Public Input No. 8-NFPA 414-2017 [Section No. 3.3.7]

3.3.7* Angle of Approach.

The

~~measure of the steepest ramp that a fully loaded vehicle can approach~~
smallest angle made between the road surface and a line drawn from the front point of ground contact of the front tire to any projection of the apparatus in front of the front axle .

Statement of Problem and Substantiation for Public Input

Definition as stated in 1900 series documents. Consistent with other apparatus definitions.

Submitter Information Verification

Submitter Full Name: Stephen Listerman
Organization: CincinnatiNorthern Kentucky I
Street Address:
City:
State:
Zip:
Submittal Date: Fri Jun 16 09:24:09 EDT 2017

Committee Statement

Resolution: FR-1-NFPA 414-2017
Statement: Definition as stated in fire department apparatus series of documents. Consistent with other apparatus definitions.

Public Input No. 9-NFPA 414-2017 [Section No. 3.3.8]

3.3.8* Angle of Departure.

The ~~measure of the steepest ramp from which the fully loaded vehicle can depart~~ smallest angle made between the road surface and a line drawn from the rear point of ground contact of the rear tire to any projection of the apparatus behind the rear axle .

Statement of Problem and Substantiation for Public Input

Definition used in 1900 series documents. Consistent with other apparatus definitions.

Submitter Information Verification

Submitter Full Name: Stephen Listerman
Organization: CincinnatiNorthern Kentucky I
Street Address:
City:
State:
Zip:
Submittal Date: Fri Jun 16 09:25:43 EDT 2017

Committee Statement

Resolution: FR-2-NFPA 414-2017
Statement: Definition used in fire department apparatus series of documents. Consistent with other apparatus definitions.

Public Input No. 10-NFPA 414-2017 [Section No. 3.3.14]

3.3.14* Center of Gravity.

The point ~~within a vehicle~~ at which ~~all of its weight can be~~ the entire weight of the fire apparatus is considered to be concentrated so that, if supported at this point, the apparatus would remain in equilibrium in any position .

Statement of Problem and Substantiation for Public Input

Recommend using the definition from the 1900 series to maintain consistency.(1901, 2009)

Submitter Information Verification

Submitter Full Name: Stephen Listerman
Organization: CincinnatiNorthern Kentucky I
Street Address:
City:
State:
Zip:
Submittal Date: Fri Jun 16 09:27:21 EDT 2017

Committee Statement

Resolution: FR-3-NFPA 414-2017
Statement: The committee has chosen to use the definition from the fire department apparatus series to maintain consistency.

Public Input No. 12-NFPA 414-2017 [Section No. 3.3.15]

3.3.15* Complementary Extinguishing Agent.

~~Agents that provide unique extinguishing capability beyond the primary chosen~~ Refers to an extinguishing agent that has the compatibility to perform fire-suppression functions in support of a primary extinguishing agent and where extinguishment might not be achievable using only the primary agent.

Statement of Problem and Substantiation for Public Input

Recommend adding "extinguishing" to the word and change definition to be consistent with 402.

Submitter Information Verification

Submitter Full Name: Stephen Listerman
Organization: CincinnatiNorthern Kentucky I
Street Address:
City:
State:
Zip:
Submittal Date: Fri Jun 16 09:34:09 EDT 2017

Committee Statement

Resolution: FR-4-NFPA 414-2017
Statement: The committee is adding "extinguishing" to the word and change definition to be consistent with 402.

Public Input No. 1-NFPA 414-2017 [Section No. 3.3.25]

3.3.25 Foam Concentrate.

~~A concentrated liquid foaming agent as received from the manufacturer.~~

The definitions for Foam Concentrate and types of foam should be harmonized with those definitions of NFPA 403

Insert the text of

NFPA 403 3.3.14 and 3.3.13

Statement of Problem and Substantiation for Public Input

The vehicles specified to the 414 standard shall be able to produce foam effectively with all types of concentrates listed in NFPA 403

Submitter Information Verification

Submitter Full Name: Bernard Valois
Organization: Autopyro
Street Address:
City:
State:
Zip:
Submittal Date: Fri Jun 02 09:45:42 EDT 2017

Committee Statement

Resolution: The committee has reviewed the submission and believes that the definitions do match what's in NFPA 403 for "Foam Concentrate".

Public Input No. 11-NFPA 414-2017 [Section No. 3.3.33]

3.3.33 In-Service ~~Condition.~~

~~A state or condition of readiness for intended duty; usually an emergency vehicle properly serviced with all equipment properly loaded and ready for immediate response.~~

Fire Apparatus

Any fire apparatus, including reserve apparatus, that is available for use under emergency conditions to transport personnel and equipment and to support suppression of fires and mitigation of other hazardous conditions

Statement of Problem and Substantiation for Public Input

Recommend change to word and definition highlighted in red to be consistent with 1900 series. (1911, 2012)

Submitter Information Verification

Submitter Full Name: Stephen Listerman
Organization: CincinnatiNorthern Kentucky I
Street Address:
City:
State:
Zip:
Submittal Date: Fri Jun 16 09:28:51 EDT 2017

Committee Statement

Resolution: FR-5-NFPA 414-2017
Statement: The committee has made this change to word and definition in order to be consistent with fire department apparatus series.

Public Input No. 46-NFPA 414-2017 [Section No. 3.3.38]

~~**3.3.38** – Lightweight Construction.~~

~~Lightweight materials or advanced engineering or both practices resulting in a weight saving without sacrifice of strength or efficiency.~~

Statement of Problem and Substantiation for Public Input

No technical definition/ too vague

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 21:32:25 EDT 2017

Committee Statement

Resolution: FR-6-NFPA 414-2017
Statement: The committee has made this change as the term "lightweight construction" is not used in the document however the term "lightweight" is used in the document.

Public Input No. 7-NFPA 414-2017 [Section No. 3.3.38]

~~**3.3.38** – Lightweight Construction.~~

~~Lightweight materials or advanced engineering or both practices resulting in a weight saving without sacrifice of strength or efficiency.~~

Statement of Problem and Substantiation for Public Input

"Lightweight" is an arbitrary term for marketing. "Lightweight" is not defined as an exact weight or mass.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 5-NFPA 414-2017 [Section No. 4.19.7]	
Public Input No. 6-NFPA 414-2017 [Section No. A.4.19.7]	

Submitter Information Verification

Submitter Full Name: Danny Pierce
Organization: ARFF Solutions
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jun 15 13:43:19 EDT 2017

Committee Statement

Resolution: FR-6-NFPA 414-2017
Statement: The committee has made this change as the term "lightweight construction" is not used in the document however the term "lightweight" is used in the document.

Public Input No. 32-NFPA 414-2017 [Section No. 3.3.69.1]

3.3.69.1* Fully Loaded Vehicle.

Consists of the fully assembled vehicle, complete with a full complement of crew, fuel, equipment and fire-fighting agents.

Statement of Problem and Substantiation for Public Input

Substantiation: The compartment weight allowance must be considered in the fully loaded configuration.

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 18:05:37 EDT 2017

Committee Statement

Resolution: FR-7-NFPA 414-2017
Statement: The compartment weight allowance must be considered in the fully loaded configuration.

Public Input No. 26-NFPA 414-2017 [Section No. 4.1.1]

4.1.1*

The design criteria for the standard vehicles described by this document consider temperature extremes ranging from 0°C to 43.3°C (32°F to 110°F). For cold weather operation where temperatures range from -40°C to 0°C (-40°F to 32°F) or lower, some type of winterization system shall be specified by the purchaser. Vehicles shall comply with Table 4.1.1(a), Table 4.1.1(b), Table 4.1.1(c), Table 4.1.1(d), and other requirements in this chapter.

Table 4.1.1(a) Fully Loaded Vehicle Performance Parameters (SI Units)

-	Minimum Usable Capacity		
Performance Parameters	Vehicle Water Tank Capacity =454 to =1999 L	Vehicle Water Tank Capacity >1999 to =6000 L	Vehicle Water Tank Capacity >6000 L
Side slope stability (degrees)	30	30	30
Dynamic balance (kph), minimum speed on a (30 m) radius circle	40	35.5	35.5
Angle of approach (degrees)	25	30	30
Angle of departure (degrees)	30	30	30
Interaxle clearance (degrees)	12	12	12
Underbody clearance (cm)	33	46	46
Underaxle clearance at differential housing bowl (cm)	26.7	33.0 (26.7)	33
Diagonal opposite wheel motion (cm)	25.4	36	36
Wall-to-wall turning diameter	<Three times the vehicle's overall length	<Three times the vehicle's overall length	<Three times the vehicle's overall length
Maximum acceleration time from 0 to 80.5 kph (sec)	30	25	35
Top speed (kph)	=113	=113	=113
Service brake:			
Stopping distance			
from 33 kph (m)	=11	=11	=12
from 64 kph (m)	=40 m	=40 m	=49 m
Percent grade holding of fully loaded vehicle:			
Ascending	=50 percent	=50 percent	=50 percent
Descending	=50 percent	=50 percent	=50 percent
Emergency brake stopping distance at 64 kph (m)	=88	=88	=88
Parking brake:			
Percent grade holding for the parking brake			
Ascending	=20 percent	=20 percent	=20 percent
Descending	=20 percent	=20 percent	=20 percent
Evasive maneuver test, NATO Document AVTP 03-16W (kph)	40	40	40
“J” turn test at 46 m radius (kph)	48	48	48

Table 4.1.1(b) Fully Loaded Vehicle Performance Parameters (U.S. Customary Units)

