Report of the Committee on

Chimneys, Fireplaces, and Venting Systems for Heat-Producing Appliances

Benjamin V. L. Weathersby, *Chair*
Decatur, GA [SE]

Bill Corbin, General Accident Insurance Co., IN [I]
Ralph Cunningham, Cerny & Ivey Engr Inc., GA [SE]
Glen Edgar, Selkirk Metalbestos, OH [M]
Dave Fetters, Hart & Cooley, Inc., MI [M]
Howard A. Grisack, Intertek Testing Services NA Inc., Canada [RT]
Roy Meacham, American Metal Products, MS [M]
Rep. Gas Appliance Mfrs. Assn. Inc.
Richard D. Peacock, NIST, MD [RT]
Jack Pixley, Jack Pixley Sweeps, Inc., MN [IM]
Rep. Nat'l Chimney Sweep Guild
Stanley J. Pople, Underwriters Laboratories of Canada, Canada [RT]
Robert A. Rucker, CMS Industries, Inc., NY [M]
Steven E. Schinbeckler, Columbus, OH [M]
Christopher R. Schulz, Van-Packer Co., Inc., IL [M]
Paul B. Stegmeir, St. Paul, MN [SE]
Richard L. Stone, Quincy, CA [SE]
Robert Zimmerman, Jr., Underwriters Laboratories Inc., IL [RT]

Alternates

Harry P. Jones, Underwriters Laboratories Inc., IL [RT]
(Alt. to R. J. Zimmerman)
Gary D. Thibeault, Gas Appliance Mfrs. Assn., Inc., VA [M]
(Alt. to R. Meacham)

Nonvoting

Eleanor F. Perry, U.S. Consumer Product Safety Commission, DC
Joseph F. Schulz, Van-Packer Products Inc., NJ
(Member Emeritus)
Michael J. Van Buren, Hearth Products Assn., VA [M]

Staff Liaison: **Christian Dubay**

Committee Scope: This Committee shall have primary responsibility for documents on fire safety for the construction, installation, and use of chimneys, fireplaces, vents, venting systems, and solid fuel-burning appliances. It also shall be responsible for documents on clearances of heat-producing appliances from combustible materials and terms relating to chimneys, vents, and heat-producing appliances.

This list represents the membership at the time the Committee was balloted on the text of this edition. Since that time, changes in the membership may have occurred. A key to classifications is found at the front of this book.

The Report of the Technical Committee on **Chimneys, Fireplaces, and Venting Systems for Heat-Producing Appliances** is presented for adoption in 2 parts.

Part I of this Report was prepared by the **Technical Committee on Chimneys, Fireplaces, and Venting Systems for Heat-Producing Appliances**, and proposes for adoption a reconfirmation to NFPA 97-1996, **Standard Glossary of Terms Relating to Chimneys, Vents, and Heat-Producing Appliances.** NFPA 97-1996 is published in Volume 10 of the 1998 National Fire Codes and in separate pamphlet form.

Part I of this Report has been submitted to letter ballot of the **Technical Committee on Chimneys, Fireplaces, and Venting Systems for Heat-Producing Appliances**, which consists of 16 voting members. The results of the balloting, after circulation of any negative votes, can be found in the report.

Part II of this Report was prepared by the **Technical Committee on Chimneys, Fireplaces, and Venting Systems for Heat-Producing Appliances**, and proposes for adoption amendments to NFPA 211-1996, **Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances.** NFPA 211-1996 is published in Volume 5 of the 1998 National Fire Codes and in separate pamphlet form.

Part II of this Report has been submitted to letter ballot of the **Technical Committee on Chimneys, Fireplaces, and Venting Systems for Heat-Producing Appliances**, which consists of 16 voting members. The results of the balloting, after circulation of any negative votes, can be found in the report.

PART I

(Log #CP1)

97- 1 - (Entire Document): Accept
SUBMITTER: Technical Committee on Chimneys, Fireplaces and Venting Systems for Heat Producing Appliances
RECOMMENDATION: The Technical Committee on Chimneys, Fireplaces, and Venting Systems for Heat-Producing Appliances proposes a reconfirmation of NFPA 97, Standard Glossary of Terms Relating to Chimneys, Vents, and Heat-Producing Appliances, 1996 edition.
SUBSTANTIATION: The Committee feels that there is a need for this document throughout the industry.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 10
NOT RETURNED: 6 Corbin, Grisack, Pople, Schulz, Stegmeir, Zimmerman

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(Log #CP2)

97- 2 - (Chapter 1): Accept
SUBMITTER: Technical Committee on Chimneys, Fireplaces and Venting Systems for Heat Producing Appliances
RECOMMENDATION: Adopt the preferred definitions for all of the following terms and delete the secondary.

Appliance, Portable. An appliance that is actually moved or can easily be moved from one place to another in normal use.
(FPN): For the purpose of this article, the following major appliances, other than built-in, are considered portable if cord-connected: refrigerators, range equipment, clothes washers, dishwashers without booster heaters, or other similar appliances.

Baffle. An object placed in an appliance to change the direction of, or to retard, the flow of air, air-gas mixtures, or flue gases.

Boiler. A closed vessel in which water is heated, steam is generated, steam is superheated, or in which any combination thereof takes place by the application of heat from combustible fuels, in a self-contained or attached furnace.

Boiler, Low-Pressure. A self-contained gas-burning appliance for supplying steam or hot water.

Central Warm Air Heating System. A heating system consisting of a heat exchanger with an outer casing or jacket, a solar collection system, or an electric heating unit, connected to a supply system and a return system.

Combustible Material. A material capable of undergoing combustion.

Combustion. A chemical process of oxidation that occurs at a rate fast enough to produce heat and usually light in the form of either a flow or flame.

Combustion Products. Constituents resulting from the combustion of a fuel with the oxygen of the air, including the inerts but excluding excess air.

Condenser. A piece of equipment that lowers the temperature of a vapor to the point where it changes to a liquid.

Confined Space. An area large enough and so configured that a member can bodily enter and perform assigned work. An area with limited or restricted means for entry and exit. An area that is not designed for continuous human occupancy. Additionally, a confined space is further defined as having one or more of the following characteristics:
(a) The area contains or has a potential to contain a hazardous atmosphere, including an oxygen-deficient atmosphere.
(b) The area contains a material with a potential to engulf a member.
(c) The area has an internal configuration such that a member could be trapped by inwardly converging walls or a floor that slopes downward and tapers to a small cross section.
(d) The area contains any other recognized serious hazard.

Control. The procedures, techniques, and methods used in the mitigation of a hazardous materials incident, including containment, extinguishment, and confinement.

Control, Nonrecycling-type Primary Safety (Combustion Safeguard). A primary safety control that, upon accidental flame failure during a normal firing cycle, causes a safety shutdown.

Control, Relight-type Primary Safety (Combustion Safeguard). A primary safety control providing interrupted ignition for automatically lighted burners that, upon accidental flame failure during a normal firing cycle, will cause the ignition energy to be restored in not more than 0.8 seconds; then, if the main burner flame is not established, causes a safety shutdown.

Draft. The flow of gases or air through chimney, flue, or equipment, caused by pressure differences.

Draft (Mechanical). Draft produced by a fan or an air or steam jet. When a fan is so located as to push the flue gases through the chimney or vent, the draft is forced. When the fan is so located as to pull the flue gases through the chimney or vent, the draft is induced.

Draft Hood. A device built into an appliance, or made a part of the vent connector from an appliance, that is designed to (1) provide for the ready escape of the flue gases from the appliance in the event of no draft, backdraft, or stoppage beyond the draft hood, (2) prevent a backdraft from entering the appliance, and (3) neutralize the effect of stack action of the chimney or gas vent upon the operation of the appliance.

Drip. A flow of liquid that lacks sufficient quantity or pressure to form a continuous stream.

Flame Spread Rating. A relative measurement of the surface burning characteristics of building materials when tested in accordance with NFPA 255, Standard Method of Test of Surface Burning Characteristics of Building Materials.

Fuel Gases. Any gas used as a fuel source including natural gas, manufactured gas, sludge gas, liquefied petroleum gas-air mixtures, liquefied petroleum gas in the vapor phase, and mixtures of these gases. (See NFPA 54, National Fuel Gas Code.)

Fuel Gases (Liquid Petroleum). Material composed predominantly of any of the following hydrocarbons, or mixtures of them: propane, propylene, butanes (normal butane or iso-butane), and butylenes.

Fuel Gases (LP-Gas-Air Mixture). Liquefied petroleum gases distributed at relatively low pressures and normal atmospheric temperatures that have been diluted with air to produce desired heating value and utilization characteristics.

Fuel Gases (Manufactured). A mixture of gases usually composed of various proportions of some of the following gases:
(a) Coal gas — formed by distillation or cracking of bituminous coal.
(b) Coke-oven gas — produced in a similar manner as a by-product in the manufacture of coke.
(c) Carbureted water gas — formed by flowing steam through incandescent carbon.
(d) Oil gas — made by "cracking" petroleum oils.

Fuel Gases (Natural). A mixture of gases, principally methane and ethane obtained from gas wells and from which less volatile hydrocarbons such as propane and butane have been removed, leaving a mixture of gases that will remain in the gaseous state at all pressures and temperatures encountered in the distribution system.

Fuel Oil. Numbers 2, 4, 5, and 6 fuel oils as defined in ASTM D 396, Standard Specifications for Fuel Oils.

Gallon of Oil. The amount of oil that will occupy one standard U.S. gal (231 $in.^3$) at a temperature of 60°F (16°C).

Header. A pipe or duct through which liquid or gas is conveyed and supplied to or received from multiple branches.

High Gas Pressure Switch. A pressure-actuated device that is arranged to effect a safety shutdown or to prevent starting when the gas pressure exceeds the preset value.

