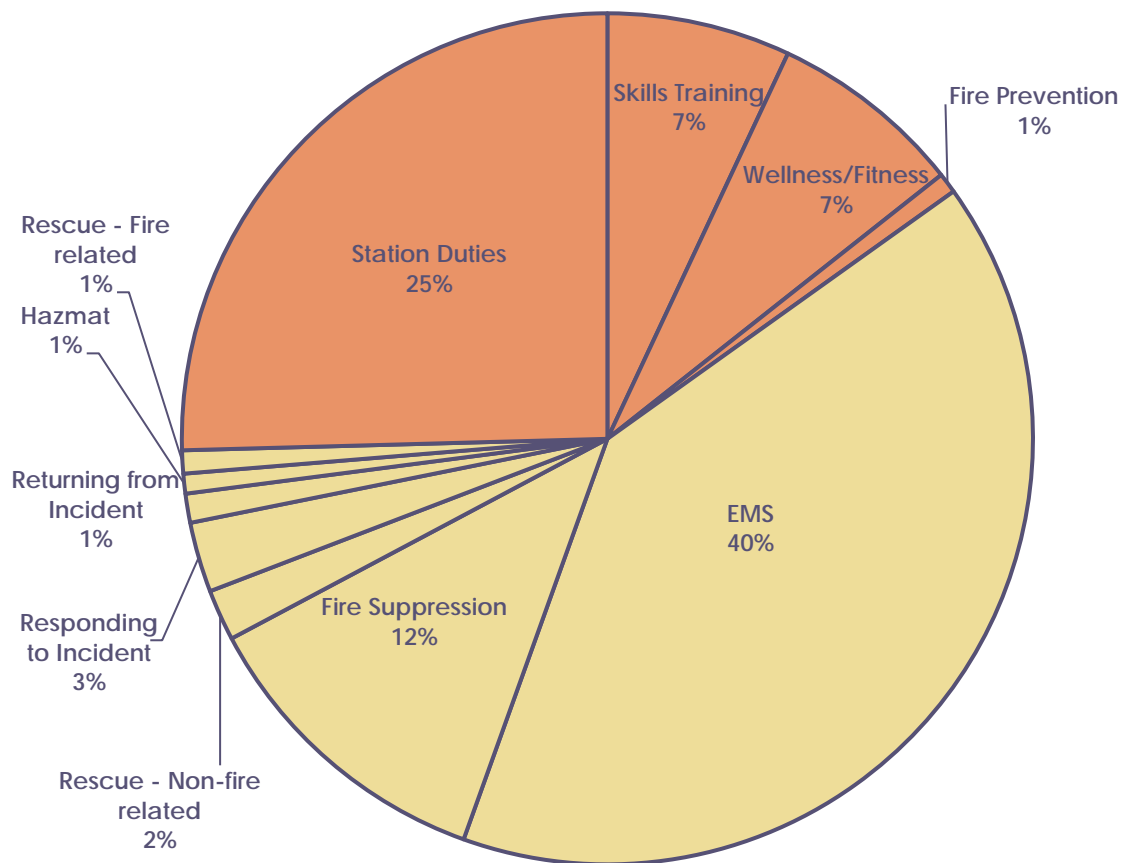
Table 7: Number of Injured Individuals by Non-Emergency Activity and Severity, 2021

Activity	Minor	Serious	Fatal	Total
Station Duties	750	701	0	1,451
Skills Training	284	114	0	398
Wellness/Fitness	290	131	0	421
Fire Prevention	35	9	0	44
Total	1,359	955	0	2,314

Figure 3: Percentages of Injured Individuals in Emergency and Non-Emergency Activities, 2021

Emergency Activities = 60%

Non-emergency Activities = 40%

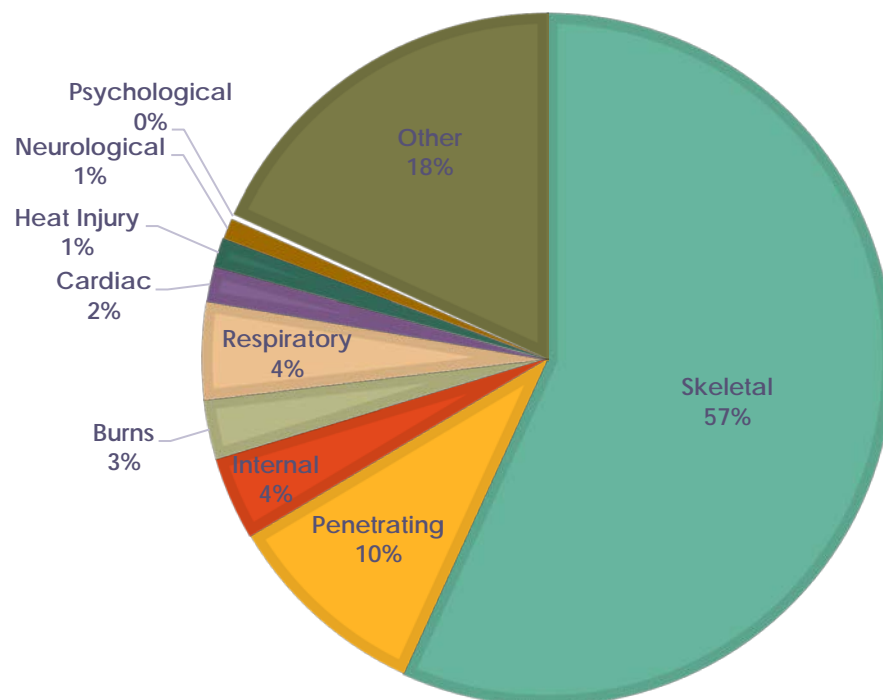


Types of Injuries

Table 8: Types of Injuries, 2021

Type of Injury	2021	
	Count	Percent
Skeletal	1,693	57%
Penetrating	286	10%
Respiratory	135	5%
Internal	116	4%
Burns	83	3%
Cardiac	49	2%
Heat Injury	41	1%
Neurological	29	1%
Psychological	8	0%
Other	539	18%
Total	2,979	100%

