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# FOOD SERVICE MANAGER'S CERTIFICATION MANUAL

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CITY OF HOUSTON  
HOUSTON HEALTH DEPARTMENT  
Bureau of Consumer Health Services  
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**AGENDA:**

Check in: 7:00 a.m. – 7:30 a.m.

Lesson 1 8:00 a.m. – 9:00 a.m.

Lesson 2 9:00 a.m. – 9:45 a.m.

Break 9:45 a.m. – 10:00 a.m.

Lesson 3 10:00 a.m. – 11:00 a.m.

Lunch 11:00 a.m. – 12:00 p.m.

Lesson 4 12:00 p.m. – 12:30 p.m.

Lesson 5 12:30 p.m. – 1:30 p.m.

Lesson 6 1:30 p.m. – 2:00 p.m.

Break: 2:00 p.m. – 2:15 p.m.

Lesson 7 2:15 p.m. – 2:45 p.m.

Lesson 8 2:45 p.m. – 3:15 p.m.

Lesson 9 3:15 p.m. – 3:45 p.m.

Exam 3: 45 p.m. – 4:45 p.m.

## INTRODUCTION

Food establishment owners, managers, supervisors, and employees must work as a team to achieve the highest standards of food safety. The emergence of food safety practices for cut leafy greens, food allergens, and a new employee exclusion illness has brought new challenges to the food industry. A new requirement for food establishments is to ensure that all food employees (handlers) complete a food handler training course, effective September 1, 2016. This is the opportunity for food establishments to showcase the training of their staff by demonstrating their knowledge of providing safe food to consumers.

### PRICE OF FOODBORNE ILLNESS

Per year:  
76,000,000 = Reported Illnesses    325,000 = Hospitalized    5,000 = Deaths

Food servicing, food processing, and other food related operations lose between \$10 – \$83 billion dollars annually due to food borne illness outbreaks. The repercussions include:

- Loss of customers, employees, sales, vendors       Lawsuits
- Loss of reputation       Retraining of employees       Negative media/internet exposure
- Closure of the operation by the regulatory authority and/or business losses

#### *RISK FACTORS*

Practices or procedures that pose the greatest potential for foodborne illness.

The five (5) most common risks factors responsible for foodborne illness:

- Food from Unsafe Sources
- Improper Holding/Time and Temperature
- Inadequate Cooking
- Poor Personal Hygiene
- Contaminated Equipment/Prevention of Contamination

#### *PEOPLE AT RISK*

Certain groups of people such as infants and pre-school age children, elderly adults, pregnant women, individuals with weakened immune systems, along with taking certain medications have a higher risk for contracting foodborne illness. For this group, the length and severity of a foodborne illness is much greater.

#### *HIGHLY SUSCEPTIBLE POPULATION (HSP)*

Groups of persons who are more likely than the other populations in general to experience foodborne disease because they are:

1. Immunocompromised, pre-school age children or older adults.
2. Obtaining food at a facility that provides services such as custodial care, health care, or assisted living such as a child or adult day care center, kidney dialysis center, hospital, nursing home, or senior center or group residence.

Highly susceptible population (HSP) facilities shall not serve or offer for sale in a ready-to-eat form:

- Raw animal foods/raw fish/raw-marinated fish/raw molluscan shellfish/steak tartare;
- Partially cooked animal foods/lightly cooked fish/rare meat/soft cooked eggs (made from raw shell eggs)/ meringue; and
- Raw seed sprouts.

**LESSON 1**

## FOODBORNE ILLNESS, FOOD HAZARDS, TIME AND TEMPERATURE CONTROL FOR SAFETY

**MICROORGANISMS ARE THE PRIMARY CAUSE OF FOODBORNE ILLNESS**

Microorganisms are the primary cause of foodborne illness and are identified by type: bacteria, virus, mold, yeast, and parasites. Bacteria can cause foodborne illness or spoil foods. For example, mold is a spoilage microorganism while *Shigella* is a disease-causing microorganism. Some bacteria are good for us. For example their presence in our digestive tracts breaks down wastes in our body. Some molds are used to make the antibiotic penicillin, and are utilized in the ripening of cheese. Yeasts are used for breads and beer fermentation.

*FOODBORNE ILLNESS*

A disease carried or transmitted to people by food containing harmful substances.

## TYPES OF FOODBORNE ILLNESS

*1. Foodborne infection:* caused by eating food contaminated with microorganisms and once in the body, the organisms continue to reproduce and cause illness. Examples: Salmonellosis and Listeriosis. Viruses include Hepatitis A, and norovirus. Parasites include *Trichinella* and *Anisakis*.

*2. Foodborne intoxication:* caused by consuming food containing a toxin or chemical. Toxins may be caused by bacteria due to waste products released by the microorganisms. Examples: *Clostridium botulinum* or *Staphylococcus aureus*. Toxins are also the natural part of some plants such as mushrooms. Seafood toxins include scombroid and ciguatera. Chemicals and poisons such as cleaning compounds, pesticides, sanitizers, and metals cause intoxications.

*3. Toxin-mediated infections:* the result of eating food containing harmful microorganisms which produce toxins while in the intestinal tract. Examples: *Shigella* and Shiga toxin-producing *E. coli*.

*FOODBORNE DISEASE OR ILLNESS OUTBREAK*

The occurrence of two or more cases of a similar illness resulting from the ingestion of a common food.

*INCUBATION PERIOD*

The amount of time it takes for the symptoms of a foodborne illness to appear once the contaminated food is consumed. The incubation period for most microorganisms causing foodborne illness is 4 to 24 hours. Typical symptoms of foodborne illness include diarrhea, nausea, and vomiting.

*BACTERIA*

Living microorganisms each made up of a single cell. They are present everywhere: in the human body, raw foods, plants, soil, fish, air, pests, and water. Disease - causing bacteria, or **pathogens** feed on the nutrients in TCS foods and multiply very rapidly at favorable temperatures while other bacteria discharge toxins as they multiply or die – both resulting in foodborne illness.

*Toxins* are the waste product released by microorganisms into foods.

*REPRODUCTION*

Bacteria reproduce by cell division. One cell becomes two, two - four, four-eight, and so on. This doubling process is called **binary fission**. Under ideal conditions, bacteria multiply at an explosive rate. A single cell becomes billions in 10 – 12 hours.

*VEGETATIVE AND SPORE FORMS*

Bacteria may exist in two forms – a vegetative state or spore state.

In a **vegetative** state, bacteria are actually reproducing, consuming nutrients, and producing waste products known as toxins. In a **spore** state, bacteria form a thick wall within the cell for protection against harsh environmental conditions such as boiling or freezing.

<b>VEGETATIVE BACTERIA</b>	<b>SPORE BACTERIA</b>
Can be killed by cooking temperatures.	Are resistant to boiling and freezing temperatures. Can not be killed by cooking. Difficult to destroy.
May be resistant to refrigeration temperatures.	
May survive freezing.	May survive freezing.
Cook foods to required temperatures to kill vegetative bacteria.	Properly thaw, cool, and reheat foods to prevent spores from returning to a vegetative state.
Associated foods: Chicken salads and gravies, eggs, puddings, meats, poultry.	Associated foods: Foods from the soil such as potatoes, rice. Gravies, meat dishes.
Associated practices: Cross contamination from raw meats to ready-to-eat foods, improper hand-washing, leaving foods at room temperatures.	Associated practices: Improper cooling, cooling in large batches, reheating on steam tables, slow cooking, cooking in large batches.
Associated microorganisms: Salmonella, Staphylococcus aureus.	Associated microorganisms: Clostridium perfringens, Bacillus cereus.

*HAZARDS*

Food hazards (anything that can cause an unacceptable health risk by illness or injury to a consumer), are divided into three categories: biological, chemical, and physical. When safe foods are exposed to hazards, contamination occurs. **Contamination is the presence of harmful substances or organisms in food.**

- **Biological:** disease-causing microorganisms commonly associated with humans and raw food. *Example: Food worker handles ready-to-eat foods with their bare hands.*
- **Chemical:** chemical substances enter into the food. *Example: Soft drinks become contaminated by copper when a backflow prevention device is not installed on carbonated beverage dispensers.*
- **Physical** - foreign objects that are not intended to be a part of the ingredients get into the food. *Example: Staples from a message board falls onto sandwiches below.*

**BACTERIAL GROWTH FACTORS (F.A.T.T.O.M.)**

There are six factors needed for bacterial growth:

**F**      **A**      **T**      **T**      **O**      **M**  
food    acidity    time    temperature    oxygen    moisture

**FOOD**

TCS (Time and Temperature control for safety) foods are most likely to support the rapid and progressive growth of harmful bacteria. They are high in proteins and carbohydrates such as meats, eggs, cooked pasta, fish.

**ACIDITY (pH)**

The pH of a food is the measure of its acidity or alkalinity. Water is neutral. Bacteria grow best in food that has little or no acid. Highly acidic foods, (foods with a pH of 4.6 or less), such as vinegar and citrus fruits may inhibit bacterial growth.

**TIME**

Bacteria need time to reproduce by dividing every 10 to 20 minutes under ideal conditions. For example, one bacterium can multiply to over 1,000,000 in **4 hours**.

**TEMPERATURE**

Bacteria grow best when foods are held at temperatures between **41° F. and 135° F. (5° C. and 57° C.)**. = "**Danger Zone**"

**OXYGEN**

Bacteria may grow with or without the presence of oxygen.

- Aerobes: grow only when supplied with free oxygen. Example: *Listeria monocytogenes*
- Anaerobes: grow only when free oxygen is absent or excluded such as in a vacuum-sealed jar or pouch, in a can or in a large, deep pot of food.) Example: *Clostridium botulinum*
- Facultative: grow with or without the presence of free oxygen. Example: *Salmonella*

**MOISTURE**

Bacteria need water for growth. The availability of water is described as **water activity (Aw)**. Foods with a water activity of **0.85 or more** contain sufficient moisture for rapid bacterial growth.

The factors a food service manager uses to control bacterial growth are:

**TIME & TEMPERATURE.**

**Time and Temperature Control for Safety (TCS)**  
(formerly potentially hazardous food)

Time and temperature Control for Safety Food (TCS) is required to limit pathogen growth or toxin production. Foods that require time and temperature for safety (TCS) is animal food that is raw or heat-treated; plant food heat-treated or consists of raw seed sprouts, cut melons, cut tomatoes or mixture of cut tomatoes, fresh leafy greens that have been cut, shredded, sliced, chopped or torn. This does not include harvest cut. TCS foods also include any garlic-and-oil mixtures that are not modified in a way that results in a mixture that do not support growth of pathogens or toxins.

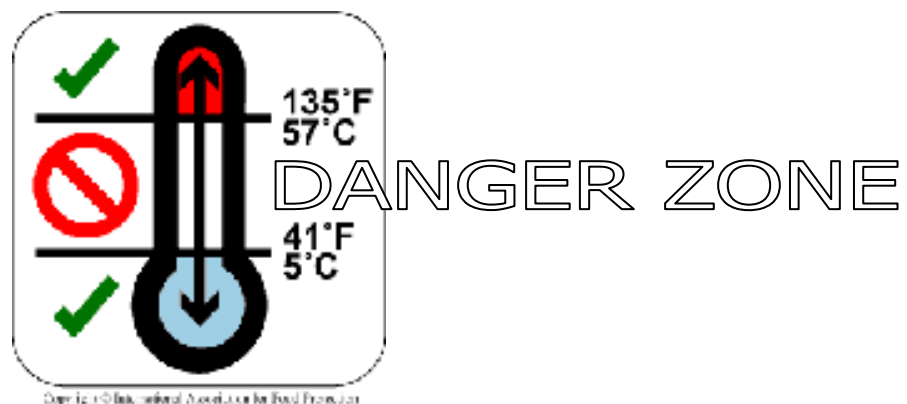
**TCS FOODS**

Milk and milk products	Shell eggs	Baked or boiled potatoes
Poultry (chicken, duck, quail, ratites, turkey, balut)	Fish	Cooked rice
Tofu	Meats: Beef, Pork, Lamb	Heat treated plant food
Soy - protein foods	Shellfish and crustacean	Garlic and oil mixtures
Raw sprouts and seeds	Cut melons Cut leafy greens Cut tomatoes	Cooked beans

**Foods not Included as Time/Temperature Control for Safety**

Air cooled hard boiled eggs with shell intact, pasteurized egg with shell intact treated to destroy all viable Salmonella.
Food with pH/Aw interaction as designated as non PHF/TCS ( see charts in Appendix 1)
Food in an unopened hermetically sealed container that has been commercially processed.
Food that has been demonstrated by product assessment or laboratory evidence that time and temperature control for safety is not required.
Any food that does not support the growth of microorganisms.

TCS foods must not remain at temperatures within the danger zone, (four hours or more). Rapid bacterial growth and/or toxin production can occur, leading to unsafe food. (Except when using time without temperature control – see Lesson 3)



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## FOODBORNE ILLNESSES

FI= INFECTION IN=INTOXICATION TM=TOXIN MEDIATED V= VIRUS P = PARASITE ST=SEAFOOD TOXIN

ILLNESS/PATHOGEN	FACTS/SOURCE/IMPLICATED FOODS	SYMPTOMS/PREVENTATIVE MEASURES
<b>Listeriosis</b> Listeria monocytogenes FI	Unpasteurized milk and soft cheese; ready-to-eat deli meats, smoked fish.	Fever muscle aches, nausea, diarrhea. Affects pregnant women, fetuses, elderly, immunocompromised persons. Can cause infant death. Use pasteurized dairy products; thorough cooking, proper refrigeration temperatures.
<b>Salmonellosis</b> Salmonella FI	Eggs, poultry, unpasteurized milk or juice, cheese, contaminated raw fruits and vegetables.	Stomach pain, diarrhea, nausea, fever, vomiting. Thorough cooking of meats and poultry; avoid cross contamination of ready-to-eat foods; hand washing.
<b>Vibrio vulnificus</b> FI	Raw or undercooked shellfish such as oysters. Shellfish from contaminated waters; infection of open wound in contaminated waters. Unapproved product source; cross contamination, temperature abuse.	Nausea, diarrhea, chills, fever, abdominal cramps. Thorough cooking of shellfish, prevent temperature abuse; obtain foods from approved sources.
<b>Bacillus cereus gastroenteritis</b> Bacillus cereus IN	Found in soil. Toxins produced. Meats, stews, gravies, rice dishes. Improper cooking and cooling.	Abdominal cramps, watery diarrhea, nausea. Thoroughly cook, hold, and cool foods.
<b>Staph Food Poisoning</b> Staphylococcus aureus IN	Toxin is produced in TCS foods left at room temperature; found in skin, hair, nose and throat. Ready-to-eat foods contaminated by hands; (potato, tuna, chicken, shrimp salads), deli meats.	Mimics the flu; vomiting, diarrhea, stomach cramps, nausea. Proper handwashing; cover wounds on hands/arms. Avoid cross contamination. Hold, cool, reheat foods properly.
<b>Botulism</b> Clostridium botulinum IN	Bacteria will produce spores in an anaerobic (no oxygen) environment. Improperly canned foods, reduced oxygen packaged foods; baked potatoes in aluminum foil.	Vomiting, diarrhea, blurred vision, double vision, difficulty swallowing, muscle weakness. Can result in respiratory failure and death. Thorough holding, cooling, and reheating.
<b>E. coli 0157: H7</b> Escherichia coli (Shiga- toxin producing) TM	Undercooked beef (hamburger), game meat, unpasteurized milk and juice, raw fruits and vegetables, contaminated water.	Severe bloody diarrhea, abdominal pain and vomiting. Little or no fever. Can lead to kidney failure. Thoroughly cook ground meats/beef; clean raw produce; proper handwashing. Prevent cross contamination between raw and ready-to-eat foods.

## FOODBORNE ILLNESSES

FI= INFECTION IN=INTOXICATION TM=TOXIN MEDIATED V= VIRUS P = PARASITE ST=SEAFOOD TOXIN

ILLNESS/PATHOGEN	FACTS/SOURCE/IMPLICATED FOODS	SYMPTOMS/PREVENTATIVE MEASURES
<b>Perfringens poisoning</b> Clostridium perfringens TM	Meats, poultry, gravy, dried or precooked foods, time/temperature abused foods. Improper cooling and reheating of foods.	Intense stomach pains, watery diarrhea. Proper rapid cooling, holding, and reheating. Cook in small batches.
<b>Shigellosis</b> Shigella TM	Transmitted by fecal-oral route from an infected food worker not washing hands then handles RTE foods; milk and dairy products; poultry, potato salad; foods left at room temperature.	Abdominal pains, bloody diarrhea, fever, chills, vomiting. Wash hands thoroughly after using the toilet. No bare hand contact with ready-to-eat foods. Proper food temperatures.
<b>Hepatitis A</b> Hepatitis A Virus V	Transmitted by fecal-oral route. Chief food source: shellfish harvested from contaminated seawater. Cross contamination from raw to ready-to-eat foods; poor hygienic practices of food workers.	Diarrhea, dark urine, jaundice, flu0like symptoms ; fever, headache, nausea, abdominal pain. Wash hands thoroughly after using the toilet. Obtain shellfish from approved sources.
<b>Norovirus Gastroenteritis</b> Norovirus (also called Norwalk Virus) V	Fecal-oral route from contaminated drinking water, RTE foods handled by an infected food handler, shellfish from contaminated waters.	Nausea, explosive and projectile vomiting, abdominal pains, diarrhea, headache and sometimes fever. No bare hand contact with RTE foods; proper handwashing; cook foods thoroughly; use approved shellfish.
<b>Scombroid Toxin</b> Histamine ST	Histamine is the toxin produced by the bacteria due to time/temperature abuse. Implicated Fish: tunas, mahi, bluefish, sardines, mackerel, amberjack and abalone.	Flushing and sweating, a burning or peppery taste, nausea, and headache. Symptoms may include facial rash, hives, edema, diarrhea and abdominal cramps. Use approved sources; time and temperature controls.
<b>Trichinosis</b> Trichinella spiralis P	Infected meats containing the larvae invades the small intestines in humans. Infected pork; raw or undercooked pork/pork products; wild game; Raw or undercooked wild game such as bear.	Nausea, vomiting, diarrhea, facial swelling. Muscle soreness and pain. Cook pork and game meats thoroughly. Obtain from approved sources.
<b>Anisakiasis infection</b> Anisakis worm P	Larval forms are commonly found in the abdominal cavities cold-water fish. Pacific salmon, herring, cod. Sushi, ceviche, lightly-cooked filets. Undercooked fish, improper freezing/refrigeration.	Tingling/tickling sensation in the throat. Severe abdominal pain, nausea, vomiting. Properly freeze fish for parasite destruction. Cook thoroughly.