High Steam Pressure Switch. A pressure-actuated device that is arranged to effect a normal burner shutdown when the steam pressure exceeds a preset pressure.

Inerting. A technique by which a combustible mixture is rendered nonignitable by addition of an inert gas or a combustible dust. (See also Blanketing.)

Limited-Combustible. A building construction material not complying with the definition of noncombustible material that, in the form in which it is used, has a potential heat value not exceeding 3500 Btu/lb (8141 kJ/kg), where tested in accordance with NFPA 259, Standard Test Method for Potential Heat of Building Materials, and complies with (a) or (b) below. Materials subject to increase in combustibility or flame spread index beyond the limits herein established through the effects of age, moisture, or other atmospheric condition shall be considered combustible.
(a) Materials having a structural base of noncombustible material, with a surfacing not exceeding a thickness of 1/8 in. (3.2 mm) that has a flame spread index not greater than 50.
(b) Materials, in the form and thickness used, other than as described in (a), having neither a flame spread index greater than 25 nor evidence of continued progressive combustion and of such composition that surfaces that would be exposed by cutting through the material on any plane would have neither a flame spread index greater than 25 nor evidence of continued progressive combustion.

Lintel. A horizontal member spanning and carrying the load above an opening.

Low Oil Temperature Switch. A temperature-actuated device that initiates a signal when the oil temperature falls below the limits that are required to maintain the viscosity range recommended by the burner manufacturer.

Low-Water Cutoff. A device that is arranged to effect a shutdown of the burner when the water level in the boiler falls to a predetermined low level.

Main Burner. A device or group of devices essentially forming an integral unit for the final conveyance of gas or a mixture of gas and air to the combustion zone, and on which combustion takes place to accomplish the function for which the appliance is designed.

Manufacturer. The person or persons, company, firm, corporation, partnership, or other organization responsible for turning raw materials or components into a finished product.

Mechanical Exhaust System. Equipment installed in and made a part of the vent, which will provide a positive induced draft.

Modulate. To gradually vary the fuel and air flows to the burner in accordance with load demand.

Noncombustible Material. A material not capable of supporting combustion.

Oven, Baking and Roasting. An oven used principally for food preparation.

Oven, Baking and Roasting (Cabinet). A single stationary deck oven having more than one deck heated by a single burner or group of burners.

Oven, Baking and Roasting (Reel-type). A single oven employing trays that are moved by mechanical means.

Oven, Baking and Roasting (Sectional). A single stationary deck oven or one composed of one or more independently heated stationary decks.

Pilot. A flame that is used to light the main burner.

Piping (Pipe). Rigid conduit of iron, steel, copper, brass, aluminum, or plastic.

Piping System. All piping, valves, and fittings from the outlet of the point of delivery from the supplier to the outlets of the equipment shutoff valves.

Plenum. A compartment or chamber to which one or more air ducts are connected that forms part of the air distribution system, and that is not used for occupancy or storage. (See 2-3.10, Plenums, for specific types.)

Purge. A flow of air through the furnace, boiler gas passages, and associated flues and ducts that effectively removes any gaseous or suspended combustibles and replaces them with air. Purging also can be accomplished using an inert medium.

Return System, Air Conditioning. An assembly of connected ducts, air passages or plenums, and fittings through which air from the space or spaces to be conditioned is conducted back to the cooling or heating unit.

Set Point. A predetermined value to which a device or system is adjusted and at which it shall perform its intended function.

SUBSTANTIATION: The Committee feels that there is a need for this document throughout the industry.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 10
NOT RETURNED: 6 Corbin, Grisack, Pople, Schulz, Stegmeir, Zimmerman

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PART II

(Log #27)

211- 1 - (1-5.2 Accessible, Accessible, Readily, Concealed (Inaccessible)): Accept in Principle
SUBMITTER: James P. Brewer, Nat'l Chimney Sweep Guild
RECOMMENDATION: Add new definitions as follows:
Accessible.* Capable of being exposed for inspection, maintenance or repair without damage to the chimney or building structure or finish, but which may required the removal of doors, panels or coverings using commonly available tools.
Accessible, Readily.* Exposed, or capable of being exposed, for operation, inspection, maintenance or repair without the use of tools to open or remove doors, panels or coverings.
Concealed (Inaccessible). Not capable of being exposed for inspection, maintenance or repair without damage to the chimney or building structure or finish, or without the use of special tools.
SUBSTANTIATION: The addition of three definitions in Section 1-5.2 are needed to define terms used throughout this proposal.
COMMITTEE ACTION: Accept in Principle.
Add new heading to read as follows: "Accessibility, With regard to inspections."
Accessible is acceptable as submitted.
Accessible, Readily is acceptable as submitted.
Modify term Concealed (Inaccessible) to read as follows: "Non-Accessible(Concealed)." Definition is acceptable as submitted.
COMMITTEE STATEMENT: The Committee clarified that the definitions apply to inspection and to locate all the definitions in one location.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #CP2)

211- 2 - (1-5.2 Chimney, 3-1.2, A-1-5.2): Accept
SUBMITTER: Technical Committee on Chimneys, Fireplaces, and Venting Systems for Heat-Producing Appliances
RECOMMENDATION: Addition to 1-5.2 - definitions and Appendix A.
Chimney. A structure containing one or more vertical or nearly vertical passageways for conveying flue gases to the outside atmosphere. [See also Vent, Gas Vent, and Venting System (Flue Gases).]
Factory-Built.
Residential Type and Building Heating Appliance Type. A chimney suitable for use at 1000F (538°C), which complies with the 10 minutes 1700°F temperature test of UL103 and is composed of listed, factory-built components that might be fully enclosed in combustible, residential type construction, and that is assembled in accordance with the terms of the listing to form a completed chimney.

Residential Type and/or Building Heating Appliance Type - Type HT.* A residential type and building heating appliance chimney suitable for use at 1000°F (538°C), which complies with the optional 10 minute 2100°F temperature test of UL103. Such chimneys are labeled as "Type HT" and are required for certain solid fuel fired applications (see Section 3-1.2).

Add a new definition to Building Heating Appliance Type as follows:

Positive Pressure Capable. A residential type and/or building heating appliance chimney listed for use in positive internal pressure applications.

Add a new Appendix section to 3-1.2 to read as follows: See Section A-1-5.2

Add to Appendix A-1-5.2:

A-1-5.2 Chimneys - Factory-Built - Type HT. Chimneys designated as "Type HT" are listed for venting flue products not exceeding 1000°F continuous. In addition they comply with the 10 min 2100°F temperature test requirements of UL103. Such test requirements were developed to simulate the effects of a chimney fire. Type HT chimneys are required on certain controlled combustion solid fuel burning appliances since they are often associated with a higher likelihood of creosote buildup and associated occurrence of chimney fires.

A-1-5.2 Chimney - Factory-Built - Positive Pressure Capable. Factory-built chimneys listed as such have been found to comply with the positive pressure test requirements of the UL103 chimney standard. Positive pressure chimneys are labeled as suitable for applications where operating pressures within the chimney are positive with respect to the surrounding atmospheric pressure and less than the maximum pressure specified in the lsiting.

SUBSTANTIATION: The Committee clarified the difference between type HT and non-HT type chimneys. The Committee also addressed the issue of positive pressure chimneys.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #10)

211- 3 - (1-5.2 Chimney, Factory-Built , Positive Pressure Capable (New)): Accept in Principle
SUBMITTER: Glen Edgar, Selkirk Metalbestos
RECOMMENDATION: Add the following to the definition of Chimney, Factory-Built:

Chimney, Factory-Built, Positive Pressure Capable. A Residential Type and/or Building Heating Appliance, factory-built chimney listed in accordance with the optional "Positive Pressure" requirements of the UL 103 chimney standard.

SUBSTANTIATION: UL 103 now contains construction/test requirements for evaluation of chimneys for use with positive internal pressure. Chimneys designed/offered for such applications are required to comply and are listed for such usage. This should be acknowledged in the standard.
COMMITTEE ACTION: Accept in Principle.
COMMITTEE STATEMENT: See Committee Proposal 211-2 (Log #CP2).
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #11)

211- 4 - (1-5.2 Chimney, Factory-Built, Type HT Chimney (New)): Accept in Principle
SUBMITTER: Glen Edgar, Selkirk Metalbestos
RECOMMENDATION: Add the following to the definition of Chimney, Factory-Built:

Chimney, Factory-Built, Type HT Chimney. A factory-built chimney listed in accordance with the optional "Type HT" requirements of the UL 103 chimney standard.

SUBSTANTIATION: The term "Type HT chimney" is in common use and is being alluded to in Paragraph 3-1.2 in NFPA 211 but is not defined. It should be.
COMMITTEE ACTION: Accept in Principle.
COMMITTEE STATEMENT: See Committee Proposal 211-2 (Log #CP2).
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #28)

211- 5 - (1-5.2 Room Heater): Accept in Principle
SUBMITTER: James P. Brewer, Nat'l Chimney Sweep Guild
RECOMMENDATION: Revise text to read as follows:

Room Heater. A self-contained, ~~freestanding,~~ air-heating appliance intended for installation in the space being heated and not intended for duct connection.

(Definitions for "Room Heater, Circulating", "Room Heater, Radiant", Room Heater, Solid Fuel", and "Room Heater/Fireplace Stove, Combination" unchanged.)

SUBSTANTIATION: A room heater does not have to be freestanding. A fireplace insert is also a type of room heater but it is not freestanding.
COMMITTEE ACTION: Accept in Principle.

Additionally delete "air-" and "self-contained," from the definition so it reads:

Room Heater. A heating appliance intended for installation in the space being heated and not intended for duct connection.