Figure 4: Types of Injuries, 2021

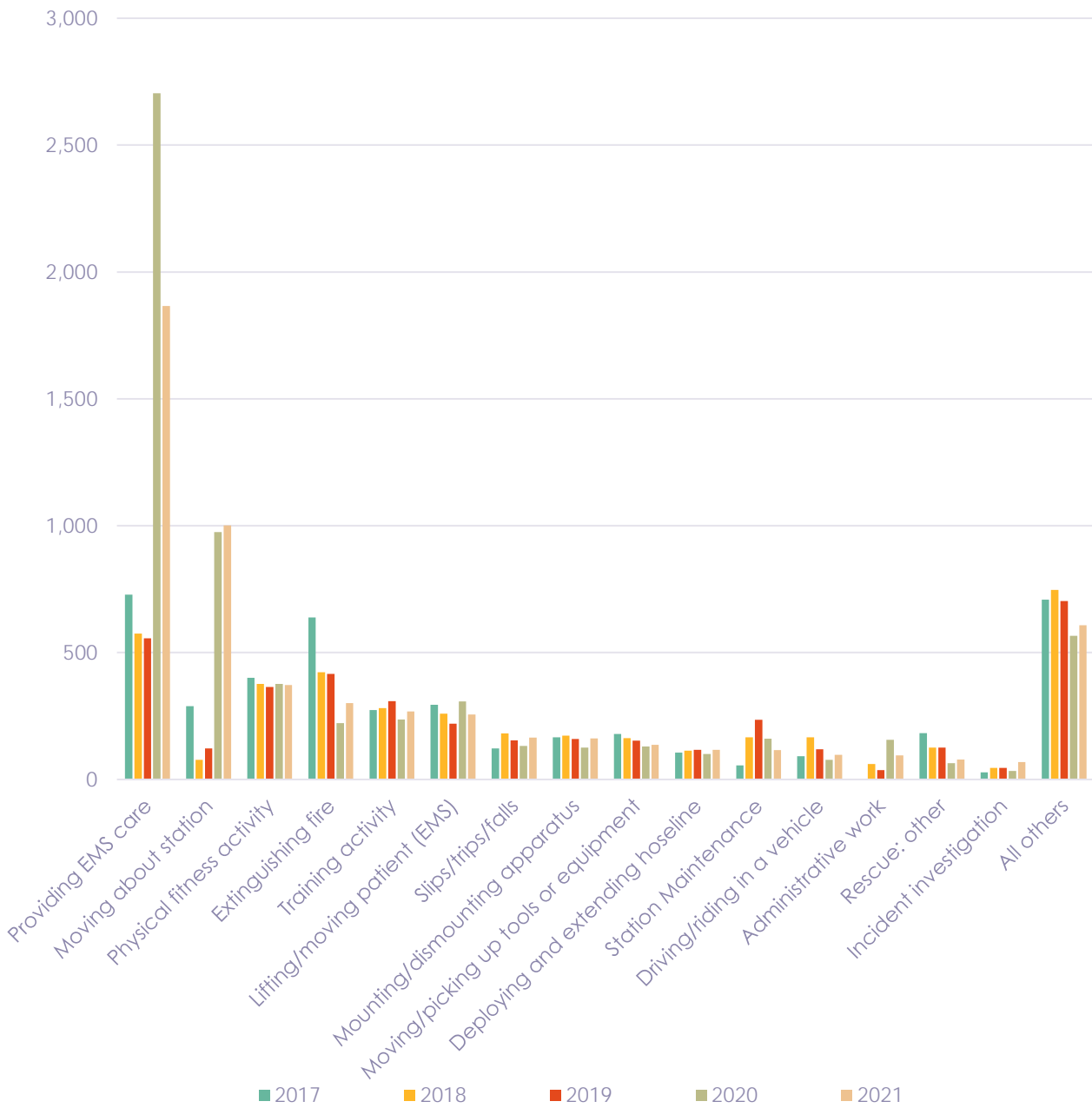


Task at Time of Injury

Table 9: Top 15 Tasks at Time of Injury, 2017 – 2021 (ordered by 2021, descending)

Task	2017	2018	2019	2020	2021
Providing EMS care	728	575	556	2,704	1,866
Moving about station	289	77	122	975	1,001
Physical fitness activity	401	376	364	376	372
Extinguishing fire	638	423	416	222	301
Training activity	273	281	309	236	268
Lifting/moving patient (EMS)	294	259	220	307	256
Slips/trips/falls	122	181	154	132	165
Mounting/dismounting apparatus	166	173	159	125	162
Moving/picking up tools or equipment	179	163	153	130	136
Deploying and extending hoseline	106	113	117	100	117
Station Maintenance	55	166	235	161	116
Driving/riding in a vehicle	92	166	119	77	97
Administrative work	n/a	61	37	156	95
Rescue: other	183	126	126	64	78
Incident investigation	28	45	46	34	68
All others	709	747	703	566	608
Total	4,263	3,932	3,836	6,365	5,706

Figure 5: Top 15 Tasks at Time of Injury, 2017 – 2021



Injuries by Body Part

Table 10: Injuries by Body Part, 2017

Injured Body Part	2017
Multiple body parts, whole body	1,064
Hand and fingers	365
Knee	315
Hip, lower back, or buttocks	292
Back, except spine	248
Shoulder	221
Ankle	179
Multiple parts	151
Face	127
Arm, lower, not including elbow or wrist	121
Leg, lower	113
Foot and toes	87
Head	78
Ear	76
Chest	76
Eye	73
Multiple body parts, upper body	73
Elbow	72
Wrist	56
Other body parts injured	303
Total	4,090

Because TCFP migrated to a new data management system in 2017, the data collected in years 2018-2021 has been categorized differently than it had been in the past. This is why Table 10 only goes through 2017, and we now have new tables (11 & 12) for 2018 - 2021 data.