**VIRUSES**

- Transmitted person to person, people to food, and from people to food contact surfaces.
- Do not reproduce or grow on foods.
- Hepatitis A and Norovirus are examples.
- Spread to food/equipment when a person fails to hand wash after visiting the restroom.
- May be contracted by consuming shellfish contaminated in sewage-polluted harvesting areas; sewage backups into sinks; and from contaminated water.

**PARASITES**

- Living organisms that live within or feed off another life form. Some animals and fish are hosts.
- Consuming the parasite by eating foods such as beef, pork, fish; game meats that have been improperly cooked; and from contaminated/untreated water.
- Trichinosis is associated from eating undercooked pork and wild game meats.
- Larvae invades the small intestine and discharges new larvae that are carried by blood into muscle tissue and imbedded.
- Parasites can be killed by freezing and, eliminated through proper cooking.

**FUNGI**

- Groups of organisms that include mushrooms, microscopic molds, and yeasts.
- Found in the soil, air, water, plants, and in some foods such as blue cheese.
- Not all mushrooms are edible.
- Some are poisonous - obtain products from approved sources and avoid wild mushrooms.

**MOLDS**

- Spoilage organisms, grow well on all types of food regardless of water activity or pH.
- Grow on breads, fruits, salty ham/bacon, and cheeses.
- When visible, mold is fuzzy or slimy, causes foods to become discolored, and produce a foul odor or taste. The fuzzy growth on molds can be blown through the air onto other foods.
- Discard foods contaminated by mold.
- Foods containing molds that are part of the natural part of the product such as Gorgonzola, Blue, Brie, and Camembert cheeses are safe to eat.

**YEASTS**

- Spoilage organisms used for the production and processing of beer, bread, and wine.
- Produce carbon dioxide needed for bread to rise.
- Grow well in acidic foods with low water activity such as jams, jellies, fruit juices, sauerkraut, and honey.
- As yeast slowly consumes food, it produces carbon dioxide and alcohol (the resulting odor), and may appear as a pink discoloration, or slime. Foods containing yeast must be discarded.

**BIOLOGICAL AND SEAFOOD TOXINS**

- Poisons produced by pathogens, plants, or animals occur naturally in seafood, plants, and mushrooms, - not caused by the presence of microorganisms.
- Foodborne intoxication occurs.
- Scombroid poisoning occurs when fish such as swordfish, tuna, and mackerel are not maintained at proper temperatures. Plants such as rhubarb leaves, uncooked fava beans, wild mushrooms, or jimsonweed have been responsible for foodborne intoxication.

## CHEMICAL HAZARDS

Food operation chemicals, pesticides, food additives, preservatives, and toxic metals, are examples of chemical hazards that can lead to foodborne illness.

### *Food Operation Chemicals*

Cleaning products, sanitizers, polishes, and lubricants often used in the food operation and can contaminate foods, equipment, and utensils when stored or used improperly.

- Use according to the manufacturers label instructions.
- All chemicals must always be properly labeled and stored separate from food, food equipment, utensils, single use articles, and linens.
- Any lubricants used in the operation must be made for food service equipment.

### *PESTICIDES*

Pesticides enter the food supply when applied directly to plants/crops to protect them from insects and fungus. Foods may have toxic levels of pesticide remaining on them. Pesticides utilized improperly in the food establishment may contaminate both food and equipment.

- All pesticides and germicides must be accurately labeled, maintained in their original container, and stored separate from food and food contact materials.
- Pesticides should be applied by a pest control operator.

### *ADDITIVES*

Additives are agents used to enhance the flavor of foods or to keep them fresh longer - include sulfiting agents. The establishment may not apply sulfiting agents to fresh fruits and vegetables intended for raw consumption or, to a food considered to be a good source of vitamin B1 or, to sell/serve fresh fruits and vegetables (except grapes) that have been treated with sulfiting agents before receipt by the food establishment.

Written notification must be provided by food establishments that serve or sell foods containing any sulfite preservative, by one of the following methods:

- A conspicuously posted sign listing the foods containing any sulfite preservative.
- Listing on a menu or other written notice clearly stating each food containing any sulfite preservative.
- Written notice on a label affixed to the container or wrapper of food containing any sulfite preservative.

### *TOXIC METALS*

Toxic metal poisoning from copper, lead, zinc, brass, and cadmium occur when acidic foods and juices are placed in these containers and then consumed. Lead is used to make pitchers and tableware; copper is found in pots and pans; zinc in galvanized garbage containers and tubs.

### *LEAD*

Ceramics, china, crystal, and decorative utensils such as hand painted ceramic from China that are used in contact with food shall be lead free or contain levels of lead not to exceed 0.5 – 3.0 mg/L (based on the utensil category).

Food establishment operators should utilize the following guidelines to eliminate the use of unsafe lead - based utensils in their operation:

- Acquire, install, and utilize food safe/approved utensils and equipment (NFS approved)

- Imported pottery containing high levels of lead and must not be used for food storage or preparation. If the pottery is imported, check for lead content with a test kit purchased online or at a hardware store.
- Look for safety labels – “Safe for food use”
- Adhere to warning labels on pottery: “Not For Food Use”, “Plate May Poison Food” or “For Decorative Use Only”.
- Pottery that has a chalky/dusty residue or gray powder on the glaze after washing has been compromised – unsafe for use.
- Pottery with lead contamination can not be made safe by repeated washings or boiling water.

### **PHYSICAL HAZARDS**

Physical hazards occur when foreign objects are accidentally introduced into food. These objects include broken glass, equipment/tool parts, fingernails, hair, jewelry, band aids, dust/dirt, can shavings, and staples. Some physical hazards are a natural part of the food such as leaves, twigs, bones, and scale which are expected to be removed prior to service to the consumer. Physical hazards cause injuries such as cuts, bleeding, choking, or broken teeth. Inspect, monitor, and maintain all aspects of the food operation as a safeguard from physical hazards.

## LESSON 2

## FOOD HANDLERS AND EMPLOYEE PRACTICES

*FOOD HANDLER TRAINING*

A food handler (food employee) is an individual who works with unpackaged food, food contact surfaces, and food equipment or utensils.

Houston Food Ordinance-Sec.20-52(b)(1-5) Requires a food handler education and training program to include: employee knowledge, responsibilities, and basic food safety principles. All food employees shall successfully complete a food handler training course within 60 days of employment. Each food establishment is to maintain on the premises a certificate of completion of the food handler course for each employee effective September 1, 2016. Certificates are valid for 2 years. Food handler certificates obtained from an accredited State of Texas or similar course approved by the Conference for Food Protection are recognized in Houston and throughout the state.

*EMPLOYEE HEALTH*

Employee health and hygienic practices have a direct impact on the safety of foods and the spread of microorganisms to co-workers as well as consumers. Bathe daily before work, comb and keep neatly trimmed hair on the scalp and face, and wear clean clothes/uniforms/hair restraints.

*Communicable disease* is an illness spread from person to person or animal to person by direct or indirect contact.

*CONDITIONAL EMPLOYEE:* A potential food employee to whom a job offer is made, conditional upon responses to subsequent medical questions or examinations designed to identify potential ready done in compliance with Title 1 of the Americans with Disabilities Act of 1990.

*What To Report To The Person In Charge*

Report any symptoms or illnesses to the person in charge  
 Person in charge must do everything to ensure that employees comply.  
 Report certain symptoms and illnesses that can be transmitted through food

Report following symptoms to the person in charge: vomiting, diarrhea, jaundice, sore throat w/fever, lesion containing pus or infected open wound.

*WHAT TO REPORT TO THE PERSON IN CHARGE AND REGULATORY AUTHORITY*  
 (THE BIG 6 )

- ✓ Norovirus
- ✓ Hepatitis A virus
- ✓ Shigella
- ✓ Shiga toxin-producing Escherichia coli
- ✓ Salmonella typhi
- ✓ Non-typhoidal salmonella



**REQUIRES  
 EXCLUSION  
 OF  
 EMPLOYEE !!!**

- Report the following high risk conditions (associated with the "BIG 6")
  - a) Employee is suspected of causing, or being exposed to, a confirmed disease outbreak; or
  - b) Employee lives in the same household as a person diagnosed with a disease; or
  - c) Employee lives in the same household as a person who attends or works in a setting where there is a confirmed outbreak.

### **EXCLUSION OF EMPLOYEE**

The infected employee will be **excluded** (prohibit from working as a food employee or entering a food establishment except for areas open to the general public) if the food employee is diagnosed with an illness due to any of the six illnesses listed above. Exclude employees with diarrhea, vomiting, or jaundice.

Exclude the food employee serving in a highly susceptible population establishment, who is experiencing gastrointestinal illness symptoms or who meets high-risk conditions.

### **RESTRICTION OF FOOD EMPLOYEE**

Restrict an employee to assigned duties away from exposed food and clean utensils if the employee has lesions containing pus such as in a boil or infected wound; has persistent sneezing, coughing or runny nose that causes discharges from the eyes, nose or mouth; sore throat/fever. Employees shall not engage in duties, which bring them in contact with exposed food, clean food equipment/utensils, linens and unwrapped single-service articles and single-use articles.

### **REINSTATING AN EXCLUDED EMPLOYEE**

The person in charge may remove an exclusion of a food employee diagnosed with an infectious agent if:

- an approval from the regulatory authority is provided and;
- the food employee provides written medical documentation from a physician licensed to practice medicine, that the food employee is free of the infectious agent.

### **NOTIFICATION OF HEALTH OFFICER**

The permit holder or person in charge of a food establishment is required to promptly notify the City of Houston health officer whenever a food employee is diagnosed with any of the six illnesses listed above.

### **FORM 1-B Conditional Employee or Food Employee Reporting Agreement**

The purpose of this agreement is to inform conditional employees or food employees of their responsibility to notify the person in charge when they experience any of the conditions listed so that the person in charge can take appropriate steps to preclude the transmission of foodborne illness. See page 74 for the form.

**CONTAMINATION EVENT: Cleanup of Vomit and Diarrheal Events**

- ⇒ Potential for the spread of harmful pathogens in the establishment. **Critical item violation.**
- ⇒ Responding in a timely manner reduces the likelihood of food contamination and exposure to customers/employees/ food/ surfaces.
- ⇒ Establishments must have written procedures for employees to follow when responding to contamination events.

STEPS FOR CLEANING CONTAMINATION EVENTS



Segregate the Area



Wear disposable gloves



Disposable cover gown/apron/mask recommended



Wipe with towels. Dispose in plastic garbage bag.



Mixture of chlorine bleach: (5.25%) per gallon of water.

Norovirus Precautions

- Apply bleach solution to the affected area – allow to dry for 10 minutes. Dispose of remaining sanitizer solution once cleaning is completed.
- Discard gloves, mask, apron, in a plastic bag.
- Dispose of or clean and disinfect tools/equipment used to clean the vomit/fecal matter.
- Properly wash hands thoroughly.
- Discard any foods that may have been exposed.



**HANDWASHING**

Unwashed hands is a dangerous practice that causes foodborne illness outbreaks. Eliminate bare hand contact with ready-to-eat foods by wearing single use gloves, using tongs, deli tissue, knives, forks, spoons, spatulas, or other approved food handling devices or procedures.

*WHEN TO WASH HANDS*

- ✓ **Before** starting work/engaging in food preparation; handling clean utensils equipment, linens; changing into disposable gloves.
- ✓ **During** work as often as is necessary to keep hands clean; when switching between working with raw foods and ready-to-eat foods.
- ✓ **After** visiting smoking ; coughing/sneezing, eating, or drinking; handling trash; any other activities, that may contaminate hands.



***\*The FDA recommends double handwashing after using the toilet. Human waste is a dangerous source of contamination.***



*HAND WASHING SUPPLIES*

- ✓ Potable running water at a temperature a minimum of 100° F.
- ✓ Cleaning compound (bar/liquid/gel).
- ✓ Disposable paper towels, a continuous towel system that supplies the user with a clean towel, heated air hand-drying device or a hand drying device that employs an air-knife system that delivers high velocity, pressurized air at ambient temperatures.
- ✓ A waste can for disposable towels.
- ✓ A handwashing sign, poster, or icon as a reminder of handwashing at all hand-washing lavatories used by employees.



Thoroughly wash hands and the exposed portions or their arms (or prosthetic devices) for a total of at least 20 seconds.

- ✓ Turn on water and apply cleaning compound;
- ✓ Using vigorous friction on the surfaces of the lathered fingers, finger tips, between fingers, hands, and arms for at least 10-15 seconds, then;
- ✓ Thoroughly rinsing under clean, running warm water; followed immediately by
- ✓ Thoroughly drying the hands and arms with disposable towels or a heated air hand-drying device.
- ✓ Turn faucets off with disposable towel to avoid re-contaminating hands.

*HANDWASHING REMINDERS*

- Food preparation, utensil washing or mop sinks are not approved for handwashing or for hand washing supplies. Keep utensils, equipment, cloths, foods out of the hand lavatory.
- Managers are required to train food employees in the proper handwashing procedures, monitor, and enforce handwashing policies.

*HAND SANITIZERS*

An approved hand sanitizer may be utilized after hand washing but not as a substitute. Hand sanitizers must be approved (according to FDA regulations – refer to City of Houston Food Ordinance: Sec. 20-12.8 (d)).

- Safe and effective when applied to human skin;
- Safe food additives when applied to bare hands that will come into direct contact with food.

*GLOVES*

Single-use gloves may be used for one task such as working with ready-to-eat foods or raw animal foods. Discard gloves when removed, damaged, or soiled. The use of gloves does not eliminate handwashing. Cloth and slash resistant gloves are not to be used in direct contact with ready-to-eat foods.



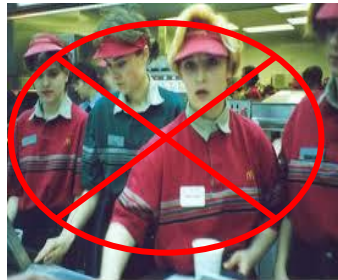
*Clothing*

The outer clothing (uniform/apron) of all employees must be clean to prevent contamination of food, equipment, utensils, linens, and single use/single service articles. Refrain from wiping hands/utensils on clothing and aprons. Remove aprons before entering the restroom.



*HAIR RESTRAINTS*

While handling food or utensils, wear effective hair restraints and clothing that covers body hair to prevent contamination of food or food-contact surfaces. A cap, hat, or hair net that effectively covers and holds hair in place.



*HANDS, FINGERNAILS, JEWELRY*

Food employees, while preparing food, unless wearing an intact food globe may not wear fingernail polish, artificial nails or jewelry, including medical identification jewelry on their hands or arms. A plain band style ring is allowed.



YES: Fingernails trimmed, filed, maintained- edges and surfaces cleanable/not rough.



NO: False nails, nail jewelry, polish, Unless wearing intact gloves.



NO: Jewelry, including watches, rings, bracelets, medical information jewelry on hands or arms. Except for plain ring.

*EXCEPTIONS*

Hair restraint and jewelry requirements do not apply to employees such as counter staff who serve beverages or packaged foods or to host staff and wait staff, if they present a minimal risk of contaminating food, clean equipment, utensils and linens, or unwrapped single service articles.

*EMPLOYEE EATING, DRINKING, AND SMOKING*

Employees are not allowed to eat, drink, or smoke while engaging in food preparation activities. This includes chewing gum or tobacco. Eat or drink only in a designated dining or break area. An employee may drink from a closed non-spillable beverage container. Smoking is not permitted while engaging in food activities and, adhere to City ordinance prohibiting smoking in enclosed public places.

*Handling prohibition.* Food employees may not care for or handle animals that may be present such as patrol dogs, service animals, or pets that are allowed as specified in Section 20-21.28(f) of this code. Food employees with assistance animals may handle or care for their assistance animals, and food employees may handle or care for fish in an aquarium or molluscan shellfish or crustacea in display tanks, and wash their hands as required.

### LESSON 3

#### FOOD FLOW AND FOOD PROTECTION

The flow of food is the path that foods take through a food establishment operation until served or sold to the consumer.



⇒ *PURCHASING*

- Purchase all foods from approved sources/vendors who have local/state/federal licenses.
- Foods made in private homes or unregulated facilities are not acceptable will be discarded
- All foods/containers/packaging must be properly labeled with name of food, list of ingredients and food allergens.
- Foods in hermetically sealed containers must be prepared in a regulated food processing establishment.

⇒ RECEIVING

Check foods as they are received to determine that they are from approved sources, delivered at the required temperatures, protected from contamination, unadulterated, and accurately presented.

- Inspect incoming shipments of foods to ensure that they are in sound condition, free from spoilage, filth, or other contamination and, safe for human consumption. Quickly move foods to proper storage areas.
- Time and temperature control for safety foods shall be free of evidence of previous temperature abuse.

REJECT

- Broken/cracked eggs
- TCS foods received at temperatures in the danger zone
- Thawed or partially thawed frozen foods
- Dented, bulging, rusty, or leaking cans. Torn packaged, wrapped foods.
- Mold or slime on foods. Discolored, soured, off-odor foods.
- Wet or torn packaged foods.
- Products such as meats, eggs, poultry, or shellfish with no inspection tags/stamp.

## FOOD LABELS

All pre-packaged food labels must include:

1. The common name of the product.
2. Name and address of the manufacturer.
3. List of ingredients in descending order by net weight (Ingredient statements requirements: size of letters 1/16 of an inch or larger, components of ingredients, certified colors identified, and use of preservatives statement).
4. Net quantity of contents (weight).

Labels must be provided in English however, any additional languages on the label must bear the same information.

Bulk food that is available for consumer self-dispensing shall be prominently labeled with the following information in view of the consumer:

- Name of the food source and for each major food allergen contained in the food unless the food source is already part of the common name.

## GOVERNMENTAL INSPECTION

- The United States Department of Agriculture (USDA) is responsible for inspecting all meat and poultry in interstate commerce.
- Meat that is inspected by the State of Texas can only be sold in the State of Texas.
- Poultry must be inspected by either a federal or state agency. Fowl are inspected for disease before slaughter. Inspected products will have a state or federal seal on the meats or boxes.

## MILK

Fluid milk and fluid-milk products used or served shall be pasteurized and meet the Grade A quality standards. Milk and products derived from milk, are susceptible to contamination with a variety of diseases-causing bacteria such as *Escherichia coli O157:H7*, *Salmonella* and *Listeria monocytogenes*, and provides the rich medium for their growth. Milk may be received at 45° F. or below but stored and maintained at 41°F. or below.

