1. **Purpose**

1.1. The purpose of this document is to assist food service suppliers to understand and meet Jabil food safety standard (00-HS20-00020) and provide guidance on how to manage and reasonably minimize foodborne pathogen illness associated with food safety during routine operation.

1.2. This document is also served as part of master service agreement and/or contract that requires food establishment service provider adherence to Jabil EHS requirements.

2. **Scope**

2.1. This document applies to all applicable food service suppliers (categorized with risk type B and C) that provide regular food service to all Jabil sites. Refer [00-HS20-00020 Food Safety Standard](#) 3.1.1 to decide applicability.

2.2. This standard does not apply to take-out foods ordered through telephone, online website, mobile Apps or other means by an individual.

2.3. This standard does not apply to an individual or team go to an offsite restaurant.

2.4. The requirement set forth in the standard shall be considered minimum requirements; sites shall ensure that all requirements ascribed by local, regional, national or any other authority having jurisdiction are met or exceeded.

2.5. Food service suppliers shall understand, implement and ensure all applicable laws and regulations are met or exceeded. It may include but not limited to applicable license or permit, food handling, personal hygiene, medical requirement, purchase safe foods source and food contact surface management etc.

3. **Process**

3.1. **Work Restriction**

3.1.1. Food service employee shall immediately report to supervisor if he/she has been diagnosed as having or carrying a foodborne disease. No person shall work or shall be knowingly or negligently permitted to work in a food service establishment with prohibited foodborne disease.

3.1.2. Prohibited diseases. Most common foodborne illnesses caused by:
3.1.2.1. Salmonella typhi;
3.1.2.2. Shigella spp.;
3.1.2.3. E. coli;
3.1.2.4. Listeria;
3.1.2.5. Clostridium perfringens;
3.1.2.6. Hepatitis A virus;
3.1.2.7. Norovirus (Norwalk Virus);
3.1.2.8. Other diseases defined by local laws, regulations and other government authorities.

3.1.3. Prohibited symptoms. Prohibited symptoms caused by illness, infection, or other source that is:

3.1.3.1. Associated with an acute gastrointestinal illness such as:
   a. Diarrhea
   b. Fever
   c. Vomiting
   d. Jaundice
   e. Sore throat with fever

3.1.3.2. A lesion containing pus such as a boil or infected wound that is open or draining and is on the hands, wrists or exposed portions of the arms.

3.1.4. Food service employee shall immediately report to supervisor if he/she has any of above symptoms during work. Medical evaluation shall be carried out by a medical professional or an appropriate healthcare provider as soon as receiving a report or concern. The only exception to this is if the food worker knows that he/she has these symptoms for a different reason. For example, a food worker maybe vomiting during work because of pregnancy.

3.2. Medical Screening or Physical Examination

3.2.1. All food service employee shall be medically screened for evidence of communicable disease prior to initial assignment in food service. The health screening may not normally include a physical examination but shall be sufficient to detect evidence of diseases that may be transmitted by food. Subsequent health screening (e.g., annual evaluation) is not routinely required.

3.2.2. All health screening shall be documented and reviewed by a physician or a non-physician healthcare provider, e.g., a licensed practical nurse, an EHS officer or a preventive medicine professional etc.

3.2.3. If a food service employee is diagnosed with an infectious agent specified above, he/she shall be excluded from working in a food establishment.

3.2.4. A food service employee shall be restricted from working with exposed food, clean equipment, utensils, and linens; and unwrapped single service and single use articles if the food employee is:

3.2.4.1. Suffering from a prohibited symptom of acute gastroenteritis specified in 3.1.3.1; or
3.2.4.2. Is not experiencing a symptom of acute gastroenteritis specified in 3.1.3.1 but has a specimen culture that is positive for Salmonella typhi, Shigella spp., Escherichia coli 0157:H7, or hepatitis A virus.

3.2.5. Removal of restriction. Food service employee shall provide written medical documentation from a licensed physician or an approved healthcare provider. The documentation shall specify the excluded employee may work in an unrestricted capacity in a food service establishment because the employee is free of the infectious agent of concern.

3.3. Personal Hygiene
3.3.1. Facilities
   3.3.1.1. A sink in the kitchen just for washing hands is required. Sink for washing foods shall be separated from hand washing sink.
   3.3.1.2. An automatic hand washing sink with a self-closing faucet providing at least 15 seconds running water without the need to reactivate the faucet is recommended. Soap, paper towels and a wastebasket shall be handy. An air dryer can be used instead.
   3.3.1.3. Conspicuous signs directing employees to wash hands before returning to work shall be conspicuously posted near or above all hand washing sinks. Signs shall be posted in local language so as to be understood by all food workers.

3.3.2. Hand washing requirement
   3.3.2.1. Food service employee shall wash hands and exposed areas of arms thoroughly with soap and water, rub hands for at least 20 seconds, cleaning fingers and nails, then rinse and dry before starting work and as often as necessary to remove soil and any substance that might lead to contamination. Employees shall pay particular attention to the areas underneath the fingernails and between the fingers.
   3.3.2.2. Hands shall be washed thoroughly after using the toilet, smoking, or using electronic device, sneezing, coughing, touching hair or face, eating, drinking, touching raw meats and immediately before working with exposed food, clean equipment, utensils and unwrapped single use articles.
   3.3.2.3. When gloves are used as a barrier to protect ready-to-eat food from bare hand contact, hands shall be washed before gloves are put on.
   3.3.2.4. Food workers are not allowed to wash hands in food preparation sinks because bacteria can easily spread into the sink and into the food.

3.3.3. Outer clothing & Shoes
   3.3.3.1. All food workers shall wear clean outer clothing when starting work and change as often as necessary to prevent contamination from soiled or contaminated clothing.
   3.3.3.2. Food workers shall wear shoes with closed toe and flat non-slip soles.
   3.3.3.3. Clothing and personal effects of food service employee shall not be kept in food preparation and serving areas; nor will personnel use these same areas for changing their clothes.

3.3.4. Hair restraints
   3.3.4.1. Food service employee shall wear hair restraints such as hats, hair nets or other hair covering to effectively keep hair from contacting exposed food, utensils and clean equipment.