(Definitions for "Room Heater, Circulating", "Room Heater, Radiant", Room Heater, Solid Fuel", and "Room Heater/Fireplace Stove, Combination" unchanged.)

COMMITTEE STATEMENT: The Committee agreed with the submitter and felt that the additional language was unneeded. Self contained is implied by the term appliance. Room heaters are not limited to free standing and these appliances typically provide heat by radiant methods.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #12)

211- 6 - (1-5.2 Vent): Accept in Principle
SUBMITTER: Glen Edgar, Selkirk Metalbestos
RECOMMENDATION: Change the definition of "Vent" as follows:

Vent. A flue gas conveying system intended for use only with certain gas, liquid, or solid fuel fired appliances that do not produce flue gas outlet temperatures higher than ~~600°F (315.6°C)~~ a value specified in the respective vent standards.

SUBSTANTIATION: The current reference to 600°F is not accurate for all vents and could lead the reader to believe that all vents are suitable for handling such flue gas temperature. Type B gas vent is tested at only approximately 480°F, and Type L vent is tested at only approximately 580°F. 600°F is not the correct number. The number referenced should be correct or the definition changed to eliminate any possible misunderstanding.
COMMITTEE ACTION: Accept in Principle.

Change "solid" to "pellet" in the proposed changes. Change "respective vent standards" to "listing standard".

Vent. A flue gas conveying system intended for use only with certain gas, liquid, or pellet fuel fired appliances that do not produce flue gas outlet temperatures higher than a value specified in the listing vent standards.

Add new A-1.5.2 Vent.

Type B gas vent is tested with flue gases at 400°F above ambient.

Type BW gas vent is tested with flue gases at 480°F above ambient and is limited to use only with certain gas fired wall furnaces.

Special Gas Vent may be certified at a variety of flue gas temperature rises up to 480°F above ambient.

Pellet Vent is tested with flue gases at 500°F above ambient.

Type L Vent is tested with flue gases at 500°F above ambient.

COMMITTEE STATEMENT: The Committee agreed with the submitter and included the additional changes. The Committee intended that vents apply to pellet fueled appliances and not to all solid fuel appliances. The Committee also intends that the vents be utilized in accordance with the listing standards which vary in temperature requirements. The Committee added additional appendix material to clarify the tested temperatures vent types.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #CP3)

211- 7 - (1-7, 3-3, 4-1.11, 5-1.8): Accept

SUBMITTER: Technical Committee on Chimneys, Fireplaces, and Venting Systems for Heat-Producing Appliances

RECOMMENDATION: Change title of Section 1-7 to read as follows: "Sizing and Draft*".

Add a second sentence to read as follows:

"Oversized chimneys or vents shall be evaluated to ensure proper performance with respect to draft, creosote build-up, and condensation."

Reword the last sentence to read as follows:

"The venting system shall satisfy the draft requirements of the connected appliance(s) in accordance with the manufacturers' instructions or approved methods."

Add a new appendix section A-1-7 to read as follows: "See section A-1-5.2".

Add new section 3-3 to read as follows:

"Sizing.* Factory-Built Chimneys shall be sized and configured in accordance with the appliance and chimney manufacturers' instructions or approved methods."

Add appendix section A-3-3 to read as follows: "See section A-1-5.2".

Add new section 4-1.11 to read as follows:

"Sizing.* Masonry Chimneys shall be sized and configured in accordance with the appliance manufacturers' instructions or approved methods."

Add appendix section A-4-1.11 to read as follows: "See section A-1-5.2".

Add new section 5-1.8 to read as follows:

"Sizing.* Unlisted Metal Chimneys shall be sized and configured in accordance with the appliance manufacturers' instructions or approved methods."

Add appendix section A-5-1.8 to read as follows: "See section A-1-5.2".

Change title for section A-1-5.2 to read as follows: "Chimney and Vent Sizing and Engineered Systems."

SUBSTANTIATION: The Committee felt that it was necessary to address sizing for the various types of vents and chimneys. It is the intent of the Committee that the manufacturers' instructions be followed.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 13

NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #1)

211- 8 - (1-7.2): Accept in Principle

Note: This Proposal appeared as Comment 211-1 (Log #1) which was held from the Annual 96 ROC on Proposal 211-9.

SUBMITTER: Steen Hagensen, EXHAUSTO, Inc.

RECOMMENDATION: Add to 1-7.2:

"Where a mechanical draft system is installed with a manually fired appliance, provisions shall be made to assure audible alarm, if spillage occurs. Mechanical draft systems for manually fired appliances should be located at the chimney termination, and provide induced draft. The mechanical draft system shall comply with the requirements in Section 1-11.

Exception: A forced draft mechanical draft system is part of a listed appliance.

Delete proposed 1-7.2.1 and Exceptions.

SUBSTANTIATION: The proposal is very limited in its scope. It does not take into consideration factors that can sometimes have a hazardous negative impact when using a manually fired appliance without applying a mechanical draft system. It is very clear, that the submitter assumes any chimney performance problem can be solved without applying a mechanical draft system. The proposal will cause more problems than it will solve as new buildings are getting tighter and depressurization is more likely to occur. It's also in conflict with future developments in the fields of Indoor Air Quality and Energy Conservation. Our proposed text revision meets the intent of the submitter, while still allowing progress, so please consider these comments on the proposal.

A. Mechanical draft systems are seldom being used inappropriately to cure chimney performance problems. Mechanical draft systems are relatively expensive and therefore typically only used as a last resort. However, the fact that the number of mechanical draft systems installed for use with manually fired appliances is increasing rapidly, more than indicates that either existing chimney systems may be at fault or that other problems exist. Many of these problems can only be solved by applying a mechanical draft system.

B. According to NFPA 211 Chapter 1-7.1 a venting system shall satisfy the draft requirements of the connected appliance in accordance with the equipment manufacturers' instructions or the chapter on Chimney, Gas Vent, and Fireplace Systems of the Equipment Volume of the ASHRAE Handbook.

The 1992 ASHRAE Handbook, HVAC Systems & Equipment, page 31.19, states:

"Frequently, in new homes (especially in high-rise multiple-family construction), fireplaces of normal design cannot cope with mechanically induced reverse flow or shortages of combustion air. In such circumstances, fireplaces should include induced draft blowers of sufficient capability to overpower other mechanized air-consuming systems. An inducer for this purpose is best located at the chimney outlet and should produce..."

This text clearly states that there is no reason to believe that mechanical draft systems are always applied inappropriately and only where the chimney is operating poorly to begin with, as the submitter claims.

Mechanical draft systems require make-up air — as any other exhaust fan in a building. Installed on a fireplace chimney, the mechanical draft system can add to the depressurization of a building, but it is rarely the only cause. Any exhaust fan in a building adds to the depressurization. The depressurization can theoretically cause a furnace to spill, but it is our experience, that when this happens the reason is that adequate make-up air was never supplied to the furnace as required per NFPA 54.

It is our opinion and experience, that a mechanical draft system should only be applied when adequate make-up air is provided to the appliance it is serving, and that adequate make-up air is provided to other appliances, whether automatically or manually fired.

C. A mechanical or electrical failure of the draft system can result in spillage. However, the spillage from a manually fired appliance is normally visible and has a strong odor. It is not as dangerous as spillage from a gas appliance, where the fumes are invisible and sometimes odorless. For this reason, an audible alarm (a CO-monitor/alarm) indicating spillage should be sufficient for a mechanical draft system serving a manually fired appliance. There is no need to force a provision to prevent the flow of fuel to a manually fired appliance. The flow of fuel stops when fuel is no longer manually applied. The continued combustion may cause spillage, but not in excess of a chimney blocked by debris, animal nests — or reversed flow in the chimney caused by strong winds or eddies.

As one of the eight members on the CEN/TC156 committee (responsible for writing the new venting standards/codes for all the EEC countries) and our almost 40 years experience as one of the leaders worldwide in the chimney draft technology field, we have never experienced or heard of any injuries or fatalities as a direct or indirect result of a mechanical draft system, servicing a manually fired appliance, that failed mechanically or experienced a power outage.

Considering that power outages are relatively rare, other types of equipment WHEN IN USE is more likely to cause spillage from a fireplace. Kitchen ventilators, bathroom fans and other exhaust fans can be much more dangerous, as the 1992 ASHRAE Handbook, HVAC volume states: "For example, a residential attic fan can be hazardous, if it is advertently turned on while a fireplace is in use."

D. Mechanical draft systems do not necessarily pose further substantial restriction to the venting system, when not operating. As a matter of fact, the ETL safety listing of an EXHAUSTO chimney fan to UL 378, Standard for Draft Equipment, showed that the resistance of the fan was .01 in. WC (ETL data sheet). This pressure loss is substantially lower than the pressure loss that can be measured on most chimney caps or wind-directional caps that are presently installed and are being installed on a large number of chimneys. It would be appropriate to have the mechanical draft system meet the requirements of Section 1-11, Caps and Spark Arrestors for Chimneys and Vents.

Forced draft mechanical draft systems are installed prior to or in the chimney. These systems typically create a positive pressure in the chimney and can cause a hazardous situation if the chimney is not air-tight. Smoke and carbon monoxide spillage could occur without anybody knowing. Mechanical draft systems should only be applied as induced draft systems, which can be achieved by forcing the location to the chimney termination.

E. The proposed Exception No. 1 should be deleted due to the previous comments but also as it only seems to protect a mechanical draft system that is part of a listed appliance. The fact that the mechanical draft system is an integrated part of a listed

appliance does not mean an entire installation is safe. For example, a wood-fired burner with a power-venter at the outlet may be listed as a complete unit. If the chimney serving the unit is not working properly, this listed system is no safer than a system where the mechanical draft system is applied to the top of the chimney.

Further, Exception No. 1 does not provide information for mechanical draft systems that comply with UL 378 and UL 103 and are listed for use with manually fired appliances.

