Agenda

Technical Committee on Recreational Vehicles

ROC Meeting (F10)

April 13-15, 2010

8:30 AM - 5PM Pacific Time

1. Call meeting to order
2. Introductions
3. Approval of Minutes - July 14-16, 2009 ROP Meeting
4. Chairman comments
5. Staff liaison report
6. Act on Comments
7. Old business
8. New business
9. Next meeting
10. Adjourn
1. Call to order. Chairman John Harvey called the meeting to order at 12:00 PM Pacific Time.

2. Roll Call

Roll call was completed by self introductions. The following were present:
Physically at the meeting:
Tom Arnold
Dean Foster
John Harvey
Bruce Hopkins
Dave Mihalick
Homer Staves
Monte Taylor
Doug Mulvaney (a)
Kent Perkins (a)
Jason Gamache (s)
Peter Guildenstern*
Neil Staves*
Paul Sinclair*

Participation via web/phone
Chris Bloom
Gary Cole
Jeff Colwell
Khaled Habib
Jerome Hoover
Dale Jordal
Mark Luttich
Bruce Swiecicki
Leslie Woodward
Joe Bloom (a)
Ryan Lehman*

* Guests
(a) Alternates
(s) Staff
3. Approval of Minutes Fall 2007 ROC Meeting
The past minutes were reviewed. Upon a motion by David Mihalick and seconded by Homer Staves, it was unanimously resolved that the minutes of the April 3, 2007 meeting be and hereby are approved without change.

4. Review of the 2010 Revision Cycle
Jason Gamache, NFPA Staff Liaison, reviewed the dates of this cycle. Key dates reviewed included the following:
- Closing date for proposals was May 29, 2009
- The ROP meeting was being held July 14 – 16, 2009 in Seattle, WA
- Committee actions based on this meeting will be mailed for letter ballot approximately one month following the meeting.
- ROPs will be mailed during January 2010
- Deadline date for comments is March 5, 2010
- Final date for the ROC meeting will be May 7, 2010
- Intent to make a motion (NITMAM) closing date is October 22, 2010
- If no NITMAN, issuance of the 2011 1192 and 1194 will be December 14, 2010

NITMAMs were discussed. If NITMAMs are involved the issuance of the 2011 1192 and 1194 will be July 20, 2011.

5. NFPA Procedural Review
Jason Gamache outlined that the committee actions established at this meeting will be letter balloted as the Committee’s formal positions on the proposals. The final actions of the Committee will be published in the Report on Proposals (ROP) scheduled to be mailed in January of 2010.

Mr. Gamache then reviewed the actions that the Committee could take on the proposals before them at this meeting. The actions could be to accept, reject, accept in principal, accept in part, or accept in principal in part. All but “accepted” proposals will need a Committee substantiation created and approved by the Committee.

The Committee reviewed and acted on 125 public proposals related to NFPA 1192, plus 7 Committee proposals. There were 2 public proposals on NFPA 1194, plus 4 Committee proposals.

In addition, a Task Group was appointed by the Chair to study and recommend comments on Log # 4, which was held following the last cycle. Those appointed to the Task Group were as follows:
- Bruce Hopkins, Chair
- Dale Jordal
7. Other Business
   - The NFPA distributed a report on “Recreational Vehicle Fires” just prior to the Technical Committee meeting. Several Committee members and/or alternates raised issue with the report. By Committee motion and acceptance, the Committee agreed they would write to NFPA to offer suggestions on how to improve this report. A draft letter, which is to be signed by the Committee Chair, will be letter balloted to the Committee. The approved letter will be forwarded to NFPA.
   - Next Meeting
     It was agreed by general consensus that the next meeting be held April 13 through 15, 2010. A specific location was not determined.

8. Adjournment
   With no other business to come before the Committee, it was motioned and approved to adjourn. The meeting ended on July 16 at 9:15 AM PDST.

These minutes are respectfully submitted by Bruce A Hopkins, Secretary.
## 2010 FALL REVISION CYCLE

<table>
<thead>
<tr>
<th>PROCESS STAGE</th>
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<th>DATES FOR TC</th>
<th>DATES FOR TCC</th>
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</thead>
<tbody>
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<td>1 Preliminary</td>
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<td>8/7/09</td>
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<tr>
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<td>8/21/09</td>
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<tr>
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<td>9/1/09</td>
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<td>11/6/09</td>
<td>9/18/09</td>
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<td>2.7 Final date for mailing TCC ballots</td>
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<td>2.8 Receipt of TCC ballots</td>
<td>11/13/09</td>
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<td>2.9 Receipt of TCC recirculation ballots</td>
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<td>11/13/09</td>
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<tr>
<td>2.11 Completion of Reports</td>
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<td>2.12 ROP Published and Posted</td>
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* Proposal Closing Dates may vary according to documents and schedules for Revision Cycles may change. Please check the NFPA website (www.nfpa.org) for the most up-to-date information on proposal closing dates and schedules.
Submitter: Bob Eugene, Underwriters Laboratories Inc.

Comment on Proposal No: 1192-3

Recommendation: Revise text as follows:

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


Substantiation: Update standards titles to indicate ANSI approvals and revision dates. ANSI/UL723 is added based on committee action for Proposal 1192-65.

The technically correct method to reference UL standards is by identifying the original edition publication date and the most recent revision date, where applicable. Both dates are necessary to clearly identify the publication based on the NFPA Manual of Style:

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

This is also consistent with more than 25 other NFPA publications that include references to UL standards. The original proposal and this comment attempt to re-establish the original edition year and the most recent revisions to the original edition where applicable. Additionally, the original proposal conforms to the NFPA Manual of Style Section 3.6.3.1 for updating referenced standards to the current approved edition. The synopsis of revisions is included below to assist the committee in understanding why including the revision date is important.

The tenth edition of the Standard for LP-Gas Hose, UL 21, has been issued to reflect the latest ANSI approval date and to incorporate formatting and editorial revisions.

The following changes in requirements for ANSI/UL 94 are being adopted: Correction for defining the units of measuring the afterflame and afterglow times to the nearest second;

Clarification of the VTM Test; Gas Flow Rates for Test Flames; Editorial deletion of 11.3.1.1

This new edition of ANSI/UL 125 includes the following changes: a) title change of the standard; b) scope changes and addition of glossary terms; c) pressure rating for LP-Gas valves; d) addition of multiple function valve, shutoff valve – automatic, internal valve, emergency shutoff valves, lever operated transfer valves, and LP-Gas hose nozzle valve requirements; e) changes to materials for LP-Gas and anhydrous ammonia valves; f) revision to back pressure check valve leakage rate; g) addition of filler valve type for anhydrous ammonia and LP-Gas; h) revision to the operation test for excess flow valves for anhydrous ammonia and LP-Gas; and i) addition of the thermal link operation test, fire test, drop test, accelerated aging test, fluid compatibility test, impact test, and valve stem torque test.

This revision of ANSI/UL 144 includes the following changes: Addition and clarification of glossary terms; revision of requirements for bodies and bonnets; addition of the Changeover Leakage Test; addition of leakage and swivel test requirements; addition of service indicator endurance and impact test; and revision to marking requirements.

This revision of ANSI/UL 181 includes the following changes in requirements: Corrects temperature conversion for 10.4.2; Additions to the Scope of the Standard.
Revisions dated October 24, 2008 include revisions to: voice message capability in alarm signal; smoke box air circulation fans, the Jarring Test, sound output measurement, temporary alarm silencing, battery operational temperature range for RV alarms and marine alarms, NFPA references, and situations where smoke alarms may not be effective.


These revisions to ANSI/UL 484 are being issued to address universal upkeep of UL Standards for Safety.

Revision pages have been issued for the Standard for Pigtails and Flexible Hose Connectors for LP-Gas, UL 569, to reflect the latest ANSI approval date and to incorporate the proposals dated February 6, 2009 and July 17, 2009. These proposals include the following: • Revision to scope; • Revision to clarify construction requirement; • Revision to plug gauge requirements; • Revision to the bending test for metallic tubing.

This new edition of ANSI/UL 842 includes editorial revisions consisting of updated references and renumbering of the standard. No changes in requirements have been made.

These revisions to ANSI/UL 1484 are being issued to address universal upkeep of UL Standards for Safety.

In addition to some minor formatting changes, the following revisions have been incorporated into the Third Edition of the Standard for Single and Multiple Station Carbon Monoxide Alarms, UL 2034: 1. Marking Requirements for RV and Unconditioned Area CO Alarms; 2. Marine Battery Temperature Requirements; 3. RV Unconditioned Area Battery Temperature Requirements.