3.3.5. Fingernails
   3.3.5.1. Food workers shall keep their fingernails trimmed short, filed, and maintained.
   3.3.5.2. Food workers shall not wear fingernail polish or artificial nails when working with exposed food.

3.3.6. Facemask. Food service employee should wear face masks to ensure ready-to-eat food is safe and hygiene.
3.3.7. Jewelry. While preparing food, food service employee shall not wear jewelry on their arms and hands except a plain wedding ring.

3.4. Preventing Cross Contamination & Allergen Management
   3.4.1. The food service establishment manager shall be the person in charge or shall designate a person in charge and ensure that a person in charge is present at the food establishment during all hours of operation.
3.4.2. Provide menus and lists of personnel with their assignments to site food safety leader.

3.4.3. Except when washing fruits and vegetables, food service employee shall not touch exposed, ready-to-eat food with their bare hands and shall minimize bare hand and arm contact with exposed food that is not in a ready-to-eat form.

3.4.4. If used, single use gloves shall be used for only one task such as working with ready-to-eat food or with raw animal food, used for no other purpose and discarded when damaged or soiled, or when interruptions occur in the operation.

3.4.5. Cleaning compounds and other compounds used on food contact surfaces shall be rinsed and removed so as not to leave any toxic residues.

3.4.6. All food, except those stored in the original large unopened bulk containers shall be stored at least 4 inches (10 cm) above the floor with a clear unobstructed area below and 4 inches (10 cm) from the walls. Large containers of bulk foods in original unopened container may be stored on dollies or pallets less than 6 inches (15 cm) high if these are easily cleanable and readily movable. However, sites shall ensure they meet local laws and regulations. Storage dollies or pallets shall be easily moveable to facilitate inspection and cleaning. Wood and bamboo pallets shall not be used for food storage. Potentially hazardous raw foods that are not properly packaged or in sealed containers and that may leak or drip shall not be place in the storage above other foods.

3.4.7. Ice machines shall be located, installed, operated, and maintained in a sanitary manner to prevent contamination. They shall be cleaned at least monthly. Ice buckets, other containers and scoops shall be kept clean and stored and handled in a sanitary manner.

3.4.8. A dedicated culinary sink used only for washing foods is required. All sinks used for washing foods shall be cleaned and sanitized prior to washing food, and between washing raw meats and other foods.

3.4.9. A dedicated cutting board(s) shall be used for fresh produce and separate one(s) for raw meat, poultry and seafood.

3.4.10. Food that will not be washed or cooked shall be protected from cross-contamination from food which is required to be washed or cooked.

3.4.11. Separate types of raw animal foods from each other such as identified allergenic raw materials, beef, seafood, lamb, pork, and poultry during storage, preparation, holding, and display:
   3.4.11.1. By using separate equipment for each food type or arranging each type of food in equipment so that cross contamination of one type with another is prevented;
   3.4.11.2. Ensure that stored raw materials and ingredients with allergens will not pose a risk of cross-contact to non-allergenic goods;

3.5. Thaw Frozen Foods

3.5.1. Frozen foods shall not be left thaw at room temperature, such as on the counter top. There are three safe ways to defrost foods:
   3.5.1.1. Thaw foods in a refrigerator at a temperature not exceed 41°F (5°C); or
   3.5.1.2. In a microwave oven when the food will be immediately transferred to other conventional cooking equipment as part of a continuous cooling process, or when the entire uninterrupted cooking process takes place in the microwave oven; or
   3.5.1.3. Completely submerge frozen foods under potable running water at a temperature of 70°F (21°C) or below with sufficient water velocity.

3.5.2. For a period of time that does not allow thawed portions of raw animal food requiring cooking to be above 41°F (5°C) for more than 4 hours.

3.5.3. Food thawed in cold water or in the microwave shall be cooked immediately.
3.6.  **Cooking Raw Animal Foods to Safe Minimum Internal Temperature**

3.6.1.  Sites shall equip a metal-stemmed food probe thermometer with a range of 0°F (-17.8 °C) to 220°F (104.5°C), accurate to ±2°F (1°C), made from food grade materials and kept readily accessible in food cooking areas.

3.6.2.  Color and texture are unreliable indicators of safety. Cook all food to minimum internal temperatures as measured with a food thermometer before removing food from the heat source. Food vendor may choose to cook food to higher temperature.

<table>
<thead>
<tr>
<th>Product</th>
<th>Minimum Internal Product &amp; Rest Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef, Pork, Veal &amp; Lamb (Steaks, chops, roasts)</td>
<td>145°F (62.8°C) and allow to rest for at least 3 minutes</td>
</tr>
<tr>
<td>Ground meats</td>
<td>160°F (71.1°C)</td>
</tr>
<tr>
<td>Ham, fresh or smoked (uncooked) (uncooked)</td>
<td>145°F (62.8°C) and allow to rest for at least 3 minutes</td>
</tr>
<tr>
<td>Fully Cooked Ham (to reheat)</td>
<td>165°F (73.9°C)</td>
</tr>
<tr>
<td>All Poultry (breasts, whole bird, legs, thighs, wings, ground poultry, giblets, and stuffing)</td>
<td>165°F (73.9°C)</td>
</tr>
<tr>
<td>Eggs</td>
<td>160°F (71.1°C)</td>
</tr>
<tr>
<td>Fish &amp; Shellfish</td>
<td>145°F (62.8°C)</td>
</tr>
<tr>
<td>Leftovers</td>
<td>165°F (73.9°C)</td>
</tr>
<tr>
<td>Casseroles</td>
<td>165°F (73.9°C)</td>
</tr>
</tbody>
</table>

3.6.3.  Raw animal foods cooked in a microwave oven shall be:

3.6.3.1.  Rotated or stirred throughout or midway during cooking to compensate for uneven distribution of heat;
3.6.3.2.  Covered to retain surface moisture;
3.6.3.3.  Heated to a temperature of at least 165°F (74°C) in all parts of the food;
3.6.3.4.  Allowed to stand covered for 2 minutes after cooking to obtain temperature equilibrium.

3.6.4.  Safe egg handling guidelines:

3.6.4.1.  Serving raw eggs and foods containing raw eggs is prohibited.
3.6.4.2.  Shell eggs shall be cooked to a minimum internal temperature of at least 160°F until the white is firm, not running, and the yolk is set.

