Hydro-mechanical Grease Interceptors

Opposition to Salt Lake City Amendment

History

On July 5, 2012, a Salt Lake City plumbing inspector presented to the Plumbing Advisory Committee a proposed amendment to the 2012 International Plumbing Code (IPC) regarding the installation of hydro-mechanical grease interceptors, specifically with regard to installations on pot, pan, and warewash sinks. (attached) Previous editions of the IPC allowed such sinks to be drained *"through an air gap or an air break or directly connected to the drainage system"* **(IPC 802.1.8).** The 2012 IPC removed the allowance for such sinks to be drained directly to the drainage system. The justification for the change is stated in the 2012 IPC Code and Commentary:

Because commercial kitchen pot-and-pan sinks are typically required by the local health department regulations to be indirectly connected to the sanitary drainage system, the 2012 edition of the code requires these sinks to be indirectly connected. The logic for this is that even though such sinks are said to be used only for washing dishes, pots and pans, the truth is that, many times, the sink is often used as a food-preparation sink.

At thePlumbing Advisory Committee, the stated purpose of the amendment was to prevent "toxic and hazardous odors" from escaping from the hydro-mechanical grease interceptor and causing adverse health consequences to employees. It was argued at that time by committee members that if the hydro-mechanical grease interceptor is cleaned on a regular basis, the odor problem would not exist. Further, by venting the hydro-mechanical grease interceptor to the drainage system as proposed by the amendment, servicing of the hydro-mechanical grease interceptor would be delayed further until it completely failed. For this reason, the amendment was defeated by the committee as being unnecessary. The proponent was encouraged to re-submit the amendment to the Uniform Building Code Commission (UBCC) as a local amendment.

The Salt Lake City amendment was submitted to the UBCC for consideration at a public hearing on September 12, 2012. At that time, the Salt Lake Valley Health Department spoke against the amendment on the following points:

1. The amendment was unnecessary. There is nothing different about plumbing in Salt Lake City that would justify a local amendment. Other local amendments deal with unique conditions within a jurisdiction—Wildland Interface Fire Protection, Historic Districts, Secondary Irrigation Water, etc.
2. Odors from a hydro-mechanical grease interceptor do not represent a health risk. For the two decomposition gases of concern, ammonia and hydrogen sulfide, levels could never be achieved that could constitute a health threat. Ammonia has a detection level of 0.037 ppm and a Threshold Level Value (TLV) of 25 ppm. Hydrogen Sulfide has a detection level of 0.00047 ppm and a TLV of 1.0 ppm. (Source NIOSH Pocket Guide to Chemical Hazards) Normal air circulation in a food establishment would keep levels of these gases below any health level.
3. The amendment fails to recognize that 3-compartment sinks are multi-use sinks. 3-compartments sinks are used for food preparation as well as equipment washing. Costs, space requirements and food operations dictate that they are used for more than equipment washing.
4. The proposed amendment fails to take into account the disease potential if sewage were allowed to back up into a sink being used for food preparation. Salmonella sp., Listeria, E. coli, Norovirus, Hepatitis A and Staphylocccus are just a few of the sewer carried diseases. Including

a floor sink 5 feet downstream of a connection reduces, but dues not eliminate the possibility of sewage backing up into a sink. Floor sinks do get plugged.

5. The proposed amendment will cause confusion in grease trap installations. On a dedicated food preparation sink, an indirect connection is required (IPC 802.1.1). A warewash also sink used for food preparation would require a different installation.
6. The proposed amendment is in direct conflict with R392-100 Utah Food Safety Sanitation Rule-
   5-402.11 Backflow Prevention.
   (A) Except as specified in ¶¶ (B), (C), and (D) of this section, a direct connection may not exist between the sewage system and a drain originating from equipment in which food, portable equipment, or utensils are placed.
7.

The discussion among the UBCC members agreed with #1 above. They then decided that if this was needed by Salt Lake City, why not make it a Utah State Amendment instead of a local amendment. Due to the fact that the proponent of the amendment did not attend this meeting, and making the proposed amendment state-wide was not on the published agenda, a second public comment meeting was scheduled for September 20, 2012.

At the September 20, 2012 meeting numerous representatives from Salt Lake City were present. At this time, there was agreement that the odors produced by a poorly maintained hydro-mechanical grease interceptor did not constitute a health hazard. The argument then changed to one of installation requirements. The proponents stated that if a hydro-mechanical grease interceptor was installed in a warewash sink according to the 2012 IPC requirements, it would violate the listing of the hydro-mechanical grease interceptor. It would also violate the manufacturer's installation standards, which supersede plumbing code requirements. As this was a new argument, the Salt Lake Valley Health Department did not have information to challenge. The UBCC then voted to forward the amendment to the Business & Labor Interim Committee for consideration.