A new Exception as proposed by us should be added to assure that mechanical draft system that creates a positive pressure in the chimney system is an integrated part of a listed appliance.

F. Exception No. 2 does not have any impact with the revision proposed by us.

Note: Supporting material is available for review at NFPA Headquarters.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Proposal 211-9 (Log #CP1).

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 12

ABSTENTION: 1

NOT RETURNED: 3 Corbin, Pople, Stegmeir

EXPLANATION OF ABSTENTION:

GRISACK: I abstained because I have insufficient knowledge of the system and the cross effects of it's installation to have a solid opinion. There needs to be an interlock between the forced air draft system and the fuel supply.

My general concern is that there needs to be confidence that each field installation will be tested within the total home system, and somehow the homeowner entrusted with the need to assure that no additions or deletions of equipment would change the safety of the system.

Realistically I do not see how that would be accomplished.

(Log #CP1)

211- 9 - (1-7.2): Accept

SUBMITTER: Technical Committee on Chimneys, Fireplaces, and Venting Systems for Heat-Producing Appliances

RECOMMENDATION: Revise 1-7.2 to read:

1-7.2 Mechanical Draft Systems. A listed mechanical draft system of either forced or induced draft design shall be permitted to be used to increase draft or capacity. Where a mechanical draft system is installed, provision shall be made to prevent the flow of fuel to automatically fired appliance(s) when that system is not operating.

Add a new 1-7.2.1 to read:

1-7.2.1 Effect on Other Equipment. The operation of a mechanical draft system shall not adversely affect the performance or safety of, or cause spillage of combustion products from, other combustion equipment operating within the same building. Proper performance and safety of other combustion equipment shall be verified by testing prior to putting the mechanical draft system into service. Such testing shall include operation of the mechanical draft system together with other exhaust equipment likely to operate simultaneously.

Add a new 1-7.2.2 to read:

1-7.2.2 Manually Fired Appliances. Mechanical draft systems of either forced or induced draft shall not serve manually fired appliances.

Exception No. 1: Where the mechanical draft system is an integral part of a listed appliance.

Exception No. 2: Solid fuel cooking appliances as addressed in NFPA 96,Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations.

Exception No. 3: Engineered mechanical draft systems which include the following provisions:

(a) The following detection and warning devices shall be installed and line voltage devices when installed, shall be provided with a battery back up system:

1. A device which produces an audible and visible warning upon failure of the mechanical draft system shall be installed. The device shall be activated by both loss of electrical power supply or by operational failure of the mechanical draft system, at any time while the mechanical draft systems is switched on.

2. A smoke detector and alarm shall be installed and maintained in accordance with NFPA 72. The detector shall be installed in the same room as the appliance served by the mechanical draft system.

3. A carbon monoxide detector and alarm listed in accordance with UL 2035 shall be installed in accordance with manufacturer's instructions. The detector shall be installed in the same room as the appliance served by the mechanical draft system.

(b) The mechanical draft system shall be listed in accordance with UL 378 for use with the type of appliance and range of chimney service appropriate for the application. The mechanical draft system shall not cause or permit blockage of the flue or electrical hazard after exposure to a chimney fire or over fire conditions. The mechanical draft system shall be installed in accordance with the terms of the listing and the manufacturer's instructions.

(c) Mechanical draft system shall be sized to maintain draft within the range specified by the appliance manufacturer.

SUBSTANTIATION: The Committee is addressing the use of mechanical draft systems and the issues raised during the last cycle.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 12

ABSTENTION: 1

NOT RETURNED: 3 Corbin, Pople, Stegmeir

EXPLANATION OF ABSTENTION:

GRISACK: This addresses the interlock issue mentioned in 211-8. However, my general lack of knowledge leaves me with concern that the CO monitoring may be necessary elsewhere in the home.

Perhaps if the draft system when installed is set at a level that minimally produces draft there would be less concern.

(Log #2)

211- 10 - (1-8): Reject

SUBMITTER: Charles D. Earley, Fire Prevention Bureau

RECOMMENDATION: Revise text as follows:

Vents and metal chimneys installed within a combustible chase:

1. Regulate height of chimneys as they terminate through top of chase, i.e. oil vent 8 in. higher.

2. Consider the chase top as new roof level and apply NFPA 211 termination heights (1-8.1) or protect sides of chase with metal of equivalent depth of protection.

SUBSTANTIATION: The installation of one or more metal chimneys installed within and extending above a chase constructed of combustible material should be regulated in two ways:

1. Height between the installed metal chimneys i.e. oil chimney or vent should be higher due to effect of decay causing additives to surrounding metal chimneys and

2. Top of any combustible chase should be treated as the new roof level and apply termination heights as listed in NFPA 211 1-8.1 or protect the chase top on all sides with a non-combustible cover of appropriate size.

Note: Supporting material is available for review at the NFPA headquarters.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The submitter provides no recommended revised text or technical changes and no substantiation to support the change. These issues are currently covered by the manufacturers installation instructions.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 13

NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #CP4)

211- 11 - (1-10.3 (New)): Accept

SUBMITTER: Technical Committee on Chimneys, Fireplaces, and Venting Systems for Heat-Producing Appliances

RECOMMENDATION: Add new section 1-10.3 to read as follows:

1-10.3 Space Surrounding Liner or Vent. The remaining space surrounding a chimney liner, gas vent, special gas vent, or plastic piping installed within a chimney flue shall not be used to vent another appliance.

Exception: The insertion of another liner or vent within the chimney as provided by this standard and the liner or vent manufacturer's instructions.

SUBSTANTIATION: The Committee added this requirement to ensure that the space surrounding a liner or vent within a chimney flue not be utilized to vent additional appliances. Where additional appliances are added it is the intent of the Committee that another properly sized vent or liner be added to the chimney flue.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #9)

211- 12 - (1-11.3): Reject
SUBMITTER: Western Regional Fire Code Dev. Committee
RECOMMENDATION: Revise text to read as follows:
1-11.3 Spark arresters, shall be ~~where~~ required ~~by the authority having jurisdiction~~ for chimneys attached to solid fuel-burning equipment and shall meet the following:
(a) The net-free area of the arrester shall be not less than four times the net-free area of the outlet of the chimney flue it serves.
(b) The arrester screen shall have heat and corrosion resistance equivalent to 19-gauge [0.041-in. (1.04-mm)] galvanized steel or 24-gauge [0.024-in. (0.61-mm)] stainless steel.
(c) Openings shall not allow the passage of spheres having a diameter larger than 1/2 in. (12.7 mm) nor block the passage of spheres having a diameter of less than 3/8 in. (9.5 mm).
(d) The spark screen shall be accessible for cleaning, and the screen or chimney cap shall be removable to allow for cleaning of the chimney flue.

SUBSTANTIATION: Spark arrestor should be installed on all systems. The proposed wording requires spark arrestors and permits the authority having jurisdiction to exempt them when necessary instead of making the authority having jurisdiction require them.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The Committee prefers to leave the requirements for spark arrestors to areas where the authority having jurisdiction has determined that they will be required as an added level of fire safety. Regional climate and system requirements may necessitate local decisions. The committee feels that the requirement for spark arrestors in all regions is unnecessary.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir
COMMENT ON AFFIRMATIVE:
GRISACK: Must be a listed component if used on a listed system.

(Log #13)

211- 13 - (2-2): Accept
SUBMITTER: Glen Edgar, Selkirk Metalbestos
RECOMMENDATION: Revise text as follows:
Chimney or Vent Selection. The selection of a chimney or vent shall be based on the type of appliance connected thereto, the fuel used by the appliance, ~~and~~ the temperature of the flue gases at the appliance outlet , and the pressure within the chimney/vent.
SUBSTANTIATION: Additional words are necessary to draw attention to the fact that only certain type of chimneys and vents are appropriate for positive internal pressure applications. Most are appropriate only for negative internal pressure. With respect to factory-built systems, the certification standard now addresses this issue, and only certain chimneys and vents are listed for positive pressure applications, whereas there are no limitations for negative pressure applications.
COMMITTEE ACTION: Accept.
Editorial change "chimney/vent" to "chimney or vent" so it reads:
Chimney or Vent Selection. The selection of a chimney or vent shall be based on the type of appliance connected thereto, the fuel used by the appliance, ~~and~~ the temperature of the flue gases at the appliance outlet, and the pressure within the chimney or vent.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #14)

211- 14 - (3-1.1): Accept
SUBMITTER: Glen Edgar, Selkirk Metalbestos
RECOMMENDATION: Revise text as follows:
"Factory-built chimneys and chimney units shall be listed and ~~shall be~~ installed in accordance with the temperature and pressure conditions of the listing and the manufacturer's instructions. Flue gas temperatures and static pressures within the chimney shall not exceed the limits employed during listing tests."
SUBSTANTIATION: Words proposed to be eliminated are redundant. Additional proposed words are necessary to draw attention to the fact that only certain type of chimneys are appropriate for positive internal pressure applications. Most are appropriate only for negative internal pressure. Unlike in the past, the certification standard for these products now addresses this issue, and only certain chimneys and vents are listed for positive pressure applications, whereas there are no limitations for negative pressure applications.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #6)