3.7.  **Storage—Temperature and Time Control**

3.7.1.  Proper temperature control is the most effective means of minimizing the risk of food borne illness and reducing loss through spoilage. **Potentially hazardous food (PHF)** which are not served immediately after cooking shall be either rapidly chilled to temperatures of 41°F (5°C) or lower, or held at 140°F (60°C) or higher. Food service establishment manager shall ensure adequate refrigeration or hot holding storage facilities for proper storage and transportation.

3.7.2.  Cold holding

3.7.2.1.  Required temperature ranges are 32-41°F (0-5 °C) for refrigeration and 0°F (-18 °C) or below for freezers.
3.7.2.2.  One air measuring thermometer shall be provided in all refrigerated storage spaces. Thermometers or air measuring devices shall be readily observable, easily readable
and numerically scaled. Such devices shall be properly calibrated and accurate to ±2°F (1°C). Mercury thermometers are prohibited.

3.7.2.3. Foods removed from cooking or hot holding that require refrigeration shall be rapidly cooled from required cooking temperature (as noted in 3.7) to 70°F (21°C) within 2 hours. This could be achieved as following:
   a. Placing the food in shallow pans or containers (less than 4 inches / 10cm in height); and/or
   b. Dividing foods into smaller or thinner pieces or portions; and/or
   c. Using containers made of materials that facilitate heat transfer; and/or
   d. Stirring foods that are liquids or semi-liquid, and
   e. Arranging containers in cooling equipment to provide maximum heat transfer through container walls, not stacking or nesting; and
   f. Keeping containers loosely covered or uncovered if protected from overhead contamination during the cooling period, to facilitate heat transfer from the surface of the food.

3.7.2.4. PHF which have been held at temperatures between 41°F (5°C) and 140°F (60°C) longer than 4 hours are considered unsafe for consumption and shall be destroyed. If the food is refrigerated at intervals and then permitted to warm, then the total time of various periods between 41°F (5°C) and 140°F (60°C) shall not exceed 4 hours.

3.7.2.5. Frost or glaze ice shall not be allowed to accumulate to more than ¼ inch in thickness on the interior surfaces or on the refrigeration coils.

3.7.3. Hot holding
   3.7.3.1. Hot holding and storage equipment shall be maintained PHF at or above 140 °F (60 °C) at all times.
   3.7.3.2. Each hot holding equipment used for holding PHF shall be provided with an easily readable numerically scaled indicating thermometer, accurate to ±2°F (1°C), located to measure the air temperature in the coolest part of the unit and placed to be easily readable. Where it is impractical to install thermometers on equipment such as hot food tables, steam tables, steam kettles, heat lamps or insulated food transport carriers, a sanitized metal-stemmed food probe thermometer shall be available and used to check the internal temperature of the food.

3.7.4. Only time control
   3.7.4.1. Time only, rather than time in conjunction with temperature, maybe used as the public health control if the food is served or discarded within 4 hours from the point in time when the food is removed from temperature control.
   3.7.4.2. PHF shall be at an initial temperature at or below 41°F (5°C) when removed from cold holding temperature control, or at or above 140°F (60°C) when removed from hot holding temperature control.
   3.7.4.3. Food shall not be held out of temperature control any longer than 4 hours, either discarded or served.
   3.7.4.4. Labels with the date and time of original preparation and required discard date and time shall be legibly marked. Labels and markings shall be kept on food containers until foods have been served or discarded.

3.7.5. Temperature logs are required to document and maintained for all storage spaces. Accurate entries shall be made at least twice daily. Any prolonged deviation (more than 4 hours) from the required storage temperature shall be promptly reported to food service establishment manager and site food safety leader for appropriate action. Logs shall be maintained in the facility for at least 1 year.
3.8. **Leftovers Holding Limits and Reheating**

3.8.1. Leftover foods may be retained for 24 hours chilled (41°F/5°C or below) or for 5 hours if maintained hot (140°F/60°C or above).

3.8.1.1. Time limits for leftovers begin when the food is removed from cold/hot holding.

3.8.1.2. Chilled potentially hazardous leftovers shall be labeled “Leftover Use within 24 Hours” with the date and time of original preparation and the discard date and time.

3.8.1.3. Food shall not be in the “danger zone” between 41°F (5°C) and 140°F (60°C) for more than total 4 hours from time of preparation until discarded.

3.8.2. Freezing of leftovers is prohibited.

3.8.3. PHF which have been cooked, chilled and reheated for service shall not be saved as leftovers.

3.8.4. PHF that has been cooked and then refrigerated and which is reheated for hot holding shall be reheated so all parts of the food reach an internal product temperature of at least 165°F (74 °C) for at least 15 seconds, then it shall be held at 140°F (60°C) or above until served. The time for reheating to 165°F (74°C) shall not exceed 2 hours.

3.8.5. Food reheated in a microwave oven shall be covered during reheating.

3.8.6. Sauces, soups and gravy shall be boiled when reheating.

3.9. **Pest Management**

3.9.1. Onsite food service establishment or those who providing food service to Jabil site shall be kept free of rodents, insects and other pests.

3.9.1.1. Food service establishment openings to the outside shall be effectively protected against the entrance of rodents and along the floors, walls and ceilings.

3.9.1.2. Food service establishment shall have no holes and other gaps along the floors, walls, and ceilings.

3.9.1.3. All doors opening from the outside shall be equipped with barriers such as anti-pest tension brushes or a space no larger than 1/8 of an inch (3 millimeters) to prevent entry of rodents.

3.9.2. Site shall daily inspect onsite food service establishment and incoming food and supplies to determine presence of pests and to prevent entry and infestation by pests.

3.9.3. Pesticides shall be properly labeled, stored outside food service spaces and authorized for use to ensure:

3.9.3.1. There is no hazard to employees or other persons.

3.9.3.2. There is no pesticide spraying in food preparation and service areas while food is being processed, prepared or served, or where unprotected food, clean utensils or containers are displayed or stored.

