

**Plumbing Board  
Product and Code Review Committee  
Meeting Minutes  
January 28, 2009**

**Department of Labor and Industry (DLI) – Isanti Room  
443 Lafayette Road No., Saint Paul, MN 55155-4344  
[DLI.CCLDBOARDS@State.MN.US](mailto:DLI.CCLDBOARDS@State.MN.US)**

**Members Present:**

Karl Abrahamson  
Lawrence G. Justin  
Allen J. Lamm  
John A. Parizek  
Jim Peterson (DLI Commissioner's designee)

**Members Absent:**

None

**Board Members Present:**

Ronald Thompson (MDH Commissioner's designee)  
Mike McGowan  
Paul Sullwold

**Staff Present:**

Cathy Tran  
Chuck Olson  
Annette Trnka  
Jim Lungstrom

**Visitors:**

Doug Hall  
Luther Westman  
Charlie Ismert  
Todd Pennington

**I. Call To Order**

The meeting was called to order by Justin at 12:05 p.m.

- A. Announcements
- B. Introductions

**II. Approval of Agenda**

Justin stated that because one of the presenters of Shier Products needs to leave by 3:30, the agenda would be changed to allow them to present first. He changed IV(B) moved to IV(A) and move IV(A) to then be IV(B). Justin removed the Agenda item to approve the Expense Reports and Per Diems as the Board had met prior to the Committee meeting Lamm made a motion, seconded by Parizek, to approve the meeting agenda. The vote was unanimous and the motion carried.

**III. Regular Business**

- A. October 29, 2008 Minutes – There were several changes to the Minutes suggested by Abrahamson and Lamm. Parizek made a motion, seconded by

Lamm, to accept the previous Minutes as amended. The vote was unanimous and the motion passed.

#### **IV. Special Business**

##### A. New RFA's

4715.1115 Exterior Grease Interceptors by Schier Products (File PB0037/01/15/09) – Mr. Ismert reviewed the submitted packet regarding their product. Mr. Ismert stated that currently sections 4715.1110 and 4715.1115 of the Minnesota Plumbing Code allows for two different grease interceptors; 4715.1110 Grease Interceptors for Commercial Buildings calls for smaller indoor grease interceptors with flow control near the fixture and 4715.1115 Exterior Grease Interceptors for outside the building, allowing for larger style concrete units which are volume based and collect waste from multiple fixtures.

Mr. Ismert stated that the exterior grease interceptors as called for in 4715.1115 of the Minnesota Plumbing Code fall under the ASTM Standard C1227-98, parts five and six, which is an outdated standard and is also a standard for septic tanks, not grease interceptors. A new standard has been written by ASTM specifically for precast concrete grease interceptors. Mr. Ismert is proposing to remove the older code requirement for the septic tank standard and update it to ASTM C 1613-07 Standard Specification for Precast Concrete Grease Interceptor Tanks. He feels the Minnesota Plumbing Code grease interceptor section in general needs to be cleaned up. Rather than leaving it to the interpretation of the local authority as it currently states, “an exterior grease interceptor may be installed if it is acceptable to the administrative authority;” he recommends stronger language to say “when there is a presence of commercial kitchen waste or a food service establishment a new grease interceptor is required.”

Grease interceptors are to assist with separating the greases out of the commercial kitchen waste lines prior to discharge to the sanitary sewer and then on to the treatment facility. He went on to state that he recommends the code be changed to an environmental protection perspective because 45% of the sanitary sewer overflows that is seen around the country are caused by grease.

Mr. Ismert stated that there are different designs for grease interceptors and for decades it's been the “septic tank” technology. The usual minimum size is 750 or 1,000 gallon tank, as that what was available in the local inventory, and thus became part of the code language by nature of its availability. Shier Products started in 2002 and soon realized the materials of choice are corrosive materials. Steel eventually rots out and corrodes and as they corrode, they become less efficient. The same thing

happens with concrete. He believes that the code needs to make allowance for other technologies that are now available such as polyethylene, plastic, and fiberglass grease interceptors which are non-corrosive materials.

