Report of Committee on Venting Systems for Cooking Appliances

James W. Macdonald, Chairman
Travelers Insurance, Co.

Thomas J. Hard, Secretary
T. J. Hard Companies
(Rep. NAFED)

Phil Ackland, Commercial Vent Cleaning Co. Ltd
Samuel Crabtree, Crabtree, McGrath Assoc., Inc.
Rep. FSCSI

Dennis N. Gage, ISO Commercial Risk Services, Inc.
Edson C. Gaylord, Gaylord Industries, Inc.
Rep. NFPA

Joseph N. Knapp, McDonalds Corp.
Donald T. Mann, Aetna Life & Casualty
Rep. AISG

Gary A. Nadolny, Ansol Fire Protection
Rep. FEMA

Jayendra S. Parikh, Underwriters Laboratories Inc.
Joseph F. Schulz, Van-Packer Products, Inc.
Lawrence E. Stah\, Hardees Food Systems, Inc.
Leo Stambaugh, Texas Utilities Electric, Co.
Rep. EEEI

Alternates

Donald J. Begley, Andersen Fire Equipment Co., Inc.
(Alternate to T. J. Hard)

Robert L. Donahue, Underwriters Laboratories Inc.
(Alternate to J. S. Parikh)

Michael J. Laderoute, ASCOA Fire Systems
Rep. FEMA

(Terminal to G. A. Nadolny)

Philip O. Morton, Gaylord Industries, Inc.
(Alternate to E. C. Gaylord)

Dan Redd, Southwestern Public Service Co.
Rep. EEEI

(Terminal to L. Stambaugh)

Harry Schilldrama, Cini-Grissom Assoc., Inc.
(Alternate to S. Crabtree)

Staff Liaison: Richard Ortsi-Best

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.

The Report of the Committee on Venting Systems for Cooking Appliances is presented for adoption.


This Report has been submitted to letter ballot of the Technical Committee on Venting Systems for Cooking Appliances, which consists of 14 voting members, in 3 Segments.

Segment No. 1 consists of Proposal 96-91 (Log #30) 7-3.1.4.

On Segment No. 1, Proposal 96-91 (Log #30), 12 voted affirmatively and 2 negatively (Messrs. Hard and Knapp).

Mr. Hard voted negatively and stated his opposition is within the Committee Statement "... to make language consistent with requirement in NFPA 17A."

Mr. Hard further stated:

"The Standards Council has asked committees to make the Standards easier to understand. If the 96 committee wishes "... to make language consistent with requirement in NFPA 17A," why not use the same language as 17A?"

The text should read "The extinguishing system shall be connected to the alarm system, if provided, in accordance with the requirements of the appropriate signaling system standard (NFPA 71, 72A, 72C, or 72D) so that actuation of the system will actuate a fire alarm system as well as provide the function of the extinguishing system."

Mr. Knapp voted negatively stating:

"Log #30 (7-3.1.4) is far too general and broad in scope. According to this, if one single tenant in a very large building had his own personal alarm system, every fire extinguishing system in that building (premises) would have to connect to it. The item does not distinguish whether any of the alarm systems or fire suppression systems are for cooking equipment only, or for sprinklers, storage, dumpsters, burglar alarms, etc. This would be chaos."

Segment No. 2 consists of Proposal 96-92 (Log #94) B-1.6.

On Segment No. 2, 12 voted affirmatively and 2 negatively (Messrs. Hard and Morton).

Mr. Hard voted negatively stating:

"I oppose the last phrase of the recommendation, "... shall not be conducted while the cooking equipment is operational." This is in direct conflict with NFPA 17, paragraph 2-11 and paragraph 6-3.1 as well as NFPA 17A, paragraph 3-3. One cannot conduct maintenance on the fire suppression system in accordance with the manufacturers listed installation and maintenance manual without opening the exhaust system AND having the cooking equipment operational. How would you service downstream detectors, as required? How would you check fuel shut-off and make up air shut-down, as required? I recommend not to include B-1.6 in the Standard as it is in conflict with NFPA 17 and 17A."

Mr. Morton voted negatively stating:

"I don't believe that shutting off the exhaust system or reducing the air flow compromises the fire system of the hood. In regards to working on the fire suppression system, essentially this would mean that a majority of the systems would have to be worked on at night during off hours. This in my opinion is an unrealistic request. While I understand the intent of the proposal I don't believe we have any evidence to show that fires have occurred during maintenance of fire systems."

Segments No. 3 consists of the balance of the Proposals.

On Segment No. 3 (balance of Proposals), all 14 voted affirmatively.
96-1 - (1-1): Reject
SUBMITTER: Jose Gomis, City of Sarasota Building Department
RECOMMENDATION: Revised text:
(1) The cooking equipment used in a commercial, industrial, institutional cooking application
(2) grease removal devices; (3) exhaust ducts; (4) dampers; (5) air moving devices; (6) auxiliary equipment; and (7) fire extinguishing equipment for the exhaust system used in a commercial, industrial, institutional cooking application.
NOTE: The equipment rating even if for residential family use, but if used in commercial application requires protection. Breakroom or snack areas of commercial, industrial, or institutional building not in the production of food. Use only for warm up, requires no protection.
SUBSTANTIATION: Interpretation to this section should be for the application in which the equipment is used, not the type of building in which it is placed.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The Committee agrees with the submitter that there are "similar" installations that may not require the protection features covered in Standard 96, but the Committee is also well aware of other cooking applications that do. Therefore, the Committee feels that the scope wording should remain as is so that the Authority Having Jurisdiction can exercise his/her discretion in the matter.

96-2 - (1-1): Reject
SUBMITTER: Jose Gomis/William A. Hewes, City of Sarasota Building Department
RECOMMENDATION: Revised text:
1-1 Scope. This edition of NFPA 96 covers basic requirements for the design, installation and use of exhaust system components including (1) hoods; (2) grease removal devices; (3) exhaust ducts; (4) dampers; (5) air moving devices; (6) auxiliary equipment; and (7) fire extinguishing equipment for the exhaust system used in a commercial, industrial, institutional cooking application.
NOTE: The equipment rating even if for residential family use, but if used in commercial application requires protection. Breakroom or snack areas of commercial, industrial, or institutional building not in the production of food. Use only for warm up, requires no protection.
SUBSTANTIATION: Interpretation to this section should be for the application in which the equipment is used, not the type of building in which it is placed.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: See Action and Statement Proposal 96-1 (Log #16).

96-3 - (1-1): Reject
SUBMITTER: Jose Gomis/William A. Hewes, City of Sarasota Building Department
RECOMMENDATION: Revised text:
Yes if for commercial, industrial or institutional food preparation in which the food is sold to a customer.
No if in a breakroom for employees and used only for the warming of food already prepared at another location even if stored in coin operated machine.
No if in a recreational building or church cultural hall where the range is only used for the warming of food (pastry) or the like for lunches, dinners and parties. As long as the food is prepared at another location and not a daily operation.
SUBSTANTIATION: The fact that a range in a commercial, industrial or institutional building does not mean that it is being used for a commercial, industrial or institutional cooking application.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: Proposal addresses a Formal Interpretation and does not recommend specific changes to language in the standard. See Proposals 96-1 (Log #16) and 96-2 (Log #17).

96-4 - (1-1): Accept
SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances
RECOMMENDATION: Add an asterisk after 1-1 to indicate explanatory material in Appendix A.
ADD new A-1 as follows:
A-1 The application of NFPA 96 is concerned with the potential fire hazard of cooking operations, irrespective of the type of cooking equipment used, whether used in public or private facilities.
The standard is intended to also include residential cooking equipment where used for purposes other than residential family use such as employee kitchens or break areas, church and meeting hall kitchens regardless of frequency of use. Since the standard cannot address specific installations, the judgment must be made the authority having jurisdiction.
SUBSTANTIATION: The Committee has attempted to provide some guidance for users of the standard as to why the standard does not attempt to address every conceivable variation of cooking equipment.
COMMITTEE ACTION: Accept.

96-5 - (1-2, New): Reject
SUBMITTER: James R. Bryant, Clearwater, FL
RECOMMENDATION: Add a new paragraph 1-1.2 to read as follows:
The primary theory of fire protection in the ventillating system is to build the ventilating system strong enough and tight enough such that the ventilating system can withstand a burn-out yet not communicate the fire to the rest of the building structure. It is for these reasons that the specific requirements of this standard such as the metal thickness, the all-welded construction, the clearance to combustibles, etc. are established.
SUBSTANTIATION: Over the years of dealing with and using the NFPA 96 Standard it has come to mind that it may be useful to include in the standard a statement of intent and/or a theory of fire protection around which the body of the standard has evolved. It is this premise or theory that guides the changes to the existing body of the standard. If a statement of this nature were presented at the beginning of the standard and/or at the beginning of various sections, the reason for some of the more specific aspects of the standard would be clear. It would also make the intent of the standard clear when a judgment call is necessary because a specific of the standard cannot be met for one reason or another. As it currently stands, when a building official is called upon to make a judgment (and this happens all the time) he may not have the background to do so in accordance with the intent of the standard. As a result, the official's opinion may be somewhat arbitrary and may not result in the safest solution.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The Committee felt that the statement was implied by the standard and was not needed as a separate statement of intent or theory under the section on scope. Further, the committee felt that this kind of statement was too narrow in scope and would not answer all questions by officials.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The proposed definition is in itself ambiguous. A definition is not technically available at this time. Research is being done to determine a threshold of grease concentrations over time.

COMMITTEE STATEMENT: The Committee agreed with the submitter, but felt that an expanded statement was necessary.

96-7 – (1-2): Accept in Principle
SUBMITTER: Phil Ackland, Vancouver, B. C.
RECOMMENDATION: Definition "Charcoal" or "Solid Fuel."
"Any solid fuel such as briquettes, mesquite, hardwood, charcoal or other solid sources of fuel used in preparing food."

SUBSTANTIATION: This distinction will help to understand the difference between solid fuels and gas or electricity. Solid fuels pose a different problem in managing the fire risk as they cannot be automatically shut off. Also, they produce ash and carbon which mixes with grease vapors increasing the volume of build up.
COMMITTEE ACTION: Accept in Principle.
COMMITTEE STATEMENT: Changes to better suit the intent of the standard.

Add new definition as follows:
Solid Cooking Fuel. Any solid organic consumable fuel such as briquettes, mesquite, hardwood, or charcoal.

COMMITTEE STATEMENT: New text:
Power Ventilator. An air-moving appliance consisting of an impeller - which may be of the centrifugal, axial, or propeller type - and an integral driver. A power ventilator is (1) installed in a curb, over a wall or roof opening, or (2) provided with flanges for connection to a duct.

COMMITTEE ACTION: Accept.
COMMITTEE STATEMENT: New text:
Power Ventilator is not industry terminology and is not needed in the standard.

96-9 – (1-2): Accept
SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances
RECOMMENDATION: Revise definition of Combustible Material as follows:
"Combustible Material. Material subject to increase in combustibility or flame spread rating beyond the limits established in definition of Limited-Combustible."

Add new definitions of Limited-Combustible and Noncombustible material on any plane would have neither a flame spread rating greater than 25 nor evidence of continued progressive combustion.

Noncombustible Material. A material which, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors, when subjected to fire or heat. Materials which are reported as passing ASTM E136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C, shall be considered noncombustible materials.

SUBSTANTIATION: To clarify committee's intent and resolve questions regarding role of gypsum board and clearance to combustible materials reflected in numerous formal interpretation requests.
COMMITTEE ACTION: Accept.

96-10 – (1-3): Reject
SUBMITTER: Phil Ackland, Vancouver, B. C.
RECOMMENDATION: New text:
"Multiple outlet systems commonly known as food fairs or food stalls may have a number of different owners or operators requires a section in the code all by itself. In addition to the real need for certain rules need to be applied that are of particular concern to food fairs."

SUBSTANTIATION: A large number of specialized variations need to be considered when dealing with food fairs. These food stalls which have recently grown in popularity pose a unique problem in their design, installation, management, operation and various types of cooking. From a fire safety basis this situation can best be handled if uniformity is maintained.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: Recommendation is addressed in 96-12 (Log #38).

96-11 – (1-3): Reject
SUBMITTER: Phil Ackland, Vancouver, B. C.
RECOMMENDATION: New text:
"In multiple outlet systems the cooking fuels should be only gas or electrical with automatic shut off. No other fuels should be allowed i.e. hardwood, briquette, mesquite and others."

