RM10-06/07
M1502.5

Proposed Change as Submitted:

Proponent: Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO)

Revise as follows:

M1502.5 Duct construction. Exhaust ducts shall be constructed of minimum 0.016-inch thick (0.4 mm) ridged metal ducts, having smooth interior surfaces with joints running in the direction of flow. ~~Exhaust~~ Ducts shall not be connected ~~with sheet metal screws or fastening means which extend into the duct~~ or installed with sheet metal screws or other fasteners that will obstruct the flow.

Reason: The IRC and the IMC should be consistent in its' approach as to how to fasten together dryer ducts. Merely taping a joint together is not an approved joining method according to the 1995 edition of the SMACNA Duct Construction Manual, Figure 3-2. The standard requires a minimum of three fasteners for ducts 14 inches and smaller. To require fasteners not to penetrate the duct would leave tape as the only means of joining. Tape is a sealant, not a recognized means of joining in the standard. The IMC does not prohibit penetrating the duct, as long as it doesn't "obstruct" the flow. The presence of a ¼ inch pop-rivet will not clog or obstruct the flow of a 4-inch duct, however, clogging is proportional to maintenance Is it possible to collect a fragment of lint? Quite possible, but not enough to "obstruct" the flow. On the other hand, three 1" long screws in each joint would obstruct the flow as a result of excessive lint build-up. Would 1" fasteners in an 14-inch industrial spiral dryer duct block the flow? Very doubtful. The possibility of blockage is proportional to the size of the duct as it relates to the size of the fasteners used. The language in this section should read the same as the IMC regardless of the size of the duct in question. Not changing this text is in direct conflict with the standard.

Cost Impact: The code change will not increase the cost of construction.

Committee Action: **Disapproved**

Committee Reason: This proposal would preclude the use of other means of fastening dryer exhaust ducts that are currently acceptable. This action is consistent with the action taken on RM8-06/07.

Assembly Action: **None**

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Guy McMann, CBO, Jefferson County, CO, representing the Colorado Association of Plumbing and Mechanical Officials (CAPMO) requests Approval as Submitted.

Commenter's Reason: There is no reason the mechanical code and the residential code should differ in its approach as to how dryer ducts are fastened together. Some manufacturers require tape, some say no. In either case the instructions should be followed unless the code supersedes. Tape alone is not recognized in the SMACNA standard as the sole source of fastening.

Final Action: AS AM AMPC____ D

RM12-06/07
M1502.7 (New)

Proposed Change as Submitted:

Proponent: Tony Longino, County of Greenville, SC, representing himself

Add new text as follows:

1502.7 Rough-in required. Where a compartment or space for a clothes dryer is provided, an exhaust duct system shall be installed.

Reason: Rough-in inspection for clothes dryer exhaust should not be limited to gas fired dryers. An electric clothes dryer is as likely to be a source of fire as a gas dryer. Currently this code section is in chapter 24 and will apply only to fuel gas appliances. Repeating the section in chapter 15 will allow an inspector to require a code approved dryer exhaust installation for any system installed in a new home. Chapter 15 describes installation for a clothes dryer exhaust, and never states when an exhaust must be installed. This lack of instruction has left many code officials with a "no dryer, no exhaust" method of enforcement.

In America there is an average of over 15,000 dryer fires per year *

Over the past 18 years I have done thousands of new home inspections. I have not inspected any houses, even in the poorest neighborhood, HUD homes, or Habitat for Humanity houses that have not made provisions for a clothes dryer.

*** Statistic per US consumer product safety division and NFPA research division**

Cost Impact: The code change proposal will not increase the cost of construction. Dryer must have exhaust.

Committee Action: **Disapproved**

Committee Reason: Section M1502.2 already requires exhaust ducts. The proposed language does not actually require a rough-in inspection. If ductless clothes dryers are planned to be installed, this proposal would still require an exhaust duct system.

Assembly Action: **Approved as Submitted**

Individual Consideration Agenda

This item is on the agenda for individual consideration because an assembly action was successful and a public comment was submitted.

Public Comment:

Jud Collins, Mannford, OK, requests Approval as Submitted.

Commenter's Reason: An assembly vote was successful on this proposed code change. It is just common sense that if a compartment or space is provided for a dryer, that a dryer exhaust system be installed during the time of construction. If provisions for the dryer exhaust system are not made during construction, it can be very costly and esthetically displeasing to install an exhaust system at a later date.

Final Action: AS AM AMPC____ D

RM14-06/07
M1502.4 (New)

Proposed Change as Submitted:

Proponent: Lawrence Suggars, South Salt Lake, representing the Utah Chapter of ICC

Add new text as follows:

M1502.4 Makeup air. Where exhaust fans are installed, makeup air shall be provided, at the discretion of the code official, where the exhausted air exceeds 200 cubic feet per minute.