Mr. Ismert referred to a Portland Cement Association publication (part of their submittal) which states that when exposing concrete to certain substances, that the concrete is to have protective treatment applied. He went on to state that Schier's experience is that they are finding no coating or membranes inside of the concrete interceptors. Just like the steel grease traps; when there is an exterior unprotected concrete unit it's ultimately bound for failure as it will rot away or corrode. The first thing that goes is the baffling network, which compromises it's ability to separate grease and do what it was designed to do. Ultimately the floor of the unit will rot and corrode away where if you were to go to a unit that's been outside for 5, 10 or 15 years, depending on what the ground shifts are and what kind of substances are going in them; you will very likely see the floor of the unit gone. This allows it to leach into the ground.

Mr. Ismert states that by allowing the end user to also choose a non-corrosive material, they won't have to have an unforeseen replacement charge, which can cost a tremendous amount of money. It would also have a positive effect on the environment. He also recommends that if concrete is allowed, the proper membranes or coatings be enforced.

Regarding performance, the ASTM C 1613-07 Standard Specification for Precast Concrete Grease Interceptor Tanks is a design standard stating the location of baffles, the location of inlet/outlet connections, and basic dimensions. It doesn't address the basic performance level. Mr. Ismert states there are two national standards regarding performance. They are Plumbing and Drainage Institute (PDI) and ASME. The ASME A112.14.3-2000 standard came out in 2000. The people who write the ASME standards are comprised of contractors, code officials, manufacturers, and engineers.

What is typically seen with the concrete units, based on five different manufacturer's publications, is that the grease storage layer inside of a concrete unit is good for about 10 to 25 percent of the top liquid level and after that the efficiency goes down. With Shier's unit, the efficiency is well above 50% of the liquid volume at the flow rate that it's calibrated for.

The unit that Mr. Ismert brought in was tested at a 75 gpm flow rate; they had a ratio of large waste water that was 1 to 5, which is a much higher percentage than what is typically seen in a commercial application. The unit was also installed thirteen feet below to simulate a "worst case

scenario” or basin installation. The effluent was 160 degrees combined so the lard and the water in the sinks before it was dumped was about at the peak of what will be seen draining in a commercial kitchen. The new dishwashers are in approximately the range of 140 to 160 degrees maximum. The minimum requirement was to store 150 pounds of grease inside the unit – they stored 616 pounds of grease inside the unit at 75 gpm. The sample unit displayed is a 125 gallon unit, which means that while continuously handling 75 gpm, it stored grease at approximately 73% of the liquid volume. Mr. Ismert stated that he feels the code should have language incorporated that gives manufacturers the ability to install smaller footprint units where they have third party certifications to the National Consensus Performance Standards, with proof that the product is a high efficiency product with grease storage of 50% or greater, instead of the 10 to 25% efficiency that’s being used now. He went on to state that when they tested their 250 gallon unit at 100 gpm, it stored 1,076 pounds of grease; when they looked at 5 different manufacturers 1,000 gallon units, the average grease storage capacity was 933 pounds.

Ms. Ismert states that the units his company developed were accomplished by building an ASME lab in their factory and the units were tested for three years before they were certified.

Justin reviewed the proposed language submitted by Shier Products and opened it to the Committee members for questions.

Abrahamson asked whether the invert is higher than the outlet and was told no, not on the great basin series, however on the smaller indoor units placed near the fixtures, they are. Mr. Ismert stated that for the indoor series they have a low inlet and a high outlet. Mr. Ismert went on to state what they recommend for the plumber is to two 45 degree roll downs. The exterior units have level connections.

Abrahamson stated he has problems with the proposed language in subpart 1 requiring an exterior grease interceptor for all new commercial construction. Abrahamson stated that requirement would not be possible for downtown areas, such as airports and malls, that have restaurants in them and the cost of putting that system in would be astronomical. He feels it should be left up to the local administrative authority to determine if they are needed and where it would be located. Abrahamson states that he feels that a grease interceptor should be as close to the unit as possible so as not to have a long line that could be plugged. In a kitchen, if the line to the grease interceptor becomes plugged and they can’t use their sinks and have grease or sanitation coming up through the floor drains, they would have to shut down. Abrahamson went on to state that only sinks should be named, not dishwashers, etc.

Mr. Ismert stated the reasoning behind the language was because if the lines have to be pumped, most restaurants don't want the pumpers taking an unsanitary hose across the floor in order to empty the grease interceptor. Abrahamson stated that he would agree in most cases, however, he doesn't feel that it should be a requirement in every case. Abrahamson stated that another example would be a church that occasionally puts on fundraisers such as a pancake breakfast or spaghetti dinner and shouldn't be required to put an outside grease interceptor in their kitchen.