211- 15 - (Chapter 4): Reject
SUBMITTER: Dana Estey, Black Goose Chimney Sweeps
RECOMMENDATION: Add new text to Chapter 4 as follows:
"When an oil fired appliance connected to a masonry chimney is replaced with a gas fired unit, the chimney must be checked to see if there is a liner present and is in good working condition, properly sized for the new unit to maintain flue gas buoyancy ensuring complete evacuation of the elements of combustion. If no liner is present, or a damaged or improperly sized liner is found, a liner or new liner UL approved and properly sized for the new gas appliance must be installed prior to the installation of the gas fired appliance."
SUBSTANTIATION: My substantiation for the submission of this proposal is based on my eight years experience in the chimney business and the countless number of cases I've encountered through both personal observation and discussions I've had with various installers and gas companies about this problem. By doing an oil to gas conversion using an existing chimney situation such as a new higher efficiency appliance into an unlined or oversized chimney cavity spells trouble for the homeowner, be it carbon monoxide leakage, or major interior flue erosion leading to possible blockage then CO poisoning. I would greatly like to see this problem eradicated.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: Currently section 4-2.2 and section 10-4 address the issues raised in the submitters materials. The issues of sizing are addressed in NFPA 54, National Fuel Gas Code and section 7-2 of NFPA 211.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #20)

211- 16 - (4-2.1): Reject
SUBMITTER: Jon D. Hodgkins, Maine Masonry Co. Inc.
RECOMMENDATION: Add the following text:
"Masonry chimneys shall be constructed of solid masonry (solid grout or mortar filled concrete masonry units) or solid, waterproofed, modular concrete blocks..."
SUBSTANTIATION: The problem we have had is that NFPA 211, Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances, does not include specifications for constructing a solid grout filled, reinforced CMU chimney for commercial applications.
It has specifications for commercial chimney construction (4-2.1), with either reinforced portland or refractory cement formed in place or solid masonry blocks (defined in 211-8). Solid masonry blocks do not provide space for grout and rebar to tie the chimney together to make it structurally sound.
I contacted Richard Best from NFPA and he said that when there is no specification in NFPA then the compliance officer in the area, (Paul Moody), would determine what will meet code. Paul Moody has told Maine Masonry that a commercial chimney

constructed of solid grout filled CMU does not comply with NFPA code.

The reason for this proposal is that if changes are not made, NFPA 211 will impact the masonry industry greatly because structural engineers will change the design of commercial chimneys to meet NFPA code by making them out of either metal or formed in place concrete. They will most likely not use solid block because it does not provide the necessary space for rebar and grout.

The following is a quote from NFPA 211 on equivalency:

"NFPA 211, 1-3 Equivalency. Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard, provided technical documentation is submitted to the authority having jurisdiction to demonstrate equivalency and the system, method, or device is approved for the intended purpose."

According to the compliance officer a commercial chimney constructed of solid grout filled CMU does not comply with NFPA code and is not equivalent; the American Concrete Institute says otherwise. The American Concrete Institute (ACI) produces a committee report titled ACI 216.1-97/TMS 0216.1-97, Standard Method for Determining Fire Resistance of Concrete and Masonry Construction Assemblies. In Chapter 3, Concrete Masonry, it says that the fire rating of concrete masonry is determined by the equivalent thickness of the concrete masonry assembly. It then states in 3.2.2 that the equivalent thickness of solid grouted concrete masonry units is the actual thickness of the unit.

According to NFPA 211 as it is written now, you can construct a commercial chimney out of solid masonry units which is defined in NFPA 211-8 as being greater than 75% solid, but you cannot construct a chimney out of regular CMU grouted solid. The American Concrete Institute gives a better fire rating for regular CMU grouted solid than it does for 75% solid block.

I have submitted a copy of Chapter 3, Concrete Masonry, from the Standard Method for Determining Fire Resistance of Concrete Masonry Construction Assemblies, ACI 216.1-97/TMS 0216.1-97. I have also submitted a copy of the business card for the compliance officer in our area.

Note: Supporting material available for review at NFPA Headquarters.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The Committee has established a task group to study this issue and address it during the comment stage.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 13

NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #5)

211- 17 - (4-2.7 Exception No. 3 (New)): Accept in Principle

SUBMITTER: Eddie Pleasants, SOLID/FLUE Chimney Systems, Inc.

RECOMMENDATION: Add a new Exception No. 3 to read:

Exception No. 3: Listed chimney liners installed to manufacturer's instructions.

SUBSTANTIATION: When restoring historical chimneys with a cast in place system there is not enough room for two or more proper size flues and a 4 in. wythe wall. The reason being these chimneys were sized properly when they were built. 1 in. of lightweight cement has the same "K" factor as 4 in. brick. We have installed multiple flues in several test locations with a 2 in. wythe wall. In all cases they are working with no adverse affects.

COMMITTEE ACTION: Accept in Principle.

Reword the exception to read:

"Chimney liners that have been listed for use as multiple flues installed in accordance with the terms of the listing."

COMMITTEE STATEMENT: Currently the listing requirements do not address the issue of multiple vents or flues in a single chimney in their testing requirements. However, the Committee does not want to prohibit chimney liners that have been specifically listed for this use.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 13

NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #15)

211- 18 - (6-2.2.1): Accept in Principle

SUBMITTER: Glen Edgar, Selkirk Metalbestos

RECOMMENDATION: Revise text as follows:

Appliances Installed in Attics. Vent connectors for listed gas appliances and appliances listed for use with Type B gas vents that are installed in attics shall be of Type B or Type L material or be listed as having equivalent insulating value.

SUBSTANTIATION: Additional words are necessary to permit use of listed gas vent connectors to be installed in attics as long as they incorporate equivalent insulating value to Type B or L vent. Such products are now available on the market whereas they were not in the past.

COMMITTEE ACTION: Accept in Principle.

Change recommended text to read as follows:

"... or be listed vent connector material having at least an equivalent insulating value".

COMMITTEE STATEMENT: The Committee intends to further clarify that the listing apply to the vent connector material.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 13

NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #16)

211- 19 - (6-6): Accept in Principle

SUBMITTER: Glen Edgar, Selkirk Metalbestos

RECOMMENDATION: Revise text as follows:

Location. Where the connector used for a gas appliance having a draft hood or for Category I appliances is located in or passes through an attic, crawl space, or other cold area, that portion of the connector shall be of listed Type B or Type L vent material ~~or provided with equivalent means of insulation.~~

SUBSTANTIATION: This clause contradicts Paragraphs 6-7.11 and 6-7.14. The proposed revision would correct such inconsistency.

COMMITTEE ACTION: Accept in Principle.

Add the following text to the end of the section after "vent material" to read as follows:

"...or be listed vent connector material having at least an equivalent insulating value" .

COMMITTEE STATEMENT: See Committee Statement on Proposal 211-18 (Log #15).

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 13

NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #26)

211- 20 - (6-8.2): Accept

SUBMITTER: Dave Fetters, Hart & Cooley Inc.

RECOMMENDATION: Revise text to read as follows:

"Unless listed for such connection, solid fuel-burning appliances shall not be connected to a chimney flue serving another appliance ~~burning other fuels.~~"

SUBSTANTIATION: The existing wording would seem to allow multiple solid fuel-burning appliances to share the same chimney flue. This could create a potential fire hazard.

COMMITTEE ACTION: Accept.

COMMITTEE STATEMENT: The Committee agrees with the submitter and additionally adds that the presence of multiple appliances on a single flue can cause a potential fire hazard during a chimney fire.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 13

NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #17)

211- 21 - (6-8.3(b)): Accept in Principle

SUBMITTER: Glen Edgar, Selkirk Metalbestos

RECOMMENDATION: Revise item (b) as follows:

(b) The appliances so connected are equipped with primary safety controls and are all located in the same room.

SUBSTANTIATION: The proposed revision is necessary to clarify that 6-8.3 does not permit appliances installed on different floors of the structure to be attached to the same flue. Differential

pressure problems and other multi-story venting concerns are addressed by the inclusion of these words. Without same, multi-story venting seems permissible.
COMMITTEE ACTION: Accept in Principle.
Revise recommended text to read as follows:
"(b) The appliances so connected are equipped with primary safety controls and all appliances are located in the same room".
COMMITTEE STATEMENT: The Committee intended to ensure that the appliances and not only the controls be located in the same room when appliances burning gas and liquid fuels are utilizing the same chimney flue.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #18)

211- 22 - (7-1.3, 7-1.5, 7-5.2): Accept
SUBMITTER: Glen Edgar, Selkirk Metalbestos
RECOMMENDATION: Capitalize "Special Gas Vent" where this term is used in the referenced text.
SUBSTANTIATION: The term "Special Gas Vent" should be capitalized since it is the name of a listing category of venting products.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #19)

211- 23 - (7-3): Accept
SUBMITTER: Glen Edgar, Selkirk Metalbestos
RECOMMENDATION: Revise text as follows:
Location. Single-wall outside vents for appliances used in cold climates shall not be ~~insulated~~ permitted.
SUBSTANTIATION: Due to the necessity for periodic inspection, single wall vents should not be directly covered with insulation. Furthermore, with the significantly increased likelihood of corrosion of single wall materials and problems with freezing when such vents are used outside, with today's more efficient appliances, single wall outside vents simply should not be used in cold climate areas. The proposed revision is intended to clarify this issue and eliminate the option to insulate a single wall vent. The new International Fuel Gas Code has eliminated reference to such products for use altogether, not just outside in cold climates. We should, at minimum, restrict their usage as proposed.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #25)

211- 24 - (7-6.1): Accept
SUBMITTER: Dave Fetters, Hart & Cooley Inc.
RECOMMENDATION: Revise text to read as follows:
"Type B, Type BW, and Type L vents shall be listed and shall be installed in full compliance with the terms of their listing and the manufacturer's installation instructions."
SUBSTANTIATION: 1. There was no strong statement that vents shall be listed as there is for factory-built chimneys in paragraph 3-1.1.
2. The details of proper installation of a company's B, BW, or L vent can only be found in its unique installation instructions, not in a listing organization's published list of acceptable equipment.
COMMITTEE ACTION: Accept.
Editorial delete the second "shall be".
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #21)