## SHELLFISH

- Temperature

Shellfish may be received at 41°F. or below during shipment from a supplier but must be cooled at 41°F. within 4 hours and be maintained at 41°F. Shucked shellfish must be in compliance with Texas Molluscan Shellfish Rules. Shucked shellfish must be iced down or on drained ice and maintained at 41°F

- Storage

Shellfish must not be commingled with shellstock from another container with different certification numbers, different harvest dates or different growing areas as indicated on the bag or label or other food products. Store shellfish at least 6" above the floor to prevent contamination from water which might accumulate on the floor, or from splash from foot traffic.

- Product Identification/Approved Source

Fresh and frozen shucked molluscan shellfish must be packed in nonreturnable packages that bear a legible label identified with the name and address of the original shellstock processor or packer and the certification number issued by law. Packages of less than ½ gal. must contain a "sell by" date. Packages of more than ½ gal. must contain the date shucked. Shellstock must be reasonably free of mud, dead shellfish, and broken shells. Discard dead shellfish or shellstock with badly broken shells.

- Records

Retain shellfish tags for 90 days from the date the container is emptied. Keep tags in chronological order correlated to the date when, or dates which the shell stock are sold or served. Shucked shellfish sales records must be maintained to identify the source; the date sold, and lot identification. Information must be made available for inspection or copying by the health officer.

- Molluscan Shellfish

Obtain from sources according to law and the requirements specified in the U.S. Department of Health and Human Services, Public Health Services, Food and Drug Administration, National Shellfish Sanitarian Program Guide for the Control of Molluscan Shellfish. Shall be received in refrigerated equipment or on ice at 45°F or less and cooled to 41°F within 4 hours.

- Retail Display

Shellstock and shucked shellfish for display may be removed from the original container and be displayed in drained ice or held in a display container maintained at 41° F. for dispensing to the consumer according to TFER § 228.64(b)(1-2).

#### FISH

Fish that are received for sale or service must be:

- ✓ Commercially and legally caught or harvested; or
- ✓ Approved for sale or service by the regulatory authority
- ✓ Must be frozen on the premises or by a supplier if intended for consumption in their raw, ready-to-eat, raw marinated, partially cooked, or marinated-partially cooked fish form.

#### FREEZING OF FISH INTENDED TO BE CONSUMED RAW - PARASITE DESTRUCTION

Prior to service or sale of fish in a ready-to-eat form, raw, raw-marinated, partially cooked, or marinated partially cooked fish must be frozen for parasite destruction. **Examples include: sushi, ceviche, poke, and similar ready-to-eat fish consumed in the form indicated above.** If the establishment conducts the freezing, record the freezing temperature/time and retain the records for 90 calendar days beyond the time of service or sale of fish. If frozen by the supplier, a written agreement stipulating the temperature and time may substitute for the records.

#### FREEZING TEMPERATURES

A written statement from the supplier must be provided stipulating that the fish supplied have been frozen throughout to - 4° F. (-20° C) for 168 hours (7 days) in a freezer; frozen solid at - 31° F. (- 305 C) or below for 15 hours, or frozen at -31° F (-305 C) or below until solid and stored at 4°F. (- 20° C) or below for a minimum of 24 hours.

Reduced oxygen packaged fish that bears a label indicating that it is to be kept frozen until time of use shall be removed from the reduced oxygen environment.

**FREEZING EXCEPTIONS:** Molluscan shellfish; certain tuna species yellow fin, bluefin southern, bigeye, and bluefin northern); scallop product consisting of the shucked adductor muscle; aquacultured fish; and fish eggs removed from their skein - may be served or sold in a raw form without freezing.

#### SHELLS

Mollusk and crustacean shells may not be used more than once as serving containers; or if not the original shell, the shell must be sanitized prior to use.

## FRUITS AND VEGETABLES

- Produce is to be obtained from approved sources under USDA regulations.
- Produce: herbs and spices in their natural or dried state and vegetables, fruits, nuts, berries, grains, honey, watermelons and other melons and cantaloupes and other edible plant material in their natural state.
- Produce are subject to contaminants from pesticides, soil, irrigated water containing untreated sewage/manure, and contact with animals and humans.
- Washing fruits and vegetables prior to consumption helps remove dirt, bacteria, pests, and residual pesticides. Wash fruits and vegetables under cold – luke warm potable running water. When practical, utilize a scrub brush. Separate the leaves of vegetables such as lettuce, spinach, and cabbage, and rinse individually.
- Wild Mushrooms- Obtain from sources where each mushroom is individually inspected and found to be safe by an approved mushroom identification expert.
- Chemicals used to wash or peel raw, whole vegetables must be approved additives including ozone is an approved antimicrobial agent.

## EGGS

Raw shell eggs must be received and placed in refrigeration at an air temperature of 45° F. or less. Use only clean whole eggs, with shell intact and without cracks or checks. Substitute pasteurized liquid, frozen, or dry eggs or egg products for raw shell eggs in the preparation of:

✓

- ✓ Uncooked foods
- ✓ Caesar salad, hollandaise/béarnaise sauce, non-commercial mayonnaise, eggnog, ice cream and egg fortified beverages;
- ✓ Raw shell eggs used in a highly susceptible population establishment if the eggs are broken, combined in a container, and not immediately cooked or if the eggs are held before service after cooking.

Protect foods at all times including while being received, stored, prepared, displayed, served, or transported. Sources of potential contamination include: improper temperatures, improper storage/preparation/cooking of raw and ready-to-eat foods, poor hygienic practices, toxic materials, dust, cross-contamination or spoiled products, distressed merchandise, recalled products, insects, rodents, unclean equipment, bare hand contact with ready-to-eat foods, unnecessary handling, coughs and sneezes, overhead drip page from condensation and flooding.

## CROSS CONTAMINATION

Cross contamination occurs when a food is exposed to a contaminant from another source. It is the transfer of microorganisms from one food to another; from people to foods; or from equipment to foods.

**Examples:**

Storing raw meats/poultry above ready-to-eat foods, including fruits and vegetables.

Food worker handling trash and then foods with bare hands.

Slicing raw poultry on a cutting board followed by a ready-to-eat food without washing and sanitizing both the knife and cutting board prior to contact with the ready-to-eat food.

## PREVENT CROSS CONTAMINATION BY:

- Washing, rinsing and sanitizing food-contact surfaces of utensils and equipment after each use and following any interruption of operations;
- Storing food in packages, containers or wrappings;
- Cleaning sealed container lids before opening;
- Separating raw meats/poultry/seafood/produce from ready-to-eat foods
- Separating raw animal foods from each other during the flow of food except when combined as ingredients
- Separate raw animal foods from other foods. Frozen commercially processed and packaged raw animal food shall be stored or displayed with or above frozen, commercially processed and packaged ready-to-eat food.

## FOOD PROTECTION DURING STORAGE

- Store containers of food at least 6" above the floor except metal pressurized or boxed beverage containers, milk containers in plastic crates, cased food packaged in cans, glass or other waterproof containers can be stored on a clean floor if the food container is not exposed to floor moisture. Store bulk packaged foods in warehouses 6 inches away from the walls and 6 inches above the floor.
- Containers of food may be stored on dollies, racks, pallets, or skids less than 6 inches above the floor provided that equipment such as pallet jacks or forklift trucks are on the premises. Shipping containers for milk or produce crates as storage racks or shelf supports, is prohibited.

## DO NOT store food:

- Under exposed or unprotected sewer or water lines; under open stairwells.
- Outside of the establishment (including outdoor refrigeration and walk-in units).
- In locker, dressing room, garbage room or mechanical rooms.
- In toilet rooms or vestibules.

## TEMPERATURE AND MEASURING DEVICES

Temperature measuring device = a thermometer, thermocouple, thermistor, or other device that indicates the temperature of food, air, or water.

ACCURATE TO +/- 2°F. IF SCALED IN FAHRENHEIT ONLY; OR IF SCALED IN CELSIUS ONLY OR DUALY SCALED ACCURATE TO +/- 1°C.

Small - diameter probes must be provided to measure the temperatures of thin foods such as meat patties and fish fillets.

Ambient air and water temperature measuring devices scaled in Fahrenheit must be accurate to +/- 3° F. or if scaled only in Celsius, must be accurate to +/- 1.5° C.





MEASURING INTERNAL TEMPERATURES

Measure all final cooking and reheating temperatures by means of a dial or digital pocket metal-stem indicating thermometer or thermocouple.

Wash, rinse, sanitize and air dry product thermometers before and after each use to eliminate any potential cross-contamination. Insert metal stem into the geometric center of the food (the center or the thickest part of the food). Wait 10-60 seconds for the indicator to stabilize before reading the temperature of the food. Record the reading on a time and temperature log form.



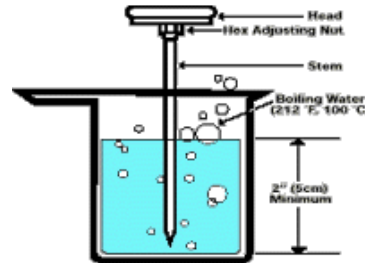
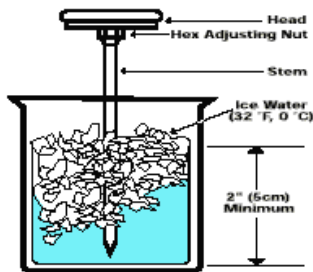
CALIBRATION OF A DIAL TYPE STEM THERMOMETER

❖ Ice Point Method

Obtain a glass of crushed ice, and add cold water to make ice water. Insert the thermometer and shake or stir in the glass, making sure more ice is inserted as needed. Adjust the thermometer calibration nut with a tool so it reads 32° F.

❖ Boiling Point Method

In boiling water (when water bubbles) insert the thermometer - it should read 212° F.



REFRIGERATED STORAGE

Each mechanically-refrigerated unit storing TCS foods must have a numerically-scaled indicating thermometer accurate to +/- 3°F if scaled in Fahrenheit only or if thermometer is dually scaled in Celsius and Fahrenheit, accurate to +/- 1.05° C. in the intended range of use.

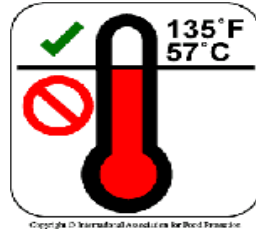
COLD HOLDING

All refrigerated storage units (walk-in, reach-in coolers, in-line) used for holding refrigerated foods must be in compliance with a unit that maintains internal food temperatures at 41° F. or below.



## HOT HOLDING

The internal temperature of TCS foods requiring hot storage shall be 135°F or above except otherwise indicated. Hot holding units for TCS foods must be provided with a numerically scaled indicating thermometer and a numerically scaled product thermometer must be provided and used to monitor internal food temperatures being stored in hot food storage facilities.



## FROZEN STORAGE

Keep frozen foods at 0°F or less. Ice, which will be consumed, must never be used as a cooling medium for food, food containers or food utensils. Never allow packaged or unpackaged TCS foods to be stored in water or undrained ice **except** whole raw fruits or vegetables, and tofu may be immersed in ice or cold water. Shipping containers of raw fish and chicken received immersed in ice may remain in drained ice during storage while awaiting preparation, display, service or sale.

## THAWING TCS FOODS

- In refrigerated units not to exceed 45° F. or 41° F.; **or**
- Completely submerged under potable running water at a temperature of 70° F. or below, with sufficient water velocity to float off loose food particles. The temperature of the thawed portions of TCS foods must not rise above 45° F. for more than 4 hours; **or**
- As part of the conventional cooking process; **or**
- In a microwave oven only when food will be transferred to continuous conventional cooking; or when the entire, uninterrupted cooking process takes place in the microwave oven **or**
- Using any other safe procedure that thaws a portion of frozen ready-to-eat food that is prepared for immediate service in response to an individual consumer's order.

**HAZARD: Improper thawing provides the right environment for surviving pathogens to grow to dangerous levels and/or produce toxins**

## FOOD PROTECTION DURING PREPARATION AND COOKING

TCS foods including fruits and vegetables shall be cooked to heat all parts of the food to a temperature of at least 135° F. **except:** raw animal foods such as meat, fish, poultry, unpasteurized eggs, and foods containing these raw animal foods must be cooked to a temperature and for a time according to the chart on the next page.

## READY-TO-EAT FOODS (RTE)

Ready-to-eat foods pose the highest risks to consumers if precautions are not taken to prevent contamination. These foods are more vulnerable to contamination by bare hand contact, causing foodborne illness. Ready-to-eat foods are edible without any further washing, cooking, or preparation. Examples include sushi, raw/washed whole or cut fruits and vegetables; deli meats, fully cooked foods, spices, seasonings, bread/cakes, dry fermented sausages, and jerky.

**BARE HAND CONTACT WITH READY-TO-EAT FOODS**

Food workers may not contact exposed, ready-to-eat foods with their bare hands and shall use single-use gloves, tongs, forks, deli paper, or other approved utensils. An establishment except a highly susceptible population facility, may utilize bare-hand contact with ready-to-eat foods if the following three procedures are in place.

**Step No. 1:** Documentation is maintained at the food establishment that the food employees acknowledge they have received training in the following areas:

- 1) risk of contacting the specific ready-to-eat foods with their bare hands;
- 2) proper handwashing methods
- 3) when to wash their hands;
- 4) where to wash their hands
- 5) proper fingernail maintenance;
- 6) prohibition of jewelry;
- 7) good hygienic practices
- 8) employee health policies (employee illness, exclusions, restrictions).



**Step No. 2:** Documentation is maintained at the food establishment that food employees contacting ready-to-eat foods with bare hands utilize two or more of the following control measures to provide additional safeguards:

1. double handwashing;
2. nail brushes;
3. a hand sanitizer after handwashing;
4. incentive programs that assist or encourage food employees not to work when they are ill, such as paid sick leave; or
5. other control measures approved by the regulatory agency.

**Step No. 3:** Documentation is maintained at the food establishment that corrective actions are taken when steps 1 and 2 are not followed. The documentation has to include the plan for corrective action. The documentation has to be written, but may be included as part of the establishment's HACCP monitoring logs.

**COOKING TCS Foods**

<b>FOOD</b>	<b>COOKING</b> Temperature & Time	<b>REHEATING</b> Minimum Temperature & Time (minimum temperature to be reached within 2 hours)
. Fruits and vegetables cooked for hot holding	<u>135° F. (57° C.)</u>	165° F. (74° C.) for 15 seconds
<ul style="list-style-type: none"> <li>• A raw or undercooked whole muscle, intact beef steak, not served in a food establishment serving a highly susceptible population and labeled to indicate that it meets the definition of whole muscle intact beef as specified in section 20-21.1(b)(11) of this Code</li> </ul>	Shall be cooked on both the top and bottom to a surface temperature of 145°F (63° C) or above and a cooked color change is achieved on all external surfaces.	
<ul style="list-style-type: none"> <li>• Raw animal foods not specified below</li> <li>• Raw shell eggs that are broken and prepared for immediate service</li> <li>• Fish, meat, game animals and exotic animals commercially raised for food, and game animals and exotic animals subject to a voluntary inspection program that are not specified below</li> <li>• <u>Pork</u></li> </ul>	145°F (63°C) for 15 seconds	165° F. (74° C.) for 15 seconds
<ul style="list-style-type: none"> <li>• Ratites</li> <li>• Injected meats</li> <li>• Any of the following if they are comminuted: fish, meat, game animals and exotic animals commercially raised for food, and game animals and exotic animals subject to a voluntary inspection program</li> <li>• Raw shell eggs not prepared as specified above</li> </ul>	155°F (68°C) for 15 seconds; or 150°F (66°C) for 60 seconds; or 145°F (63°C) for 180 seconds; or 158° F (70°C) for less than 1 second (instantaneous)	165°F (74°C) for 15 seconds
<ul style="list-style-type: none"> <li>• Poultry, baluts, other than ratites</li> <li>• Game animals and exotic animals that are live caught and are subjected to a voluntary inspection program</li> <li>• Stuffed fish/meat/ poultry/pasta/ratites</li> <li>• Stuffing containing fish/meat/poultry/ratites</li> </ul>	165°F (74°C) for 15 seconds	165°F (74°C) for 15 seconds
<ul style="list-style-type: none"> <li>• Whole beef roast,</li> <li>• Whole corned beef roast</li> <li>• Whole pork roast and cured pork roast</li> </ul>	Shall be cooked in an oven that is preheated to and held at the temperature specified for the roast's weight and the type of oven, as applicable, in Table 20-21.4-2 of this Code and shall be cooked so that all parts of the roast are heated to the temperature and for the holding time that corresponds to that temperature in Table 20-21.4-3 of this Code.	Un sliced portions, if cooked in accordance to the Cooking Temperature and Time, at left, may be reheated in the same manner.
<ul style="list-style-type: none"> <li>• Raw animal foods cooked in a microwave oven and allowed to stand for two minutes</li> </ul>	165° F. (74°C.) and allowed to stand for two minutes.	165° F. (74° C.) for 15 seconds
. Ready-to-eat food taken from hermetically-sealed container or intact package from inspected food processing plant.	_____	<u>135° F. (57° C.)</u> without time duration.

**MICROWAVE COOKING**

Microwave raw animal foods to 165°F or above.

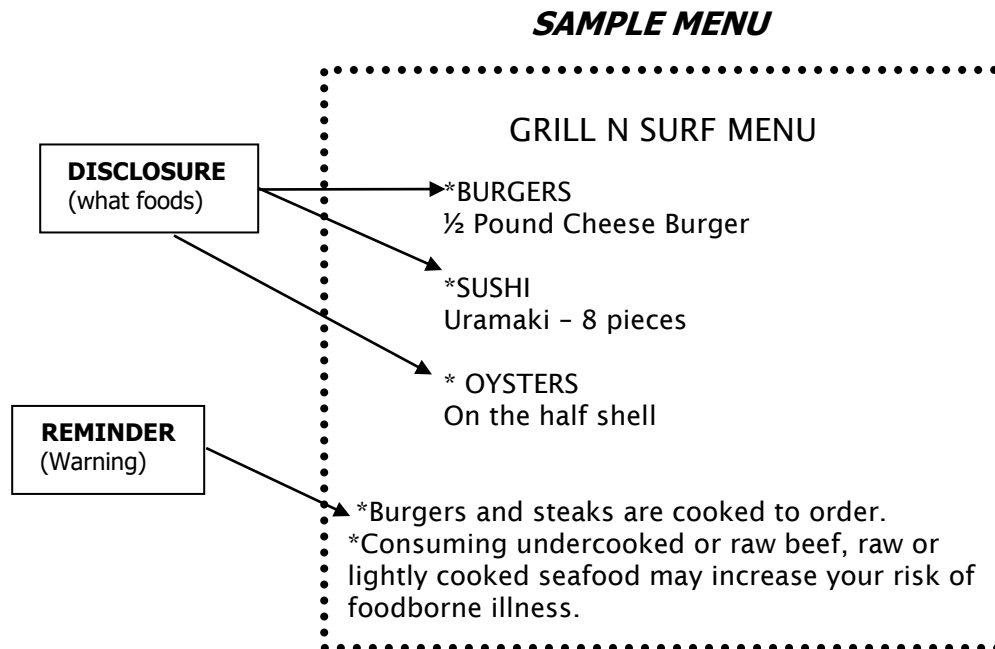
- Cover, rotate or stir throughout or midway through cooking to compensate for uneven heat distribution, and
- Allow 2 minutes stand time to obtain temperature equilibrium once heated.