Table 11: Injuries by Body Part Type, 2018 – 2021

Injured Body Part	2018	2019	2020	2021
Upper Extremities	864	795	700	769
Lower Extremities	810	684	616	684
Back	490	466	445	459
Internal	105	125	144	379
Multiple Parts	318	255	281	277
Head	300	327	197	228
Chest	104	108	107	116
Hip	23	33	29	34
Neck	64	56	33	33
Total	3,078	2,849	2,552	2,979

Table 12: Injuries by Body Part Sub-Type, 2018 – 2021

Body Part by Sub-Type	2018	2019	2020	2021
Back: Back	198	194	191	172
Back: Buttocks	1	3	2	2
Back: Lower Back	282	258	248	274
Back: Neck	4	4	1	7
Back: Spine	5	7	3	4
Chest: Abdomen	5	4	2	3
Chest: Abdominal Area	10	4	9	5
Chest: Chest	89	100	96	108
Head: Brain	n/a	n/a	n/a	5
Head: Cheek	5	7	4	7
Head: Chin	7	1	4	2
Head: Ear	77	117	50	51
Head: Eye	64	60	44	42
Head: Face	111	112	78	53
Head: Forehead	n/a	n/a	n/a	3

Head: Jaw	1	6	2	2
Head: Mouth	15	16	10	8
Head: Nose	20	8	3	8
Head: Skull	n/a	n/a	2	47
Hip: Groin	9	14	9	12
Hip: Hip	13	18	18	22
Hip: Pelvis	1	1	2	0
Internal: Genito-urinary	4	11	4	1
Internal: Heart	5	7	4	6
Internal: Internal	66	71	74	257
Internal: Intestinal tract	5	4	3	2
Internal: Lungs	9	11	51	99
Internal: Stomach	15	20	8	13
Internal: Trachea	1	1	0	1
Lower Extremities: Ankle	206	163	135	160
Lower Extremities: Foot	93	88	78	73
Lower Extremities: Knee	347	273	252	302
Lower Extremities: Lower leg	111	97	95	100
Lower Extremities: Toes	15	22	13	13
Lower Extremities: Upper Leg	38	41	43	36
Multiple Parts: Lower Body	26	19	20	15
Multiple Parts: Unknown	26	11	27	20
Multiple Parts: Upper Body	74	76	65	74
Multiple Parts: Whole Body	192	149	169	168
Neck: Neck	59	49	30	32
Neck: Throat	5	7	3	1
Upper Extremities: Elbow	68	44	34	42
Upper Extremities: Hands	361	326	319	302
Upper Extremities: Lower Arm	10	59	55	53
Upper Extremities: Shoulder	234	235	170	251
Upper Extremities: Upper Arm	112	72	45	63
Upper Extremities: Wrist	79	59	77	58
Total	3,078	2,849	2,552	2,979

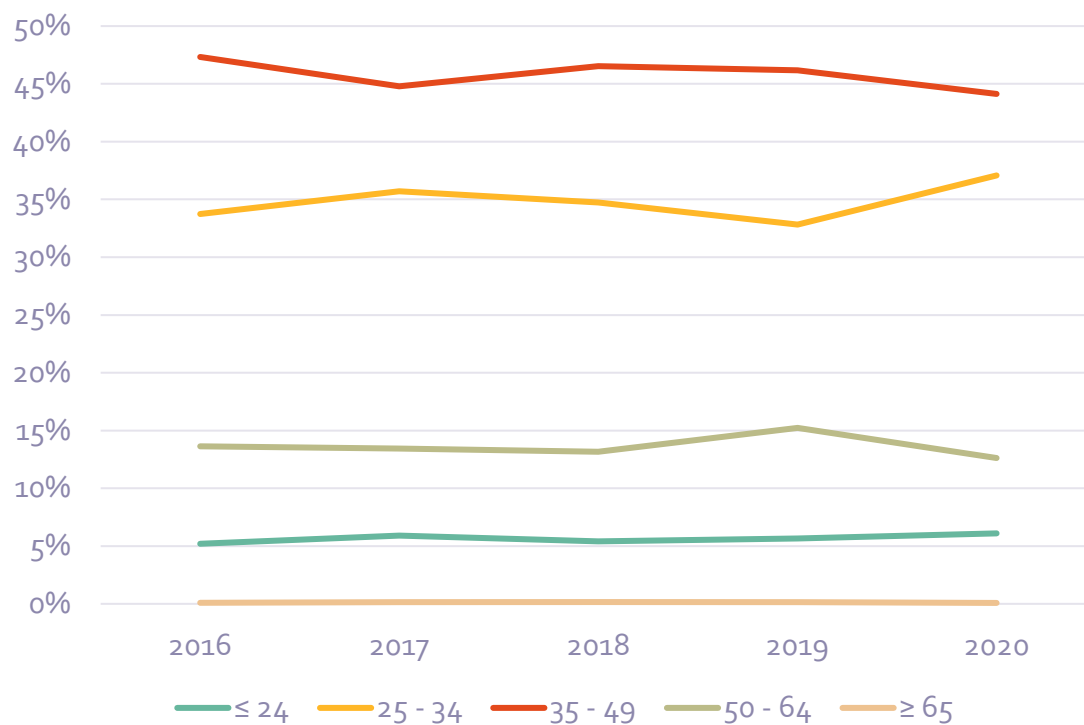
Individuals by Age Group

Table 13: Individuals by Age Group*, 2017 – 2021

Age Group	2017		2018		2019		2020		2021	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
≤ 24	242	5.92%	210	5.41%	210	5.65%	389	6.10%	257	4.52%
25 - 34	1,460	35.70%	1,348	34.73%	1,220	32.82%	2,365	37.07%	1,773	31.15%
35 - 49	1,832	44.79%	1,806	46.53%	1,716	46.17%	2,815	44.13%	2,829	49.70%
50 - 64	550	13.45%	511	13.17%	566	15.23%	805	12.62%	827	14.53%
≥ 65	6	0.15%	6	0.15%	5	0.13%	5	0.08%	6	0.11%
Totals	4,090	100.00%	3,881	100.00%	3,717	100.00%	6,379	100.00%	5,692	100.00%

*Includes injured individuals and individuals with exposures.