Reason: Makeup air has always been addressed in the IMC. Today exhaust fans used for residential application can become large enough to cause problems with residential environmental air. One notable problem is a negative pressure inside the home. The negative pressures can cause gravity vents to items like a furnace or water heaters to reverse. This normally exhausted air may be brought back into the home with the potential to pollute conditioned air with CO (very unhealthy). Recently it was brought to my attention where an accident happened in our state where the occupants suffered CO poisoning because of this very problem.

We are calling for makeup when equipment exceeds 200 cfm barrowing from the dryer vent section G2439.4 A design professional may be required to evaluate the negative pressure effects of the exhaust fans on other appliances in the house.

Cost Impact: The code change proposal will increase the cost of construction.

Committee Action: **Disapproved**

Committee Reason: The phrase "at the discretion of the code official" is inappropriate code language which leads to inconsistent enforcement in the field. The committee preferred code change M65-06/07 Part II, which also provides guidance for automatic control of the makeup air with the exhaust hood.

Assembly Action: **None**

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

David D. Delaquila, GAMA-An Association of Appliance and Equipment Manufacturers, requests Approval as Submitted.

Commenter's Reason: GAMA believes this proposal should be approved as submitted and supports the proponent's original reason for approval.

Final Action: AS AM AMPC____ D

RM18-06/07

M1508 (New), M1508.1 (New), M1508.2 (New), M1508.3 (New), Chapter 43 (New)

Proposed Change as Submitted:

Proponent: Bob Eugene, representing Underwriters Laboratories, Inc.

Add new text as follows:

SECTION M1508
CENTRAL VACUUM CLEANING SYSTEMS

M1508.1 General. This section provides for the material, appliance and installation requirements for a central vacuum cleaning system from the inlet valves to the power unit. The system shall be independent of all other duct systems and shall convey debris to the central vacuum power unit.

M1508.2 Material. The central vacuum cleaning power unit shall be listed and labeled in accordance with UL 1017. The central vacuum cleaning tubing and fittings shall be listed and labeled in accordance with ASTM F2158.

M1508.3 Installation. Central vacuum power units shall be installed in accordance with the manufacturer's instructions and the requirements of Section M1307. Central vacuum cleaning tubing and fittings shall be installed in accordance with the manufacturer's instructions. Tubing passing through a fire-resistance-rated wall or floor/ceiling assembly shall be firestopped in accordance with the requirements of Section R317.3.

CHAPTER 43
REFERENCED STANDARDS

ASTM

F2158-01 Standard Specification for Residential Central-Vacuum Tube and Fittings

UL

1017-01 Vacuum Cleaners, Blower Cleaners, and Household Floor Finishing Machines, with revisions through August 2002

Reason: The purpose is to revisit the subject of residential central vacuum systems as previously considered in M61-03/04 and RM 8-04/05.

The proposed text adds clarity to the previous proposals. Central vacuum systems are not currently adequately regulated by the code.

The committee was concerned with the wordiness of the previous submission by Canplas Industries Ltd, so we have reduced the content to address the information really needed.

The previous final vote from the committee was a divided vote with comments that questioned the need to inspect the Central Vacuum system at all. Comments from the floor, however, suggested that there was a need to do so. Unfortunately, the final action in Detroit failed to receive the required 2/3-majority vote, necessitating a new submission in this code cycle. Some jurisdictions have had to write local code amendments to cover central vacuum installations. Some jurisdictions require licensing of installers and some require permits. There is currently no standard specified in the IRC to go by.

The National Electrical Code recognizes the need to include the Central Vacuum in the code. Section 422-15 permits listed central vacuum outlet devices to be connected to branch circuits. Previous proposals published analysis indicated that in staff's opinion, UL 1017 and ASTM F2158 comply with Section 3.6 of the ICC Code Development Procedures regarding referenced standards.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: Results of review of the proposed standard will be posted on the ICC website by August 20, 2006.

Note: The following analysis was not in the Code Change Proposal book but was published in the "Errata to the 2006/2007 Proposed Changes to the International Codes and Analysis of Proposed Reference Standards" provided at the code development hearings:

Analysis: Review of proposed new standard indicated that, in the opinion of ICC Staff, the standard did comply with ICC standards criteria.

Committee Action: **Disapproved**

Committee Reason: This is an optional accessory for a home that can be added now through the alternate methods section. There is no need to add this to the IRC.

Assembly Action: **None**

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C., representing himself, requests Approval as Submitted.