**CONSUMER ADVISORY**

A consumer advisory is a public notification informing consumers of the risk of eating raw or undercooked foods. It is required if an animal food such as beef, eggs, fish, milk, pork, poultry, or shellfish is served or sold raw, undercooked or without otherwise being processed to eliminate pathogens, either in a ready-to-eat form or as an ingredient in another ready-to-eat food. The advisory consists of two parts – disclosure and reminder.

- ❑ **Disclosure** must include a description of the foods that are raw or undercooked; or identification of the animal-derived foods by an asterisk(\*) to a footnote that states that the items are served raw or undercooked, or contain raw or undercooked ingredients.
- ❑ **Reminder** is the written statement regarding the health risk of consuming raw or undercooked animal foods. The reminder must include by an asterisk(\*) of the animal derived foods that require a disclosure that states:  
 "Written information regarding the safety of these items is available upon request"; or  
 "Consuming raw or undercooked meats, poultry, seafood, shellfish, or eggs may increase your risk for foodborne illness"; or  
 "Consuming raw or undercooked meats, poultry, seafood, shellfish, or eggs may increase your risk for foodborne illness, especially if you have certain medical conditions".

The advisory may be placed on a menu, brochure, deli case, label statements, table tents, placards, or other effective written means.



## 8 SPECIFIC FOODS KNOWN AS MAJOR FOOD ALLERGENS

*Major Food Allergen:* A food protein that causes an adverse immune response. These include any food ingredients that contain protein derived from these foods. Even a tiny amount of the **allergen-causing food** can trigger signs and symptoms such as: swelling of the lips and face, respiratory tract swelling of the throat or mouth, difficulty breathing, abdominal cramps.



MILK



EGGS



FISH



CRUSTACEAN SHELLFISH



PEANUTS



TREE NUTS



SOY BEAN



WHEAT

The person in charge is responsible for making sure that food employees are **trained in basic food safety principles including allergen awareness** as it relates to their assigned duties.

### EXAMPLES OF ALLERGEN AWARENESS When Preparing, Cooking, Plating, and Serving

- Practice proper sanitization! Wash, rinse, and sanitize cookware, utensils and equipment after contact with a major food allergen.
- Don't use the same ladle, pair of tongs, scoop, and other utensils to serve more than one specific dish.
- Consider using color coded serving utensils to designate dishes free of - or containing - the "Big Eight"
- **Do not simply remove** the offending ingredient, there may still be trace amounts of the protein that causes allergic reactions in the food. Remake the order.
- Communicate with the customer and management to determine if a selected food item poses an allergic reaction potential.

## TIME AS A PUBLIC HEALTH CONTROL



The use of time only, rather than time in conjunction with temperature as a public health control may be utilized for a working supply of TCS foods before cooking, or for ready-to-eat TCS foods displayed or held for service. TCS foods may be held out of temperature control for up to four hours or six hours. **Written procedures must be prepared in advance, maintained in the food establishment, and available to the health officer upon request.**

### Time without Temperature Control ⇒ 4 hours

- The internal temperature of 41°F. or less when removed from cold holding temperature control or 135°F. or above when removed from hot holding temperature control.
- Food marked to indicate the time that is four hours past the point when food is removed from temperature control.
- Food is cooked and served, or served at any temperature if ready-to-eat, or discarded within 4 hours when removed from temperature control.
- Foods in unmarked containers or packages, or marked to exceed the 4 hour limit shall be discarded.

### Time without Temperature Control ⇒ 6 hours

- Food shall have an initial temperature of 41°F. or below when removed from temperature control and not to exceed 70°F. within a maximum time period of 6 hours.
  - Food shall be monitored to ensure that the warmest portion does not exceed 70°F. during the 6 hour period unless an ambient air temperature is maintained that ensures the food does not exceed 70°F. during the 6 hour period.
  - Food shall be marked to indicate: the time when the food is removed from 41°F. or less cold hold temperature control and; the time is six hours in the point when the food is removed from cold holding temperature control.
  - The food is discarded if the temperature exceeds 70°F. or;
  - Cooked and served, served at any temperature if ready-to-eat, or discarded with a maximum of 6 hours from the point in time when removed from 41°F. or less cold holding temperature control.
  - Food in unmarked containers or packages or marked with a time that exceeds 6 hours will be discarded.
- A food establishment that serves a highly susceptible population may not use time only, as a public health control for raw eggs.

### PROTECTION OF FOOD DURING DISPLAY AND SERVICE

TCS foods must be kept at an internal temperature of 41°F or lower or at a temperature of 135°F or above during display and service, except that rare roast beef can be held for service at a temperature of at least 130° F.

## FOOD ON DISPLAY

Protect food on display from consumer contamination by the use of sneeze guards, display cases, packaging, or salad bar protective devices. Nuts in the shell, whole raw fruits and vegetables that are intended for hulling, peeling or washing by the consumer before consumption are not required to have protective devices when displayed. Provide a food dispensing utensil for each container displayed at a consumer self-service unit such as a buffet or salad bar.

Dispensing utensils shall be used by employees or provided to consumers who serve themselves. During pauses in food preparation and dispensing, utensils shall be: stored in the food with the dispensing utensil handle extended out of the food; stored in a clean protected location; stored in water at 135°F (57°C), or in running water with velocity to flush particles to a proper drain for moist foods such as ice cream or mashed potatoes.

## LEFTOVER FOODS

- Portions of leftover food on a customer's table can not be re-served.
- Packaged non - TCS foods such as crackers and condiments, that are unopened and, are in sound condition, may be re-served, except in a highly susceptible population food service establishment.
- Packaged or unpackaged foods, once served, can not be donated.

## ICE

- Ice for consumer use must be dispensed only by employees using scoops, tongs or through an automatic ice dispensing machine. Ice scoops and other food dispensing utensils are to be stored on a clean surface or in the ice or food, with the handle extended out.

## BULK FOODS DISPLAY/SERVICE

Bulk unpackaged food displayed and sold from a self-service container is authorized under the following provisions:

- The self service container must be provided with a tight-fitting lid that is securely attached to the container and kept closed except during service or refill;
- The container's lid and other utensils are constructed of easily cleanable material; kept clean and in good repair;
- A utensil with handle is provided and used for dispensing of food; and
- A conspicuous sign must be posted in the immediate display area that instructs the customer on the proper dispensing procedure.
- Raw, unpackaged animal food, such as beef, lamb, fish, poultry may not be offered for consumer self-service.
- Consumer self-service operations should be provided with suitable dispensing utensils that protects the food from contamination and monitored by food handlers trained in safe operating procedures.

## REUSE OF TABLEWARE

- Food employees may *not* reuse soiled tableware including single-service articles to provide second portions or refills to the consumer.
- Self-service consumers may *not* reuse soiled tableware when returning to salad bar or buffet for additional food. A card, sign, or other effective means of notification must be displayed to notify consumers that clean tableware is to be used upon return to self-service areas such as salad bars or buffets.
- Beverage cups and glasses are exempt from this requirement **if refilling is a contamination-free process**. Consumers cannot refill beverage cups and glasses except by using self-service automatic beverage dispensing equipment.



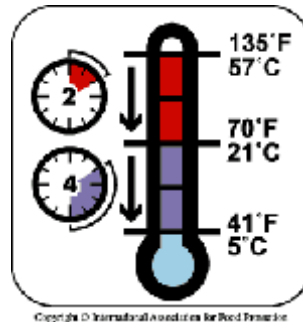
## COOLING TCS FOODS

**Rapid cooling** after cooking is essential for TCS foods, especially when prepared in large volume. Cooling TCS food does not kill the *Clostridium perfringens* spores that multiply rapidly when temperature/time is abused. Cooked TCS food requiring refrigeration must be **rapidly cooled** from 135 °F. to 70° F. within 2 hours; and from 135 °F. to 41° F. or less within 6 hours.

## COOLING

**135° F. to 70° F. in 2 HOURS**

**135 °F. to 41° F. in 6 HOURS**



- The food temperature must be lowered rapidly from 135°F to 70° F. in 2 hours because disease-causing pathogens multiply rapidly between these temperatures.
- and within a total of 6 hours from 135 °F. to 41° F.

**\*\*FOOD CODE 2017: THE INITIAL 2-HOUR COOL IS A CRITICAL ELEMENT OF THIS COOLING PROCESS.** AN EXAMPLE OF PROPER COOLING MAY INVOLVE COOLING FROM 135° F. TO 70° F. IN 1 HOUR, IN WHICH CASE 5 HOURS REMAIN FOR COOLING FROM 70° F. TO 41° F.

OR 135° F. TO 70° IN 2 HOURS IN WHICH CASE 4 HOURS REMAIN FROM COOLING FROM 70° F. TO 41° F.

## COOLING METHODS

- Place foods in shallow pans with food depth of 2 inches or less.
- Separate large quantities of heated foods into smaller or thinner portions.
- Use ice water bath to quick chill; stirring every 15 minutes.
- Use blast chiller equipment.
- Withhold some of the water during cooking from stews or soups; and then add clean ice as an ingredient at the end to replace the water.
- Use containers that facilitate heat transfer: aluminum – excellent; stainless steel – good; plastic or glass – poor
- Using food grade plastic bags - divide food into bags, seal, surround bags with ice to cool rapidly
- Cooling paddles, rapid cooling sticks (food grade).

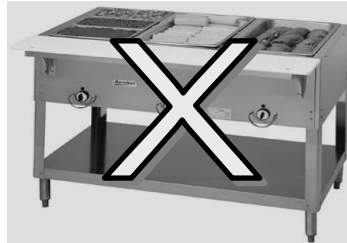


TCS foods must be cooled within 4 hours to 41°F (5° C) or less if prepared from ingredients at ambient temperature such as reconstituted foods and canned tuna.

**REHEATING FOR HOT HOLDING**

Use stoves, grills, steamers, or microwave oven **as the primary heating devices** to rapidly reheat to minimum temperature within 2 hours.

**HAZARD:** Do not use **secondary heating or hot holding devices such as** steamtables, warmers, bainmaries, and crock-pots, for the rapid reheating of TCS foods.



**REMEMBER!!!!**

Improper cooling and reheating of TCS food provides favorable conditions allowing **Clostridium perfringens** spores to activate and grow into vegetative cells. Rapid cooling/reheating is required to control the growth of Clostridium perfringens.

FOOD	REHEATING TEMPERATURES
TCS foods including fruits and vegetables	165° F. (74° C.) for 15 seconds
Ready-to-eat food taken from hermetically sealed container or intact package from an inspected food-processing plant.	135° F. (57° C.) without time duration
Raw animal foods cooked in microwave	165° F. (74° C.) for 15 seconds
Cooked and refrigerated food that is prepared for immediate service to an individual consumer order.	Prepare for consumer as ordered. No temperature requirement.

## DATE MARKING

Date marking is utilized to ensure food safety. Refrigerated TCS foods kept for extended periods of time are subject to bacterial growth, especially *Listeria monocytogenes*. Date marking is the monitoring tool that the operator must utilize to ensure the consumption or disposal of Ready-to-eat/Time and Temperature controlled Foods (RTE/TCS) within four or seven days.

Foods must be date marked based on all of the following conditions:

- the food is TCS
- the food is ready-to-eat
- the food requires refrigeration
- the food is held for more that 24 hours
- prepared on premises or commercially processed and opened.

## 1. On-premises preparation

Ready-to-eat TCS foods, prepared (cooked or raw) and refrigerated for more than 24 hours; and Ready-to-eat TCS foods must be marked with the date of preparation - counted as DAY 1

- A total of 7 calendar days or less if kept at 41°F or below the food must be consumed or discarded.

Refrigerated ready-to-eat TCS food prepared and frozen in the food establishment must be marked:

- When the food is thawed, to show that the food must be consumed within 24 hours; **or**
- When the food is placed into the freezer and date marked to show the refrigeration time before freezing which is, including the day of preparation.
  1. 7 calendar days or less from the day of preparation, if kept at 41° F. or less

## 2. Commercially processed food

A container of refrigerated, ready-to-eat TCS food prepared and packaged in a food processing plant must be date marked at the time the original container is opened counted as DAY 1 in the food establishment, to show the opening date and disposition date (discard date/consume-by date) which is:

- A total of 7 calendar days or less from the day the food is prepared or after the original container is opened if kept at 41°F. or less, counting the opening date

## DISPOSITION

Food not consumed by the disposition date must be discarded.

## PREPARE/COLD-HOLD/FREEZE/THAW

Refrigerated ready-to-eat TCS food prepared, frozen, and thawed in the food establishment must be: Consumed within 24 hours of thawing or the food can be held thawed under refrigeration for a total of 7 calendar days or less if kept at 41° F. or less. The refrigerated time it was held before freezing must be marked on the container. Thawed food held refrigerated must not exceed a 7 day shelf life.

DISPOSITION: Food must be discarded if not consumed on or before the most recent date marked on the food container or package if the food is not consumed by that date.

Freezing does not extend the refrigerated shelf life of the ready-to-eat TCS food.

\*Time from preparation, or opening commercial container, to freezing.

Example: The morning of October 1, a chicken was cooked, then cooled, refrigerated for 2 days at 41°F and then frozen. If the chicken is thawed October 10, the food must be consumed or discarded no later than midnight of October 14.

<b>Date</b>	<b>Shelf Life Day</b>	<b>Action</b>
Oct. 1	1	cook/cool
Oct. 2	2	cold hold at 41°F
Oct. 3		Freeze
Oct. 10	3	thaw to 41°F
Oct. 11	4	cold hold
Oct. 12	5	cold hold
Oct. 13	6	cold hold
Oct. 14	7	consume or discard

**FOOD DONATIONS**

Foods previously served to a consumer or foods in heavily rim or seam-dented cans without the manufacturer's complete label shall not be donated. Donated food shall be labeled with the name of the food, the source of the food, and the preparation date of the food.

A TCS food can be donated if:

- The donated food has been kept at the required temperatures, and
- The shelf life of the donated foods do not exceed the disposition date of 4 or 7 days and,
- The donor can substantiate that the recipient has the required facilities to meet the proper storage, holding and reheating requirements of the Food Ordinance.
- The temperature of the food is at or below 41°F at the time of donation and protected from contamination. Hot food must be properly cooled before the time of donation.

**FOOD PROTECTION DURING TRANSPORTATION**

- During transportation, food and food utensils must be kept in covered containers or completely wrapped or packaged.
- During transportation, to another location for service or catering operations, food must be kept at 41°F or below or 135°F or above.

## LESSON 4

### H. A. C. C. P.

#### HAZARD ANALYSIS CRITICAL CONTROL POINTS AND VARIANCES

Hazard analysis critical control point (HACCP) is a systematic approach to the identification, evaluation, and control of food safety hazards used to develop a food process based, food safety plan. The HACCP process identifies critical control points and aids in the development of food process safety control measures. **A HACCP plan is a written document that delineates the formal procedures for following the Hazard Analysis Critical Control principles developed by the National Advisory Committee on Microbiological Criteria for Foods.** HACCP-based food safety systems are designed to help you evaluate and monitor the flow of food from receiving to serving.

A HACCP PLAN CONSISTS OF SEVEN STEPS:

##### 1. IDENTIFY POTENTIAL HAZARDS

Prepare a checklist of steps in the process where significant hazards occur and describe preventative measures to control the hazards. Review recipes, complete flowchart(s). Remember from Lesson 1, the hazards may be biological, physical, or chemical. Review menus and recipes to identify the TCS foods served.

##### 2. IDENTIFY CRITICAL CONTROL POINTS (CCP)

CCP: A critical control points is any step or procedure at which action can be applied and a food safety hazard prevented, eliminated, or reduced to acceptable levels. CCP is usually a preparation step that involves time/temperature or human contact with food.

##### 3. ESTABLISH CRITICAL LIMITS FOR PREVENTATIVE MEASURES

Establish critical limits for preventative measures associated with each identified CCP. There may be several standards for each CCP based on: Houston Food Ordinance and TFER; time/temperature standards; measurable or observable (handwashing).

##### 4. ESTABLISH MONITORING PROCEDURES FOR CONTROL POINTS

Establish procedures for monitoring to adjust the process and maintain control. Check to see that the established criteria at each CCP is met. Focus on the CCP's throughout the entire flow of food; establish what actions must be applied to ensure that critical limits are met; monitor employees carrying out the procedures. For example: Observe that a calibrated, sanitized thermometer is used and inserted into the thickest part of the food.

##### 5. ESTABLISH CORRECTIVE ACTIONS

Establish corrective actions when monitoring indicates that there is a deviation from an established critical limit. Determine corrective actions to be utilized if the criteria are not met for each CCP. Corrective actions may include; continuing with the cooking process, to actions that may reduce the hazard to an acceptable level. Discard the product if at unacceptable levels.

##### 6. ESTABLISH EFFECTIVE RECORD KEEPING SYSTEMS

Establish effective record-keeping procedures that document the HACCP system. Document all CCP's that are monitored, all critical limits, all occasions when criteria are not met and all corrective actions taken. Records should be simple to use and can be maintained easily; develop a record system that may be valuable if a foodborne illness outbreak should occur.

##### 7. ESTABLISH PROCEDURES FOR VERIFICATION THAT HACCP IS WORKING

HACCP plan verification involves periodic review and update. Update the HACCP plan when there are changes in the operation, supplies, menu items, facilities, when new menu items are added and worked into the HACCP plan.