SUBSTANTIATION: Fuel sources such as hardwood and briquettes pose a unique and more dangerous situation then does gas and electricity because they cannot be automatically shut off in case of fire. Also, these fuels typically are used in open-flame cooking which also increases fire risk.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: See Proposal 96-16 (Log #43)

96-12 – (1-3): Accept in Principle
SUBMITTER: Phil Ackland, Vancouver, B. C.
RECOMMENDATION: New text:
"In multiple outlet systems the air volume must be calculated to provide each individual hood with acceptable air velocity."

SUBSTANTIATION: Because a number of outlets will be using a common shaft, care must be taken to ensure sufficient air movement to exhaust the volume of vapors from each outlet.
COMMITTEE ACTION: Accept in Principle.
COMMITTEE STATEMENT: The committee agreed with the submitter, but felt that an expanded statement was necessary.

Committed to providing clear and concise text. 449
96-13 - (1-3): Reject
SUBMITTER: Phil Ackland, Vancouver, B.C.
RECOMMENDATION: New text:
"In multiple outlet systems the fan should continue
to operate in case of fire."
SUBSTANTIATION: By localizing the fire in one area
you do not jeopardize the operation of other outlets.
Therefore, the fan must continue to run.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The requirement is covered
in existing language, subsection 3-1.2.

96-14 - (1-3): Reject
SUBMITTER: Phil Ackland, Vancouver, B.C.
RECOMMENDATION: New text:
"All multiple outlet systems shall have the shortest
and closest to the source. By keeping the bleed
ducts short you decrease the surface area of this
buildup. To intentionally allow a fire to burn itself
out would require that the construction of the system be flawess, highly unlikely.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The recommendation is outside the
scope of the standard.

96-15 - (1-3): Reject
SUBMITTER: Phil Ackland, Vancouver, B.C.
RECOMMENDATION: New text:
"When cooking is done with fuel systems that cannot
be automatically shut off (as gas or electric cooking). In case of fire,
the fuel source cannot automatically be shut off. So
the additional precaution of having this vented
separately is reasonable.
COMMITTEE ACTION: Accept in Principle.
COMMITTEE STATEMENT: The revised paragraph better
reflects the intent of the submitter.

96-16 - (1-3): Accept in Principle
SUBMITTER: Phil Ackland, Vancouver, B.C.
RECOMMENDATION: New text:
"When cooking is done with fuel systems that cannot
be automatically shut off (as gas or electric) such as
briguette hardboard and mesquite, these appliances must be
vented separately."
SUBSTANTIATION: The volume of grease created by these
types of systems is many times greater than that
created by gas or electric cooking. In case of fire,
the fuel source cannot automatically be shut off. So
the additional precaution of having this vented
separately is reasonable.
COMMITTEE ACTION: Accept in Principle.
COMMITTEE STATEMENT: The revised paragraph better
reflects the intent of the submitter.

96-17 - (1-3.2 Exception Note (New)): Reject
SUBMITTER: Joseph N. Knapp, McDonald's Corporation
RECOMMENDATION: Add the following note to, or
following the exception:
NOTE: The protection is to be applied to the
combustible construction, not to the duct.
The duct is NEVER to be wrapped directly with any
materials as it cannot then dissipate the heat as
intended, and it will fail in a severe fire.
SUBSTANTIATION: We find that there are many engineers,
and many local fire marshals who are still prescribing
that the ducts be wrapped directly to provide the
clearance to combustibles. Many tests have shown that a
directly wrapped duct will fail in a severe fire as it
cannot dissipate the heat as intended.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: See Committee Action 96-113
(Log #27) and 96-18 (Log #5).

96-18 - (1-3.2 Exception and Exceptions Nos. 2 and 3
(New)): Accept in Principle
SUBMITTER: Rodney A. McPhee, Canadian Wood Council
RECOMMENDATION: a) Designate the existing Exception
as Exception No. 1 and revise it to read:
Exception No. 1: When the hood or grease extractor
is listed consumer, the ducts shall be wrapped directly
with noncombustible materials. If not listed or
be covered with noncombustible materials in the
following the exception:

a) 28 gauge sheet metal spaced
out 1 in. (25.4 mm) on non-
combustible spacers
9 in. (229 mm)

b) 28 gauge sheet metal on 1/8 in.
(3.2 mm) asbestos millboard
spaced out 1 in. (25.4 mm) on
noncombustible spacers
9 in. (229 mm)

c) 22 gauge sheet metal on 1 in.
(25.4 mm) mineral wool batts
reinforced with wire mesh or
equivalent spaced out 1 in.
(25.4 mm) on noncombustible
spacers
3 in. (76 mm)
d) 28 gauge sheet metal on 1/4 in.
(6.4 mm) insulating millboard.
12 in. (308 mm)

c) Add a new Exception No. 3 to read:
Exception No. 3: Where ducts are protected
internally with an approved automatic fixed
extinguishing system, properly maintained, the
clearance may be reduced to 6 in. (150 mm).
SUBSTANTIATION: a) and b) The existing wording is
revised to clarify the intent by separating the
conditions where the 18 in. clearance can be reduced.
The table showing alternatives for types of protection
and subsequent reduction in clearances is included
within the body of the Standard to clarify intent that
these methods of protection are in fact recognized as
providing additional safety measures to reduce the
hazard. This is similar to what is done in other NFPA
standards where clearance from ducts is in question
i.e. NFPA 31, 33 and 98.
In all of these referenced standards, tables showing
Types of Protection and subsequent reduction in
clearances are contained within the body of the
standard, not in the appendix. (b) and (d) under Types
of Protection in the proposal have been selected from
the tables in these standards as additional
alternatives for protecting the nearby combustible
material.
c) With a duct protected internally with a fixed automatic extinguishing systems the hazard of fire growth and spread within the duct is substantially reduced. In view of this, the minimum clearance from the duct to combustible material should be allowed to be reduced.

The reduction from 18 in. to 6 in. is identical to that which is permitted in NFPA Standard 33, 34 and 91 (see Sections 5-10, 3-7, and 2-8.1 respectively in these standards).

See also changes proposed to 3-1.5.1, 3-5.1.3, A-1, and A-2.

COMMITTEE ACTION: Accept in Principle.

Delete existing Appendix A from the Standard.

Revise 1-3.2 as follows:

1-3.2 Clearance. Hoods, grease extractors, and ducts shall have a clearance of at least 18 in. (457.2 mm) to combustible material, 3 in. (76.2 mm) to limited-combustible, and 0 in. to noncombustible material. See figures showing examples in Appendix B.

Exception No. 1: When the hood, duct, or grease extractor is listed for lesser clearances.

Exception No. 2: Clearance to combustible material may be reduced if the combustible material is protected as follows:

<table>
<thead>
<tr>
<th>Type of Protection</th>
<th>Clearance to Combustible Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) 0.013-in. (0.33-mm) (28 gage) sheet metal spaced out 1 in. (25.4 mm) on non-combustible spacers.</td>
<td>9 in. (228.6 mm)</td>
</tr>
<tr>
<td>(b) 0.027-in. (0.69-mm) (22 gage) sheet metal on 1-in. (25.4-mm) mineral wool batts reinforced with wire mesh or equivalent spaced out 1 in. (25.4 mm) on noncombustible spacers.</td>
<td>3 in. (76.2 mm)</td>
</tr>
</tbody>
</table>

Exception No. 3: Clearance to limited-combustible may be reduced to zero clearance when protected by noncombustible material such as metal lath and plaster, ceramic or quarry tile.

Exception No. 4: Materials and products that are listed for the purpose of reducing clearance. These materials shall be installed in accordance with the condition of the listing and the manufacturer's instructions.

NOTE: The protection methods for ducts to reduce clearance are to be applied to the combustible or limited-combustible construction, and not to the duct. The duct shall not be wrapped directly with any materials as the duct cannot dissipate heat from a fire as intended. In the case of a severe fire the duct may fail. A duct may not be in direct contact for more than 50 percent of its perimeter with any materials.

Add new Appendix B figures (on next four pages).

COMMITTEE STATEMENT: The Committee did not wish to increase the number of protection systems at this time; disagreed with the last exception of the recommendation; and editorially the section was changed to include limited-combustible and noncombustible language.

96-19 - (1-3.2.1 (New)): Reject

SUBMITTER: Phil Ackland, Vancouver, B. C.

RECOMMENDATION: New text:

"When ducting runs horizontally above a removable sub-ceiling the sub-ceiling should be a minimum of 3 in. below the ductwork and of a fire rated material."

SUBSTANTIATION: Many exhaust systems have horizontal sections which run through T-bar ceilings. In many cases T-bar ceilings are jammed tight against the ductwork. If there was a fire this could prove hazardous.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: This requirement is already covered in 1-3.2.

96-20 - (2-1.1 Exception): Reject

SUBMITTER: Rodney A. McPhee, Canadian Wood Council

RECOMMENDATION: Delete the comma after the word "assemblies."

SUBSTANTIATION: Editorial.

COMMITTEE ACTION: Final.

COMMITTEE STATEMENT: NFPA style is for use of close punctuation and in this instance the clause is set off by a comma at the beginning and at the end.
Appendix B SKETCH 1

TYPICAL SECTION VIEW
(FOR ONE STORY BUILDING)
Appendix B  SKETCH 1.1

3-5.1.1 : NOT LESS THAN 1 HR
FIRE RESISTANCE FOR BUILDING
LESS THAN 4 STORIES IN HEIGHT

3-5.1.2 : NOT LESS THAN 2 HR
FIRE RESISTANCE FOR BUILDING
4 STORIES OR MORE IN HEIGHT

3-5.1.3 :
- NOT LESS THAN 18" CLEARANCE
  TO COMBUSTIBLES
- NOT LESS THAN 8" TO LIMITED
  OR NON COMBUSTIBLES.

1-3.2 :
0" TO NON COMBUSTIBLE
3" TO LIMITED COMBUSTIBLE
18" CLEARANCE TO COMBUSTIBLES
UNLESS PROTECTED IN ACCORDANCE
WITH EXCEPTION NO. 2 OR 3.

TYPICAL SECTION VIEW
(FOR TWO STORIES OR MORE)
3-6.2.2: --

EXHAUST FAN

10'-0" - 0''

3-6.2.3

40

3-5.1.3:
- NOT LESS THAN 18" CLEARANCE TO COMBUSTIBLES
- NOT LESS THAN 6" TO LIMITED OR NON COMBUSTIBLES.

EXHAUST HOOD

CEILING

TYPICAL SECTION VIEW
(FOR ONE STORY BUILDING)
Appendix B  SKETCH 2.1

3-5.1.1: NOT LESS THAN 1 HR FIRE RESISTANCE FOR BUILDING LESS THAN 4 STORIES IN HEIGHT

3-5.1.2: NOT LESS THAN 2 HR FIRE RESISTANCE FOR BUILDING 4 STORIES OR MORE IN HEIGHT

3-5.1.3: - NOT LESS THAN 18" CLEARANCE TO COMBUSTIBLES
- NOT LESS THAN 6" TO LIMITED OR NON COMBUSTIBLES.

1-3.2: 0" TO NON COMBUSTIBLE
3" TO LIMITED COMBUSTIBLE
18" CLEARANCE TO COMBUSTIBLES UNLESS PROTECTED IN ACCORDANCE WITH EXCEPTION NO. 2 OR 3.

TYPICAL SECTION VIEW
(FOR TWO STORIES OR MORE)
96-23 - (2-1.3 (New)): Accept

SUBMITTER: J. S. Parikh, Underwriters Laboratories Inc.

RECOMMENDATION: New text:

2-1.3 Insulation materials other than electrical insulation shall have a flame spread rating of 25 or less when tested in accordance with test for Surface Burning Characteristics of Building Materials, UL 723. Adhesives or cements used in the installation of insulating materials shall comply with the above requirements when tested with the specific insulating material.

SUBSTANTIATION: Insulation is used in some hoods, especially in the make-up (supply) air plenum. However, flammability requirements for the insulation materials are not included in the Standard.

The proposal is intended to address this NFPA 90A, Standard for the Installation of Air Conditioning and Ventilating Systems, 1985 Edition, requires coverings, linings, panels and other materials used in duct systems to have a maximum flame spread rating of 25. NFPA 90A applies to supply air related portions of the hoods and other components used in the systems addressed by this Standard. (Ref. NFPA 90A, paragraph 2-1.2(d), A-1.1-2(d), and E-1.1. Paragraphs A-1.1-2(d) and E-1.1 refer to NFPA 90A).

COMMITTEE ACTION: Accept.

96-24 - (2-3): Reject

SUBMITTER: William A. Robinson, Sturdi-Built Food Service Ventilation Products

RECOMMENDATION: None.

