

Louisiana Addendum to the 2012 Fire Suppression Rating Schedule

(Updated January 1, 2021)

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Louisiana Addendum to the 2012 ISO Fire Suppression Rating Schedule

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General

This document is provided by the Property Insurance Association of Louisiana (PIAL) to supplement the 2012 edition of the Insurance Service Office (ISO) Fire Suppression Rating Schedule (FSRS). This addendum is available in electronic form at no cost by visiting the PIAL website at www.pial.org.

History

In July of 2013, ISO began using the 2012 schedule for its Public Protection Classification Gradings. The FSRS document is protected by ISO copyright.

The 2012 schedule replaced ISO's 2002 schedule in its entirety. PIAL and the PIAL Advisory Committee have evaluated the 2012 schedule and found it mostly applicable to Louisiana. There are some differences which are addressed in this Louisiana Addendum to the FSRS (the Louisiana Addendum or the Addendum).

Only those areas of the FSRS where differences exist are addressed in this Addendum.

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FSRS Correlation Table

PREVIOUS FSRS				REVISED FSRS		
RECEIVING AND HANDLING FIRE ALARMS				**EMERGENCY COMMUNICATIONS**		
Item	**Description**	**Max Points**		**Section**	**Description**	**Max Points**
414	Telephone Service	2		414	Emergency Reporting	3
422	Operators	3		422	Telecommunicators	4
432	Dispatch Circuits	5		432	Dispatch Circuits	3
440	Fire Alarm Total	10		440	Communications Total	10
FIRE DEPARTMENT				**FIRE DEPARTMENT**		
Item	**Description**	**Max Points**		**Section**	**Description**	**Max Points**
513	Engine Companies	10		513	Engine Companies	6
523	Reserve Pumpers	1		523	Reserve Pumpers	0.5
532	Pump Capacity	5		532	Pump Capacity	3
549	Ladder/Service Co.	5		549	Ladder/Service Co.	4
553	Reserve Ladder/Service	1		553	Reserve Ladder/Service	0.5
561	Distribution of Companies	4		561	Deployment Analysis	10
571	Personnel	15+		571	Personnel	15+
581	Training	9		581	Training	9
“Bonus”	Public Fire Control	2		730	Operational Considerations	2
590	Total Fire Department	50+		590	Total Fire Department	50+
WATER SUPPLY				**WATER SUPPLY**		
Item	**Description**	**Max Points**		**Section**	**Description**	**Max Points**
616	Supply System	35		616	Supply System	30
621	Hydrant Size, Type, and Installation	2		621	Hydrant Size, Type and Installation	3
631	Hydrant Inspection & Condition	3		631	Inspection & Fire Flow Testing of Hydrants	7
640	Total Water Supply	40		640	Total Water Supply	40
				ADDITIONAL ITEMS		
				Section	**Description**	**Max Points**
				1000	Community Risk Reduction	5.5
				BONUS	PIAL Hydrant Bonus Credit	0.5
					Total Credit for Additional Items	6.0

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National Referenced Publications

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National Referenced Publications

Referenced standards include, but are not limited to:

National Fire Protection Association (NFPA) Standards

1. NFPA 13, *Standard for Installation of Sprinkler Systems*
2. NFPA 13D, *Standard for Installation of Sprinkler Systems for One- and Two-Family Dwellings and Manufactured Homes*
3. NFPA 13R, *Standard for Installation of Sprinkler Systems in Residential Occupancies up to and including Four Stories in Height*
4. NFPA 25, *Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems*
5. NFPA 101, Life Safety Code
6. NFPA 291, *Recommended Practice for Fire Flow Testing and Marking of Hydrants*
7. NFPA 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*
8. NFPA 1001, *Standard for Fire Fighter Professional Qualifications*
9. NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*
10. NFPA 1021, *Standard for Fire Officer Professional Qualifications*
11. NFPA 1031, *Standard for Professional Qualifications for Fire Inspector and Plans Examiner*
12. NFPA 1033, *Standard for Professional Qualifications for Fire Investigator*
13. NFPA 1035, *Standard for Professional Qualifications for Fire and Life Safety Educator, Public Information Officer, and Juvenile Firesetter Intervention Specialist*
14. NFPA 1061, *Standard for Professional Qualifications for Public Safety Telecommunicator*
15. NFPA 1142, *Standard on Water Supplies for Suburban and Rural Firefighting*
16. NFPA 1201, *Standard for Providing Emergency Services to the Public*
17. NFPA 1201, *Standard for Providing Fire and Emergency Services to the Public*
18. NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*
19. NFPA 1401, *Recommended Practice for Fire Service Training Reports and Records*
20. NFPA 1402, *Guide to Building Fire Service Training Centers*
21. NFPA 1403, *Standard on Live Fire Training Evolutions*
22. NFPA 1410, *Standard on Training for Initial Emergency Scene Operations*
23. NFPA 1451, *Standard for a Fire Service Vehicle Operations Training Program*
24. NFPA 1452, *Guide for Training Fire Service Personnel to Conduct Dwelling Fire Safety Surveys*
25. NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*
26. NFPA 1520, *Standard on Emergency Services Incident Management System*
27. NFPA 1561, *Standard on Emergency Services Incident Management System*
28. NFPA 1620, *Standard for Pre-Incident Planning*

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29. NFPA 1710, *Standard for Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations by Career Fire Departments.*
30. NFPA 1720, *Standard for Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations by Volunteer Fire Departments.*
31. NFPA 1901, *Standard for Automotive Fire Apparatus*
32. NFPA 1911, *Standard for the Inspection, Maintenance, Testing and Retirement of In-Service Automotive Fire Apparatus*
33. NFPA 1962, *Standard for the Inspection, Care, and Use of Fire Hose, Couplings, and Nozzles and the Service Testing of Fire Hose*
34. NFPA 1981, *Standard on Open Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*

Association of Public Safety Communications Officials (APCO)

1. APCO ANS 3.103.1-2010 Minimum Training Standards for Public Safety Telecommunicators

Insurance Service Office (ISO)

1. Guide for Determination of Needed Fire Flow
2. Fire Suppression Rating Schedule (FSRS)
3. Specific Commercial Property Evaluation Schedule. This document is used to determine occupancy factors when calculating NFFs (SCOPES)

American Water Works Association (AWWA)

1. AWWA Manual 17, *Installation, Field Testing, and Maintenance of Fire Hydrants*
2. AWWA Manual M32, *Computer Modeling of Water Distribution Systems*
3. AWWA Standard C502, *Dry-Barrel Fire Hydrants*
4. AWWA Standard C503, *Wet-Barrel Fire Hydrants*

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Acronyms, Abbreviations and Definitions

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Acronyms, Abbreviations & Definitions

AA	Automatic Aid. Apparatus from neighboring departments that respond in accordance with a prearranged agreement.
AHJ	Authority Having Jurisdiction. This term applies to the government entity responsible for decision-making in the graded area.
APCO	Association of Public Safety Communications Officials
AWWA	American Water Works Association.
BCEGS	Building Code Effectiveness Grading Schedule.
Border Hydrant	A fire hydrant located outside of the graded area but within 1,000 feet (driving distance) from a building used in the grading.
CAD	Computer Aided Dispatch.
CBT	Computer Based Training.
CDR	Call Detail Report. This document is based on data from a communication center's Telephony and CAD systems, and shows the % of calls answered within NFPA criteria. It also shows the % of calls dispatched within NFPA criteria.
CVM	Call Volume Matrix. This document defines the minimum number of operators needed to handle the PSAP's call volume.
EPSS	Emergency Power Supply System. Consists of emergency power source and equipment to monitor commercial power then transfer critical loads to the emergency supply during loss of commercial power.
FSRS	Fire Suppression Rating Schedule. Published by ISO, this copyrighted document is the basis for determining PPC ratings.
Graded Area	Defined by the AHJ, the graded area is described in a written legal description. PIAL uses these written legal descriptions to establish maps showing the boundaries outlined in the description. Insurers use these maps to determine which graded area specific buildings are in.
Graded Year	The 12-month period on which the rating is based.
HAZMAT	Hazardous Materials.

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IFSAC	The International Fire Service Accreditation Congress (IFSAC) is a peer driven, self-governing system that accredits both public fire service certification programs and higher education fire-related degree programs.
ISO	Insurance Services Office – ISO does, in 44 states, what PIAL does in Louisiana.
Monitoring for Integrity	Communications dispatch circuits and their power supply must be monitored for integrity. There must be audible and visual alarms that notify dispatchers of circuit or power failure at all critical facilities.
NFF	Needed Fire Flow. This is the amount of water, expressed in gallons per minute that is needed by each risk (building) in the graded area. This value is used for insurance rating purposes only and should not be used by pre-fire planners.
NFPA	National Fire Protection Association.
Non-Working Fire	An event associated with a fixed structure in which the responding fire department responds but does not pull hose from their apparatus or discharge water to extinguish a fire. This includes but is not limited to alarms related to smells of smoke, alarm system activations, fires that are out on arrival, and false alarms.
PA	Public Address. Voice amplification and speaker systems commonly installed in fire stations to warn members of incoming alarms.
PGAP	Professional Grading Assistance Program
PIAL	The Property Insurance Association of Louisiana (PIAL) is a private, non-profit association made up of all insurance companies licensed to write property insurance policies within the State. Founded by its member companies in 1888, the PIAL has been in continuous operation for more than 120 years. The PIAL is funded solely by assessment of its member companies and functions in three primary ways: • the Company grades municipal areas in terms of fire protection (Public Protection) capabilities for the purpose of fair insurance rating of the graded areas; • the PIAL inspects (upon request of its member companies) any commercial building located in the State of Louisiana for the purpose of fair pricing of individual risks;

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	• PIAL files advisory rates and forms for property insurance coverage in the State, subject to review and approval of the Louisiana Department of Insurance. Pursuant to its statutory authority under Louisiana R.S. 22:1460, the Association is dedicated to promoting and maintaining a healthy and competitive property insurance market in the State of Louisiana for the benefit of the insuring public.
PPC	Public Protection Classification. This is the "fire rating" for your community. On a scale of 1-10, Class 1 is the best and Class 10 indicates no fire protection is available.
Pro Board	The purpose of the Pro Board is to establish an internationally recognized means of acknowledging professional achievement in the fire service and related fields. The **accreditation** of organizations that **certify** uniform members of public fire departments, both career and volunteer, is the primary goal. However, other organizations with fire protection interests may also be considered for participation. Accreditation is generally provided at the State or Provincial level to the empowered certifying authority of that jurisdiction.
PSAP	Public Safety Answering Point. Commonly referred to as "the communications center".
QA	Quality Assurance.
SCOPES	Specific Commercial Property Evaluation Schedule. This document is used to determine occupancy factors when determining NFFs.
Target Building	Buildings in the graded area for which NFFs were calculated and which are used in the determining the grading classification.
Working Fire	An event associated with a fixed structure in which the responding fire department pulls hose from their apparatus and discharges water to extinguish a fire.

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General

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FSRS Section 100: Introduction

PIAL Notes

This Addendum replaces all previously published addendums in their entirety.

Definition of "graded year": For ratings performed on-cycle, or as the result of selection for a random rating, the graded year is the prior calendar year (January through December) or as defined by the fire chief in the PPC Questionnaire for that graded area. For out-of-cycle ratings, the Authority Having Jurisdiction (AHJ) or fire chief requesting the rating may identify the (recent) 12-month period they will provide data for, but the graded year is normally the 12-month period preceding completion of the grading questionnaire provided by PIAL. Departments that maintain records on a cycle other than the calendar year may request a graded year that coincides with their record-keeping year.

PIAL Grading Cycles

Normal Grading Cycle: All graded areas are due for a grading every five (5) years unless their most recent grading resulted in a two (2) grade change for better or worse. The five (5) years is based off the last PIAL survey date of that area.
Two (2) Grade Change: Areas whose grading resulted in a two (2) grade change, for better or worse, will be regraded in two (2) years from their last survey date.

Random Grading: PIAL may randomly select up to two (2) areas that have not been graded within the past twelve (12) months to add to the annual grading schedule. The purpose of a Random Grading is to verify that the graded area is maintaining the level of protection that awarded them their current protection classification.

Out-of-Cycle Grading: Departments can request an Out-of-Cycle Grading. For this request to be granted, PIAL must receive documented proof that items in this graded area have improved from their last grading.

> Examples: A graded area is now responding with two (2) engines and a service/ladder company where they didn't previously, increased training hours, use of a dedicated training field for drills, etc.

If these items are likely to result in a grade change, PIAL will send a new PPC Questionnaire to the graded area to be completed and returned. Once the questionnaire is returned to PIAL, a Field Representative will contact the chief to set a date for the out-of-cycle grading. PIAL provides this opportunity so that graded areas who have retrograded but have quickly taken corrective actions can be regraded sooner than 5 years and regain their previous rating. This is also to help minimize the impact of the retrograde on the public in that graded area. This policy is also in place for graded areas who may not have recently retrograded but have made improvements

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since their last grading that might have a positive impact on their current classification. Those areas may choose to request an out-of-cycle grading to benefit from those changes earlier than their regular 5-year cycle.

Areas rated as Class 10 may request a rating at any time using the guidelines for an out-of-cycle rating as described above.