Peterson asked about the proposed code stating that all kitchen fixtures are to go through an interceptor and if Shier's units rated for high temperatures and was told yes, 190 degrees. Peterson asked if similar products would have the same performance standard. Mr. Ismert answered that it would if it was built right. Peterson stated he hadn't had a chance to review the ASME standard regarding temperatures. Peterson asked if there was a standard for solids interceptor that would go before the grease interceptor or is that the concrete septic tank. Mr. Ismert stated the solids interceptor has less science applied to it, which is basically pushing food waste through a screen and giving yourself a good location and ability to clean regularly. Solid interceptors would be cleaned by the end user on a daily basis where the grease interceptor would be cleaned by a professional on a monthly basis.

A solids interceptor would usually be near garbage disposals to where they could separate that and dump it in the trash can. Mr. Ismert stated that he didn't address interior grease interceptors because there's a lot to it. Peterson stated that as a product committee, one thing that would have to be looked at is the under the counter grease interceptor and having some sort of a solids interceptor prior to that, a dishwasher going through the interior one and would have to be capable of handling those higher temperatures and the language would have to address those things. Justin stated that the proposed language covers both the interior and exterior grease interceptors. Either they would need to be separated into two sections, or only address one of them for commercial buildings.

Tran asked if the test conditions of the ASME A112.14.3-2000 standard are specific to 13 feet below the sink and how would that apply to what is in the field, as the distance is variable. Mr. Ismert answered that his company's grease interceptors have a built-in flow control, which is an orifice type flow control where there's a narrowing of the pipe size in the line that's calibrated for that maximum flow rate. He went on to state that if the unit is 75 gpm, the orifice is going to be calibrated for 75 gpm at a 13 foot drop, but also included in the unit is a removable plug, which is part of their installation instructions, that when installed at a one to three foot drop, that plug should be removed. In other words that narrowing of

the pipe doesn't have to be narrowed as much because it's not getting that 13 feet of head pressure. Tran said in order to clarify; Schier Products wants to adopt the ASME A112.14.3 Standard and was answered yes. Tran asked if the ASME A112.14.3 Standard is good for exterior and interior products. Mr. Ismert answered yes, that there's no difference on which side of the building relative to what's going downstream. The difference with the proposed standard is based on flow rate or gpm instead of "by liquid volume in a thirty minutes retention time," as that's how they're tested under ASME.

Thompson stated that the proposed language specifically prohibits high efficiency interceptors of metallic or concrete construction and asked if there weren't some that were manufactured with a membrane or liner. Mr. Ismert stated that the language could be revised to include that. Justin stated that those types of units shouldn't be restricted if they could meet the material recommended protective treatment. Mr. Ismert stated that the reason for writing it that way was because he's not aware of any concrete or steel units that are high efficiency grease interceptors. Thompson asked if the unit would hold a 5 psi, 15 minute air test instead of a manometer and Mr. Ismert stated he didn't know, but could find out. Peterson stated that he would be very reluctant to be the one checking the gauge.

Justin asked about the RFA, page two, fifth paragraph down, regarding the need and reasons for change, it states that "some jurisdictions around the country are disallowing concrete as an acceptable material for the construction of interceptors..." Justin asked if Mr. Ismert could provide examples of which jurisdictions are prohibiting concrete and then directed Mr. Ismert to either come back to the PCRC with which jurisdictions he's referring to, either that or take that statement out of the RFA.

Justin asked about the date of the "The Pilot and CFE Analysis on the Performance of Grease Interceptors." Mr. Ismert stated he thought it was January of 2007. Justin asked him to research and confirm the date.

Justin stated that he would like DLI staff to work with Schier on the wording of "required." Justin also stated that under the current Plumbing Code 4715.1110 reads "no food waste disposal or dishwashing machine shall discharge into the building drain system through a grease interceptor." He stated that would have to be addressed by the Plumbing Board. Justin feels that dishwashers should be included in the rule language because he's finding that most of his client's greasy wastes are coming from the dishwasher now.