Figure 6: Individuals by Age Group, percentages, 2017 – 2021



Activities Resulting in Lost Time

Table 14: Activities Individuals Were Doing that Resulted in Lost Time, 2021 Totals

Activity	Count	Days Missed	
		Average	Sum
EMS	600	19	11,753
Station Duties	440	15	6,743
Fire suppression	85	42	3,612
Skills training	67	34	2,280
Wellness/fitness	68	27	1,856
Responding to incident	22	39	860
Rescue - nonfire-related	15	34	518
Returning from incident	15	25	385
Rescue - fire-related	9	24	223
Fire prevention	7	13	96
Hazmat	1	9	9
Total	1,329	26	28,335

Table 15: Activities Individuals Were Doing that Resulted in Lost Time, 2021 Between 1 and 30 days

Activity	Count	Days Missed	
		Average	Sum
EMS	541	13	7,367
Station Duties	413	9	3,958
Wellness/fitness	46	13	626
Fire suppression	59	10	621
Skills training	52	10	557
Responding to incident	15	10	156
Rescue - nonfire-related	10	13	137
Fire prevention	7	13	96
Rescue - fire-related	6	15	93
Returning from incident	11	8	92
Hazmat	1	9	9
Total	1,161	11	13,712

**Table 16: Activities Individuals Were Doing that Resulted in Lost Time, 2021
Between 31 and 90 days**

Activity	Count	Days Missed	
		Average	Sum
EMS	44	49	2,194
Wellness/Fitness	20	51	1,021
Station Duties	14	55	772
Fire Suppression	12	50	611
Skills Training	8	55	445
Responding to incident	4	47	191
Rescue - nonfire-related	3	57	173
Rescue - fire-related	3	43	130
Returning from incident	2	47	95
Fire Prevention	0	0	0
Hazmat	0	0	0
Total	110	41	5,632

**Table 17: Activities Individuals Were Doing that Resulted in Lost Time, 2021
91+ days**

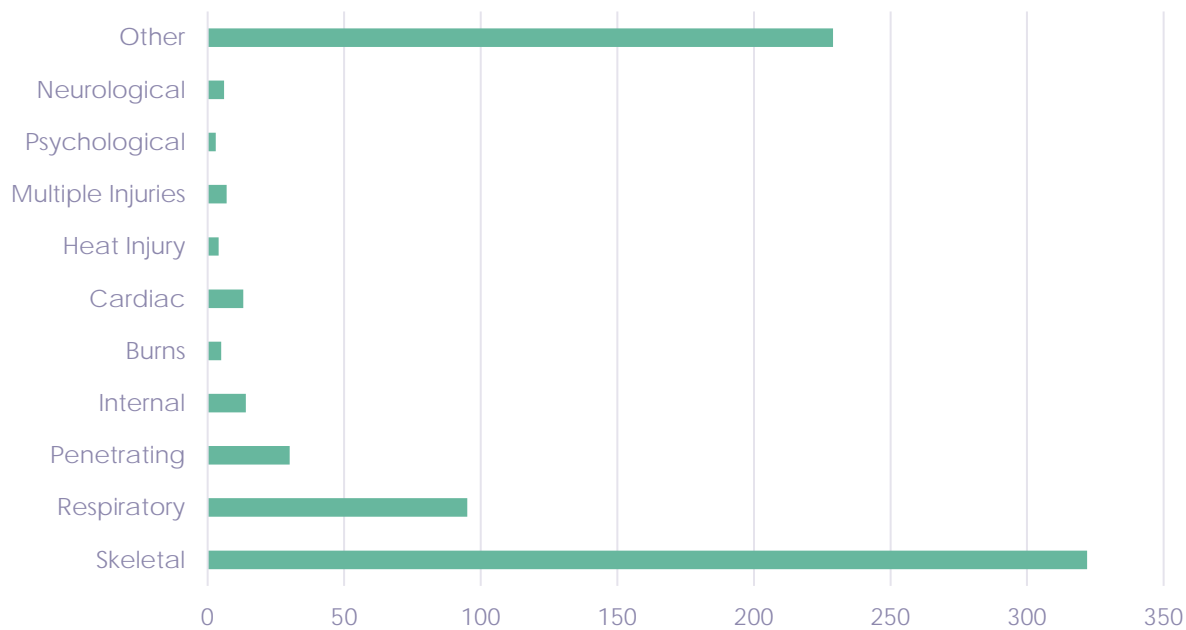
Activity	Count	Days Missed	
		Average	Sum
Fire Suppression	14	170	2,380
EMS	15	146	2,192
Station Duties	13	154	2,013
Skills Training	7	182	1,278
Responding to incident	3	171	513
Wellness/Fitness	2	104	209
Rescue - nonfire-related	2	104	208
Returning from incident	2	99	198
Fire Prevention	0	0	0
Hazmat	0	0	0
Rescue - fire-related	0	0	0
Total	29	102	4,419

Types of Injuries with Lost Time

Table 18: Types of Injuries Resulting in Lost Time, 2021

Type of Injury	Count
Skeletal	322
Respiratory	95
Penetrating	30
Internal	14
Burns	5
Cardiac	13
Heat Injury	4
Multiple Injuries	7
Psychological	3
Neurological	6
Other	229
Total	728

Figure 7: Types of Injuries Resulting in Lost Time, 2021



Burn Injuries

Table 19: All Burns, 2017 – 2021

All Burns - Types	2017	2018	2019	2020	2021
Heat/Fire (thermal)	96	108	72	80	64
Scald or Steam	13	12	10	11	12
Chemical	4	6	6	2	3
Electrical	0	1	2	3	4
Totals	113	127	90	96	83

Table 20: Burns by Body Part Sub-Type, 2021

Body Part Sub-Type	Count
Back: Back	2
Back: Buttocks	0
Back: Lower Back	0
Back: Neck	0
Back: Spine	0
Chest: Abdomen	0
Chest: Abdominal Area	0
Chest: Chest	0
Head: Brain	0
Head: Cheek	1
Head: Chin	0
Head: Ear	13
Head: Eye	0
Head: Face	2
Head: Jaw	0
Head: Mouth	0
Head: Nose	1
Head: Skull	0
Hip: Groin	0
Hip: Hip	1
Internal: Genito-urinary	0
Internal: Heart	0
Internal: Internal	0
Internal: Intestinal tract	0
Internal: Lungs	0