Section 100 – Purpose

No further guidance in this document

Section 101 – Scope

No further guidance in this document

Section 102 – Public Protection Classification

No further guidance in this document

Section 103 – Fire Protection Area.

At the time of each review of a fire protection area, legally defined boundaries must be provided, in writing, and certified by the approving agency (city council, parish government, police jury, etc….). Municipalities that are not excluded from a surrounding district's legal boundaries will be graded as part of the district unless the fire department servicing the city is legally defined and independently operated by the municipality.

Section 104 – Format

No further guidance for this document

Section 105 – Calculations

No further guidance for this document

Section 106 – Reference Standards

No further guidance for this document

Section 107 – Minimum Facilities for Applying This Schedule

No further guidance for this document

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Section 107A – Organization

No further guidance for this document

Section 107B – Firefighter Response to Alarms

To receive a Classification better than Class 10, an average of 4 firefighters from the graded area must respond on the initial alarm to all working structure fires. The chief officer may be 1 of the 4 responding firefighters. Automatic and mutual aid responders are not included in this count.

Section 107C – Training

The fire department must provide training related to suppression of structure fires to active members. Training for active members shall be conducted at least 3 hours every 3 months (or 12 hours per year).

Section 107D – Emergency Communications

No further guidance for this document

Section 107E – Apparatus

No further guidance for this document

Section 107F – Housing

All engine, service and ladder companies must be housed to provide protection from the weather including freezing temperatures and conditions. In addition, PIAL highly encourages, but does not require, all additional apparatus critical to water hauling operations be housed.

Section 200 – Schedule Application

No further guidance for this document

Section 201A2 & 201C2 – Firefighter Response to Alarms

To receive a Classification better than Class 10, an average of 4 firefighters from the graded area must respond on the initial alarm to all working structure fires. The chief officer may be 1 of the 4 responding firefighters. Automatic and mutual aid responders are not included in this count.

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Section 201B and 201E - Protection Class 8B & Multiple PPC Classifications

Disregard these areas in their entirety as they do not apply to Louisiana.

Section 300 – Needed Fire Flow

No further guidance for this document

Section 301 – Automatic Fire Sprinkler Systems

In addition to the Louisiana State Fire Marshal, PIAL provides services for evaluating automatic sprinkler systems installed in commercial properties.

Commercial properties rated by PIAL as "sprinklered" are not considered when developing fire insurance ratings. PIAL does not accept statements from responsible outside parties as described in the 2012 FSRS. Therefore, please disregard all of Item 301.

Section 310 through 330

PIAL develops needed Fire Flows (NFFs) for insurance rating purposes only. These needed flow rates should not be used to develop strategies for firefighting operations or to configure needed fire department apparatus. Contact PIAL should you require a detailed explanation of the process by which PIAL calculates NFFs beyond what's shown in Section 340 of this document.

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Section 340 – Calculation of Needed Fire Flow

The formula used by PIAL for calculating NFF is:

$$NFF(gpm) = (FF\ x\ OF\ x\ C1) + C2$$

Where:

FF	=	Basic calculated fire flow value based on height, size, and construction factor
OF	=	Occupancy Factor from SCOPES Manual (see general guidance below)
C1	=	Communication Factor (PIAL always uses a factor of 1)
C2	=	Exposure Factor (The exposure factor is zero except when a wood shingle roof covers the subject building or exposures. Then C2=500)

Some Common Occupancy Factors are:

- Factor of 0.75: Metal pipe storage
- Factor of 0.85: Day care facilities, schools, barber shops, churches, stadiums, gyms, auto sales, gas stations (without convenience store), etc….
- Factor of 1.0: Most mercantiles (stores), restaurants, gas station (with convenience store), vacant buildings, etc….
- Factor of 1.15: Most warehouses (depends on combustibility of what's being stored), furniture or appliance sales, lumber sales, woodworking occupancies, etc….
- Factor of 1.25: Mini-warehouses, fireworks manufacturing or sales, etc….

PIAL does not apply sprinkler credit to residential properties.

PIAL uses the distance between residences to determine their NFF as described in the FSRS.

The minimum fire flow duration for ALL properties in Louisiana is 2-hours.

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Communications

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Emergency Communications

Section 400 – General

PIAL will evaluate all facilities and personnel involved in alarm handling from the time the alarm first arrives at the Public Safety Answering Point (PSAP) until the time the firefighters receive the dispatch. This includes evaluation of multiple PSAPs when applicable.

Section 410 – Emergency Reporting

Section 410B3c – CAD with Interoperability

The credit offered in this section is for systems that provide electronic data to responding members via either AHJ-owned or commercially available third-party data distribution systems. This data may be received by responding members on electronic devices. These systems are not credited as "Dispatch Circuits".

Section 420 – Telecommunicators

Section 420A1 – Alarm Receipt

Alarm receipt is based on the number of **valid** **emergency calls** handled by each PSAP during the graded year. "Emergency calls" are considered **any** call that requires the dispatch of emergency personnel or resources, including EMS, Fire, or Police. Credit for this area may be earned based on two methods. If PSAPs involved in the alarm receipt process can provide Call Detail Report (CDR) data that show the % of calls received that meet the criteria of NFPA 1221, this actual call performance data can be used to calculate credits, but if CDR data is not available, a call volume matrix (CVM) will be used.

The criteria of NFPA 1221 is that at least 95% of all emergency calls should be answered within 15 seconds and at least 99% of all emergency calls should be answered within 40 seconds. The 20 points available for Alarm Receipt will be equally divided between these two criteria with 10 points available for meeting the 15 second criteria and 10 points available for meeting the 40 second criteria.

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Example:

There are 3 existing operators on duty at all times. The CDR data indicates that 80% of calls are answered within 15 seconds. The desired performance level is 95% of calls answered within 15 seconds. The calculation is as follows:

$$Existing\ Operators\ x\ \frac{Desired\ \%}{Existing\%} = Needed\ Operators$$

$$3\ x\ \frac{95}{80} = 3.56\ Needed\ Operators$$

$$\frac{Existing\ Operators}{Needed\ Operators}\ x\ 10 = points\ credit\ for\ 15\ second\ criteria\ (10\ pts.maximum)$$

$$\frac{3}{3.56}\ x\ 10 = 8.43\ points\ credit\ for\ 15\ second\ criteria\ (10\ pts.maximum)$$

For this same PSAP, CDR data indicates that 99.25% of calls are answered within 40 seconds. Credit applied to the 40 second criteria is as follows:

$$Existing\ Operators\ x\ \frac{Desired\ \%}{Existing\%} = Needed\ Operators$$

$$3\ x\ \frac{99}{99.25} = 2.99\ Needed\ Operators$$

$$\frac{Existing\ Operators}{Needed\ Operators}\ x\ 10 = points\ credit\ for\ 40\ second\ criteria\ (10\ pts.maximum)$$

$$\frac{3}{2.99}\ x\ 10 = 10.03 = 10\ points\ credit\ for\ 40\ second\ criteria\ (10\ pts.maximum)$$

Total creditable for Call Receipt is the sum of these two credits:

$$Credit\ for\ Alarm\ Receipt = Credit\ for\ 15\ point\ criteria + Credit\ for\ 40\ point\ criteria$$

$$Example\ Credit\ for\ Alarm\ Receipt = 8.43 + 10 = 18.43\ points\ (20\ points\ maximum)$$

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If a CDR cannot be provided, a Call Volume Matrix (CVM) will be used to compare the number of needed operators to the average number of operators on duty at each PSAP. Different CVMs apply to PSAPs that 1-button transfers all calls and those who perform both call-taking and dispatch functions. See figures 1 and 2 for CVM criteria.

When the CVM is used, credit for Alarm Receipt is calculated as follows:

$$Credit\ for\ Alarm\ Receipt = \frac{Existing\ Operators}{Needed\ Operators}\ x\ 20$$

Example:

There are 3 existing operators on duty at all times. The PSAP performs both call-taking and dispatching operations. This PSAP received a total of 15,000 valid emergency calls during the graded year. There the calculation is as follows:

$$Credit\ for\ Alarm\ Receipt = \frac{Existing\ Operators}{Needed\ Operators\ (From\ CVM)}\ x\ 20$$

$$Credit\ for\ Alarm\ Receipt = \frac{3}{4}\ x\ 20 = 15\ points\ (20\ maximum)$$

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Section 420 A & B Figure 1.

Call Volume Matrix Table
(For PSAP That Performs Call Taking and Dispatching)

Alarms per Year		Number of Needed Operators
Less than 731		1*
731 to 10,000		2
10,001 to 25,000	(3 operators plus 1 supervisor in the Communications Center)	4
25,001 to 50,000	(4 operators plus 1 supervisor in the Communications Center)	5
50,001 to 100,000	(5 operators plus 1 supervisor in the Communications Center)	6
100,001 to 150,000	(6 operators plus 1 supervisor in the Communications Center)	7
150,001 to 200,000	(7 operators plus 1 supervisor in the Communications Center)	8
200,001 to 250,000	(8 operators plus 1 supervisor in the Communications Center)	9
250,001 to 300,000	(9 operators plus 1 supervisor in the Communications Center)	10
Over 300,000**	(10 operators plus 1 supervisor in the Communications Center)	11**

* Exception: Communications centers that provide emergency medical dispatching (EMD) protocols shall have two telecommunicators on duty at all times.

** For every 10 additional calls (alarms) average per hour (87,600 calls per year), add one additional operator.

Note 1: The above staffing levels contemplate the prompt answering of all calls, use of EMD protocols, operation of dispatch circuits, transmitting of alarms, operation of tactical radio functions, response to trouble conditions and signals, and performance of routine business activities associated with the communication center.

Note 2: The supervisor should be a separate person. Therefore, one person should not be credited as both an operator and a supervisor. When the matrix calls for a supervisor, the supervisor should be available in the communication center. The definition of communication center from the 2002 edition of NFPA 1221 reads, "A building or portion of a building that is specifically configured for the primary purpose of providing emergency communications services or public safety answering point (PSAP) services to one or more public safety agencies

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under the authority or authorities having jurisdiction". If the communication center is located in a building which is not used solely for the communication center, then the supervisor should be located in the portion that is used as the communication center.

Note 3: When using this matrix, if alarms are received at one PSAP (or call taking location) and some alarms are transferred to a secondary PSAP for dispatching, the determination of the number of needed operators for the initial PSAP should only include all such alarms. The number of operators credited should include only those available at the initial PSAP. An evaluation should also be made of the secondary PSAP where the alarms are actually dispatched to the fire department being graded. This evaluation should include only the total number of alarms received by that PSAP and the only number of operators available at that location. A comparison should then be made to determine the most deficient condition(s) (operators on duty and operators awake at all times), and each such condition is what should be credited in the grading.

Note 4: When <u>all</u> emergency calls (alarms) received at the primary PSAP (call taking only) are immediately transferred (detailed information is not gathered) to a secondary PSAP(s) where public safety agencies are then dispatched, the matrix found in figure 2 applies.

Note 5: When all emergency calls (alarms) received at the primary PSAP are immediately transferred (detailed information is not gathered) to a secondary "PSAP" which is located in the same building as the primary PSAP, the matrix table applies, and the total number of available operators is the sum of the operators & dispatchers in the two PSAP's.

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Section 420 A & B Figure 2.

Call Volume Matrix Table
(For Call Taking PSAP Only Without Dispatching)

Alarms per Year		Number of Needed Operators
Less than 10,001		1
10,001 to 50,000		2
50,000 to 100,000	(3 operators plus 1 supervisor in the Communications Center)	4
100,001 to 150,000	(4 operators plus 1 supervisor in the Communications Center)	5
150,001 to 200,000	(5 operators plus 1 supervisor in the Communication Center)	6
200,001 to 250,000	(6 operators plus 1 supervisor in the Communication Center)	7
250,001 to 300,000	(7 operators plus 1 supervisor in the Communication Center)	8
Over 300,000**	(8 operators plus 1 supervisor in the Communication Center)	9**

** For every 10 additional calls (alarms) average per hour, (87,600 calls per year), add one additional operator.

Section 420A2 – Alarm Processing

PSAPs dispatching apparatus and personnel to the fire protection area being graded will be evaluated for credit for alarm processing. Calls evaluated in this section are those where there is an imminent threat to life or when significant property loss/damage is likely or actively occurring. These include fire, EMS, rescue and other calls as determined by the AHJ. Calls for Law Enforcement response are NOT included unless deemed necessary by the AHJ.

The call processing time is the time between receipt of the call to the start of the dispatch process. For calls dispatched by the PSAP, 90 percent of emergency alarm processing shall be completed within 64 seconds, and 95 percent of alarm processing shall be completed within 106 seconds. For calls transferred to another PSAP, the transfer procedure shall not exceed 30 seconds for 95 percent of all alarms processed.

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Section 420B – Emergency Dispatch Protocols for Fire Service

No further guidance in this document

Section 420C – Telecommunicator Training and Certification

PIAL recognizes APCO ANS 3.103.1---2010, Minimum Training Standards for Public Safety Telecommunicators, as the baseline document for telecommunicator competencies. All telecommunicators should be trained, as a minimum, to this or an equivalent standard. Training programs that meet or exceed the APCO standard and are approved by the AHJ are acceptable. The content of and attendance at all training programs should be available for review by PIAL during its field evaluation.

In addition to training, telecommunicators should be certified as meeting the knowledge, skills and abilities for their positions. Documentation of these certifications should be available for review by PIAL during its field evaluation.