-	Minimum Usable Capacity

Performance Parameters	Vehicle Water Tank Capacity =120 to =528 gal	Vehicle Water Tank Capacity >528 to =1585 gal	Vehicle Water Tank Capacity >1585 gal
Side slope stability (degrees)	30	30	30
Dynamic balance (mph) minimum speed on a (100 ft) radius circle	25	22	22
Angle of approach (degrees)	25	30	30
Angle of departure (degrees)	30	30	30
Interaxle clearance (degrees)	9	12	12
Underbody clearance (in.)	13	18	18
Underaxle clearance at differential housing bowl (in.)	8.5	13 (10.5)	13
Diagonal opposite wheel motion (in.)	10	14	14
Wall-to-wall turning diameter	<Three times the vehicle's overall length	<Three times the vehicle's overall length	<Three times the vehicle's overall length
Maximum acceleration time from 0 to 50 mph (sec)	30	25	35
Top speed (mph)	=70	=70	=70
Service brake:			
Stopping distance			
from 20 mph (ft)	=35	=35	=40
from 40 mph (ft)	=131	=131	=160
Percent grade holding of fully loaded vehicle:			
Ascending	=50 percent	=50 percent	=50 percent
Descending	=50 percent	=50 percent	=50 percent
Emergency brake			
stopping distance at 40 mph (ft)	=288	=288	=288
Parking brake:			
Percent grade holding for the parking brake			
Ascending	=20 percent	=20 percent	=20 percent
Descending	=20 percent	=20 percent	=20 percent
Evasive maneuver test, NATO Document AVTP 03-16W (mph)	25	25	25
“J” turn test at 150 ft radius (mph)	30	30	30

Table 4.1.1(c) Agent System Performance Parameters (SI Units)

-	Minimum Usable Capacity		
Performance Parameters	Vehicle Water Tank Capacity =454 to =1999 L	Vehicle Water Tank Capacity >1999 to =6000 L	Vehicle Water Tank Capacity >6000 L
1. Water tank percent of deliverable water			
a. On level ground	100 percent	100 percent	100 percent
b. On 20 percent side slope	85 percent	85 percent	85 percent

-

Performance Parameters	Minimum Usable Capacity Vehicle Water Tank Capacity =454 to =1999 L	Vehicle Water Tank Capacity >1999 to =6000 L	Vehicle Water Tank Capacity >6000 L
c. 30 percent ascending/descending grade	85 percent	85 percent	85 percent
2. Turret(s) discharge	Total flow rate can be achieved with handlines	Total flow rate can be achieved using a roof turret, extendable turret, bumper turret, or a combination thereof	Total flow rate can be achieved using a roof turret, extendable turret, bumper turret, or a combination thereof
2a. Roof turret:			
a. Total minimum flow rate (L/min) OR	=227	=2839	=4731
Individual flow rate of the roof turret, if used in combination with a bumper turret (L/min)	N/A	=1892	=3785
b. Stream pattern/distances:			
i. Straight/far point (m)	=46	=58	=70
ii. Dispersed/far point (m)	=15	=20	=21
iii. Dispersed/width (m)	=9	=11	=11
2b. Extendable turret:			
a. Individual flow rate of the extendable turret if used in combination with a bumper turret (L/min)	N/A	=1892	=3785
b. Stream pattern/distances:			
i. Straight/far point (m)	N/A	=58	=58
ii. Dispersed/far point (m)	N/A	=20	=21
iii. Dispersed/width (m)	N/A	=11	=11
2c. Bumper turret:	Can be used as the primary turret and must follow roof turret flows and ranges	Can be used as the primary turret and must follow roof turret flows and ranges	Can be used as the primary turret and must follow roof turret flows and ranges
a. Flow rate (L/min)	=227	=946	=946
b. Straight stream distance (m)	=46	=46	=46
c. Dispersed pattern distances:			
i. Far point (m)	=15	=15	=15
ii. Width (m)	=9	=9	=9
iii. Near point (m)	Within 9 m of front bumper	Within 9 m of front bumper	Within 9 m of front bumper
2d. Ground sweep nozzle:	Where specified	Where specified	Where specified
a. Flow rate (L/min)	N/A	=378 to =1135	=378 to =1135
b. Dispersed pattern distances:			
i. Far point (m)	N/A	=9	=9
ii. Width (m)	N/A	=3.5	=3.5
2e. Undertruck nozzle flow rate (L/min)	Where specified >57	Where specified >57	Where specified >57

-

Performance Parameters	Minimum Usable Capacity Vehicle Water Tank Capacity =454 to =1999 L	Vehicle Water Tank Capacity >1999 to =6000 L	Vehicle Water Tank Capacity >6000 L
2f. Piercing nozzle flow rate	Where specified	Where specified	Where specified
(L/min)	=946	=946	=946
3. Number of water-foam handlines required per vehicle (select from following)	1	2	2
3a. Woven jacket water-foam handline:			
a. Nozzle flow rate (L/min)	=360	=360	=360
b. Straight stream distance (m)	=20	=20	=20
c. Dispersed stream pattern:			
i. Range (m)	=6	=6	=6
ii. Width (m)	=4.5	=4.5	=4.5
d. Hose inside diameter (mm)	=38	=38	=38
e. Hose length (m)	=46	=46	=46
3b. Reeled water-foam handline:			
a. Nozzle flow rate (L/min)	360 (=227 for dual agent lines)	360 (=227 for dual agent lines)	360 (=227 for dual agent lines)
b. Straight stream distance (m)	=20	=20	=20
c. Dispersed stream pattern:			
i. Range (m)	=6	=6	=6
ii. Width (m)	=4.5	=4.5	=4.5
d. Hose length (m)	=46 (=30 for dual agent lines)	=46 (=30 for dual agent lines)	=46 (=30 for dual agent lines)
4. Complementary agent			
a. Capacity (kg)	=45	=45	=45
4a. Dry chemical handline:	Where specified	Where specified	Where specified
a. Discharge rate (kg/sec)	=2.3	=2.3	=2.3
b. Range (m)	=7.5	=7.5	=7.5
c. Hose length (m)	=30	=30	=30
4b. Dry chemical turret:	Where specified	Where specified	Where specified
a. Discharge rate (kg/sec)	=7 and =10	=7 and =10	=7 and =10
b. Range (m)	=30	=30	=30
c. Width (m)	=5	=5	=5
4c. Dry chemical extendable turret	Where specified	Where specified	Where specified
a. Discharge rate (kg/sec)	=5.5	=5.5 and =10	=5.5 and =10
b. Range (m)	=30	=30	=30
c. Width (m)	=5	=5	=5
4d. Halogenated agent handline:	Where specified	Where specified	Where specified
a. Discharge rate (kg/sec)	=2.3	=2.3	=2.3
b. Range (m)	=7.5	=7.5	=7.5

-	Minimum Usable Capacity		
Performance Parameters	Vehicle Water Tank Capacity =454 to =1999 L	Vehicle Water Tank Capacity >1999 to =6000 L	Vehicle Water Tank Capacity >6000 L
c. Hose inside diameter (mm)	=25.4	=25.4	=25.4
d. Hose length (m)	=30	=30	=30

Table 4.1.1(d) Agent System Performance Parameters (U.S. Customary Units)

-	Minimum Usable Capacity		
Performance Parameters	Vehicle Water Tank Capacity =120 to =528 gal	Vehicle Water Tank Capacity >528 to =1585 gal	Vehicle Water Tank Capacity >1585 gal
1. Water tank percent of deliverable water			
a. On level ground	100 percent	100 percent	100 percent
b. On 20 percent side slope	85 percent	85 percent	85 percent
c. 30 percent ascending/descending grade	85 percent	85 percent	85 percent
2. Turret(s) discharge	Total flow rate can be achieved with handlines	Total flow rate can be achieved using a roof turret, extendable turret, bumper turret, or a combination thereof	Total flow rate can be achieved using a roof turret, extendable turret, bumper turret, or a combination thereof
2a. Roof turret:			
a. Total minimum flow rate (gpm) OR	=60	=750	=1250
Individual flow rate of the roof turret, if used in combination with a bumper turret (gpm)	N/A	=500	=1000
b. Stream pattern/distances:			
i. Straight/far point (ft)	=65	=190	=230
ii. Dispersed/far point (ft)	=20	=65	=70
iii. Dispersed/width (ft)	=15	=35	=35
2b. Extendable turret:			
a. Individual flow rate of the extendable turret if used in combination with a bumper turret (gpm)	N/A	=500	=1000
b. Stream pattern/distances:			
i. Straight/far point (ft)	N/A	=190	=190
ii. Dispersed/far point (ft)	N/A	=65	=70
iii. Dispersed/width (ft)	N/A	=35	=35
2c. Bumper turret:	Can be used as the primary turret and must follow roof turret flows and ranges	Can be used as the primary turret and must follow roof turret flows and ranges	Can be used as the primary turret and must follow roof turret flows and ranges
a. Flow rate (gpm)	=60	=250	=250
b. Straight stream distance (ft)	=65	=150	=150
c. Dispersed pattern distances:			