3.9.3.3. Food, equipment, utensils and single use articles are protected from contamination and toxic residues that result from pesticide application. Such items are to be protected by impermeable coverings or other measures during pesticide application and shall be cleaned and sanitized after pesticide application.

3.10. **Food Contact Surface**

3.10.1. Food contact surfaces utensils and equipment shall be constructed of food grade materials and shall not contain lead, cadmium or any other substance that is toxic or may react with food, cleaning or sanitizing materials to form harmful compounds and shall meet applicable regulatory requirement.

3.10.2. Food contact surfaces, including equipment and utensils shall be clean to sight and touch and shall be kept free of dust, dirt, food residues, grease deposits, and other contaminants.
3.10.3. Food contact surfaces of tableware, including dishes, utensils, and equipment shall be cleaned and sanitized manually or by machine using either heat or chemical means.


3.10.4.1. A three-compartment sink/container shall be used when washing and sanitizing dishes, utensils and equipment by hand. All compartments of the sink shall be large and deep enough to permit complete immersion of the largest equipment and utensils to be washed.

3.10.4.2. Items should be washed in the first compartment in a detergent solution. Rinsed free of such solution in clean hot water in the second compartment. Sanitized in the third compartment with hot water or a chemical solution.

3.10.4.3. Hot water used for sanitizing is recommended and shall be heated to and maintained at or above 170 °F (76.6 °C). Items shall be wholly immersed for at least 30 seconds to destroy surface pathogens.

3.10.4.4. Manual chemical sanitizing shall be used in sufficient amounts to achieve the sanitization levels without leaving toxic residues on surfaces treated.

3.10.5. Mechanical washing and sanitizing

3.10.5.1. High temperature machines used for the cleaning and sanitizing of utensils, equipment, and food contact surface shall be installed, maintained, and kept in working order. Machines shall be equipped with thermometers and operated so that all food contact surfaces achieve a surface temperature of at least 194°F (90°C) to destroy surface pathogens.

3.10.5.2. Low temperature machines that use chemicals shall be installed, maintained, kept in working order and operated properly to attain effective sanitization and the chemical sanitizer is used in concentrations that will not leave toxic residues on surfaces treated. The concentration of sanitizing solution(s) shall be verified with a test kit or other device that accurately measures the concentration in mg/L or ppm.

3.10.6. Manual and mechanical ware washing equipment, chemical sanitization temperature, PH and concentration shall meet below requirement:

3.10.6.1. A chlorine solution shall have a minimum temperature based on the concentration listed in below table.

<table>
<thead>
<tr>
<th>Minimum Chlorine Concentration</th>
<th>Minimum Water Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 ppm</td>
<td>120°F (48.9°C)</td>
</tr>
<tr>
<td>50 ppm</td>
<td>100°F (37.8°C)</td>
</tr>
<tr>
<td>100 ppm</td>
<td>55°F (12.8°C)</td>
</tr>
</tbody>
</table>

3.10.6.2. An iodine solution shall have a:
   a. Minimum temperature of 75°F (23.9°C)
   b. A PH of 5.0 or less or a PH no higher than the level for which the manufacturer specifies the solution is effective;
   c. Concentration between 12.5mg/L and 25mg/L

3.10.7. Ware washing machines; the compartments of sinks or other receptacles used for washing and rinsing equipment utensils shall be cleaned:

3.10.7.1. Before use;

3.10.7.2. Throughout the day at a frequency necessary to prevent recontamination of equipment and utensils to ensure the equipment performs its intended function;

3.10.7.3. At least every 24 hours.
3.10.8. All tableware, utensils and food contact equipment shall be air dried after sanitizing.
3.10.9. Food workers shall wash cutting boards and counter tops with hot soapy water after preparing each food item.
3.10.10. With canned goods, food workers shall clean lids before opening.
3.10.11. Cloths/Sponges used for the cleaning and sanitizing of food contact and non-food contact surfaces shall be stored clean and dry, or in a sanitizing solution between uses. Moist cloths used for wiping non-food contact surfaces shall be used only for this purpose and shall be stored in a sanitizing solution between uses.

3.11. **Non-Food Contact Surfaces**

3.11.1. Floors, walls, ceiling, and other non-food contact surfaces shall be kept free of accumulations of dust, dirt, food residue, grease, and other debris and shall be cleaned as necessary to prevent such accumulations.
3.11.2. Paper towels are recommended used to clean up kitchen surfaces. If cloth towels are used, launder them often in the hot cycle.
3.11.3. Floors.
   3.11.3.1. Floors and floor coverings shall be kept clean, without cracks, holes, gaps or other unintended openings.
   3.11.3.2. Carpeting is prohibited on floors in food preparation areas. Mats and duckboards shall be designed to be removable and easily cleanable.
3.11.4. Walls, ceilings, doors and windows shall be easily cleanable, kept clean and without cracks, holes, gaps or other unintended openings.
3.11.5. Vehicles and other conveyances used for the food transportation shall be kept clean, sanitary, and free of pests and shall have sufficient equipment in operating condition to maintain temperatures required by this standard for holding potentially hazardous foods.
3.11.6. Ventilation
   3.11.6.1. Adequately mechanical ventilation shall be installed in rooms to prevent and control excessive heat, steam, condensation, vapors, odors, smoke and fumes.
   3.11.6.2. Ventilation to the outside air shall comply with applicable law and regulation and shall not create a nuisance or unlawful emission.
   3.11.6.3. Ventilation hoods and grease filters shall be cleaned of dirt and grease as often as necessary and at least bi-weekly to avoid the danger of fire. Filters which cannot be adequately cleaned shall be replaced.

3.12. **Food Waste and Refuse**

3.12.1. Food waste and refuse on the premises shall be stored in a manner that makes it inaccessible to insects and rodents. Outside storage areas or enclosures shall not be located within 100 feet of the food service establishment.
3.12.2. The storage surface shall be constructed of nonabsorbent material such as concrete, be smooth and be sloped to drain.
3.12.3. The enclosure, if used, shall be constructed of durable and cleanable materials.
3.12.4. Soiled refuse equipment and containers shall be thoroughly cleaned with water at least twice a week to prevent them from becoming insect and rodent attractors and a source of contamination.