Section 420D – Telecommunicator Continuing Education/Quality Assurance

All telecommunicators must participate in continuation education and/or in-service training AND quality assurance programs as is appropriate for their positions.

With respect to Continuation Training and/or In-Service Training Programs, PIAL will verify the following:

1. A continuation education training and/or in-service training program is administered throughout the year.
2. Telecommunicators attend the training.
3. Records are kept of training activity.

With respect to Quality Assurance Programs, PIAL will verify the following:

1. A Quality Assurance Program is administered.
2. Telecommunicators participate in the Quality Assurance Program.
3. Outcomes of the Quality Assurance Program are evaluated.
4. Remedial training is provided when needed.
5. Records of remedial training (if required) are kept.

Incomplete documentation will result in a 25% deduction of earned credits. If no documentation is available, no credit will be awarded.

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Section 430 – Dispatch Circuits

No further guidance in this document

Section 431A2 – Dispatch Circuits – Radio Receivers Carried by Members

Alpha-numeric radio paging systems used as a **PRIMARY** dispatch circuit must be under the direct control of the AHJ. Fifty percent (50%) of the available credit can be awarded for **SECONDARY** dispatch circuits using third-party alphanumeric paging equipment not under the direct control of the AHJ.

All IP based dispatch systems must be under the direct control of the AHJ.

Cell phones are not recognized as a part of any valid dispatch circuit unless that dispatch circuit and associated equipment is owned by and is under the complete and direct control of the AHJ.

Section 431B - Monitoring for Integrity of Circuits

Dispatch circuits must be monitored to alert dispatchers of failures occurring with the equipment associated with those circuits. **This applies to all equipment associated with primary dispatch circuits including radio equipment and commercial power status at applicable repeater sites.** The general requirements are outlined in NFPA 1221. Monitoring for Integrity does not apply to fire stations (unless they house radio repeater equipment), emergency response vehicles, and portable radios. Contracted monitoring services performed at outside facilities may be used in lieu of monitoring by the dispatch facility.

Section 431C – Emergency Power Supply Systems

Uninterruptable Power Supplies are not creditable as stand-alone Emergency Power Supply Systems. These systems are only creditable if used in conjunction with permanently installed auto- or manually-started generator systems.

All communications centers, buildings housing repeater sites, and fire stations housing equipment critical to the dispatch process may receive credit for their emergency power supply systems. Equipment at fire stations that is critical to the dispatch process includes, but may not be limited to, radio repeaters, radio receivers and associated PA systems (when used to alert members at fire stations), and wired dispatch circuits such as Tear and Run printers.

The status of commercial and emergency power supply systems should be monitored using an alarm annunciation system that provides audible and visual alarms to alert dispatchers (or contracted agencies) of system failures. Contracted monitoring services performed at outside facilities may be used in lieu of monitoring by the dispatch facility.

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Credit for emergency power supply systems is applied for each type of system in use based on the percentage of the overall system it supports.

> EXAMPLE: Suppose a dispatch system requires a total of 10 emergency power supply systems. There are no repeater sites in use, but each fire station has a radio receiver connected to a public address system as its means of receiving alarms. The dispatch center and all 9 of the fire stations require emergency power supply systems. When evaluated by PIAL, the dispatch center and 7 of the fire stations were equipped with auto-start generators that were properly configured with an UPS. The remaining two fire stations have central battery systems that provide emergency power. The credit awarded will be the sum of 80% of the credit available for auto-started generators and 20% of the credit available for central battery systems.

Testing for emergency power supply systems (EPSS) is in accordance with NFPA 1221 and NFPA 110. Authorities having jurisdiction over the facility using the EPSS may define dates and times for testing, but at a minimum, testing must include weekly inspections of all critical parts of the EPSS including diesel or spark-ignited generators and automatic transfer switches and operation of these EPSS under load (or equivalent load) for a minimum of 30 minutes per month. As required by NFPA 110, the load test must be from a "cold start" condition and must include a simulated failure of the primary power source either by using the test switch(es) on the automatic transfer switch or by operating a normal circuit breaker. Testing of Stored Emergency Power Supply Systems (SEPSS) such as battery banks used as an SEPSS will be done by qualified personnel only and performed in accordance with NFPA 111. To receive credit for existing emergency power systems, records of system tests must be provided to PIAL at the time of the fire protection area's rating. Partial records or tests will result in a 25% reduction in credit for emergency power supply systems and if no records of testing are provided to PIAL, for all or some of the systems, no credit will be awarded for emergency power supply systems on a pro-rated basis.

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Fire Department

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Fire Department

Section 500 – General

No further guidance in this document

Section 501 – Basic Fire Flow

No further guidance in this document

Section 507 – Automatic Aid

PIAL will credit AA companies within 7 road miles of the graded area's boundaries based on need and history of use.

A written Automatic Aid Agreement, signed by the chiefs entering into the agreement, is required to define roles and responsibilities of each department entering into an Automatic Aid arrangement.

A valid Automatic Aid agreement includes, but is not limited to:

1. dispatch arrangements and timing,
2. the specific area(s) to which aid will be provided,
3. apparatus to be dispatched,
4. manpower to respond on apparatus,
5. commitment to periodic joint training.

Section 510 – Engine Companies

No further guidance in this document

Section 511 – Number of Existing Engine Companies

During severe weather such as hurricanes, when departments may have increased membership on-duty at their fire stations, PIAL will allow apparatus that are normally considered “reserve” apparatus to be used for first alarm response without voiding their reserve status.

Section 511C – Automatic-Aid Engine Companies

PIAL will award credit for engine companies from outside the fire protection area and within 7 road-miles of the fire protection area based on need and historical use.

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Section 512 – Equipment on Existing Engine Companies

Section 512A – Pump Capacity

No further guidance in this document for 512A & D

Section 512B – Hose Carried on Existing Engine Companies

PIAL will award credit for up to 200 feet of 3" attack hose carried on an existing engine company as part of or in lieu of the 200' of 2-inch or 2½-inch attack hose required by the FSRS.

Section 512C – Equipment Carried

See the attached PIAL Apparatus Equipment Inventory Form and PIAL Equipment Requirements and Equivalencies for items creditable on each type of apparatus.

Graded areas must provide copies of the 3 most recent pump test records (maximum of one per 12-month period) performed during the graded year and before. Credit will be based on the average interval between these three tests and will be rounded to the next higher interval. This applies to reserve engine companies as well.

As with pump test intervals, the average hose test interval will be rounded to the next higher interval.

EXAMPLES: Engine 1 passed pump tests in 2013 (the graded year), 2012, and 2011. The average pump test interval for this pumper is 1 year. Engine 1 receives credit for a 1-year interval. Engine 2 passed pump tests in 2013, 2011, and 2010. The average pump test interval for this pumper is 1.5 years. Engine 2 receives credit for a 2-year interval. Engine 3 passed pump tests in 2013, 2010, and 2006. The average pump test interval for this pumper is 3.5 years. Engine 3 receives credit for a 4-year interval.

Section 513 – Credit for Engine Companies

No further guidance in this document.

Section 520 – Number of Needed Reserve Pumpers

In cases where multiple fire protection areas share a reserve pumper, the number of needed reserve pumpers for both graded areas is based on the combined total number of existing in-service engine companies in the areas sharing the reserve pumper. A written agreement, including details of the arrangement must be provided to PIAL at the time of the rating. One reserve engine company may be credited for every 8 in-service engine companies.

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During severe weather such as hurricanes, when departments may have increased membership on-duty at their fire stations, PIAL will allow apparatus that are normally considered "reserve" apparatus to be used for first alarm response without voiding their reserve status.

Section 521 – Equipment Carried on Existing Reserve Pumpers

PIAL will award credit for up to 200 feet of 3" attack hose carried on reserve engine companies as part of or in lieu of the 2-inch or 2½-inch attack hose required by the FSRS.

As with pump test intervals, the average hose test interval will be rounded to the next higher interval.

Section 523 – Credit for Reserve Pumpers

No further guidance in this document.

Section 530 – Pump Capacity

No further guidance for this document

Section 531 – Review of Pump Capacity:

No further guidance for this document

Section 532 – Credit for Pump Capacity

No further guidance for this document

Section 540 – Needed Ladder/Service Company Locations

Existing ladder or service companies are evaluated to determine the average number of road miles within 2.5 road miles of those stations. Additional service or ladder companies are needed at other engine company locations when the number of road miles within 2.5 road miles of the station exceeds 50% of this average.

Section 541 – Number of Existing Ladder/Service Companies

No further guidance in this document

Section 542A&B – Ladder and Engine/Ladder Company Equipment

The required height of an Arial Ladder/Elevated Platform is 10' for every story of the tallest building in its response area. In the event that building borrowing was employed

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to determine the need for a ladder company, the required height is 10' for every story of the tallest building in the applicable areas.

The maximum required length for an Aerial Ladder/Elevated Platform is 100'.

No credit is given for Aerial Ladder/Elevated Platforms less than 50'.

Non-destructive and load testing must be performed by an accredited, independent testing agency on all creditable ladder companies during the most recent 5-year interval (during the graded year and before). If these tests are not performed, no credit for aerial ladder testing will be awarded.

Aerial Ladder or Elevated Platforms must have successfully passed their most recent Non-Destructive and Load Tests with no Category I or II deficiencies.

Copies of the last five (5) tests for each aerial apparatus must be submitted to PIAL, regardless of the years in which those tests were completed.

Credit for the testing interval will be based on the dates of the 3 most recent tests and will be rounded to the next higher whole year as described in Section 512A above.

Section 542C – Service Company Equipment

Additional ground ladders, while potentially valuable, are no longer required on a service company when tall buildings exist but a ladder truck is not needed in the service company's response area. Therefore, no credit will be awarded for carrying additional ground ladders when a ladder company is not needed.

Section 548 – Automatic Aid

No further guidance in this document

Section 550 – Number of Needed Reserve Ladder Service Trucks:

When a reserve ladder or service truck is shared by more than one fire protection area, the number needed is determined as is done with shared reserve engine companies in Section 520.

Section 551 – Equipment on Reserve Ladder and Service Trucks

No further guidance in this document

Section 560 – Deployment Analysis:

All graded areas will receive a standard road mile distribution study based on their existing engine and ladder/service company locations. Results of this study will be used in the formula

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found in the FSRS and credit for Deployment Analysis calculated. When the fire department can provide data derived from the dispatch center's CAD system that details the % of structural fire alarm responses meet the criteria defined in NFPA 1710, that data may be presented to PIAL. The formula found in the FSRS will be re-worked using this data.

If a report of data derived from the CAD system is not available or cannot be provided, credit for Section 560, Deployment Analysis will be calculated based strictly on the road mile distribution study.

The standard defined in NFPA 1710 is that the arrival of the first due engine company should be within 240 seconds (travel time) on 90% of structural fire alarms, and arrival of the full complement should be within 480 seconds (travel time) on 90% of structural fire alarms. The time in NFPA 1710 does not include turnout time, so PIAL will allow 80 seconds for turnout time. Because of this, departments submitting CAD sourced deployment analysis data should query their system for the % of calls recording arrival of the engine company within 320 seconds of dispatch (240 sec travel + 80 sec turnout) and arrival of the full complement within 560 seconds of dispatch (480 sec travel + 80 sec turnout).

PIAL will calculate values used in determining credit for Deployment Analysis as it relates to the standard of 90% in both areas. For example:

> If CAD data indicates the fire department protecting this area meets the initial arrival criteria on 61% of their calls, the value of ***AE*** used in the formula for calculating credit for deployment analysis would be 61/90=67.78%. If CAD data indicates a department meets the full complement arrival criteria on 43% of their calls, the value of ***AL*** used in the formula for calculating credit for deployment analysis would be 43/90=47.78%.

For purposes of calculations, should the first arriving engine company determine that the alarm is a "non-working" fire alarm and additional apparatus is not required, the time that the first arriving engine company terminates the response of other responding apparatus should be used as the time of arrival of the full alarm apparatus.

PIAL will use the higher result of calculation using road miles or values derived through use of CAD data for deployment analysis.

For purposes of these calculations, the definition of "full complement" is as follows:

- In areas requiring 1 engine by BFF, a full complement consists of 1 engine company and one service or ladder company.
- In areas requiring 2 or more engines by BFF, a full complement consists of 2 engine companies and a service or ladder company.

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Section 570 – Existing Company Personnel

No further guidance in this document in Sections 570B, 570D, 570E, 570F, 570G and 570H

PIAL will award credit for all creditable firefighters who are members of the department being graded who arrive at the scene of working structural fires in their fire protection area and participate in fire suppression operations including those providing for water supply.

Members of the department who are not part of the "fire line" will be credited only if they are expected to respond within the graded area on structural fire alarms including working fires, smells of smoke, alarm activations, etc….

In the event there were no structural fire alarms within the graded area during the graded year, PIAL will look at records from the prior year(s) to evaluate personnel and apparatus response.

The number of personnel credited as existing company personnel is limited to the number of department members receiving at least 12 hours of creditable fire suppression-related training during the graded year. (PIAL will NOT compare names on fire reports to training class rosters to determine if responders are adequately trained. However, if, for example, only 10 of the 25 members of the department being graded received at least 12 hours of training during the graded year, manpower response to working structure fires will be capped at 10 per fire).