211- 25 - (8-2.6.1): Reject
SUBMITTER: Howard A. Grisack, Intertek Testing Services NA Ltd.
RECOMMENDATION: Revise as follows:
"... (see Chapter 2). (They should be sized in relation to fireplace opening per Table 37-A of the Uniform Building Code, or equivalent)."
SUBSTANTIATION: To add guidance to user regarding sizing as well as design and construction.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The Committee addressed sizing in Committee Proposal 211-7 (Log #CP3) and intends that the authority having jurisdiction determine what approved methods are acceptable for sizing fireplace flues.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #23)

211- 26 - (9-2.2): Accept in Principle
SUBMITTER: Howard A. Grisack, Intertek Testing Services NA Ltd.
RECOMMENDATION: Revise as follows:
"...in a confined space (defined as a space of less than 30 cu ft having no dimension less than two feet)..."
SUBSTANTIATION: To replace an imprecise term. If this definition is not suitable or accepted, provide an alternate.
COMMITTEE ACTION: Accept in Principle.
Modify the first sentence of section 9-2.2 to read as follows:
"Solid fuel-burning appliances shall not installed in confined spaces of less than 512 cu ft".
COMMITTEE STATEMENT: The Committee intends that solid fuel burning appliances be installed in spaces that are at least as large as the appropriate test compartment established in the appliance safety standards.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #22)

211- 27 - (9-3): Reject
SUBMITTER: Howard A. Grisack, Intertek Testing Services NA Ltd.
RECOMMENDATION: Revise as follows:
"When buildings are so tight (having infiltration levels less than?? *cfm) that normal infiltration...*"
SUBSTANTIATION: To allow a quantitative evaluation of requirements for minimal infiltration before needing outside air.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: Submitter provided no technical substantiation for the proposed changes.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #7)

211- 28 - (9-4.3): Reject
SUBMITTER: Northeast Regional Fire Code Dev. Committee
RECOMMENDATION: Revise as follows:
9-4.3 Connectors and chimneys for solid fuel-burning appliances shall be designed, located, and installed with access panels to all internal and external components for ~~to allow ready~~ access for ~~internal~~ inspection and cleaning.
SUBSTANTIATION: Under fire conditions it is impossible to inspect all areas without causing additional damage. If unable to adequately inspect these installations, further damage usually results due to fire department overhaul. Fire Department overhaul requires that additional areas be removed or opened up to adequately inspect the area.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: Inspection issues raised are now being addressed as a level III inspection in a new proposed

Chapter 11. It is impractical to provide access to all components and could lead to a variety of additional fire hazards.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #3)

211- 29 - (9-4.5): Reject
SUBMITTER: Bruce Fernandez, Town of Ogden, NY
RECOMMENDATION: Change from:
8-5.5 Connection to Masonry Fireplaces. A solid fuel burning appliance such as a stove or insert may use a masonry fireplace flue when the following conditions are met.
Change to:
8-5.5 Connection to Masonry Fireplaces. A solid fuel burning appliance such as a stove or insert may use a masonry fireplace when the following conditions are met.
Exception: Listed fireplace accessories may use a masonry fireplace flue.
New (a) There is a continuous pipe of listed material that extends from the appliance to the terminus of the chimney.
(b) The cross-sectional area of the flue is no more than 3 times the cross-sectional area of the flue collar of the appliance.
(c) If the appliance vents directly through the chimney wall above the smoke chamber, there shall be a noncombustible seal below the entry point of the connector.
(d) The installation shall be such that the chimney system can be inspected and cleaned.
(e) Means shall be provided to prevent dilution of combustion products in the chimney flue with air from the habitable space.
New (f) Standoffs shall be installed at both end so flue to support approved appliance chimney according to manufacturers installation specification.
New (g) A flue cap capable of withstanding normal fireplace temperatures shall be installed on the "top" terminus of chimney or tile which is screened and able to maintain flue down draft while at the same time disallowing entry of birds and small animals, i.e., squirrels, etc.
SUBSTANTIATION: According to 1989 statistics, 63 percent of, or 2,079 incidents listed the area of fire origin as chimney, flue, or stove pipe. This is consistent with my own experience, except that in addition to this, 70 percent were wood stoves installed on masonry flue tile. All of these fires required removal of damaged tile and relining of chimneys. From my discussions with other fire agencies and departments, chimney sweeps, and chimney relining companies, the unanimous culprit is the installation of wood stoves and clay flue tile. It seems that the wood stove acts as a blow-torch against the cold flue tile and almost completely shatters the clay tile, which in turn exposes susceptible mortar joints and combustibles. Most times large amount of creosote are found to be present as a result in temperature change of material.
Note: Supporting material is available for review at NFPA Headquarters.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The Committee recognizes the benefits of a full liner but lacks the technical data to prohibit other currently used systems.
The recommendations are overly restrictive and limit the use of clay flue tiles, cast in place refractories and other currently acceptable systems.
Additionally, further substantiation is needed to address standoffs and current fire and incident data.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #29)

211- 30 - (Table 9-6.1): Accept
SUBMITTER: James P. Brewer, Nat'l Chimney Sweep Guild
RECOMMENDATION: Insert the words "Fireplace Inserts" as shown below:
SUBSTANTIATION: We have proposed adding the words "Fireplace Insert" to Table 9-6.1 to clarify the fact that the required clearance for fireplace inserts is the same as room heaters, fireplace stoves, and combinations. We believe this is necessary because fireplace inserts are not included in the table and the definitions for room heaters and fireplace stoves both exclude fireplace inserts by stating that the unit must be freestanding.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #27a)

211- 31 - (Chapter 10): Accept
SUBMITTER: James P. Brewer, Nat'l Chimney Sweep Guild
RECOMMENDATION: Make the following changes in Chapter 10.
[Delete 10-2 and 10-3, and substitute the following.]
10-2 Annual Inspection. Chimneys, fireplaces, and vents shall be inspected at least once a year in accordance with the requirements of Section 11-3. Connectors, spark arrestors, cleanouts and tee fittings connected to chimneys and to oil and pellet venting systems shall be inspected at least one a year in accordance with the requirements of 11-3. Cleaning, maintenance, and repairs shall be done if necessary.
Exception: Type B and Type BW gas and special venting systems.
~~10-4 Appliance replacement. Before replacing and existing appliance or connecting a vent connector to a chimney, the chimney passageway shall be cleaned, lined, or repaired as necessary.~~

Table 9-6.1 Standard Clearances for Solid Fuel-Burning Appliances

Kind of Appliance	Above Top of Casing or Appliance; Above Top and Sides of Furnace Plenum or Bonnet (in.)	(mm)	From Front (in.)	(mm)	From Back[3] (in.)	(mm)	From Sides[3] (in.)	(mm)
Residential Appliances Steam Boilers - 15 psi (103 kPa) Water Boilers - 250°F (121°C) max. Water boilers - 200°F (93°C) max. All water walled or jacketed	6	152	48	1219	6[2]	152[2]	6[2]	152[2]
Furnaces Gravity and forced air[4]	18	457	48	1219	18	457	18	457
Room Heaters, Fireplace Stoves, Fireplace Inserts, Combinations	36	914	36	914	36	914	36	914
					Firing Side		Opposite Side	
Ranges Lined Fire Chamber	30[1]	762[1]	36	914	24	610	18	457
Unlined fire chamber	30[1]	762[1]	36	914	36	914	18	457

Table notes unchanged

10-4 Appliance or connector replacement. When and existing appliance or connector is replaced, or a new appliance is connected to a chimney, the chimney flue shall be inspected in accordance with Chapter 11. The chimney shall be cleaned, lined or relined, or repaired as necessary.

10-7 Evidence of Damage. Chimneys, vents, and fireplaces shall be inspected, cleaned, and repaired if there is any evidence of damage to the chimney, fireplace, or vent or to the surroundings. Inspections required by this section shall comply with the requirements for a Level II Inspection in accordance with Section 11-4.

SUBSTANTIATION: Make several changes in Chapter 10 which are needed to bring current requirements in line with the requirements of the new proposed Chapter 11.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #8)

211- 32 - (10-1): Accept in Principle
SUBMITTER: Western Regional Fire Code Dev. Committee
RECOMMENDATION: Revise text as follows:
10-1 Initial Installation. Initial installation of chimneys, fireplaces, and vents shall allow inspection of the surroundings to determine that the required clearances have been maintained and that correct provisions for support, stabilization, future inspection, and maintenance are in place. Vents installed through cellulose insulation shall be separated by a physical barrier to provide a minimum clearance of 2 in.
SUBSTANTIATION: Cellulose fiber insulation placed too close to heat sources can catch fire. Specific clearances around chimneys and vents should be maintained to prevent this material from coming in contact.

Note: Supporting material available for review at NFPA Headquarters.
COMMITTEE ACTION: Accept in Principle.
Add new section 7-6.2 to read as follows:
"Vents installed through insulation or areas to be insulated shall be separated by a physical barrier to establish and maintain the minimum air space clearance required by the vent manufacturer."
Renumber paragraphs as needed.
COMMITTEE STATEMENT: The Committee felt that this requirement was better located in the requirements for vent installation in Chapter 7.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #24)

211- 33 - (10-2 Exception): Accept
SUBMITTER: Dave Fetters, Hart & Cooley Inc.
RECOMMENDATION: Revise text to read as follows:
Exception: Type B and Type BW gas ~~and special~~ venting systems.
SUBSTANTIATION: Recent experience indicates that at least some special venting systems need at least yearly inspections for soundness. HTPV is one such special vent.
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #4)

211- 34 - (10-9): Reject
SUBMITTER: Stuart Merting, Castle Chimney Sweeps & Home Repair Inc.
RECOMMENDATION: Section 10-9 is very unclear as to what can be repaired. I believe it should state specifically that clay flue liners should not be repaired, they should be replaced if cracked.
SUBSTANTIATION: It seems in reading 211-37 (10-9) it is acceptable to repair a cracked clay flue liner.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The submitter provided no technical recommendations or technical substantiations for any changes.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 12
NEGATIVE: 1
NOT RETURNED: 3 Corbin, Pople, Stegmeir
EXPLANATION OF NEGATIVE:
GRISACK: Regardless of his substantiation his point should be addressed.