This revision of UL 2061 includes an updated title page to reflect ANSI approval and an editorial revision to clarify the glossary definition for a connection check valve in paragraph 4.4

1192- Log #34
(3.3.11 Compartment)

Submitter: Glossary of Terms Technical Advisory Committee ,
Comment on Proposal No: 1192-9
Recommendation: The Glossary of Terms Committee agrees that "enclosed" should be removed from the definition of Compartment.
Substantiation: The committee should request to the Standards Council that this definition be made a secondary definition since it is specific to the document.
Report on Comments – November 2010

1192- Log #33 Final Action: 
(3.3.44 Recreational Vehicle)

Submitter: Garry D. Cole, Shelby/Mansfield KOA
Comment on Proposal No: 1192-11
Recommendation: Revise text to read as follows:
The National Association of RV Parks and Campgrounds (ARVC) has reviewed the proposed definition of a Recreational Vehicle as proposed in NFPA 1192 3.3.44 (1192–11 Log #12) and NFPA 1194 3.3.19 (1194-3 Log #CP3). ARVC objects to the proposed changes and resulting new definition for the following reasons:
1. The current definition has been in effect for a number of years and has been incorporated into many local codes and ordinances that govern the existence and operation of RV parks and campgrounds. The changes proposed would likely create confusion in the minds of local regulators and officials, subsequently jeopardizing the continued uninterrupted operation of parks in various jurisdictions.
2. The current definition is widely accepted throughout the RV park and campground industry. Those in the industry do not believe that the changes will serve any beneficial purpose for our industry. In fact, they do believe that the proposed changes will likely hamper their efforts to update, modernize, expand, or otherwise keep their businesses up to date and meet the consumers’ needs.
3. The proposed changes to the definitions will have a negative impact on the ability of RV parks and campgrounds to accommodate on a seasonal basis, recreational vehicles. Also, the changes may also negatively impact their ability to accommodate rental destination travel trailers, cabins and other rental units that are increasingly more popular in our RV parks and campgrounds.
4. Many of our RV parks and campgrounds have Recreational Vehicles that are used just for seasonal vacation units. Removal of this “seasonal use” from the definition of RV’s will surely create confusion with regulators relative to licensing RV parks and campgrounds.

Substantiation: Additionally, ARVC has had a Model Code for some time that contains many of the items in NFPA 1194. A correlation of information in these publications would be highly beneficial, and could be done in time for the next revision. Acceptance of the proposed definition changes now would be a detriment to that effort.

Because of the above reasons, ARVC requests that the proposed changes not be accepted at this time.

1192- Log #40 Final Action: 
(3.3.44 Recreational Vehicle)

Submitter: Kent Perkins, Recreation Vehicle Industry Association
Comment on Proposal No: 1192-11
Recommendation: Revise the last sentence of the proposal to read:
The basic product types categories are "Motorhome" and "Non-Motorized Towable RV."
Substantiation: A comment has been submitted to revise A.3.3.44 in Annex A to modify the existing definitions identified in the original proposal 1192-121, Log #59. Part of the proposed revision to A.3.3.44 categorizes the definitions into two basic groups. "Motorhome" and "Towable RV."
If comment on 1192-121, Log #59 is accepted, then the above proposed change to 3.3.44 needs to be made in order to correlate with the changes made in A.3.3.44.
A "Recreational Vehicle" or "RV" is a vehicular type unit that:
(i) is primarily designed as temporary living quarters for recreational and/or camping use;
(ii) has its own motive power or is mounted on or towed by another vehicle;
(iii) is regulated by the National Highway Traffic Safety Administration as a vehicle or vehicle equipment;
(iv) does not require a special highway use permit for operation on the highways; and
(v) an individual can easily transport and set-up on a daily basis.

The basic product types are: "Motorhome" and "Non-Motorized RV."

Recreational Vehicle (RV). The term recreational vehicle also includes the following:
(1) Motor Home. A vehicular unit designed to provide temporary living quarters for recreational, camping, or travel use, built on or attached to a self-propelled motor vehicle chassis or on a chassis cab or van that is an integral part of the completed vehicle.
(2) Camping Trailer. A vehicular unit that is mounted on wheels and constructed with collapsible partial sidewalls that fold for towing by another vehicle and unfold at the campsite to provide temporary living quarters for recreational, camping, or travel use.
(3) Fifth Wheel Trailer. A vehicular unit, mounted on wheels, designed to provide temporary living quarters for recreational, camping, or travel use, of such size or weight as not to require special highway movement permit(s), of gross trailer area not to exceed 400 ft² (37.2 m²) in the setup mode, and designed to be towed by a motorized vehicle that contains a towing mechanism that is mounted above or forward of the tow vehicle's rear axle.
(4) Travel Trailer. A vehicular unit, mounted on wheels, designed to provide temporary living quarters for recreational, camping, or travel use, of such size or weight as not to require special highway movement permits when towed by a motorized vehicle, and of gross trailer area less than 320 ft² (29.7 m²).
(5) Truck Camper. A portable unit that is constructed to provide temporary living quarters for recreational, travel, or camping use; consists of a roof, floor, and sides; and is designed to be loaded onto and unloaded from the bed of a pickup truck.

Substantiation: The NFPA policy is that definitions need to be in single sentences, with the added sentence in the explanatory Annex or in a separate section. The same comment is being made to NFPA 1194.

I am the chair of the NFPA Advisory Technical Committee on Glossary of Terminology but this comment is not submitted on their behalf because we have not had the opportunity to discuss it.

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Within this Committee Proposal revise Section 5.3.22.1 to read as follows:
5.3.22.1 After the piping system regulators, related fittings and connections are installed in the RV the entire regulated high-pressure piping system shall be proven by test to be leak-free by maintaining an air pressure of not less than 15 nor more than 30 psi and all connections tested with either soapy water or a bubble solution.

Substantiation: The language that is being proposed to be added to Section 5.3.22.1 was introduced in Proposal 1192-33 (Log #72) and was accepted in principle and needs to be included in order to make the sentence accurate.
1192- Log #20
(5.3.22.5)

Final Action:

Submitter: Kent Perkins, Recreation Vehicle Industry Association
Comment on Proposal No: 1192-31
Recommendation: Revise Section 5.3.22.5 to read as follows:
5.3.22.5 Defective material shall be replaced.

The test shall be conducted as follows:

The pressure in the system shall be measured over a period of 3 minutes with a manometer or with a pressure sending device designed and calibrated to read, record, or indicate a pressure loss due to leakage during the pressure test period:

(d) During the 3 minute period, a drop in pressure shall not occur.

Substantiation: The text in Section 5.3.22.5 must be deleted as this language was not intended as a permitted test method for this section. This testing would require the integrity of the system to be broken to remove the test apparatus after testing.

1192- Log #21
(5.9.2.2.2)

Submitter: Kent Perkins, Recreation Vehicle Industry Association
Comment on Proposal No: 1192-39
Recommendation: Revise text to read as follows:

Change the term "INGNITORS" to read "IGNITORS"

Substantiation: Editorial - misspelling.

1192- Log #1
(5.10.3)

Submitter: David M. Mihalick, Thor Industries
Comment on Proposal No: 1192-42, 1192-43
Recommendation: Revise text as follows:

5.10.3 Fuel tanks shall be constructed in accordance with 5.10.3.1 and through 5.10.3.7.

Substantiation: Editorial. The reformatting of the text added the verbiage that is struck through above. The original proposal had the word through, which is inserted above.

This is not original material; its reference/source is as follows:
NFPA 1192 - 2008 Edition
Report on Comments – November 2010

1192- Log #2
(5.10.3.5)
Final Action:

Submitter: David M. Mihalick, Thor Industries
Comment on Proposal No: 1192-42
Recommendation: Add new text as follows:
5.10.5.5 Each nonmetallic tank shall pass the following fire test:
(1) Procedure. Fuel tanks shall be tested filled with fuel to one-fourth the capacity marked on the tank. Each fire test shall be conducted with free burning heptane, and the tank shall be subjected to a flame for 2½ minutes. If the tank is tested in a fire chamber, the temperature within 1 in. of the tank shall be at least 1198ºF (648ºC) sometime during the 2½ minute test. The surface of the heptane shall be 8 to 10 in. (203 mm to 254 mm) below the tank being tested, and the heptane shall be in a container that is large enough to permit the perimeter of the top surface of the heptane to extend beyond the vertical projection of the perimeter of the tank being tested.
(2) Required Performance. Upon satisfactory completion of the fire test, repeat the static pressure test required by 5.10.3.3, but at a pressure of 0.25 psi (1.72 kPa).

Substantiation: This was Section 5.10.3.5 in the 2008 edition of NFPA 1192. It was omitted in the section rewrite of CP #1. This comment adds it back into the standard.

This is not original material; its reference/source is as follows:
NFPA 1192 - Section 5.10.3.5

1192- Log #23
(5.10.3.5, 5.10.4.1, 5.10.11.2, and 5.10.11.7)
Final Action:

Submitter: Kent Perkins, Recreation Vehicle Industry Association
Comment on Proposal No: 1192-42
Recommendation: Revise text as follows:
Revisions are made in Sections 5.10.3.5, 5.10.4.1, 5.10.11.2 and 5.10.11.7.

****Insert Include 1192_L23_R Here****

Substantiation: With the exception of the general statement in 5.10 and 5.10.1 that establishes the type of fuels (gasoline & diesel) all other references (5.10.3.5, 5.10.4.1, 5.10.11.2 and 5.10.11.7) to gasoline & diesel can be deleted and the generic term "fuel" can be used when necessary.

1192- Log #3
(5.10.4.1)
Final Action:

Submitter: David M. Mihalick, Thor Industries
Comment on Proposal No: 1192-42
Recommendation: Revise text as follows:
5.10.4.1 The filler cap end shall be completely above the top of the fuel tank. Gasoline fill openings shall be located in accordance with 5.5.3.

Substantiation: Editorial. In bringing over the text from the NFPA 1192 2008 edition Section 5.11.4.1 the "er" was omitted from the text.

This is not original material; its reference/source is as follows:
NFPA 1192 2008 Edition

Printed on 3/18/2010
5.10 through 5.11

5.10 Gasoline or Diesel Fuel Systems.
5.10.1 General. The requirement of this section shall apply to the installation of gasoline or diesel fuel systems for nonprimary mover engine applications in recreational vehicles.

5.10.2 Fuel Tank Construction.
5.10.2.1 Fuel tanks shall comply with the information requirements of 5.10.2.1 and 5.10.2.2.