-	Minimum Usable Capacity		
Performance Parameters	**Vehicle Water Tank Capacity =120 to =528 gal**	**Vehicle Water Tank Capacity >528 to =1585 gal**	**Vehicle Water Tank Capacity >1585 gal**
i. Far point (ft)	=20	=50	=50
ii. Width (ft)	=15	=30	=30
iii. Near point (ft)	Within 30 ft of front bumper	Within 30 ft of front bumper	Within 30 ft of front bumper
2d. Ground sweep nozzle:	Where specified	Where specified	Where specified
a. Flow rate (gpm)	N/A	=100 to =300	=100 to =300
b. Dispersed pattern distances:			
i. Far point (ft)	N/A	=30	=30
ii. Width (ft)	N/A	=12	=12
2e. Undertruck nozzle flow rate (gpm)	Where specified >15	Where specified >15	Where specified >15
2f. Piercing nozzle flow rate (gpm)	Where specified =250	Where specified =250	Where specified =250
3. Number of water-foam handlines required per vehicle (select from following)	1	2	2
3a. Woven jacket water-foam handline:			
a. Nozzle flow rate (gpm)	=95	=95	=95
b. Straight stream distance (ft)	=65	=65	=65
c. Dispersed stream pattern:			
i. Range (ft)	=20	=20	=20
ii. Width (ft)	=15	=15	=15
d. Hose inside diameter (in.)	=1.50	=1.50	=1.50
e. Hose length (ft)	=150	=150	=150
3b. Reeled water-foam handline:			
a. Nozzle flow rate (gpm)	95 (=60 for dual agent lines)	95 (=60 for dual agent lines)	95 (=60 for dual agent lines)
b. Straight stream distance (ft)	=65	=65	=65
c. Dispersed stream pattern:			
i. Range (ft)	=20	=20	=20
ii. Width (ft)	=15	=15	=15
d. Hose length (ft)	=150 (=100 for dual agent lines)	=150 (=100 for dual agent lines)	=150 (=100 for dual agent lines)
4. Complementary agent			
a. Capacity (lb)	=100	=100	=100
4a. Dry chemical handline:	Where specified	Where specified	Where specified
a. Discharge rate (lb/sec)	=5	=5	=5
b. Range (ft)	=25	=25	=25
c. Hose length (ft)	=100	=100	=100
4b. Dry chemical turret:	Where specified	Where specified	Where specified
a. Discharge rate (lb/sec)	=16 and =22 (>7)	=16 and =22	=16 and =22

Performance Parameters	Minimum Usable Capacity: Vehicle Water Tank Capacity =120 to =528 gal	Minimum Usable Capacity: Vehicle Water Tank Capacity >528 to =1585 gal	Minimum Usable Capacity: Vehicle Water Tank Capacity >1585 gal
b. Range (ft)	=100	=100	=100
c. Width (ft)	=17	=17	=17
4c. Dry chemical extendable turret:	Where specified	Where specified	Where specified
a. Discharge rate (lb/sec)	=12	=12 and =22	=12 and =22
b. Range (ft)	=100	=100	=100
c. Width (ft)	=17	=17	=17
4d. Halogenated agent handline:	Where specified	Where specified	Where specified
a. Discharge rate (lb/sec)	=5	=5	=5
b. Range (ft)	=25	=25	=25
c. Hose inside diameter (in.)	=1.00	=1.00	=1.00
d. Hose length (ft)	=100	=100	=100

Additional Proposed Changes

File Name	Description	Approved
Table_4.1.pdf		

Statement of Problem and Substantiation for Public Input

The current nozzles on the market that entrain dry chemical into the water stream only use round water dispersed patterns. The round shape surrounds the powder to get it to properly mix in the water. A flat dispersed pattern does not entrain the powder into the water stream. There has been questions from the user community on the width requirement, if the number in the table is for the powder or water. These proposed changes clarify these requirements.

Submitter Information Verification

Submitter Full Name: Jason Shively
Organization: Oshkosh Corporation
Street Address:
City:
State:
Zip:
Submittal Date: Mon Jun 26 16:03:39 EDT 2017

Committee Statement

Resolution: FR-8-NFPA 414-2017

Statement: The committee agrees with the submitters proposed changes, however the committee has added additional text to what the submitter proposed. The current nozzles on the market that entrain dry chemical into the water stream only use round water dispersed patterns. The round shape surrounds the powder to get it to properly mix in the water. A flat dispersed pattern does not entrain the powder into the water stream. There has been questions from the user community on the width requirement, if the number in the table is for the powder or water. These proposed changes clarify these requirements.

Table 4.1.1(c)

4b. Dry chemical turret	≥454- ≤1999 L	>1999-≤6000 L	above >6000 L
a. Powder Discharge rate (kg/sec)	≥7 - ≤10	≥7-≤10	≥7-≤10
b. Powder Range(m)	≥30	≥30	≥30
c. Powder Width (m)	≥5	≥5	≥5
d. Stream Range (m)	See 2a/2c	See 2a/2c	See 2a/2c
e. Stream Width (m)	≥5	≥5	≥5

Table 4.1.1(d)

4b. Dry chemical turret	≥120- ≤528 gallon	>528-≤1585 gallon	above >1585 gallon
a. Powder Discharge rate (lb/sec)	≥16 - ≤22 (>7)	≥16-≤22	≥16-≤22
b. Powder Range(ft)	≥100	≥100	≥100
c. Powder Width (ft)	≥17	≥17	≥17
d. Stream Range (ft)	See 2a/2c	See 2a/2c	See 2a/2c
e. Stream Width (ft)	≥17	≥17	≥17

Public Input No. 45-NFPA 414-2017 [Section No. 4.2.4]

4.2.4 Lettering, Numbering, and Striping.

4.2.4.1

Vehicle numbering, lettering, and minimum 0.2 m (8 in.) wide reflective striping shall be provided in accordance with ASTM D4956.

4.2.4.2

Striping shall be placed horizontally on the sides of the vehicle below the body centerline.

4.2.4.3

Vehicles shall display an identification number on each side and roof.

4.2.4.3.1

Side numbers shall be a minimum of 0.4 m (16 in.) in height.

4.2.4.3.2

Primary numbers shall be a minimum of 0.6 m (24 in.) in height and affixed with their base toward the front of the vehicle.

4.2.4.4

Numbering, lettering, and striping shall be in sharp contrast to the vehicle color.

More specific requirements for the retroreflective material used for striping apparatus have been added, and striping on the rear of the apparatus has been changed to require retroreflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees.

15.9.3* Reflective Striping.

15.9.3.1* A retroreflective stripe(s) shall be affixed to at least 50 percent of the cab and body length on each side, excluding the pump panel areas, and at least 25 percent of the width of the front of the apparatus.

15.9.3.1.1 The stripe or combination of stripes shall be a minimum of 4 in. (100 mm) in total width.

15.9.3.1.2 The 4 in. (100 mm) wide stripe or combination of stripes shall be permitted to be interrupted by objects (i.e., receptacles, cracks between slats in roll up doors) provided the full stripe is seen as conspicuous when approaching the apparatus.

15.9.3.1.3 A graphic design shall be permitted to replace all or part of the required striping material if the design or combination thereof covers at least the same perimeter length(s) required by 15.9.3.1.

15.9.3.2 At least 50 percent of the rear-facing vertical surfaces, visible from the rear of the apparatus, excluding any pump panel areas not covered by a door, shall be equipped with retroreflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees.

15.9.3.2.1 Each stripe in the chevron shall be a single color alternating between red and either yellow, fluorescent yellow, or fluorescent yellow-green.

15.9.3.2.2 Each stripe shall be 6 in. (150 mm) in width.

15.9.3.3 All retroreflective materials required by 15.9.3.1 and 15.9.3.2 shall conform to the requirements of ASTM D 4956, Standard Specification for Retroreflective Sheeting for Traffic Control, Section 6.1.1 for Type I Sheeting.

15.9.3.3.1 All retroreflective materials used to satisfy the requirements of 15.9.3.1 that are colors not listed in ASTM D 4956, Section 6.1.1, shall have a minimum coefficient of retroreflection of 10 with observation angle of 0.2 degrees and entrance angle of −4 degrees.

15.9.3.3.2 Fluorescent yellow and fluorescent yellow-green retroreflective materials used to meet the requirements of 15.9.3.2 shall conform to the minimum requirements specified for yellow Type I Sheeting in ASTM D 4956, Section 6.1.1.

15.9.3.3.3 Any printed or processed retroreflective film construction used to meet the requirements of 15.9.3.1 and

15.9.3.2 shall conform to the standards required of an integral colored film as specified in ASTM D 4956, Section 6.1.1.

19.18.11Where the design of the aerial device incorporates a knuckle, the knuckle shall be as follows:

(1) Painted with reflective paint or provided with retroreflective striping

A.1.3.1 The requirements of this standard apply to fire apparatus that have a GVWR of 10,000 lb (4500 kg) or greater. While the standard was not written specifically to cover vehicles below that size, fire departments should consider using those portions of this standard that address safety issues with smaller emergency vehicles. This would apply particularly to the restraint of equipment in the driving and crew areas and to providing adequate optical warning devices and reflective striping to increase the visibility of the vehicle.

A.15.9.3.1 If the purchaser specifies roll-up doors, consideration should be given to affixing a strip of reflective material to the rail area below the door. If the purchaser specifies vertically hinged compartment doors, consideration should be given to affixing 4 in. (100 mm) minimum width reflective stripes or chevron-type reflective stripes on the inside of the doors.

Statement of Problem and Substantiation for Public Input

Additional visibility

Submitter Information Verification

Submitter Full Name: Ronald Jones

Organization: E-One Inc

Street Address:

City:

State:

Zip:

Submittal Date: Tue Jun 27 09:26:27 EDT 2017

Committee Statement

Resolution: FR-32-NFPA 414-2017

Statement: The committee is moving this section of text to the renumbered section as this is a more appropriate location for this text. No changes to the requirements have been made, just renumbering/moving has occurred. The committee is also adding new requirements, extracted from NFPA 1917, on reflective striping requirements which is to fall in line with the text that was moved as noted in the revision.

Public Input No. 25-NFPA 414-2017 [Section No. 4.4.2.3.1]

4.4.2.3.1

The cooling system shall be designed so that the stabilized engine coolant temperature remains within the engine manufacturer's prescribed limits under all operational conditions and at all ambient temperatures identified in 4.1.1 that may be encountered at the operational airport.