**A variance is a written document issued by the regulatory authority that authorizes a modification or waiver of one or more requirements of the Houston Food Ordinance if in the opinion of the regulatory authority, a health hazard or nuisance will not result from the modification or waiver.**

Variances and HACCP plans are required for some types of specialized food processes or specialized food processing methods such as smoking and curing of food and reduced oxygen packaging of food. Requests for variances and HACCP plans are both required to be submitted for a specialized food processing methods. For other processes or deviations from Houston Food Ordinance, only a variance or a HACCP Plan is required. This page will help you decide if you need to submit both a request for a variance and a HACCP plan to the department for approval--or if an approved variance or an approved HACCP plan will suffice.

Processes that require a formal HACCP plan but not a variance:

- Pooling of eggs in a food establishment that serves a highly susceptible population (nursing home, hospital, day care.) as outlined in section 20-21.1 (b)(4)(b)(c) of the Houston Food Ordinance.
- Preparation of juice packaged in a food establishment must follow the HACCP guidelines in the Houston Food Ordinance as found in section 20-21.1(b) (10) (b) (c).
- Preparation of non-packaged juice in a food establishment that serves a highly susceptible population must follow HACCP guidelines in the Houston Food Ordinance as described in Section 20-21.1(b)(10)(c).
- Reduced oxygen packaging single barrier or Time/Temperature Control Barrier: Cook-chill (food is cooked and then sealed in a barrier bag while still hot); sous vide ( food is sealed in a barrier bag and then cooked: Proper cooking/cooling and maintaining of cold storage are the single barrier.

Specialized Food Processing Methods that require a variance and a HACCP plan:

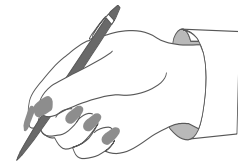
- Smoking food as a method of food preservation
- Curing food (Adding Nitrates & Nitrites)
- Operating a molluscan shellfish life-support system used to store and display shellfish offered for human consumption
- Using food additives or adding components such as vinegar (acidifying foods) as a method of food preservation or to render a food so that it is non-TCS
- Custom processing animals that are for personal use as food and not for sale or service in a food establishment
- Sprouting of seeds or beans such as wheat grass and alfalfa sprouts in the retail establishment
- Packaging food using a reduced oxygen packaging method (ROP) [Except for Clostridium botulinum and Listeria monocytogenes]
- Preparing, serving or transporting food by another method that is determined by the department to require a variance or HACCP plan.

Contents of HACCP PLAN for methods that require a variance or a formal HACCP Plan

- 1) A categorization of the types of TCS foods that are covered by the plan.
- 2) A flow diagram by specific food or category type identifying critical control point and providing information on the following:
  - a) Ingredients, materials, and equipment used in the preparation of a food; and
  - b) Formulations or recipes that delineate methods and procedural control measures that address the food safety concerns involved;
- 3) A statement of standard operating procedures for the plan under consideration including clearly identifying:
  - a) Each critical control point;
  - b) The critical limits for each critical control point;
  - c) the method and frequency for monitoring and controlling each critical control point by the food employee designated by the person-in- charge;
  - d) The method and frequency for the person in charge to routinely verify that the food employee is following standard operating procedures and monitoring critical control points;
  - e) Action to be taken by the person in charge if the critical limits for each critical control point are not met; and
  - f) Records to be maintained by the person in charge to demonstrate that the HACCP plan is properly operated and managed; and
- 4) Additional scientific data or other information if requested.

Use a "Keep Food Safe" Quality Control Checklist

<input type="checkbox"/> RECEIVED - 41°F/135°F <input type="checkbox"/> STORED - 41°F. OR BELOW ; PROTECTED FROM CONTAMINATION <input type="checkbox"/> THAWED – USING PROPER PROCEDURES <input type="checkbox"/> COOKED – TO PROPER TEMPERATURES <input type="checkbox"/> HOT HOLDING - 135°F. OR ABOVE <input type="checkbox"/> COOLED – USE PROPER PROCEDURES <input type="checkbox"/> DATE MARKED - 41°F. / 7 DAYS <input type="checkbox"/> REHEATED - 165°F. OR ABOVE <input type="checkbox"/> GENERAL FOOD SAFETY <hr/>
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## LESSON 5 EQUIPMENT AND FACILITIES

Multi-use equipment, food contact and non-food contact surfaces must be located in a manner that facilitates easy cleaning and prevents contamination, constructed and repaired with safe materials, corrosion-resistant and non-absorbent, smooth, easily cleanable.

### NON FOOD-CONTACT SURFACES

Surfaces of equipment not intended for contact with food, but which are exposed to splash or food debris must be designed and fabricated to be smooth, easily cleanable, free of unnecessary ledges or crevices, and be maintained in a clean and sanitary condition.

### EQUIPMENT AND UTENSIL HANDLING SAFETY

Employees should be trained on proper and safe operations of all equipment to avoid possible accidents. Electrical equipment should be unplugged before cleaning.

### AISLES AND WORKING SPACES

Aisles and working spaces must be unobstructed and of sufficient width to permit employees to perform their duties without contamination of food or food-contact surfaces.

### WOOD

Hard grained wood such as maple, walnut, mahogany, bamboo, and pecan can be used for chopping blocks, cutting boards, salad bowls or bakers tables and shall be maintained smooth, easily cleanable, and in good repair. Wood may be used for single-service articles such as chop sticks, stirrers, or ice cream scoops. Wooden paddles used in confectionery operations or confectionery preparation at high temperatures are permitted. Treated wicker baskets may be used for proofing of bread, provided that the product is fully baked after proofing. The use of wood as a food contact surface under other circumstance is prohibited.

## EQUIPMENT AND UTENSIL CLEANING AND SANITATION

### CLEANING FREQUENCY

Equipment and utensils used for the preparation of TCS foods on a continuous or production line basis, utensils and food-contact surfaces of equipment shall be washed, rinsed, and sanitized at intervals throughout the day or as scheduled based on type and temperature of food and amount of food particle accumulation.





Cleaning and sanitizing must also take place:

- At intervals throughout the day or as scheduled based on type and temperature of food served.
- Before each use with a different type of raw animal food (beef, fish, pork, or poultry) unless raw animal foods that require higher cooking temperatures are prepared after foods that require lower cooking temperatures.
- Each time there is a change from working with raw foods to working with ready-to-eat foods.
- Between the use of raw fruits or vegetables and TCS foods.
- Utensils used with TCS foods and food contact surfaces shall be cleaned throughout the day at least every 4 hours.

Clean food-contact surfaces of grills, griddles and the cavities and door seals of microwave ovens at least once per day. Keep food contact surfaces of all cooking equipment free of encrusted grease deposits and accumulated soil. Clean non- food contact surfaces as often as necessary to keep accumulations of dust, dirt, food particles and other debris.

Clean spoons, knives and forks must be touched only by their handles.

Clean cups, glasses, and bowls, plates and similar items must be handled without contact with the inside surfaces or surfaces that will contact the user's mouth.

#### MANUAL CLEANING AND SANITIZING

A three-compartment sink for manual cleaning and sanitizing, with rounded internal angles, and free of sharp corners or crevices must be provided in each food establishment.

A mobile food unit may have either a two or three-compartment sink.

A utensil-washing sink is not required in a packaged-food-only food establishment.

#### SINK DIMENSIONS

Each compartment of a utensil washing sink is required to be a minimum size of:

**15** inches in WIDTH X **15** inches in LENGTH X **12** inches in DEPTH



#### WASH/RINSE/SANITIZING PROCEDURES

Clean the sinks prior to use and provide hot and cold running water. Each two or three compartment sink shall be large enough to manually permit the complete immersions of all equipment and utensils. Equipment and utensils should be properly pre-flushed, scraped, or pre-soaked to remove gross particles and soil.

- **Wash** in first compartment with hot water and detergent solution at a temperature of at least 110° F. or the temperature specified on the cleaning agent manufacturer's label instructions.
- **Rinse** in the second compartment with clear hot water to remove detergent
- **Sanitize** in the third compartment with water temperature 55°F.-120°F. based on sanitizing solution
- **Air dry** utensils and equipment

Drain boards or easily removable dish tables of adequate size shall be provided for proper handling of soiled utensils prior to washing and for cleaned utensils following sanitizing.

**HOT WATER FOR SANITIZING IN A 3 COMPARTMENT SINK**

When hot water is used for sanitizing, an integral heating device or fixture installed in or under the sanitizing compartment capable of maintaining the water at 171° F. A dish basket of such size and design shall be provided to permit complete immersion of equipment and utensils.

**CHEMICAL SANITIZERS**

NAME	STRENGTH	IN PLACE	IMMERSION TIME	WATER TEMPERATURE			
				pH 10 or less F° C°	pH 8 or less F° C°		
Chlorine	25 ppm	25 ppm	10 seconds	120°	49°	120°	49°
Chlorine	50 ppm	50 ppm	7 seconds	100°	38°	100°	24°
Chlorine	100 ppm	100 ppm	10 seconds	55°	13°	55°	13°
Iodine	12.5- 25 ppm	12.5- 25 ppm	30 seconds	75°	24°	75°	24°
QAC *	Per Label	Per Label	Per Label	75°	24°		
Chlorine and Bromine	25 ppm/ 12.5 ppm	25 ppm/ 12.5 ppm	If strength is below 12.5 ppm, do not use				
Hot water	N/A	N/A	30 seconds	171° F.			

\*(Quaternary Ammonium Compound)

A test kit or devices that accurately measure the parts per million (ppm) concentration of the sanitizing solution shall be provided when chemicals are used.

In-place cleaning of large equipment, rinsing, spraying or swabbing use a sanitizing strength solution for that particular sanitizing solution as described above. A detergent sanitizer may used where there is no distinct rinse between washing and sanitizing steps, the agent applied in the sanitizing step shall be the same agent used in the washing step. Those food establishments using a two-compartment sink as approved, shall use a detergent sanitizer or shall sanitize food-contact surfaces using hot water at 171°F.

**WIPING CLOTHS**

Store moist cloths used for wiping food spills on countertops, tables, food-contact and non food-contact surfaces of equipment in one of the approved sanitizing solutions between uses. Single use disposable sanitizer wipes if used, shall be in accordance with EPA-approved manufacturer's instructions.

**MECHANICAL CLEANING AND SANITIZING**

Cleaning and sanitizing may be done by spray-type or immersion dishwashing or by other types of machines, if it demonstrates that it thoroughly cleans and sanitizes equipment and utensils. Machines and devices shall be properly installed, maintained in good repair. Dishmachines are to be provided with an easily accessible and readable data plate affixed to the machine by the manufacturer to indicate the design and operating specifications.

Dishmachines installed after November 11, 2007 must be equipped to automatically dispense detergents and sanitizers. A visual or audible alarm signal shall be incorporated to verify if the detergents and sanitizers are delivered or not.

Machines using hot water for sanitizing and spray-type dishmachine may be used if the wash water and the pumped rinse water is kept clean and the water is maintained as indicated in the table below:

<b>MACHINE TYPE</b>	<b>WASH TEMPERATURE</b>	<b>FINAL RINSE TEMPERATURE</b>	<b>FINAL RINSE AT DISH LEVEL TEMPERATURE</b>
Single-tank, stationary-rack, dual-temperature	150°F(66°C)	180°F(82°C)	160°F(71°C)
Single-tank, stationary-rack, single-temperature	165°F(74°C)	165° F(74°C)	165° F(74°C)
Single-tank, conveyor	160°F(71°C)	180°F(82°C)	160°F(71°C)
Multiple-tank, conveyor	150°F(66°C)	---	160°F(71°C)
Single-tank, pot, pan, and utensil washer	140°F(60°C)	180°F(82°C)	160°F(71°C)

**TESTING DEVICES**

Test kits are to be available and used to measure the concentration of sanitizer in parts per million or milligrams.

Provide an irreversible registering thermometer or heat sensitive indicating paper traveling through the final rinse chamber to test the final rinse temperature at dish level in the same manner as utensils and equipment.

**DRYING**

After sanitizing, all equipment and utensils shall be air-dried or stored in a self-draining position. The use of towels for drying equipment or utensils is prohibited.

**EQUIPMENT AND UTENSIL STORAGE**

Cleaned and sanitized utensils and equipment shall be stored at least six inches above the floor in a clean, dry location protected from contamination.

Utensils and equipment shall be:

- Air-dried before being stored or placed in a self-draining position
- Glasses and cups inverted
- Covered or inverted wherever practical
- Stored to present the handle of knives, forks, and spoons to the employee or consumer
- Washed and sanitized once used for tasting
- Washed and sanitized in case of unprotected and unused preset tableware

**WATER SUPPLY**

Enough potable water for the needs of the food establishment must be provided from an approved source constructed and operated according to all applicable laws. Potable water is water from an approved source that is suitable for human consumption. An adequate supply of hot and cold running water is essential for food safety and sanitization. Water fountains are properly installed and maintained clean and in good repair.

## WATER UNDER PRESSURE

Water under pressure is required to be provided at all fixtures and equipment that use water in the food establishment. Hot water is required to be at a minimum temperature of 110° F (43°C). at the manual sanitization sinks and hand lavatories.

**No food establishment shall operate without hot and cold running water !!!!**

## SEWAGE

All sewage, including liquid waste, shall be disposed of by a public sewage system or by a sewage disposal system constructed and operated according to all applicable laws. Non-water carried sewage disposal facilities are prohibited.

## PLUMBING

Install properly sized and maintained plumbing according to all applicable laws. Make sure there is no cross-connection between the potable water supply and any non potable or questionable water supply, or any other source of pollution through which the potable water supply might become contaminated.

## BACKFLOW

Install backflow or backsiphonage devices meeting the ASSE (American Society of Sanitary Engineering ) standards at all fixtures and equipment with an air gap at least twice the diameter of the water supply inlet not less than 1 inch. A hose shall not be attached to a faucet unless a backflow prevention device is installed.

## DRAINS

There should be no direct connection between the sewage system and any drains originating from equipment in which food, portable equipment or utensils are placed.

## AIR GAP

An air gap is a physical separation of the potable and non-potable systems (e.g. ice machine, sinks, dishwashing machine, and hand washing sinks) by an air space. The vertical distance between the supply pipe and flood-level rim should be two times (2x) the diameter of the pipe. Drain tubing shall not extend into the floor drain.

## GREASE TRAP

Grease traps located to be easily accessible for cleaning, operation, and maintenance; approved type; and located outside the food establishment unless it is impossible.

## ICE MANUFACTURING

Ice-making machines are located, installed, operated, cleaned and maintained to prevent contamination of ice. Ice manufacturing is food preparation and requires that the ice machine be located and operated in compliance with relevant sections of the ordinance.

## SINGLE SERVICE ARTICLES: STORAGE AND DISPENSING

Store six inches above the floor in closed cartons or containers, which protect them from contamination.

- The storage of single service articles in toilet rooms, vestibules, or under water lines, is prohibited.
- Handle and dispense single service articles in a manner that prevents the contamination of food contact surfaces.

Single service knives, forks, and spoons packaged in bulk must be:

- Wrapped by an employee who has washed his/her hands immediately prior to sorting or wrapping the articles.
- Protected from contamination in a holder and presented to the consumer handle first, if not prewrapped or prepackaged.

Single service articles shall be used only once.

#### TOILET FACILITIES

Install conveniently located, easily cleanable, and accessible toilets for employees at all times. Toilet rooms and vestibules must be completely enclosed, have tight-fitting, self-closing solid doors, kept closed except during cleaning or maintenance, kept in good repair, free of objectionable odors, and not open directly into any room, in which food is prepared or utensils are washed. Toilet rooms shall have at least one covered waste receptacle.

#### HANDWASHING SINKS

Install and locate handwashing sinks to permit convenience use by all employees in food preparation and utensil washing areas, and accessible at all times. Hand washing sinks are required in toilet rooms or vestibules. The food preparation, utensil-washing, and utility sinks are prohibited for handwashing. Handwashing sinks in facilities providing custodial care for pre-school age children that are used only by the children may be provided with cold running water only. If employees use the same lavatory as the children, then both hot and cold running water are required.

#### SUPPLIES AT THE HAND WASHING SINKS

- running water at least 100° F. tempered by a mixing valve or combination faucet.
- water flow for at least 20 seconds without the need to reactivate the faucet.
- hand washing soap (bar /liquid/ gel/ foam)
- sanitary paper towels or a hand-drying device providing heated air or a hand drying device that employs an air-knife system that delivers high velocity, pressurized air at ambient temperatures.
- waste receptacles conveniently located near the sinks for the disposal of paper towels.
- sinks, dispensers, and drying devices are to be kept clean and in good repair.
- sign, icon, or poster that notifies employees to wash their hands at all hand-washing sinks used by food employees.

Automated hand-washing equipment is acceptable, but steam-mixing valves are prohibited. common towels are prohibited.

#### FLOORS

Floors and floor coverings of all food preparation, food storage, utensil-washing areas, walk-in refrigeration units, dressing rooms, toilet rooms and vestibules are required to be: constructed of smooth durable material such as sealed concrete, terrazzo, ceramic tile, flooring of plastic or tight wood impregnated with plastic; non-absorbent and easily cleanable; maintained in good repair; kept clean.

- Carpeting is prohibited in food preparation and utensil/equipment-washing areas, storage rooms, toilet rooms. Sawdust, wood shavings, peanut hulls or other similar materials as a floor covering is prohibited.

#### FLOOR DRAINS

Install properly trapped floor drains in floors that are water flushed for cleaning or that receive discharges of water or other fluid waste from equipment, or in areas where pressure spray methods for cleaning equipment are used. Drain covers are to remain securely anchored in place.

#### WALLS AND CEILINGS

The walls and ceilings of food preparation, food storage, equipment/utensil washing, and consumer display areas where only packaged containerized food products and single service articles are stored and displayed, and bulk food storage areas of warehouses and retail stores must be: light in color, smooth, easily cleanable, non absorbent, in good repair and kept clean. Light color is having a 40% or greater light reflectance value (LRV). Walls, including non-supporting partitions and wall coverings of toilet rooms and vestibules shall be smooth, nonabsorbent, and easily cleanable. Ceilings in restrooms are light in color, smooth, easily cleanable, and non-absorbent.

The walls within water closet compartments, walls within two feet of the front and sides of urinals, hand washing sinks, utensil washing sinks, food sinks, mop or utility sinks and walls subject to damage from moisture shall be provided to a height of at least four feet above the finished floor with a smooth, light-colored impervious surface of a type not adversely affected by moisture or grease. The wall protection in toilet rooms is not required to be light in color. The walls behind or adjacent to cooking equipment utilizing a ventilation hood must have the same type of material as indicated above and extended from the floor to the bottom of the vent hood.