5.10.2.1 The tank shall be permanently and legibly marked in minimum \( \frac{1}{16} \) in. high letters by the tank manufacturer, with the following minimum information:
(1) Name (logo) and address of manufacturer
(2) The month and year of manufacture
(3) Maximum level fuel in U.S. gallons and liters
(4) Model identifier
(5) Statement of fuel suitability

5.10.2.2 The tank shall be identified by its manufacturer as being compliant with applicable sections of 5.10.5.

5.10.3 Fuel tanks shall be constructed in accordance with 5.10.3.1 and 5.10.3.7.

5.10.3.1 Construction of Metal Liquid Fuel Tanks - Joints.
Joints of a metal fuel tank body shall be closed by arc-, gas-, seam-, or spot-welding, by brazing, by silver soldering, or by techniques that provide heat resistance and mechanical securement at least equal to those specifically named. Joints shall not be closed solely by crimping or by soldering with a lead-based or other soft solder.

5.10.3.2 Fittings. The fuel tank body shall have flanges or spuds suitable for the installation of all fittings.
5.10.3.2.1 Fittings for withdrawing fuel from the fuel tank shall be located above the normal level of the fuel in the tank when the tank is full.
5.10.3.2.2 Drains and bottom fittings shall not be permitted.
5.10.3.3 Threads. The threads of all fittings shall be Dryseal American Standard Taper Pipe Thread, specified in Society of Automotive Engineers Standard J476 - latest edition – SAE Handbook, except that straight (non-tapered) threads are permitted to be used on fittings that have integral flanges and use gaskets for sealing. At least four full threads shall be in engagement in each fitting.

5.10.3.4 Safety Venting System. A metallic liquid fuel tank shall have a venting system that, in the event the tank is subjected to fire, prevents internal tank pressure from rupturing the tank's body or seams.

5.10.3.5 Rollover Vent. Rollover vent valves identified as complying with 49 CFR 393.67, (c) (10), shall be used, as applicable for gasoline or diesel systems.

5.10.3.6 Pressure Resistance. The body and fittings of a metallic liquid fuel tank including the external fill assembly, shall be capable of withstanding an internal hydrostatic pressure equal to or greater than 10 psig.

5.10.3.7 Overfill Restriction. A liquid fuel tank shall be designed and constructed as follows:
(1) The tank shall not be filled with a quantity of fuel that exceeds 90 percent of the tank's liquid capacity.
(2) When the tank is filled, expansion of the fuel shall not cause fuel spillage.

5.10.4 Fill System.

5.10.4.1 The fill cap end shall be completely above the top of the fuel tank.

Gasoline fill openings shall be located in accordance with 5.5.3.

5.10.4.2 Fuel fill openings into fuel tanks located below the normal level of fuel in the tank shall be equipped with an anti-expulsion valve or check valve installed at the fuel fill opening into the fuel tank.

5.10.5 Liquid Fuel Tank Tests.

5.10.5.1 Liquid fuel tanks shall be capable of passing the following leakage test:
(1) Procedure. Fill the tank to capacity with fuel having a temperature between 50°F (10°C) and 80°F (27°C). With the fill-pipe cap installed, turn the tank through an angle of 150 degrees in any direction about any axis from its normal position.
(2) Required Performance. Neither the tank nor any fitting shall leak in any position the tank assumes during the test.

5.10.5.2 Liquid fuel tanks shall be capable of passing the following drop test:
(1) Procedure. Fill the tank with a quantity of water having a weight equal to the weight of the maximum fuel load of the tank and drop the tank 30 ft (9.14 m) onto an unyielding surface so that it lands squarely on one corner.
(2) Required Performance. Neither the tank nor any fitting shall leak more than a total of 1 oz by weight of water per minute.

5.10.5.3 Each liquid fuel tank manufactured shall pass the following static pressure test:
(1) Procedure. Fill the tank with air or inert gas to a pressure of 3 psi (21 kPa).
(2) Required Performance. After the test the tank shall pass the test under 5.10.5.1.

5.10.5.4 Metallic liquid fuel tanks shall be capable of passing the following safety venting system test:
(1) Test Procedure. Fill the tank three fourths full with fuel, seal the fuel feed outlet, and invert the tank 2 ft (0.6 m) above the top edge of a pan large enough to extend beyond the tank on all sides in plan view and deep enough to hold the entire fuel contents of the tank. When the fuel temperature is between 50°F (10°C) and 80°F (27°C), apply an enveloping flame to the tank so that the temperature of the fuel rises at a rate of not less than 6°F (3.3°C) per minute for the duration of the test. The enveloping flame can be removed when the fuel system becomes self-heating (fuel venting from tank is ignited and acts as fuel for the fire) provided the temperature of the fuel continues to rise at a rate of not less than 6°F (3.3°C) per minute. Continue the test until the fuel tank is empty or until no further pressure rise is possible in the tank.
(2) Required Performance. The safety venting system required by 5.10.3.4 shall prevent the internal pressure in the tank from exceeding 30 PSI (207 kPa) gauge, and the body or seams of the tank shall not rupture during the test.

5.10.5.5 Side-mounted liquid fuel tank shall be capable of passing the following fill-pipe test:
(1) Procedure. Fill the tank with a quantity of water having a weight equal to the weight of the maximum fuel load of the tank, and drop the tank 10 ft (3.05 m) onto an unyielding surface so that it lands squarely on its fill-pipe.

(2) Required Performance. Neither the tank nor any fitting shall leak more than a total of 1 oz by weight of water per minute.

5.10.6 Fuel Tank Installation.

5.10.6.1 The fuel tank shall be located under the floor, in a compartment, on a trailer A-frame, or forward of the front bulkhead below the overhang of a fifth wheel trailer.

5.10.6.2 The fuel tank and any of its attachments and fittings shall be located above rear and front clearance lines and shall be protected from road impact damage.

5.10.6.3 All measurements shall be determined from the bottom of the fuel tank, or from the lowest fitting, support, or attachment on the fuel tank or fuel tank housing, whichever is lower, while the vehicle is level and loaded to its maximum gross vehicle weight rating (GVWR).

5.10.6.4 The installation shall comply with 5.10.6.4.1 through 5.10.6.4.3.

5.10.6.4.1 The fuel tank shall be permitted to be located on a trailer A-frame if no part extends below the bottom of the A-frame members.

5.10.6.4.2 Where the fuel tank is located between the chassis main rails, the rear point shall be permitted to be taken at the bottom of the main rail. Skid bars shall not be used to lower this point.

5.10.6.4.3 The fuel tank shall be permitted to be located in a compartment under the following conditions:

(1) A compartment containing a fuel tank with filler opening, vent, or any combination thereof, within the compartment, shall have no floor.

(2) A compartment containing a fuel tank that is filled and vented to the exterior shall be permitted to have a floor, provided that the compartment sidewalls and floor are resistant and nonabsorbent to fuel, that the floor has a minimum 1/2 in. (13 mm) diameter drainage hole to the exterior at each low point, and that the joints between compartment sidewalls and floor are sealed to prevent fuel entry.

(3) The fuel tank compartment shall be vapor resistant to the vehicle interior and sealed so that vapors cannot travel into the interior of the recreational vehicle. Sealing compounds used to seal the compartment shall be fuel resistant.

(4) The fuel tank compartment shall not contain flame- or spark-producing equipment.

5.10.6.5 The fuel tank shall be secured by fastenings that hold it in place when a force equal to eight times the fuel tank\'s filled weight is applied through the filled fuel tank\'s center of gravity in any direction.

5.10.6.6 Metallic fuel tanks shall be electrically bonded to the vehicle chassis.

5.10.6.7 Fuel tanks shall be securely installed in such locations as to be removable for service, repair, or replacement without the necessity of removing permanent structural members.

5.10.6.8 Side fill fuel tanks installed between the vehicle\'s main rails shall be permitted to have the fuel tank fill openings located below the normal level of fuel in the tank and shall comply with 5.10.4.

5.10.7 Fill Pipe.
(1) The fill pipe and vent of a fuel tank shall permit filling the tank with fuel at a rate of at least 12 gpm (45.4 L/m/in.) without fuel spillage.
(2) Each fill pipe shall be fitted with a cap that can be fastened securely over the opening in the fill pipe. Screw threads and a bayonet-type joint are methods of conforming to the requirements of this subparagraph.
5.10.7.1 Sealing compounds used around the fill pipe and in the area described in 5.10.7.4 shall be fuel resistant.
5.10.7.2 A marking indicating the type of fuel to be used shall be provided on or adjacent to the filler cap.
5.10.7.3 The area surrounding fuel fill pipes and vents shall be sealed so that vapors cannot travel between the exterior and interior surfaces of the recreational vehicle.
5.10.7.4 The sidewall surface below the filler cap and extending at least 12 in. (305 mm) to each side of the cap's vertical centerline shall be constructed of fuel-resistant nonabsorbent materials.
5.10.8 Fuel Distribution System.
5.10.8.1 Location. Each fuel system shall be located on the vehicle so that the following apply:
(1) No part of the system shall extend beyond the widest part of the vehicle.
(2) Fuel spilled vertically from a fuel tank while it is being filled shall not contact any part of the exhaust or electrical systems of the vehicle, except the fuel level indicator assembly.
(3) A fuel line shall not extend between a towed vehicle and the vehicle that is towing it while the combination of vehicles is in motion.
(4) A fuel system shall not supply fuel by gravity or siphon feed directly to the carburetor or injector.
5.10.8.2 The entire fuel system shall be liquid tight and vapor resistant to the interior of the vehicle.
5.10.8.3 Valves, filters, strainers, and similar components shall be accessible for maintenance.
5.10.8.4 Equipment located above the clearance lines specified in 5.10.6.4.1 shall be considered protected.
5.10.8.5 Tubing shall be constructed of prime aluminized steel or material approved for use with fuel.
5.10.8.6 Hose shall conform to minimum SAE J30 R7 or equivalent.
5.10.8.7 Hose-to-tube joints shall remain leak free when subjected to a 20 lb (9.0 kg) axial pull test applied for 1 minute.
5.10.8.8 The fuel distribution system shall be secured and supported in place to minimize chafing.
5.10.8.9 Rigid fuel distribution system piping or hose shall be secured and supported at intervals of not more than 4 ft (1.2 m).
5.10.8.10 The fuel distribution system shall maintain at least a 4 1/2 in. (114 mm) clearance from any unshielded exhaust system components.
5.10.8.11 The fuel system shall not be in contact with electrical wiring except as required for component operation.
5.10.8.12 The fuel system shall be designed so that leakage from fuel tanks or joints does not contact electrical or exhaust system components.
5.10.8.13 Drain troughs shall be permitted to be used as required.
5.10.8.14 Fittings in the fuel distribution system shall not be located inside any floor, wall, partition, or other concealed construction space.
5.10.8.15 Clamps shall be in accordance with the following:
   (1) Clamps shall have a non perforated band and meet the specifications of SAE J1508.
   (2) Clamps shall be identified for the type and size of the fuel lines used.