Statement of Problem and Substantiation for Public Input

Referring back to 4.1.1 provides more specific temperature ranges that are already considered standard in the document

Submitter Information Verification

Submitter Full Name: Duane Kann
Organization: Rosenbauer
Affilliation: FAMA
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 24 08:29:23 EDT 2017

Committee Statement

Resolution: FR-9-NFPA 414-2017
Statement: Referring back to 4.1.1 provides more specific temperature ranges that are already considered standard in the document

Public Input No. 39-NFPA 414-2017 [Section No. 4.5.1.1 [Excluding any Sub-Sections]]

Any low-voltage electrical systems or warning devices installed on the fire apparatus shall be appropriate for the mounting location and intended electrical load and shall meet the specific requirements of this section. [**1901:**13.1]

These items had related appendices in referenced 1901 but not in 414

***4.5.1.1** Any low-voltage electrical systems or warning devices installed on the fire apparatus shall be appropriate for the mounting location and intended electrical load and shall meet the specific requirements of this section. [**1901:** 13.1]

Statement of Problem and Substantiation for Public Input

These items had related appendices in referenced 1901 but not in 414

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 18:57:20 EDT 2017

Committee Statement

Resolution: The committee is not acting on these as the text that was submitted and the requested action is unclear to the committee. It is the hopes of the committee that the submitter will then submit public comments that are clear and the submitter is a TC member and was at the meeting so it understanding of what needs to be done.

Public Input No. 40-NFPA 414-2017 [Section No. 4.5.1.1.2]

4.5.1.1.2

The circuit feeder wire shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected. [**1901:**13.2.1]

***4.5.1.1.2** The circuit feeder wire shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected.

[**1901:** 13.2.1]

Statement of Problem and Substantiation for Public Input

These items had related appendices in referenced 1901 but not in 414

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 18:59:22 EDT 2017

Committee Statement

Resolution: The committee is not acting on these as the text that was submitted and the requested action is unclear to the committee. It is the hopes of the committee that the submitter will then submit public comments that are clear and the submitter is a TC member and was at the meeting so it understanding of what needs to be done.

Public Input No. 42-NFPA 414-2017 [Section No. 4.5.1.1.15]

4.5.1.1.15

All ungrounded electrical terminals shall have protective covers, enclosures, or a means to protect from accidental shorting. [**1901:**13.2.4.2]

***4.5.1.1.15** All ungrounded electrical terminals shall have protective covers, enclosures, or a means to protect from accidental shorting. [**1901:** 13.2.4.2]

Statement of Problem and Substantiation for Public Input

These items had related appendices in referenced 1901 but not in 414

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 19:02:09 EDT 2017

Committee Statement

Resolution: The committee is not acting on these as the text that was submitted and the requested action is unclear to the committee. It is the hopes of the committee that the submitter will then submit public comments that are clear and the submitter is a TC member and was at the meeting so it understanding of what needs to be done.

Public Input No. 41-NFPA 414-2017 [Section No. 4.5.1.1.18]

4.5.1.1.18

Wiring shall be uniquely identified at least every 2 ft (0.6 m) by color coding or permanent marking with a circuit function code. The identification shall reference a wiring diagram. *[See NFPA 1901.]* [**1901:**13.2.6]

***4.5.1.1.18** Wiring shall be uniquely identified at least every 2 ft (0.6 m) by color coding or permanent marking with a circuit function code. The identification shall reference a wiring diagram. *[See NFPA 1901.]* [**1901:** 13.2.6]

Statement of Problem and Substantiation for Public Input

These items had related appendices in referenced 1901 but not in 414

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 19:00:48 EDT 2017

Committee Statement

Resolution: The committee is not acting on these as the text that was submitted and the requested action is unclear to the committee. It is the hopes of the committee that the submitter will then submit public comments that are clear and the submitter is a TC member and was at the meeting so it understanding of what needs to be done.

Public Input No. 30-NFPA 414-2017 [New Section after 4.12.4.8]

FLIR

4.12.4.9 The FLIR sensor must be able to detect long wave (8-12 µm) infrared (IR) energy.

4.12.4.10 The sensor array resolution must be a minimum of 640 horizontal by 480 vertical pixels.

4.12.4.11 The camera shall have a high contrast filter that will show low contrast objects in a dynamic thermal scene.

4.12.4.12 The camera must provide an industry standard composite (with automatic gain and level control) or digital video output.

4.12.4.13 The camera must have a minimum Horizontal (HFOV) and Vertical Field of View (VFOV) of 27° (± 4°) and 18° (± 4°), respectively.

Substantiation : In order to increase the performance requirements of the FLIR cameras based on the findings in the FAA report DOT/FAA/TC-17/27 the cross reference to chapter 11 of AC 150/5210-19A had to be removed and the individual requirements listed out separately. This research program proves the benefit of a higher resolution camera with a high contrast filter.

Statement of Problem and Substantiation for Public Input

In order to increase the performance requirements of the FLIR cameras based on the findings in the FAA report DOT/FAA/TC-17/27 the cross reference to chapter 11 of AC 150/5210-19A had to be removed and the individual requirements listed out separately. This research program proves the benefit of a higher resolution camera with a high contrast filter.

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 17:59:01 EDT 2017

Committee Statement

Resolution: FR-10-NFPA 414-2017
Statement: In order to increase the performance requirements of the FLIR cameras based on the findings in the FAA report DOT/FAA/TC-17/27 the cross reference to chapter 11 of AC 150/5210-19A had to be removed and the individual requirements listed out separately. This research program proves the benefit of a higher resolution camera with a high contrast filter.

Public Input No. 29-NFPA 414-2017 [Section No. 4.12.4.8]

4.12.4.8*

A low-visibility enhanced vision system shall be installed in the vehicle consisting of an FLIR system that meets or exceeds the following requirements as outlined in FAA Advisory Circular No. 150/5210-19A:

(1) Chapter 1, Section 2, Subsection b, Part (1) Vision Enhancement

(2) Chapter 2, Full Sections 6, 7, 10, ~~11,~~ and 12

Statement of Problem and Substantiation for Public Input

In order to increase the performance requirements of the FLIR cameras based on the findings in the FAA report DOT/FAA/TC-17/27 the cross reference to chapter 11 of AC 150/5210-19A had to be removed and the individual requirements listed out separately. This research program proves the benefit of a higher resolution camera with a high contrast filter.

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 17:53:50 EDT 2017

Committee Statement

Resolution: FR-11-NFPA 414-2017
Statement: In order to increase the performance requirements of the FLIR cameras based on the findings in the FAA report DOT/FAA/TC-17/27 the cross reference to chapter 11 of AC 150/5210-19A had to be removed and the individual requirements listed out separately. This research program proves the benefit of a higher resolution camera with a high contrast filter.

Public Input No. 48-NFPA 414-2017 [Section No. 4.12.5.1]

4.12.5.1

The following equipment shall be provided in or on the cab, as applicable:

(1) Heater/defroster

(2) Driver's suspension seat with vertical, fore, and aft adjustment, with seat belt [The use of a nonsuspension driver's seat shall be permitted where recommended by the manufacturer; the vertical adjustment shall not apply to commercial vehicles with a capacity of <1999 L (528 gal).]

(3) Crew seats with individual retractable seat belts

(4) Windshield washers ~~appropriate~~ for removing foam

(5) Windshield wipers ~~appropriate~~ for removing foam

(6) Siren

(7) Horn

(8) A means or provision that is designed to protect driver and crew from overhead glare and light from the sun

(9) Outside rearview mirrors, as specified in 4.3.2.3

(10) Interior lighting

(11) Provisions for mounting at each crew seat position self-contained breathing apparatus (SCBA) of the type specified by the purchaser

(12) Low-visibility FLIR meeting suggested specifications contained in Section D.4 or equivalent

Statement of Problem and Substantiation for Public Input

Too vague

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 21:36:48 EDT 2017

Committee Statement

Resolution: FR-12-NFPA 414-2017
Statement: The committee removed unenforceable terms, NFPA MOS, and unnecessary language.

Public Input No. 31-NFPA 414-2017 [Section No. 4.12.7 [Excluding any Sub-Sections]]

Where specified, a monitoring and data acquisition system (MADAS) shall be installed for the collection of various performance measurements to monitor, as a minimum, the following:

(1) Vehicle speed

(2) Vehicle heading

(3) Lateral acceleration

(4) Vertical acceleration

(5) Longitudinal acceleration and deceleration

(6) Engine rpm

(7) Throttle position

(8) Steering input

(9) Vehicle braking input (pedal position and brake pressure)

(10) Date, time, and location for all data collected

(11) HRET/ASPN position data

(12) Fire fighting system operation

Statement of Problem and Substantiation for Public Input

Substantiation: Research has shown that current vehicle communication technologies are capable of collecting this data. The positioning of the HRET and fire fighting system operation in post-incident forensics would be helpful in the investigation process.

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 18:03:04 EDT 2017

Committee Statement

Resolution: The committee believes that more information is needed before these items can be added.

Public Input No. 37-NFPA 414-2017 [Section No. 4.12.7 [Excluding any Sub-Sections]]

Where specified, a monitoring and data acquisition system (MADAS) shall be installed for the collection of various performance measurements to monitor, as a minimum, the following:

(1) Vehicle speed

(2) Vehicle heading

(3) Lateral acceleration

(4) Vertical acceleration

(5) Longitudinal acceleration and deceleration

(6) Engine rpm

(7) Throttle position

(8) Steering input

(9) Vehicle braking input (pedal position and brake pressure)

(10) Date, time, and location for all data collected

(11) Extendable Turret Position Measurement

A.4.12.7 (11) The measurements defining the position of an extendable turret shall include, but not be limited to, the specifications of **4.19.6.14.1** . Any current or future extendable turret designs or technologies for which any of the specified position measurements are not applicable, shall not be required to record the respective measurement(s) through the MADAS.