Materials utilized for wall protection shall be fiberglass reinforced plastic (FRP), non-ferrous metal, ceramic tile, plastic laminate or the equivalent for the purpose intended.

#### LIGHTING

- 50 foot-candles of light (540 lux): at a surface where a food employee may be working with food or with utensils or equipment such as knives, slicers, grinders, or saws where employee safety is a factor.
- 20 foot-candles (220 lux) of light at a surface where food is provided for consumer self-service, such as buffets and salad bars, or where fresh produce or packaged foods are sold or offered for consumption and inside equipment such as reach-in and under-counter refrigerators and at a distance of 30 inches (75 mm) above the floor in areas used for hand-washing, utensil-washing, and equipment and utensil storage and in toilet rooms.
- 10 foot candles (110 lux) of light shall be provided at a distance of 30 inches (75 cm) above the floor in walk-in refrigeration units and dry food storage areas and in other areas and rooms during periods of cleaning.
- Install protective shielding (including silicon-coated bulbs) to prevent broken glass from falling onto food, equipment, utensils and single service articles for all artificial lighting fixtures located over/by/or within food storage, preparation, service, display facilities and facilities where utensils and equipment are cleaned/stored. Infrared or other heat lamps are protected against breakage by a shield surrounding and extending beyond the bulb, leaving only the face of the bulb exposed.

## VENTILATION

All rooms shall have sufficient ventilation to keep them free of excessive heat, steam, condensation, vapors, obnoxious odors, smoke and fumes. Heating, ventilation and air conditioning systems shall be designed and installed so that make up air intake and exhaust vents do not cause contamination of food, food contact surfaces, utensils and equipment. Install ventilation systems according to all applicable laws and when vented to the outside, not create unsightly/harmful/unlawful discharge. In new or extensively remodeled establishments, all rooms from which obnoxious odors, vapors or fumes originate shall be mechanically vented to the outside. Ventilation hoods and the ventilation equipment shall be equipped with effective, easily cleanable, easily removable metal filters and must be cleaned as often as necessary.

### **Ventilation hoods which require filters are classified as Type 1.**

Except for dishwashing machines installed under countertops, all commercial dishwashing machines using hot water for sanitizing shall be provided with a ventilation hood and installed according to all applicable laws. **Ventilation hoods which do not require filters are classified as Type 2.**

All cooking equipment except microwave ovens, electric convection ovens, electric rice cookers and ovens of approved type shall be provided with a ventilation hood.

## DRESSING ROOMS AND LOCKER AREAS

Provide rooms or areas for employees who routinely change clothes. If lockers or other suitable facilities are unavailable, create space in a food storage rooms containing completely packaged food/single-service articles.

## LINENS AND CLOTHES STORAGE

Store clean clothes and linens in a clean place and protected from contamination until used. Store soiled clothes and linens in nonabsorbent containers or washable laundry bags until removed for laundering.

## LAUNDRY FACILITIES

Laundry facilities are restricted to the washing and drying of linens, cloths, uniforms and aprons necessary to the operation of the food establishment. Provide a dryer on premises laundering.

## CLEANING EQUIPMENT AND STORAGE

Cleaning tools such as mops, brooms, vacuum cleaners and similar equipment shall be maintained and stored in a manner that does not contaminate food, utensils, equipment, single service articles or linens.

## ANIMALS AND UNNECESSARY TRAFFIC

Live animals are not permitted on the premises of a food service establishment.

Live animals are allowed in the following situations if the contamination of food, clean equipment, utensils, and single-use articles cannot result:

- Edible fish, or decorative fish in aquariums, shell fish or crustacean on ice or under refrigeration, and shellfish and crustacean in display tank systems;
- Patrol dogs accompanying security or police officers in dining, sales, and storage areas, and sentry dogs running loose in outside fenced areas;
- Service animal – a canine that is individually trained to do work or perform tasks for the benefit of an individual with a disability, including a physical, sensory, psychiatric, intellectual or other mental, disability as defined in §437.023 of the Health and Safety Code.

- Service animals controlled by a person with a disability or in training when accompanied by an approved trainer shall be permitted in dining areas and sales areas.
- Pets in common dining areas of institutional care facilities such as nursing homes, assisted living facilities, or residential care facilities at times other than during meals.

The traffic of unnecessary persons through the food preparation, cooking, and utensil washing areas is prohibited.

#### PREMISES

Food service establishments and all parts of the property used in connection with operations of the establishment shall be kept free of litter.

- Walking and driving surfaces of all exterior areas are made from concrete, asphalt, gravel, or similar material and graded to prevent the pooling of water.

#### LIVING AREAS

No operation of a food establishment shall be conducted in a private home. Food service operations shall be completely separated from any living/sleeping quarters by partitioning and solid, self-closing doors.

### **GARBAGE AND REFUSE**

#### CONTAINERS

- Garbage, refuse, returnables, and recyclables shall be kept in durable, easily cleanable, insect/rodent proof containers that do not leak and do not absorb liquids.
- Containers used in food preparation and utensil washing areas must be kept covered after they are filled and while not in use.
- Containers stored outside the establishment, and dumpsters, and compactor systems shall be easily cleanable, provided with tight-fitting lids/doors/covers and kept covered/closed when not in actual use. The area shall be kept clean and free of garbage. Containers with drain plugs shall be in place, except during cleaning. Dumpsters must be stored on concrete or machine laid asphalt.

#### STORAGE

- Construct garbage or refuse storage rooms with easily cleanable, nonabsorbent, washable materials; keep clean, insect and rodent proof, and large enough to store garbage and refuse containers that accumulate.
- Dispose of garbage and refuse often enough to prevent the development of odor and attraction of insects and rodents.
- Utilize effective measures and, maintain the premises in such condition to minimize the presence, harborage, and feeding of rodents, flies, cockroaches and other pests.
- In operations where dumpsters or compactors are used; cleaning and the facilities to conduct such cleaning may be provided by the contractor, on or off the premises. It is the responsibility of the operator, manager, or person-in-charge to ensure that the containers are in compliance and to see that the contractor fulfills their obligations to the operator.

#### POISONOUS AND TOXIC MATERIALS

Use approved poisonous or toxic materials necessary for the cleaning and sanitizing of equipment and utensils, and for the control of insects and rodents shall be present in the food establishment. The containers of such substances must be prominently and distinctly labeled for easy



identification of the contents, including the manufacturer's instructions for use. Store and locate poisonous and toxic materials, insecticides, rodenticides, detergents, sanitizers, and related cleaning or drying agents, caustics, acids, polishes, and other chemical physically separated from each other and stored in cabinets used for no other purpose. Do not store above food, food equipment, utensils or single-service articles, or clean linens.

Keep for convenient availability, detergent or sanitizers at utensil or dishwashing stations.

If rodenticides are used in areas where food is handled, prepared, or packaged then approved bait boxes shall be used. Tracking powder pesticides may not be used in a food establishment.

Personal medications shall not be stored in food storage, preparation or food service areas. Medicines belonging to employees or to children in day care facilities that require refrigeration must be stored properly. Store it in a package or container and keep it inside a covered leak-proof container that is identified as the individual's container for the storage of the employee/child's medicines. Medicines must be inaccessible to children.

## LESSON 6 GREASE TRAP MANAGEMENT AND RESPONSIBILITY

Consumer Health assists Public Works in minimizing Sanitary Sewer Overflows in the City of Houston and receives monies which are allocated in salaries for Consumer Health. On March 31, 2021 City of Houston officially entered a Consent Decree with the EPA. One of the biggest contributors to sanitary sewer overflows is GREASE.

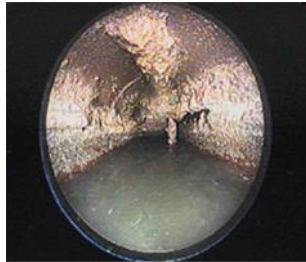
**FOOD Program** assists Public Works by educating and review of FOG Generator compliance documentation (i.e.: permits and manifests.)

**FOG Program** responds to complaints, conducts thorough generator inspections, educates, and enforces Chapter 47 Article XI. The FOG-Special Waste program tracks waste, such as **fat**, **oil**, and **grease**, from commercial and residential establishments. Monitoring these waste products ensures that our city's environment is protected from pollutants that may harm individuals and ecosystems.

In the following pictures you can see how FOG sticks to the walls of the sewer pipes.



Grease on walls of a sewer pipe

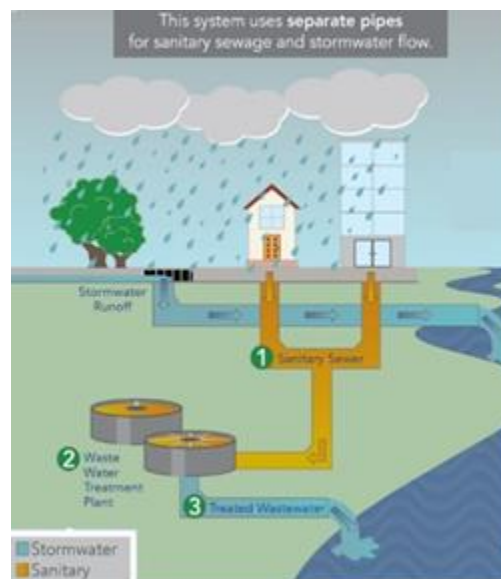


The **sanitary sewer** is a system of underground pipes that carries sewage from bathrooms, sinks, kitchens, and other plumbing components to the wastewater treatment plant. Wastewater treatment plant cleans the water and then discharges back into the waterway.

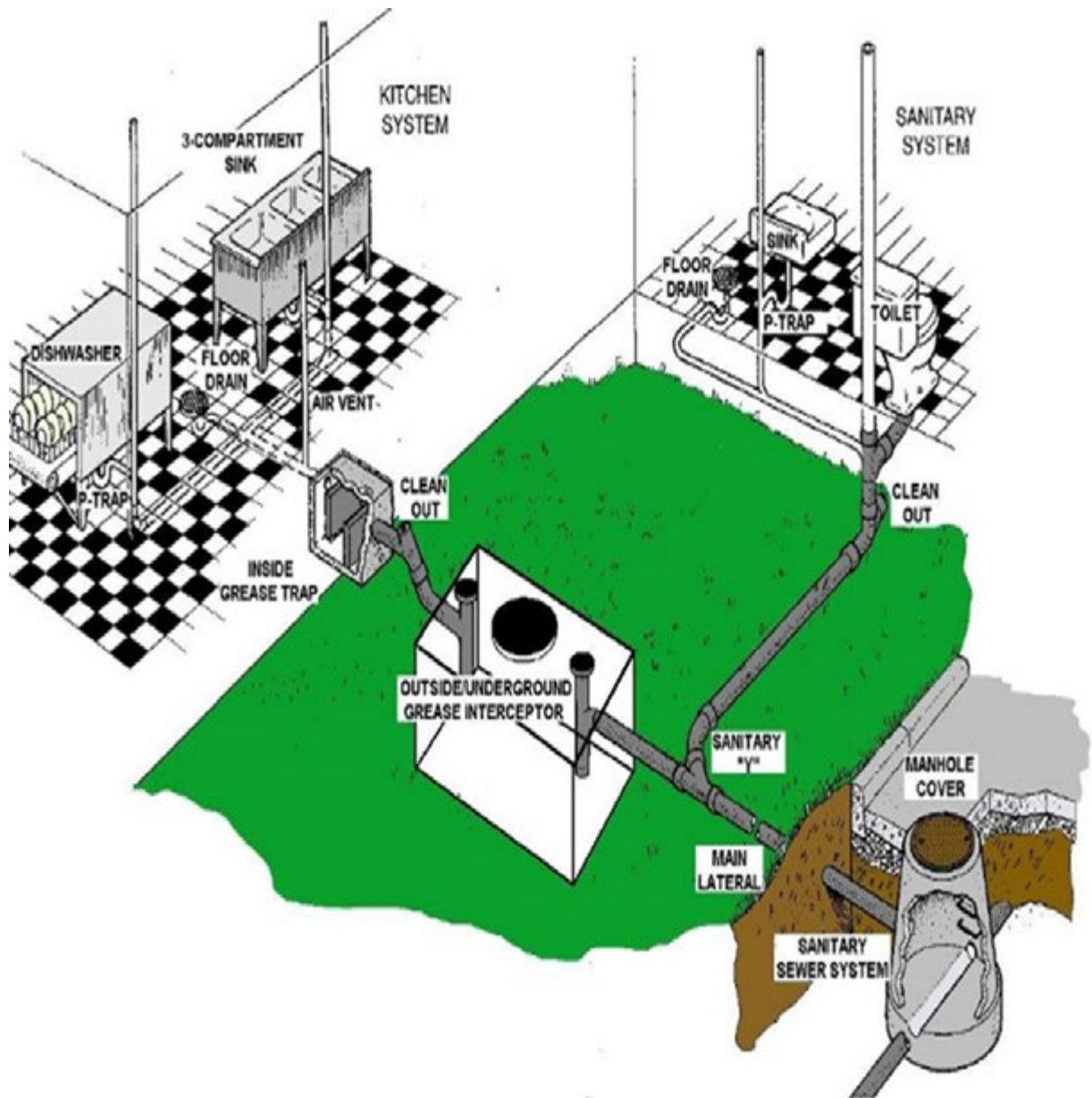
The **storm sewer** is a system designed to carry rainfall runoff only that then discharges back into our water ways.

**These two infrastructures are completely different and should never**

**cross.**



## Food Establishment: Typical Plumbing layout



This is a good example of a plumbing layout for a food establishment. You can see the three-compartment sink, dishwashers, and floor drain. In this picture it shows a view of the inside of a grease trap and then one underground. The restrooms should never be connected to the grease trap, they are connected downstream from the same line and discharge into the public sanitary sewer.

**Chapter 47 Article XI : Definitions**

**Generator** means any person whose activities or process generate city-regulated waste within the city or who stores city-regulated waste within the city.

**City-regulated waste** – means liquid, semi-liquid and solid wastes and wastewater removed from, institutions or commercial establishments that primarily generate waste of a type associated with domestic use.

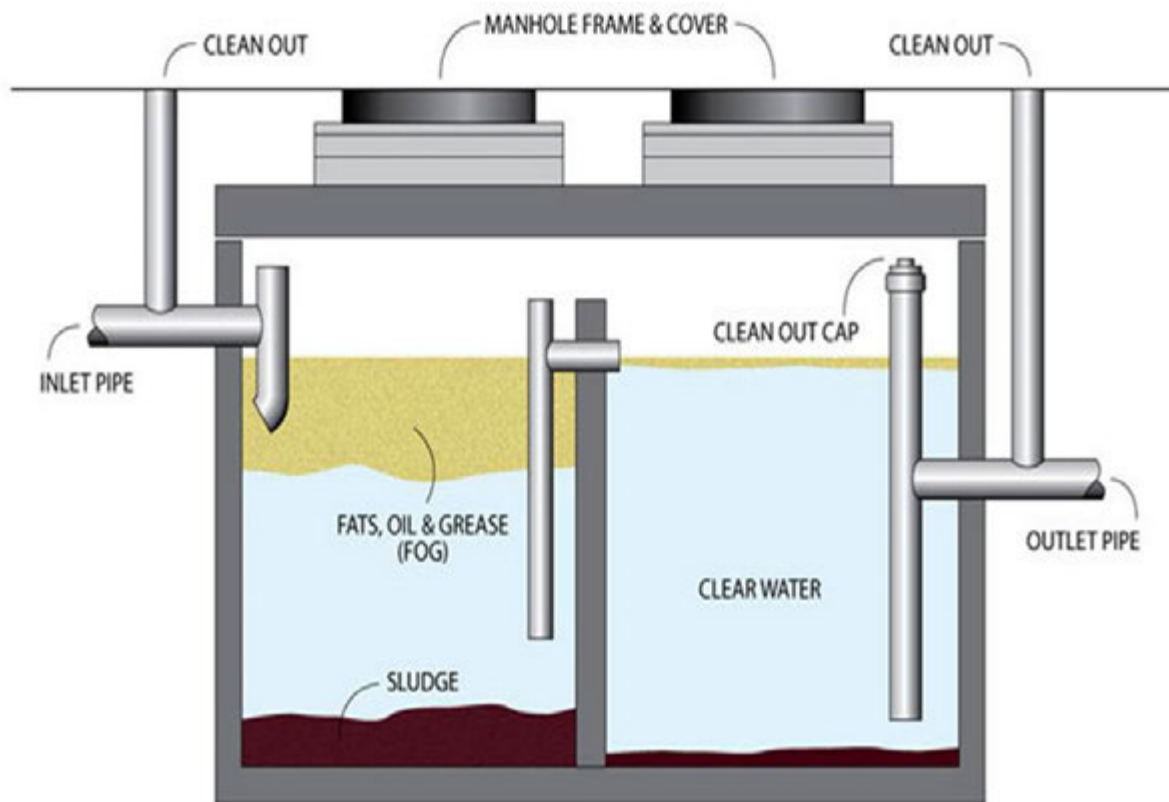


It includes oily water, FOG, grease trap waste, as well as any materials collected in a grit trap, lint trap, or any similar device, which materials result from or are incidental to any process of industrial, manufacturing, institutional or commercial operations including, but not limited to, mobile or stationary car or truck washing, pavement washing, and commercial laundries or laundromats. Examples of city regulated waste are food establishments, daycares, religious institutes, nursing homes, and hotels.

### Grease Trap Definition

**Interceptor** means a device designed to use differences in specific gravities to separate and retain FOG and settleable solids prior to the wastewater entering the sanitary sewer system. Interceptors may also be referred to as "grease traps".

A grease traps works by separating FOG and solids via gravity means. Because fats, oils, and grease are less dense than water FOG floats on the top while solids sink to the bottom. The interceptor uses a pipe structure and/ or a baffle wall to help retain FOG and solids inside the trap while it allows wastewater to discharge onto the sanitary sewer system. Therefore, if you observe a grease trap when opening the manholes or lid, you will not know if the trap is full because all you will see is the layer of FOG floating on top.



Manifest Definition

**Manifest** means a form approved by the health officer to document the collection, transportation, and disposal of city-regulated waste.

The image to your left is the most recent City of Houston approved waste manifest updated in 2010. The one to your right is the older version, both are acceptable manifest. Any documentation that is given that does not look like either of these are not acceptable. Always look for City of Houston Logo, Houston Health Department. The manifest is composed of 5 carbon copies.