All members responding to working structural fires, while on the fireground, must have available to them a protective clothing ensemble in accordance with the general criteria of NFPA 1001, *Standard for Fire Fighter Professional Qualifications*. Therefore, PIAL will limit the number of members credited as responding to working structure fires within the graded area to the number of protective clothing ensembles meeting NFPA criteria that are available.

Section 570A – On-Duty Firefighters at Fire Stations

Volunteer members may be credited as on-duty firefighters if the following criteria are met:

1. Fire administrators must submit to PIAL documents detailing shift/station assignments for volunteers credited as on-duty firefighters.

2. A copy of the dates and times the volunteer members are scheduled to work during the entire graded year is required.

3. Adequate records must be maintained detailing the volunteer's actual presence at the fire station during the entire graded year.

4. Each credited person must remain with the fire company/station while awaiting an alarm.

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Additional On-Duty Credit for Scheduled Events

PIAL will award credit for time accumulated at scheduled events within the graded area by active on-call and/or active off-duty members. For credit, these events must be conducted within the fire protection area at locations where first responding apparatus and gear are immediately available. During the time of such event(s), members in attendance will be credited as on-duty and considered ready to immediately respond to an emergency in their graded area.

Examples of qualifying events:

- Scheduled Training Meetings
- Scheduled Department Meetings
- Scheduled Department Workdays

Records of scheduled events (including attendees) that occurred during the review period shall be provided to the PIAL Field Representative or submitted with the completed questionnaire for credit to be allocated. The hours submitted shall be totaled for the grading period and added to the graded area as On-Duty Credit.

Example – A fire department has scheduled a 3-hour training session in which 8 active on-call and/or off-duty firefighters attend.
The credit would be calculated as follows: 8 firefighters x 3 hours = 24 hours, which would earn additional credit for 1 on-duty firefighter that day.
Example 2 – A fire department provides documentation of all the hours during the grading period for the Additional On-Duty Staffing and it totaled up to 10,000 hours. They have a staffing average of 1.5 members for the same grading period and you added the 10,000/8,760 (1.14). The new daily staffing average is 2.64 for the grading period.

Please remember that this credit is only available to "active" on-call and/or off-duty firefighters. Honorary, junior, or "support only" members are not eligible for the credit.

Section 570C – On-Call and Off-Duty Firefighters

PIAL will award credit for all creditable firefighters who are members of the department being graded who arrive at the scene of working structural fires in their fire protection area and participate in fire suppression operations including those providing for water supply.

PIAL will credit each on-call and off-duty firefighter as one-half of an on-duty firefighter.

During conditions related to severe weather, when departments may have increased membership on-duty at their fire stations, PIAL will not allow credit for manning levels in excess of typical non-emergency manning.

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Section 570I – Alternate Water Supply Apparatus

PIAL will award credit for all creditable firefighters who are members of the department being graded who arrive at the scene of working structural fires in their fire protection area and participate in fire suppression operations including those providing for water supply.

Section 580 – Training

Excess training received by one member cannot be transferred to any other member.

Please remove or obscure all sensitive information such as social security numbers, home addresses, and phone numbers from all documents including training records or personnel rosters submitted to PIAL. Submitting VFIS insurance rosters to PIAL without eliminating sensitive information is also discouraged.

A roster of all department members (for the graded year) must be included with all training records submitted to PIAL. This roster should include each member's name, rank or position, date entered that rank or position, hire date, end of service date and assigned shift. All officers and drivers must be identified on this roster.

Section 580A1 – Training Facilities

PIAL will award credit for live fire training structures that meet the criteria outlined in NFPA 1402.

PIAL will only award credit for a training facility if it is owned or leased by the fire department or the authority having jurisdiction and dedicated to conducting fire department training. Any public use of leased property for other activities will revoke PIAL's recognition of this property as a fire department training facility.

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Conditions under which PIAL will recognize leased training facilities:

- The fire department must provide PIAL a copy of the legal binding document between the lessor and lessee that includes:
  - The length of the lease,
  - The size of the property leased (acreage),

- A statement of exclusive use for fire department training,

- Should there be any questions related to the training ground surface, the fire department shall reference the NFPA Standards.

PIAL will award credit for availability and use of a training library, audio/visual equipment and hydrant/pump cutaways. A maximum of 4 points will be awarded per Table 1 below, but the total credit for the facilities availability factor cannot exceed 35 points.

PIAL will award credit for NFPA compliant mobile live fire training props that are used by the graded area regardless of their ownership.

Table 1

Item		Credit
Training Library	Full Library	2.00
	Partial Library	1.00
	No Library	0.00
Audio/Visual Aids	VCR or DVD Player and TV	0.50
	OH Projector Slide Projector	0.50
Cut-Away Props	Hydrant	0.50
	Pump	0.50
Total Possible "Bonus" Credit:		4.00

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Computer Based Training (CBT)

Credit may be given for the use of various training media (such as video, CD-ROM, computer-based training (CBT), pre-recorded closed circuit or satellite TV, etc.) when the subject matter relates to structural firefighting and related topics. The intent is to credit materials that have an educational component, not just viewing "materials that are just entertainment in nature." The credit is based on the following criteria.

1. The number of hours credited for Company Training received within the local fire department will be limited to the maximum of 50% of the needed as defined by the FSRS. For instance, company training constituting 30 hours of structural fire training via feed from satellite TV over a one-month period would be eligible for a maximum of 8 hours credit.

2. Items eligible for this training:
   Company Training – up to 50%
   Classes for Officers – up to 100%
   New Driver/Operator Training – up to 100%
   Training on Hazardous Materials – up to 100%
   Recruit Training – up to 100%

Training media is an essential part of most Recruit Training classes, but the foundation of these classes revolve around the instructor guided classes and practical lessons. It is not anticipated that up to 50% of Recruit Training will be from media identified above, nor is it the intention of this policy to restrict the prudent use of media for recruit training where appropriate.

Computer Based Training (CBT) hours need to be presented as separate hours to PIAL so proper credit can be allocated. Please provide this in a separate document with other training records.

In addition, validation of classes must be provided. This can be Certification of Completion or a report run from the CBT Program with back-up documentation. This documentation must contain the trainee's name, the title of the course, the length of the training, and the completion date.

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Virtual Training (VT)

PIAL has recognized the value of Virtual Training as a valid training tool. Fire Suppression Training conducted through video conferencing platforms such as Zoom, Teams, Google Meets, etc., can receive 100% credit. The credit is based on the following criteria.

1. Training sessions must be "interactive" where the instructor and attendees can see each other, can see visual aids used by the instructor, and are able to ask and answer questions during the session. VT shouldn't be confused with CBT (see above CBT section). The key difference is that VT training offers the ability to train "interactively" with other participants, while CBT does not.

2. Items eligible for this training include:

   Company Training – up to 100%
   Classes for Officers – up to 100%
   Driver/ Operator Training – up to 100% (Departmental Apparatus only)
   New Driver/ Operator Training – up to 100%
   Training on Hazardous Materials – up to 100%

Creditable Training Received from Sources Outside the Local Fire Department

Training received from sources outside the local fire department, such as training approved from a state firefighter certification program, or training from another paid or volunteer fire department may be creditable provided that the fire department can document such training. Credit for company training received outside the local fire department will be reduced by 50%.

Items eligible for this training credit include:

Company training – up to 50%
Classes for Officers – up to 100%
New Driver/Operator Training – up to 100%
Training on Hazardous Materials – up to 100%
Recruit Training – up to 100%

Note: Please provide these records to PIAL from that outside source on that agency's letterhead. Do not combine these hours with the training received from your department as we can allocate proper credit.

The Training Library consists of books (or current electronic equivalents) found in Figure 3. This list is a "living list" and is subject to change based on changes in the fire service.

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Training manuals published by IFSTA are fully creditable. Training manuals published by other publishers may be substituted if they meet the general criteria of those in Figure 3. Documentation shall be provided to PIAL to show that the substitute manual meets the general criteria of the listed manual.

Visual aids depicting a cut-away pump and a cut-away hydrant are creditable in lieu of having the actual training props.

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Figure 3

Topic	Required
Firefighter - General	**IFSTA - Essentials of Firefighting**
Firefighter - General	**IFSTA - Orientation & Terminology**
Firefighter - General	**IFSTA - Fire Service Search & Rescue**
Firefighter - General	**IFSTA - Fire Department Safety Officer**
Firefighter - General	**IFSTA - Structural Fire Fighting: Initial Strategy & Tactics**
Firefighter - General	**IFSTA -Structural Fire Fighting: Truck Company Skill & Tactics**
Firefighter - General	**IFSTA - Structural Fire Fighting: High-Rise Fire Fighting**
Firefighter - General	**IFSTA - Building Construction**
Driver	**IFSTA - Pumping Apparatus**
Driver	**IFSTA - Aerial Apparatus Driver/Operator**
Officer	**IFSTA - Company Officer**
Officer	**IFSTA - Introduction to Fire Origin and Cause**
Officer	**IFSTA - Fire Investigator**
Officer	**IFSTA - Fire Detection & Suppression Systems**
Officer	**IFSTA - Instructor**
Officer	**IFSTA - Inspection & Code Enforcement**
Officer	**IFSTA - Chief Officer**
HAZMAT	**IFSTA - HAZMAT First Responder**
HAZMAT	**IFSTA - HAZMAT Managing the Incident**

REQUIRED - NO SUBS			
NFPA - National Fire Codes	**Fire Engineering - Fire Chiefs Handbook**	**NFPA - Fire Protection Handbook**	**ICMA - Managing Fire & Emergency Services**

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Section 580A2 – Use of Facilities

All credit for drills must be earned at a formal training facility that meets the general criteria of NFPA 1402. Multiple training facilities will be recognized when drills are conducted at those facilities. PIAL will award credit for NFPA compliant, fixed or mobile training props listed in the FSRS regardless of the location or ownership of those props. Credit for Training Facilities will be pro-rated based on hours used and % of members using the training facilities.

Documentation of a department's use of creditable training props must be presented to PIAL during the rating.

No credit will be awarded for any training prop or facility that is available but is not used during the graded year.

Section 580B – Company Training Program

No further guidance in this document

Section 580C1 – Officer Certification

All officers responding on first alarm to reported fires in structures are considered in this area.

Credit is awarded for certification of each current officer with responsibilities in fire suppression in accordance with the general criteria of NFPA 1021, *Standard for Fire Officer Professional Qualifications.*

Departments must provide copies of certifications when they submit their questionnaire to PIAL.

Section 580C2 – Officer Continuing Education

No further guidance in this document

Section 580D – New Driver/Operator Training Program

No further guidance in this document

Section 580E – Existing Driver/Operator Training Program

The Graded area's apparatus must be used while earning this credit.

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Section 580 F – Hazardous Materials Training Program

HAZMAT training should be devoted to recognition and identification of hazardous materials encountered during structural firefighting operations.

PIAL will award credit for HAZMAT Awareness, Operations, Technician, or Command Level training defined in NFPA 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*.

Other HAZMAT related training will be evaluated for credit on a case-by-case basis.

Section 580G – Recruit Training Program

PIAL will award credit for training class hours for training leading to or resulting in Firefighter I and Firefighter II designation within the 1st year of employment or membership, or within the year prior to employment or membership.

Section 580H – Building Familiarization for Pre-Incident Planning Program

Pre-incident plans must be available while en-route to or upon arrival at the fire scene.

PIAL will round intervals for pre-planning inspections in the same manner as is done with pump and hose testing described above.

Documentation of the three (3) most recent inspections performed (during the graded year and before) for target buildings must be provided on request during PIAL's field visit with the fire department.

Section 580IFSAC – Bonus Credit for IFSAC Certifications

PIAL will award up to 3 "bonus" points for members on the department's membership roster during the graded year who have earned at least one IFSAC or equivalent certification, regardless of the date of that certification, provided those members complete at least 45 hours of company training within the graded area during the graded year. Company training completed at other fire departments does not apply toward this 45-hour requirement.

Certificates considered for this "bonus" credit must be in addition to any certificates already considered by PIAL for credit in other areas.

Copies of all certifications must be submitted to PIAL with the grading questionnaire. Certificates will not be accepted after the questionnaire is returned to PIAL.

Certificates earned after the end of the graded year are not eligible for this credit.

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Total credit for training cannot exceed 9 points including credit for IFSAC certifications.

Only certificates in the following areas will be considered: Fire Fighter I & II, Fire Instructor I, II, & III, Fire Department Vehicle Driver/Operator, Apparatus Driver/Operator – Pumper, Apparatus Driver Operator - Aerial, Fire Officer I, II, or III, HAZMAT Awareness, Operations, or Technician Level.

When seeking credit for certifications earned in other states for which an LSU/IFSAC equivalency certification was issued the department must submit the original certification attached to the LSU/IFSAC certification.

When seeking credit for certifications earned in other states for which an LSU/IFSAC equivalency certification was NOT issued, PIAL will review submitted documents on a case-by-case basis and award credit if appropriate.