Statement of Problem and Substantiation for Public Input

Substantiation: Current vehicle technologies are capable of providing such information. The inclusion of this information will aid in the post-incident investigation process, providing investigators with additional information on ARFF vehicle status at the time of the incident.

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 18:28:51 EDT 2017

Committee Statement

Resolution: The committee has chosen not to add this material as they believe more work is needed before this can be added.

Public Input No. 49-NFPA 414-2017 [Section No. 4.13.8]

4.13.8

Vehicle numbering, lettering, and minimum 20.3 cm (8 in.) wide reflective striping shall be provided in accordance with ASTM D4956.

4.13.8.1

A graphic design meeting the reflectivity requirements of this subsection shall be permitted to replace all or part of the required striping, provided the design or combination thereof covers a minimum of the same perimeter length required in 4.13.8.

4.13.8.2

Striping shall be placed on at least 60 percent of the perimeter length of each side, width, and rear.

4.13.8.3

At least 40 percent of the perimeter width of the front of the vehicle shall have reflective striping.

Should these reflective striping and graphics requirements be moved under 4.2.4?

Statement of Problem and Substantiation for Public Input

These requirements should fall under the requirements of 4.2.4

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 21:39:40 EDT 2017

Committee Statement

Resolution: FR-32-NFPA 414-2017

Statement: The committee is moving this section of text to the renumbered section as this is a more appropriate location for this text. No changes to the requirements have been made, just renumbering/moving has occurred. The committee is also adding new requirements, extracted from NFPA 1917, on reflective striping requirements which is to fall in line with the text that was moved as noted in the revision.

Public Input No. 2-NFPA 414-2017 [Section No. 4.17.4.1]

4.17.4.1

* The foam concentrate proportioning system shall provide a means of controlling the ratio of end user specified foam ~~concentrate to~~ concentrate to the quantity of water in the foam solution being discharged from all orifices used for aircraft fire-fighting operations.

Add the following text in guidance material

* Some synthetic foam concentrates are more viscous than the AFFF. If the ARFF vehicle is to carry foam concentrates of higher viscosity foams the purchaser should obtain the specified ranges from their foam manufacturer/supplier

Statement of Problem and Substantiation for Public Input

It is important that end users specify during early stages of the purchasing process the types of foam that their operation is using or may be using during the life cycle of their new vehicle.
In many countries, foams containing fluor will likely be prohibited in favor of cleaner fluorine free foams that are generally more viscous. Using a different concentrate will require expensive modifications to the standard proportioning systems, so if an airport is planning on changing product during the life cycle of their vehicle(s), it is more economical to specify the optional proportioning system.

Manufacturers have the capability to provide systems that are self adjusting for various foam concentrates.

Submitter Information Verification

Submitter Full Name: Bernard Valois
Organization: Autopyro
Street Address:
City:
State:
Zip:
Submittal Date: Fri Jun 02 09:56:03 EDT 2017

Committee Statement

Resolution: FR-13-NFPA 414-2017
Statement: The committee understands what the submitter is attempting to accomplish, and believes the text they have proposed does just that.

Public Input No. 50-NFPA 414-2017 [New Section after 4.19.6]

TITLE OF NEW CONTENT

The piercing tool shall be designed to penetrate the fuselage of an aircraft at any point within a 180 degree radius of the vertical centerline of the fuselage of an aircraft.

Statement of Problem and Substantiation for Public Input

Additional language should be added to the documents to update requirements. Requiring the penetrator to be capable of 180 degree rotation and be capable of infinite penetration locations within the 180 degree arc.

Submitter Information Verification

Submitter Full Name: John Huffman
Organization: Rosenbauer
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 28 11:27:55 EDT 2017

Committee Statement

Resolution: The committee is unsure of what the submitter is trying to accomplish with this PI and is hoping that the submitter provides more clarification and possibly a diagram during the comment period.

Public Input No. 51-NFPA 414-2017 [New Section after 4.19.6]

TITLE OF NEW CONTENT

The penetration device shall be designed to allow penetrations on a flat level surface up to a ten (10) degree slope.

Statement of Problem and Substantiation for Public Input

Additional language to define the range of operation for the penetrating device. Penetrations to the aircraft may be needed when the aircraft is not on a flat level surface. 10 degrees of slope is fairly steep and could represent the angle needed by the penetrator to make a successful penetration based on the position an aircraft involved in an incident could come to rest in.

Submitter Information Verification

Submitter Full Name: John Huffman
Organization: Rosenbauer
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 28 11:43:57 EDT 2017

Committee Statement

Resolution: The committee is unclear as to what the submitter is attempting to accomplish with this PI and the measurement is also unclear as to where that is to begin and end. It is hoped that the submitter will resubmit this with further clarification during the comment period.

Public Input No. 52-NFPA 414-2017 [New Section after 4.19.6]

HRET Vehicle Requirements

Installation of HRETs shall be limited to Class V vehicles (6X6 or 8X8) with a water tank size of 3000 gallons (11,356 liters) and above.

Statement of Problem and Substantiation for Public Input

Current standard allows for HRET installation on Class IV vehicles. 4X4 vehicles should not be equipped with HRETs because of the following reasons:
1. Class IV vehicles (4X4/1500 gallon typical) vehicles are designed to be rapid intervention vehicles and as such are limited in their agent carrying capacity. Thus, a 1500 gallon vehicle does not have the firefighting agent needed to make an initial attack, and deploy and use an HRET without the possibility that prior to deployment of the HRET the water supply may be depleted requiring the ARFF vehicle to be resupplied.
2. HRETs by nature, are not designed as an initial attack appliance and are usually deployed after the ground fire is out and evacuation of the aircraft has taken place. The tactical considerations for deploying the HRET lends to the notion that the appliance would not be deployed until later in the incident and a 1500 gallon vehicle could possibly be depleted of agent.
3. Class IV vehicles are inherently unstable when equipped with HRETs (typical weight of an HRET being in the 4500 pound plus range) and despite manufacturers claims or documentation of passing current testing standards a possibly dangerous situation could be created for firefighters responding at a high rate of speed and attempting aggressive maneuvering of the ARFF vehicle during response. Additionally, many 4X4 HRET equipped vehicles purchased are for Index B or lower airports where there may not be dedicated fire service personnel with the training resources needed to assure proficiency in driving or operating these complex tools (these airports typically have "fire brigade" type arrangement with firefighting not being the primary function of the employees). They may not have the intensive training or discipline needed to respond safely and adding 4000 or greater pounds to a small vehicle like this can create an unsafe situation.
4. Class V vehicles, by nature, have several advantages to their smaller Class IV cousins including greater agent carrying capacity that allows not only for initial attack, but extended operation where the HRET could be deployed and used without the need for possible resupply. The 6X6 or 8X8 by design are a more stable platform that exhibit handling characteristics more suited to mounting an HRET.
5. Agent availability, vehicle stability and firefighter safety are the primary reasons for limiting this type of device to only Class V vehicles. If an airport that requires such a tool and desires to purchase one then the vehicle supplied underneath needs the characteristics described above.

Submitter Information Verification

Submitter Full Name: John Huffman
Organization: Rosenbauer
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 28 12:10:37 EDT 2017

Committee Statement

Resolution: If the performance standards are met, the committee believes that are not in a position to dispute.

Public Input No. 36-NFPA 414-2017 [Section No. 4.19.6 [Excluding any Sub-Sections]]

If the primary turret is of the extendable type, it shall meet the following design and functional requirements:

(1) The primary turret shall meet the requirements of 4.3.1.3 and 4.3.1.5 while in the stowed position.

(2) The vehicle shall achieve a 20 percent side slope, with the extendable turret fully elevated and the nozzle rotated uphill at maximum horizontal rotation while discharging at maximum flow rate.

(3) The vehicle shall be provided with an interlock or warning system and placards in full view of the driver/operator to provide the operational limitations during all phases of operation.

(4) Flow rates shall be in accordance with Table 4.1.1(c) and Table 4.1.1(d) for major vehicles.

(5) The primary turret shall meet the primary water-foam agent turret discharge requirements of Table 4.1.1(c) and Table 4.1.1(d) for the applicable vehicle class while in the bedded position.

(6) The primary turret shall meet the foam-quality standard of NFPA 412 for the applicable foam applicator and foam type.

(7) The primary turret shall function during ARFF operations without the need for outriggers or other ground contact stabilizers that would render the vehicle immobile or hinder its maneuverability.

(8) The primary turret shall have a deployment time from the bedded position to the maximum height and start the application of agent within 30 seconds.

(9) The high rise, telescoping, and/or articulating movement of the boom/tower shall be accomplished with not more than two adjacent lever controls and be permitted to be manual or automated for preselected positioning of the elevation and reach.

(10) If automated, these functions shall be provided with a manual override positioning capability.

(11) The primary turret shall be capable of applying agent to any interior area of the most current wide-body jet, so as not to impede evacuation and for safety considerations of the vehicle operator.

(12) The device shall be capable of positioning the nozzle within 0.6 m (2 ft) of ground level in front of the vehicle and be capable of applying agent to the interior of the aircraft through cargo bay door openings, passenger doorways, and emergency exits on the type of aircraft being protected while the aircraft is in either the gear-up or gear-down landing position.

(13) The primary turret shall have a range of motion so as to permit positioning of the nozzle to direct a fire-fighting agent stream at least 90 degrees to the longitudinal axis of the fuselage for interior fire extinguishment.

