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To: michael.perez@electrolux.com

cc:

Subject: NSF

Michael,

Thank you for taking the time to speak with me in regards to my concerns and comments regarding the proposed modifications to the NSF requirements for food shields.

After speaking with you, I am not as concerned as I was regarding these changes but I still have my opinions and comments that I promised to share with you in writing for consideration. I have also included diagrams to scale showing what effect some of these changes will have on the reachability of the guard.

After reviewing the names and companies I just received from Lorna Badman, I doubt that I'll be able to send enough emails to make a difference in the voting at this point, so I hope you can either forward this email or mention items from it that you feel might add to, or enhance what you've already completed.

Below are my quick responses in **RED** to the proposed modifications.

Sincerely,

Doug English
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NSF International Standard for Food Equipment .

Food equipment

5 Design and construction

5.35 Food shields

Food shields covered under section 5.35 shall conform to the requirements in 5.35.1 through 5.35.6.

Reason: All food shields, regardless of specific application, must be in compliance with 5.35.1 through 5.35.6. Thereafter, requirements for specific application food shields are covered.

5.35.1 Food shield materials shall conform to the splash zone material requirements of 4.

5.35.2 Food shields shall be designed and manufactured to conform to the splash zone requirements of 5.

5.35.3 A food shield shall provide a barrier between the mouth of a customer and unpackaged food to minimize the potential of contamination of the food by a customer. A food shield in compliance with the applicable requirements herein, shall be considered to be in compliance with the barrier requirement.

Reason: Since no food shield is 100% effective in protecting unpackaged food, its purpose is to "minimize" the potential for contamination by a customer. The second sentence clarifies the intent of the barrier requirement

5.35.4 If provided, lights, heating elements and other accessory fixtures shall be designed, manufactured and installed to conform to the splash zone requirements of 4 and 5

5.35.5 Food shield glass shall conform to the requirements of 5.44.3. To protect against chipping, exposed edges of glass shall be protected by tight fitting channels, stripping materials, or other means such as rounding the edges of tempered glass.

In my opinion...tight fitting channels do more harm than good by providing a safe harborage for food particles and create a hard to clean crevice for bacteria to thrive. "**Rounding**" of the edges should be changed to "**polishing of the edges**". If your goal is to have a smooth edge, polished edge would be more appropriate. The term rounded or rounding is a glass industry term for the actual rounding of the "corners" on a rectangle or square panel of flat glass.

Speaking of glass, you should require only tempered or acrylic glass shields. Laminated glass should not be allowed. Tempered is strong and offers a nice edge. Laminated glass is simply 2 thin 1/8" sheets of plate glass that are sandwich by a glue sheet. Why should you care? These laminated glass panels are very weak, bend and crack almost as soon as they arrive or are installed. The end result is a guard that constantly drops small pieces of glass into the food from the cracked areas. The industry uses laminated glass on occasion because it is readily available and can be cut at the job-site unlike tempered which has to be made to order, requiring 1 week to 3 weeks on average. Acrylic is safe for temporary installs and where long-term aesthetics aren't important.

5.35.6 A vertical barrier (end shield) shall be provided at each end of a foodshield. The vertical barrier shall be a minimum of 18 in (450 mm) deep (front-to-back) beginning at the bottom leading edge of the foodshield. The minimum height of the vertical barrier shall be equal to the overall height of the foodshield. The maximum distance from the bottom edge of the vertical barrier and counter top shall be 1.5 in (38 mm). Reason: Establishes a requirement for providing protection at the end of a food shield.

An end panel should be specified to provide the same protection from the side as you provide for the front. Specifying an actual distance is not practical for most installations. What if a hot-dog grill were only 14" deep, the manufacturer of the grill would have to provide a return of 18", I'm sure this would be very un-attractive and have people scratching their heads as to why anyone would require this? Additionally, many establishments have Island sneeze guards, your return/end panel requirement doesn't address this. Portable sneeze guard manufacturers will have a very difficult time with this. You state that the end panel height needs to match the height of the over-all sneeze guard, How do you specify the height of the return panel when the height of the guard might adjust?(as in many new designs).

5.35.6.1 A foodshield intended to be installed a maximum of 3 in (76 mm) from a building wall perpendicular to the foodshield is exempt from the requirements of 5.35.6 provided that the height of the building wall is not lower than the overall height of the foodshield. The manufacturer's specification sheet,

brochure, installation instructions and/or shop drawings shall include these building wall and proximity requirements.

Reason: Provides an exception to the end protection requirement when the end of a food shield is in close proximity to a building wall that will provide end protection.

Example: What if we were to mount a 48" sneeze guard in front of a 36" food well that was mounted 12 inches from a building wall? We would certainly have enough coverage provided by the over-sized guard (6 inches on each side overlap) but because our guard is still 6" away from the wall we would have to provide a return glass panel of 18" back. This return would look terrible, be useless, a waste of money and provide the operator a chance for injury and glass breakage while working between these "glass walls". I would simply suggest **"adding an end panel IF the sneeze guard doesn't provide enough splash-zone protection as required"**. Your wording also doesn't mention the location of the food/eqpt in relation to the wall, just the guard to the wall. So as long as you have ANY guard not within 3 inches of a wall it needs an end panel return of 18".

In addition, other large permanent equipment should also be included as they could provide the same protection as a wall. Example: A large deli case with its own sides and end panels.