Total Credit for IFSAC Certifications:

$$CIC = \frac{\#\ of\ certified\ Members\ with \geq 45\ hrs\ Company\ Training}{Number\ of\ Members}\ X\ 3$$

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Required Equipment and Equivalencies for Engines, Service, and Ladder Companies

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Required Engine Company Equipment, Equivalencies and Definitions

Item	Needed	Equivalencies
Booster Tank	300 gallon or larger	None
Hose		
Suction Hose	15’ Soft-Suction or 20’ Hard Suction	Min 15’ of 3” or larger hose
		None
Attack Hose	600’	400’ of 1-½”, 1-¾” or 2” hose pre-connected to the pump 200’ of 2”, 2.5” or 3” hose (may be pre-connected)
Supply Hose	1,000’	2-½” or larger hose
Master Stream Appliance	1 rated at 1,000 gpm	None
Nozzles		
2-½” Playpipe with shutoff and 1”, 1-1/8” and 1-¼” tips	1	Portable Attack Monitor with 1”, 1-1/8” and 1-¼” tips solid bore tips
2-½” Combination spray with shutoff	1	1-½” Combination spray w/shutoff & 2-½” to1-½” reducer
1-½” or 1-¾” combination spray with shutoff	2	None
SCBA (30-minute minimum)	4	None
Spare SCBA cylinders (carried)	4	None
Salvage covers (min 12’x14’)	2	Canvas or rip-stop plastic.
Electric handlights	2	4V Wet, 6V Dry, rechargeable 6V hand lights.
Hose clamp	1	2-½”, 3” or LDH hose clamp.
Hydrant Hose Gate (2-½”)	1	4-way valve, LDH manifold, trimese.
Gated wye (2-½” x 1-½” x 1-½”)	1	Water thief, 2-½” gated wye w/1-½” reducers
Radio:		
Mounted	1	None
Portable	1	None
Ladders:		
12 to 16’ roof	1	Little Giant “Overhaul” with Roof Hooks (>=12’) or Little Giant “Defender” with Roof Hooks (>=12’)
24’ extension or longer	1	None

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Required Service Company Equipment, Equivalencies and Definitions

Item	Needed	Equivalencies
SCBA (30-minute minimum)	4	None
Spare SCBA cylinders (carried)	4	None
Salvage covers (minimum size of 12’ x 14’)	6	Canvas or rip-stop nylon
Electric generator (3,000 watts minimum)	1	PTO driven inverter prorated based on its capacity; Mini-generator floodlight prorated in 500W increments; Mini-generator ventilation fan prorated in 1,000W increments.
Portable floodlight (500 Watt)	3	Tripod floodlight; mini-generator floodlight. Portable electric (not battery operated) LED Floodlight (10,000 lumens minimum)
Smoke ejector (5,000 cfm minimum)	1	Positive pressure ventilation (PPV) fan; Mini-generator ventilation fan; Thermal Imaging Camera (TIC); Battery operated tools rated for fire service use.
Portable thermal cutting unit	1	Hydraulic or pneumatic cutting tool; Plasma cutting tool; Oxy-acetylene cutting torch; Oxy-gasoline cutting torch; Air Chisel; Battery operated tools rated for fire service use.
Saw – Power (chain or heavy-duty rotary type)	1	Chain saw with carbide tip cutting blade. Battery operated tools rated for fire service use.
Electric hand lights	4	4V Wet, 6V Dry, rechargeable 6V hand lights.
Pike pole (plaster hook)		
3’ or 4’	2	None
6’ or longer	4	
Radios:		
Mounted	1	None
Portable	1	None
Ladders:		
24’ extension or longer	1	None
16’ roof or longer	1	Little Giant “Overhaul” with Roof Hooks (>=16’) or Little Giant “Defender” with Roof Hooks (>=16’)
10’ attic or longer	1	10’ Folding ladder
14’ combination	1	14’ Extension ladder; Little Giant “Overhaul” (>=14’) or Little Giant “Defender” (>=14’)

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Mask-mounted Thermal Imaging Cameras are not creditable.

All handheld Thermal Imaging Cameras (TICS) must be NFPA approved.

PIAL will not allow credit for multiple smoke ejectors each with less than 5,000cfm capacity that are used in tandem or "stacked" to reach or exceed the 5,000cfm capacity requirement.

Required Ladder Company Equipment, Equivalencies and Definitions

(In Addition to Required Service Company Equipment)

Item	Needed	Equivalencies
Ladders:		
16' roof or longer	1	Little Giant "Overhaul" with Roof Hooks (>=16') or "Defender" with Roof Hooks (>=16')
35' extension or longer	1	None
Elevated stream device*	1	None
Large spray nozzle (1,000gpm)	1	None
Aerial ladder/elevating platform*	1	None

*Of sufficient height to reach the roof of any building, or 100', whichever is less. The credit shall be prorated if existing equipment has insufficient reach.

Tables outlining credits for pump, hose, and aerial testing programs may found in the section of this document titled "Credit for Testing Programs".

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Water Supply

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Water Supply

Section 601 – Part of Fire Protection Area Without a Recognized Water System

If the graded area's method of operations is to use fire hydrants for fighting fire, any commercial properties that are not within 1,000 feet of at least one creditable fire hydrant will receive a Class 10 rating. If Water Hauling credit is earned by this graded area, all properties within 7 road miles of a recognized fire station housing an in-service pumper will receive the community's PPC rating. In areas receiving a Class 9 (D.O.) rating, all dwellings within 7 road miles of a recognized fire station will be rated at Class 9 and all commercial properties will be rated at Class 10.

Section 602 – Maximum Daily Consumption Rate

No further guidance in this document

Section 603 – Minimum Pressure

No further guidance in this document

Section 604 – Needed Fire Flow Duration

The following statement replaces Section 604 of the 2012 FSRS in its entirety:

> The fire-flow duration is 2 hours for NFFs up to 2,500 gpm, 3 hours for NFFs of 3,000 & 3,500 gpm and 4 hours for NFFs greater than 3,500 gpm.

Section 605 – Service Level

No further guidance in this document

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Section 611 – Supply Works

No further guidance in this document for 511A, 511B, 511C, and 511D

Section 611E – Fire Department Supply

Refer to PIAL's Water Hauling Guidelines for information related to Fire Department Supply.

PIAL calculates travel time of apparatus as follows:

$$T = 0.65 + 1.3D$$

Where:

T = minutes
D = miles

The formula assumes an average speed of approximately 45 mph. Assume slower speeds in cases of adverse road conditions or apparatus laying hose lines.

Section 612 – Supply Works Capacity

PIAL will calculate Supply Works Capacity (SWC) at each test location as follows:

$$SWC = (MS + PU + EM) - MDC) + SS + FDS$$

Where:
MS = Gravity Supply
PU = Pumped Supply
EM = Emergency Supply
MDC = Maximum Daily Consumption
SS = Suction Supply
FDS = Fire Department Supply

Section 613 - Main Capacity

Main Capacity is normally evaluated through hydrant flow testing.

When only one hydrant is located near the target building a single hydrant flow test may be done if there is no other means of obtaining static and residual pressure readings. For these flows, the observed flow from the hydrant will be credited.

When a computer modeling program is not in use, fire flow testing will be done at all properties with a NFF over 3,500 gpm, and for a representative number of risks with NFFs of 3,500 and below.

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The number of tests completed will be based on the number of hydrants in the distribution system, based on the following table:

Number of Hydrants	Number of Flow Tests	Number of Hydrants	Number of Flow Tests
Up to 10	2 - 3	2001 - 2500	13 - 39
11 - 25	3 - 5	2501- 3000	14 – 42
26 - 50	5 - 7	3001 - 3500	15 - 45
51 - 100	5 - 10	3501 - 4000	16 - 48
101 - 200	6 - 13	4001 - 4500	17 - 51
201 - 300	7 - 16	4501 - 5000	18 - 54
301 - 500	8 - 21	5001 – 5500	19 - 57
501 - 750	9 - 25	5501 – 6000	20 - 60
751 – 1000	10 - 29	6001 - 7000	22 - 65
1001 – 1500	11 - 33	7001 – 8000	23 - 70
1501 – 2000	12 - 36	More Than 8000	23 or more

Flow test results from computer modeling programs may be used when substantiated with proper benchmark field verification test results. Computer model flow prediction data must include, at a minimum, a hydrant location (or node location) and an available flow @ 20-psi residual pressure prediction. In order to provide usable data for automatic sprinkler system evaluations, a static pressure is also desirable, but not mandatory.

When a computer flow modeling program is recognized, PIAL will validate the model's data by flowing select hydrants throughout the graded area.

"Border" hydrants located outside of the graded area but within 1,000 feet of a target building may be used for credit during hydrant flow testing.

Section - 614 Hydrant Distribution

"Border" hydrants located outside of the graded area but within 1,000 feet of a target building will be counted when determining hydrant distribution.

Section 620 – Hydrant Size, Type and Installation

No further guidance in this document

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Section 630A – Inspection (of Fire Hydrants)

Frequency of inspections will be rounded as are frequencies of pump and hose testing described above.

The pressure test credit included in Section 630A2 includes pressurizing the hydrant without discharging water.

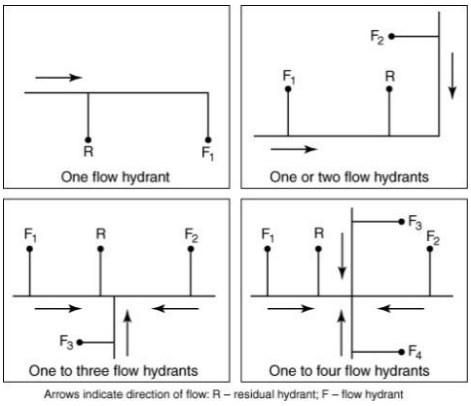
Incomplete inspections will result in a 25% reduction in earned credit.

Section 630B – Fire-Flow Testing (of Fire Hydrants)

Frequency of inspections will be rounded as were frequencies of pump and hose testing described above.

PIAL will award maximum credit when the frequency of fire-flow testing is 5 years or less.

When the results of a current, properly installed and calibrated hydraulic water distribution system computer model is used, comparison fire flow tests must be performed on all parts of the distribution system <u>each year</u> to validate the model. The number of comparison tests should be in proportion to the number of hydrants in the system. At least two (2) comparison tests must be included for each separate pressure zone in the system. A map showing test locations must be provided to demonstrate adequate testing in all pressure zones within the system. Records of comparison tests must be provided to PIAL upon request.



Arrows indicate direction of flow: R – residual hydrant; F – flow hydrant

As their basis for fire flow testing of fire hydrants, PIAL uses the Main Capacity Flow Test process defined in NFPA 291, *Recommended Practice for Fire Flow Testing and Marking of Hydrants, 2019 Edition – Chapter 4*. This process requires there be at least two fire hydrants installed on the water main being tested. Use of a single hydrant for flow testing is only done as a last resort when there is only one serviceable hydrant on the main being assessed.

PIAL assumes that the fire hydrant closest to the target building for which the flow is being performed is the hydrant that the fire department will use to fight fires in that building. If this is not the case, fire departments should be prepared to show PIAL the pre-fire planning documents that define the specific method of operations for fighting fires in that building. PIAL will then complete fire-flow testing using the hydrants identified in the established attack plan.

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Operational Considerations

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Operational Considerations

Section 710 – Credit for Standard Operating Procedures

Available operational guidelines must be dated. No credit is awarded for guidelines that have not been reviewed and/or updated within the last 5 years including the graded year and the previous 4 years.

For credit in this area the following Standard Operating Procedures (SOPs), Standard Operating Guidelines (SOGs), Written Procedures, or Standing Orders must be available for review at the time of the rating.

- Response of Apparatus
- Operation of Emergency Vehicles
- Safety at Emergency Incidents
- Communications
- Apparatus Inspection and Maintenance, including pump, aerial, and hose testing
- Fire Suppression
- Company Operations
- Automatic/Mutual Aid Operations
- Training
- Personnel Response

Section 720 – Credit for Incident Management System

PIAL will review IMS training documentation. All members of the department should be trained to the level commensurate with their duties and responsibilities.

Training may involve a minimum of NIMS 100, an acceptable college-level Incident Command class, or locally developed equivalent training. If locally developed equivalent training, departments should be able to provide documentation that local training content equates to or exceeds content provided in NIMS 100 training.

Training must be dated within 5-years (graded year and 4 prior years) to receive credit.

PIAL will not award credit for use of an SOP in lieu of training.

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Community Risk Reduction

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Community Risk Reduction

Section 1000 – General

Only those fire departments with Fire Prevention Bureaus identified by the Louisiana Office of the State Fire Marshal as authorized in accordance with LA RS 40:1563 to conduct fire prevention inspections are eligible for credits in Sections 1020 through 1025 of the FSRS.

Documentation related to credit for Community Risk Reduction must be returned to PIAL with the grading questionnaire. Documentation for these credits cannot be accepted by PIAL at the time of, or after the conclusion of PIAL's field visit.

Section 1020 – Fire Prevention Code Adoption and Enforcement

Only those jurisdictions who, in accordance with LA RS 40:1578.6, have adopted NFPA 101 in addition to NFPA 1 are eligible for credit in Section 1020. The only exception to local adoption of NFPA 1 is if, in addition to NFPA 101, the jurisdiction adopted the Southern Fire Prevention Code now known as the ICC International Fire Code (IFC) prior to July 9, 1999.

Documentation of adopting these codes must be returned to PIAL with the grading questionnaire. Documentation for these credits cannot be accepted by PIAL at the time of, or after the conclusion of PIAL's field visit.