SUBSTANTIATION: The Fire News of February, 1987, in the NFPA Standards Action Formal Interpretations had quite a section on the design of Make Up air canopies. Quite an attempt was made to define and diagram the various ways to make a NFPA Make Up Air Canopy. This was quite a help to those who design and make Make Up Canopies. However, we have some comments on designs C & H. We feel that you should reconsider the "no" answer given to meeting Code #96.

The most efficient type of Make Up Air Canopy is the style where the untempered Make Up Air is introduced into the room from two or more locations on the canopy, and particularly the style where the make up air is introduced into the kitchen from the canopy with an air curtain (down discharge) and also directly into the room from the front of the canopy (front discharge). (Designs C, E, F, G, H, & I) according to the Fire News of February 1987, page 7, this presents a fire protection problem. Although it is possible to install a fire damper at the point where the make up air duct enters the canopy, and thus to install a fire damper at the point where the make up air duct enters the canopy, and thus to comply with the code, I am not aware of any way of putting a fire damper in the registers on the front of the canopy that release air into the kitchen (front discharge). I do not feel that this actually presents a fire protection problem as your interpretation would indicate. If the canopy has sufficient overhang over the cooking equipment, additional fire dampers should not be necessary to give the installation reasonable fire protection (Figure H) according to the "Manual of Industrial Hygiene," to contain the heat generated by cooking equipment, the canopy proper must overhang the cooking equipment by 3 in. for every foot the canopy above the cooking equipment. This would mean that if the canopy was hung at 6 ft 6 in. above the floor, which 90 percent of all canopies are, the canopy should overhang the cooking equipment by 10-1/2 in. If the canopy was not a Make Up Air Canopy, the actual fire protection shielding of the externally welded construction of the canopy would end at the edge of the overhang (10-1/2 in. from the cooking equipment). Any building construction beyond the overhang of the canopy would be exposed to any fire that extended beyond the canopy. The Code does not deal with the fire resistance of construction near the canopy, (beyond fire clearance) nor does it deal with that area in the kitchen directly in front of the canopy.

What would be the objection of allowing an externally welded canopy, with an air curtain down discharge, and front discharge where the make up air chamber does not have externally welded construction and fire dampers, if the air curtain was outside of the specified overhangs of the canopy? (Figure H) This would give the kitchen ceiling less exposure to a fire extending outside the canopy than if the canopy was not there. The make up air chamber of the canopy, being constructed of metal, would provide more of a flame barrier than open space. Please see drawings below.

DRAWING "A"

DRAWING "H"

This would simplify the building of those canopies, reduce costs, remove the objection of requiring nonexistent or very difficult to obtain fire damper grills, and give more fire protection than a standard exhaust only canopy.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The proposal was not in proper form and did not recommend a specific change in Standard 96.
96-25 - (2-3, 2-3.1, 2-3.1.2): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Revise the title of Section 2-3 as follows:

2-3 Exhaust Hood Assemblies with Integrated Supply Air Plenums.

Revise "2-1.1" to "2-1" in 2-3.1 so that revised subsection reads as follows:

2-3.1 The construction and size of these hoods shall comply with the requirements of Sections 2-1 and 2-2.

Revise 2-3.1.2 as follows:

2-3.1.2 A fire-actuated damper shall be installed in the supply air plenum at each point where a supply air duct inlet or a supply air outlet penetrates the continuously welded shell of the assembly. The damper shall be constructed of at least the same gage as the shell. The actuation device shall have a maximum temperature rating of 285°F (141°C). Supply air plenums that discharge air out their face rather than out the bottom or into the exhaust hood and which are isolated from the exhaust hood by the continuously welded shell extending to the lower outermost perimeter of the entire hood assembly do not require a fire-actuated damper. See Appendix A, A-2-3.1.2 for examples.

Add figures to Appendix A as A-2-3.1.2, Figures A-2-3.1.2(a) through A-2-3.1.2(j) below.

RECOMMENDATION: Add a second sentence to read:

"The fire damper actuation device shall be within the temperature classification of 160°F to 285°F."

SUBSTANTIATION: Specification of temperature ratings of actuation devices would be consistent with NFPA 90A (air conditioning systems) paragraph 3-3.7.1.6.

COMMITTEE ACTION: Accept. Better reflects the intent of the Committee.

96-27 - (2-3.1.2): Reject

SUBMITTER: D. E. Overton, Knoxville, TN

RECOMMENDATION: Delete Section 2-3.1.2.

A fire-actuated damper of at least the same gage as the hood shall be installed in the supply plenum at the same plane as the external weld.

SUBSTANTIATION: Let the Air Flow Minimize the Leading Cause of Fire Deaths!

A fire damper, if closed in the supply plenum of an integrated hood, will stop the flow of replacement air... and, it then follows, the effectiveness of the hood exhaust system to remove hot toxic smoke can be reduced up to eighty percent (80%).

It is recognized:
1. The leading cause of fire deaths is the inhalation of toxic gases.
2. It has not been demonstrated that allowing a cooking grease fire to enter the exhaust and/or supply duct of an integrated hood is a desirable fire protection design feature. However, the leading medical cause of fire deaths is the inhalation of hot toxic gases; therefore, in lieu of uncontrolled toxic gases released into a building, it is desirable to confine all the toxic residue from a grease fire to within a qualified exhaust system.
3. The system required by NFPA 96 to ventilate commercial cooking processes is (*) limited but qualified to remove hot toxic gases that could otherwise be hazardous.
COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: Construction of hoods is covered in manufacturers instructions, not installation of hoods. Hoods and therefore, 2-4 should relate to construction in accordance with the terms of their listing and the installation of residue traps provides a false sense of security.

COMMITTEE ACTION: Accept.

96-30 - (3-1.4.1, New): Reject

SUBMITTER: Philip D. Morton, Gaylord Industries, Inc.

RECOMMENDATION: Add a new paragraph 3-1.4.1 to read as follows:

All horizontal ducts shall slope not less than 1/4 in. per lineal ft towards the hood or residue trap. Where horizontal ducts exceed 75 ft in length the slope shall not be less than 1 in. per lineal ft.

SUBSTANTIATION: Horizontal ducts without a slope could collect residues. The intent of 3-1.4 is to have duct systems that will not collect residues. The proposal would be consistent with the UMC Sec. 2002, 3.b.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The Committee feels that this recommendation is not practical in most cases.

96-31 - (3-1.5 thru 3-1.5.2): Accept in Principle in Part

SUBMITTER: Rodney A. McPhee, Canadian Wood Council

RECOMMENDATION: Existing Sections 3-1.5.1 and 3-1.5.2 should be deleted and 3-1.5 revised to read:

3-1.5 Clearance. Clearance between ducts and combustible materials shall be provided in accordance with the requirements of Sections 3-1.3-2.

SUBSTANTIATION: This change is made to remove a redundant reference to clearance requirements between ducts and combustible material. Section 1-3.2 already specifies the minimum requirements. The proposed revision to 1-3.2 will now include the options of protecting the combustible material or the duct internally by an automatic fixed extinguishing system both of which will consequently allow reductions in the clearance.

COMMITTEE ACTION: Accept in Principle in Part.

Revise 3-1.5.1 as per recommendation, but continue 3-1.5.2 so that 3-1.5 reads as follows:

3-1.5 Clearance

3-1.5.1 Clearance between ducts and combustible materials shall be provided in accordance with the requirements of Section 1-3.2.

3-1.5.2 For listed grease ducts, see Section 3-2.

COMMITTEE STATEMENT: The Committee agrees with the intent of the submitter, but felt it necessary to maintain the reference to 3-2.

96-32 - (3-1.5 and 3-1.6.2.1): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Add new 3-1.5 as follows:

3-1.5 All interior surfaces of ducts shall be accessible for cleaning and inspection purposes. Openings required for accessibility shall comply with 3-3 Openings. (Revised from 3-1.6).

Renumber existing 3-1.5 Clearance to 3-2. Revise 3-1.6.2.1 to read:

3-1.6.2.1 On horizontal ducts at least one 20 in. x 20 in. opening shall be provided for personnel entry. When an opening of this size is not possible, openings large enough to permit thorough cleaning shall be provided at 12 ft intervals.

SUBSTANTIATION: A complete revision of Sections on openings was considered necessary to reflect actual cleaning and inspection practices and to give better guidelines on placement and spacing.

COMMITTEE ACTION: Accept.
96-33 - (3-1.6.1): Accept in Principle
SUBMITTER: Joseph N. Knapp, McDonald's Corporation
RECOMMENDATION: Change the wording to the following:
"An opening large enough to permit inspection and cleaning shall be provided in any duct section that is otherwise inaccessible from the duct entry or discharge."

SUBSTANTIATION: We are sometimes required to install two cleanout doors on ducts with slight offsets between the hood and fan. With a fan that tips back these ducts are readily inspected and cleaned from above and below without the need of these doors. Most ducts are now cleaned with a high pressure steam hose system from above, which does not use the doors at all. Their installation is an unnecessary expense, and increases the risk of grease leakage and fire hazard. When enclosed in a chase area, the chase must also have an access at extra expense, and at the possibility of fire escape if the panels are used and not properly re-installed.

COMMITTEE ACTION: Accept in Principle.

96-34 - (3-1.6.1.1 (New)): Accept in Principle
SUBMITTER: Phil Ackland, Vancouver, B.C.
RECOMMENDATION: New text:
"An access panel should be installed in the duct no more than 6 in. above the top of any and all types of self-cleaning hoods."

SUBSTANTIATION: The majority of self-cleaning hoods employ either baffles or dampers to adjust the air flow and/or close off the hood from the duct in case of fire. Others have a upper chamber in the self-cleaning hood which is inadequately accessible for proper cleaning.

COMMITTEE ACTION: Accept in Principle.

96-35 - (3-1.6.1.2 (New)): Accept in Principle
SUBMITTER: Phil Ackland, Vancouver, B.C.
RECOMMENDATION: New text:
"On fans that are not the termination of the system i.e. ductwork continues on after the fan, access should be provided on both sides of the fan."

SUBSTANTIATION: Without access you can not properly clean the fan.

COMMITTEE ACTION: Accept in Principle.

96-36 - (3-1.6.2.1): Accept in Principle
SUBMITTER: Larry Stahl, Koree's Food Systems, Inc.
RECOMMENDATION: Change the wording to the following:
"Openings shall be at the sides of the duct, or in the end of the ducts."

SUBSTANTIATION: Code officials will not permit cleanouts on the end of the ducts where they go vertical because Section 3-1.6.2.1 states "side of duct."

COMMITTEE ACTION: Accept in Principle.

96-37 - (3-1.6.2.3): Accept in Principle
SUBMITTER: Phil Ackland, Vancouver, B.C.
RECOMMENDATION: Renumber existing 3-1.6.2.3 to 3-1.6.2.4.

New text:
"Ductwork which is less than 20 in. horizontal by 16 in. vertical should have openings which are at least 16 in. horizontal by 12 in. vertical every 10 ft. These openings should be on the sides of the ductwork wherever possible. In the case of vertical ductwork of the above size, openings should be provided on each floor. With ductwork greater than both 20 in. horizontal and 16 in. vertical, access in the horizontal section should be every 20 - 30 ft. On vertical sections of ductwork openings should be large enough to physically descend for cleaning purposes."

SUBSTANTIATION: The primary methods for cleaning ductwork are scraping or pressure working. In the use of ductwork 20 in. x 16 in. or less, access is required every 10 ft to get at all surface areas of the ductwork with extension scrapers or pressure wands. At any more than 10 ft you get insufficient pressure to break the surface tension of the grease, when ductwork is greater than 20 in. x 16 in. the ductwork can most effectively be cleaned by being crawled. In the case of vertical ductwork a man is lowered by a cable (Really!) Access is definitely needed to do this properly and safely.

COMMITTEE ACTION: Accept in Principle.

Revise 3-1.6.2.4 as follows:
3-1.6.2.4 On vertical ductwork where personnel entry is possible, access shall be provided at the top of the vertical riser to accommodate descent. Where personnel entry is not possible, adequate access for cleaning shall be provided on each floor.

COMMITTEE STATEMENT: Better expresses the intent of the submitter. Horizontal ductwork is addressed in 3-1.6.2.3 as follows:

96-38 - (3-1.6.2.3): Accept in Principle
SUBMITTER: Philip O. Morton, Gaylord Industries, Inc.
RECOMMENDATION: Add a second sentence that reads as follows:
"Covers shall be fastened with \( \frac{1}{4} \) in. carbon or stainless steel screws in each corner and around the perimeter on no more than 4 in. centers."