(14) The turret/boom mechanism shall be capable of providing for horizontal movement along the aircraft of at least 30 degrees left and right of the vehicle centerline so as not to require repositioning or movement of the ARFF vehicle.

(15) This horizontal rotation shall be accomplished without the deployment of stabilizers or outriggers that might cause a delay in positioning or emergency movement of the rescue vehicle.

(16) The primary turret shall have backup systems to allow for override of the single-lever boom control and hydraulic system (or other power source) if the primary system becomes disabled.

(17) The driver/operator shall be able to see the boom, as it is rising to its maximum height, from a seated position by means of a camera or direct line of sight.

(18) A means of visually identifying the length of boom extension available shall be provided either by an external marking on the boom or a display in the cab visible to the vehicle operator.

Photo of a simple marking system: 

Statement of Problem and Substantiation for Public Input

Substantiation: Testing conducted by the FAA Technical Center showed a benefit to the vehicle operator situational awareness in positioning the HRET for penetration operations by providing a visual reference for how much length of extension was available when positioning the HRET.

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 18:24:51 EDT 2017

Committee Statement

Resolution: FR-14-NFPA 414-2017
Statement: The committee understands what the submitter is attempting to accomplish, however the committee believes that the text they have provided is sufficient.

Public Input No. 38-NFPA 414-2017 [New Section after 4.19.6.13]

Extendable Turret Position

NEW 4.19.6.14* Extendable turret position measurements (as configured/selected by operator) shall be accessible and/or displayed automatically to the driver/operator during extendable turret use.

4.19.6.14.1 Extendable turret position measurements shall include, but not be limited to, the following:

(1) Lower Boom Position

(2) Upper boom Position

(3) Extendable Turret Rotation Position

(4) Boom Extension Remaining

(5) Primary Turret Position

(6) Auxiliary Nozzle Position

(7) Elevation measurement relative to ground of highest point in current position

(8) Measurement of most forward point on extendable turret relative to vehicle's cab

4.19.6.14.2 Extendable turret position measurements shall be displayed in a common location within the driver/operators field of view

4.19.6.14.3 Extendable turret position measurements shall be displayed either graphically or numerically

4.19.6.14.4 Extendable turret position limitations shall be displayed with the associated real time position measurements

4.19.6.14.5 Where specified, extendable turrets comprised of multiple articulated segments shall provide an indication of complete base segment deployment where positioning accuracy may be affected.

A.4.19.6.14. Most extendable turrets currently produced include a monitor and control system to facilitate its operation. The implementation of such system requires the presence of sensors to detect and calculate the current position of an extendable turret. Typically, such systems are accessible through the ARFF vehicle system's central communication network and able to be viewed via the use of a specialized tool. When these types of systems are present, the extendable turret position is already being measured and monitored in real time, but not typically available to the driver/operator. Research has shown that providing the driver/operator access to the information specified in 4.19.6.14.1 will improve proficiency and provide additional guidance on positioning during extendable turret operations.

Task Group

Statement of Problem and Substantiation for Public Input

Substantiation: Most currently produced ARFF vehicles with extendable turrets already have the sensors capable of obtaining such measurements installed. Additionally, current vehicle based networking and communication systems are integrated in such a way that specific system information is accessible through a common and central interface, although a specialized tool is required to view it. For these reasons, the display of such information will result in minimal alterations to current vehicle designs. Research has shown that the availability of this information would improve driver/operator proficiency and result in safer and more efficient extendable turret operations. Such information will also provide the driver/operator additional guidance in low visibility conditions, reduce the time to realize an ARFF vehicle requires repositioning, and aid in the determination of if a full depth penetration is possible prior to an attempt.

Submitter Information Verification

Submitter Full Name: Ronald Jones

Organization: E-One Inc

Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 18:31:53 EDT 2017

Committee Statement

Resolution: The committee believes that this is more of a training issue rather than a vehicle issue and by including this it could create more distraction for the driver thus creating an unsafe situation.

Public Input No. 47-NFPA 414-2017 [Section No. 4.19.7]

4.19.7*

~~Lightweight~~ Single axis boom-mounted turrets shall be permitted as primary turrets. These turrets shall meet the following design and functional requirements:

(1) They shall meet the requirements of 4.3.1.3 and 4.3.1.5 while in the stowed position.

(2) They shall achieve a 20 percent side slope with the boom turret fully elevated and the nozzle fully rotated uphill at maximum horizontal rotation while discharging at maximum flow rate.

(3) Flow rates shall be in accordance with Table 4.1.1(c) and Table 4.1.1(d) for major vehicles.

(4) They shall meet the primary water-foam agent turret discharge requirements of Table 4.1.1(c) and Table 4.1.1(d) for the applicable vehicle class while in the bedded condition.

(5) They shall meet the foam quality standard of NFPA 412, Chapter 5.

(6) They shall function during ARFF operations without the need for outriggers or other ground contact stabilizers that could render the vehicle immobile or hinder its maneuverability.

(7) The primary turret shall have a deployment time from the bedded position to maximum height and start the application of agent within 30 seconds.

(8) They shall be capable of applying agent through passenger doorways, to interior areas of the type of aircraft being protected.

(9) The device shall permit the operator to position the nozzle assembly so as to be able to discharge the agent in front of the vehicle at a level that permits the operator to see over the turret discharge.

(10) They shall have a range of motion so as to permit positioning of the nozzle to direct a fire-fighting agent stream along the longitudinal axis of the fuselage or up to 90 degrees to the longitudinal axis for interior fire extinguishments.

Statement of Problem and Substantiation for Public Input

Light weight is too vague of a description

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 21:34:22 EDT 2017

Committee Statement

Resolution: The committee believe the current text is not too vague and does provide a significant level of clarification for the end user.

Public Input No. 5-NFPA 414-2017 [Section No. 4.19.7]

4.19.7*

~~Lightweight~~ Single axis boom-mounted turrets shall be permitted as primary turrets. These turrets shall meet the following design and functional requirements:

(1) They shall meet the requirements of 4.3.1.3 and 4.3.1.5 while in the stowed position.

(2) They shall achieve a 20 percent side slope with the boom turret fully elevated and the nozzle fully rotated uphill at maximum horizontal rotation while discharging at maximum flow rate.

(3) Flow rates shall be in accordance with Table 4.1.1(c) and Table 4.1.1(d) for major vehicles.

(4) They shall meet the primary water-foam agent turret discharge requirements of Table 4.1.1(c) and Table 4.1.1(d) for the applicable vehicle class while in the bedded condition.

(5) They shall meet the foam quality standard of NFPA 412, Chapter 5.

(6) They shall function during ARFF operations without the need for outriggers or other ground contact stabilizers that could render the vehicle immobile or hinder its maneuverability.

(7) The primary turret shall have a deployment time from the bedded position to maximum height and start the application of agent within 30 seconds.

(8) They shall be capable of applying agent through passenger doorways, to interior areas of the type of aircraft being protected.

(9) The device shall permit the operator to position the nozzle assembly so as to be able to discharge the agent in front of the vehicle at a level that permits the operator to see over the turret discharge.

(10) They shall have a range of motion so as to permit positioning of the nozzle to direct a fire-fighting agent stream along the longitudinal axis of the fuselage or up to 90 degrees to the longitudinal axis for interior fire extinguishments.

Statement of Problem and Substantiation for Public Input

"Lightweight" is a marketing term not defining weight or mass. Boom function is explained in A.3.3.62.2.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 7-NFPA 414-2017 [Section No. 3.3.38]	Definition
Public Input No. 6-NFPA 414-2017 [Section No. A.4.19.7]	

Submitter Information Verification

Submitter Full Name: Danny Pierce
Organization: ARFF Solutions
Street Address:
City:
State:
Zip:
Submittal Date: Fri Jun 09 15:55:27 EDT 2017

Committee Statement

Resolution: The submitter, who is a committee member, has asked that this be withdrawn and not acted on by the

committee as it is a duplicate of PI 47.

Public Input No. 53-NFPA 414-2017 [Section No. 4.21.3]

4.21.3

~~Where specified, undertruck~~ Undertruck nozzles shall be mounted under the truck and controlled from the cab to protect the bottom of the vehicle and the inner sides of the wheels and tires with foam solution discharged in a spray pattern.

Statement of Problem and Substantiation for Public Input

Remove wording "Where specified". Under truck nozzles should be a mandatory item on ARFF vehicles to provide for firefighter safety.

Submitter Information Verification

Submitter Full Name: John Huffman
Organization: Rosenbauer
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 28 13:32:41 EDT 2017

Committee Statement

Resolution: The committee believes that this exceeds the minimum and the purchaser can specify this on their vehicle if they so choose to.

Public Input No. 28-NFPA 414-2017 [Section No. 4.24.1 [Excluding any Sub-Sections]]

Where specified, a turret shall have an auxiliary agent discharge mounted parallel to the foam solution discharge, or entrained within the foam solution discharge stream and controlled the same way ~~and with the same travel requirements~~ as the turret.

Statement of Problem and Substantiation for Public Input

To help ensure that the performance of an entrained style nozzle and its related pattern are better understood

Submitter Information Verification

Submitter Full Name: Paul Cudmore
Organization: Team Eagle
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 09:02:37 EDT 2017

Committee Statement

Resolution: FR-15-NFPA 414-2017
Statement: The committee understands what the submitter is attempting to accomplish here, however they believe the textual changes they have made better serves the end user.