According to the Texas State Fire Marshal's Office, there were _____ fires in 2021. (I don't have this number yet. I have done a public information request w/the SFMO. – gw)

Internal: Stomach	0
Internal: Trachea	0
Lower Extremities: Ankle	1
Lower Extremities: Foot	3
Lower Extremities: Knee	0
Lower Extremities: Lower Leg	3
Lower Extremities: Toes	0
Lower Extremities: Upper Leg	0
Multiple Parts: Lower Body	0
Multiple Parts: Unknown	0
Multiple Parts: Upper Body	7
Multiple Parts: Whole Body	3
Neck: Neck	2
Neck: Throat	0
Upper Extremities: Elbow	2
Upper Extremities: Hands	24
Upper Extremities: Lower Arm	8
Upper Extremities: Shoulder	3
Upper Extremities: Upper Arm	3
Upper Extremities: Wrist	3
Total	82

Table 21: Burns by Body Part, 2017 – 2021, Comparison to Historical Data

Body Part	2017	2018*	2019*	2020*	2021*
Ear	16	17	17	12	13
Hand and fingers	22	30	16	20	24
Face	9	14	10	12	4
Wrist	7	8	11	9	3
Multiple body parts, upper body	4	10	6	11	7
Eye	0	4	5	3	0
Hip, lower back, or buttocks	0	0	5	0	1
Foot and toes	1	6	4	4	3
Multiple parts	12	5	4	0	3
Arm, upper, not including elbow or shoulder	2	11	3	0	3
Lower extremities	0	8	3	3	4
Chest	1	2	2	0	0
Neck	7	2	2	2	2
Knee	2	0	1	1	0
Shoulder	6	9	1	4	3

Back, except spine	2	1	0	0	2
Elbow	1	0	0	1	2
Pelvis or groin	2	0	0	0	0
Throat	0	0	0	0	0
Arm, lower, not including elbow or wrist	12	n/a	n/a	14	8
Head	1	n/a	n/a	n/a	0
Leg, lower	3	n/a	n/a	n/a	n/a
Upper extremities	0	n/a	n/a	n/a	n/a
Neck and shoulders	1	n/a	n/a	n/a	n/a
Undetermined	2	n/a	n/a	n/a	n/a
Total	113	127	90	96	82

*The 2018, 2019, and 2020 columns were pieced together from the data in Table 20: Burns by Body Part Sub-Type, from the 2018, 2019, and 2020 injury report data. This was done in order to view trends and patterns.

Exposures

Table 22: Exposure by Sub-Type, 2018 – 2021

Exposure + Sub-Type	2018	2019	2020	2021
Chemical: Ammonia	1	3	0	6
Chemical: Battery Acid*	n/a	4	0	2
Chemical: Benzene	2	15	1	1
Chemical: Bleach	1	11	0	2
Chemical: Not listed	151	160	70	40
Chemical: Unidentified	73	55	27	34
Physical: Animal venom	6	17	5	7
Physical: Meningitis	38	40	33	3
Physical: Not listed	138	201	42	27
Physical: Plant toxin	27	14	12	24
Physical: Radiation*	n/a	4	1	0
Physical: Unidentified	87	66	13	16
Physical: UV Light*	n/a	2	1	0
Respiratory: Blood	69	73	78	53
Respiratory: COVID 19*	n/a	1	1,715	2,256
Respiratory: Influenza	4	19	7	2
Respiratory: Not listed	108	118	56	8
Respiratory: Saliva	24	22	28	15
Respiratory: Tuberculosis	98	76	31	16
Respiratory: Unidentified	50	37	6	19
Respiratory: Vomit	7	8	13	4
Other: Asbestos*	n/a	3	1	109
Other: Carbon Monoxide*	n/a	1	6	2
Other: Carcinogenic Substances*	n/a	1	13	15
Other: Contaminated Water/Sewage*	n/a	4	11	8
Other: Chlorine	n/a	n/a	n/a	6
Other: Heavy Metals*	n/a	0	1	0
Other: Mold*	n/a	0	9	4
Other: Smoke/Products of Combustion*	n/a	5	19	36
Other: Virus	n/a	3	1,878	259
Total	884	963	4,077	2,974

*These exposure types were added to the injury reporting application in 2019, which is why they have n/a in the numbers column for 2018.

Table 23: Exposure by Route, 2021

Route	Count
Inhalation	2,437
Absorption	428
Injection/Puncture	66
Ingestion	43
Total	2,974