Section 1021 – Fire Prevention Code Regulations

No further guidance in this document

Section 1022 – Fire Prevention Staffing

Only properties that have been inspected by certified fire inspectors are eligible for credit in section 1022. Certified fire inspectors are those who are working within an authorized fire prevention bureau who have been issued a Fire Inspector Card from the LA Office of the State Fire Marshal.

PIAL, at the time of the rating, will request fire prevention inspection records on a minimum of 10 non-residential structures (possibly including dwelling occupancies containing 4-units or more). A larger number of records may be inspected based on community size. If requested records are used to calculate credit in this area, the credit will be based on the percentage of requested records that were available for review and met the annual inspection criteria.

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Section 1023 – Fire Prevention Certification and Training

For each member assigned to conduct fire prevention inspections, copies of NFPA 1031 certification and documentation of continuation training for the graded year and the previous two years must be submitted with the grading questionnaire.

Licensure as Certified Fire Prevention Inspectors issued by the Office of the Louisiana State Fire Marshal is acceptable documentation of certification.

Section 1024A – Plan Review

RS 40:1574 requires the OSFM to conduct plan review of all new construction and/or remodeling of commercial buildings. Use of agencies other than the LA OSFM to perform plan reviews for commercial buildings is not creditable.

Section 1024B – Inspections for Certificate of Occupancy

No further guidance in this document

Section 1024C – Quality-Assurance Program for Enforcement and Inspection Programs

No further guidance in this document

Section 1024D – Code Compliance Follow-up

No further guidance in this document

Section 1024E – Inspections of Private Fire Protection Equipment

Fire Prevention Inspections must include verification that 3rd-Party inspectors of Private Fire Protection Equipment are utilizing the state mandated Equipment Condition Tagging System in accordance with LA R.S. 40:1627.

Section 1024F – Fire Prevention Ordinances

Copies of ordinances defined in the FSRS must be submitted to PIAL with the grading questionnaire.

Section 1024G – Coordination with Fire Department Training and Pre-Incident Planning

A copy of the SOP requiring fire prevention inspectors to share pertinent information with the training and pre-incident planning functions (the fire line) must be submitted to PIAL with the grading questionnaire.

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Section 1031A – Fire Safety Education Course

Documentation of qualifications to teach fire safety education courses must be submitted to PIAL with the grading questionnaire. Documentation may include Instructor I or Fire and Life Safety Educator I or higher Certifications.

Section 1031B – Fire Safety Education Continuing Education

Teaching or participation as a presenter of public fire safety education classes does not qualify as continuing education.

Section 1032A – Residential Fire Safety Program

Departments should have an established program for conveying fire safety information to the public. Program documentation and evidence of use must be submitted to PIAL with the grading questionnaire.

Section 1032B – Fire Safety Education in Schools (Through Grade 12)

Documentation of fire drills conducted at each school (Pre-K-12) in the graded area must be submitted to PIAL with the grading questionnaire.

Documentation of teaching fire safety education to all students in early childhood education (ECE) programs (Pre-K through 3rd grade) must be submitted to PIAL with the grading questionnaire. All public and private schools teaching Pre-K through 3rd grade students require fire safety education curriculum to earn this credit. Private daycare facilities that do not provide educational services are excluded. These lessons are presented by certified schoolteachers within the schools located in the graded area. Suitable documentation may include copies of curriculum requirements, lesson plans, or signed statements from school administrators.

Section 1032C – Juvenile Firesetter Intervention Program

No further guidance in this document

Section 1032D – Fire Safety Education Programs for Occupancies Having Large Loss Potential or Hazardous Conditions

A list of properties within the graded area identified by the AHJ as having large loss potential or hazardous conditions must be submitted to PIAL with the grading questionnaire.

At the time of PIAL's field visit, records of fire safety education programs conducted at these properties will be reviewed.

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Section 1041A – Fire Investigation Organization

Documents establishing authority to conduct fire cause and origin investigations must be submitted to PIAL with the grading questionnaire.

Section 1041B – Fire Investigation Staffing

PIAL considers officers with a minimum of Fire Officer I Certification as qualified to perform initial cause and origin investigations. Investigations of all fires deemed suspicious must be performed by the LA OSFM or other certified fire investigators trained to the standards outlined in NFPA 1033. Fires meeting the state statute for mandatory investigation by the LA OSFM must be investigated by the LA OSFM. At the time of the field visit PIAL will document which fires received an investigation by a qualified investigator.

Use of the LA OSFM to conduct initial cause and origin determinations is acceptable and credit will be applied based on the percentage of fires that they investigated.

Section 1042 – Fire Investigator Certification and Training

Section 1042A – Fire Investigator Certification

Copies of certification documents (minimum of Fire Officer I or Fire Investigator I) for all departmental or outside agency fire investigators including company officers conducting initial cause and origin determinations must be submitted to PIAL with the grading questionnaire. Certification documents need not be submitted for members of the LA OSFM.

Section 1042B – Fire Investigator Continuing Education Training

Documentation of continuing education for all certified fire investigators must be submitted to PIAL with the grading questionnaire. Training received during the graded year and the two previous years is used to determine the average numbers of hours of training received each year.

1. Investigators serving in the position of Fire Investigator require a minimum of 40 hours of fire investigation related training per year. Submit records from the graded year and two previous years.

2. Other officers performing initial cause and origin determinations require a minimum of 8 hours of fire investigation related training per year. Submit records from the graded year and two previous years.

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Section 1043 – Credit for Use of Fire Incident Reporting System

PIAL will give credit for on-going use of the Louisiana Fire Incident Reporting System (LFIRS) during the graded year and two previous years. Report of fire department participation in the LFIRS program will be received from the SFM on April 1st of each year to establish proof of on-going use of the LFIRS program.

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Class 8B (N/A in Louisiana)

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Class 9 Fire Protection

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Section 1300 – Credit for Class 9 Protection

Graded areas without water mains suitable for providing water for fire protection and who do not receive water hauling are eligible for a Class 9 rating. This rating is applicable to dwellings only and is therefore referred to as Class 9 (D.O.). For these areas, all aspects of the 2012 FSRS Section 1300 apply.

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Credit for Water System (Individually Rated Properties)

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Section 2200 – Credit for Water System (Individually Rated Properties)

PIAL will determine water system capacity, complete hydrant flow testing and determine hydrant distribution for individually rated properties in the same manner as for properties with NFFs below 4,000 gpm.

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PIAL Hydrant Bonus Credit

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Section 2400 - PIAL Hydrant Bonus Credit

Section 2400 - Effective

The effective date of the .50 credit is January 1, 2020 at 12:01am

Section 2401 - Purpose

To update current hydrant data as well as collect any new hydrant data throughout the State of Louisiana. The updated hydrated data will allow insurance companies to continue to provide accurate and appropriate credits for fire protection when evaluating potential structures to insure. The installation of the hydrant location will grant insurance companies the ability to know the distance from hydrant locations to the structure. An additional .50 credit will be added to the final cumulative score awarded to the graded area at the time of the grading provided all requirements are met.

Section 2402 - Data Format

Collected data can be submitted in an Excel, CSV, Word, or text format. Advanced data such Shapefiles, CAD, or a secured REST URL) capturing the following fields/columns **(bold font)** can be submitted as well:

1. **Dept_Name –** Fire department name
2. **Hydrant_NU** – Hydrant Number
3. **Hydrant_Location -**numerical address, cross street, or rural direction
4. **Graded_Area –** Name of Graded Area in which the hydrant is located *(i.e.* EBR Fire Protection District No.1 Graded Area*)*
5. **Longitude** - GPS Coordinate *(X Coordinates - i.e. between -89.16755 and -94.04295)*
6. **Latitude** - GPS Coordinate *(Y Coordinates – i.e. between 29.00648 and 33.01916)*
7. **Type -** (Fire Hydrant, Draft Hydrant, or Draft Site)

To obtain the "Hydrant Bonus Credit", all 7 items listed above must be submitted prior to or with the rating packet information.

Section 2403 - Parameters

To receive the .50 credit, hydrant data must meet the following requirements:

A. A recognized fire hydrant shall conform to the specifications as outlined in the Fire Suppression Rating Schedule (FSRS) **201.A.3.a.**
B. Fire protection areas that receive credit for water hauling shall conform to the specifications outlined in the FSRS **201.A.3.b**. These areas can receive credits for the submission of non-recognized water sources (i.e. draft sites, wells, and dry hydrants, etc.)
C. Dry hydrants should be designed and installed in accordance with the criteria of NFPA 1142, *Standard on Water Supplies for Suburban and Rural Fire Fighting*.
D. Hydrants submitted need to be in service and operational.
E. Hydrants should be submitted with the rating packet information. Any corrections need to be submitted prior to the rating being completed.

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F. The longitude and latitude value in decimal degrees must be at minimum of 5 decimal places.
G. The number of hydrants submitted should be no less than the number of hydrants accounted for in your packet unless there is documentation to explain the difference.

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Examples for Hydrant Location Data

Example #1 - Numerical Address

Dept_Name	Hydrant_NU	Hydrant_Location	Graded_Area	Longitude	Latitude	Type
Test FPD 1	125	123 Main Street, Crowley, LA 70526	Acadia Fire Protection District No.1 Graded Area	-90.09856	30.64538	Fire Hydrant

Example #2 - Cross Street

Dept_Name	Hydrant_NU	Hydrant_Location	Graded_Area	Longitude	Latitude	Type
Test FPD 1	J-0125	Corner of Main St and 1st Street	Acadia Fire Protection District No.1 Graded Area	-92.87346	32.45618	Draft Site

Example #3 - Rural Direction

Dept_Name	Hydrant_NU	Hydrant_Location	Graded_Area	Longitude	Latitude	Type
Test FPD 1	1255	500 feet West of Mt. Zion Church	Acadia Fire Protection District No.1 Graded Area	-89.06339	33.92192	Dry Hydrant

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Testing Programs

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Credit for Testing Programs

Pumper Service Test Program

Average Interval between 3 Most Recent Tests	Maximum Points Credit
1 year	100
2 years	75
3 years	50
4 years	25
5 years of more	0

The Pumper Service Test Program shall be in accordance with the general criteria of NFPA 1911.

Hose Service Test Program

(1-1/2" thru 3" hose must be tested to a minimum of 300 psi; 3-1/2" and larger hose must be tested to a minimum of 200 psi)

Average Interval between 3 Most Recent Tests	Maximum Points Credit
1 year	50
2 years	37
3 years	25
4 years	12
5 years of more	0

The Hose Service Test Program shall be in accordance with the general criteria of NFPA 1962.

Aerial Ladder/Elevating Platform Test Program

Average Interval between 3 Most Recent Tests	Maximum Points Credit
1 year	50
2 years	37
3 years	25
4 years	12
5 years of more	0

Aerial Ladder/Elevating Platform Test Program shall be in accordance with the general criteria of NFPA 1911.

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Pre-Incident Planning Program

Average Interval between 3 Most Recent Inspections	Frequency Factor
1 year	1.00
2 years	0.83
3 years	0.67
4 years	.058
5 years	0.42
More than 5 years	0.00

Hydrant Frequency of Inspection

Average Interval between 3 Most Recent Tests	Maximum Points Credit
1 year (or less)	30
2 years	20
3 years	10
4 years	5
5 years of more	0

Hydrant Frequency of Fire Flow Testing

Average Interval between 3 Most Recent Tests	Maximum Points Credit
5 years (or less)	40
6 years	30
7 years	20
8 years	10
9 years	5
10 years of more	0

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Water Hauling

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PROPERTY INSURANCE ASSOCIATION OF LOUISIANA

Water Hauling Guidelines

Requirements

PIAL only performs "Virtual Water Shuttles" that usually last for less than 5-minutes each. All apparatus used in the demonstration must be at the test site prior to beginning the demonstration.

At no time will apparatus be required to make a timed cycle from the test site, to the fill site, and back again, and at no time will response time from fire stations to test sites be measured.

When conducting the various drills associated with the Virtual Shuttle process, different personnel must be used for each drill location.

Water Hauling credit will not be awarded unless a minimum of 85% of the graded area's road miles are within 7 road miles of an accepted water hauling demonstration site. To reach the 85% mark, multiple demonstrations may be required.

Safety

The most important consideration during a water hauling demonstration is safety. Provisions must be made to safely control traffic on all public roads used in the demonstration. PIAL does not advise, suggest, encourage, urge, recommend, or endorse violating any traffic laws during demonstrations. All fire departments participating in the demonstration must make specific arrangements maintaining fire protection throughout their respective response area. The demonstration will be stopped if any participating department is alerted to an emergency requiring their immediate response.

General Information

PIAL uses NFPA 1142 as its source document in developing the computer model that allows us to calculate probable rates of delivery for water hauling operations as follows:

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The following are two primary factors to be considered in the development of tank water supplies:

1. The amount of water carried on initial responding units. This factor is determined by the apparatus owned by the department that is housed at the fire station nearest the fire site, and apparatus response records for incidents occurring during the graded year.
2. The amount of water that can be continuously delivered after initial response. The maximum continuous flow capability at the fire scene is calculated as follows:

$$Q = \frac{V}{A + T_1 + T_2 + B} \times k$$

Where:

Q = maximum continuous flow capability (gpm)

V = tank volume of the mobile water supply apparatus (gallons)

A = time (min) for the mobile water supply apparatus to drive 200 ft, dump water into a drop tank, and return 200 ft to starting point.