Commenter's Reason: This section is necessary to assure that a central vacuum system is properly installed. There are many systems or fixtures that are regulated that are not required by the IRC. An example would be a whirlpool bathtub. Without these requirements, a central vacuum system may be improperly installed, resulting in problems for the owner.

Final Action: AS AM AMPC____ D

RM23-06/07
M1601.4

Proposed Change as Submitted:

Proponent: Ronald Majette, representing the United States Department of Energy

Revise as follows:

M1601.4 Under-floor plenums. An under-floor space used as a supply plenum shall confirm to the requirements of this section. Fuel gas lines and plumbing waste cleanouts shall not be located within the space. An unvented (conditioned) crawlspace that receives supply air for purposes of conditioning the crawlspace, whether or not there is a provision for return of air from the crawlspace to the air handler either directly or via air grilles connected to the other conditioned spaces, shall not be considered a plenum for purposes of this section.

Reason: The purpose of this code change is to clarify that conditioned crawlspaces are not to be considered plenums.

The code currently creates the potential for confusion when conditioned crawlspaces receive supply air. The code as written has been interpreted in some jurisdictions to classify such crawlspaces as plenums, which prohibits the placement of fuel gas lines and plumbing waste cleanouts therein. This change proposal will ensure that, for these purposes, conditioned crawlspaces are uniformly treated in the same manner as conditioned basements rather than as plenums.

The construction of conditioned crawlspaces is increasingly used as an energy-efficiency strategy because it allows supply ducts to be inside the building thermal envelope. The U.S. Department of Energy's Building America program, for example, has demonstrated the use of conditioned crawlspaces for locating ducts and mechanical equipment and for improving health, durability, and comfort.

References:

- http://www.buildingscience.com/resources/foundations/conditioned_crawl.pdf
- http://www.ibacos.com/pubs/CrawlspaceInsert.pdf

Systems Engineering Approach to Development of Advanced Residential Buildings, Report No. 7.D.1. Code Related Barriers, prepared by Building Science Corporation for National Renewable Energy Laboratory, Golden, CO. June 2205.

Cost Impact: The code change proposal will not increase the cost of construction.

Committee Action: **Disapproved**

Committee Reason: The language concerning provisions for return air is considered confusing. The term "plenum" is considered to be ambiguous because of the different types of plenums described in the codes.

Assembly Action: **None**

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

Ronald Majette, the United States Department of Energy, requests Approval as Modified by this Public Comment.

Modify proposal as follows:

M1601.4 Under-floor plenums. An under-floor space used as a supply plenum shall confirm to the requirements of this section. Fuel gas lines and plumbing waste cleanouts shall not be located within the space. ~~An unvented (conditioned) crawlspace that receives supply air for purposes of conditioning the crawlspace, whether or not there is a provision for return of air from the crawlspace to the air handler either directly or via air grilles connected to the other conditioned spaces, shall not be considered a plenum for purposes of this section.~~

Exception: Unvented (conditioned) crawlspaces.

Commenter's Reason: This change is necessary to allow the energy-efficient strategy of placing ductwork and/or HVAC equipment inside the conditioned space by creating an unvented/conditioned crawlspace, wherein the crawlspace is not vented to the outside and insulation is on crawlspace walls rather than in the floor over the crawlspace. To avoid any potential for moisture build-up in such crawlspaces, it is common to provide a small amount of supply and/or return air.

The code currently creates the potential for confusion when conditioned crawlspaces receive supply air. The code as written has been interpreted in some jurisdictions to classify such crawlspaces as under-floor plenums, which prohibits the placement of fuel gas lines and plumbing waste cleanouts therein. This change proposal will ensure that, for these purposes, conditioned crawlspaces are uniformly treated in the same manner as conditioned basements rather than as plenums.

The IRC committee, in disapproving this proposal, cited confusing language and an ambiguous use of the term "plenum" in the proposed text. Those issues have been addressed by the modification in this public comment.

Substantiation: The construction of conditioned crawlspaces is increasingly used as an energy-efficiency strategy because it allows supply ducts to be inside the building thermal envelope. The U.S. Department of Energy's Building America program, for example, has demonstrated the use of conditioned crawlspaces for locating ducts and mechanical equipment and for improving health, durability, and comfort.

References:

- http://www.buildingscience.com/resources/foundations/conditioned_crawl.pdf
- http://www.ibacos.com/pubs/CrawlspaceInsert.pdf
- Systems Engineering Approach to Development of Advanced Residential Buildings, Report No. 7.D.1. Code Related Barriers, prepared by Building Science Corporation for National Renewable Energy Laboratory, Golden, CO. June 2205.