3.13. **Hazard Analysis and Critical Control Plan (HACCP)**

3.13.1. Hazard analysis and critical control plan (HACCP) is a food safety system developed to prevent the occurrence of potential food safety and sanitation problems. The HACCP system focuses on controlling critical items that have been associated with outbreak of foodborne disease. Below are some examples of critical items:
3.13.1.1. Inadequate cooking times and temperatures.
3.13.1.2. Contamination of food by infected food service employees, including poor personal hygiene.
3.13.1.3. Food remaining at unsafe temperatures.
3.13.1.4. Contamination of food, not receiving further cooking, by additional of contaminated/raw ingredients.
3.13.1.5. Failure to reheat foods to proper temperature.
3.13.2. Food supplier who is categorized as risk type B and C described in 3.1.1 in 00-HS20-00020 Food Safety Standard shall establish, implement and maintain a customized hazard analysis and critical control plan (HACCP) and get certified if feasible.
3.13.2.1. If HACCP certification is not feasible, then it shall be reviewed and verified by site food safety leader or a 3rd party. HACCP certificated shall be renewed or audited every three years at a minimum.

3.14 7 Principles of HACCP

3.14.1.1. Begin with the menu. Select the “most hazardous” menu items or ingredients. Particular attention need focus on foods or ingredients that are common to many different menu items. For example: pork or ground beef may be in ingredient in many different menu items. Don't focus initial efforts on menu items or ingredients that are only served one or two items per month.
3.14.1.2. Then look at menu items with the greatest potential for contamination or those which are most hazardous. For example, bean products or seafood can be contaminated and spoil rapidly.
3.14.1.3. Work one menu item or ingredient at a time. Set up a flow chart from receiving, through storage, preparation, cooking, serving and disposal of the item. On this flow chart identify where the item could be contaminated as well as the relative risk, severity and probability, of each hazard.

3.14.2. Principle 2: Identify the Critical Control Points (CCPs) in food preparation. A CCP is a point, step, procedure in which a food safety hazard can be prevented, eliminated, or reduced. Examples of CCPs include but not limited to: cooking, chilling, specific sanitation procedures, prevention of cross-contamination and certain aspects of employee and environmental hygiene. The following questions might be used in identifying CCPs:
3.14.2.1. Can the hazard be prevented, eliminated or controlled through measures or procedures that can be implemented by the food service operation?
3.14.2.2. Does this step eliminate or reduce a hazard?
3.14.2.3. Could contamination occur, or could contamination increase to unacceptable levels?

3.14.3. Principle 3: Establish Critical Limits (CLs) for the CCPs. Critical limits are the criteria that shall be met for each preventive measure associated with a CCP.
3.14.3.1. Critical limits set for preventive measures such as temperature, time, physical dimension, humidity, water activity, PH, acidity, salt concentration, available chlorine or sensory information such as texture, aroma and visual appearance.
3.14.3.2. Critical limits shall be measurable or observable. The more specific a CL is, the easier it is to monitor. Avoid terms like thoroughly heated, cool rapidly, serve hot.

3.14.4. Principle 4: Ensure food service provider develop a process to monitor CCPs. Monitoring is a planned sequence of observations or measurements to assess whether a CCP is under control and to produce an accurate record for future use in verification. Examples of measurements for monitoring include:
3.14.4.1. Visual observations
3.14.4.2. Temperature
3.14.4.3. Time
3.14.4.4. PH
3.14.4.5. Moisture level

3.14.5. Principle 5: Establish the corrective action(s) to be taken when monitoring shows a critical limit (CL) has been exceeded. When deviation occurs, corrective action plans shall be in place to:

3.14.5.1. Determine whether food shall be discarded.
3.14.5.2. Correct or eliminate the cause of problem. Actions shall demonstrate the CCP has been brought under control.
3.14.5.3. Maintain records of corrective action taken.

3.14.6. Principle 6: Establish effective record keeping. The associated records shall be on file such as:

3.14.6.1. Listing of the HACCP team members and assigned responsibilities.
3.14.6.2. Listing of all applicable regulations and permits that shall be met.
3.14.6.3. Copies of menu
3.14.6.4. Copies of flow chart from receiving to consumption
3.14.6.5. Hazard assessment at each step in a flow diagram
3.14.6.6. The critical limits established for each hazard
3.14.6.7. Monitoring record (for example: temperature logs)
3.14.6.8. Corrective action plans and records when there is a deviation
3.14.6.9. Verification of HACCP system

3.14.7. Principle 7: Establish verification process to ensure the HACCP system is working.

3.14.7.1. Verification process includes both food service establishment manager/supervisor and site food safety leader.
3.14.7.2. Verification shall include: Establishment of appropriate verification inspection schedules; review of the HACCP plan; review of the CCP records; review of critical limits; visual inspection of operations to observe whether CCPs are under control; random sample collection and analysis; review of the deviations and corrective actions taken and regulatory compliance enforcement.

3.15 Critical Control Point Monitoring & Record Keeping

3.15.1. A monitoring system shall be established for the control measure or combination of control measure(s) to detect failure to meet the action criterion. The monitoring system shall consist of documented information including:

3.15.1.1. Measurements or observation that provide results within an adequate time frame;
3.15.1.2. Monitoring methods or devices used;
3.15.1.3. Applicable calibration methods;
3.15.1.4. Monitoring frequency;
3.15.1.5. Monitoring results;
3.15.1.6. Responsibility and authority related to monitoring;
3.15.1.7. Responsibility and authority related to evaluation of monitoring results.

3.15.2. The monitoring method and frequency shall be capable of timely detection of any failure to remain within critical limits, to allow timely isolation and evaluation of the PHF.

3.15.3. Establish the corrective action(s) to be taken when monitoring shows a critical limit (CL) has been exceeded. When deviation occurs, corrective action plans shall be in place to:

3.15.3.1. Determine whether food shall be discarded.
3.15.3.2. Correct or eliminate the cause of problem. Actions shall demonstrate the CCP has been brought under control.
3.15.3.3. Maintain records of corrective action taken.
3.15.4. Food establish manager shall ensure that specified monitoring and measuring methods and equipment in use are adequate for the monitoring and calibrated. The results of calibration and verification shall be retained as documented information.
3.15.5. Food supplier shall establish, implement and maintain record that documents the monitoring of the critical control points with actual values and observations obtained during monitoring.
3.15.6. Any identified deviation shall be timely recorded and reported to onsite food service establishment manager/supervisor. All corrective actions shall also be recorded accordingly.