5.10.9 Fuel-Dispensing Systems.
5.10.9.1 Systems for dispensing fuel to other vehicles or containers shall be permitted when constructed in accordance with 5.10.8 and other state and federal laws or regulations as applicable.
5.10.9.2 All fuel-dispensing systems shall have an emergency manual shutoff valve or remotely controlled electronic shutoff valve control readily accessible during fuel dispensing and located within the hose storage compartment or on the vehicle's exterior within the length of the fully extended hose nozzle and not more than 18 in. (457 mm) from the vehicle's outside wall.
5.10.9.3 A label with a minimum 1/4 in. (6 mm) high red block letters on a contrasting background, made of material that does not deteriorate when in contact with petroleum-based products, shall be placed adjacent to the shutoff valve or valve control and read as follows:
   FUEL DISPENSING SYSTEM
   EMERGENCY SHUTOFF SWITCH
5.10.9.4 All fuel-dispensing equipment, including but not limited to tanks, pumps, hoses, and valves, shall be protected from road impact damage.
5.10.9.5 Equipment located above the clearance lines specified in 5.10.6.4.1 shall be considered protected.
5.10.9.6 All fuel dispensing equipment shall only be accessible from the exterior of the vehicle.

5.10.10 Fuel-Dispensing Compartments and Enclosures.
5.10.10.1 Compartments and enclosures that house dispensing systems shall be made of nonporous and noncombustible material, sealed from the interior atmosphere of the recreational vehicle and vented.
5.10.10.2 These compartments shall be ventilated with openings having a minimum area of 1.7 in.² (1100 mm²) within 2 in. (51 mm) of both the top and bottom.
5.10.10.3 These compartments shall have a minimum ½ in. (13 mm) diameter drainage hole to the exterior at each low point.
5.10.10.4 These compartments shall not contain flame- or spark-producing equipment.

5.10.11 Other Fuel-Dispensing System Requirements.
5.10.11.1 Fuel tanks with dispensing capabilities shall be provided with a method of venting while fuel is being dispensed.
5.10.11.2 Nozzles shall be used for the dispensing of fuel and shall be listed to ANSI/UL 842, designed for use with unleaded fuel, of a trigger and handle type, and made with a nonferrous body.
5.10.11.3 A fuel-dispensing system shall have provisions to prevent unauthorized use.
5.10.11.4 The fuel-dispensing system shall be designed and installed to prevent fuel from siphoning due to hose failure.

5.10.11.5 The fuel-dispensing hose between the nozzle and its first connection on the vehicle shall be a hose assembly listed to UL 330.

5.10.11.6 Fuel-dispensing hoses shall be limited in length to a maximum of 5 ft (1.5 m) from the side of the recreational vehicle.

5.10.11.7 Tanks and changeover valves used in fuel dispensing systems shall be identified for use with flammable liquids fuel being dispensed.

5.10.11.8 Pumps used in fuel dispensing systems shall be identified for use with the fuel being dispensed.

5.10.11.9 Non-submersible fuel pumps shall be securely attached to the vehicle.

5.10.11.10 All pressurized fuel-dispensing components shall be rated to at least the output pressure of the pump.

5.10.11.11 All 120/120-240 V electrical equipment located on the exterior of the vehicle and within reach of the outlet of the nozzle valve with the distribution hose fully extended shall meet the requirements of Articles 500 and 501 of NFPA 70 for Class I, Group D, Division 2 locations.

5.10.11.12 Fuel-burning appliance intake and exhaust vents shall be located at least 3 ft (0.9 m) from any point the fuel dispensing hose nozzle valve outlet can reach.

5.10.11.13 Manufacturers shall be permitted to make provisions for future installations of fuel-dispensing systems only when instructions for doing so are provided in the owner's manual of the recreational vehicle.

5.10.11.14 Fuel-dispensing systems must provide electrical continuity between the fill nozzle and the vehicle chassis.

5.10.11.15 All recreational vehicles equipped with fuel dispensing systems shall have a label with the word "Danger" in minimum \( \frac{5}{8} \) in. (16 mm) high red block letters, and body text in minimum \( \frac{3}{8} \) in. (10 mm) high red block letters, on a contrasting background visible to the operator during dispensing of fuel from the recreational vehicle.

5.10.11.16 The fuel-dispensing system label shall be made of material that does not deteriorate when in contact with petroleum-based products and shall read as follows:

DANGER
NO SMOKING.
BEFORE DISPENSING FUEL, TURN OFF ALL ENGINES, FUEL-BURNING APPLIANCES, AND THEIR IGNITORS.
CONNECT THE BONDING JUMPER WIRE TO THE VEHICLE RECEIVING FUEL.
DO NOT DISPENSE FUEL WITHIN 20 FEET OF AN IGNITION SOURCE.
FAILURE TO COMPLY COULD RESULT IN FIRE, DEATH, OR SERIOUS INJURY.

5.10.11.17 Clamps shall be in accordance with the following:

(1) Clamps shall have a non perforated band and at a minimum, meet the specifications of SAE J1508.

(2) Clamps shall be identified for the type and size of the fuel lines used.
5.10.11.18 In-line fuel filters shall be permitted provided they are located in readily accessible locations for service and mounted in such a way that removal does not allow fuel to drip onto electrical or exhaust system components.

5.10.12 Testing the Fuel Distribution and/or Dispensing System for Leakage.

5.10.12.1 The fuel system shall be proven by test to be leak free by maintaining a minimum air pressure of 1psi (6.9 kPa) for at least 10 minutes.

5.10.12.2 The fuel filler hose or pipe's connection to the tank shall not be required to meet the pressure test of 5.10.12.1.

5.10.12.3 Before the test is begun, the temperature of the air and of the piping shall be approximately the same, and a uniform temperature shall be maintained throughout the test period.

5.10.12.4 Leaks if observed shall be located and corrected.

5.10.12.5 Defective material shall be replaced.

5.10.12.6 Products that contain ammonia or chlorine shall not be used for locating leaks.

5.10.12.7 The test shall be conducted by either of the following methods:

(1) Air pressure as follows:
   (a) The fuel system shall be pressurized per 5.10.12.1.
   (b) The source of air pressure to the fuel distribution system shall be shut off.
   (c) The pressure in the system shall be measured over a period of 10 minutes with a manometer or other pressure sensing device designed and calibrated to measure in increments of not greater than $\frac{1}{10}$ psi.
   (d) During the 10-minute test period a drop in pressure shall not occur.

(2) Bubble type leak detector as follows:
   (a) A bubble-type leak detector shall be installed between the source of pressure and the fuel distribution system.
   (b) The bubble detector shall not indicate any air flow for a period of one minute.