5.35.7 Self service food shields (see figure 11)

5.35.7.1 The maximum vertical distance between a counter top and the bottom leading edge of a food shield shall be 13 in (330 mm).

Reason: A reduction in the maximum vertical opening provides for reasonable protection of unpackaged food when a tray slide is present on the counter.

But for the majority of self serve installations that have no tray slide you have just reduced their reachability with no net gain in real breath zone. How about providing 13" when they have a tray slide and 14" when there is none, then this will be condition-specific.

5.35.7.2 The minimum horizontal distance between the front inside edge of displayed food and the bottom leading edge of a food shield shall be three-quarters of the maximum vertical distance ($0.75 \times$ maximum vertical distance) of 5.35.7.1.

Reason: Increasing the minimum horizontal distance provides for reasonable protection of unpackaged food when a tray slide is present on the counter.

This is so confusing to most people. If you are talking about 0.75 of the vertical distance of your newly required 13" why not just say 9.750" ?? You spell out a formula vs. giving them the answer? Our customers complain that you need to be a mathematician to figure out sneeze guards and you are giving them more ammunition for their argument. And again you have pushed the customer back away from the food even if there isn't a tray slide.

5.35.7.3 The sum of a food shield's protected horizontal plane (X) and its protected vertical plane (Y) shall

be greater than or equal to 20 in (508 mm). Either X or Y may equal 0 in (0 mm).

Reason: Increasing the overall size of a food shield provides for protection of unpackaged food for persons at the upper end of the average height range. Is

the world getting taller? From the diagrams of our guards they clearly show that coverage for the taller population is sufficient. It's the smaller, younger population that carries the colds and forgets to wash their hands, this should be the greater concern.

5.35.7.4 Food shields shall be designed and manufactured to minimize obstruction of a customer's view of the food.

Why be concerned at all about the view when you can't reach what you're looking at?

5.35.7.5 The maximum horizontal distance between vertical, horizontal and angled panels at post and framing member locations shall be 2 in (51 mm).

You worry about protecting the food zone, but here you allow a full 2" at the most critical point where people breath, sneeze and cough, I also don't know if you're taking about the GAP between the glass panels or the GAP at the glass panels and the posts???? My guards allow for "0" gap at glass junctions and 1/4" at the posts. Anything more would be considered totally unacceptable to me. This is the most crucial area of protection in my opinion.

5.35.8 Food shields for use in elementary schools

5.35.8.1 Food shields designed and manufactured for use in elementary schools and other similar applications shall have full front panel(s) complying with 5.35.12 or be designated for use with wrapped or packaged serving portions.

Reason: Establishes requirements for food shields used in elementary school type applications.

5.35.9 Multiple tier food shields

5.35.9.1 A self service foodshield over the bottom tier shall conform to 5.35.7.

5.35.9.2 All tiers above the bottom tier shall have a permanent attached label restricting use to wrapped or packaged serving portions.

Reason: Establishes requirements for multiple-tiered food shields.

Good Idea, you should mandate the **exact wording of the label** here so there isn't any confusion.

How about protection from things that fall from overhead ? An inspector once told me that taller ceilings have a tendency to collect particles that eventually fall into the food from above.

Tracking 2i4r10 NSF/ANSI 2 – 2005a. 2007 NSF Issue 4 Draft 10, November 2007

5.35.10 Food shields for use on mobile buffet counters Food shields for use on mobile buffet counters shall conform to 5.35.7.

Reason: Establishes requirements for food shields on mobile buffet counters.

5.35.11 Food shields for use on cooking and/or carving station operations (see figure 11A)

5.35.11.1 Food shields for use on cooking and/or carving stations shall include a vertical barrier to a minimum height of 60 in (1524 mm) above the finished floor. **Good**

5.35.11.2 The maximum vertical distance from the bottom edge of the food shield and counter top shall be 6 in (152 mm). **Good**

5.35.11.3 The minimum horizontal distance between the front inside edge of displayed food and the front (customer side) face of the food shield shall be three-quarters of the vertical distance ($0.75 \times$ vertical distance) of 5.35.11.2.

Reason: The maximum distance between the bottom edge of the glass and counter top was increased from 1.5" to 6" to permit plated food to be passed to a customer.

5.35.11.3 added due to the increase in the maximum vertical distance in 5.35.11.2.

5.35.12 Food shields for use on cafeteria counters (see figure 11B)

5.35.12.1 The sum of a food shield's protected horizontal plane (X) and its protected vertical plane (Y) shall be greater than or equal to 32 in (813 mm). When (X) equals 0 in (0 mm), (Y) shall be a minimum of 60 in (1524 mm).

5.35.12.2 The maximum distance from the bottom edge of the front (vertical) glass and counter top shall be 1.5 in (38 mm).

5.35.12.3 The maximum distance between the vertical glass and horizontal glass is 0.75 in (19 mm)

5.35.12.4 The minimum horizontal distance between the front inside edge of displayed food and the bottom leading edge of a food shield is 1.5 in (38 mm).

Reason: Food shield section reformatted to be more user friendly. Section for elementary schools, mobile buffet counters, cafeteria counters, cooking and/or carving station operations, and multi-tier shields were added to add further clarification to shields used in those applications.

Sincerely,

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President

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"Excellence is the result of caring more than others think is wise, risking more than others think is safe, dreaming more than others think is practical and



expecting more than others think is possible" NSF Guidelines.pdf