SUBSTANTIATION: From field experience, we have seen covers secured with aluminum screws. Screws or other fastening devices should meet the same material requirements as the covers. The \( \frac{1}{4} \) in. size and the 4 in. spacing would be consistent with Figure 3-3.

COMMITTEE ACTION: Accept in Principle.

Revise 3-1.6.2.3 as follows:
3-1.6.2.3 Covers shall be of the same material and thickness as the duct. Covers shall have a gasket or sealant that is rated for \( 1500 \)°F and shall be grease tight. Fasteners used to secure the covers, such as bolts, weld studs, latches or wing nuts shall be carbon steel or stainless and shall not penetrate duct walls.

COMMITTEE STATEMENT: Better reflects the intent of the Committee.
96-39 - (3-1.6.2.5 (New)): Reject
SUBMITTER: Phil Ackland, Vancouver, B.C.
RECOMMENDATION: New text: "Access panels should be gasketed with approved silicone caulking with 2000°F rated gasket or sealant."
SUBSTANTIATION: Many access panels today are not being recaulked after being removed for cleaning. The material that should be used is the same material that is used to attach the hood to the duct (where necessary).
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: See Action on 96-38 (Log #76).

96-40 - (3-1.6.2.6 (New)): Reject
SUBMITTER: Phil Ackland, Vancouver, B.C.
RECOMMENDATION: New text: "At original installation of ductwork clean out covers should be grease tight when in place and fastened with a maximum of four securing devices such as bolts, latches or wing nuts of high quality."
SUBSTANTIATION: Access panels are best installed during the fabrication of the ductwork. At that time these access panels can have properly machined fasteners attached to the ductwork or the access panel. The fewer fasteners required to properly seal the system the better. When retrofitting access panels attaching belts, wing nuts and catches becomes overly complicated.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: See Action on 96-38 (Log #76).

96-41 - (3-1.6.4 (New)): Accept in Principle
SUBMITTER: Phil Ackland, Vancouver, B.C.
RECOMMENDATION: New text: "When ductwork is concealed by finished building materials proper fire rated doors should be installed on the finished wall to access the clean outs."
SUBSTANTIATION: You need access to the installed access panels. Many times other contractors are used and they are not aware that there is access into the ductwork which needs to be properly accommodated on the finished surface.
COMMITTEE ACTION: Accept in Principle.
COMMITTEE STATEMENT: Changes indicated were considered to be adequate without addressing finished building materials specifically.

96-42 - (3-1.6.4.1 (New)): Reject
SUBMITTER: Phil Ackland, Vancouver, B.C.
RECOMMENDATION: New text: "A sign should be placed on access panels stating "Do Not Obstruct Opening."
SUBSTANTIATION: In the construction of new buildings contractors other than the ductwork installer are generally using the same area as a chase to turn conduit, pipes, plumbing and drains which often obstruct access to the clean out openings.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The recommended signs are considered by the Committee to be inappropriate and impractical. The Committee feels that accessibility is necessary but can best be included in another section of 96.
96-47 -(3-4.1): Accept in Principle
SUBMITTER: Philip O. Morton, Gaylord Industries, Inc.
RECOMMENDATION: Add the following at the end of the first sentence:
"Supports shall be constructed of the same material and thickness as the duct. Bolts, screws, rivets and other mechanical fasteners shall be driven but not penetrated duct walls. Clearance of any vertical or horizontal ducts shall be no less than 18 in. from combustible materials."

SUBSTANTIATION: If duct supports were constructed of a material of lesser strength than that of the duct, the supports could collapse during a fire condition, allowing vertical ducts to fall against the building or away from the building onto other structures or allow horizontal ducts to fall onto the roof of the building.

The 18 in. clearance requirement would be consistent with 3-5.1.3 and 3-6.1.3 Exception No. 2.
COMMITTEE ACTION: Accept in Principle.

Delete first sentence of proposal.
Add new proposed second sentence to the first sentence of existing 3-4.1 in the standard and a revised third sentence so that 3-4.1 reads as follows:

3-4.1 The vertical portion of exhaust ducts shall be connected to the horizontal portion of the duct system and shall be installed and adequately supported on the exterior of a building. Bolts, screws, rivets and other mechanical fasteners shall not penetrate duct walls. Clearance of any vertical or horizontal ducts to combustible material shall comply with 1-3.2.

COMMITTEE STATEMENT: Requirements for support material is covered elsewhere in the standard. The intent of the submitter has otherwise been met.

96-49 - (3-4.2): Reject
SUBMITTER: Donald L. Griffes, New England Ventilation Technologies
RECOMMENDATION: Revised text: "Unpainted galvanized steel should be an acceptable material for exterior use in construction of ducts, curbs, supports and etc." SUBSTANTIATION: As long as welds and seams, where the galvanized coating is disturbed in the fabrication process are painted, I can see no reason for requiring painting of galvanized steel.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: The standard adequately addresses this issue.

96-49 - (3-4.3): Reject
SUBMITTER: Philip O. Morton, Gaylord Industries, Inc.
RECOMMENDATION: Change the paragraph as follows:

"A residue trap shall be provided at the base of each vertical riser with provisions for cleanouts in accordance with 3-1.6."

SUBSTANTIATION: To clarify and ensure that the referenced cleanout opening complies with 3-1.6.1.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: See Technical Committee Proposal 96-29 (Log #106).

96-50 - (3-5.1.1): Accept in Principle
SUBMITTER: Philip O. Morton, Gaylord Industries, Inc.
RECOMMENDATION: Reword as follows:

"In all buildings more than one story in height, and in one-story buildings where the roof or roof-ceiling assembly is required to have a fire resistance rating, the ducts shall be enclosed in a continuous enclosure extending from the ceiling above the hood, through any concealed spaces, to or through the roof so as to maintain the integrity of the fire separations required by the applicable building code provisions. The enclosure shall be sealed around the duct at the point of penetration at the ceiling and vented to the exterior through weather protected openings where the enclosure terminates at the exhaust fan. The enclosure shall conform to the following:"

SUBSTANTIATION: The current paragraph does not address sealing or venting of the enclosure and thus architects, engineers, designers and code enforcement officials have no guidance as to what should be done. Sealing the enclosure at the penetration of the ceiling would prevent flames from entering the enclosure if the fire escaped the confines of the hood. Venting the enclosure at the point of termination would allow hot expanding air, created by heat radiated from the duct during a fire condition, to escape the enclosure. The proposed method of sealing and venting parallels requirements of UMC paragraph 2002, 3(d).
COMMITTEE ACTION: Accept in Principle.

Revise new second sentence to read as follows: "The enclosure shall be sealed ...... and vented to the exterior of the building through weather protected openings.

COMMITTEE STATEMENT: More accurately meets submitter's intent.

96-51 - (3-5.1.3): Reject
SUBMITTER: Rodney A. McPhee, Canadian Wood Council
RECOMMENDATION: Revise 3-5.1.3 to read:

3-5.1.3 Clearance from the duct to the interior surface of the enclosure shall not be less than 6 in. (152 mm)

SUBSTANTIATION: The present requirements for 18 in. clearances from a combustible enclosure having a fire resistance rating of at least one hour are restrictive. This enclosure is required to be constructed to meet a minimum performance in the standard fire endurance test (NFPA 255). This includes limiting both temperature and flame transmission through the assembly after 1 hour exposure to the standard time/temperature curve. This is considered much more severe exposure than could be expected from a grease fire in a duct system. The duration of a grease fire within a duct would not be expected to last for an hour nor would the temperature within the enclosure be expected to reach and remain at the levels experienced in the standard fire test.

In view of this the clearances for all rated enclosures, regardless of type of construction should be the same.
COMMITTEE ACTION: Reject.
COMMITTEE STATEMENT: This proposal is rejected by Committee because it is recognized that the enclosure - even though fire rated - can be built of combustible material. Also a grease duct fire of indeterminate duration can be more severe than the ASTM E119 exposure under certain conditions based on limited practical experience.

96-52 - (3-5.1.3): Reject
SUBMITTER: David A. Lalainson, Thermal Ceramics
RECOMMENDATION: Reference the upcoming meeting of NFPA 96 Committee. The current code does not address the use of "fire proof" insulation materials applied directly to the duct to reduce clearance to combustible materials.

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

SUBSTANTIATION: Fire testing at Thermal Ceramics Research & Development Laboratory has proven that a duct constructed per 3-3 wrapped as outlined in Attachment #1 could be used to provide zero clearance to combustible materials. This test was modeled after Underwriters Laboratory proposed test procedure for wrap systems. Thermal Ceramics would like to present this information to the Committee for consideration prior to finalizing revisions to NFPA 96.

NOTE: In the real world this construction would provide a much better solution to some of the existing practices being accepted on new and renovation projects.
Thermal Ceramics is planning to test this system at an independent test agency in the near future to gain further market acceptance.

**COMMITTEE ACTION:** Reject.

**COMMITTEE STATEMENT:** See 96-18 (Log #5) and 96-113 (Log #27).

**Committee Action:** Reject (Log #80)

96-53 - (3-5.1.3): Reject

**Submitter:** Philip O. Morton, Gaylord Industries, Inc.

**Recommendation:** Revise first sentence to read as follows:

"Clearance from the duct to the interior surface of enclosures shall not be more than 12 in. or less than 6 in."

**SUBSTANTIATION:** 3-5.1.3 references enclosures of combustible construction. However, 3-5.1.1, 3-5.1.2 and 3-5.1.3 clearly states that enclosures must have a fire rating of 1 or 2 hours and therefore, reference to combustible construction should be omitted.

**COMMITTEE ACTION:** Reject.

**COMMITTEE STATEMENT:** See 96-51 (Log #8).

96-54 - (3-5.1.3): Accept

**Submitter:** Technical Committee on Venting Systems for Cooking Appliances

**Recommendation:** Add the words "or limited-combustible" between "noncombustible" and "construction" of first sentence.

**Delete "Appendix A" from the second sentence of 3-5.1.3 and substitute the reference "1-3.2."

**SUBSTANTIATION:** To correct terminology and references per Proposal 96-18 (Log #5) and 96-18 (Log #5).

**COMMITTEE ACTION:** Accept.

**Committee Action:** Accept in Principle (Log #23)

96-55 - (3-5.1.3 Note 2 (New)): Accept in Principle

**Submitter:** Joseph N. Knapp, McDonald's Corporation

**Recommendation:** Add the following as a second note after the existing note. Identify existing note as NOTE 1.

"NOTE 2: It is not permitted to directly wrap the ducts in lieu of the chase. The chase permits the heat to radiate from the duct. When the duct is directly wrapped, the heat cannot dissipate, and the duct will fail in a severe fire.

**SUBSTANTIATION:** We find that there are many engineers, and many local fire marshals who are still prescribing that the ducts be wrapped directly in lieu of providing the radiating space within a chase. Many tests have shown that a directly wrapped duct will fail in a severe fire as it cannot dissipate the heat as intended.

**COMMITTEE ACTION:** Accept in Principle.

**COMMITTEE STATEMENT:** See Action on 96-113 (Log #27) and 96-18 (Log #5).

96-56 - (3-6): Reject

**Submitter:** Terry Wong, City of Vancouver

**Recommendation:** New text for food court exhaust systems and conventional systems:

"Ducting requirements for ecologizer type units" (a) Type of installation permitted?

(b) Fire suppression requirements?

Renumber existing 3-6 Termination of Ducts.

**SUBSTANTIATION:** Garland Ecologizer units approved by ULC have been allowed to use Conventional H.V.A.C. duct rather than all welded steel duct for kitchen exhaust duct.

**COMMITTEE ACTION:** Reject.

**COMMITTEE STATEMENT:** Insufficient data and technical information.

**Diagram:**

*Fire Dampers required since air is treated as normal clean air, therefore normal building code HVAC rules would apply.*

**NOTE:** Contrary to basic kitchen exhaust standards i.e. no dampers.
3-6 Termination of Exhaust System.

3-6.1 The exhaust system shall terminate as follows:

3-6.1.1 Outside the building with a fan or duct. See Figure 3-6.1.2.

3-6.1.2 Through the roof as in Section 3-6.2, or through a wall as in Section 3-6.3.

3-6.2 Rooftop Terminations.

3-6.2.1 Rooftop terminations shall be as follows:

3-6.2.2 With a minimum of 10 ft (3.05 m) of clearance from the outlet to adjacent buildings, property lines, and air intakes. When space limitations absolutely prevent a 10 ft (3.05 m) horizontal separation from an air intake, a vertical separation will be acceptable with the exhaust outlet being a minimum of 3 ft (.92 m) above any air intake located within 10 ft (3.05 m) horizontally from the surface of the roof, and a minimum of 40 in. (1016 mm) above the roof surface.