5.10.13 Future Generator Installations. When a fuel system is installed for an electric generator but the electric generator is not installed at the recreational vehicle factory, all fuel lines between the fuel tank and the generator compartment shall be routed and plugged at the open end(s)
<table>
<thead>
<tr>
<th>Log #</th>
<th>Comment/Recommendation</th>
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<tbody>
<tr>
<td>1192-52</td>
<td>Insert into Committee Proposal 1192-42 (Log #CP1) as New 5.10.4.3 the following:</td>
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<td></td>
<td><strong>Metallic gasoline fills shall be electrically bonded to the vehicle chassis.</strong></td>
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<td>This addition would clarify that only gasoline fills need to be bonded since the flash point characteristics of diesel fuel is not an issue in regards to effects of potential static discharge.</td>
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<tr>
<td>1192-4</td>
<td>Revise text as follows:</td>
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<td>(2) Required Performance. Neither the tank nor any fitting shall leak more than a total of 1 oz (28g) by weight of fuel per minute in any position the tank assumes during the test.</td>
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<td>Editorial. In bringing over text from Section 5.10.3.1 the underlined portion was omitted.</td>
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<td>This is not original material; its reference/source is as follows:</td>
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<td></td>
<td>NFPA 1192 - 2008 Edition</td>
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<tr>
<td>1192-5</td>
<td>Revise text as follows:</td>
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<td></td>
<td>(2) Required Performance. Neither the tank nor any fitting shall leak more than a total of 1 oz (28g) by weight of water per minute.</td>
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<td>Editorial. Metric equivalent needs to be added.</td>
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<td>This is not original material; its reference/source is as follows:</td>
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<td></td>
<td>NFPA 1192 - 2008 Edition</td>
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<tr>
<td>1192-22</td>
<td>Revise Section 5.10.5.3(1) &amp; (2) to read as follows:</td>
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<td></td>
<td>(1) Procedure. Fill the tank with air or inert gas to a pressure of 3 psi (21 kPa) for a period of at least 5 minutes.</td>
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<td>(2) Required Performance. After the test the tank shall pass the test under 5.10.5.1. During the 5 minute test period a drop in pressure shall not occur.</td>
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<td>Requiring the tank to pass the 5.10.5.1 testing criteria could then be implied through the language of 5.10.5.1 to require this testing on every tank. The new recommended language identifies a proper time period for testing. Tank manufacturers have indicated that 5 minutes is adequate time to sufficiently observe any leaks. Item (2) as currently proposed contains no “required performance” and adding the above suggested text provides needed parameters.</td>
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<td>Log #</td>
<td>Final Action</td>
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<td>Log #6</td>
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<td>(5.10.5.5(2))</td>
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<td><strong>Submitter:</strong> David M. Mihalick, Thor Industries</td>
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<td><strong>Comment on Proposal No:</strong> 1192-42</td>
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<tr>
<td><strong>Recommendation:</strong> Revise text as follows:</td>
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<tr>
<td>(2) Required Performance. Neither the tank nor any fitting shall leak more than a total of 1 oz (28g) by weight of water per minute.</td>
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<td><strong>Substantiation:</strong> Editorial. Metric equivalent needs to be added.</td>
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<td>Log #7</td>
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<td>(5.10.6.2)</td>
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<td><strong>Submitter:</strong> David M. Mihalick, Thor Industries</td>
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<td><strong>Comment on Proposal No:</strong> 1192-42</td>
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<tr>
<td><strong>Recommendation:</strong> Revise text as follows:</td>
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<tr>
<td>5.10.6.2 The fuel tank and any of its attachments and fittings shall be located above rear and front clearance lines and shall be protected from road impact damage.</td>
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<td><strong>Substantiation:</strong> Editorial. The reformatting of the text added the verbiage that is struck through above. This requirement was from Section 5.11.5.1 of the 2008 edition. This comment is only pointing out the difference in text and the commentor recommends that it remains as written in the proposal.</td>
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<td><strong>This is not original material; its reference/source is as follows:</strong> NFPA 1192 - 2008 Edition</td>
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<td>Log #8</td>
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<td>(5.10.7.5 (New) )</td>
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<td><strong>Submitter:</strong> David M. Mihalick, Thor Industries</td>
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<td><strong>Comment on Proposal No:</strong> 1192-42, 1192-52, 1192-53</td>
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<tr>
<td><strong>Recommendation:</strong> Add new text as follows:</td>
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<td>5.10.7.5 Metallic fuel fills shall be electrically bonded to the vehicle chassis.</td>
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<td><strong>Substantiation:</strong> Log #24 and Log #82 both proposed this addition to the standard. These logs were accepted in principle but were not in Log #CP1, which revised the section for clarity. This comment adds them back into Log #CP1 as originally intended.</td>
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<td>1192-</td>
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<td>Log #9</td>
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<td>(5.10.8.4)</td>
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<td><strong>Submitter:</strong> David M. Mihalick, Thor Industries</td>
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<tr>
<td><strong>Comment on Proposal No:</strong> 1192-42</td>
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<tr>
<td><strong>Recommendation:</strong> Revise text as follows:</td>
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<td>5.10.8.4 Equipment located above the clearance lines specified in 5.10.6.4.1 shall be considered protected. The fuel distribution system and any of its components shall be located above rear and front clearance lines and shall be protected from road impact damage.</td>
<td></td>
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<tr>
<td><strong>Substantiation:</strong> The original wording from NFPA 1192 – 2008 edition that was used in the reformatting of the text does not present a good reference. The section referenced (5.10.6.4.1) deals with A-Frame cross-members not clearance lines. The proposed text defines allowable locations for the fuel system components based upon known definitions. It also adds the protection requirement.</td>
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</table>
1192- Log #10
(5.10.8.9)

Submitter: David M. Mihalick, Thor Industries
Comment on Proposal No: 1192-42
Recommendation: Revise text as follows:
5.10.8.9 Rigid fuel distribution system piping or hose shall be secured and supported at intervals of not more than in place every 4 ft (1.2 m).
Substantiation: Editorial. The reformatting of the text added the verbiage that is struck through above. This requirement was from Section 5.11.5.7 of the 2008 edition. This comment is only pointing out the difference in text and the commenter recommends that it remains as written in the proposal.
This is not original material; its reference/source is as follows:
NFPA 1192 - 2008 Edition

1192- Log #11
(5.10.8.10)

Submitter: David M. Mihalick, Thor Industries
Comment on Proposal No: 1192-42
Recommendation: Revise text as follows:
5.10.8.10 The fuel distribution system shall maintain at least a 4 1/2 in. (114 mm) clearance from any unshielded exhaust system components.
Substantiation: Editorial. The reformatting of the text added the verbiage that is struck through above. An "s" is added to components. This requirement was from Section 5.11.5.8 of the 2008 edition. This comment is only pointing out the difference in text.
This is not original material; its reference/source is as follows:
NFPA 1192 - 2008 Edition

1192- Log #12
(5.10.8.15)

Submitter: David M. Mihalick, Thor Industries
Comment on Proposal No: 1192-42, 1192-55, 1192-56
Recommendation: Revise text as follows:
5.10.8.15 Clamps used in the fuel distribution system shall be in accordance with the following:
(1) Clamps shall have a non perforated band and meet the specifications of SAE J1508.
(2) Clamps shall be identified for the type and size of the fuel lines used.
Substantiation: The reformatting of the text above combines text from Section 5.11.5.14 of the 2008 edition and two proposals. This requirement is under the fuel distribution system section and the language specifying the intended place of usage should be added.
This is not original material; its reference/source is as follows:
NFPA 1192 - 2008 Edition
<table>
<thead>
<tr>
<th>Log #</th>
<th>Submitter</th>
<th>Comment on Proposal No</th>
<th>Recommendation</th>
<th>Substantiation</th>
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</thead>
<tbody>
<tr>
<td>1192-13</td>
<td>David M. Mihalick, Thor Industries</td>
<td>1192-42</td>
<td>Revise text as follows:</td>
<td>The original wording from NFPA 1192 – 2008 edition that was used in the reformatting of the text does not present a good reference. The section referenced (5.10.6.4.1) deals with A-Frame cross-members not clearance lines. The proposed text defines allowable locations for the fuel system components based upon known definitions. It also adds the protection requirement.</td>
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<tr>
<td>1192-14</td>
<td>David M. Mihalick, Thor Industries</td>
<td>1192-42</td>
<td>Revise text as follows:</td>
<td>All fuel-transfer-dispensing equipment shall only be accessible from the exterior of the vehicle. The reformatting of the text deleted the verbiage that is underlined above. This requirement was from Section 5.11.6.6 of the 2008 edition. This comment is only pointing out the difference in text.</td>
</tr>
<tr>
<td>1192-37</td>
<td>Bob Eugene, Underwriters Laboratories Inc.</td>
<td>1192-42</td>
<td>Revise text as follows:</td>
<td>The fuel-dispensing hose between the nozzle and its first connection on the vehicle shall be a hose assembly listed to ANSI/UL 330. Add ANSI approval designation to ANSI/UL 330.</td>
</tr>
<tr>
<td>1192-18</td>
<td>David M. Mihalick, Thor Industries</td>
<td>1192-42, 1192-61</td>
<td>Revise text as follows:</td>
<td>Pumps used in fuel dispensing systems shall be identified listed for use with the fuel being dispensed. Log #28 recommended adding language to have pumps listed for the fuel being dispensed. In the revising of the text for Log #CP1 the wording was entered incorrectly. This comment changes back the text to the recommendation of Log #28.</td>
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</table>
1192- Log #24 Final Action: 
(5.10.11.8) 

Submitter: Kent Perkins, Recreation Vehicle Industry Association 
Comment on Proposal No: 1192-42 
Recommendation: In Section 5.10.11.8 of Proposal 1192-42 (Log #CP1) revise the sentence to read as follows: 
5.10.11.8 Pumps used in fuel dispensing systems shall be identified listed for use with the fuel being dispensed. 
Substantiation: Original Proposal 1192-61 (Log #28) recommended this change and was Accepted in Principle but never carried over to Committee Proposal 1192-42 (Log #CP1) which it should have.

1192- Log #15 Final Action: 
(5.10.11.16) 

Submitter: David M. Mihalick, Thor Industries 
Comment on Proposal No: 1192-42 
Recommendation: Revise text as follows: 
5.10.11.16 The fuel-dispensing system label shall be made of material that does not deteriorate when in contact with petroleum-based products and shall read as follows: 
DANGER 
NO SMOKING. 
BEFORE DISPENSING FUEL, TURN OFF ALL ENGINES, FUEL-BURNING APPLIANCES, AND THEIR IGNITORS. CONNECT THE BONDING JUMPER WIRE TO THE VEHICLE RECEIVING FUEL. DO NOT DISPENSE FUEL WITHIN 20 FEET OF AN IGNITION SOURCE. FAILURE TO COMPLY COULD RESULT IN FIRE, DEATH, OR SERIOUS INJURY 
Substantiation: 1192-63 Log #29 eliminates the need for the bonding jumper wire. The label specified in 5.10.11.16 needs to be edited to eliminate the reference to connecting the bonding jumper wire. 
This is not original material; its reference/source is as follows: NFPA 1192 - 2008 Edition

1192- Log #16 Final Action: 
(5.10.11.17) 

Submitter: David M. Mihalick, Thor Industries 
Comment on Proposal No: 1192-42 
Recommendation: Revise text as follows: 
5.10.11.17 Clamps used in the fuel dispensing system shall be in accordance with the following: 
(1) Clamps shall have a non perforated band and meet the specifications of SAE J1508. 
(2) Clamps shall be identified for the type and size of the fuel lines used. 
Substantiation: The reformatting of the text above combines text from Section 5.11.8.15 of the 2008 edition and two proposals (Log #25 and Log #84) relating to Section 5.11.5.14 of the 2008 edition. This requirement is under the fuel dispensing system section and the language specifying the intended place of usage should be added. 
This is not original material; its reference/source is as follows: NFPA 1192 - 2008 Edition

Printed on 3/18/2010
Report on Comments – November 2010

Submitter: David M. Mihalick, Thor Industries
Comment on Proposal No: 1192-42
Recommendation: Revise text as follows:

5.10.12 Future Generator Installations. When a fuel system is installed for an electric generator but the electric generator is not installed at the recreational vehicle factory, all fuel lines between the fuel tank and the generator compartment shall be routed and plugged at the open end(s).

