Participating Members:
Michele Samarya-Timm (Somerset County Dept. of Health)               Mike Kohler (NSF International)
Girvin Liggans (Food and Drug Administration)                        Charlie Souhrada (NAFEM)
Bob Corrao (J.M. Smucker Company)                                    Jeff Burnett (Perlick)
Luis Rodriguez (Centers for Disease Control and Prevention)          Danielle Melaragno (Intertek)
Stephen Schaefer (Hoshizaki America, Inc.)                           Jonathan Brania (UL LLC)
Thomas Jumalon (Wake County North Carolina)                           Rex Brandt (Taylor Co.)

Absent Members:
Syed Rizvi (Cornelius, Inc.)

Participating observers:
Al Rose (NSF International)                                          Michael Perez (Baring Industries)
Craig Ungerecht (National Park Service)                              Eric Brasseur (Little Caesars Enterprises)
Joel Hipp (Hobart Corp.)                                             Burl Finkelstein (Kason Industries)
Bill Sickles (InterMetro Industries Corp.)                            Cheryl Appell (Manitowoc Foodservice)
Joe Wallace (A.O. Smith Water Products Company)                      John Scanlon (Hatco Corp.)
Jon Murray (Structural Concepts Corp.)                               Eric Moore (Testo Solutions USA)
Jim Petersen (C.i.i. Food Service Design)                             Bernard Poton (Intertek)
Rick Petersen (Norwalk Community College)                            Nicholas Unger (Intertek)

Supplemental Materials Referenced
2) FE-2019-09 - Definition for Potentially Hazard Foods, Revised.pdf
3) JCFE Meeting Summary - 2019-08-21 - Standard 170 Excerpt.pdf
4) 170i28r1 - PHF to TCS - Straw Ballot and Description.pdf
5) 170i28r1 - PHF to TCS - Straw Ballot COMMENTS.pdf

Discussion
M.Samarya-Timm welcomed everyone and called the meeting to order. A.Rose read the anti-trust statement and took attendance. Twelve of the 13 voting members were present (92%) representing a quorum.

M.Samarya-Timm gave a quick background of issue paper and the creation of this Task Group during the previous JC Face-to-Face meeting in August. Confirmed that the D.Melaragno (issue proponent) revised the issue paper based on the discussion during the F2F meeting, and that this language was sent to Straw Ballot with the entire JC for feedback. She indicated the ballot consisted of:

1) Revised definition for Potentially Hazardous Foods to be changed to Time/Temperature Control for Safety Food, and
2) definition for the proposed new term: Cut Leafy Greens

Regarding the change from Potentially Hazardous Foods to be changed to Time/Temperature Control for Safety Food, there were several comments, which were largely centered about one initial comment from G.Liggans:
As the objective is harmonization between the FDA Food Code and NSF Food Equipment Standards, the following changes should be made:

**Instead of:**
- a food having water activity (aw) value of 0.85 or less; or
- a food with a pH of 4.6 or less when measured at 75 °F (24 °C); or

**Please revise to:**
- a food having a water activity (aw) value less than 0.88; or
- a food with a pH less than 4.2; or

**Also,** the phrase "physical contaminant at a sufficient level to cause illness" should be part of the sentence above it. It is not intended to stand alone. The last bullet under (3) should be revised to read:
- a food that does not support the growth or toxin formation of pathogenic microorganisms in accordance with part (1) of this definition even though the food may contain a pathogenic microorganism or chemical or physical contaminant at a level sufficient to cause illness or injury.

M.Samarya-Timm opened the floor for comments.

D.Melaragno confirmed as issue proponent that she agreed with the suggestions regarding Aw and pH. Other members of the group agreed as well, and there were no additional comments.