- The first white is turned in to FOGs Transporters Section,
- Second white is for the Transporter company,
- Third white is for the Generator, that given to them at the time of full evacuation of the interceptor.
- The Return (Yellow) copy is sent to generator within 15 days after evacuation and the
- gold copy for the disposal site.

Every section of the manifest is critical to have the correct information such as the Special waste / TCEQ# to properly tag the manifest to the establishment, the holding capacity to ensure there are no discrepancies, because a grease trap does not shrink or get any bigger, therefore the holding capacity should always be the same if no changes has been done to the grease trap. The gallons removed can be different but not the capacity. The generators information and signature to certify that the information is true and accurate. Transporter's portion should be filled out certifying that the manifest is complete and accurate, and the waste will be delivered to a proper disposal site. The last section is for the disposal site usually you will see a stamp or a signature for the disposal site. And if you can read the fine print, Falsification is punishable by a fine up to \$20,000.

**SOLID/SPECIAL WASTE MANIFEST**  
CITY OF HOUSTON HEALTH AND HUMAN SERVICES  
7411 PARK PLACE, RM 109, HOUSTON, TEXAS 77087-6208  
(713) 640-4399

MANIFEST NO. **10346**

TRANSPORTERS:  
Mail The Generator Return (yellow) Copy to the generator within 15 days

**Generator Name and Address**  
Day's BBQ  
7411 Park Place Blvd  
HOUSTON, TX 77087-6208

**Generator/Representative Name**  
David Jones  
Signature: [Signature]

**Date and Time Waste Collected**  
08-01-10 12:15

**Generator Information (MUST BE COMPLETED BY GENERATOR)**

TCEQ #	Type of Waste Removed	Tank or Trap Capacity (Gallons)
87235	Grease Trap	1000

**Transporter Information (MUST BE COMPLETED BY TRANSPORTER)**

**Transporter Company**  
Grease Grabbers  
540 Spring Rd. 77869  
TCEQ Reg. No. 24700

**Driver's Name**  
Jack Hoffman  
Signature: [Signature]

**Date Serviced**  
02-01-10

**Secondary Transporter Information (MUST BE COMPLETED BY SECONDARY TRANSPORTER)**

**Disposal Site Name**  
Mike Disposal Site  
8947 Gate Door Rd  
TCEQ Reg. No. 43002

**Site Operator's Name**  
Jung Maxwell  
Signature: [Signature]

**Date and Time Waste Received**  
02-02-10 9:30

**SOLID/SPECIAL WASTE MANIFEST**  
CITY OF HOUSTON HEALTH AND HUMAN SERVICES  
7411 PARK PLACE, RM 109, HOUSTON, TEXAS 77087-6208  
(713) 640-4399

MANIFEST NO. **723005**

TRANSPORTERS:  
Mail The Generator Return (yellow) Copy to the generator within 15 days

**Generator Information (To be completed by the GENERATOR)**

Company \_\_\_\_\_ Owner/Manager (Print) \_\_\_\_\_ Phone \_\_\_\_\_  
Address from which shipment originates \_\_\_\_\_ Zip Code \_\_\_\_\_  
City/TCEQ Registration No. \_\_\_\_\_

**Types of Waste Generated:**

Class B:	Class C:
Sewage sludge _____	Industrial/Nonhazardous _____
Grease trap _____	Grill Trap _____
Other _____	Lint Trap _____

**CAPACITY of waste facility** \_\_\_\_\_

**Generator/Representative Name**  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Transporter Information (To be completed by the TRANSPORTER) TRNCC#**

Name of Transporter Co. \_\_\_\_\_ Phone # \_\_\_\_\_  
COH Permit # \_\_\_\_\_ COH Truck # \_\_\_\_\_ License # \_\_\_\_\_  
Decimal letter \_\_\_\_\_ Truck Capacity \_\_\_\_\_ Quantity of waste removed \_\_\_\_\_

**Mailing Address** \_\_\_\_\_ **Driver's Name** \_\_\_\_\_  
Address \_\_\_\_\_

**Name of Disposal Site** \_\_\_\_\_ **Address** \_\_\_\_\_

**Driver's Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

**Secondary Transporter Information (To be completed by the SECONDARY TRANSPORTER)**

Company \_\_\_\_\_ COH Permit # \_\_\_\_\_ COH Truck # \_\_\_\_\_  
Mailing Address \_\_\_\_\_ **Driver's Name** \_\_\_\_\_  
Address \_\_\_\_\_

**Driver's Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

**Disposer Information (To be completed by the DISPOSAL SITE OPERATOR)**

Company \_\_\_\_\_ Owner/Manager (Print) \_\_\_\_\_ Phone \_\_\_\_\_  
Disposal Site Location \_\_\_\_\_ Mailing Address \_\_\_\_\_  
QUANTITY of waste received \_\_\_\_\_

**Owner/Manager Signature** \_\_\_\_\_ **Date** \_\_\_\_\_

White - Generator Yellow - Generator Return Copy Pink - Transporter Green - Secondary Transporter Gold/Red - Disposer

**Generator vs Transporter**

FOG Program tracks waste from cradle to grave. Cradle being the location the waste was generated. Grave being the permitted disposal site that the waste must be transported to for proper disposal. *\*Disposal Sites are permitted by the state.*

**WHAT IS A TRANSPORTER?**

A TRANSPORTER IS A COMPANY THAT IS RESPONSIBLE FOR CLEANING, TRANSPORTING, AND DISPOSING OF ANY CITY-REGULATED WASTE. A TRANSPORTER MUST HAVE A CURRENT AND VALID PERMIT; AND VEHICLE REGISTRATION **BEFORE** THE GREASE TRAP IS CLEANED.



Generator – Generates waste  
**ensuring the waste manifest was obtained and properly filled out by generator.**



Transporter – Transports waste  
**is to be a permitted company, to minimize environmental impact within the city such as illegal dumping or leaks in the truck.**



Disposal Site – Treats and properly disposes waste **are permitted by the state.**

**The waste manifest is an important piece on tracking down the waste.**

### Pressure Washers

Transporter Section in the FOG Program permits Pressure Washers. All waste generated from pressure washer must be reclaimed.

Most facilities hire an outside contractor to pressure wash the parking lot of an establishment, if a pressure washer is observed, ensure they are a permitted company. Pressure washers are to reclaim any wastewater. In the event the establishment needs to clean area around grease trap or rendering bin, the list of certified transporters can be given.





### FOG Program

**Purpose:** To protect the citizens and the environment from the potential hazard that may result from unauthorized waste releases and to deter illegal introduction of pollutants into the sanitary sewer system, storm sewers, street rights-of-way and other unauthorized places.

There are approximately 16,000 facilities in our current database and about 10,000 are Grease Traps. FOG investigators conduct inspections as often as needed but not less than once a year.



### Plumbing Department

The city's Plumbing Department determines the type of grease trap that is installed, size of the grease trap, and the location where the grease trap will be installed. Any time a grease trap will need to be repaired, replaced, disconnected, or removed; a plumbing permit needs to be pulled for approval.

GRAVITY GREASE INTERCEPTOR SIZING

DRAINAGE FIXTURE UNITS <sup>1,3</sup> (DFUs)	INTERCEPTOR VOLUME <sup>2</sup> (gallons)
8	500
21	750
35	1000
90	1250
172	1500
216	2000
307	2500
342	3000
428	4000
576	5000
720	7500
2112	10 000
2640	15 000

EXAMPLE 1014.2.1  
SIZING HYDROMECHANICAL GREASE INTERCEPTOR(S)  
USING FIXTURE CAPACITY

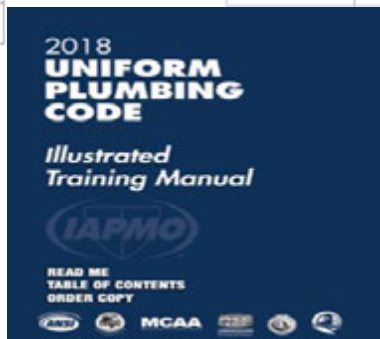
Step 1: Determine the flow rate from each fixture.

$$[\text{Length}] \times [\text{Width}] \times [\text{Depth}] / [2.31] = \text{Gallons} \times [0.75 \text{ fill factor}] / [\text{Drain Period (1 minute or 2 minutes)}]$$

Step 2: Calculate the total load from fixtures that discharge into the interceptor.

FIXTURES	COMPARTMENTS	LOAD (gallons)	SIZE OF GREASE INTERCEPTOR ONE-MINUTE DRAINAGE PERIOD (gpm)	TWO-MINUTE DRAINAGE PERIOD (gpm)
Compartment size	—	—	—	—
24 inches x 24 inches x 12 inches	2	44.9	—	—
Hydrant	—	3	—	—
Rated Appliance	—	2	—	—
—	—	49.9	50	25

5.4 mm, 1 gallon per minute = 0.06 L/s, 1 gallon =



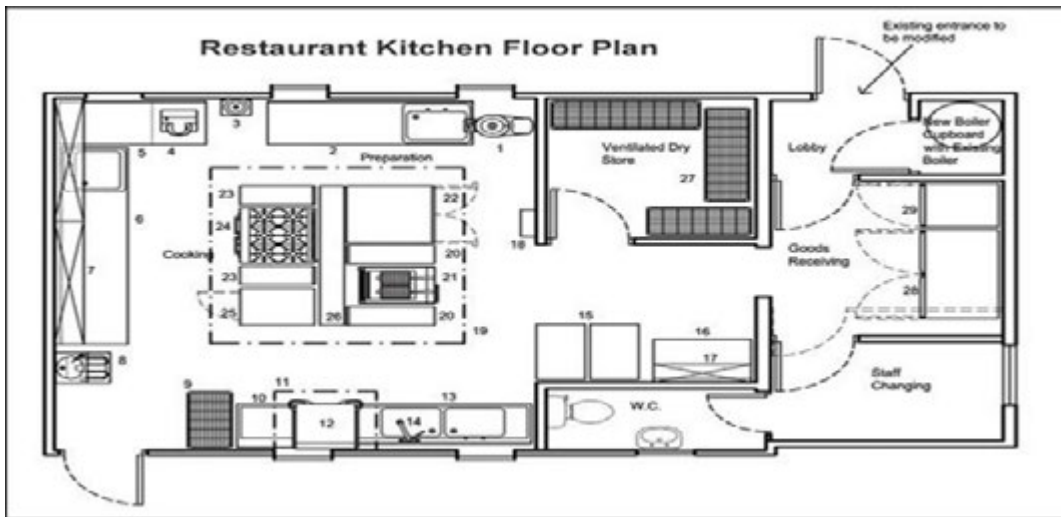
**Plan Review - FOOD**

If an establishment is considering building, remodeling/altering, or taking over an existing food establishment, they may be required to submit plans. Plan Review section reviews all plans and ensures a grease trap and sample well is included in the plans if applicable. [No facility is grandfathered in for the requirements of a grease trap.](#)

**Houston Food Ordinance: Article II, Section 20-21.17 - Plumbing**

(a) General. Plumbing shall be sized, installed, and maintained according to applicable laws. There shall be no cross-connection between the potable water supply and any non-potable or questionable water supply or any source of pollution through which the potable water supply might become contaminated.

(d) Grease traps. Grease traps shall be located to be easily accessible for cleaning, operation, and maintenance. Grease traps shall be of an approved type and in an approved location outside the establishment, unless it is impossible.



**Pre-Opening- Food**

Sanitarians who conduct Pre-opening inspections ensure the plans submitted coincide with the establishment. Sanitarians create the initial invoice in DHD1, and administrative staff make changes as requested.

All 3 areas must be filled out to ensure the location is Invoiced properly and an inspection is conducted in the future.

The screenshot shows the 'Facility Manager' software interface. Key fields include:
 


- Status:** Active
- Account #:** 200001
- Establishment Type:** (100) Convenience Grocery - Packaged Food Only
- Permit Type:**
  - FOOD DEALERS
  - FROZEN DESSERT
  - MOBILE UNIT
  - MEAT
  - POULTRY
  - SEAFOOD
  - COLD STORAGE
  - PRODUCE STAND
  - PRODUCE PEDDLER
  - CERTIFIED FARMERS MARKET
  - FATS, OILS & GREASE
- Inspection Site:** A table with columns for 'Inspection Site' and 'Status'.
 

Inspection Site	Status
eeee	Active
ceeee	Active
log 206877	Active
	Active
- No. of Grease Traps:** 2
- TCOG Nos.:** 240093, 240219
- Permit Date:** November 01, 2020
- Expiration Date:** November 01, 2021

**Affidavit of Holding Capacity Form**

In order to obtain a generator permit, you must complete and submit the holding capacity of the interceptor as prescribed in Sec. 47-422.

If the information is not in the DHD, form is to be distributed to generator and request to be submitted to [FOG@houstontx.gov](mailto:FOG@houstontx.gov) or mailed to 7427 Park Place, Houston TX, 77087



Affidavit of Holding Capacity Form

Company Name: \_\_\_\_\_

Interceptor Address: \_\_\_\_\_

Special Waste Number: \_\_\_\_\_  
\*Please submit one Affidavit per Special Waste\*

Holding Capacity of Trap: \_\_\_\_\_ gallons  
\*Please submit only the holding capacity not the full capacity of the interceptor\*

Name of person submitting Affidavit: \_\_\_\_\_

Phone number: \_\_\_\_\_

E-mail address: \_\_\_\_\_



Affiant: \_\_\_\_\_

Subscribed and sworn to before me by affiant this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_

NOTARY PUBLIC in and for  
THE STATE OF TEXAS

My commission expires: \_\_\_\_\_

In order to obtain a generator permit, you must complete and submit the holding capacity of the interceptor as prescribed in Sec. 47-422

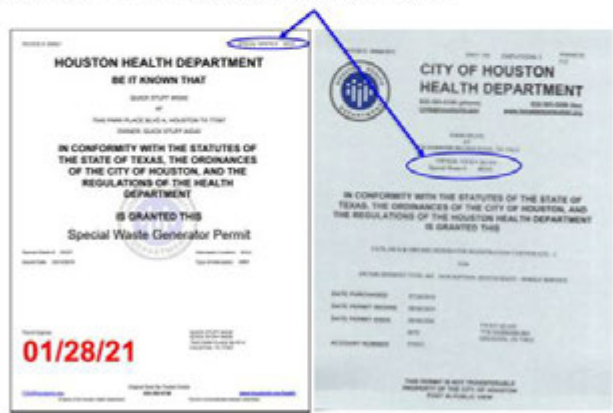

Calculations for Volume of a Square or Rectangular Tank

Formula: L x W x D = Cubic Feet  
 Cubic Ft x 7.47= Volume (gallons)

Volume of a Round Tank or Clarifier Formula

3.1417 x R<sup>2</sup> x D = Cubic Feet  
 Cubic Ft x 7.47 = Volume (gallons)

**Special Waste Number** - unique identification number on the generator registration certificate  
 Previously called TCEQ # This number should be present on all waste manifest onsite

**Sanitarian FOG Inspection**

During the FOG inspection of the investigation special attention should be directed to the following:

- Education should be provided on Best Management Practices.
- Verify that the certificate for the food establishment or restaurant is conspicuously posted, current and contains valid information.
- Verify the yellow and white copies of waste manifest are onsite and readily available upon request for 5 years (subject to change based on date of new ownership.)
- Verify the generator portion of the manifest is filled out prior to allowing removal of waste.
- Verify that the establishment cleans grease trap every 90 days or more often as needed unless Notice of Waiver is in place.

Violations should be documented when applicable.

### Best Management Practice

Education should be provided on Best Management Practices to all operators. Best management practice document can now be emailed to food establishments.

## PROTECT YOUR PIPES

**The biggest contributor to sanitary sewer overflows is grease. If you experience a sanitary sewer overflow call a plumber immediately and ensure to clean and sanitize the area.**



- Do not pour fats, oil, grease or food particles into the sink, mop sink or floor drains.
- Clean grease traps at least once every 90 days or more often as needed.
- Display the appropriate "3 P's" signs or posters prominently in the restrooms. Disposable wipes are not disposable when flushed in the toilet and cause blockages. Only flush the 3 P's: Pee, Poo, Toilet Paper.


The BMP information can help your establishment manage FOG, prevent any enforcement action and reduce cost dealing with FOG. It is also a helpful tool understanding the types of FOG.