3-6.2.4 With the ability to drain grease out of any traps or low points formed in the fan or duct near the termination of the system to a rainproof collection container or to a remote grease trap.

3-6.2.5 With a listed grease duct complying with Section 3-2, or with ductwork complying with Section 3-3, or,

3-6.2.6 With a hinged up-discharge fan that is listed for commercial cooking equipment, provided the ductwork extends a minimum of 18 in. (457.2 mm) above the roof surface and the fan discharges a minimum of 40 in. (1016 mm) above the roof surface, or,

3-6.2.7 With other approved fan, provided, (a) it meets the requirements of Sections 3-6.2.4 and 5-1, and (b) it's discharge or it's extended duct discharge meets the requirements of Section 3-6.3.

3-6.3 Wall Terminations.

3-6.3.1 Wall terminations shall be as follows:

3-6.3.2 Through a masonry wall with a minimum of 10 ft (3.05 m) of clearance from the outlet to adjacent buildings, property lines, grade level, combustible construction, electrical equipment or lines, and the closest point of any air intake at or below the plane of the exhaust termination. The closest point of any air intake above the plane of the exhaust termination shall be a minimum of 10 ft (3.05 m) distant, plus 0.25 ft (.076 m) per each one (1) degree from horizontal, the angle of degree being measured from the center of the exhaust termination to the center of the air intake. See Figure 3-6.3.2 next page.

3-6.3.3 With the exhaust flow directed perpendicularly outward from the wall face, or upward.

3-6.3.4 With all the ductwork pitched to drain the grease back to the hood(s), or with a drain provided to bring the grease back to a container within the building, or to a remote grease trap.

3-6.3.5 With a listed grease duct complying with Section 3-2, or other ducts complying with Section 3-3, or,

3-6.3.6 With an approved fan, provided, (a) it meets the requirements of Sections 3-6.3.4 and 5-1.

SUBSTANTIATION: A reorganization of material concerning the termination of exhaust systems to clarify the committee's intent.

COMMITTEE ACTION: Accept.
FIGURE 3-6.3.2

EXAMPLE:

MINIMUM DISTANCE BETWEEN EXHAUST AND FRESH AIR INTAKE (F.A.I.) IN WALL
F.A.I. IS SAME PLANE AS EXHAUST OR LOWER: MINIMUM OF 10' BETWEEN CLOSEST EDGES
F.A.I. ABOVE PLANE OF EXHAUST: 10' + 0.25' PER 1 DEGREE BETWEEN CLOSEST EDGES
96-62 - (3-6.1.3 Exception No. 2): Accept in Principle
SUBMITTER: Joseph N. Knapp, McDonald's Corporation
RECOMMENDATION: Change the exception to include the following underlined words:
- ... ducts may terminate into the base of an up-discharge exhaust fan that is listed for restaurant exhaust use, provided the...

SUBSTANTIATION: For quite a number of years now there have been exhaust fans that are specifically listed for use in restaurant grease exhaust systems. It seems appropriate that we require the use of such fans, rather than permit unlisted fans, or fans listed for other purposes to be used.
COMMITTEE STATEMENT: See Committee Proposal 96-36 (Log #108).
COMMITTEE ACTION: Accept in Principle.
COMMITTEE STATEMENT: See Committee Proposal 96-57 (Log #106).

96-63 - (3-6.1.4 New): Accept in Principle
SUBMITTER: Philip O. Morton, Gaylord Industries, Inc.
RECOMMENDATION: Add a new section 3-6.1.4 to read as follows:
"Exhaust fans must have a drain outlet in the bottom of the fan housing which drains into a removable grease collector."

SUBSTANTIATION: Allowing residue to collect in the bottom of the fan housing will affect the operation of the fan to the point that the fan motor could be damaged. Upblast fans or any fan incorporating a vertical discharge are susceptible to filling up with rainwater. Requiring a drain outlet would meet the intent of 3-1.4 and 3-4.3. Provisions for a drain would be consistent with the UMC 2002.3.b.
COMMITTEE ACTION: Accept in Principle.
COMMITTEE STATEMENT: See Committee Proposal 96-57 (Log #106).

Chapter 3 is printed in total as revised by Proposals because of the number and complexity of the issues addressing duct systems. The following draft is presented as an aid to the reviewer. Comments must reference a specific proposal number as printed on the preceding pages and not the material in the revised Chapter 3 draft.

Chapter 3 Duct Systems

3-1 General:
3-1.1 Ducts shall not pass through fire walls or fire partitions.
3-1.2 All ducts shall lead, as directly as possible, to the exterior of the building.
3-1.3 Duct systems shall not be interconnected with any other building ventilating or exhaust system.
3-1.4 All ducts shall be installed without forming dips or traps that might collect residues.
3-1.5 All interior surfaces of ducts shall be accessible for cleaning and inspection purposes. Openings required for accessibility shall comply with 3-3 openings. (Revised from 3-1.6). (See 96-32)

3-2 Clearance:
3-2.1 Clearances between ducts and combustible materials shall be provided in accordance with the requirements of Section 3-1.2. (See 96-33)
3-2.2 For listed grease ducts, see Section 3-4.

3-3 Openings:
3-3.1 Openings shall be provided at the sides or at the top of the duct, whichever is more accessible, and at changes of direction. (See 96-36)
3-3.2 For listed hoods with dampers in the exhaust collar, an access panel for cleaning and inspection shall be provided in the hood collar. This panel shall be as close to the hood as possible but not to exceed 3 ft. (See 96-34)
3-3.3 Exhaust fans with ductwork connected to both sides shall have access for cleaning and inspection within 3 ft on each side of the fan. (See 96-35)

3-3.4 Openings shall conform to the following:
3-3.4.1 On horizontal ducts at least one 20 in. x 20 in. opening shall be provided for personnel entry. When an opening of this size is not possible, openings large enough to permit thorough cleaning shall be provided at 12 ft intervals. (See 96-32)
3-3.4.2 In horizontal sections, the lower edge of the opening shall be not less than 1/2 in. (38.1 mm) from the bottom of the duct.
3-3.4.3 On vertical ductwork where personnel entry is possible, access shall be provided at the top of the vertical riser to accommodate descent. Where personnel entry is not possible, adequate access for cleaning shall be provided on each floor. (See 96-37)
3-3.4.4 Covers shall be of the same material and thickness as the duct. Covers shall have a gasket or sealant that is rated for 1500°F and shall be grease tight. Fasteners used to secure the covers, such as bolts, weld studs, latches or wing nuts shall be carbon steel or stainless and shall not penetrate duct walls.

Exception: Listed grease duct access door assemblies (covers) shall be installed in accordance with the terms of the listing and the manufacturer's instructions. (See 96-38)
3-3.4.5 Openings for installation, servicing, and inspection of listed fire protection system devices and duct cleaning shall be provided in ducts and enclosures and shall conform to the requirements of 3-3.4 and 3-7.1.5. (See 96-41)

3-4 Listed Grease Ducts. Listed grease ducts shall be installed in accordance with the terms of the listing and the manufacturer's instructions.

3-5 Other Grease Ducts. Other grease ducts shall comply with the following requirements.
3-5.1 Materials. Ducts shall be constructed of and supported by carbon steel not less than 0.054 in. (1.37 mm) (No. 16 MSG) or stainless steel not less than 0.043 in. (1.09 mm) No. 10 MSG) in thickness.
3-5.2 Installation.
3-5.2.1 All seams, joints, penetrations and duct to hood collar connections shall have a liquid-tight continuous external weld. Exception No. 1: Duct to hood collar connections as shown in figure 3-5.2.1 shall be permitted.

Exception No. 2: Penetrations shall be permitted to be sealed by other listed devices that are evaluated under the same conditions of fire severity as the hood or enclosure of listed grease extractors, and whose presence does not detract from the hood's or duct's structural integrity. (See 96-44)

3-6 Exterior Installations:
3-6.1 The vertical portion of exhaust ducts shall be connected to the horizontal portion of the duct system and shall be installed and adequately supported on the exterior of a building. Bolts, screws, and other mechanical fasteners shall not penetrate duct walls. Clearance of any vertical or horizontal ducts to combustible material shall comply with 3-6.2. (See 96-47)
3-6.2 All ducts shall be protected on the exterior by paint or other suitable weather-protective coating, or shall be constructed of noncorrosive stainless steel.

Figure 3-5.2.1 (See 96-43)
3-7.4 For listed grease ducts, see Section 3-4.

3-7.5 If openings in the enclosure walls are provided, they shall be protected by approved self-closing fire doors of proper rating. See NFPA 80, Standard for Fire Doors and Windows.

3-7.6 Each duct system shall constitute an individual system serving only exhaust hoods on one floor.

3-8 Termination of Exhaust Systems. (See 96-57)

3-8.1 The exhaust system shall terminate as follows:

3-8.1.1 Outside the building with a fan or duct. NOTE: It is preferable for the fan to be at or as close to the end of the duct as possible in order to minimize the amount of pressurized duct joints and cleanouts through which grease might leak more easily.

3-8.1.2 Through the roof as in Section 3-8.2, or through a wall as in Section 3-8.3.

3-8.2 Rooftop Terminations.

3-8.2.1 Rooftop terminations shall be as follows:

3-8.2.2 With a minimum of 10 ft (3.05 m) of clearance from the outlet to adjacent buildings, property lines, and air intakes. When space limitations absolutely prevent a 10 ft (3.05 m) horizontal separation from an air intake, a vertical separation will be acceptable with the exhaust outlet being a minimum of 3 ft (.92 m) above any air intake located within 10 ft (3.05 m) horizontally.

3-8.2.3 With the exhaust flow directed up and away horizontally.

3-8.2.4 With the exhaust flow directed upward from the wall face, or upward.

3-8.2.5 With a listed grease duct complying with Section 3-4, or with ductwork complying with Section 3-5, or

3-8.2.6 With an approved fan, provided, (a) it meets the requirements of Sections 3-8.3.4 and 3-1,

3-8.3 Wall Terminations.

3-8.3.1 Wall terminations shall be as follows:

3-8.3.2 Through a masonry wall with a minimum of 10 ft (3.05 m) of clearance from the outlet to adjacent buildings, property lines, grade level, combustible construction, electrical equipment or lines, and the closest point of any air intake at or below the plane of the exhaust termination. The closest point of any air intake above the plane of the exhaust termination shall be a minimum of 10 ft (3.05 m) distant, plus 0.25 ft (0.076 m) per each 1° (5°) degree from horizontal, the angle of degree being measured from the center of the exhaust termination to the center of the air intake. See Figure 3-8.3.2 next page. (See 96-57)

3-8.3.3 With the exhaust flow directed perpendicularly outward from the wall face, or upward.

3-8.3.4 With all the ductwork pitched to drain the grease back to the hood(s), or with a drain provided to bring the grease back to a container within the building, or to a remote grease trap.

3-8.3.5 With a listed grease duct complying with Section 3-4, or other ducts complying with Section 3-5, or

3-8.3.6 With an approved fan, provided, (a) it meets the requirements of Sections 3-8.3.4 and 3-1.

NOTE: Noncombustible materials such as reinforced concrete, masonry, or protected wood construction, which may protrude into an enclosure and cause reduced clearance, may be acceptable to the authority having jurisdiction if the installation and accessibility of the duct system is considered adequate.

96-64 - (4-1, 4-1.2.2.1): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Revise Chapter 4 as follows:


4-1 Grease Removal Devices. Listed grease filters, baffles, or other approved grease removal devices for use with commercial cooking equipment shall be provided. Grease removal devices supplied as part of listed hood assemblies shall be installed in accordance with the terms of the listing and the manufacturer's instructions.

Exception No. 2: With cooking equipment without exposed flame and where flue gases bypass grease removal devices, the minimum vertical distance may be reduced to not less than 6 in. (152.4 mm). Grease removal devices shall be protected from combustion gas outlets and from direct flame impingement occurring during normal operation of cooking appliances producing flame temperatures, such as deep fat fryers, upright or high brokers, or charcoal- or charcoal-type broilers, when the distance between the grease removal device and the appliance flue outlet (heat source) is less than 18 in. (457.2 mm). This protection may be accomplished by the installation of a metal or stainless steel baffle plate between the heat source and the grease removal device. The baffle shall be located not less than 6 in. (152.4 mm) from the grease removal device.

Exception: See Exceptions No. 1 and No. 2 to 4-2.1 above.