T1 = time (min) for the mobile water supply apparatus to travel from fire to water source

T2 = time (min for the same mobile water supply apparatus to travel from water source back to the fire

B = time (min for the mobile water supply apparatus to drive 200 ft, fill mobile water supply at a water source, and return 200 ft to starting point

K = 1.0 for vacuum/pressure mobile water supply apparatus; 0.9 for all other mobile water supply apparatus due to spillage, under filling, and incomplete unloading

The dumping time *(A)* and filling time *(B)* for the formula should be determined by drill and by close study of water sources. Equipment does not have to be operated under emergency conditions to obtain travel time *(T)*, which is calculated using the following equation:

$$T = 0.65 + XD$$

Where

T = time (min) of an average one-way trip travel

X = average speed factor = 60/average speed (PIAL uses an X Factor of 1.3)

D = one-way distance (miles)

The factor 0.65 represents an acceleration/deceleration constant developed by the Rand Corporation.

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When fire departments do not provide their own dump times, PIAL will use NFPA 1142, Annex C, Table C.6 to calculate each apparatus's emptying time and then adds 2 minutes for apparatus maneuvering time at the dump site.

When fire departments do not provide their own fill times, PIAL will use the following procedure to determine fill rate then adds 1.5 minutes for apparatus maneuvering time at the fill site.

1. When fill sites include a hydrant free-flowing to fill relay tankers the free-flow rate of the hydrant will be measured using a pitot gauge.
2. When fill sites include a hydrant with a pumper connected to increase pressure, the calculated flow rate at 20 psi residual pressure is calculated as follows:

$$Q_R = Q_F \times \frac{h_r^{0.54}}{h_f^{0.54}}$$

Where:

Q_R = flow predicted at desired residual pressure

Q_F = total flow measured during test

h_r = pressure drop to desired residual pressure

h_f = pressure drop measured during test

3. When fill sites include a drafting source, PIAL uses the average flow rate capabilities of the pumper(s) used at the site(s).

Demonstrations Required:

Demonstrations required are dependent on conditions found within the fire department. PIAL must ensure that skills exist in all areas of Water Hauling Operations. These include setting up the fire scene, setting up fill sites, operating fill sites and managing arrival, use and departure of relay tankers at the fire scene. Training records and hydrant/dry hydrant test records and results are reviewed to gauge capabilities to perform these actions. If training and testing programs are adequate, there is only one drill that needs to be witnessed by PIAL during the rating. This drill is timed and is as follows:

1. From a starting point 200' away, the fire site pumper and other "time zero" apparatus as defined on the shuttle line-up form will pull into the fire scene.
2. On-scene personnel will set-up portable tanks, dump water into the tanks, establish a draft to supply the fire-site pumper and begin pumping water at a rate of at least 250 gpm within 5 minutes of arrival of the first arriving firefighting apparatus.
3. Successful completion of this drill will result in award of water hauling credit at the desired rate if supported by the calculated rate obtained by the computer model.

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In addition to this drill, the PIAL Field representative will visually verify that all equipment required to establish desired fill sites, jet-siphons, etc… is on hand, serviceable, and that fire department personnel are knowledgeable in their use.

Assumptions made for use in this scenario include:

1. The average time to set up a fire-site, including dump tank set-up, dumping water, drafting, and pumping, is 3.5 minutes. The starting point for all associated apparatus is 200' from the set-up point.
2. The average time to maneuver a tanker into the fire-site from a starting point 200' from the dump tank, then to secure it and maneuver it 200' away after dumping is 2 minutes.
3. The average time to set-up a fill site is 4 minutes.
4. The average time required to pull a tanker into the fill site from 200' away, connect fill hoses to the tanker, then to secure it and pull it 200' away from the fill site is 1.5 minutes.

Should the department being rated not accept PIAL's assumptions, fire departments seeking credit under this scenario must demonstrate the following five capabilities. All of the drills will be timed to validate times provided by the fire department.

1. Set up a fire-site pumper with an on-site storage system and begin pumping water, from draft, at a rate of 250 gpm within five (5) minutes of arrival of the first fire fighting apparatus.
2. Dump relay tankers of varying capacity and configuration.
3. Set up fill sites.
4. Fill relay tankers.

Fire-Site Set-up:

At no time will PIAL measure the time required for responding apparatus to reach the test site from the station where it is housed.

PIAL assumes that a typical fire department can establish fire-site set-up within 3.5 minutes of arrival of the first firefighting apparatus. This includes completing all actions required to begin pumping from draft at a rate of at least 250 gpm. Departments that don't wish to accept this assumption may submit their own times obtained through carefully conducted drills prior to arrival of the PIAL Field Representative.

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During the field demonstration, the evaluator will record and validate the times provided by the fire department for completing the following actions:

1. From a starting point 200' away, the fire site pumper and other "time zero" apparatus as defined on the shuttle line-up form will pull into the fire scene. On-scene personnel will set-up portable tanks, dump water into the tanks, establish a draft to supply the fire-site pumper and begin pumping water at a rate of at least 250 gpm within 5 minutes of arrival of the first arriving firefighting apparatus.
2. From a starting point 200' away, apparatus carrying the portable pond will pull into the test site and the equipment will be off-loaded and set up including connection to the fire-site pumper in preparation for drafting. Although this drill is timed, there are no pass/fail criteria. PIAL's assumption is that portable ponds can be set-up and configured for use within 3.5 minutes.
3. If multiple portable ponds are to be used, separate drills will be conducted for each. Connection of second and subsequent tanks will include establishing the means of transferring water between tanks if needed. No water will be placed into the portable pond(s) during these timed drills. Although this drill is timed, there are no pass/fail criteria. PIAL's assumption is that additional portable ponds can be set-up and configured for use within 3.5 minutes.

4. ***If the department accepts the PIAL's assumptions, they do not need to perform the 3 drills outlined above during their rating.*** In lieu of these drills, PIAL will witness the department's ability to roll in the pumper, tanker and apparatus carrying the portable pond from 200' away, at the times outlined on their Water Hauling Line-up as they are scheduled to arrive. They may then fill the pond with water from the first arriving tanker(s), establish a draft with the fire-site pumper, and begin pumping at a rate of at least 250 gpm using their deck gun, portable monitor, or other discharge outlet on their pumper. ***This must be accomplished within 5 minutes and is a pass/fail drill.*** If the portable pond is not on scene prior to the 5-minute point, the department must begin flowing prior to 5 minutes using water on hand and continue flowing until the portable pond has arrived, been set up, and the flow switched from the initial source to the draft source. There can be no interruption or reduction in the discharge rate during this process. After the flow from the portable pond is established, the fire site set-up drill is completed. The time required to perform this function is not recorded and does not determine success or failure. ***However, the ability to switch from internal or nurse tanker supply to the draft source without interruption is a pass/fail item.***

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Tanker Dumping:

At no time will PIAL measure the time required for responding apparatus to reach the test site from the station where it is housed.

PIAL assumes it takes an average of 2 minutes to maneuver relay tankers into and out of the fire site. This time is added to the calculated time to dump each tanker based on its capacity and dump chute size as defined in NFPA 1142. Departments that don't wish to accept this assumption may provide their own times obtained through carefully conducted drills as outlined above prior to arrival of the PIAL Field representative. Times provided by the fire department will be spot-checked during the PIAL rating using the following procedure:

1. From a starting point 200' from a portable pond (already set up), each relay tanker will travel, one at a time, into the fire site, be positioned by ground personnel and dumped into the portable pond.
2. When empty, the relay tanker will travel 200' from the portable pond at which time the drill for that tanker is completed and the time required to complete the drill is recorded.
3. Although this drill is timed, there are no pass/fail criteria.

Fill-site Set-up:

At no time will apparatus be required to make a timed cycle from the test site, to the fill site, and back again.

PIAL assumes it takes an average of 4 minutes to establish a fill site and complete all actions necessary to begin filling relay tankers. Departments that don't wish to accept this assumption may provide their own times obtained through carefully conducted drills conducted prior to arrival of the PIAL Field representative.

These times will be spot-checked during the PIAL rating using the following procedure:

1. From a starting point 200' away, personnel or apparatus will travel to the fill point and prepare to fill relay tankers.
2. The time required to complete the drill is recorded.
3. Although this drill is timed, there are no pass/fail criteria.

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Tanker Filling:

At no time will apparatus be required to make a timed cycle from the test site, to the fill site, and back again.

PIAL assumes it takes an average of 1.5 minutes travel from a point 200' from the fill site and to secure the tanker then to disconnect and travel to a point 200' from the fill site after filling. This is added to the time to fill the tanker based on the configuration of the fill site.

1. From a starting point 200' away, each relay tanker, one at a time, will pull into the fill point, be filled, and then travel 200' from the fill point.
2. The time required to complete this drill will be measured and recorded.
3. Although this drill is timed, there are no pass/fail criteria.

The water supply location(s) may be any distance from the demonstration site. PIAL's model calculates the distance at a minimum value of 1 mile (2-mile round trip) or actual distance when greater than 1 mile. Criteria for creditable water sources are:

1. The water supply location(s) must be readily accessible at all times. Drafting sites, dry hydrants and ground storage tanks must be properly maintained, inspected and tested at least annually. Records of these tests must be available for review.
2. A water supply location on private property must be readily accessible at all times and a letter of authorization to use the water supply signed by the property owner must be on file with department being graded.
3. Drafting locations and dry hydrants must conform to general requirements of NFPA including appropriate signage.
4. No credit will be given for any procedure that may contaminate a domestic water supply or result in any type of pollution.

All apparatus used in the demonstration must be under the ownership or control of the respective department. All equipment involved in the demonstration must be located at the test site prior to starting the demonstration. PIAL will make a visual inspection of all apparatus that the department being graded expects to use during water hauling operations. This may be done at the stations where the apparatus is housed or at a central location as determined by the department being rated. All units must be roadworthy. All units must have radio communications with each other. All units must be equipped with standard emergency warning devices. (Non-owned apparatus utilized in the demonstration will be suitable and available at all times. A written contractual agreement with the owner is required.) All

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equipment used in the demonstration must remain on the vehicles until the test begins. Travel distances are provided by the fire department and spot-checked by PIAL and are as measured along the shortest practicable all-weather road over which the responding departments equipment may readily travel

Mutual Aid

Mutual aid equipment may participate in the demonstration subject to a signed mutual aid agreement on record. Each department participating as mutual aid must provide records of water hauling training within past twelve (12) months in conjunction with the department being graded.

Protected Properties

Properties receiving a protected fire insurance rate must:

1. Be located within the boundaries of the graded area.
2. Be located within seven road miles from a recognized responding fire station.

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Instructions for Completing Water Hauling Forms

There are 3 forms and a minimum of 2 drawings that are used in applying for Virtual Water Hauling credit.

The Line-Up Form:

This form is required of all departments regardless of their acceptance of PIAL's assumptions. Much of this form is identical to previously used forms. The PIAL Field Representative will determine the starting manpower, but the fire department needs to provide all other data. Note that on the line for each apparatus listed, there are additional columns. In the "Purpose" column, please identify the role of that apparatus. Choices are Fire-Site Pumper (FSP), Supply-Site Pumper (SSP), Relay Tanker (RT), Static Supply (a tanker that never goes to the fill site), or Support.

In addition, for Fire-Site Pumpers, or Relay Tankers that must pump their water into the dump tank, their pump capacity is needed. For apparatus carrying dump tanks, the capacity of those tanks is needed. For Relay Tankers, the size of the discharge or dump chute is needed. To assist PIAL in determining how to enter these apparatus into the computer model, a drawing of the test site and fill sites is required. This drawing may be hand-drawn and should show available dump and fill positions.

The rest of the form is the same as previous forms and are self-explanatory.

Attached you will find one completed Sample Form and several blank forms. You may make additional copies as needed.

The Fill Time Form:

This form is not used for departments choosing to accept PIAL's assumptions regarding fill times. The Fill-Time Form serves to record both fill site set-up times and tanker filling times and provides information for our calculation of fill rates for each relay tanker. This may be determined by conducting the drill described above and recording the times, or by using the opposite of the weighing method described above…weigh the tanker (less than full), fill it for one minute, then weigh it again and do the math the same way you did for determining the dump rate above.

The Dump Time Form:

This form is not used for departments choosing to accept PIAL's assumptions regarding dump times. The Dump Time Form provides information for our calculation of dump rates for each relay tanker. There are two ways to do this, and it's up to each fire department to decide which to use. The first method is the drill described above where apparatus are moved 200', dumped, and then

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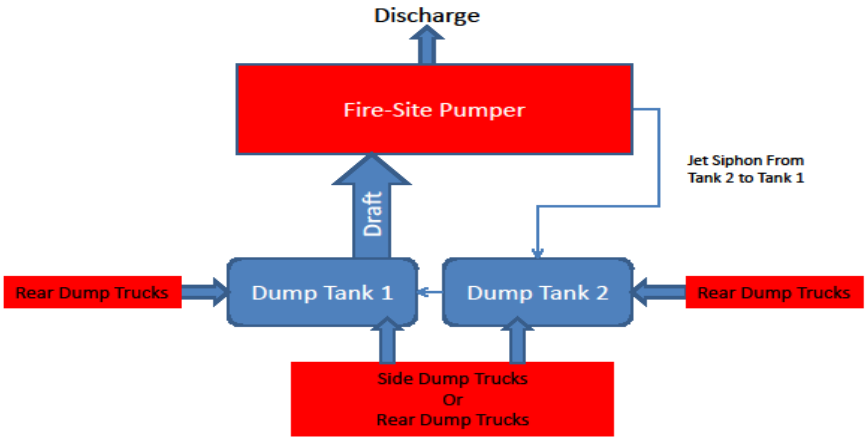
moved 200 feet again and the time recorded. The second method is more involved and requires weighing the tanker while full, dumping it for a known period of time (1, 2, or 3 minutes depending on the size of the tanker), weighing the tanker again, and then doing the math. Guidance for this method can be obtained in NFPA 1142, Annex C.