3.16. Emergency Response
3.16.1. The food service establishment manager/supervisor shall immediately report to site food safety leader if there is a:
   3.16.1.1. Product recall;
   3.16.1.2. Suspect/Confirmed foodborne illness outbreak;
   3.16.1.3. Other situation that site safety leader need be aware of.
3.16.2. Remaining stocks of suspect food shall not be used until the investigation is complete.
3.16.3. Collect food samples and containers. If food items are leftover from a suspect meal, or if a commercial product is suspected, collect and preserve samples for laboratory analysis.
   3.16.3.1. Collect samples by using sanitized containers and aseptic techniques to avoid contamination.
   3.16.3.2. Seal and label each container.
   3.16.3.3. Collect a sample of each items weighing ½ to 1 pound (0.3--0.45kg), if less is available collect all of it.
   3.16.3.4. Samples of perishable foods shall be chilled and held below 41°F (5°C) but shall not be frozen.
   3.16.3.5. Commercial foods in containers shall be kept in those containers. Empty containers of suspect commercial products shall also be collected and preserved.
   3.16.3.6. Clearly label all food items collected with a permanent marker/pen. This label shall include following information: collection date and time, weight or volume, name of the food and name of the person that collected the sample.
   3.16.3.7. It is recommended to take photos of the food items for easier identification later and to document the product details and description for sharing as needed.
   3.16.3.8. Samples shall be analyzed within 24 hours of sampling.
3.16.4. Investigate food handling procedures. The investigation shall inquire into the source and method of preparation of each item of food or drink served at a suspected meal. A flowchart documenting the individual steps from delivery, through preparation, to service of highly suspect items may be helpful. Provide menus and lists of personnel with their assignments. Separately interview food service employee involved in handling the suspect items.
3.16.5. Use investigative data for prevention. Preventing further illnesses is the primary purpose of a foodborne illness investigation. During or immediately after completing the investigation, implement measures to prevent further illness.

3.17 Communication & Training
3.17.1. The food service establish manager/supervisor shall also get trained within the first 30 days of assignment. A refresh training is required every 3 years and/or accordance with local regulation requirement. The following topic, at a minimum shall be covered in training course:
   3.17.1.1. Preventive controls
   3.17.1.2. Microbiology and foodborne illness
   3.17.1.3. Personal hygiene /health requirements
3.17.4. Food preparation and serving process
3.17.5. Hazard analysis of critical control plan (HACCP)
3.17.6. Inspection and storage of food
3.17.7. Ware Washing
3.17.8. Pest control in food service areas
3.17.9. Cleaning & sanitizing of food service equipment safety

3.17.2. Food service establishment manager/supervisor shall manage food safety training for all food service employees to ensure that all new food service employee receive 4 hours initial food safety training within the first 30 days of employment. A refresh training course is required annually. The following topic, at a minimum shall be covered in food service employees’ training course:

3.17.2.1. The work restriction policy and what a food service employee shall do if he/she is sick;
3.17.2.2. Personal hygiene/health requirements;
3.17.2.3. Using thermometers and keeping temperature logs;
3.17.2.4. Safe way to thaw frozen foods;
3.17.2.5. Food preparation and serving;
3.17.2.6. Inspection and storage of food;
3.17.2.7. Cleaning & sanitizing.

3.17.3. Food supplier shall ensure training is documented for each food service employee with the content of the training, personnel conducting the training and verification of training effectiveness.

3.18. Record retention
3.18.1. Records shall be retained according to the Jabil corporate record retention policy except as follows:
   3.18.1.1. Material list: until superseded
   3.18.1.2. Food employee name-list: until superseded
   3.18.1.3. Temperature log: one rolling-calendar year
   3.18.1.4. Food service employee health screening record: three rolling-calendar year
   3.18.1.5. Thermometer calibration records: one rolling-calendar year
   3.18.1.6. Audit/inspection record: one rolling-calendar year

4. Responsibilities

4.1. Food Service Establishment Manager/Supervisor:
   4.1.1. Responsible to manage and control the transmission of food borne disease.
   4.1.2. Identify, understand and implement Jabil food safety standard and all applicable food safety legislation including but not limited to obtain all relevant permits and licenses.
   4.1.3. Organize and manage the work of the food service team to implement site HACCP plan and make sure all food handling tasks are properly and safely carried out.
   4.1.4. Develop and implement work restriction policy and ensure every food service employee complete health screening and clearance assessment for communicable disease as required.
   4.1.5. Ensure employees are effectively cleaning their hands, by routinely monitoring the employees’ hand washing practice.
   4.1.6. Ensure employees are wearing clean outer clothing through daily visual inspection.
   4.1.7. Assignment of the responsibility for monitoring for each CCP. The person responsible for monitoring must report a process or product that does not meet critical limits so immediate
corrective action can be taken. All records and documents with CCP monitoring are to be signed or initialed by the person doing the monitoring.

4.1.8. Ensure employees are properly cooking potentially hazardous food through daily oversight of the employees’ routine monitoring of the cooking temperatures.

4.1.9. Ensure employees are using proper methods to rapidly cool potentially hazardous foods that are not held hot or are not for consumption within 4 hours, through daily oversight of the employees’ routine monitoring of food temperatures during cooling.

4.1.10. Ensure employees are properly sanitizing cleaned multiuse equipment and utensils before they are reused, through routine monitoring of solution temperature and exposure time for hot water sanitizing, and chemical concentration, PH, temperature, and exposure time for chemical sanitizing.

4.1.11. Conduct, facilitate or assist with food safety training in all relevant topics covered in this standard, their local procedure and regulatory requirements to ensure relevant training and competencies for the food service team.

4.1.12. Timely report and assist foodborne pathogen incident investigation.

4.1.13. Ensure persons unnecessary to the food establishment operation are not allowed in the food preparation, food storage, or ware washing areas. Brief visits and tours may be authorized by the person in charge if steps are taken to prevent contamination.