4-2 Grease removal devices shall be tight-fitting and firmly held in place.

4-2.2 Grease removal devices shall be equipped with a drip tray beneath the edge of the filters. The tray shall be kept to the minimum size needed to collect the grease and be pitched to drain to an enclosed metal container having a capacity not exceeding 1 gal (3.785 L).

SUBSTANTIATION: To eliminate confusion and to clarify the intent of the Committee.
EXAMPLE

MINIMUM DISTANCE BETWEEN EXHAUST AND FRESH AIR INTAKE (F.A.I.) IN WALL
F.A.I. IS SAME PLANE AS EXHAUST OR LOWER: MINIMUM OF 10' BETWEEN CLOSEST EDGES
F.A.I. ABOVE PLANE OF EXHAUST: 10' + 0.25' PER 1 DEGREE BETWEEN CLOSEST EDGES

Figure 3-8.3.2
96-65 - (4-1.1.1 (New)): Accept in Principle

SUBMITTER: Phil Ackland, Vancouver, B. C.

RECOMMENDATION: New text:

"No case for the installation of a new listed system, grease removal devices or secondary filtration system allow for the downgrading of other parts of the system as is required in the code.

SUBSTANTIATION: We have observed the installations of secondary filtration systems after which contractors have installed air conditioning ducting to vent the "so-called" clean air the rest of the way out of the building. Or these systems have been installed on roofs bypassing the rules regarding termination of ducts sec. 3-6. When the secondary filters need to be replaced the restaurant owner discovers the cost of the replacement filters and simply, removes the old filters rendering the system inadequate. As this is not done until well after construction is finished there is no real authority having jurisdiction that discovers this.

COMMITTEE ACTION: Accept in Principle.

Add new sentence to end of existing language so that revised 6-3 reads as follows:

6-3 Other Equipment. Fume incinerators, thermal recovery units, air pollution control devices, or other devices may be installed in ducts or located in the path of travel of exhaust products when specifically approved for such use, and shall not increase the fire hazard. Unusually other parts of the exhaust system due to the installation of these approved devices, whether listed or not, shall not be allowed.

COMMITTEE STATEMENT: The Committee agreed with the intent of the submitter, but felt that the requirement should go in Chapter 6.

96-66 - (4-1.2.1.1): Reject

SUBMITTER: Lawrence J. Capalbo, Flame Guard, Inc.

RECOMMENDATION: Revised text:

4-1.2.1.1 Grease filters, including frames, or other grease removal devices shall be totally constructed of noncombustible materials having a melting point equal to or greater than 2000 degrees fahrenheit.

SUBSTANTIATION: NFPA 96 outlines in Chapter 2 on hoods, paragraph 2-1.1, the specific types of materials used to construct hoods. However in Chapter 4-1.2.1.1, the only requirements for the construction of grease filters is that they be made of "noncombustible materials." We at Flame Guard, Inc. have for many years felt this omission serious and have in previous proposals out recommended changes to NFPA 96's wording in this regard. Specifically we draw into question the allowed use of aluminum baffle style filters and aluminum and stainless steel mesh filters in an NFPA approved hood. These types of filters when exposed to flames from a surface fire, melt or just disintegrate and allow the surface fire to be pulled into the ductwork. The photographs show evidence of one such instance. These filters fell apart under exposure to a surface fire, dropping molten aluminum onto the cooking surface and with the help of the exhaust fans, molten aluminum was pulled upwards, fouling the fire extinguishing systems nozzles, preventing them from going off. In the case of mesh style filters, it is very easy for the fine strips of metal that make up the filtering media to ignite and burn much in the same manner a steel wool pad will burn when put to the match. Combine this easily ignited material with the grease that loads into a mesh filter and you see the potential for a serious fire hazard.

What has confused us for many years is NFPA 96's definitive information on the construction of hoods and the absence of such standards for filters. At the critical, most susceptible point for a fire to start and spread, we allow the use of substandard materials. If it is acceptable to manufacture grease filters out of aluminum then why not the entire hood. NFPA 96 does not allow hoods to be made of aluminum because they know aluminum will not stand up to the heat, grease, stress and general wear and tear experienced by a hood. An aluminum hood would also be very hard clean adding a health and sanitation problem. These same considerations exist in regards to grease filters. The only reason aluminum baffle type mesh style filters exist is based solely on price. This seems a pretty sad state of affairs to allow products such as these to meet NFPA 96 guidelines when their sole virtue is that they are cheap.

In order for NFPA 96 to be consistent and to promote NFPA's primary goal of safeguarding lives and property, we urge you to consider our proposed change.

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

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The Committee feels that listed grease filters and the construction requirements presently contained in the standard are adequate.

96-67 - (4-1.2.1.2): Accept

SUBMITTER: Technical Committee on Venting Systems for Cooking Appliances

RECOMMENDATION: Add a new second sentence to 4-1 as follows:

"Mesh filters shall not be used."

SUBSTANTIATION: To clarify the Committee's position on the use of mesh filters with commercial cooking equipment.

COMMITTEE ACTION: Accept.

96-68 - (4-1.2.2.1): Reject

SUBMITTER: J. S. Parikh, Underwriters Laboratories Inc.

RECOMMENDATION: Delete the first sentence, "The distance . . . possible."

SUBSTANTIATION: This requirement does not provide any useful or helpful information. Also, the distance for the listed hoods determined by the Cooking Smoke and Flare-Up Test described in Standard UL 710 may conflict with the distance above the cooking surface permitted by the design of the room.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The Committee felt that this information was useful in field installations.

96-69 - (4-1.2.2.1): Reject

SUBMITTER: Donald L. Griffes, New England Ventilation Technologies

RECOMMENDATION: The problem of mesh type filters being a fire hazard because of their storage capacity of grease should be considered. The baffle type filter, which stores no grease in the filter itself, should be considered for lesser clearances.

SUBSTANTIATION: Perhaps this matter should be addressed as to the benefits of the baffle type filter over the mesh type. I have read somewhere that a study was conducted to determine the extent of flame travel and flammability of the two types of filters.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: There are no listed mesh filters for use with commercial cooking equipment and the Committee disagrees that baffle-type filters store no grease. See 96-67 (Log #107).

96-70 - (4-1.2.2.1 Exception (New)): Accept in Principle

SUBMITTER: Joseph N. Knapp, McDonald's Corporation

RECOMMENDATION: Add the following new exception to 4-1.2.2.1:

Exception: With cooking devices without exposed flame and where flue gasses bypass filters in listed ventilators, listed hoods and damper assemblies, and classified hoods without dampers, filters shall be installed at an effective height of not less than 6 in. (152 mm) above cooking surfaces.

SUBSTANTIATION: There is no increased hazard in
applications with the above restrictions as can be attested by our use of this approach for 38 years. In addition, the higher minimum clearances of 2 to 2-1/2 ft for these same applications as required by the model codes would require that the hoods be mounted higher, causing an increase in exhaust and thus in energy usage.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Proposal 96-64 (Log #109).

96-71 - (5-1): Accept in Principle

SUBMITTER: J. S. Parikh, Underwriters Laboratories Inc.

RECOMMENDATION: Revise to read:

"Power Ventilators. Power ventilators, consisting of an impeller and motor in a housing, shall be approved for use with restaurant exhaust appliances and rated for continuous operation and shall be installed to comply with the following requirements."

SUBSTANTIATION: Present wording does not adequately describe the product, a power ventilator which is intended to remove grease-laden cooking vapors. Listed power ventilators for restaurant exhaust appliances are subjected to elevated temperature and abnormal flare-up tests, which are intended to simulate field conditions. Tests are conducted in accordance with UL's Outline of Proposed Investigation for Power Ventilators for Restaurant Exhaust Appliances, Subject 762. The proposed revision will provide consistency in terminology with the products UL has listed for approximately 16 years, and are readily available for such use. It should also eliminate confusion to UL's reference to NFPA-96 in its published advices in connection with the use of these products.

COMMITTEE ACTION: Accept in Principle.

Revised 5-1 to read as follows:

5-1 Exhaust Fans for Commercial Cooking Equipment. Approved up-discharge fans with motors surrounded by the air stream shall be listed for this use. Other exhaust fans for this use shall be approved for continuous operation. Both shall be installed to comply with the following requirements:

COMMITTEE STATEMENT: More clearly meets the submitter's intent.

96-72 - (5-1.2.1 (New)): Accept in Principle

RECOMMENDATION: New text:

"Standard aluminum updraft types of fans require the installation of hinges and retaining chains on one edge of the exhaust fan to allow tipping of the fan for access to clean."

SUBSTANTIATION: By hinging the base of the fan and putting a retaining chain on it, you will be able to clean the fan blades, the underside of the fan, and the exhaust duct. Otherwise, in many cases the fans are tarred to the roof and there is inadequate electrical cable to allow for this process. Many times fans are in awkward positions and can not be lifted off the ductwork. Removing the fan in any other way can result in damage to its balance, motor or duct ledge.

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

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Action on Proposal 96-57 (Log #108).

96-73 - (5-2.1): Reject

SUBMITTER: Philip O. Morton, Gaylord Industries, Inc.

RECOMMENDATION: Change the paragraph to read as follows:

"The velocity through any exhaust duct shall not be less than 1,500 ft (457.2 m) per min or more than 2,500 (762 m) per min."

SUBSTANTIATION: To bring into compliance with the UMC paragraph 2002, 3(f).

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The Committee felt the recommendation was too restrictive.

96-74 - (5-2.1): Accept in Principle

SUBMITTER: Stephen K. Melink, Amerivent Services Corporation

RECOMMENDATION: It is proposed that Chapter 5, paragraph 5-2.1 be changed to read:

"The air velocity through any duct shall not be less than 1,500 ft per min during nominal full-load cooking conditions. The velocity may be less during part-load or zero-load cooking conditions."

SUBSTANTIATION: As a testing and balancing firm of HVAC systems in the restaurant industry, Amerivent has observed the problem that actual cooking loads vary with the time of day and day of week - while conventional ventilation systems operate on a constant volume basis. Thus, during periods of the day when there is very little or no cooking, the ventilation system continues to exhaust the same amount of air from the restaurant. This is, of course, very energy-inefficient.

As a result, Amerivent has developed a new, state-of-the-art variable exhaust controller that varies the exhaust volume in proportion to the actual cooking load. It does this by sensing the heat and smoke load separately, and sends a signal to a motor speed controller, which in turn, tells the exhaust fan motor how fast to run.

This means that if a duct is sized for 1500 FPM at nominal full-load cooking conditions, then when the fan slows down in response to a reduced or part-load cooking condition, the duct velocity will go above 1500 FPM.

Since there is less grease vapors to exhaust during part-load cooking conditions, the air velocity required to move it through the exhaust duct should be allowed to be proportionally less.

The entire HVAC industry is rapidly moving towards variable-speed, variable-volume products and systems. It is important for restaurant owners and national energy conservation reasons, for use to design codes that reflect the available technology.

As it is, commercial kitchen ventilation is very energy-inefficient and we have an obligation to not allow codes to become out-dated with the current times. Fire safety is imperative, but we must strive for smart ways to provide both fire safety and energy efficiency.

Our variable exhaust controller has generated extremely high interest from national restaurant chains, hood manufacturers, and even the U.S. government. We are applying for an Energy-Related Invention Grant from the U.S. Department of Commerce, and will be exhibiting the product at the International Air Conditioning Heating and Refrigerating Exposition in Chicago Jan. 30 - Feb. 2.

The Committee's adoption of this slightly more flexible wording will help move the restaurant industry into the 1990's. And I appreciate your consideration of this important change and development.

COMMITTEE ACTION: Accept in Principle.

Add an exception to 5-2.2 as follows:

Exception: Lower exhaust air volumes shall be permitted during no-load cooking conditions provided they are sufficient to capture and remove flue gases and residual vapors from cooking equipment.

COMMITTEE STATEMENT: The Committee accepted the application for no-load cooking conditions as a positive feature. The Committee was concerned, however, about capture and containment of grease-laden vapors during part-load cooking.

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1. The volume of exhaust and replacement air is insufficient.
2. The exhaust is increased.
3. The replacement air system does not have sufficient capacity to supply the volume required to prevent a negative pressure in excess of 0.02 in. of water.
4. No one advised the authority having jurisdiction of the air flow change.
5. The authority having jurisdiction can not check the actual air flow rates; not versed in the procedure of air balance and/or has no air balance equipment.
6. Fuel burning appliances are not vented at the level prescribed for safety by this code.

