



NFPA 54

National Fuel Gas Code (Report on Proposals)

Proposed 2009 Edition

Reference: 54-63 (Log #62), 54-68 (Log #11), 54-76 (Log #CP13), and 54-96 (Log #15)

The Committee on National Fuel Gas Code notes that several votes were printed with the wrong proposals in the Annual 2008 ROP of NFPA 54, *National Fuel Gas Code*.

The ballot results for NFPA 54 that were recorded incorrectly in the A2008 ROP are shown below:

54-63 Log #62 **Final Action: Reject**
(10.3.5)

Submitter: James K. Lathrop, Koffel Assoc., Inc.

Recommendation: Revise text to read as follows:

10.3.5 Low Water Cutoff. ~~All Hot water boilers installed above the radiation level and all steam boilers shall be provided with an automatic means to shut off the fuel supply to the burner(s) if the boiler water level drops to below the lowest safe water line.~~

Substantiation: Presently NFPA 54 does not require low water level protection for all hot water boilers. This is in conflict with several other codes:

- International Residential Code - IRC
- International Mechanical Code - IMC
- Controls and Safety Devices for Automatically Fired Boilers - ASME CSD-1
- NFPA 31, Standard for the Installation of Oil-Burning Equipment
- International Fuel Gas Code - IFGC

All of these codes require hot water boilers to have a low water cutoff without exceptions based upon the location of installed radiation. These changes will bring NFPA 54 into agreement with other codes (including NFPA 31) and eliminate conflicting requirements for low water cutoffs in jurisdictions where these other codes are adopted. The changes will also eliminate confusion regarding the definition and location of the radiation level. According to statistics published by the National Board of Boiler and Pressure Vessel Inspectors, low water conditions are consistently a leading cause of boiler accidents among hot water boilers. Incident reports published for 2001, 2002, and 2003 indicate that low water conditions represented the second highest hot water boiler accident rate with a total of 520 accidents in this period.

IRC-2006:

M2002.5 Boiler low-water cutoff. All steam and hot water boilers shall be protected with a low-water cutoff control. The low-water cutoff shall automatically stop the combustion operation of the appliance when the water level drops below the lowest safe water level as established by the manufacturer.

IMC 2006:

1007.1 General. All steam and hot water boilers shall be protected with a low-water cutoff control.

IFGC 2006:

631.2 Boiler installation. In addition to the requirements of this code, the installation of boilers shall

be in accordance with the manufacturer's instructions and the International Mechanical Code.

ASME CSD-1 2004:

CW-130 Requirements for Water Level Controls for Hot-Water Heating Boilers

(a) Each automatically fired hot-water heating boiler, except those installed in residences (as defined by the authority having jurisdiction), shall be protected by a low-water fuel cutoff intended for hot-water service (see also CW-210).

NFPA 31, Standard for the Installation of Oil-Burning Equipment

10.5.4* Each oil-burning appliance shall be provided with automatic limit controls that will prevent unsafe pressure or low water in a steam boiler, low water or over-temperature in a water boiler, or over-temperature in a furnace or heater.

Committee Meeting Action: Reject

Committee Statement: The proposal notes a printing error which will be corrected.

Number Eligible to Vote: 29

Ballot Results: Affirmative: 22 Negative: 2

Ballot Not Returned: 5 Brown, D., Hagensen, S., Iwan, R., Rock, D., White, R.

Explanation of Negative:

~~GRESS, G.: There is no justification for allowing a broad category of appliances to not be interlocked with their venting means. If the hood operation is not assured, the cooking appliances could become unvented and endanger the kitchen employees.~~

GRESS, G.: The elevation of radiation elements has no bearing on the safety of hot water boilers. There is reason to believe that an occupant will be present or cognizant of the fact that loss of heat is the result of water loss.

HOLMES, P.: As stated in the submitter's substantiation, virtually all of the other codes dealing with boilers already require a Low Water Cut Off on all boilers. By not enacting this change, the committee is saying that with a gas fired boiler, low water conditions do not pose a danger if all radiation is above the boiler, while is a problem for all other fuels. There is substantial industry documentation especially on the commercial side, to the need of low water protection an all boilers, and the committee's rejection of this proposal, ignores this. The sentiment that there isn't specific documentation that gas fired boilers are having problems, indicates that the committee believes there is no problem where gas fired boilers are concerned. This a safety code and should be pro-active on safety issues such as this before there is a problem not as a result of a problem.

54-68 Log #11

Final Action: Reject

(10.23.2)

Submitter: James P. Brewer, Magic Sweep Corporation

Recommendation: New text to read as follows:

10.23.2 Unvented room heaters shall be tested to ANSI Z21.11.2 and shall be installed in accordance with the manufacturers installation instructions.

10.23.3 Unvented room heaters shall not be the sole source of heat in any residential building.

10.23.4 Unvented room heaters or unvented gas logs shall not be installed in factory-built fireplaces unless the fireplace has been specifically tested, listed and labeled for such use in accordance with UL 127.

Substantiation: Unvented room heaters should not be allowed to be the sole source of heat in a building because they are not intended for full time use. According to the Vent Free Alliance these products are for supplemental use only. Unless a factory-built fireplace has been properly tested and listed for use with vent-free products it is unknown if the unit will be safe when operated with the damper in the closed position. When tested for wood-burning or even vented gas appliances, the fireplace damper is in the open position and heat can escape up the chimney. When a vent-free product is operated with the damper in the closed position the top portion of the firebox can get much hotter than it did during open damper testing. The fireplace needs to be specifically evaluated for vent-free use because the conditions of use are so different.