In the submitted RFA's subpart 2(A), the third sentence of the fourth paragraph and the last sentence of the fifth paragraph under 2(B) references that "the vent must rise within 45 degrees of the vertical to a

point of at least six inches above the tank before offsetting horizontally...” Justin stated that the MN Plumbing Code doesn’t allow flat vents, so it would be required to be at least six inches above the flood rim level, which typically in this case above grade.

Regarding the high efficiency performance base it states “when certified for a grease retention of 50% or more of the total volume...” Justin asked about the reasoning behind the number of 50%. Mr. Ismert answered that he felt that 50% seems like a reasonable level for products and most of their company’s products can go much higher than that. Justin stated that the Board will be asking for the reasonableness behind that number of 50%, so he would request that Schier Products get something in writing as a technical reason and do some research as to what other products are attaining.

Sullwold asked about keeping the tank from freezing when placed outside. Mr. Ismert stated they just got exterior approval in Michigan. Typically what they recommend for Wisconsin is that the static water line be equal to or greater than the local frost line. Peterson stated that frost depth depends on the location. Mr. Ismert stated that they could do pipe extensions of up to seven feet for their units. Lamm asked if there’s a minimum temperature before grease interceptors stop working. Mr. Ismert answered not that he know of, but he had never been asked that question, but what he does know is that the specific gravity of lard doesn’t change as it gets milkier, colder or more liquefied at hotter temperatures; it still has the same floating characteristics and ratio of weight in grease and water.

Justin stated he felt it would be wise to address food waste grinders in going to grease interceptors and it may be better to address that issue in this format.

Tran stated that the proposed Subpart 2(A) where it refers to adopting ASTM C1613-07 and proposing to strikeout C1227; the Department has a lot of tanks out there that were constructed to that Standard and asked if it was proposed that those are to be grandfathered. She suggested it would be appropriate to add a coping membrane or something similar and asked that be considered. Justin asked Mr. Ismert if the Standard that grease interceptors by a credible listing organization to ensure compliance of the Standard; is that ASTM C1613-07 that he is referring to and was answered “yes” by Mr. Ismert.

Thompson asked Peterson if all installations of these interceptors now, even on an on-site system, will be under the plumbing code, no longer to be installed by an ISTS. Peterson stated that this has been questioned as to whether it is an interceptor or a pre-treatment system and it has not yet

been decided. Thompson said that if there is interplay with the septic, perhaps the Board or Committee would want to run it by Mark Westenthal at PCA.

Tran stated that requiring all grease interceptors to be certified is a big change and asked if it's a practical requirement. Mr. Ismert stated that Florida has just made that change and as of March 1, 2009, all interceptors need to be certified.

The ASME A112.14.3 standard that the Committee was given permission to use for this meeting only was not going to be reviewed until the next PCRC meeting, and was not passed out. Justin asked if permission could be requested for the next PCRC meeting instead. Annette Trnka stated she would contact ASME and ask for an extension to the next PCRC meeting.

Tran stated the Standard is good up to 100 gpm and asked how many sinks could go into that unit? Mr. Ismert stated 100 gpm is a large application and that when sizing by flow rate, the opening gate keeper of what can go into that grease interceptor is the drainage line itself.

Abrahamson asked if there's any chance for the caps on the outlets loosening up as they are just a screw on cap with an o-ring and Mr. Ismert stated that he hasn't encountered that yet in three years.

Ron Thompson asked if Schier Products manufactures manhole risers and Mr. Ismert said yes. Thompson then asked what sections or how are they connected. Mr. Ismert showed Thompson the catalog which showed the extension pieces and how they fit into the neck of the tank. Parizek said that he noticed that Subpart 2 references the ASME Standard and in the installation consideration of that Standard it states "to avoid installation runs exceeding 25 feet" and asked if something shouldn't be added to the code language to address that also, that all fixtures must be within 25 feet of the receptor.