Figure 8: Exposure by Route, 2021, percentages

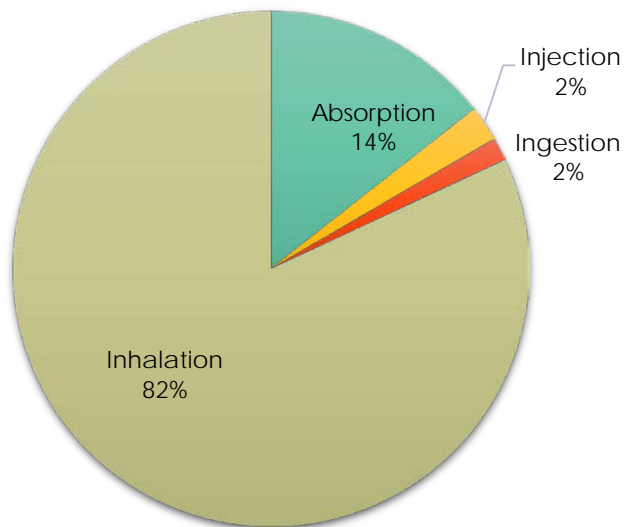


Table 24: Exposure by Substance, 2021

Substance	Count
Liquid	1,376
Gas/vapor	858
Solid	740
Total	2,974

Figure 9: Exposure by Substance, 2021, percentages

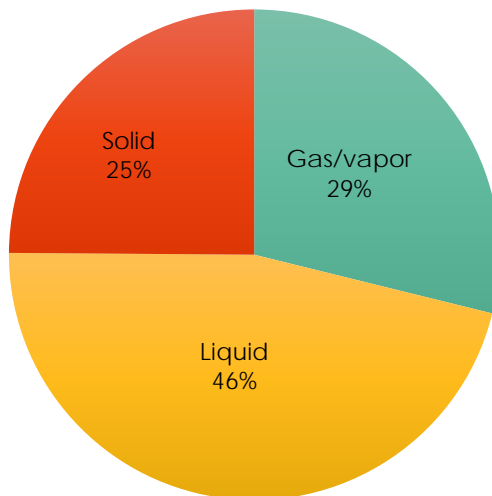


Table 25: Routes of Exposure, Historical Data, 2017

Exposure Routes	2017
Airborne pathogens	354
Undetermined	325
Blood pathogens	174
Body Fluids	173
Chemical (household/industrial)	147
Plant toxins	36
Chemical (carbon monoxide)	1
Total	1,210

Figure 10: Routes of Exposure, Historical Data, 2017

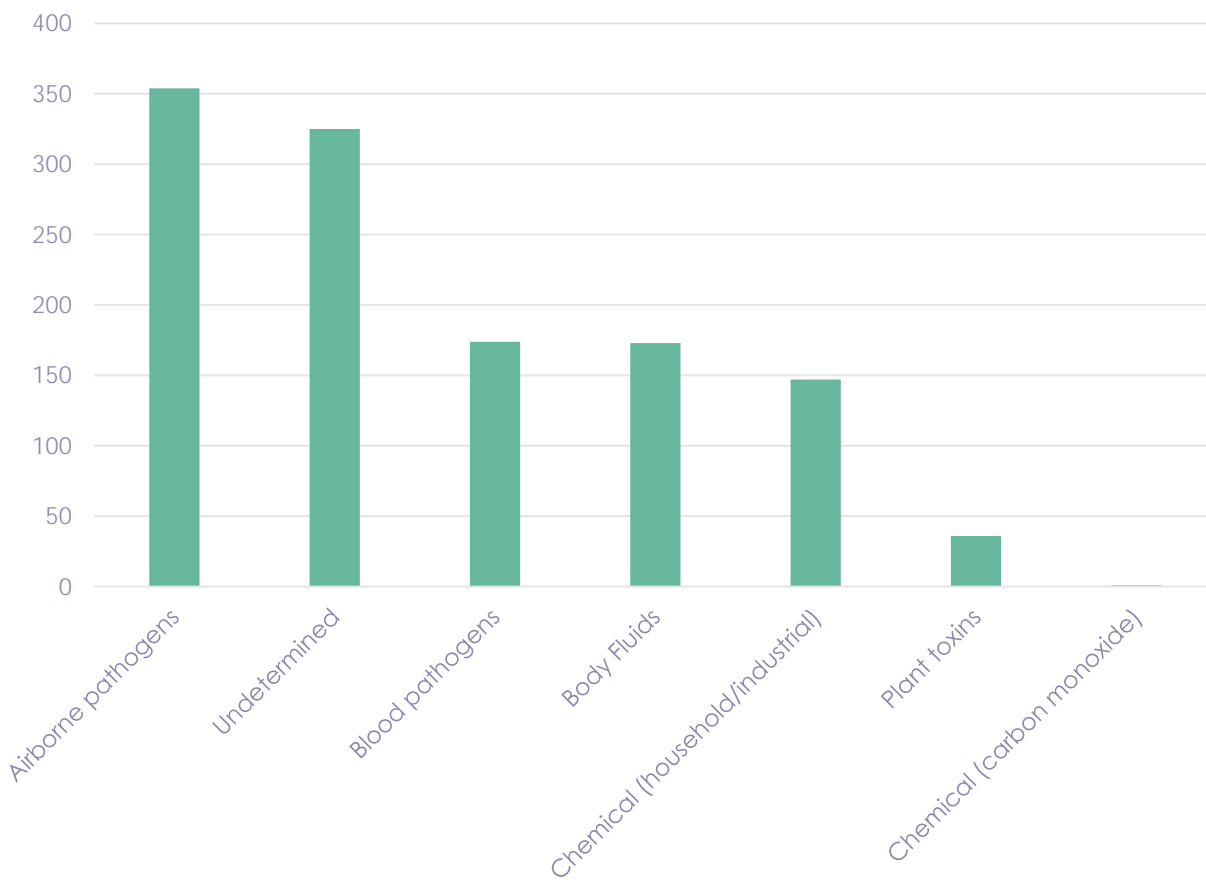


Table 26: Exposure Description, Historical Data, 2017

Exposure description	2017
Unknown	290
Blood	153
Chemicals/household/industrial	122
Asbestos	112
Tuberculosis	109
Body fluids	101
Meningitis	104
Animals or wildlife	58
Sickness, other	49
Poison plants	37
Vomit	17
Chlorine	14
Mold	10
Airborne, other	7
Staph	7
Carbon monoxide	5
HIV	4
Scabies	4
Hepatitis C	3
MRSA	3
Bacterial pneumonia	1
Explosive residue	0
Influenza	0
Lice	0
Strep	0
Total	1,210

Cancer

In June of 2019, the Governor of Texas signed Senate Bill 2551 (SB 2551) which expanded the scope of the law in which firefighters and EMTs who suffer from cancer are presumed to have developed the condition during the course and scope of their employment. The types of cancer this law addresses include:

- cancers that originate at the stomach, colon, rectum, skin, prostate, testis or brain
- non-Hodgkin's lymphoma
- multiple myeloma
- malignant melanoma
- renal cell carcinoma

TCFP received **34** reports of cancer diagnoses from fire departments in 2021:

Skin/Melanoma/Basal Cell/Squamous Cell carcinoma – 5 reports
(Males, ages 29, 42, 46, 46, 47)

Prostate – 4
(Males – 43, 52, 55, 60)

Testicular – 3
(Males – 29, 40, 45)

Kidney/renal cell carcinoma – 2
(Males – 27, 53)

Colon – 1
(Male - 61)

Thyroid – 1
(Male - 34)

Unidentified to TCFP – 16
(Males – 24, 35, 38, 38, 38, 38, 43, 46, 54, 56, 56, 57, 58, 58)
(Females – 18, 18)

A Reminder for Fire Departments

Any injuries to fire protection personnel that are reported to the Texas Worker's Compensation Commission must be reported to the Texas Commission on Fire Protection. This includes cancer diagnoses.