There is a need for air flow guidelines whereby the authority having jurisdiction could, prior to installation of a hood system, have "claims" substantiated. Reputable hood manufacturers will support the proposed code change; they do not make unwarranted "claims". If adopted, the proposed change will enhance safety and energy conservation through the expertise of unbiased professional design consultants.

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

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The Committee took velocities out of the standard in the past because they were too restrictive and the Committee felt that the inclusion of the word "all" would be superfluous because of the inability to prove such a requirement. Also, the recommended new subsection 5-2.5 is presently covered in 1-3-4.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: Better states the intent of the submitter.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: Continue the word "shall" in existing language of 5-2.3.

Add a second sentence to read as follows: "It is not required to restart the hood exhaust fan(s) after the extinguishing system has been activated, if all cooking equipment served by the fan(s) had previously been shut down."

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The revision is suggested so as to be consistent with the proposed revision to paragraph 5-1.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-71 (Log #70).

COMMITTEE STATEMENT: Better states the intent of the submitter.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: In practical application.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: Supporting material is available for review at NFPA Headquarters.
SUBSTANTIATION: Regardless of the technology that may exist today, to filter impurities from exhaust systems it is not within the capacity of normal commercial restaurants do afford proper on going maintenance of these systems. What works for an atomic submarine will not work for Joe's Bar and Grill.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Proposal 96-65 (Log #54).

96-80 - (5-3): Accept in Principle

SUBMITTER: Donald L. Griffes, New England Ventilation Technologies

RECOMMENDATION: The existence of fuel burning appliances should not be the only criteria for replacement air as there are numerous other problems that can occur. I would recommend that replacement air should always be required as a part of a commercial cooking equipment ventilation system in frigid climates where energy conservation and tight buildings are the norm in cold weather.

SUBSTANTIATION: In such cases, without adequate make up air, the building is under severe negative pressure. The problems in such cases are numerous.

COMMITTEE ACTION: Accept in Principle.

Delete the first part of the text in 5-3 and revise the last part so that revised 5-3 reads as follows:

"5-3 Replacement Air. Replacement air quantity shall be adequate to prevent negative pressures in the commercial cooking area(s) from exceeding 0.02 in. water column (0.98 Pa)."

COMMITTEE STATEMENT: Meets the intent of the submitter and puts his suggestion into specific language in the standard.

96-81 - (6-2.6.1 (New)): Accept in Principle

SUBMITTER: Phil Ackland, Vancouver, B. C.

RECOMMENDATION: New text:

"All NFPA 96 code requirements to apply regardless of what filtration systems, pollution control devices or other devices that are installed in the ductwork and fan."

SUBSTANTIATION: It has been my experience that contractors are using a secondary filtration system as a reason to down grade the calibre of the ductwork from NFPA requirements to air conditioning ducting with its associated baffles and dampers. This is vastly more economical to construct, but after a period of time many customers are removing these filters (which are extremely expensive) and letting the air run its course for no regards for the systems integrity.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-63 (Log #54).

96-82 - (7-1.1): Reject

SUBMITTER: Philip O. Morton, Gaylord Industries, Inc.

RECOMMENDATION: Change the paragraph to read as follows:

"Approved fire extinguishing equipment shall be provided for the protection of duct systems, grease removal devices, and hoods when any of the cooking equipment under the hood is a source of ignition (such as deep fat fryers, ranges, griddles, and broilers)."

SUBSTANTIATION: Hoods covering cooking equipment that do not require protection, for example an oven or steamer, should not be required to have fire extinguishing equipment for the protection of ducts, grease removal devices or hoods since there is no hazard.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The recommendation only addresses sources of ignition and ignores grease producing appliances.

96-83 - (7-1.1 Exception): Accept in Principle

SUBMITTER: Joseph N. Knapp, McDonald's Corporation

RECOMMENDATION: Change the Exception to read:

"If acceptable to the authority having jurisdiction, the portion of the fire extinguishing system for the grease removal devices and hoods of 7-1.1 may be omitted when all cooking equipment is served by listed grease extractors containing a constant or fire actuated water system, and such water system does not adversely affect the operation of the fire protection system for the duct and cooking equipment."

SUBSTANTIATION: Duct protection has not been required for many listed grease extractors containing fire dampsers under the provisions of the exception as worded in the 1984 edition. Yet history of slow response in actuating these dampers, and of grease buildup or other restrictions keeping these dampsers from closing fully, has permitted fire to extend into the ductwork where there has been no suppression system to combat it. Since the listed dampsers cannot guarantee that fire will not extend into the ductwork, it is prudent fire safety to require duct protection.

COMMITTEE ACTION: Accept in Principle.

Remove "duct systems," from 7-1.1 and insert "Duct systems and" at beginning of 7-1.2 as follows:

7-1.2 Duct systems and cooking equipment (such as deep fat fryers, ranges, griddles, and broilers) that may be a source of ignition of grease in the hood, grease removal device, or duct shall be protected by approved extinguishing equipment.

COMMITTEE STATEMENT: The Committee agrees with the submitter and simply made the change to 7-1.1 and 7-1.2 instead of the exception to 7-1.1.

96-84 - (7-1.2): Reject

SUBMITTER: Phil Ackland, Vancouver, B. C.

RECOMMENDATION: Add "solid fuel burning equipment" to the list of appliances.

SUBSTANTIATION: Solid fuel embers are a serious source of ignition.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: Committee felt that this recommendation was not appropriate because it pertains to cooking fuel rather than a type of equipment.

96-85 - (7-1.3 (New)): Accept in Principle

SUBMITTER: Vic Humm, Red Bank, TN

RECOMMENDATION: New text:

7-1.3 When the building during construction is being provided with or if an existing building has a fire alarm system, the actuation of an extinguishing system by either automatic release or manual actuation shall be connected to the buildings fire alarm system, as an alarm condition.

If the extinguishing system or the equivalent as indicated by paragraph 7-1.1 requires electrical power to be operational in a fire mode or requires domestic water usage during a fire mode then those conditions, such as a shut control unit valve or loss of operating power, shall be monitored by the building's fire alarm system as a supervisory alarm condition.

SUBSTANTIATION: Fire grease fires are a concern, the actuation of the extinguishing system and the monitoring of its critical components to maintain operability should be required if the building has a fire alarm system.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-91 (Log #30).
(Log #9)

96-86 - (7-2.1, 7-2.1.1, 7-2.1.1.1, 7-2.1.1.2, 7-2.1.1.3): Accept in Principle

SUBMITTER: Rodney A. McPhee, Canadian Wood Council

RECOMMENDATION: (a) Revise existing 7-2.1 to read:
7-2.1 Fixed Automatic Fire Extinguishing Systems.
(b) Revise 7-2.1.1 to read:
7-2.1.1 Fixed extinguishing equipment required by
7-1 shall be either an automatic system specifically
listed for the hazard or an automatically operated
fixed pipe system.
(c) Revise existing 7-2.1.1.1 to read:
7-2.1.1.1 Automatic fire extinguishing systems
specifically listed for the hazard shall be installed
in accordance with the terms of their listing and the
manufacturers’ instructions.
(d) Revise existing 7-2.1.1.2 to read:
7-2.1.1.2 Other automatic fire extinguishing systems
of the fixed pipe type shall be installed in compliance
with the provisions of the following standards, where
applicable:
NFPA 12, Standard on Carbon Dioxide Extinguishing
Systems
NFPA 13, Standard for Installation of Sprinkler
Systems
NFPA 16, Standard on Deluge Foam-Water Sprinkler and
Foam-Water Spray Systems.
NFPA 17, Standard for Dry Chemical Extinguishing
Systems
(e) Revise 7-2.1.2.1 to read:
7-2.1.2.1 Portable fire extinguishers required by
7-1 shall be installed in kitchen cooking areas in
accordance with NFPA 10, Standard for Portable Fire
Extinguishers, Table 3-31 for Extra (high) Hazard.
SUBSTANTIATION: By a present wording it would seem
that the standard requires both a listed and
a fixed pipe automatic extinguishing system to be
provided. The new heading for 7-2.1 and revised
wording of 7-2.1.1 clarifies that only one of either
type is adequate to protect the hazard.
(c), (d) and (e) Changes are editorial in nature as a
result of proposed change to 7-2.1.1. Reference to
“automatic” reinforces that manual systems are not
permitted.
COMMITTEE ACTION: Accept in Principle.

Revise all of 7-2 as follows:
7-2 Types of Equipment.
7-2.1 Fire extinguishing equipment shall include
both fixed automatic fire extinguishing systems and
portable fire extinguishers.
7-2.1.1 Fixed automatic fire extinguishing systems
required by 7-2.1 shall be either:
7-2.1.1.1 Automatic fire extinguishing systems
specifically listed for the hazard installed in
accordance with the terms of their listing, the
manufacturer’s instructions and NFPA 17 Standard for
Dry Chemical Extinguishing Systems or NFPA 17A Standard
for Wet Chemical Extinguishing Systems.
7-2.1.1.2 Other automatic fire extinguishing systems
installed in compliance with the provisions of the
following standards, where applicable:
NFPA 12, Standard for Carbon Dioxide Extinguishing
Systems.
NFPA 13, Standard for the Installation of Sprinkler
Systems
NFPA 16, Standard on Deluge Foam-Water Sprinkler and
Foam-Water Spray Systems.
NFPA 17, Standard for Dry Chemical Extinguishing
Systems
7-2.1.2 Move to 7-5 per 96-90 (Log #93) and revise
Section on Portable Extinguishers as follows:
7-2.1.2.1 Move to 7-5 per 96-90 (Log #93) and revise
Section on Portable Extinguishers as follows:
7-5 Portable Fire Extinguishers.
7-5.1 Portable fire extinguishers required by 7-2.1
shall be installed in kitchen cooking areas in
accordance with NFPA 10 Standard for Portable
Extinguishers, Table 3-31 for Extra (high) Hazard.
7-5.2 Other fire extinguishers in the kitchen area
shall be installed in accordance with NFPA 10, Standard
for Portable Fire Extinguishers.

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COMMITTEE STATEMENT: The Committee agreed with
submitter and revised material further to meet the
committee’s intent.

(96-86) (Log #96)

96-87 - (7-2.1): Reject

SUBMITTER: Philip O. Morton, Gaylord Industries, Inc.

RECOMMENDATION: Reward the sentence as follows:
“The extinguishing equipment shall include one of the
following types.”

SUBSTANTIATION: 7-2.1.1 lists two different types of
systems and thus just one of the systems should be
required.
COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: See Committee Action on Proposal
96-86 (Log #9).

96-89 - (7-2.1.1.2): Accept in Principle

SUBMITTER: Salvatore A. Gilardi Jr., American
Insurance Services Group, Inc.

RECOMMENDATION: Add the following standard:
NFPA 17A, Standard on Wet Chemical Extinguishing
Systems.

SUBSTANTIATION: This is a new standard first published
in 1986 and should be referenced.
COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Action on Proposal
96-86 (Log #9).

96-89 - (7-2.1.1.2): Accept in Principle

SUBMITTER: Philip O. Morton, Gaylord Industries, Inc.

RECOMMENDATION: Add the following standard:
NFPA 17A, Standard on Wet Chemical Extinguishing
Systems.

SUBSTANTIATION: This is a new standard first published
in 1986 and should be referenced.
COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Committee Action on Proposal
96-86 (Log #9).

96-90 - (7-2.1.2): Accept

SUBMITTER: Joseph H. Knapp, McDonald’s Corporation

RECOMMENDATION: Move all of existing Section 7-2.1.2,
Portable Extinguishers Installed in the Kitchen Area,
to follow after existing Section 7-4, Review and
Certification, and renumber the sections accordingly.

SUBSTANTIATION: As currently located, this section on
portables falls in the middle of text that is otherwise
dealing exclusively with “systems” for the protection
of hoods, ducts, grease removal devices, and
appliances. This location breaks the chain of
understanding. It would seem better to locate it
at the end of the “systems” sections.

COMMITTEE ACTION: Accept.
Where such activation occurs, the notification and response of on site personnel and for the fire department may be crucial to successful extinguishment. Where such cooking areas are not constantly attended, the monitoring of such systems or the provisions for local alarm is a reasonable measure to reduce losses.

COMMITTEE ACTION: Accept in Principle.

With minor revision, add new 7-3.1.4 as follows:

7-3.1.4 The operation of any extinguishing system shall automatically signal any local, proprietary, remote, auxiliary, or central station fire alarm signaling system serving the premises wherein the extinguishing system is located when such alarm system is present.

COMMITTEE STATEMENT: Recommendation revised to make language consistent with requirement in NFPA 17A.