Justin stated that Mr. Ismert meet with DLI staff regarding the following and submit back to the Committee:

1. Provide documentation for jurisdictions that are prohibiting concrete.
2. Coordinate between 4715.1110 and 4715.1115 to address interior and exterior grease interceptors.
3. Provide date for the submitted "pilot and CFE analysis on the performance of grease interceptors."
4. Provide documentation on dishwasher and food waste being brought through the product. Provide information on which jurisdictions and codes allow food products and dishwasher drainage to go through grease interceptors and

- any recommendation on solid separator after garbage disposals.
5. Language in 2(b) first paragraph, last sentence – Provide the basis for the 50% performance number.
  6. The RFA has flat vent language for the proposed code revision in item 2(a) and 2(b). Minnesota Plumbing Code does not allow for flat vents. Review proposal and possibly omit description and reference to install vent as per code.
  7. Add language for buoyancy protection.
  8. Add language in 2(a) and (b) to require protective treatments if steel and/or concrete is used.
  9. Some language and method for freeze protection.
  10. In part 2(a) of the RFA concerning the ASTM standards – coordinate and work with DLI staff on how to transition from the old ASTM standard C1227 versus the new standard.
  11. Review ASME A112.14.3 considering the 25 foot run distance between the fixture to the grease interceptor.

Justin also recommended that Mr. Ismert contact the Minnesota Pollution Control Agency for assistance on possible language. Justin stated he will write a letter to Schier Products outlining all the information that the PCRC will want to review at the next meeting.

The meeting took a break at 1:35 for 10 minutes. The meeting resumed at 1:47 p.m.

- B. RFA's Reviewed in past Committee Meetings – Updated information
  - i. 4715.0640, 4715.1950 and 4715.2030: Water Closet Seat with Spray by Toto. (File PB0031/5-7-08) (from 6/25/08 and 8/27/08 and 10/29/08 meetings). Mr. Paulsen joined by conference call. Ms. DeAnn Stish, who had also asked to participate by teleconference, was unavailable at the start of the conference call and the call went to her voicemail.

Mr. Paulsen had a PowerPoint presentation for the Committee, which addressed the concerns expressed by the Committee at the last meeting. The presentation was discussed slide by slide. Next discussed was the amended RFA dated 10/24/08. Justin stated that the language in front of the Committee is the request to add a Subpart 4 to 4715.1420. The request is also being made to add a paragraph to 4715.2100.

Parizek made a motion, seconded by Lamm, to pass this RFA on to the Plumbing Board's 04-21-09 meeting. The vote was unanimous and the motion passed.

If Mr. Paulsen cannot attend the 04-21-09 meeting in person, he would like to attend by conference call. Mr. Paulsen will arrange to have a sample of their product sent to DLI staff before the April 21, 2009 Plumbing Board meeting.

- ii. 4715.2110I: Vista Clear Dental Units (File PB0012/01-30-08) (from 8-27-08 meetings). Mr. Jim Chandler did not respond to the Committee's request for information. Justin requested Annette Trnka send an e-mail to Mr. Chandler letting him know that a PCRC meeting is scheduled for 3/25/09 and ask if information could be provided by then.
- iii. 4715.2430, 4715.2440: Macerating Toilet Systems (File PB0035/7-22-08) (from 8/27/08 and 10/29/08 meeting). Justin requested Annette Trnka send Mr. Lechner an e-mail informing him that the Committee will meet on 3/25 (tentatively) and the information requested at the previous meetings is required to be submitted seven days prior to the meeting date. Ask Mr. Lechner to respond on Saniflo's intent.

#### **V. Open Forum**

There were no requests for Open Forum.

#### **VI. Discussion**

- A. New Request For Action items.
  - i. DLI to provide updated list of RFA's for Committee to schedule review date. Justin asked how it should be handled when a new RFA is received when they aren't in the Plumbing Board's jurisdiction, rather it should have been directed to the Department; what the Department's notification should be. Parizek stated he felt that an e-mail should be sent on behalf of either the Board or the Committee letting the requester know that the submitted RFA doesn't fall under the jurisdiction of the Board, and it should be directed to the Department of Labor and Industry.
  - ii. A meeting has been scheduled as a tentative meeting for March 25, 2009 at 9:30 a.m. in the Minnesota Room at DLI.

#### **VII. Announcements**

- A. Next Regularly Scheduled Meetings:
  - i. Wednesday, April 29, 2009, 9:30 a.m. – Washington Room – DLI

## **XI. Adjournment**

Abrahamson made a motion, seconded by Lamm, to adjourn the meeting. The vote was unanimous, and the motion passed. The meeting adjourned at 2:31 p.m.

Respectfully Submitted,

*Lawrence Justin*

Lawrence Justin