Subsequent to this meeting, the Salt Lake Valley Health Department made contact with Plumbing & Drainage Institute (PDI), the listing agency for the majority of hydro-mechanical grease interceptors on the market. Information provided by PDI demonstrated that claims made by the amendment proponents were without an factual basis. PDI provided Standard PDI-G 101, Testing and Rating Procedure for Hydro Mechanical Grease Interceptors with Appendix of Installation and Maintenance. This standard lists 14 acceptable methods for installing listed hydro-mechanical grease interceptors—one method meets the criteria of the proposed amendment, another meets the requirements of the 2012 IPC. A formal interpretation statement issued to the Salt Lake Valley Health Department by PDI on October 14, 2012 stated, "*A manufacture may choose to make his installation requirements narrower than those allowed by PDI-G 101 but that would not violate the PDI certification.*"

Compliance Problems with Proposed Amendment

The proposed amendment will place food service owners and operators in the awkward position of choosing whether to be in violation of R392-100, Utah Food Service Sanitation, or the proposed amendment to the 2012 IPC. Due to three-compartment sinks being used for multiple purposes, food preparation will occur in sink compartments other than the single indirectly-drained compartment. This will be debited during routine food inspections by local health departments. If the proposed amendment is not followed, the restaurant may not be granted a building permit or Certificate of Occupancy. To comply with both the restaurant will be required to make costly modifications to their facility

Costs for Modification

To achieve compliance with both R392-100 and the proposed amendment, a restaurant would have to install a sink dedicated only to food preparation. The sink would be required to be indirectly connected to a hydro-mechanical grease interceptor according to Section 802.1.1., 2012 IPC. Costs for the sink and hydro-mechanical grease interceptor would vary depending on the size and installation. Hydro-mechanical grease interceptors can cost anywhere from $120 to as much as $6300. Sinks can cost between $500-$750+. Again, costs are exclusive of installation. A simple installation may cost less than $500. If concrete floors must be cut to make the connections, the costs would increase significantly.

15A-4-301. General provision.

The amendments in this part are adopted as amendments to the IPC to be applicable to specified jurisdiction.

15A-4-302. Amendments to IPC applicable to Salt Lake City.

The following amendment is adopted as an amendment to the IPC for Salt Lake City, IPC, Appendix C, as specified and amended in Subsection 15A-3-314(3).

(1) In IPC, Section 802.1.8, the words "or directly connect" are added after the word "break".

(2) In IPC, Section 802, a new Section 802.1.8.1 is added as follows: "802.1.8.1 Gravity grease interceptor connection: Those sinks or appliances draining into a gravity grease interceptor shall discharge directly or indirectly through an air gap or air break into a floor sink."

(3) In IPC, Section 802, a new Section 802.1.8.2 is added as follows: "802.1.8.2 Hydromechanical grease interceptor connection. Those sinks used for washing and primary rinsing of utensils, dishes, pots, pans or service ware and draining through a hydromechanical interceptor shall be directly connected to the interceptor. The sinks shall be trapped and vented to prevent odors from the grease interceptor escaping through the sinks into the building. A flow control device furnished by the manufacturer shall be installed on the inlet side of the interceptor and in accordance with the manufacturers installation instructions. A floor sink shall be installed within five (5') feet downstream of the interceptor outlet. A dedicated branch drain shall be provided to serve the hydromechanical interceptor and the floor sink only. No connections of any kind shall be permitted between the outlet of the interceptor and the connection of the floor sink."

(4) In IPC, Section 802, a new Section 802.1.9 is added as follows: "802.1.9 Sanitizing sinks. Sinks used for the sanitizing of utensils, dishes, pots, pans, or service ware shall discharge indirectly through an air gap or air break to the drainage system."

(5) In IPC, Section 1003.3.4, the following sentence is added before the last sentence: "Hydrochemical grease interceptors and automatic grease removal devices shall not indirectly discharge into a floor sink or any

other indirect waste receptor, but shall directly connect to the drainage system."

(6) IPC, Section 1003.3.4.2 is deleted and replaced with the following: "1003.3.4.2 Rate of flow controls. Hydromechanical grease interceptors shall be equipped with devices to control the rate of water flow so that the water flow does not exceed the rated flow. The flow control device shall be vented. The vent from the flow control device shall connect to the plumbing vent system within the building or an approved and listed air admittance valve or terminate out the roof. The flow control device shall be installed in accordance with the manufacturer's instructions.