M.Samarya-Timm explained the one other comment from J.Leonard which differed a bit from G.Liggans’s, and also presented the new term proposed for cut leafy greens:

**3.xx cut leafy greens:** fresh leafy greens whose leaves have been cut, shredded, sliced, chopped, or torn. Includes: iceberg lettuce, romaine lettuce, leaf lettuce, butter lettuce, baby leaf lettuce (i.e., immature lettuce or leafy greens), escarole, endive, spring mix, spinach, cabbage, kale, arugula and chard. Does not include: Herbs such as cilantro or parsley or whole heads of lettuce or other raw agricultural commodities. ‘Cut’ does not include removing and discarding exterior leaves, which is a common practice for display in retail food establishments.

The ballot suggests that pH and Aw are independent determinants of whether or not a food is TCS. Whereas, the FDA Food Code lists the interaction of pH and Aw as to determine its classification as a non-TCS food or if a food should undergo additional testing to determine if it is capable of supporting the growth or toxin formation of pathogenic organisms.

Simply listing the outermost limits does not address the food items that fall within those limits, yet would not be considered TCS due to the interaction of pH and Aw or due to the results of a Product Assessment. For example, FDA would consider a food with pH of 5.0 and Aw of 0.90 as a non-TCS food.

Furthermore, I find the FDA definition unhelpful in this area as many raw vegetables, due to their pH and Aw, would have to undergo a Product Assessment to be excluded as a TCS food.
D.Melaragno suggested the comment about this being unhelpful seems to be specific for TCS foods, and not cut leafy greens. She confirmed when writing the Issue Paper, she was trying to stay with the extreme values for $a_w$ and pH. The Food Code goes into much more detail, and if this group wants to get into the many product assessment values, that would be a different issue than the intent of her issue paper.

M.Samarya-Timm asked G.Liggans from an FDA perspective how detailed he thought this NSF definition should be. He suggested the ballot comment was a good one, but it may be too detailed for this group to use. He added that the values presented by the issue proponent are the extremes of the scale and would therefore cover all parameters. People default to the list with items like produce because they are typically not low pH or are high $a_w$ and must get approval.

M.Kohler indicated the term *cut leafy greens* is not currently used in any NSF Standard, adding that Standard 170 is typically used to define terms that are specifically within the FE Standards. This term is somewhat removed from the typical material and design definitions, but it doesn’t hurt to capture and define. D.Melaragno confirmed she added the definition for cut leafy greens after the F2F, as this was suggested as valuable by the JC. She indicated she works with engineers outside the U.S. and the definition would help them over the language barrier.

M.Samarya-Timm asked the group if there was any disagreement over whether there should be a definition for cut leafy greens or not. And if not, to what level of granularity should the group get to. A.Rose explained that another approach would be to make this a NOTE, rather than a definition. That would allow it to appear within the term for TCS rather than its own definition somewhere else in 170.

Bill suggested that if the intent is to align with the Food Code, there should be some sort of explanation of what a cut leafy green is. He added as an equipment manufacturer he is interested in equipment material definitions, not food products, and would suggest this term be put in as a note rather than a full definition. T.Jumalon explained how the value of the term would be used in the field and a note would be useful because it would be located with the definition and one won’t have to look elsewhere.

**Motion, R.Brandt:** Add cut leafy greens as a NOTE under the TCS definition  
**Second:** M.Kohler  
**Discussion:** M.Perez reminded everyone that NOTES are informative not normative.  
**Vote:** All in favor; none opposed, none abstained  
**Motion:** Carries

M.Samarya-Timm then asked the group to complete the discussion about the level of granularity for pH and $a_w$.

**Motion, D.Melaragno:** Update pH and $a_w$ values based on G.Liggans’s comment  
**Second:** R.Brandt  
**Discussion:** None  
**Vote:** All in favor, none opposed, no abstentions  
**Motion:** Carries

M.Kohler confirmed the old term *Potentially Hazardous Food* would be retained with the comment: See time/temperature control for safety (TCS) food, and as various standards are updated, those terms can be updated from accordingly.

M.Samarya-Timm asked if there were any other comments; there were none and the meeting adjourned.
Action Items:
A. Rose to create Revision 2 straw ballot and send to this Task Group
A. Rose to set up another teleconference if necessary.