Public Input No. 27-NFPA 414-2017 [Section No. 4.24.1.1]

4.24.1.1

The dry chemical turret performance shall be in accordance with Table 4.1.1(c) and Table 4.1.1(d), Section # 4 'Complementary Agent' . Where entrained dry chemical discharge is specified for water tank capacity under 1999 L (528 gal), the dry chemical flow rate shown in parentheses in Table 4.1.1(c) and Table 4.1.1(d) shall be used. Further, for any entrained dry chemical discharge, Section #4 'Complementary Agent' shall apply in terms of defining overall turret/nozzle/system discharge performance.

Statement of Problem and Substantiation for Public Input

To help better illustrate upfront, that when an entrained style nozzle is selected, that the performance of the entrained style nozzle/system dispersement is different (and better in my opinion) than found with a traditional nozzle/system pattern.

Submitter Information Verification

Submitter Full Name: Paul Cudmore
Organization: Team Eagle
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 08:56:38 EDT 2017

Committee Statement

Resolution: The committee has addressed this already when addressing PI 26.

Public Input No. 16-NFPA 414-2017 [Section No. 5.2.1.10]

5.2.1.10

~~Each door shall be equipped with a restraint device(s) to prevent the door from being sprung open by wind or jet blast.~~

Statement of Problem and Substantiation for Public Input

Delete requirement as standard chassis have sufficient door dampers and the integration of additional restraint devices may cause difficulties with the standard chassis manufacturer.

Submitter Information Verification

Submitter Full Name: Duane Kann
Organization: Rosenbauer
Affilliation: FAMA
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 24 07:56:26 EDT 2017

Committee Statement

Resolution: FR-16-NFPA 414-2017
Statement: The committee has made this change as in order to provide further clarification to the requirement, and believes this change will address what the submitter was attempting to do by deleting this section.

Public Input No. 17-NFPA 414-2017 [Section No. 5.2.1.11.5]

5.2.1.11.5

~~Where equipped with a primary turret having manual controls above the cab roof, the cab roof shall be designed with a quick access to the primary turret(s).~~

Statement of Problem and Substantiation for Public Input

Roof turrets should not be considered on an AIAV as the place most likely is occupied by the stored platform. If a turret is considered, this should be a bumper type.

Submitter Information Verification

Submitter Full Name: Duane Kann
Organization: Rosenbauer
Affilliation: FAMA
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 24 07:59:22 EDT 2017

Committee Statement

Resolution: FR-17-NFPA 414-2017
Statement: Roof turrets should not be considered on an AIAV as the place most likely is occupied by the stored platform. If a turret is considered, this should be a bumper type.

Public Input No. 43-NFPA 414-2017 [Section No. 5.2.1.12.6]

5.2.1.12.6

Cabs on apparatus with a GVWR greater than 11,800 kg (26,000 lb) shall meet the requirements of one of the following sets of standards:

(1) SAE J2420, *COE Frontal Strength Evaluation — Dynamic Loading Heavy Trucks, and SAE J2422, Cab Roof Strength Evaluation — Quasi-Static Loading Heavy Trucks*

(2) ECE Regulation number 29, *Uniform Provisions Concerning the Approval of Vehicles with Regard to the Protection of the Occupants of the Cab of a Commercial Vehicle*

[**1901:** 14.3.2]

***5.2.1.12.6** Cabs on apparatus with a GVWR greater than 11,800 kg (26,000 lb) shall meet the requirements of one of the following sets of standards:

(1) SAE J2420, *COE Frontal Strength Evaluation — Dynamic Loading Heavy Trucks, and SAE J2422, Cab Roof Strength Evaluation — Quasi-Static Loading Heavy Trucks*

(2) ECE Regulation number 29, *Uniform Provisions Concerning the Approval of Vehicles with Regard to the Protection of the Occupants of the Cab of a Commercial Vehicle*

[**1901:** 14.3.2]

Statement of Problem and Substantiation for Public Input

These items had related appendices in referenced 1901 but not in 414

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 19:03:38 EDT 2017

Committee Statement

Resolution: The submitter, who is a TC member and was at the meeting, how withdrawn this and will provide the accurate text for the comment stage.

Public Input No. 18-NFPA 414-2017 [Section No. 5.2.2]

5.2.2 Equipment.

The following equipment shall be provided in or on the cab, as applicable:

(1) Heater/defroster

(2) Driver's suspension seat with vertical, fore, and aft adjustment, with seat belt [The use of a nonsuspension driver's seat shall be permitted where recommended by the manufacturer; the vertical adjustment shall not apply to commercial vehicles with a capacity of <1999 L (<528 gal).]

(3) Crew seats with individual retractable seat belts

(4) Windshield washers appropriate for removing foam

(5) Windshield wipers appropriate for removing foam

(6) Siren

(7) Horn

(8) A means or provision that is designed to protect driver and crew from overhead glare and light from the sun

(9) Outside rearview mirrors, as specified in 4.3.2.3

(10) Interior lighting

(11) Provisions for mounting at each crew seat position self-contained breathing apparatus (SCBA) of the type specified by the purchaser. Driver's seat should not have an integrated SCBA crew seat.

Statement of Problem and Substantiation for Public Input

Change #11 by adding the last sentence. Integration of SCBA seats on driver's side causes problems with standard chassis manufacturer as this would mean a new type approval (ECE) for the seat / seat mounting.

Submitter Information Verification

Submitter Full Name: Duane Kann
Organization: Rosenbauer
Affilliation: FAMA
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 24 08:01:21 EDT 2017

Committee Statement

Resolution: FR-18-NFPA 414-2017

Statement: The committee has chosen to delete this requirement as they believe it is what the submitter was attempting to do, and that was to ensure that an SCBA mount is not included on the drivers seat. Also for document consistency.

Public Input No. 44-NFPA 414-2017 [Section No. 5.2.3]

5.2.3 SCBA Mounting.

Where SCBA holders are mounted within a driving or crew compartment, they shall comply with the following:

(1) The SCBA holder shall retain a pack and bottle combination for the published weight rating of the holder when subjected to the dynamic force pulse per SAE J2418, *Occupant Restraint System Evaluation — Frontal Impact Component-Level Heavy Trucks*.

(2) If the SCBA unit is mounted in a seatback, the release mechanism shall be accessible to the user while seated.

(3) Brackets that lock automatically either in the event of impact or when the parking brake is released, but are not locked at other times, shall be permitted.

(4) * The SCBA holder shall retain the bottle when subjected to the deceleration pulse at 0, 30, 90, and 180 degrees with respect to the direction of bottle extraction and in the horizontal plane.

(5) The SCBA holder shall retain the bottle when subjected to a deceleration pulse that exceeds 2 g for at least 60 ms in the vertical direction.

(6) The deceleration pulse shall meet the SAE J2418 deceleration profile with an accuracy of ±10 percent within the 35 to 95 ms range.

(7) The deceleration pulse shall be measured on a rigid portion of the base of the test fixture.

(8) The test component shall be retained in the holder during and after the dynamic test.

(9) The force required to extract the bottle after each test shall be no more than 125 percent of the initial extraction force.

(10) The SCBA holder shall be attached to the fixture in the same manner that it will be fastened to the seat or vehicle.

(11) The test bottle shall not move more than 3 in. relative to the frame of the holder during each test.

(12) The test fixture shall not allow the holder frame to move more than 3 in. relative to the base of the test sled.

(13) Each holder shall bear a label affixed by the holder manufacturer certifying compliance to these specifications.

[**1901:**14.1.9.1]

*** **5.2.3** SCBA Mounting. Where SCBA holders are mounted within a driving or crew compartment, they shall comply with the following: (in 414 appendices from vehicle section but not AIAV)

Statement of Problem and Substantiation for Public Input

These items had related appendices in referenced 1901 but not in 414

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:

Zip:

Submittal Date: Tue Jun 27 19:04:55 EDT 2017

Committee Statement

Resolution: The submitter, who is a TC member and was at the meeting, how withdrawn this and will provide the accurate text for the comment stage.

Public Input No. 20-NFPA 414-2017 [Section No. 5.4.8]

5.4.8

Stepping surfaces of access ramps/stairs shall be slip resistant and have the following characteristics:

(1) Be nonskid both wet and dry

(2) Have a ~~coefficient of friction not less than 0.5~~ friction class R11 acc. EN 12312-1

(3) Be resistant to the collection of water and snow

(4) Allow water and snow that does collect to be easily removed

(5) Be resistant to the catching of narrow shoe heels on small contact areas

(6) Be resistant to deformation by narrow shoe heels on small contact areas

[SAE AIR 6133, 6.2.1]

Statement of Problem and Substantiation for Public Input

Friction coefficient is always depending on a pair of materials (e.g. rubber shoe sole on steel) should be clearly identified.

Submitter Information Verification

Submitter Full Name: Duane Kann
Organization: Rosenbauer
Affilliation: FAMA
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 24 08:07:47 EDT 2017

Committee Statement

Resolution: The committee believes that the current text is sufficient.

Public Input No. 21-NFPA 414-2017 [Section No. 5.5.1]

5.5.1* General.

The docking platform of the vehicle shall be sized to allow ~~a Type A aircraft door~~ all types of aircraft doors to be fully opened and stored , allowing fire fighters and their equipment access to the aircraft.

5.5.1.1

The vehicle shall have a horizontal gap control of at least 10 degrees to either side of the leading edge of the docking platform.

5.5.1.2

The docking platform floor strength shall be designed to support 140 kg (308 lb) at any point.**[SAE AIR 6133, 6.1, Table 5]**

5.5.1.3

The docking platform and lift system shall be designed for a bearing load of 317 kg/m^2 (65 lb/ft^2).**[SAE AIR 6133, 6.1, Table 5]**

Statement of Problem and Substantiation for Public Input

should work with all aircraft doors and allow the door to be fully opened and closed.

