



April 26th, 2005

Questions for Mechanical Committees:

1. Is it the intent of the committee to require Type I hoods and approved fire extinguishment equipment when a process has been tested to EPA 202 and emissions from the process are found to be less than those allowed in the method of test?
2. Is it the intent of the committee to require Type II hoods when a process has been tested to EPA 202 and emissions from the process are found to be less than those allowed in the method of test?
3. Is it the intent of the committee to require a hood over all commercial food heat processing equipment without regard for the mechanical systems capacity and without regard to the characterization of emissions or effluent (sensible heat only; sensible and latent heat; sensible, latent and condensable (combustible) particulate)?
4. Is it the intent of the of the committee to require approved fire extinguishment equipment be installed in every Type I hood even though the selection of a Type I hood listed to UL710 may be a best design practice; one where it is only used to vent sensible heat from processes that do not produce smoke and grease vapor?

The intent of my request for answers is to better enable AHJ's to determine when a hood is required and what type of system may be needed.

There are four distinct frames of risk:

1. Effluent emissions from a process are discharged into the space and lead to combustible depositions on environmental contact surfaces presenting a fire hazard; eg Type I systems AND UL 300 fire suppression
2. Effluent emissions from a TESTED process are discharged into a separate system for grease destruction or interception system including on-board fire protection, which in turn discharges TESTED effluent emissions into the space in compliance with EPA 202.
3. Effluent emissions from a TESTED process are discharged into the space are less than or equal to the TLV contained in EPA 202
4. Waste heat from a thermal process with known ratio's of sensible, latent and total heat.

Latent heat is the problem, not sensible. Only excess latent heat leads to degradation of framing materials and environments conducive to mold growth. The cost of conditioning replacement air is always equal to or greater than the cost of air conditioning the sensible heat emissions from a process in an air conditioned space. Enormous waste of energy is occurring as good intentioned AHJ's demand Type II systems (which require MUA) over thermal processes that could easily be managed with standard HVAC systems.



The risk associated with item 3 above is actually less than that of item 2. The reason is grease is never present to the extent that a source of fuel is available waiting for heat and air. Validation comes in the form of testing to a recognized test standard by a recognized third party test laboratory. One example is testing a food warmer processing ready to eat foods finding that the total emissions from the process are well below EPA 202's 5mg/m3 . Another is testing to the UL KNLZ at Food Service Technology Center at PG&E.

Statement of need and reasonableness (SONAR)

NFPA 96 makes reference to standardized test methods that present a threshold limit value (TLV) for smoke and grease vapor in Chapter 13 for recirculating hood systems. EPA test method 202 is referenced in 96, as are other UL listings. UL has some information on this at: (<http://www.ul.com/regulators/CommercialCooking.pdf> page 18) Neither NFPA nor the other mechanical codes present a definition for "cooking". The only definitions for "cooking" are found in the FDA Food Code. Since none of the mechanical codes including NFPA 96 defines "cooking" nor provide any quantifiable criteria for establishing when a Type I hood system is required as a minimum safety precaution, arbitrary criteria are being used by authorities having jurisdiction that err by being overly restrictive. An example of an overly restrictive ruling making no contribution to public health and safety is attached. There are hundreds of these types of situations every day in the industry due to the poor guidance provided in existing model mechanical rules.

Your comments or concerns on these issues are important to the formation of an industry imitative to change model rules to be more science based and quantifiable. Please post them here as you see fit.

Sincerely,

A handwritten signature in black ink that reads 'Tom Johnson'.

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 Division of Codes and Standards
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James E. McGreevey
 Governor

Susan Bass Levin
 Commissioner

FTO-15

Date: September 2003

Subject: Commercial Kitchen
 Exhaust Hoods

References: N.J.A.C. 5:23-3.20
 Mechanical Subcode
 Sections 507.2 and 507.2.1

This Formal Technical Opinion is issued to resolve questions regarding the code requirements for the installation of Type II commercial kitchen exhaust hoods.

The International Mechanical Code 2000, at Section 507.2, entitled "Where required," states: "A Type I or Type II hood shall be installed at or above all commercial food heat-processing appliances." Section 507.2.1 states: "A Type I hood shall be installed at or above all commercial food heat-processing appliances that produce grease vapors or smoke. A Type I or Type II hood shall be installed at or above all commercial food heat-processing appliances that produce fumes, steam, odor, or heat." "Commercial food heat-processing appliances" are defined as "appliances used in a food-processing establishment for heat processing food or utensils, and which produce grease vapors, steam, fumes, smoke, or odors that are required to be removed through a local exhaust ventilation system."

