

**Conference for Food Protection  
2016 Issue Form**

**Issue: 2016 I-016**

**Council Recommendation:** Accepted as Submitted \_\_\_\_\_ Accepted as Amended \_\_\_\_\_ No Action \_\_\_\_\_

**Delegate Action:** Accepted \_\_\_\_\_ Rejected \_\_\_\_\_

*All information above the line is for conference use only.*

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**Issue History:**

This is a brand new Issue.

**Title:**

Food Establishments With Robotic Operations

**Issue you would like the Conference to consider:**

New innovative technology is entering the retail food service industry in the form of automated food preparation and process "robots" that not only cook raw foods to ready-to-eat, but combine, garnish, assemble, wrap, package and dispense them. These robots are installed inside of building spaces specifically designed to accommodate their processes. The FDA Food Code should be changed to provide criteria to enable these safe and optimized operational platforms to exist.

**Public Health Significance:**

New, fully automated *raw* to ready-to-eat (R-RTE) "robotic" food operations in retail food facilities present several critical risk reductions as compared to traditional manual food preparation methods. 1. There are no hands touching R-RTE foods - therefore, no ill employee's are in contact with foods that are being prepared. 2. Every step of the process is continuously controlled, monitored and data logged for time and temperature, along with supervisory analytics and identification of food and ingredient lots, responsible personnel, etc.. 3. R-RTE systems enable automated trace-back and record review of each critical control point (CCP) associated with its hazard analysis critical control point (HACCP) or hazard analysis risk based preventative control (HARPC) program, including corrective action execution, time, date, personnel, etc. and record keeping.

Products begin as raw and are prepared, cooked, garnished, assembled, wrapped, packaged and "dispensed" to a server or to the consumer directly. These new R-RTE food operations that are housed within purpose designed, engineered and built building spaces. They present extreme uniformity and precision for everything from portion size, cook time and temperature and overall quality and their continuous data logs meet evidentiary rule requirements. So too do these systems provide for real time event notification. One of the pioneers for robotic food facilities and the co-presenter of this issue has their food products packed into reusable, sealed, sanitary cassettes (eg., removable, reusable cylindrical

"hoppers") at a licensed food processing facility. These American National Standards (ANSI) sanitation listed cassettes have radio frequency Identification tags (RFID) and track time, temperature and location as products are moved under refrigeration from the food processor through transportation to the food facility. Cassettes that are short-term stored on-site use First-in-First Out (FIFO) control methods and are loaded directly into the robot which opens the hermetically sealed cassette internally, removing the meat cubes, produce, sauce or other food items, ready for preparation and assembly.

Some RTE time/temperature control for safety (TCS) food items may use TIME alone as a public health control. Because of the extreme accuracy of food handling records, time alone as a public health control is easily managed. Products that left temperature control four hours ago are automatically discharged to waste and recorded as such. All of the clean and sanitize in place processes (CSIP) are recorded (logged) some of which are fully automated. A complete flow chart for the flow of food through robotic operation (robop?) is presented to the licensing authority upon application for permit. In addition, a list of the approved sources and the overall food safety plan with standard sanitary operating procedures are provided, including both clean and sanitize in place (CSIP) operations and various manual in place cleaning (IPC) and clean out of place (COP) procedures. In addition to maintenance of an automatic, continuous log of collected critical control point data, there is an overlay to enable supervisory notes from the person in charge relating to the data. Detailed, High Definition (HD) 24/7/365 video surveillance data is over-layered providing a unique data set for each and every daily food operation. The intent of this mechanized process is to provide the safest complex food operation in the world.

**Recommended Solution: The Conference recommends...:**

1. that a letter be sent to the FDA requesting the 2013 Food Code be amended to include a definition in Section 1-201.11 of the FDA Food Code for food establishments with robotic operations;

and

2. the Conference further recommend that a committee be formed:

A. to establish reasonable criteria and guidance for the new and emerging field of robotic food service operations; and

B. report back with their findings and recommendations to the 2018 Biennial Meeting.

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*It is the policy of the Conference for Food Protection to not accept Issues that would endorse a brand name  
or a commercial proprietary process.*