Submitter Information Verification

Submitter Full Name: Duane Kann
Organization: Rosenbauer
Affilliation: FAMA
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 24 08:12:07 EDT 2017

Committee Statement

Resolution: The submitter, who is a TC member and is at the meeting, has asked that this be withdrawn.

Public Input No. 15-NFPA 414-2017 [Section No. 5.5.1 [Excluding any Sub-Sections]]

The docking platform of the vehicle shall be sized to allow a Type A aircraft door to be fully opened, allowing fire fighters and their equipment access to the aircraft. Docking process itself shall be done with the platform and not by means of chassis driving forward into the aircraft, which may cause damage to the vehicle or the fuselage.

Statement of Problem and Substantiation for Public Input

For safety of vehicle operator and aircraft occupants, including potential damage to aircraft and vehicle, the final docking should not be accomplished by driving the vehicle against the aircraft.

Submitter Information Verification

Submitter Full Name: Duane Kann
Organization: Rosenbauer
Affilliation: FAMA
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 24 07:52:30 EDT 2017

Committee Statement

Resolution: FR-44-NFPA 414-2017
Statement: For safety of vehicle operator and aircraft occupants, including potential damage to aircraft and vehicle, the final docking should not be accomplished by driving the vehicle against the aircraft. The corresponding annex text is also being deleted.

Public Input No. 22-NFPA 414-2017 [Section No. 5.7.3]

5.7.3 GVW.

The actual gross vehicle weight of a fully staffed ~~, loaded,~~ and equipped vehicle ready for service shall not exceed the manufacturer's tested weight rating as recorded on the vehicle information data plate.

Statement of Problem and Substantiation for Public Input

"Loaded" can be misleading as to the weight allowed on the steps and platform.

Submitter Information Verification

Submitter Full Name: Duane Kann
Organization: Rosenbauer
Affilliation: FAMA
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 24 08:16:55 EDT 2017

Committee Statement

Resolution: FR-19-NFPA 414-2017
Statement: "Loaded" can be misleading as to the weight allowed on the steps and platform.

Public Input No. 23-NFPA 414-2017 [Section No. 5.8.1.5]

5.8.1.5

Obstacles within the 90 degree horizontal line of vision to the right or left shall not create an obstruction of more than ~~5~~ 7 degrees per obstruction.

Statement of Problem and Substantiation for Public Input

Refers to 4.3.2.2 which states 7° not 5°. Not sure which one is correct but they should match up.

Submitter Information Verification

Submitter Full Name: Duane Kann
Organization: Rosenbauer
Affilliation: FAMA
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 24 08:26:26 EDT 2017

Committee Statement

Resolution: FR-29-NFPA 414-2017
Statement: Refers to 4.3.2.2 which states 7° not 5°. Not sure which one is correct but they should match up.

Public Input No. 24-NFPA 414-2017 [Section No. 6.2.2]

6.2.2

The cooling system shall be certified by the ~~vehicle~~ engine manufacturer to satisfy all operational conditions at all ambient temperatures encountered at the operational airport for both the engine and the transmission.

Statement of Problem and Substantiation for Public Input

engine manufacturer is responsible for certifying the cooling system

Submitter Information Verification

Submitter Full Name: Duane Kann
Organization: Rosenbauer
Affilliation: FAMA
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 24 08:28:17 EDT 2017

Committee Statement

Resolution: FR-21-NFPA 414-2017
Statement: The committee believes the engine manufacturer is responsible for certifying the cooling system

Public Input No. 35-NFPA 414-2017 [Section No. 6.3 [Excluding any Sub-Sections]]

6.3 Prototype Vehicle Tests.

Changes to a vehicle design which qualify the vehicle for prototype testing include:

(1) Changes in engine horsepower

(2) Changes in drive train (e.g. transmission, power divider, engine(s))

(3) Chassis/Suspension

(4) Water Pump

(5) Primary fire fighting system

Where the vehicle is fitted with an extendable turret, the test shall be conducted with the extendable turret in the stowed position.

Statement of Problem and Substantiation for Public Input

Substantiation: The current definition for prototype vehicle being a “first vehicle of a unique vehicle configuration…” is too vague and unmeasurable. This proposal aims to identify exactly which changes in a vehicle design would constitute the need for prototype testing.

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 18:14:33 EDT 2017

Committee Statement

Resolution: The committee has made these changes as part of FR-47.

Public Input No. 34-NFPA 414-2017 [Section No. 6.4.1.2.1]

6.4.1.2.1

A ballast securely fastened in each seat shall be used in place of the crew for safety.

Statement of Problem and Substantiation for Public Input

Substantiation: By requiring the ballast to be fastened into the seat it ensures the proper weight distributions in the cab of the vehicle. This will eliminate sand bags being placed on the floor or in step wells affecting the CG of the vehicle. The requirement to properly secure the weight to the seat will eliminate the potential for damaging equipment in the cab should the ballast shift during the higher angles of the tilt table test.

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 18:10:08 EDT 2017

Committee Statement

Resolution: FR-23-NFPA 414-2017
Statement: By requiring the ballast to be fastened into the seat it ensures the proper weight distributions in the cab of the vehicle. This will eliminate sand bags being placed on the floor or in step wells affecting the CG of the vehicle. The requirement to properly secure the weight to the seat will eliminate the potential for damaging equipment in the cab should the ballast shift during the higher angles of the tilt table test.

Public Input No. 33-NFPA 414-2017 [Section No. 6.4.2.2.1]

6.4.2.2.1

Ballast shall be used for the crew, agent and equipment as necessary.

Statement of Problem and Substantiation for Public Input

Substantiation: The fire fighting agent weight allowance must be considered. This also draws this requirement in line with the definition of fully loaded vehicle.

Submitter Information Verification

Submitter Full Name: Ronald Jones
Organization: E-One Inc
Street Address:
City:
State:
Zip:
Submittal Date: Tue Jun 27 18:08:39 EDT 2017

Committee Statement

Resolution: FR-24-NFPA 414-2017
Statement: The fire fighting agent weight allowance must be considered. This also draws this requirement in line with the definition of fully loaded vehicle.

Public Input No. 54-NFPA 414-2017 [Section No. A.4.11.3]

A.4.11.3

A rear-wheel steering (RWS) system can be used on vehicles to improve the vehicle clearance circle radius and reduce tire wear.

Statement of Problem and Substantiation for Public Input

language correction to introduce further definition

Submitter Information Verification

Submitter Full Name: John Huffman
Organization: Rosenbauer
Street Address:
City:
State:
Zip:
Submittal Date: Wed Jun 28 13:45:00 EDT 2017

Committee Statement

Resolution: FR-25-NFPA 414-2017
Statement: language correction to introduce further definition

Public Input No. 6-NFPA 414-2017 [Section No. A.4.19.7]

A.4.19.7

A ~~lightweight~~ single axis boom-mounted turret is a primary turret mounted on a ~~lightweight~~ boom that is capable of being elevated and depressed on a vertical axis only, to apply agent~~ to aircraft engines, doorways, and emergency exits~~ .~~ Lightweight boom-mounted turrets differ from extendable turrets in that they do not need turntables. Responsive vehicle suspension, steering systems, and drive systems are used to locate the turret more directly and more rapidly.~~

Statement of Problem and Substantiation for Public Input

"Lightweight" is a marketing term not defining weight or mass. Boom function is identified in A.3.3.62.2.

Related Public Inputs for This Document

Related Input	Relationship
Public Input No. 5-NFPA 414-2017 [Section No. 4.19.7]	
Public Input No. 7-NFPA 414-2017 [Section No. 3.3.38]	

Submitter Information Verification

Submitter Full Name: Danny Pierce
Organization: ARFF Solutions
Street Address:
City:
State:
Zip:
Submittal Date: Fri Jun 09 15:58:28 EDT 2017

Committee Statement

Resolution: The committee is taking this action based on their action on PI 47.

Public Input No. 14-NFPA 414-2017 [Section No. A.5.4.2]

A.5.4.2

Other means than a ladder (i.e., ramp or stairway) is more easily traversed by ARFFs in full PPE carrying equipment and/or an incapacitated victim.

Steps should be horizontal within a tolerance of +/- 5° and height of steps should be equal, within 140mm and 210mm. A mechanical (form fit) lock should also be incorporated to keep the staircase in position.

-

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Statement of Problem and Substantiation for Public Input

provides additional clarification to this section

Submitter Information Verification

Submitter Full Name: Duane Kann
Organization: Rosenbauer
Affilliation: FAMA
Street Address:
City:
State:
Zip:
Submittal Date: Sat Jun 24 07:43:53 EDT 2017

Committee Statement

Resolution: FR-26-NFPA 414-2017
Statement: The committee has made this change as it is editorial in nature and the submitter of the PI will provide more information in the form of a comment.

Public Input No. 13-NFPA 414-2017 [Section No. E.1.2.3]

E.1.2.3 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 498, *Standard for Safety Attachment Plugs and Receptacles*, ~~2001~~ 2012 , Revised ~~2012~~ 2016 .

UL 153, *Standard for Portable Electric Luminaires,* ~~2005, with revisions through 2011~~ 2017 .

UL 1598, *Luminaires,* ~~2004, with revisions through 2012~~ 2012 .

Statement of Problem and Substantiation for Public Input

Up date Standards

Submitter Information Verification

Submitter Full Name: Kelly Nicolello
Organization: UL LLC
Street Address:
City:
State:
Zip:
Submittal Date: Thu Jun 22 15:10:18 EDT 2017

Committee Statement

Resolution: FR-27-NFPA 414-2017
Statement: Up date Standards and to align with NFPA 1901 given the extracted material from NFPA 1901.