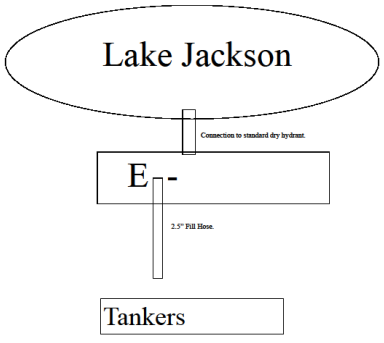
Fire-Site Drawing:

A drawing depicting the proposed fire-site is required. This drawing may be computer generated or hand drawn. Example:



Fill-Site Drawing:

A drawing depicting each proposed fill-site is required. This drawing may be computer generated or hand drawn. Example:



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WATER HAULING DISTANCE TIME TABLE

Miles	Time	Miles	Time	Miles	Time	Miles	Time
0.1	0.8	4.3	6.2	8.5	11.7	12.7	17.2
0.2	0.9	4.4	6.4	8.6	11.8	12.8	17.3
0.3	1.0	4.5	6.5	8.7	12.0	12.9	17.4
0.4	1.2	4.6	6.6	8.8	12.1	13.0	17.6
0.5	1.3	4.7	6.8	8.9	12.2	13.1	17.7
0.6	1.4	4.8	6.9	9.0	12.4	13.2	17.8
0.7	1.6	4.9	7.0	9.1	12.5	13.3	17.9
0.8	1.7	5.0	7.2	9.2	12.6	13.4	18.1
0.9	1.8	5.1	7.3	9.3	12.7	13.5	18.2
1.0	2.0	5.2	7.4	9.4	12.9	13.6	18.3
1.1	2.1	5.3	7.5	9.5	13.0	13.7	18.5
1.2	2.2	5.4	7.7	9.6	13.1	13.8	18.6
1.3	2.3	5.5	7.8	9.7	13.3	13.9	18.7
1.4	2.5	5.6	7.9	9.8	13.4	14.0	18.9
1.5	2.6	5.7	8.1	9.9	13.5	14.1	19.0
1.6	2.7	5.8	8.2	10.0	13.7	14.2	19.1
1.7	2.9	5.9	8.3	10.1	13.8	14.3	19.2
1.8	3.0	6.0	8.4	10.2	13.9	14.4	19.4
1.9	3.1	6.1	8.6	10.3	14.0	14.5	19.5
2.0	3.3	6.2	8.7	10.4	14.2	14.6	19.6
2.1	3.4	6.3	8.8	10.5	14.3	14.7	19.8
2.2	3.5	6.4	9.0	10.6	14.4	14.8	19.9
2.3	3.6	6.5	9.1	10.7	14.6	14.9	20.0
2.4	3.8	6.6	9.2	10.8	14.7	15.0	20.2
2.5	3.9	6.7	9.4	10.9	14.8	15.1	20.3
2.6	4.0	6.8	9.5	11.0	15.0	15.2	20.4
2.7	4.2	6.9	9.6	11.1	15.1	15.3	20.5
2.8	4.3	7.0	9.7	11.2	15.2	15.4	20.7
2.9	4.4	7.1	9.9	11.3	15.3	15.5	20.8
3.0	4.6	7.2	10.0	11.4	15.5	15.6	20.9
3.1	4.7	7.3	10.1	11.5	15.6	15.7	21.1
3.2	4.8	7.4	10.3	11.6	15.7	15.8	21.2
3.3	4.9	7.5	10.4	11.7	15.9	15.9	21.3
3.4	5.1	7.6	10.5	11.8	16.0	16.0	21.5
3.5	5.2	7.7	10.7	11.9	16.1	16.1	21.6
3.6	5.3	7.8	10.8	12.0	16.3	16.2	21.7
3.7	5.5	7.9	10.9	12.1	16.4	16.3	21.8
3.8	5.6	8.0	11.1	12.2	16.5	16.4	22.0
3.9	5.7	8.1	11.2	12.3	16.6	16.5	22.1
4.0	5.9	8.2	11.3	12.4	16.8	16.6	22.2
4.1	6.0	8.3	11.4	12.5	16.9	16.7	22.4
4.2	6.1	8.4	11.6	12.6	17.0	16.8	22.5

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Water Hauling Distance Time Table

Miles	Time	Miles	Time	Miles	Time
16.9	22.6	21.3	28.3	25.7	34.1
17.0	22.8	21.4	28.5	25.8	34.2
17.1	22.9	21.5	28.6	25.9	34.3
17.2	23.0	21.6	28.7	26.0	34.5
17.3	23.1	21.7	28.9	26.1	34.6
17.4	23.3	21.8	29.0	26.2	34.7
17.5	23.4	21.9	29.1	26.3	34.8
17.6	23.5	22.0	29.3	26.4	35.0
17.7	23.7	22.1	29.4	26.5	35.1
17.8	23.8	22.2	29.5	26.6	35.2
17.9	23.9	22.3	29.6	26.7	35.4
18.0	24.1	22.4	29.8	26.8	35.5
18.1	24.2	22.5	29.9	26.9	35.6
18.2	24.3	22.6	30.0	27.0	35.8
18.3	24.4	22.7	30.2	27.1	35.9
18.4	24.6	22.8	30.3	27.2	36.0
18.5	24.7	22.9	30.4	27.3	36.1
18.6	24.8	23.0	30.6	27.4	36.3
18.7	25.0	23.1	30.7	27.5	36.4
18.8	25.1	23.2	30.8	27.6	36.5
18.9	25.2	23.3	30.9	27.7	36.7
19.0	25.4	23.4	31.1	27.8	36.8
19.1	25.5	23.5	31.2	27.9	36.9
19.2	25.6	23.6	31.3	28.0	37.1
19.3	25.7	23.7	31.5	28.1	37.2
19.4	25.9	23.8	31.6	28.2	37.3
19.5	26.0	23.9	31.7	28.3	37.4
19.6	26.1	24.0	31.9	28.4	37.6
19.7	26.3	24.1	32.0	28.5	37.7
19.8	26.4	24.2	32.1	28.6	37.8
19.9	26.5	24.3	32.2	28.7	38.0
20.0	26.7	24.4	32.4	28.8	38.1
20.1	26.8	24.5	32.5	28.9	38.2
20.2	26.9	24.6	32.6	29.0	38.4
20.3	27.0	24.7	32.8	29.1	38.5
20.4	27.2	24.8	32.9	29.2	38.6
20.5	27.3	24.9	33.0	29.3	38.7
20.6	27.4	25.0	33.2	29.4	38.9
20.7	27.6	25.1	33.3	29.5	39.0
20.8	27.7	25.2	33.4	29.6	39.1
20.9	27.8	25.3	33.5	29.7	39.3
21.0	28.0	25.4	33.7	29.8	39.4
21.1	28.1	25.5	33.8	29.9	39.5
21.2	28.2	25.6	33.9	30.0	39.7

The travel of apparatus is calculated from the following formula:

T=0.65 + (1.3 x D)
T=Minutes
D=Distance in Miles

Note: Each decimal place under time is equal to 6 seconds. For instance, a time of 12.6 minutes is equal to 12 minutes and 36 seconds.

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Property Insurance Association of Louisiana - Water Hauling Line-Up Form

Fire District: | Date:

Test Site Location: | Manning of Department being Graded:

Enter Fill Source Location and Type (i.e. Hydrant at 3rd & Elm; Dry Hydrant on Miller's Pond, etc...)				
Fill Site 1:		Distance:		miles
Fill Site 2:		Distance:		miles
Fill Site 3:		Distance:		miles
Fill Site 4:		Distance:		miles
Fill Site 5:		Distance:		miles

Arrival of First Aparatus / Time Test Started:		Nozzle Size:		Inches
Initial Water Flow Time:		Stop Time:		

Delivery Rates:		psi	Initial Flow Rate @ 5 Minutes After Arrival of First Apparatus =	250	gpm
			Target Flow Rate @ 15 Minutes After Arrival of First Apparatus =		gpm

PIAL Certification

Distance from station housing first due apparatus to the test site: | miles | 1st Alarm Manpower: | | members

By signing below, I am certifying that all requirements for water hauling credit were followed in this demonstration.

Signature

Print Name

Fire Department & Station	Unit Number	Purpose (Fire-Site Pumper (FSP), Supply-Site Pumper (SSP), Relay Tanker (RT), Relay Pumper (RP), etc...)	Size of Relay Tanker Dump Chute (10, 6, 4, etc...)	Water Tank Capacity	Pump Capacity (All Pumpers and any relay trucks that dump by pumping)	Capacity of Drop Tank Carried	Alarm		Distance		Manning Status Paid / Volunteer (p or v)	Decision / Comm Delay	Assembly Delay	Arrival Time After Initial First Alarm Notification (A + B + C)	Test "Time Zero" Delay Time
							First	Second	Miles	Travel Time Factor (A)		Time Factor (B)	Time Factor (C)		

FILL TIME MEASURED IN MINUTES (TO ONE DECIMAL PLACE)

Community: Louisville Fire District **Date:** March 24, 2010

		Fill Time											
	Tankers:	Louisville T-21				Louisville T-22				Louisville T-31			
Fill Site	Set-up Time	Test 1	Test 2	Test 3	Average	Test 1	Test 2	Test 3	Average	Test 1	Test 2	Test 3	Average
Brown's Pond	3.2	4.9	4.3	5.2	4.8	5.9	6.3	6.1	6.1	4.1	4.3	4.8	4.4
Hydrant at Miller's Gin	4.0	4.3	4.1	4.7	4.4	5.5	5.2	5.9	5.5	4.6	4.2	4.4	4.4
Ground Storage Tank at Station 2	3.8	5.1	4.8	4.6	4.8	5.3	5.1	4.8	5.1	4.9	4.3	4.6	4.6

Fill Site set-up time is the time required to move the fill-site apparatus and personnel 200' and perform all actions required up to discharging water from fill hoses.

Tanker Fill Time is the time required to move each relay tanker 200', fill it to capacity, and drive it 200' from the fill site.

		Fill Time											
	Tankers:	Louisville T-11				Marltonville T-1				Fire District 3, T-5			
Fill Site	Set-up Time	Test 1	Test 2	Test 3	Average	Test 1	Test 2	Test 3	Average	Test 1	Test 2	Test 3	Average
Brown's Pond	3.2	4.1	4.3	4.8	4.4	5.9	6.3	6.1	6.1	5.9	6.3	6.1	6.1
Hydrant at Miller's Gin	4	4.6	4.2	4.4	4.4	5.5	5.2	5.9	5.5	5.5	5.2	5.9	5.5
Ground Storage Tank at Station 2	3.8	4.9	4.3	4.6	4.6	5.3	5.1	4.8	5.1	5.3	5.1	4.8	5.1

Fill Site Set-up Time is the time required to move the fill-site apparatus and personnel 200' and perform all actions required up to discharging water from fill hoses.

Tanker Fill Time is the time required to move each relay tanker 200', fill it to capacity, and drive it 200' from the fill site.

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DUMP TIME MEASURED IN MINUTES (TO ONE DECIMAL PLACE)

Community: Louisville Fire District **Date:** March 24, 2010

Relay Tankers	Dump Time	Dump Time	Dump Time	Average
Louisville Station 2, T-21	3.8	3.4	4.1	3.8
Louisville Station 2, T-22	4.5	4.1	4.2	4.3
Louisville Station 3, T-31	3.1	3.7	3.9	3.6
Louisville Station 1, T-11	3.3	4.5	4.9	4.2
Marltonville Central Fire Station, T-1	3.8	3.4	4.1	3.8
Marltonville Station 2, T-2	4.5	4.1	4.2	4.3
Fire District 3, T-5	3.1	3.7	3.9	3.6
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Dump Time is the time required to move the apparatus 200', dump its contents into a portable pond and then drive it 200' away.

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Professional Grading Assistance Program (PGAP)

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Professional Grading Assistance Program (P-GAP)

This service was started in 2003. This service was developed to provide cost free advice and assistance to the Fire Service in the State in improving, or at a minimum, sustaining their current rating.

How Does P-GAP Work?

A request for assistance is generated by the local Parish President, Mayor, Police Jury President, or Fire Chief and is submitted to PIAL. The date of assistance visit is coordinated with that Fire Chief and the PIAL Representative. The current grading and operations are reviewed by the Fire Chief and his staff and the PIAL Representative. Recommendations are offered to improve the community's fire rating.

Request Priorities

Priorities in responding to request for assistance will be as follows:

- No Less than two (2) years prior to the next scheduled fire rating
- Shortly after a PPC Grading. The rating will be explained and a strategy for improvement recommended.

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