The commission strongly encourages fire departments to report cancer diagnoses; the commission recognizes that the number of job-related cancers reported during this time-period represents only a fraction of the cases that Texas fire departments are currently managing. There is a growing awareness of the impact that cancer is having on fire protection personnel nationwide, and the commission urges departments to use this reporting tool to help contribute to the education and awareness of the issue in Texas.

SOP Issues

In 2021 there were 12 injuries attributed to failures of fire protection personnel to follow their departments' standard operating procedures (SOPs). All but a few were instances where the individuals were not wearing their provided PPE/SCBA gear in an environment or situation in which they should have been wearing it.

In its compliance inspections, the Texas Commission on Fire Protection verifies that fire departments have written SOPs that cover the appropriate subject matter.

Table 27: Injuries Attributed to SOP Issues, 2021

Activity	Minor	Serious	Total	Previous years' totals			
				2020	2019	2018	2017
EMS	1	0	1	18	11	9	7
Fire Suppression	5	2	7	10	10	19	9
Skills Training	2	0	2	5	1	2	2
Responding to Incident	0	0	0	2	0	1	3
Station Duties	0	1	1	2	6	1	4
Wellness/Fitness	0	1	1	1	1	0	1
Totals	8	4	12	38	29	32	26

Table 28: Injuries Attributed to PPE & PASS Failures, 2021

Activity	Minor	Serious	Fatal	Total	Previous years' totals			
					2020	2019	2018	2017*
Fire Suppression	4	0	0	4	7	2	8	n/a
EMS	1	0	1	2	4	0	1	n/a
Skills Training	1	0	0	1	1	2	2	n/a
Totals	6	0	1	7	12	4	11	n/a

*TCFP did not start collecting information on PPE & PASS failures until 2018.

Recommendations

The commission would like to thank Texas fire departments for their ongoing participation in reporting fire protection personnel injuries. This report would not be possible without their efforts.

Based on their review of the data contained within this report, the commission offers the following recommendations:

Recommendations for the Texas Fire Service:

1. **THESE ARE ALL LAST YEAR'S RECOMMENDATIONS ...** Departments should evaluate their SOPs related to station duties to see if improvements can be made.
2. Consider early detection testing for cancer.
3. NFPA 1851 is required by state law and departments are strongly encouraged to follow it.
4. Clean everything often (e.g., clean cab, clean tools, equipment, PPE, self-decontamination after incidents, etc.)

Commission-Adopted Standards

The commission has adopted several NFPA and other nationally recognized standards to help keep Texas fire protection personnel safe. This list summarizes the relationships between some of the Texas laws and national standards and is not intended to be all-inclusive:

Texas Government Code

[§419.040, Protective Clothing](#)

[§419.041, Self-Contained Breathing Apparatus](#)

[§419.042, Personal Alert Safety Systems](#)

[§419.043, Applicable National Fire Protection Association Standard](#)

[§419.044, Incident Management System](#)

[§419.045, Personnel Accountability System](#)

[§419.046, Fire Protection Personnel Operating at Emergency Incidents](#)

[§419.047, Commission Enforcement](#)

Texas Administrative Code

[CHAPTER 425 FIRE SERVICE INSTRUCTORS](#)

[§443.9 National Fire Protection Association Standard](#)

[CHAPTER 435 FIRE FIGHTER SAFETY](#)

[§435.21 Fire Service Joint Labor Management Wellness-Fitness Initiative](#)

[§435.23 Fire Fighter Injuries](#)

[§435.25 Courage to be Safe So Everyone Goes Home Program](#)

[§435.27 Live Fire Training Structure Evolutions](#)

[CHAPTER 451 FIRE OFFICER](#)

[CHAPTER 457 INCIDENT SAFETY OFFICER CERTIFICATION](#)

Commission's web page

[NFPA Standards adopted by the commission](#)

16. Matters from the Agency Chief.

A. Update regarding agency duties and responsibilities.

16. Matters from the Agency Chief.

B. Decisions of Agency Chief in contested cases and consent orders.

16. Matters from the Agency Chief.

C. Status regarding division functions:

a. Training Approval & Testing - test administered, training approvals, record reviews and online training audits

b. Certification & Professional Development - training applications, IFSAC seals issued, certifications issued, training facilities, curriculum development, library resource requests

c. Compliance - biennial inspections, compliance officers training, issues involving regulated entities

d. Information Technology - public website design, FARM and FIDO improvements, CAPPS (Central Accounting Payroll/Personnel System), IT security policy, service requests

Commission Quarterly Report

Training Approval and Testing Section

- **Test Administration, Training Approvals, Record Reviews, and Training Audits Statistics – 2nd Quarter, FY 2022**
 - **Test Administration** – **6281** exams were administrated during this quarter with a pass rate of **82.87%**.
 - **Training Approvals** – Total of **761** training approvals were submitted with start dates during this quarter in the commission’s Training Facility Management System.
 - **Record Reviews** – One hundred forty-five (**145**) record reviews for equivalency were conducted (**106** out of state). Four (**4**) of the reviews are pending awaiting additional documentation/information. Four hundred thirty-five (**435**) Qual numbers were issued in the Training Facility Management System.
 - **Training and Skill Testing Audits** – Six (**6**) online training audits were conducted during the 2nd quarter. One (**1**) had no deficiencies noted. Five (**5**) had deficiencies ranging from Field Examiners, TPA instructors, Syllabus, contact information for the instructors not listed, Textbook information, Lecture and Special instructions and Online Access Information. The deficiencies were minor and were corrected with in one or two days.
 - **Online Testing Centers** – Nine (**9**) new online testing centers were added during the 2nd quarter.
 - **Activities for the Next Quarter** -
Officially onboard the new online testing centers.
Continue to scout for additional testing centers to fill “gaps” throughout the state.