(Log #27b)

211- 35 - (Chapter 11 (New)): Accept
SUBMITTER: James P. Brewer, Nat'l Chimney Sweep Guild
RECOMMENDATION: Add a new Chapter as follows:

Chapter 11: Inspection of Existing Chimneys

11-1 General*. Where the need for an inspection of an existing chimney has been identified, the inspection shall be conducted in accordance with this chapter.

Exception*: Inspections which are incidental to a chimney maintenance or repair task not shown in Table 11-2 shall not be required to comply with the minimum levels of inspection set forth in this chapter. However, defects which are observed or observable during the course of such work shall be reported to the property owner or occupant.

11-2 Type of Inspection. The scope of the inspection, the areas of the chimney examined, and the degree of invasiveness of the inspection shall be appropriate for the conditions giving rise to the inspection. The type of inspection shall be determined in accordance with Table 11-2.

11-2.1 The type of inspection performed shall be based on the circumstances which give rise to the inspection. For situations shown in the Circumstances row of Table 11-2, the minimum level of inspection shall be that indicated by column in which the situation is found. For situations not shown in the Circumstances row, the type of inspection shall be based on the descriptions in the Indications row.

11-2.2 Nothing shall prevent the examination of all or part of the chimney at a higher level than the minimum indicated by Table 11-2. Partial examination of the chimney at a higher level shall not require that the entire inspection be conducted at the higher level.

11-3* Level I Inspections. A Level I inspection shall be utilized when verification of the suitability of the chimney or flue for continued service, under the same conditions and with the same or similar appliance or appliances, is needed.

11-3.1 Circumstances. A Level I inspection shall be conducted under the following circumstances.

11-3.1.1 During annual inspections in accordance with Section 10-2.

11-3.1.2 During routine cleaning of a flue or flues within the chimney.

11-3.1.3 At the time of direct replacement of one or more connected appliances with an equal number of appliances of similar type, input rating, and efficiency, in accordance with 10-4.

11-3.1.4 At other times as indicated in Section 11-3.

11-3.2 Scope and Access. Level I inspections shall include examination of readily accessible portions of the chimney, and accessible portions of the connected appliance and chimney connection.

11-3.2.1 The basic soundness of the chimney structure shall be determined by examination of the chimney exterior and surroundings at locations which can be accessed without removal of panels, doors, or coverings. Where panels, doors, or coverings are opened as part of performance of another task, such as chimney cleaning, such locations shall be examined as part of a Level I inspection.

11-3.2.2 Areas of the chimney flue which can be observed through existing openings, or openings which can be accessed with the use of tools, such as a thimble, cleanout opening, or flue termination, shall be examined for the presence of a continuous flue liner, proper installation, and freedom from damage or deterioration.

Table 11-2 Selection of Inspection Type

	Level I	Level II	Level III
Scope	Basic soundness of chimney structure and flue Lack of obstruction or combustible deposits in flue Basic appliance installation and connection	All subjects of a Level I inspection Proper construction and condition of accessible portions of the chimney structure and all enclosed flues Proper clearances from combustibles in accessible locations Size and suitability of flues for connected appliances	All subjects of Level I and Level II inspections. Proper construction and condition of concealed portions of chimney structure and enclosed flues Proper clearances from combustibles
Degree of Access Required	Shall include readily accessible portions of chimney exterior and interior; accessible portions of appliance and chimney connection.	Shall include all accessible portions of the chimney exterior and interior, including areas within accessible attics, crawl spaces and basements, and accessible portions of the appliance and chimney connection. Shall include nondestructive performance testing such as a smoke test or pressure test.	Shall include external and internal portions of the chimney structure, including concealed areas of the building or chimney. Shall include removal of components of the building or chimney where necessary. Removal of such components shall be required only as necessary to gain access to areas which are the subject of the inspection.
Circumstances	Annual inspection as required by Section 10-2 During routine cleaning of chimney flue Upon direct replacement of a connected appliance with one of similar type, input rating, and efficiency.	Upon addition or removal of one or more connected appliances, or replacement of an appliance with one of dissimalar type input rating or efficiency.[1] Prior to relining or replacement of flue lining. Upon sale or transfer of the property After an operating malfunction or external event likely to have caused damage to the chimney.	Where necessary for the investigation of an incident which has caused damage to the chimney or building. Where a hazard detected or suspected as the result of a Level I or II inspection cannot be fully evaluated without access to concealed areas.
Indications	A Level I inspection is indicated when verification of the suitability of the chimney for continued service, under the same conditions and with the same appliance or appliances, is needed.	A Level II inspection is indicated when verification of the suitability of the chimney for new or changed conditions of service is needed, or when a thorough evaluation of the serviceability of the chimney is needed.	A Level III inspection is indicated when the construction of all or part of the chimney is deemed critical to the renewed or continued use of the chimney. A Level III inspection shall be required only for those areas which cannot be properly evaluated by a Level I or Level II inspection.

[1]The inspection shall not be required when the last connected appliance is removed and the chimney will no longer be used.

11-3.2.3 Where an inspection is conducted in accordance with Section 10-2, the inspection shall include all chimney flues and connected appliances. An inspection conducted during cleaning or appliance replacement shall include the flue or flues being cleaned, and the appliance or appliances connected to each.

11-3.2.4 The inspection shall include verification that the flue or flues being inspected are free of combustible deposits and blockage or obstruction.

11-3.2.5 The connected appliance or appliances, their chimney connectors, and surroundings shall be examined for proper clearances, floor mounting and protection, damage or deterioration, and evidence of operating malfunction.

11-3.2.6 Chimney connectors shall be examined for proper support and fastening of joints, pitch, and securement to the chimney. Connectors shall be examined for internal blockage or obstruction and freedom from combustible deposits. Accessible thimbles and combustible wall penetrations shall be examined for compliance with Section 6-7.

11-3.2.7 Internal surfaces of fireplaces and smoke chambers shall be examined for damage and deterioration, freedom from combustible deposits, and evidence of operating malfunction. Fireplace inserts, stoves, or accessories shall be removed from the fireplace as necessary to permit such examination. The means of connecting a fireplace insert or stove to the chimney flue shall be examined for compliance with Section 9-4.5.

Exception*: Fireplace inserts, stoves, or accessories shall not be required to be removed when the venting system can be thoroughly cleaned without such removal.

11-4* Level II Inspections. A Level II inspection shall be utilized when verification of the suitability of the chimney for use under new or changed conditions is needed, or when a thorough evaluation of the continued serviceability of the chimney is needed.

11-4.1 Circumstances. A Level II inspection shall be conducted under the following circumstances.

11-4.1.1* Upon addition or removal of one or more connected appliances, or replacement of an appliance with one or more of dissimilar type, input rating or efficiency.

Exception: The inspection shall not be required when the last connected appliance is removed and the chimney will no longer be used.

11-4.1.2 Prior to relining of a flue or replacement of flue lining, in accordance with Section 4-1.10.

11-4.1.3 Upon sale or transfer of the property.

11-4.1.4 After a building or chimney fire, weather or seismic event, or other incident likely to have caused damage to the chimney.

11-4.1.5 At other times as indicated in Section 11-4.

11-4.2 Scope and Access. Level II inspections shall include all accessible portions of the chimney exterior and interior, including areas within accessible attics, crawl spaces and basements, and accessible portions of the appliance and chimney connection.

11-4.2.1 The inspection shall include examination of all areas covered in Section 11-3.2 for Level I inspections.

11-4.2.2 Proper construction and acceptable condition of the chimney shall be determined by examination of all areas of the chimney and its surrounding which can be accessed without removal or destruction of permanently attached portions of the chimney or building structure. The inspection shall include examination of locations within attics, crawlspaces and basements which can be accessed through doors, hatches or other openings that do not require removal of permanently attached parts of the building.

11-4.2.3 The inspection shall include examination of all areas of all chimney flues, and the internal surfaces of all flue liners, incorporated within the chimney. Video scanning equipment or other means shall be used as necessary to observe these areas.

11-4.2.4 The inspection shall include nondestructive performance testing, such as a smoke test or pressure test, as required by this standard for putting a chimney into service or verifying continued serviceability.

11-4.2.5 The inspection shall include verification of proper clearances from the chimney to combustibles at all locations which can be accessed as described in Section 11-4.2.2.

11-4.2.6 The inspection shall include evaluation of proper type of flue lining material and flue sizing for the type and input rating of the connected appliances. Sizing of flues for gas appliances shall be in accordance with NFPA 54, National Fuel Gas Code. Sizing of flues for liquid fuel appliances shall be in accordance with NFPA 31, Installation of Oil-Burning Equipment. Sizing of flues for solid fuel burning and pellet fuel burning equipment shall be in accordance with this standard.

11-5* Level III Inspections. A Level III inspection is indicated when the construction of all or part of the chimney is deemed critical to the renewed or continued use of the chimney, and where access to concealed locations is necessary for proper evaluation of chimney construction or condition. A Level III inspection shall be required only for those areas which cannot be properly evaluated by a Level I or Level II inspection.

11-5.1 Circumstances. A Level III inspection shall be conducted under the following circumstances.

11-5.1.1 Where necessary for the investigation of a building or chimney fire, weather or seismic event, or other incident known to have caused damage to the chimney or building.

11-5.1.2 Where a hazard detected or suspected as the result of as Level I or II inspection cannot be fully evaluated without access to concealed areas.