Substantiation: Editorial. The reformatting of the text added the verbiage that is struck through above. This requirement was from Section 5.11.2 of the 2008 edition. This comment is only pointing out the difference in text and the commenter recommends that it remains as written in the proposal. Also, a period needs to be added at the end of the sentence.

This is not original material; its reference/source is as follows:

NFPA 1192 - 2008 Edition

Submitter: Kent Perkins, Recreation Vehicle Industry Association
Comment on Proposal No: 1192-66
Recommendation: Reject and incorporate all 2011 NFPA 1192 recommended proposals as follows: 1192-67, 1192-68, 1192-69, 1192-70, 1192-71, 1192-72, 1192-73, 1192-75 and 1192-124.

Substantiation: The substantiation provide for Proposal 1192-66 (Log #CP2) is incomplete and inaccurate. No details or reasons are provided to justify a version to the 2005 requirements only a "concern" over less clarity was stated. The current 2008 requirements, in actuality, provide greater clarity than those of 2005 and increased design flexibility without compromising safety. Consequently, this committee proposal should be rejected and the 2008 requirements should be retained and modified to incorporate the respective 2011 proposals as noted above.

Submitter: Jeff Wisniewski, MTI Industries, Inc.
Comment on Proposal No: 1192-79
Recommendation: Revise text to read as follows:

6.4.6 Carbon Monoxide (CO) Alarms. All recreational vehicles shall be equipped with a CO alarm listed and marked on the device as being suitable for use in recreational vehicles under the requirements of UL 2034 and CSA 6.19 and installed according to the terms of its listing.

Substantiation: We agree that harmonizing Carbon Monoxide (CO) alarms operational performance and markings is important, regardless if the alarm / RV is intended to be used in the USA or Canada. CO alarms installed in RV’s should meet or exceed the minimum requirements of both UL 2034 and CSA 6.19.

The problem with the current either "or" wording in NFPA 1192 is that as either standard is updated to improve operational performance and/or markings, alarm manufacturers may or may not update their RV CO alarms depending on which standard they are listed to.

UL 2034 has been updated 4 times since the latest version of CSA 6.19 which was last updated in 2001. The latest UL revisions were published in Feb 2009 and included an "End of Life" Signal at the request of the US Consumer Product Safety Commission, this improvement is not required by CSA 6.19.

Requiring all RV CO alarms to be listed to both, UL 2034 "and" CSA 6.19, would result in alarms being built to the latest version of each standard.

Changing "or" to "and" would result in harmonization and satisfy the intent of the proposal and committee.
1192- Log #27 (7.1.2.1)

Final Action:  

Submitter: Kent Perkins, Recreation Vehicle Industry Association  
Comment on Proposal No: 1192-92  
Recommendation: Accept proposal, but revise the last sentence of the substantiation to read:  
Adding this language will require products that are listed in the water piping system to be listed to NSF-61 for sanitation criteria, but also other appropriate listing standards such as IAPMO, CSA, NSF-14 or NSF-24 or equal for performance criteria.  
Substantiation: The current language would suggest that NSF-14 and NSF-24 are the only allowable listing standard to determine performance criteria which is not the case. There exist other listing standards from other agencies besides NSF that can be used and should be so noted.

1192- Log #28 (7.4.4.x (New))

Final Action:  

Submitter: Kent Perkins, Recreation Vehicle Industry Association  
Comment on Proposal No: 1192-99  
Recommendation: Revise the proposal to read:  
A waterless trap shall have a labeled affixed on the trap that reads as follows:  
SHALL REMOVE BEFORE USING MECHANICAL DRAIN CLEANING DEVICES.  
Substantiation: The sentence has been amended to not require the label to necessarily be affixed to the product. For example, the trap could be so installed that the label could not be seen and it would be better to place it adjacent to the trap. In addition the term "SHALL" is not instructional language and there is unnecessary.

1192- Log #43 (7.4.7.6)

Final Action:  

Submitter: Ryan A. Lehman, Newmar Corporation  
Comment on Proposal No: 1192-109  
Recommendation: Revise text to read as follows:  
7.4.7.6-A Flexible drainage waste and vent connectors shall:  
(1) Be approved and identified for use listed to IAPMO TS-35  
(2) Be anchored for strain relief at each mating attachment for strain relief  
Substantiation: Flexible drainage connector is a term defined in 3.3.22 and identified as a component of DWV systems. The substantiation for Proposal 1192-109 implies that as a test standard has been written for these connectors, listing to IAPMO TS-35 should be required. There is no identification that a safety issue exists when not conforming to the requirements of IAPMO TS-35; or that safety provisions, outside of the proposed deleted text, are included in IAPMO TS-35. IAPMO TS-35 should not be a prescriptive part of the code but included in the annex for informational purposes. Proposal 1192-127 has been accepted (adding IAPMO TS-35 to Annex C-I-I).
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<tr>
<td><strong>Log #32</strong></td>
<td><strong>Final Action:</strong></td>
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<td><strong>(7.5.7)</strong></td>
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<td><strong>Submitter:</strong></td>
<td>Bruce A. Hopkins, Recreation Vehicle Industry Association</td>
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<td><strong>Comment on Proposal No:</strong></td>
<td>1192-112</td>
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<td><strong>Recommendation:</strong></td>
<td>Revise as follows:</td>
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<tr>
<td></td>
<td>Reject this proposal.</td>
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<td><strong>Substantiation:</strong></td>
<td>The Task Group, appointed by Chairman John Harvey of the NFPA Technical Committee on RVs, determined that the market place is already addressing this issue. Further, with no record of consumer complaints, and with multiple drain sizes currently in place at the campgrounds (with no plans for uniformity), and AHJ issues regarding enforcement such as retroactivity not being requested nor addressed, the original proposal as submitted should be rejected.</td>
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<tr>
<td><strong>Log #29</strong></td>
<td><strong>Final Action:</strong></td>
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<td><strong>(7.7.2.1.2)</strong></td>
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<td><strong>Submitter:</strong></td>
<td>Kent Perkins, Recreation Vehicle Industry Association</td>
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<td><strong>Comment on Proposal No:</strong></td>
<td>1192-117</td>
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<td><strong>Recommendation:</strong></td>
<td>Change current 7.7.2.1 as follows:</td>
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<td>7.7.2.1 The test shall be performed by subjecting the pressurized water piping system to either air or water pressure for 10 minutes without leakage or loss of pressure in accordance with 7.7.2.1.1 and or 7.7.2.1.2.</td>
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<td><strong>Substantiation:</strong></td>
<td>The required test needs to be performed by either the criteria outlined in Section 7.7.2.1.1 or 7.7.2.1.2 but should not be required by both.</td>
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<td><strong>(7.7.2.1.2)</strong></td>
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<td><strong>Submitter:</strong></td>
<td>Kent Perkins, Recreation Vehicle Industry Association</td>
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<td><strong>Comment on Proposal No:</strong></td>
<td>1192-118</td>
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<td><strong>Recommendation:</strong></td>
<td>Add new paragraph to Section 7.7.2 as follows:</td>
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<td>7.7.2.4 The potable water storage tank shall be subjected to a static water test for 15 minutes by filling the system with water to overflow. The system shall have no evidence of leaks.</td>
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<td><strong>Substantiation:</strong></td>
<td>The intent of the original proposal was to address ways to reduce water leaks in the distribution system. This simple flood test of the gravity fill and potable water tank could address leaks not caught by the pressurized water system test. Adding this test meets the original submitters intent to address water leaks, by requiring complete testing of the non-pressurized system. The current code language does not require testing of the non-pressurized portion of the water distribution system.</td>
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1192- Log #31
(7.7.2.1.2)

Final Action:

Submitter: Kent Perkins, Recreation Vehicle Industry Association
Comment on Proposal No: 1192-118
Recommendation: Add new paragraph to Section 7.7.2 as follows:

7.7.2.5 The entire pressurized water distribution system shall be subjected to a flow test by pressurizing the system with water at a minimum of the demand pump pressure and operating each fixture faucet (both hot and cold) with no evidence of leaks.

Substantiation: The original submitters' intent was to address water leaks in the water distribution system. Current required testing does not require water to be run thru the fixture faucets, and the faucet handles or other parts of the faucet itself could have leaks. This new language adds a flow test to address testing of the faucet assembly itself for leaks.
Reject the original proposal and replace with the new language listed below.

Also to be inserted into the annex are pictures showing side profiles of each type of RV.

**Motorhome.** A "Motorhome" is a recreational vehicle built on a self-propelled motor vehicle chassis. The product type categories are:

(i) **Type A Motorhome.** A "Type A Motorhome" is a motorhome constructed on a bare motor vehicle chassis;

(ii) **Type B Motorhome.** A "Type B Motorhome" is a motorhome constructed on an automotive-manufactured van-type vehicle; and

(iii) **Type C Motorhome.** A "Type C Motorhome" is a motorhome constructed on a cut-away automotive-manufactured truck chassis.