4.1.14. Ensure all thermometers calibrated and maintain calibration records.

4.2. Site food safety leader:

4.2.1. Identify, understand and implement Jabil food safety standard (00-HS20-00020) and all applicable food safety legislation.

4.2.2. Establish, maintain and update site HACCP plan in conformance with corporate procedure and any national or local requirements that exceed or take precedence over this procedure.

4.2.3. Conduct, facilitate or assist with food safety training in all relevant topics covered in this document, Jabil food safety manual and regulatory requirements to ensure relevant training and competencies for the food service team.

4.2.3.1. Where the assistance of external expert is used for the development, implementation, operation or assessment of the food safety management, evidence of agreement or contracts defining the competency, responsibility and authority of external experts shall be retained as document information.

4.2.4. Auditing conformance to regulatory standards and Jabil food safety manual, including but not limited to:

4.2.4.1. Document non-conformances

4.2.4.2. Develop, integrate and implement actions for identified non-conformance, risks and opportunities

4.2.4.3. Track all corrective actions to completion

4.2.4.4. Evaluate the effectiveness of these actions

4.2.5. Timely report to top management on the effectiveness and suitability of site food safety management including but not limited to foodborne pathogen incident or illness, notices of violation and/or regulatory notifications.

4.2.6. Develop, implement and maintain and periodically test site emergency response plan on foodborne illness outbreak.

4.2.7. Timely report and lead foodborne pathogen incident investigation. Collect all necessary information for investigation.

4.2.8. Develop and implement work restriction policy and ensure clearance assessment process.
4.2.9. Timely report to top management on the effectiveness and suitability of site food safety management including but not limited to foodborne pathogen incident or illness, notices of violation and/or regulatory notifications.

4.3. **Food Service Employee:**

4.3.1. All food service employee shall be aware of the objective of the FSMS relevant to their task(s) and their individual contribution to the effectiveness of FSMS, including but not limited to timely report problem(s) or concern(s) and give suggestion(s) on continuous improvement.

4.3.2. Complete food safety pre-job and on-job training timely to understand Jabil and compliance requirements.

4.3.3. Implement all the requirements in site procedure and applicable laws and regulations.

4.3.4. Understand work restriction policy and timely report relevant symptoms, diseases, past illness and other foodborne pathogen concerns.

4.3.5. Maintain personal cleanliness and wash hands as often as required.

4.3.6. Monitor cooking equipment to ensure foods are cooked to the right temperature.

4.3.7. Use proper way to thaw frozen foods and demonstrate competence in safe food preparation.

4.3.8. Understand storage requirement and comply with temperature and time limit.

4.3.9. Regularly clean and sanitize food contact surfaces and non-food contact surfaces.

4.3.10. Timely report if there is a foodborne pathogen or contamination concern.

4.3.11. Participate in foodborne pathogen incident or illness investigation.

---

### 5. Associated Documents

#### 5.1. Reference Documents

5.1.1. Article 81 of the NYC Health Code: Food Preparation and Food Establishments

5.1.2. ISO 22000:2018 Food safety management systems – Requirements for any organization in the food chain

#### 5.2. Supporting Documents

5.2.1. 00-HS20-00020 Food Safety Standard

5.2.2. 00-HS80-00007 Foodborne Illness Outbreak Investigation Report

5.2.3. 00-HS80-00008 HACCP Inspection Data Form

5.2.4. Health Screening Questionnaire for Food Service Employee

5.2.5. Case History Questionnaire

---

### 6. Definitions/ Terminology

6.1. **Acute:** A disease is of short duration and, as a corollary of that, of recent onset.

6.2. **Allergens:** Allergens are antigens which cause allergy. Most allergens reacting with IgE or IgG antibodies are proteins, often with carbohydrate side chains, a foreign substance or protein (antigen) that stimulates an allergic reaction.

6.3. **Artificial Nails:** Known as fake nails, false nails, fashion nails, nail enhancements, nail wraps, or nail extensions, are extensions placed over fingernails as fashion accessories.

6.4. **Comminuted:** means reduced in size by methods including chopping, flaking, grinding or mincing. Comminuted includes fish or meat products that are reduced in size and restructured or reformulated such as gefilte fish, formed roast beef, gyros, ground beef, and sausage; and a mixture of two or more types of meat that have been reduced in size and combined, such as sausages made from tow or more meats.
6.5. **Contaminated**: Adulterated or spoiled food, or food and equipment which is exposed to filth, toxic substances, rodent or insect contract or infestation, or potentially hazardous foods held at temperatures between 41 °F (5°C) and 140 °F (57 °C) for a period of time exceeding that reasonably required for preparation, including potentially hazardous foods which are not heated or cooked to the temperatures specified in 3.8 of this standard, or food in or subject to any condition which could permit the introduction of pathogenic microorganisms or foreign matter, including manual contact during service or preparation if such foods will not be subsequently cooked or heated to the temperature specified in 3.8.

6.6. **Critical Control Point (CCP)**: is a point or procedure in a specific food system where loss of control may result in an unacceptable health risk.

6.7. **Critical Limit (CL)**: Critical limit is the maximum or minimum value to which a physical, biological or chemical hazard must be controlled at a critical control point to prevent, eliminate or reduce to an acceptable level the occurrence for identified food safety hazard.

6.8. **Diarrhea**: is the condition of having at least three loose or liquid bowel movements each day.

6.9. **Easily Cleanable**: Readily accessible and of such material and finish that residues may be completely removed by normal cleaning methods.

6.10. **Equipment**: Any tool, item, fixture or article used in the operation and any component of such tool, item, fixture and article including but not limited to, all stoves, ranges, microwave ovens, hoods, meat blocks, table, counters, refrigerators, sinks, dishwashing machines, steam tables and similar items, other than utensils, used in the operation of a food service.

6.11. **E. coli 0157:H7**: A serotype of the bacterial species Escherichia coli and one of the Shiga toxin-producing types of E. coli. Infection with this type of pathogenic bacteria may lead to hemorrhagic diarrhea, and to kidney failure.

6.12. **Fingernail Polish**: A lacquer that can be applied to the human fingernail or toenails to decorate and protect the nail plates.