11-5.1.3 At other times as indicated in Section 11-5.

11-5.2 Scope and Access. A Level III inspection shall include examination of all areas deemed critical for safe use of the chimney, including concealed locations.

11-5.2.1 The inspection shall include examination of all areas covered in Section 11-3.2 for Level I inspections, and in Section 11-4.2 for Level II inspections.

11-5.2.2 Examination of the chimney shall include concealed areas, which can only be accessed by removal or destruction of permanently attached portions of the chimney or building structure, as necessary to determine compliance with this standard.

SUBSTANTIATION: Add a new Chapter to the standard, "Chapter 11: Inspection of Chimneys." Currently, the requirements of Section 10-2 require that "chimneys, fireplaces, and vents be inspected at least once a year for soundness, freedom from deposits, and correct clearances." This sentence is essentially the only guidance provided in the standard about the inspection of chimneys. In many cases, it is impossible to determine correct clearances after the home is built and to require that clearances be checked each year poses an undue burden on the person performing the inspection. The objective of the proposed new Chapter 11 is identify the circumstances under which inspections occur and the inspection tasks that are appropriate in different situations. In our proposal we have identified three levels of inspection beginning with the most basic inspection identified as Level I and progressing to the most detailed inspection identified as Level III. For each level of inspection we have detailed the Scope of the inspection, the Degree of Access Required, the Circumstances that give rise to the inspection, and the Indications for the inspection. This proposal provides the much needed guidance for the requirements for chimney inspections. This proposal will establish uniform procedures and expectations for chimney inspections so that professionals will know what is expected of them and consumers will know what they can expect. Essentially, this proposal defines the term "Chimney Inspection".
COMMITTEE ACTION: Accept.
NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16
VOTE ON COMMITTEE ACTION:
AFFIRMATIVE: 13
NOT RETURNED: 3 Corbin, Pople, Stegmeir

(Log #27c)

211- 36 - (Appendix A): Accept
SUBMITTER: James P. Brewer, Nat'l Chimney Sweep Guild
RECOMMENDATION: Add new items as follows:

Appendix A Explanatory Material

A-1-5.2 Accessible. Access can be described as being reached for the purpose of inspection maintenance or repair. Access may first require the movement or removal of a panel, door or other covering and may require the use of ladders, and may require the use of common tools, such as a screwdriver or wrench. Access does not require any destructive actions to the building or property.

A-1-5.2 Accessible, Readily. Readily accessible can be described as quickly or easily reached for inspection, maintenance or repair. Readily accessible would not require the use of tools for opening or removal of any panel, door or other covering nor would it require the use of ladders.

A-11-1 General. This chapter covers the inspection of chimneys and is intended primarily for the inspection of residential chimneys but at the discretion of the inspector may apply to industrial or commercial chimneys serving certain appliances. This chapter may be used by anyone who is involved in inspections or has a concern or interests in conducting an inspection of chimneys.

There are different types of inspections, ranging from superficial observation, to an in-depth inspection in which portions of the chimney or building structure are removed, or other destructive methods are used to check hidden portions of a system. Inspections may be triggered by many circumstances, ranging from routine maintenance activities to a complete reevaluation following a destructive event such as an earthquake. This chapter is

intended to delineate, as precisely as possible, the inspection activities which are appropriate for different circumstances. The application of these requirements to specific situations will require judgment on the part of the inspector and should be in accordance with the Indications shown in Table 11-2.

Although this chapter is concerned with the inspection of chimneys, the chimney cannot be considered apart from the appliance connected to it. Therefore, certain aspects of the appliance and connector type and installation are also included in some of the inspection procedures.

A-11-1 Exception. Certain minor tasks, such as installation of a chimney cap or flashing repair, are so limited in scope that they do not trigger a full inspection of the chimney. However, any defects or potential hazards encountered during such work should not be ignored, and should be brought to the attention of the responsible party.

A-11-3 Level 1 Inspections. A Level I Inspection is required to ensure the minimum acceptable levels of safety for a chimney. Unless otherwise stated, a Level I Inspection is limited to readily accessible areas. The following list gives an indication of the items to be included in a Level I Inspection, to the extent that they are readily accessible and included in the installation being inspected.

1. Level of cleanliness of venting system
2. Verification that the flue is not blocked or significantly restricted or obstructed
3. Appliance clearance
4. General condition of appliance
5. Chimney & Vent Connector general suitability for appliance
6. Chimney & Vent Connector type, material, condition
7. Chimney & Vent Connector clearance
8. Chimney & Vent Connector joint security
9. Chimney & Vent Connector support and stability
10. Chimney & Vent Connector rise or slope
11. Chimney & Vent Connector accessories (Barometric damper, damper, draft hood, heat reclaimer)
12. Is chimney liner properly supported
13. Is chimney liner type appropriate for appliance
14. Is chimney liner present and free of readily visible defects, distortion and spalling
15. Are flue cleanouts present and properly installed
16. Check condition of wash when readily accessible
17. Chimney cap, if present, not contributing to flue blockage/restriction
18. Spark arrestor, if present, not obstructed
19. Top mount damper, if present, not obstructing flue
20. Shrouds and housing of Factory Built Chimney when readily accessible
21. Wall Pass Through General condition
22. Is Chimney & Vent Connector secure where it meets Wall Pass Through or chimney
23. Hearth and hearth extension general condition
24. Hearth extension sizing
25. Inspect general condition of fire chamber and smoke chamber with special emphasis on joints between assemblies
26. Type and condition of fire chamber lining
27. Clearance to combustible trim and mantels around fireplace opening
28. Check operation and closure of damper assembly
29. Smoke Chamber General condition
30. Smoke Chamber accessibility
31. Smoke Chamber transition to flue
32. Verify that air circulation grills (openings) around Factory Built Fireplace have not been blocked or restricted
33. Check for rust or corrosion of readily accessible metal parts in factory-built fireplaces and chimneys.

A-11-3.2.7 This exception is provided for cases where removing the device is not necessary in order to gain access to flue passageways needing inspection. This includes devices such as grates or heat exchangers that do not fill or block the fireplace opening. It also includes fireplace inserts or stoves which are directly connected to the chimney flue, where combustion products are contained in the connection and do not contact the fireplace surfaces.

A-11-4 Level II Inspections. A Level II Inspection is limited to accessible parts of the chimney to include attic, basement and crawl spaces. The following list (in addition to the list above for a Level I Inspection) gives an indication of the items to be included in a Level II Inspection, to the extent that they are accessible and included in the installation being inspected:

1. Chimney wall material
2. Condition of chimney walls
3. Attic Insulation Shield for Factory-Built chimneys
4. Housing & Shrouds for Factory-Built chimneys
5. Factory Built Chimney Support type
6. Factory Built Chimney constructed with appropriate parts
7. Factory Built Chimney clearances
8. Factory Built Chimney attachment to appliance
9. Is the venting system properly sized for the appliance
10. Determine height and dimensions of liner
11. Inspect installation and condition of offsets in flue
12. Are unused openings (into flue) properly sealed
13. Construction of wash
14. Expansion joint between flue and wash
15. Check condition of flashing
16. Check condition of crickets, when present
17. Chimney & Vent Connector gauge (material thickness)
18. Chimney & Vent Connector diameter proper for appliance(s) connected
19. Is Wall Pass Through properly installed with adequate clearance & installation details
20. Chimney & Vent Connector Configuration (appropriate dimensions for sizing and compare to vent or chimney)
21. Manifold sizing
22. Combustion air supplied for appliances as required
23. Condition of Outside air inlets, outlets, ducting
24. Ash dump
25. Inspect for combustible framing/forms under hearth or hearth extension of masonry fireplaces
26. Fireplace opening size (ratio w/flue)
27. Check size of throat
28. Smoke Chamber dimensions (angle/height)
29. Smoke chamber lining (parged, firebrick, etc.)
30. Check smoke shelf area
31. Factory Built Fireplace brand/model/listing
32. Verify Factory Built Fireplace glass doors and accessories (inserted items) are approved
33. Factory Built Fireplace hearth platform and covering

When conducting a Level II inspection on any type of factory-built chimney or appliance the inspector should attempt to locate the product installation instructions for review prior to completing the inspection.

A-11-5 Level III Inspections. A Level III Inspection encompasses a complete evaluation of the chimney including verification of proper materials and clearances to combustibles. The following list (in addition to the lists above for a Level I and Level II Inspection) gives an indication of the items to be included in a Level III Inspection, to the extent that they are included in the installation being inspected:

1. Firestopping
2. Debris in annular space of Factory Built Chimney
3. Inspect clearances inside of chase housing of Factory Built Chimney
4. Masonry Foundation Support
5. Masonry Foundation Depth & Dimension
6. Masonry Foundation Soil conditions
7. Is the space around chimney liner adequate
8. Are seismic requirements met, where required
9. Thickness of fireplace walls
10. Clearance around fireplace walls
11. Smoke Chamber wall thickness
12. Smoke Chamber clearance
13. Factory Built Fireplace clearance
14. Factory Built Fireplace hearth strip properly installed
15. Factory Built Fireplace mounting and stability
16. Connection between Factory Built Fireplace and Factory Built Chimney

A-11-4.1.1 This shall not be interpreted to include the removal/disconnection of an appliance and subsequent replacement/reconnection which occurs during the course of routine cleaning and maintenance activities.

SUBSTANTIATION: Makes several additions to Appendix A and provided explanatory material for the new proposal. We have included a suggested list of items to check with each different level of inspection.

COMMITTEE ACTION: Accept.

NUMBER OF COMMITTEE MEMBERS ELIGIBLE TO VOTE: 16

VOTE ON COMMITTEE ACTION:

AFFIRMATIVE: 13

NOT RETURNED: 3 Corbin, Pople, Stegmeir