A Type II hood is not required for appliances such as toasters, warming ovens, coffee makers, egg cookers, soup warmers, hot-dog rotisseries, and sandwich warmers. These appliances do not produce the amount of heat or steam that would burden the HVAC systems in a way that would require a local exhaust ventilation system. Under-counter glass washing machines and other under-counter dishwashing appliances do not require a hood. They do not produce the amount of steam that requires a hood. Pizza ovens would require a Type II hood. Pizza ovens produce sufficient heat, but not grease-laden vapors; therefore, a Type I would not be required.

FORMAL TECHNICAL OPINION



**DECISION OF THE
BURLINGTON COUNTY
CONSTRUCTION BOARD OF APPEALS**

IDENTIFICATION

Work Site Location 200 Tuckerton Road Block 3201 Lot 32.01
Owner in Fee DePetris Family LLC Agent Alden Van Istendal
Address 625 Ridge Pike Address 23 Hopewell Rd
Conshohocken, PA 19428 Marlton, NJ 08053
Type of Appeal: U.C.C. X U.F.C. _____ Fee _____

ACTION

Contention of Error

During plan review for a rehab for a Mexican Food restaurant, the owners and the Construction Official disagreed whether a Type II hood should be required over the hot food table.

Pertinent Facts

1. Inspection Date: N/A
2. Service Date: N/A
3. Appeal Date: March 10, 2004
4. Penalty Assessed: N/A
5. Date of Hearing: April 6, 2004
6. Appearances: Daryl Van Istendal, Owner, Macho Taco
Ed Brown, Medford Township Construction Official
7. Board Members Present: Michael Reed, Chairman
Gene Blair
Robert Scouler
Tom Casey
Cleveland Thompson
8. Solicitor Present: Jean Culp
9. Type of Use: Restaurant
10. Violations Appealed: None

Findings of Fact

1. The owner intends to install an Eagle hot food table, model HT3-NG, a three bay, dry hot food table, 48 inches long, with a total BTU rating of 10,500 BTU.

(continued on next page)

Any party, including any enforcing agency, may appeal from a decision of a Construction Board of Appeals to the Law Division of the Superior Court within the time allowed by the rules of the Court. N.J.A.C.5:23A-2.3(d)

CHAIRPERSON, CONSTRUCTION BOARD OF APPEALS

DATE

2. Mr. Brown determined that the installation would require a Type II hood to be installed in accordance with the 2000 International Mechanical Code Section 507.2 and 507.2.1.
3. Those sections state, in part: "**507.2 Where required.** A Type I or Type II hood shall be installed at or above all commercial food heat-processing appliances. ... **507.2.1 Type I and Type II hoods.** A Type I hood shall be installed at or above all commercial food heat-processing appliances that produce grease vapors or smoke. A Type I or Type II hood shall be installed at or above all commercial food heat-processing appliances that produce fumes, steam, odor or heat."
4. FTO-15, issued by Department of Community Affairs, attempted to "resolve questions regarding the code requirements for the installation of Type II commercial kitchen exhaust hoods." It states, in part: "A Type II hood is not required for appliances such as toasters, warming ovens, coffee makers, egg cookers, soup warmers, hot-dog rotisseries, and sandwich warmers. These appliances do not produce the amount of heat or steam that would burden the HVAC systems in a way that would require a local exhaust ventilations system. ... Pizza ovens would require a Type II hood. Pizza ovens produce sufficient heat, but not grease-laden vapors; therefore, a Type I would not be required."
5. The appellant stated that he believed that the unit he wants to install is very similar to a soup warmer, as discussed in FTO-15, that would not require a hood.
6. Both the appellant and the Construction Official noted that although the configuration that was intended to be installed at this time was for a dry food warmer, a conversion unit could be added to turn it into a steam table.
7. The Board notes that neither the Mechanical Code nor the FTO-15 give a BTU, temperature or wattage cutoff to indicate the lower end of heat-processing unit that requires a hood.
8. The Board finds that the three bay, 48 inch long hot food table is different than a soup warmer.

Decision of the Board

The Board upholds the Construction Official's decision that the hot food table requires a Type II hood.