In the execution of its assignment to update the food shield section of NSF/ANSI Standard 2, the task group (TG) was unable to locate the science on which previous versions and compliance criteria were based. Therefore the TG opted to establish certain criteria based on scientific information presently available. The TG established three fundamental points from which it would proceed:

1. No food shield is 100% effective in protecting unpackaged food. Therefore the best level of protection is less than 100%.

2. Food shield requirements must permit a customer reasonable access to the food.

3. Food shield requirements must be attainable using technology, materials, methods and components currently available without favoring one over another.

Having agreed on these points, the TG began establishing science based criteria.

Issue A: Vector based compliance criteria verses formula based compliance criteria: The TG agreed that:

- The use of formula based compliance criteria (FBCC) was simpler and more user friendly than vector based compliance criteria (VBCC).
- The use of VBCC provides positive confirmation that a food shield adequately interrupts the direct line between unpackaged food and the mouth of a customer.

The TG agreed that it would use vectors from which formulas would be developed to determine compliance.

Issue B: Establishing vertical (height above the floor) vector origination points: Prior to the 2002 version of Standard 2, mouth heights of 54" and 60" above finished floor (AFF) were used as vertical vector origination points. The TG was unable to locate any science on which these mouth height elevations AFF were based.

Research revealed Anthropometrical data published by the Federal Aviation Administration (FAA). This data (copy attached) indicates that 90% of adults are between 60" and 74" tall. By subtracting 6" (top of head to mouth) from each height, vertical vector origination points of 54" and 68" were agreed on.

Issue C: Establishing a horizontal (distance away from the food shield) vector origination point: The 2002 and 2005 versions of Standard 2 do not consider the affect of a trayslide in determining compliance criteria for food shields. By creating dozens of drawings, the TG demonstrated that the presence of a trayslide does affect vector intercepts between unpackaged food and the mouth of a customer. From these findings, the TG opted to include a trayslide in determining horizontal vector origination point. The TG agreed that:

- The most common trayslide presently in use is 12" wide.
- A customer standing at counter with a trayslide, leans in to access the food.

The TG agreed that it would use a setback of 10" from the customer edge of the counter to the vector origination point.

Using the science based criteria established above, the TG developed formulas using vector intercepts to confirm that a food shield is properly sized and positioned to provide reasonable protection to unpackaged food from unintentional contamination by a customer.