**Towable RV.** A "Towable RV" is a recreational vehicle that is mounted on wheels and designed to be towed by a motorized vehicle or a portable unit that is designed to be placed in the bed of a pickup truck. The product type categories are:

(i) **Fifth-Wheel Travel Trailer.** A "Fifth-Wheel Travel Trailer" is a towable RV mounted on wheels and designed to be towed by a motorized vehicle by means of a towing mechanism that is mounted above or forward of the tow vehicle’s rear axle;

(ii) **Folding Camping Trailer.** A "Folding Camping Trailer" is a towable RV mounted on wheels and designed to be towed by a motorized vehicle that is constructed with a collapsible roof and collapsible partial sidewalls that unfold and extend in the set-up mode and fold back up for travel;

(iii) **Travel Trailer.** A "Travel Trailer" is a towable RV mounted on wheels and designed to be towed by a motorized vehicle that is constructed with a roof and sidewalls made of rigid materials; and

(iv) **Truck Camper.** A "Truck Camper" is a towable RV designed to be placed in the bed of a pickup truck.

Within the above product types, additional RV products include:

(i) **Expandable Travel Trailer.** An "Expandable Travel Trailer" is a travel trailer constructed with at least one collapsible partial sidewall that unfolds for additional sleeping space in the set-up mode and folds back up for travel;

(ii) **Horse (Livestock) RV.** A "Horse (Livestock) RV" is a motorhome or towable RV that contains a designated area for transporting horses (or other livestock); and

(iii) **Sport Utility RV.** A "Sport Utility RV" is a motorhome or towable RV that has an entrance door wider than 36 inches accessible by means of an access ramp or is promoted as having the ability to transport or store internal combustion engine vehicles or equipment.

Substantiation: The existing definitions identified in the original proposal have been rewritten to clarify each specific type of RV product. Please note the original "Hybrid Trailer" definition has been modified to read "Expandable Travel Trailer" and the "Horse Trailer" definition has been modified to read "Horse (Livestock) RV".

In addition the definitions have been categorized into two basic groups - "Motorhome" and "Towable RV" in order to provide further guidance.

The side profile pictures provide visual clarification of each product type.
Comment 1192-121 Definitions

Motorhome. A “Motorhome” is a recreational vehicle built on a self-propelled motor vehicle chassis. The product type categories are:

(i) **Type A Motorhome.** A “Type A Motorhome” is a motorhome constructed on a bare motor vehicle chassis;

(ii) **Type B Motorhome.** A “Type B Motorhome” is a motorhome constructed on an automotive-manufactured van-type vehicle; and

(iii) **Type C Motorhome.** A “Type C Motorhome” is a motorhome constructed on a cut-away automotive-manufactured truck chassis.

Towable RV. A “Towable RV” is a recreational vehicle that is mounted on wheels and designed to be towed by a motorized vehicle or a portable unit that is designed to be placed in the bed of a pickup truck. The product type categories are:

(i) **Fifth-Wheel Travel Trailer.** A “Fifth-Wheel Travel Trailer” is a towable RV mounted on wheels and designed to be towed by a motorized vehicle by means of a towing mechanism that is mounted above or forward of the tow vehicle’s rear axle;

(ii) **Folding Camping Trailer.** A “Folding Camping Trailer” is a towable RV mounted on wheels and designed to be towed by a motorized vehicle that is constructed with a collapsible roof and collapsible partial sidewalls that unfold and extend in the set-up mode and fold back up for travel;

(iii) **Travel Trailer.** A “Travel Trailer” is a towable RV mounted on wheels and designed to be towed by a motorized vehicle that is constructed with a roof and sidewalls made of rigid materials; and

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(ii) **Horse (Livestock) RV.** A “Horse (Livestock) RV” is a motorhome or towable RV that contains a designated area for transporting horses (or other livestock); and

(iii) **Sport Utility RV.** A “Sport Utility RV” is a motorhome or towable RV that has an entrance door wider than 36 inches accessible by means of an access ramp or is promoted as having the ability to transport or store internal combustion engine vehicles or equipment.
<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
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<tr>
<td>Motorhome</td>
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<td>Type A</td>
<td>Motorhome</td>
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<td>Type B</td>
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<td>Type C</td>
<td>Motorhome</td>
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<tr>
<td>Towed RV</td>
<td>Fifth-Wheel Travel Trailer</td>
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<td>Folding</td>
<td>Camping Trailer</td>
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<td>Model</td>
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<td>Truck Camper</td>
<td>![Image of Truck Camper]</td>
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<td>Expandable Travel Trailer</td>
<td>![Image of Expandable Travel Trailer]</td>
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<tr>
<td>Horse (Livestock) RV</td>
<td>![Image of Horse (Livestock) RV]</td>
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<td>Sport Utility RV</td>
<td>![Image of Sport Utility RV]</td>
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No Picture Available
Report on Comments – November 2010

1192- Log #38
(D.1.2.2)

Final Action:

Submitter: Bob Eugene, Underwriters Laboratories Inc.
Comment on Proposal No: 1192-131
Recommendation: Revise text as follows:

D.1.2.2 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.
ANSI/UL 484, Standard for Room Air Conditioners, 20062007, revised 2009.

Substantiation: The Committee should reconsider and accept the original proposal. The technically correct method to reference UL standards is by identifying the original edition date and the most recent revision date, where applicable. As an example, there is a statement in ANSI/UL 484 that states: “This ANSI/UL Standard for Safety consists of the Eighth Edition including revisions through November 13, 2009.” The eighth edition date is December 21, 2007. Both dates are necessary to clearly identify the publication based on the NFPA Manual of Style:

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

This is also consistent with more than 25 other NFPA publications that include references to UL standards.

Additionally, the original proposal conforms to the NFPA Manual of Style Section 3.6.3.1 for updating referenced standards to the current approved edition.

1192- Log #35
(D.2.1)

Final Action:

Submitter: Bob Eugene, Underwriters Laboratories Inc.
Comment on Proposal No: 1192-131
Recommendation: Revise text as follows:

D.2.1. UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

Substantiation: The Committee should reconsider and accept the original proposal. The technically correct method to reference UL standards is by identifying the original edition date and the most recent revision date, where applicable. Both dates are necessary to clearly identify the publication based on the NFPA Manual of Style:

2.3.1.2.4 All reference listings in Chapter 2 shall contain complete reference information [i.e., document number (if applicable), document title, and date of publication (if applicable)].

This is also consistent with more than 25 other NFPA publications that include references to UL standards.

Additionally, the original proposal conforms to the NFPA Manual of Style Section 3.6.3.1 for updating referenced standards to the current approved edition.
The National Association of RV Parks and Campgrounds (ARVC) has reviewed the proposed definition of a Recreational Vehicle as proposed in NFPA 1192 3.3.44 (1192–11 Log #12) and NFPA 1194 3.3.19 (1194-3 Log #CP3). ARVC objects to the proposed changes and resulting new definition for the following reasons:

1. The current definition has been in effect for a number of years and has been incorporated into many local codes and ordinances that govern the existence and operation of RV parks and campgrounds. The changes proposed would likely create confusion in the minds of local regulators and officials, subsequently jeopardizing the continued uninterrupted operation of parks in various jurisdictions.

2. The current definition is widely accepted throughout the RV park and campground industry. Those in the industry do not believe that the changes will serve any beneficial purpose for our industry. In fact, they do believe that the proposed changes will likely hamper their efforts to update, modernize, expand, or otherwise keep their businesses up to date and meet the consumers’ needs.

3. The proposed changes to the definitions will have a negative impact on the ability of RV parks and campgrounds to accommodate on a seasonal basis, recreational vehicles. Also, the changes may also negatively impact their ability to accommodate rental destination travel trailers, cabins and other rental units that are increasingly more popular in our RV parks and campgrounds.

4. Many of our RV parks and campgrounds have Recreational Vehicles that are used just for seasonal vacation units. Removal of this “seasonal use” from the definition of RV’s will surely create confusion with regulators relative to licensing RV parks and campgrounds.

Substantiation: Additionally, ARVC has had a Model Code for some time that contains many of the items in NFPA 1194. A correlation of information in these publications would be highly beneficial, and could be done in time for the next revision. Acceptance of the proposed definition changes now would be a detriment to that effort.

Because of the above reasons, ARVC requests that the proposed changes not be accepted at this time.
A "Recreational Vehicle" or "RV" is a vehicular type unit that:
(i) is primarily designed as temporary living quarters for recreational and/or camping use;
(ii) has its own motive power or is mounted on or towed by another vehicle;
(iii) is regulated by the National Highway Traffic Safety Administration as a vehicle or vehicle equipment;
(iv) does not require a special highway use permit for operation on the highways; and
(v) an individual can easily transport and set-up on a daily basis.

The basic product types are: "Motorhome" and "Non-Motorized RV."

Recreational Vehicle (RV). The term recreational vehicle also includes the following:
(1) Motor Home. A vehicular unit designed to provide temporary living quarters for recreational, camping, or travel use, built on or attached to a self-propelled motor vehicle chassis or on a chassis cab or van that is an integral part of the completed vehicle.
(2) Camping Trailer. A vehicular unit that is mounted on wheels and constructed with collapsible partial sidewalls that fold for towing by another vehicle and unfold at the campsite to provide temporary living quarters for recreational, camping, or travel use.
(3) Fifth Wheel Trailer. A vehicular unit, mounted on wheels, designed to provide temporary living quarters for recreational, camping, or travel use, of such size or weight as not to require special highway movement permit(s), of gross trailer area not to exceed 400 ft² (37.2 m²) in the setup mode, and designed to be towed by a motorized vehicle that contains a towing mechanism that is mounted above or forward of the tow vehicle's rear axle.
(4) Travel Trailer. A vehicular unit, mounted on wheels, designed to provide temporary living quarters for recreational, camping, or travel use, of such size or weight as not to require special highway movement permits when towed by a motorized vehicle, and of gross trailer area less than 320 ft² (29.7 m²).
(5) Truck Camper. A portable unit that is constructed to provide temporary living quarters for recreational, travel, or camping use; consists of a roof, floor, and sides; and is designed to be loaded onto and unloaded from the bed of a pickup truck.