****Firefighter I and Firefighter II tests were made available for online testing.**

****The full Structure test will become available for online testing April 1st.**

	Q1	Q2	Q3	Q4
<u>Certification/Renewal:</u>				
Professional Development Training Applications	5278	2902		
<u>Issued:</u> IFSAC Seals	2406	2152		
TCFP Certifications	2610	3894		
Criminal History	616	623		
Medical documents:	687	1113		
Confirmation of Commissions (Peace Officer)	33	41		
Service time applications	135	72		
<u>Renewals:</u> Department Personnel	37066	144		
Certified Training Facilities	0	214		
Individual Certified Holders	5727	195		
Registered Seals: IFSAC	1436	625		
TEEX Proboard	363	332		
Total number of Training Facilities	560	361		

Quarterly Report – Curriculum Development

December 2021 – February 2022

Meetings (via Zoom)

Curriculum and Testing February 7th

Curriculum and Testing February 9th

Curriculum and Testing February 11th

Meetings (TCFP)

Curriculum and Testing – January 18- 19th 2022

Meetings: Detail

- **C&T Committee Meeting – January 19th, 2022**
 - **Creation of Technical Rescue Application**
 - Determined Qualifications
 - Draft outline of Committee(s) breakdown
 - Determined what TR discipline(s) to start first
 - **Fire Marshal Ad Hoc Committee Application Review**
 - Approved Committee Members
 - Buddy Rice – C&T Liaison
 - Bradley Chambers
 - Timothy Dedear
 - Laurie Christenson
 - Ariana Kistner
 - Allen Neves
 - Kevin Rodgers

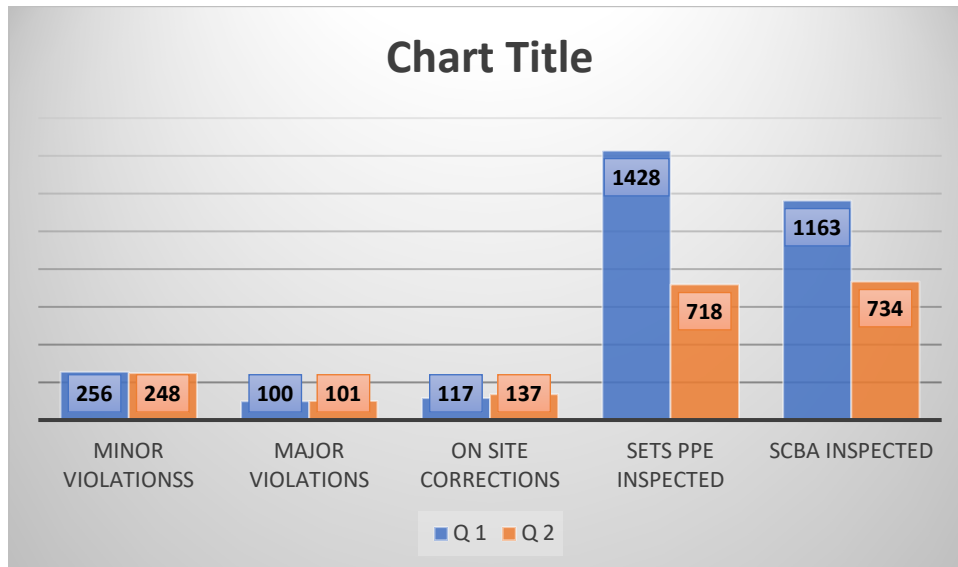
- Kelly Kistner
- Megan Schuth
- Pablo Solis
- David Branner
- **C&T Committee Meeting (Zoom) – February 7th, 9th, and 11th 2022**
 - Reviewed Test Question Bank for all disciplines and looked at pass rate for questions.
 - Outlined yearly goals and projects
 - Outlined Target areas to Start with Technical Rescue
 - Reviewed/ Compared Correlation Sheets for IFSAC vs. FARM

Test Development and Test Bank Maintenance

- Updated IFSAC Correlation Sheets
- Audit FARM System
 - Test Bank
 - Skills
 - Correlation Sheets
- Updated test bank references to reflect NFPA updates for the following disciplines:
 - ARFF
 - Fire Officer I-IV
 - Hazardous Materials Awareness
 - IC
 - Inspector I
 - Investigator

Commission Quarterly Report Compliance Division

Compliance Inspection Activity statistics:



The Compliance Division coordinated, scheduled, and extended invitations for the following regional meetings.

- Region 2 –March 24, meeting at El Paso FD EOC.

New Compliance Officer training

Compliance Division quarterly training in Austin

Injury investigations: 6 assigned, 1 investigated, 4 reviewed not investigated

Inspection files forwarded to compliance chief for further action: 3

Staffed EOC at the request of TIFMAS

Coordinated with the training division to schedule and staff (back-fill) testing locations due to staffing of EOC.

Coordinated with regional compliance officers to cover any inspections affected by EOC staffing

The compliance team is working with the certifications division and IT to improve and enhance the Head of Department certification process.

Information Technology Report 2nd Quarter FY 2022

IT quarterly report:

- TCFP Websites and Web Applications Uptime 99%
- VM Servers Upgraded
- Azure Cloud
 - Databases—Optimized Queries
 - Databases—Improve Indexes
 - Databases—Defragmentation
- FionaCore updated
 - Performed bug fixes
 - Updated features
- FARM and FIDO updated
 - Performed bug fixes
 - UI improvements
 - Update features
- Public website updated
- Updated Docs & Tools Application
- Addressed 471 Service Requests (Tickets)
 - Two still open

17. Personnel matters regarding the appointment, employment, compensation, evaluation, reassignment, and duties of the Agency Chief.

18. Adjourn meeting.