6.13. **Food Contact Surface**: the surfaces of equipment, utensils, tableware and kitchenware, such as ladles, colanders, serving spoons, spatulas, pots and pans, which normally come into contact with food or from which liquids and residues may drain back into food or onto other food contact surfaces.

6.14. **Food Service Employee**: Any person who works in any place where food or drink is prepared, manufactured, handled, bottled, packed, stored, offered for sale, sold or provided free of charge, whose duties or the circumstances under which the food employee works involve a risk that food service employee may cause the spread of disease.

6.15. **Food Service Establishment**: an operation that stores, prepares, packages, serves, vend, or otherwise provides food for human consumption. Food service establishment includes:

   6.15.1. An element of the operation such as a transportation vehicle or a central preparation facility that supplies a vending location or a satellite feeding location; and

   6.15.2. An operation conducted in a mobile, stationary, temporary, or permanent facility or location: were consumption is on or off the premises; and regardless of whether there is a charge for the food.

6.16. **Hazard**: means a biological, chemical, or physical property that may cause an unacceptable consumer health risk.

6.17. **Hazard Analysis and Critical Control Plan (HACCP)**: HACCP is a food safety system developed to prevent the occurrence of potential food safety and sanitation problems.

6.18. **Hepatitis A**: An infectious disease of the liver caused by the hepatitis A virus. Many cases have few or no symptoms, especially in the young. The time between infection and symptoms, in those who develop them, is between two and six weeks. When symptoms occur, they typically last eight weeks and may include nausea, vomiting, diarrhea, jaundice, fever, and abdominal pain.

6.19. **PH**: The symbol for the negative logarithm of the hydrogen ion concentration that is a measure of the degree of acidity of alkalinity of a solution.
6.20. **Potentially Hazardous Food (PHF):** a food that is natural or synthetic and that requires temperature control because it is in a form capable of supporting:

6.20.1. The rapid and progressive growth of infectious or toxigenic microorganisms;
6.20.2. The growth and toxin production of Clostridium botulinum; or
6.20.3. In raw shell eggs, the growth of Salmonella enteritidis.
6.20.4. Potentially hazardous food includes an animal food (a food of animal origin) that is raw or heat treated; a food of plant origin that is heat treated or consists of raw seed sprouts; cut melons; and garlic oil mixtures that are not acidified or otherwise modified at a food processing plant in a way that results in mixtures that do not support growth as specified above.

6.20.5. Potentially hazardous food does not include:
   a. An air-cooled hard-boiled egg with shell intact;
   b. A food with an aw value of 0.85 or less;
   c. A food with a PH level of 4.6 or below when measured at 75°F (24°C);
   d. A food in an unopened hermetically sealed container, that is commercially processed to achieve and maintain commercial sterility under conditions of non-refrigerated storage and distribution; and
   e. A food for which laboratory evidence demonstrates the rapid and progressive growth of infectious or toxigenic microorganisms or the growth of S. enteritidis in eggs or C. botulinum cannot occur, such as food that has an aw and a PH that are above the levels specified above and that may contain a preservative, other barrier to the growth of microorganisms, or a combination of barriers that inhibit the growth of microorganisms.
   f. A food that may contain an infectious or toxigenic microorganism or chemical or physical contaminant at a level sufficient to cause illness, but that does not support the growth or microorganisms as specified above.

6.21. **Ready-to-eat food:** Food that is in a form that is edible without additional preparation or heat treatment to achieve food safety.

6.22. **Refuse:** Solid waste not carried by water through the sewage system.

6.23. **Sanitization:** Effective bactericidal treatment by heat or chemical means that destroys pathogens on surfaces treated. Acceptable sanitization methods are:
   a) Immersion for at least one-half minute in clean hot water at a temperature of not less than 170 °F (76.7 °C);
   b) Immersion for at least on minutes in a clean solution containing at least 50 parts per million of available chlorine at a temperature of at least 75 °F (23.9 °C);
   c) Immersion for at least one minute in a clean solution containing at least 12.5 parts per million of available iodine and having PH not higher than 5.0 and at a temperature of at least 75 °F (23.9 °C);
   d) Immersion for at least one minute in a solution of 200 parts per million quaternary ammonium at a temperature of at least 75 °F (23.9°C)
   e) Immersion in a clean solution containing any other food grade chemical sanitizing agent that will provide the equivalent bactericidal effect of a solution containing at least 50 parts per million of available chlorine as hypochlorite which have been held at a temperature of at least 75 °F (23.9 °C) for one minute;
   f) Treatment with culinary-quality steam in the case of equipment too large to sanitize by immersion, but in which steam can be confined; or
   g) Swabbing fixed equipment with a solution of at least twice the strength required for that sanitizing solution when used for immersion.

6.24. **Shall/Must:** The program element is a mandatory requirement.
6.25. **Should/Can/Could/May/Might**: The program element is a best practice, but not mandatory requirement.

6.26. **Ware washing**: The cleaning and sanitizing of utensils and food contact surfaces of equipment.

6.27. **Water activity (a_w)**: is a measure of the free moisture in a food, is the quotient of the water vapor pressure of the substance divided by the vapor pressure of pure water at the same temperature, and is indicated by the symbol a_w.

6.28. **Symbols, acronyms and abbreviations used in this procedure:**

6.28.1. Apps – Applications
6.28.2. PHF—Potential Hazardous Food
6.28.3. HACCP – Hazard Analysis and Critical Control Plan
6.28.4. CL—Critical Limit
6.28.5. CCP—Critical Control Point
6.28.6. °F – Degree Fahrenheit
6.28.7. °C – Degree Centigrade
6.28.8. EHS – Environment, Health & Safety

---

7. **Revisions History & Change Details:** Go back to cover page – click HERE

<table>
<thead>
<tr>
<th>Rev</th>
<th>Author</th>
<th>Release Date</th>
<th>Change Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Helen Qiao</td>
<td>N/A</td>
<td>New Standard</td>
</tr>
</tbody>
</table>

**Approver(s)**

- Bruce Johnson: SVP, CHRO
- Eric Austermann: VP, SOCIAL & ENVIRONMENT RESP
- Jia Tang: Sr. Director, Global EHS

**Distribution List**

Global Document Control Distribution