96-92 - (8-1.6 (New)): Accept
SUBMITTER: Joseph N. Knapp, McDonald's Corporation
RECOMMENDATION: New text:

"Inspections, Maintenance and Cleaning that require the exhaust system to be opened, or the fire suppression system to be disarmed, or any other operation that compromises the operations and safety of the system, shall not be conducted while the cooking equipment is operational."

SUBSTANTIATION: To serve as a statement against inspections, maintenances, and other operations that compromise the design and safety of the system while cooking equipment is still operational. Opening the exhaust system would reduce draw and could be serious with gas fired equipment. Disarming the fire suppression system would leave no protection in the event of a surprise fire. Jumping control circuits to revise them could bypass any important safety interlock.

COMMITTEE ACTION: Accept.

96-93 - (8-2.1.3.1 (New)): Reject
SUBMITTER: Phil Ackland, Vancouver, B. C.
RECOMMENDATION: New text:

"Contractors who change or service fire extinguisher links must provide proof of liability to the authority having jurisdiction."

SUBSTANTIATION: It is assumed that the responsibility to have the fire extinguisher links maintained falls to the owner of the establishment. Should the owner contract a cleaning contractor to do this work that cleaning contractor should recognize that he is accepting a degree of responsibility for having liability insurance for the safety of the system.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The Committee felt that this was outside the scope of the Committee.

96-94 - (8-3.1): Accept in Principle
SUBMITTER: Cosimo Pultro, Long Island Duct Cleaning Co., Inc.
RECOMMENDATION: Delete "at frequent intervals" and revise to read:

"Hoods, grease removal devices, fans, ducts, and other appurtenances shall be cleaned as often as may be necessary but not less than two (2) times per year."

SUBSTANTIATION: A standard set forth should indicate specific minimum parameters between cleanings of grease exhaust systems. As presently stated "at frequent intervals" leaves too broad an area for individual interpretation. Whereas different types of restaurants produce varying amounts of grease we believe the phrase "as often as may be necessary" would apply more specifically throughout the industry. Local Fire Marshalls and insurance companies can set local requirements 'over and above the national standard but at no time would that be less than the national standard. On Long Island it has been noted that seasonal restaurants generally do not adhere to a twice a year cleaning as they rationalize they're only being open 6 to 9 months per year. However, it has been our experience that they produce as much grease in 6 months as year round restaurants do in 12.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Proposal 96-95 (Log #60).

96-95 - (8-3.1): Accept in Principle
SUBMITTER: Phil Ackland, Vancouver, B. C.
RECOMMENDATION: Revised text:

"Hoods, grease removal devices, fans ducts and other appurtenances shall be cleaned at least twice a year."

SUBSTANTIATION: Presently, the reading of the 1987 NFPA Code Section 8-3.1 does not provide the authority having jurisdiction with a clear enough guideline. It is nearly impossible during operating hours of cooking establishments to remove filters, access panels, and tip fans to determine the amount of grease accumulated. Therefore, a simple general rule is appropriate. There are a few minor exceptions to a twice a year rule; such as seldom used rental halls. The vast majority of full time cooking establishments should be serviced at least twice a year. Again, with some exceptions see proposal section 8-3.1.1 and 8-3.1.2.

COMMITTEE ACTION: Accept in Principle.

Add a second sentence to existing 8-3.1 that reads:

They shall be inspected at least every six months.

COMMITTEE STATEMENT: The Committee agrees with the submitter's substantiation, but does not agree that cleaning twice a year should be mandatory for operations that do not require such a frequency of cleaning.

96-96 - (8-3.1): Reject
SUBMITTER: J. S. Parikh, Underwriters Laboratories, Inc.
RECOMMENDATION: Change "fans" in first line to read "power ventilators."

SUBSTANTIATION: This revision is suggested so as to be consistent with the revised terminology in paragraph 5-1.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: See Committee Action on Proposal 96-71 (Log #70).

96-97 - (8-3.1.1 (New)): Accept in Principle
SUBMITTER: Larry Stahl, Hardee's Food Systems, Inc.
RECOMMENDATION: New text:

8-3.1.1 Internal surfaces of ventilation systems shall be cleaned to bare metal and no other (Fire Rating) substances shall be applied to the internal surfaces of the ventilation system.

SUBSTANTIATION: The internal surfaces of ventilation systems are being partially cleaned and then sprayed with a fire Rating Powder. They leave a grease layer on the duct to hold the powder.

COMMITTEE ACTION: Accept in Principle.

Insert "to bare metal" in 8-3.1 after "cleaned" and before "at frequent intervals."

COMMITTEE STATEMENT: More clearly meets the intent of the submitter.

96-98 - (8-3.1.1 (New)): Accept in Principle
SUBMITTER: Phil Ackland, Vancouver, B. C.
RECOMMENDATION: New text:

"In the case of heavy volume fast food, frying, charbroiling, oriental cooking, or hardwood (briquette) type cooking, kitchen exhaust systems should be cleaned every 3 months."

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Proposal 96-95 (Log #60).

96-99 - (8-3.1.1): Accept in Principle
SUBSTANTIATION: These types of high volume cooking creates grease buildup at a correspondingly greater rate than is normal based on several factors. In the case of fast food (hamburgers, french fries, charbroiling) a considerable amount of fat is cooked off and recondensed very easily and quickly in the ducting. In oriental food (woks) the extreme heat mixed with oil and water creates a substantially different type of grease residue. This residue is very adhesive and accumulates rapidly in high production situations. In the case of hardwood (briquette) fuel or fuel sources other than gas and electricity, the ash and carbon of the fuel sources mixes with the grease and creates volumes two to four times greater than normal buildup. Embers from this type of cooking have been known to be sucked up into the system where they are capable of igniting the grease therein. This type of cooking is generally used as "open-flame" cooking, an added risk.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Action on Proposal 96-95 (Log #60).

96-99 - (8-3.1.2): Accept in Principle

SUBMITTER: Phil Ackland, Vancouver, B. C.

RECOMMENDATION: New text:
"Certificate of performance of a vent cleaner should be posted on or near the hood stating date of expiration and existence of any inaccessible areas."

SUBSTANTIATION: The authority having jurisdiction (usually the fire inspector) needs to have some way of knowing whether or not the exhaust system has been thoroughly cleaned. The exhaust system includes the hoods, ducts and fans. This cleaning should be comprehensive of all parts not just "servicing" the listed grease extractor. Presently there is considerable confusion as to what exactly is being cleaned or serviced. Also, in many systems inaccessible areas exist which will accumulate considerable amounts of grease. The authority having jurisdiction should be made aware of this because the people who traditionally discover that these areas exist are the vent cleaners. They are the ones who come in after the restaurant has been in operation for a period of time and the grease has had a chance to accumulate.

COMMITTEE ACTION: Accept in Principle.

Add new 8-3.1.1 that reads as follows:
8-3.1.1 When a vent cleaning service is used, a certificate showing date of inspection or cleaning shall be maintained on the premises. Areas not cleaned shall be noted.

COMMITTEE STATEMENT: Better reflects the intent of the Committee.

96-100 - (8-3.1.2) (New): Accept in Principle

SUBMITTER: Phil Ackland, Vancouver, B. C.

RECOMMENDATION: New text:
"Systems in which low volumes of fat are cooked i.e. soup kitchens, pizza ovens, steam tables, should be cleaned annually."

SUBSTANTIATION: Due to the lesser volume of grease involved once a year cleaning should be adequate.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: See Action on Proposal 96-95 (Log #60).

96-101 - (8-3.1.2) (New): Reject

SUBMITTER: Phil Ackland, Vancouver, B. C.

RECOMMENDATION: New text:
"Only food grade and/or biodegradable (non-caustic) chemicals be used in wash down systems (listed grease extractors) or by vent cleaning contractors."

SUBSTANTIATION: Presently, extremely harsh chemicals such as potassium hydroxide and sodium hydroxide are being used in wash down systems and by cleaning contractors. These chemicals corrode aluminum and parts such as fan and fan housings are flushed through the drainage systems polluting the environment.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The Committee feels that this recommendation is beyond the scope of the Committee.

96-102 - (8-3.3): Accept in Principle

SUBMITTER: William W. Bray, Sr., Air-Vent Systems, Inc.

RECOMMENDATION: Eliminate instructions to lock or pin protection devices before cleaning.

SUBSTANTIATION: If we, as a company specializing in the cleaning of kitchen grease exhaust systems, were to pin or lock the fire extinguishing device, we could then be held liable in the event the system did not operate when activated in case of an emergency.

COMMITTEE ACTION: Accept in Principle.

COMMITTEE STATEMENT: The Committee feels that this recommendation is beyond the scope of the Committee.

96-103 - (8-3.5): Reject

SUBMITTER: Bruce M. Bowie, Francis E. Warren AFB WY Fire Department

RECOMMENDATION: (Delete) in accordance with 7-3.2.

SUBSTANTIATION: Paragraph 7-3.2 is not contained in NFPA 96.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: See Action on Proposal 96-104 (Log #10).

96-104 - (8-3.5): Accept

SUBMITTER: Rodney A. McPhee, Canadian Wood Council

RECOMMENDATION: Change reference from 7-3.2 to 7-4.2.

SUBSTANTIATION: Editorial. 7-3.2 does not exist.

COMMITTEE ACTION: Accept.

96-105 - (8-3.5): Reject

SUBMITTER: William W. Bray, Sr., Air-Vent Systems, Inc.

RECOMMENDATION: Revised text:
9-3.5 Recommends "Returning system to operate state by qualified personnel in accordance with 7-3.2."

SUBSTANTIATION: There is not a section 7, paragraph 3.2.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: See Proposal 96-104 (Log #10).

96-106 - (8-3.5): Accept

SUBMITTER: Philip O. Morton, Gaylord Industries, Inc.

RECOMMENDATION: Change the reference to 7-3.2 in the paragraph to 7-4.2.

SUBSTANTIATION: There is no 7-3.2 in the standard. I believe this is just an error.

COMMITTEE ACTION: Accept.
SUBSTANTIATION: It is assumed that the responsibility to have the exhaust system cleaned and maintained falls to the owner of the establishment. Should the owner contact a cleaning contractor to do this work, that cleaning contractor should recognize that he is accepting a degree of responsibility by having liability insurance for the safety of the system.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: Outside scope of the Technical Committee.

96-108 - (9-1.2.3 (New)): Reject

SUBMITTER: Philip O. Morton, Gaylord Industries, Inc.

RECOMMENDATION: Add a new section 9-1.2.3 to read as follows:

"Clearance from the exterior surface of any cooking equipment to combustible construction shall not be less than 18 in. This distance may be reduced to 3 in.

provided the construction is at least 1 hour rated."

SUBSTANTIATION: Presently, there are no standards for location of cooking equipment in relation to walls. A proper clearance for cooking equipment is just as important as clearances for hoods and duct systems. The 18 in. and 3 in. clearance referenced in this proposal parallels clearance requirements as referenced in 1-3.2 and UMC Paragraph 2003(d).

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The subject is already covered in 9-1.1 and 9-1.2.1 that requires that cooking equipment be listed and installed in accordance with the terms of the listing and the manufacturer's instructions.

96-109 - (9-2): Reject

SUBMITTER: Joseph N. Knapp, McDonald's Corporation

RECOMMENDATION: Change the existing paragraph to read as follows:

"Deep fat fryers shall be equipped with two separate high limit controls in addition to the adjustable operating control (thermostat) to shut off fuel or energy. The first high limit may be automatic reset and in the same circuit as the thermostat, and shall operate when the shortening temperature reaches between 420 and 425 deg. F (284 and 210 deg. C), 1 in. (25.4 mm) below the surface. The second high limit shall be manual reset and in a separate circuit from the first high limit and thermostat, and shall operate when the shortening temperature reaches between 425 and 475 deg. F (226 and 246 deg. C), 1 in. (25.4 mm) below the surface.

SUBSTANTIATION: This is not a new problem as it is a statement of currently applied technology. For many years now, all gas and electric fryers sold in the U.S. have been required to have dual high limits, with the second being a manual reset. In electric fryers, the second high limit operates a second contractor dedicated to it, and in gas fryers it operates a second gas valve dedicated to it.

COMMITTEE ACTION: Reject.

COMMITTEE STATEMENT: The Committee agreed with the submitter but felt that the concept needed further exploration.

96-110 - (10-1-1): Accept

SUBMITTER: Philip O. Morton, Gaylord Industries, Inc.

NFPA 17A-1986, Standard for Wet Chemical Extinguishing Systems

SUBSTANTIATION: This is a new standard first published in 1986 and should be referenced.

COMMITTEE ACTION: Accept.