Committee Meeting Action: Reject

Committee Statement: No evidence is provided that unvented room heaters installed in factory built

fireplaces listed in accordance with UL 127 have caused fires or other safety issues. The proposed requirement would be restrictive with no substantiation to support the restrictions.

Number Eligible to Vote: 29

Ballot Results: Affirmative: 21 Negative: 3

Ballot Not Returned: 5 Brown, D., Hagensen, S., Iwan, R., Rock, D., White, R.

Explanation of Negative:

EDGAR, G.: I believe unvented room heaters or unvented gas log sets should not be installed in factory-built fireplaces unless the fireplace has been specifically tested, listed and labeled for such use in accordance with UL 127.

UL has been presented evidence suggesting that these unvented appliances can / do have the ability to overheat a UL 127 fireplace with the damper closed. Based upon the evidence presented I am advised that UL supports the notion that these unvented appliances should be evaluated for use with the UL 127 fireplace; not automatically exempted just because it complies with the Z21.11.2.

I believe the original Panel Meeting Action to “Accept in Principle” should have been adopted.

~~GRESS, G.: The vent enclosure will not serve its intended purpose if it is too large, since the heat loss from the vent will not maintain the required ambient temperature in the enclosure.~~

GRESS, G.: Unvented room heaters (logs) installed in factory-built fireplaces that have not been tested in accordance with UL 127 for use with such heaters are, in effect, an untested installation. Pre-1999 fireplaces were tested for use with only Z21.60 vented gas log sets.

RIBBS, P.: The final action of the committee was to reject this proposal. There was much debate as to whether to include the term “in accordance with the manufacturer’s installation instructions.” The panel members stated that the code does not include this term as its scientific reason. However, the panel recommended for approval numerous code proposals that had this term of “in accordance with the manufacturers installation instructions” as part of the proposal. It appears the panel does not want to include manufacturer’s guidance for listed and tested products when they don’t like what the manufacturer’s instructions require the installer and authority having jurisdiction to accomplish. No scientific data was presented as to why this term should be left out on this specific proposal.

54-76 Log #CP13

Final Action: Accept

(12.4.4.2)

Submitter: Technical Committee on National Fuel Gas Code,

Recommendation: Revise text to read as follows:

12.4.4.2 Where automatically operated appliances, other than commercial cooking appliances, are vented through a ventilating hood or exhaust system equipped with a damper or with a power means of exhaust, provisions shall be made to allow the flow of gas to the main burners only when the damper is open to a position to properly vent the appliance and when the power means of exhaust is in operation.

Substantiation: The requirement is modified to exempt commercial cooking appliances to clarify the intent of the committee that commercial cooking appliances with range hoods are not required to be interlocked.

Committee Meeting Action: Accept

Number Eligible to Vote: 29

Ballot Results: Affirmative: 23 Negative: 1

Ballot Not Returned: 5 Brown, D., Hagensen, S., Iwan, R., Rock, D., White, R.

Explanation of Negative:

~~GRESS, G.: Unvented room heaters (logs) installed in factory-built fireplaces that have not been tested in accordance with UL 127 for use with such heaters are, in effect, an untested installation. Pre-1999 fireplaces were tested for use with only Z21.60 vented gas log sets.~~

GRESS, G.: There is no justification for allowing a broad category of appliances to not be interlocked with their venting means. If the hood operation is not assured, the cooking appliances could become unvented and endanger the kitchen employees.

Submitter: Gregg A. Gress, International Code Council

Recommendation: Revise text to read as follows:

13.2.23 Chimneys and Vents Locations. Table 13.2(a) through Table 13.2(e) shall only be used for chimneys and vents not exposed to the outdoors below the roof line. A Type B vent or listed chimney lining system passing through an unused masonry chimney flue shall not be considered to be exposed to the outdoors. A type B vent passing through an unventilated enclosure or chase insulated to a value of not less than R 8 shall not be considered to be exposed to the outdoors. The unventilated enclosure shall not be larger than required to enclose the vent and maintain the required clearances from the vent to combustibles. Table 13.2(f), Table 13.2(g), Table 13.2(h) and Table 13.2(i) shall be used for clay-tile-lined exterior masonry chimneys, provided all of the following conditions are met:

Substantiation: The unventilated and insulated enclosure is intended to maintain enough warmth to keep the vent from condensing and to maintain draft. In effect, the enclosure is making an outdoor vent an indoor vent by protecting it from wind and cold ambient temperatures. If the enclosure is allowed to be much larger than necessary, the heat transferred through the walls of the vent will not be able to keep the enclosure as warm as an “indoor” vent. The larger the enclosure, the greater the heat loss through the enclosure walls and the cooler the vent becomes. The enclosure becomes less and less effective as its internal volume increases.

Committee Meeting Action: Reject

Committee Statement: The proposed limit is believed to be excessively restrictive and has no technical substantiation. The committee agrees that a limit is reasonable, and invites comments on the subject.

Number Eligible to Vote: 29

Ballot Results: Affirmative: 23 Negative: 1

Ballot Not Returned: 5 Brown, D., Hagensen, S., Iwan, R., Rock, D., White, R.

Explanation of Negative:

~~GRESS, G.: The elevation of radiation elements has no bearing on the safety of hot water boilers. There is reason to believe that an occupant will be present or cognizant of the fact that loss of heat is the result of water loss.~~

GRESS, G.: The vent enclosure will not serve its intended purpose if it is too large, since the heat loss from the vent will not maintain the required ambient temperature in the enclosure.