Final Action: AS AM AMPC____ D

RM24-06/07

M1601.5 (New)

Proposed Change as Submitted:

Proponent: Mark Riley, City of Troy Building Department, MI, representing himself

Add new text as follows:

M1601.5 Independent garage HVAC systems. Furnaces and air handling systems that supply air to living spaces shall not supply air to or return air from a garage.

Reason: Section R 309.1.1 is not clear if it applies to all openings to a garage. This section addresses protecting openings for wall and ceiling duct penetrations.
Then the question comes up in two areas, first can underground ducts used? Second if a fire damper is installed in the duct penetration, would the opening be allowed?

This new section added would make very clear that the furnace or air handling unit duct system for the living space cannot be used for heating or cooling a garage.

Contaminants coming from the garage, such as carbon monoxide, or flammable vapors, could easily enter a duct system into a house if the same duct system serves both the living space and the garage. If the owner wants to heat or cool a garage there are other options of appliances he could use to accomplish this without using the house's central air conditioning system.

Cost Impact: There could be a slight cost impact compared if a separate unit was used in lieu of using the house system.

Committee Action: **Approved as Submitted**

Committee Reason: This code change will increase the safety of homes by preventing fumes and vapors from the garage from being transferred to the living space through the ducts.

Assembly Action: **None**

Individual Consideration Agenda

This item is on the agenda for individual consideration because public comments were submitted.

Public Comment 1:

David D. Delaquila, GAMA-An Association of Appliance and Equipment Manufacturers, requests Approval as Submitted.

Commenter's Reason: GAMA supports the Committee Action to approve as submitted.

Public Comment 2:

Lawrence Brown, CBO, National Association of Home Builders (NAHB), requests Disapproval.

There is very little history to support the Proponent's Reason. No documented study was provided to support the basis for this proposal: *"Contaminants coming from the garage, such as carbon monoxide, or flammable vapors, could easily enter a duct system into a house if the same duct system serves both the living space and the garage."* Also, no documentation was provided to show that residential garages contain air contaminates greater than already found in the environment, including the interior of a dwelling. Garages are not typically constructed as tight as a house, and they have a higher air exchange rate.

Final Action: AS AM AMPC____ D

RM25-06/07
M1601.5 (New)

Proposed Change as Submitted:

Proponent: Guy Tomberlin, Fairfax County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

Add new text as follows:

M1601.5 Independent garage HVAC systems. Where provided with heating and cooling, garages shall have independent and dedicated HVAC systems. It shall be prohibited to utilize HVAC equipment to heat or cool a garage in conjunction with any other spaces.

Reason: This proposal is simply stating the intent of Section R309. The provisions that are currently shown in the IRC tell the user everything they need to know in relation to garages but fails to actually say what is meant. This proposal clarifies the intent.

Cost Impact: The code change proposal will not increase the cost of construction.

Committee Action: **Disapproved**

Committee Reason: The committee preferred the language in code change RM 24-06/07. The first sentence of this proposal could be interpreted to apply to radiant heat systems in garages which would have no ducts.

Assembly Action: **None**

Individual Consideration Agenda

This item is on the agenda for individual consideration because a public comment was submitted.

Public Comment:

David D. Delaquila, GAMA-An Association of Appliance and Equipment Manufacturers, requests Approval as Submitted.

Commenter's Reason: GAMA believes the proposal should be approved and supports the proponent's original reason for approval.

Final Action: AS AM AMPC____ D

RM29-06/07
M2202.3

Proposed Change as Submitted:

Proponent: Robert Adkins, Prince William County, VA, representing the Virginia Plumbing and Mechanical Inspectors Association/Virginia Building and Code Officials Association

Revise as follows:

M2202.3 Flexible connectors. Flexible metallic hoses ~~used where rigid connections are impractical or to reduce the effect of jarring and vibration~~ shall be listed and labeled in accordance with UL 536 and shall be installed in ~~compliance~~ accordance with ~~its~~ their listing and labeling and the manufacturer's installation instructions. Connectors made from combustible materials shall not be used inside of buildings or above ground outside of buildings.

Reason: This is a clean up of existing language. This does not change any technical requirements. The existing language was flawed by using subjective terms such as "impractical" and this proposal fixes the inconsistencies.

Cost Impact: The code change proposal will not increase the cost of construction.

Committee Action: **Disapproved**

Committee Reason: This code change proposed to delete the language that describes where flexible hoses are appropriate could result in the hoses being installed inappropriately.

Assembly Action: **Approved as Submitted**

Individual Consideration Agenda

This item is on the agenda for individual consideration because an assembly action was successful.

Final Action: AS AM AMPC____ D