Substantiation: The NFPA policy is that definitions need to be in single sentences, with the added sentence in the explanatory Annex or in a separate section. The same comment is being made to NFPA 1192. Note that proposal 1194-3 did not spell out the annex language; it is spelled out here.

I am the chair of the NFPA Advisory Technical Committee on Glossary of Terminology but this comment is not submitted on their behalf because we have not had the opportunity to discuss it.

5.1.2 Design, construction, and layout of access, egress, roadways, and marking of campgrounds shall be approved by the AHJ.

Substantiation: The proposed language provides guidance to the user in getting approval from the AHJ on access etc.
Reconsider the original proposal and accept:

Revise text to read as follows:

5.1.2 Roads. Minimum widths of recreational vehicle park and campground roads designed to accommodate all types and sizes of camping units shall be 10 ft (3.0 m) per traffic lane and 8 ft (2.4 m) per parallel parking lane.

5.1.2.1 Roads leading to accessory structures shall be designed and constructed to accommodate the load and turning radius of the largest apparatus typically used to respond to that location.

5.1.2.2 Roads leading to accessory structures shall be not less than 29 ft (8.8 m) of unobstructed width with a 13.5 ft (4.1 m) vertical clearance.

5.1.2 Roadways shall be constructed of a hard, all-weather surface designed to support all legal loads of the jurisdiction. (1141:5.2.2)

5.1.2.1 Roadways shall have a minimum clear width of 12 ft (3.7 m) for each lane of travel, excluding shoulders and parking. (1141:5.2.3)

5.1.2.2 Every dead-end roadway more than 300 ft (91 m) in length shall be provided at the closed end with a turnaround having no less than a 120 ft (36.6 m) outside diameter of the traveled way. (1141:5.2.8)

5.1.2.3 At least 13 ft 6 in. (4.2 m) nominal vertical clearance shall be provided and maintained over the full width of the roadway. (1141:5.2.9)

5.1.2.4 Roadways shall be constructed with a minimum radius of 60 ft (18.2 m) to the outside of the turn.

5.1.2.5 Angles of approach

5.1.2.5.1 The angle of approach and the angle of departure shall not exceed 8 degrees at any point on the roadway or its intersection with another roadway or fire lane. (1141:5.2.5.3)

5.1.2.5.1.1 Where local conditions do not allow the maximum angles of approach and departure be limited to 8 degrees, the AHJ shall permit greater angles where local emergency apparatus can accommodate such angles. (1141:5.2.5.4)

5.1.2.6.1 Any gates in roadways shall not be located closer than 30 ft (9 m) from an intersection and shall open in the direction of emergency vehicle travel unless other provisions are made for safe personnel operation. (1141:5.2.22)

5.1.2.6.2 The clear opening through gates shall have a usable width at least 2 ft (0.6 m) wider than the roadway it controls. (1141:5.2.23)

5.1.2.7 Bridges.

5.1.2.7.1* When a bridge is required to be used as part of a fire department access road, it shall be constructed and maintained in accordance with nationally recognized standards. (1:18.2.3.4.5.1)

5.1.2.7.2 The bridge shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. (1:18.2.3.4.5.2)

5.1.2.7.3 Vehicle load limits shall be posted at both entrances to bridges where required by the AHJ. (1:18.2.3.4.5.3)

5.1.2.8 Addresses

5.1.2.8.1 Addresses shall be assigned in a logical, consistent manner based on the local addressing system. Street names shall be phonetically unique. (1141:5.2.16)

5.1.2.8.2 At each intersection, noncombustible signs shall be installed with the name of each road. (1141:5.2.17)

5.1.2.8.3 These signs shall be installed a minimum of 7 ft (2.1 m) above the traveled way. (1141:5.2.17.1)

5.1.2.8.3.1 The letters on the signs shall be no less than 4 in. (100 mm) in height, with at least a 0.5 in. (12.7 mm) stroke, reflective and of a contrasting color to the background of the sign. (1141:5.2.17.2)

**Substantiation:** The committee is making an assumption that they site plans are being reviewed by fire personnel. In some cases the plans are only reviewed by planning and zoning or other land use groups and not by those dealing with building and fire issues. The proposed requirements are consistent with fire codes, 1141 and other existing adopted codes and standards.
1194- Log #6 Final Action:

| Submitter: Eddie Phillips, Southern Regional Fire Code Development Committee |
| Comment on Proposal No: 1194-4 |
| Recommendation: Revise 5.1.2 as follows: 5.1.2 Minimum widths of recreational vehicle park and campground roads designed to accommodate all types and sizes of camping units shall be 10 ft per traffic lane and 8 ft per parallel parking lane. |
| Substantiation: The “designed to accommodate all types and sizes of camping units” does not add any value to the current code text. It may actually create some confusion as if the road is not designed to accommodate all types and sizes of camping units, it would leave the user to ask if the road can be a different width? |

1194- Log #7 Final Action:

| Submitter: Eddie Phillips, Southern Regional Fire Code Development Committee |
| Comment on Proposal No: 1194-4 |
| Recommendation: Revise 5.1.2 as follows: 5.1.2 Minimum widths of recreational vehicle park and campground roads designed to accommodate all types and sizes of camping units shall be 10 ft per traffic lane and 8 ft per parallel parking lane. Roads shall have an unobstructed width of not less than 20 ft. Parallel parking spaces shall have a minimum width of 8 ft. Insert a new 5.1.2.1 as follows and renumber the remaining: 5.1.2.1 The minimum unobstructed width shall be permitted to be reduced by the AHJ, provided such reduction does not impair access by fire apparatus. |
| Substantiation: The 20 ft extracts the minimum required width of a fire department access road from NFPA 1 section 18.2.3.4.1.1. A 10 ft wide road one-way road is not passable for most fire apparatus and is not allowed per NFPA 1. The 8 ft is retained, not as a fire access issues, but because the TC may consider a minimum functional design issue. The new 5.1.2.1 provides some design flexibility for those situations involving one-way traffic and limited access arrangements due to terrain. |

1194- Log #8 Final Action:

| Submitter: Eddie Phillips, Southern Regional Fire Code Development Committee |
| Comment on Proposal No: 1194-4 |
| Recommendation: Revise 5.1.2.1 as follows: 5.1.2.1 Roads leading to accessory structures shall be designed and constructed to accommodate the load and turning radius of the largest fire apparatus typically used to respond to that location. 5.1.2.1.1 Minimum loads and turning radius shall be permitted to be reduced by the AHJ, provided such reduction does not impair access by fire apparatus, and approved signs are installed and maintained indicating the condition. |
| Substantiation: All roads should be designed and constructed to accommodate the load and turning radius of the largest fire apparatus, not just the roads the lead to accessory structures. The FD is responsible for providing fire and emergency medical services to the entire facility, not just the accessory units. The distances to portions of the facility that are not near an accessory structure maybe significant. Keeping in mind that this is a design standard for new facilities and not intended as a retrofit requirements. There is no solid justification that access should only be provided to the accessory structures. The new 5.1.2.1.1 provides some flexibility to the AHJ for those circumstances that are deemed not to impair fire department/emergency service. |
Report on Comments – November 2010

1194- Log #5

Final Action:

(5.1.2.2)

Submitter: Eddie Phillips, Southern Regional Fire Code Development Committee

Comment on Proposal No: 1194-4

Recommendation: Revise 5.1.2.2 as follows:

5.1.2.2 Roads leading to accessory structures shall be not less than 20 ft of unobstructed width with a 13.5 ft vertical clearance: Roads shall have an unobstructed vertical clearance of not less than 13 ft 6 in.

5.1.2.2.1 Vertical clearance shall be permitted to be reduced by the AHJ, provided such reduction does not impair access by fire apparatus, and approved signs are installed and maintained indicating the established vertical clearance when approved.

Substantiation: This language extracts from NFPA 1 Section 18.2.3.4.1.2, and Section 18.2.3.4.1.2.1. As in the proposal to Section 5.1.2.1 there is no reason that clear vertical access should only be provided to accessory structures. The 20 ft minimum width has been removed from this section as it is not addressed in the proposal to 5.1.2. The exception, 5.1.2.2.1 language is also extracted from NFPA 1 and provides some flexibility to the design for those situation where access is impractical or does not impact fire department/ems operations.

1194- Log #3

Final Action:

(6.4 and 6.5 (New))

Submitter: Jon Nisja, Northcentral Regional Fire Code Development Committee

Comment on Proposal No: 1194-5

Recommendation: Reconsider the original proposal and accept:

Add new sections to read:

6.4 Where refueling of vehicles or boats takes place it shall comply with NFPA 30A.

6.5 Where flammable or combustible liquids or gases as stored or used they shall comply with NFPA 30 and NFPA 58.

Substantiation: The committee is making an assumption that they site plans are being reviewed by fire personnel. In some cases the plans are only reviewed by planning and zoning or other land use groups and not by those dealing with building and fire issues. The proposed requirements are consistent with fire codes, 1141 and other existing adopted codes and standards.