**Waivers**

- Generator is responsible for submitting waiver application to the City of Houston Health Department at 7427 Park Place Houston, TX 77087
- Must be in operation and in compliance for a full 12 months and have a 90 day pump out history
- Attach copies of the waste manifest for the last (4) cleanings prior to submitting application
- Submit Affidavit of Holding Capacity form

**NOTICE OF WAIVER APPLICATION**

**NOTICE OF WAIVER**



**Notice of Waiver Application**  
For reduction to minimum 180-day Interceptor cleaning frequency  
*Please fill one application for each Special Waste*

Special Waste #: \_\_\_\_\_ Telephone No: \_\_\_\_\_  
 Company Name: \_\_\_\_\_ Email Address: \_\_\_\_\_  
 Interceptor Address: \_\_\_\_\_ City: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Mailing Address: \_\_\_\_\_ City: \_\_\_\_\_ Zip: \_\_\_\_\_

For Notice of Waiver to be reviewed, please answer the following:

YES	NO	
<input type="checkbox"/>	<input type="checkbox"/>	1. Has your interceptor or holding tank overflowed during the previous 12 months?
<input type="checkbox"/>	<input type="checkbox"/>	2. Have you received a verbal warning, notice of violation or a citation regarding your interceptor from any governmental entity (including, but not limited to, City of Houston Health Department) during the previous 12 months?
<input type="checkbox"/>	<input type="checkbox"/>	3. Is the capacity of your interceptor consistent with uniform plumbing code, as currently adopted by the city?
<input type="checkbox"/>	<input type="checkbox"/>	4. Will the interceptor produce an effluent consistent with the discharge parameters specified by Chapter 47-514 of Code of Ordinances with the reduced frequency requested?
<input type="checkbox"/>	<input type="checkbox"/>	5. Will the interceptor contain more than 25% of floating materials, sediment, oils, or grease at any time based on the reduced cleaning frequency


**IMPORTANT INFORMATION**  
 A generator must comply with each element of Chapter 47-512 (e) in order to be exempt from the clean out requirement. The Notice of Waiver does not relieve the generator from the requirement of having the interceptor fully evacuated, cleaned, inspected, and if needed, repaired or maintained, at least every 180 days and its waste properly disposed of in accordance with federal, state, and local regulation. Violations of ARTICLE XI. TRANSPORTATION AND TREATMENT OF CERTAIN WASTES Sec 47-411 through 47-600 will result in the Notice of Waiver being denied or cancelled. All representations in Notice of Waiver are conditions upon which the generator shall operate its interceptor. The applicant will operate its interceptor in compliance with the Code of Ordinances of the City of Houston and all applicable laws. The signature below indicates that, based on information and belief after reasonable inquiry, the statements on this Notice of Waiver are true, accurate and complete. Generator is responsible for submitting waiver application to the City of Houston Health Department. Must be in operation and in compliance for a full 12 months and have a 90 day pump out history before waiver will be granted. In the event you are approved the waiver is only valid for that ownership and Special Waste #. All sections of this application **MUST** be complete, or application will not be reviewed. E-mailed/Faxed applications will not be accepted it must be mailed in. Please mail completed Notice of Waiver Application, **most current (4) copies of waste manifest and Affidavit of Holding Capacity to: City of Houston- FOG Program 7427 Park Place Houston, TX, 77087**

Generator's Certification for Questions #1,2 and 3 above  
 Print Name of Generator (Owner Representative) \_\_\_\_\_ Generator Signature \_\_\_\_\_ Date \_\_\_\_\_

TRANSPORTER'S CERTIFICATION FOR QUESTIONS 4 AND 5 ABOVE  
 Transporter Certification: I certify that the frequency of \_\_\_\_\_ (Times/Yr) of cleaning at this facility is sufficient to maintain required effluent discharge or will demonstrate less than 25% of wetted height of sludge. Judge. (Sec.47-512(e)(2))

Transporter Company Rep. (Print Name) \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Transporter Company's Name \_\_\_\_\_ COG Permit No. \_\_\_\_\_

OFFICE USE ONLY  
 Signature of reviewer \_\_\_\_\_ Date \_\_\_\_\_  Approved  Denied



SPECIAL WASTE #: 116748

**HOUSTON HEALTH DEPARTMENT**  
**BE IT KNOWN THAT**  
 ANTOINE WASHATERIA  
 AT  
 6002 ANTOINE F, HOUSTON TX 77091  
 OWNER: ANTOINE WASHATERIA

**IN CONFORMITY WITH THE STATUTES OF  
 THE STATE OF TEXAS, THE ORDINANCES  
 OF THE CITY OF HOUSTON, AND THE  
 REGULATIONS OF THE HEALTH  
 DEPARTMENT  
 IS GRANTED THIS  
 Notice of Waiver**

Special Waste #: 116748 Interceptor Location: \_\_\_\_\_  
 Issued Date: 02/22/2022 Type of Interceptor: LINT  
 Reviewer: Fursho Sekoni

This is a notification that the said establishment has been granted this Notice of Waiver for the reduced frequency of cleaning of specified site Interceptor to minimum of 180 days.  
 This notice of waiver shall remain in effect until such time that: Ownership has changed, permit is no longer valid, or Interceptor fails to meet discharge parameters specified by Chapter 47-514 of the Code of Ordinances with the reduced frequency, or Interceptor contains more than 25% of floating materials, sediment, oils, or grease at any time during the reduced cleaning frequency.

ANTOINE WASHATERIA  
 ANTOINE WASHATERIA  
 6002 ANTOINE F  
 HOUSTON, TX 77091

Original Must Be Posted Onsite  
 EOG@houstontx.gov 832-393-5740 www.houstontx.gov/health  
 Property of the Houston Health Department Permit is not transferable between ownerships

### Transporter Decal (2022)

**Before** the grease trap is cleaned, please conduct the following:

1. Verify that your establishment has a current and valid registration certificate (FOG).
2. Verify that the transporter's truck has current and valid City issued registration decals. It is the responsibility of all generators to ensure that no unpermitted transporter removes waste from the site.



2022 Decal Example



2022 Permitting Year:  
February 1, 2022 – January 31, 2023

#### Spotting and Reporting illegal Service Companies

If a service company does not have a decal, take a picture, note location,

date, time and email this info to: [transporter@houstontx.gov](mailto:transporter@houstontx.gov)



## LESSON 7

### PEST CONTROL



Pests, an animal or insect that damages or contaminates foods causes health and economic problems. Infestations must be prevented because they spread foodborne diseases, damage property, and contaminate food supplies. Utilize effective measures intended to eliminate the presence of flies, cockroaches, rodents, pantry pests, and birds.

#### REQUIRED CONTROL MEASURES FOR PESTS AND RODENTS

- (1) Routinely inspecting incoming shipments of food and supplies;
- (2) Routinely inspecting the premises for the evidence of pests;
- (3) Using appropriate methods of pest control, such as trapping devices or other means of pest control in accordance to the Ordinance requirements for poisonous or toxic materials use, if pests are found; and
- (4) Eliminating harborage conditions.

Protect outside by filling or closing holes and other gaps along floors, walls, and ceilings; tight-fitting, self-closing doors, kept closed, closed windows, screening, properly designed and installed air curtains to control flying insects, or other means. Screening materials shall not be less than sixteen mesh to the inch (16 mesh to 25.4 mm). Perimeter walls and roofs of a food establishment shall effectively protect the establishment from the weather and the entry of insects, rodents, and other animals.

#### FLIES

##### Preventive/Control Measures

- ✓ Eliminate food sources; discard rotted foods.
- ✓ Restrict entry into the food establishment;
- ✓ Electrocuting type traps or adherence type traps for flies must be designed to have "escape resistant" trays for flying insects, so that dead insects and body fragments cannot fall onto exposed food and equipment. The device shall not be located over exposed food, clean equipment, utensils, linens, and unwrapped single-service articles.
- ✓ Keep lids on garbage containers; close dumpster doors and lids/provide installed drain plugs; keep area around garbage/dumpster clean.

#### COCKROACHES

##### PREVENTIVE/CONTROL MEASURES

- ✓ Cover foods in tight containers. Do not leave foods out overnight.
- ✓ Clean surfaces and equipment thoroughly and regularly; no dirty dishes left overnight.
- ✓ Eliminate standing water; repair leaks; seal openings around pipes; repair holes.
- ✓ Discard cardboard boxes as soon as possible; empty and clean indoor garbage containers. Eliminate harborages. Inspect facility and equipment - seal all cracks and crevices.

**RODENTS ( Mice and Rats)****PREVENTIVE/CONTROL MEASURES**

- ✓ Deny access to the food establishment
- ✓ Keep the kitchen clean and sanitary – eliminate food and water sources
- ✓ Cover floor drains; protect pipes and ducts with screening;
- ✓ Check deliveries for rodent gnawing, droppings
- ✓ Eliminate harborages inside and outside the food establishment
- ✓ Store foods properly above the floor and away from walls
- ✓ Seal all cracks and openings

**STORED GRAIN INSECTS/ PANTRY PESTS**

- A clean environment inhibits growth and reduces egg laying
- Control spills and destroy all infected products
- Examine incoming products for any live insects and reject pest-infested deliveries
- Rotate stock using first in, first out ( FIFO) - inventory control.
- Keep dry goods at a temperature of 50°F - 60°F if possible (cool air keeps eggs from hatching)
- Eliminate foods that are damp and moldy (some pests feed on the mold rather than the food products)

Dead or trapped birds, insects, rodents, and other pests shall be removed from control devices and the premises at a frequency that prevents the accumulation or attraction of pests and minimizes exposure to decomposing remains.





## LESSON 8 THE FOOD INSPECTOR, TOP 20 VIOLATIONS, AND ENFORCEMENT

Food Temperatures (Unit Temperatures)					
Food Location	Temp	Food Location	Temp	Food Location	Temp
Hot - Walk-in Cooler	41-137°F	Cold - Cabinet Cool	41-45°F	Cold - Cabinet Cool	41-45°F
Cold - Cabinet Cool	41-45°F	Cold - Refrigerator	41-45°F	Cold - Refrigerator	41-45°F
Hot - Walk-in Cooler	41-137°F	Chilled - Walk-in Cooler	41-45°F	Eggs - Refrigerator	41-45°F
Hot - Walk-in Cooler	41-137°F	Hot - Cabinet Cool	41-137°F	Hot - Walk-in Cooler	41-137°F
Hot - Cabinet Cool	41-137°F	Hot - Cabinet Cool	41-137°F	Hot - Refrigerator	41-137°F

OBSERVATIONS AND CORRECTIVE ACTIONS		
Code	Items in violation to be corrected by the date indicated in violation	Correct To
15.01.10 15.01.10	Unrefrigerated storage (see marking of ready to eat foods). Temperature controls for sales (TCS) ready to eat food opened/repacked/ packaged and held unprotected for more than 24 hours not clearly marked to indicate "Use by" or "sell by" and "expiration date"	48.02.01.01
15.01.10 15.01.10	Food/food handlers ready to eat food prepared and held in the walk-in cooler for more than 24 hours must be date marked to indicate the time and date of disposition no more than 7 days. New Violation	48.02.01.01
15.01.10 15.01.10	Refrigerator - general walk-in equipment and stands not designed, constructed and repaired with safe materials, including flammable materials, not corrosion-resistant and non-toxic; not readily cleanable and suitable under conditions of normal use	48.02.01.01
15.01.10 15.01.10	Observation cold food being used under a cooling device in a cabinet. Discontinue using food under the cooling device once approved inspection that it meets health standards, no alteration and disposal. Corrected On Site. New Violation	48.02.01.01
15.01.10 15.01.10	Cleaning frequency. Sanitized contact surfaces of equipment not stored in the area in a manner to keep the equipment free of accumulation of dust, oil, fat particles, and other debris.	48.02.01.01
15.01.10 15.01.10	Check food hot containers to remove hair and food debris. New Violation	48.02.01.01

The role of the food inspector (Sanitarian) is to conduct Food Ordinance mandated inspections and investigate complaints of food establishments. Their duty is to protect the public's health by identifying violations in a food establishment operation to ensure compliance with the ordinance. Food safety is the priority. The inspection report is the document that the inspector uses to record violations observed and, to communicate with the manager how and when the deficiencies must be corrected. Critical items are violations that are more likely than other violations to contribute to food contamination, illness, or environmental health hazard. The correction of critical violations may be implemented immediately. The food inspector should not be the first person to inform you of issues in the operation if you are utilizing an Active Managerial Control system (see Lesson 9). Practice a preventive rather than reactive approach in the establishment.

- Inspector will arrive at the site wearing a Houston Health Department cap or hair net, and/or shirt and City of Houston identification badge.
- Introduce themselves to the person in charge and state the purpose of the visit (routine inspection, reinspection, complaint investigation, consultative visit, or follow-up visit).
- Confirm valid and current Food Dealer's Permit, Food Service Manager certification (both required to be posted in view of the public), verification of proof of trained food handlers (may be kept in a binder/folder – not required to be posted); confirm if applicable most recent FOG manifest to verify last evacuation; last inspection report (posted on an inside wall of the establishment); confirm the number of employees; facility telephone number and preferred email address and/or fax number as method of delivering the inspection report. Inform inspector of any change of ownership or name changes at this time.
- Sanitarian will proceed with the inspection – manager accompaniment is preferred but not required. Sanitarian may request presence of manager should priority observations are encountered.
- Sanitarian will start by compiling their inspection equipment: flashlight, light meter, thermometers, alcohol swabs, inspection mirror, test kits, dish machine temperature tester. They will begin by washing their hands.
- The inspector will try to be systematic based on the layout, size, time of day, and number of persons in the areas.
- The person in charge is to demonstrate knowledge by responding to questions by the inspector related to the specific food operation; special processing if applicable, utilizing time as a public health, preparation procedures, cooling practices, etc.
- The inspector will access the overall facility operational procedures, observe employee practices, and physical conditions both interior and exterior. They will look over and under equipment, cleanliness of the facility and equipment; take internal food temperatures and ambient air temperatures of hot/cold holding units, look for evidence of specialized food processing; inquire about public health controls and written procedures; inquire about records required to be maintained; check water requirements and availability; evidence of insects/rodents; restroom facilities; etc.

- At the conclusion of the inspection, report will be reviewed with the person in charge. Violations requiring immediate correction will be indicated on the report as well as dates for additional items in violation. The person in charge should commit to ensuring that the violations are corrected by the next routine inspection or re-inspection if the current report indicates such.

## TOP 20 VIOLATIONS DOCUMENTED ON INSPECTION REPORTS

RANK	CODE	Description
1	<b>20-21.11(a)(07)</b>	Non food contact surfaces - cleaning
2	<b>20-53(a)</b>	FSMC required
3	<b>20-21.10(a)</b>	Equipment design/repair/smooth/easily cleanable
4	<b>20-21.21(b)</b>	Insect/rodents openings
5	<b>20-21.23(a)</b>	Walls/ceilings - repair/clean
6	<b>20-21.22(a)</b>	Floor construction- repair/clean
7	<b>20-21.19(c)</b>	Hand washing sink supplies
8	<b>20-21.02(a)(01)</b>	Food protection at all times (including TCS temperatures)
9	<b>20-21.03(b)(10)b</b>	Date marking containers
10	<b>20-21.20(a)(03)</b>	Dumpsters: lids/drain plugs
11	<b>20-21.24(a)</b>	Insufficient lighting
12	<b>20-21.19(g)</b>	Hand washing signage
13	<b>20-21.19(a)</b>	Hand sink installation/used for other purposes
14	<b>20-21.08(f)</b>	Food employees effective hair restraints
15	<b>20-21.17(a)</b>	Plumbing maintenance
16	<b>20-21.03(a)(2)</b>	Food containers less than 6 inches above the floor
17	<b>20-21.12(g)</b>	Test kits for chemical sanitization at manual sinks
18	<b>20-21.03(b)(01)</b>	Refrigeration facilities not provided with thermometers
19	<b>20-36(a)</b>	Food Dealer's Permit
20	<b>20-21.18( c )</b>	Toilet room conditions

## CONDEMNATION

The health officer may condemn or initiate the condemnation of any food that is suspected of being adulterated, from an unapproved source, or expired pursuant to applicable ordinances of state or federal laws, rules and regulations. Condemnation of expired ready-to-eat TCS foods shall be determined from the required date markings.

## COURT CITATIONS

A Municipal Court citation (notice to appear in court) may be issued by the health officer to the owner, operator, person-in-charge, or any employee at the food establishment. Municipal court fines are not less than \$50.00 or more than \$2,000.00.

**TEMPORARY CEASE FOOD SERVICE OPERATIONS (VOLUNTARY CLOSURES)**

When the health officer has determined upon inspection that a situation exists that endangers the public's health, he/she may ask the owner/operator/person-in-charge to discontinue food service operations. The food establishment may not resume operations until the health officer has performed a reinspection to determine corrections of all violations.

**RED TAGS AND EQUIPMENT QUARANTINES**

Red tags are used to quarantine food suspected of being adulterated or detrimental to the public's health. Equipment quarantines are used to remove from service or, to prevent the use of unacceptable/inadequately maintained equipment. The tag can only be removed by a health officer when it has been determined that the equipment/food is in compliance.

**RE-INSPECTION FEE**

A reinspection fee is added whenever a reinspection is required by the health officer due critical violations. The reinspection will be conducted by the health officer within a reasonable period of time. The permit will not be renewed until payment of any outstanding reinspection fees is made.

**EMERGENCY OCCURRENCES**

The person in charge of the food establishment must immediately discontinue operations and contact the health officer in case of an emergency occurrence. Emergency occurrences include: fire, flood, power outage, sewage water back-flow, extended interruption of water service, no hot water, acts of terrorism/product tampering, etc.

**INFORMAL ENFORCEMENT HEARINGS**

Informal hearings are conducted by a Consumer Health Services Chief Sanitarian in an effort to discuss with the owner/operator the unacceptable existing violations at the food establishment. It is a step in the enforcement tools process that provides the operator the opportunity to discuss with the field sanitarian, area supervisor, and hearing officer what actions they intend to commit to in an effort to bring the establishment into compliance on a consistent basis. The hearing officer may require additional training of employees, bilingual assistance, and follow-up reinspections.

**PERMIT SUSPENSION**

If there exists a substantial hazard to the public's health, a Food Dealer's Permit/Medallion can be suspended up to 10 days between the suspension notification and the actual hearing. In a suspension, the health officer removes the Food Dealer's Permit during the inspection and, all food service operations immediately cease. The hearing officer will determine when the permit is to be reinstated at the conclusion of the hearing.

**PERMIT REVOCATION**

A food service establishment may have the Food Dealer's Permit/Medallion revoked for a period up to 180 days if the permit holder or his employees interferes with an inspection of the food establishment by the health officer; repeated or serious violations of the Food Ordinance including federal or state laws; if a mobile food unit operator fails to report an accident to the health officer within 24 hours of the time the accident occurrence that there is damage to the water system, waste retention tank, food service equipment, that may result in the contamination of the food carried. The permit remains at the establishment until the hearing. The hearing officer will determine if the permit/medallion is to be revoked and removed from the establishment by the health officer.

## LESSON 9

### ACTIVE MANAGERIAL CONTROL, PERMITS

#### ACTIVE MANAGERIAL CONTROL

The introduction page of this manual listed the 5 most common risk factors responsible for foodborne illness: food from unsafe sources, improper holding/time and temperature, inadequate cooking, poor personal hygiene, and contaminated equipment.

Risk factors are food preparation practices and employee behaviors most commonly reported to the Center for Disease Control and Prevention (CDC) as contributing factors in foodborne illness outbreaks.

FDA Food Code Annex 4: Industry is responsible for developing and implementing food safety management systems to prevent, eliminate, or reduce the occurrence of foodborne illness risk factors. **Active Managerial Control** means the purposeful incorporation of specific actions or procedures by industry management into the operation of their business to attain control over foodborne illness risk factors. It utilizes a preventive rather than reactive approach to food safety through a continuous system of monitoring and verification.

The FDA Food Code addresses controls for risk factors and establishes 5 key public health interventions to protect the health of the public:

- ✚ Demonstration of Knowledge: the certified manager must be able to show knowledge of what to do to keep foods safe – responding correctly to the sanitarian's questions as they relate to the specific food operation, knowledge of foodborne disease prevention and other Food Ordinance Sec. 20-18(1-3) requirements.
- ✚ Employee Health Controls: procedures in place to ensure that food employees are practicing personal hygiene (handwashing, cleanliness, adhere to nail/jewelry policies), knowledge of exclusion and restriction criteria; maintenance of handwashing supplies.
- ✚ Controlling Hands as a Vehicle of Contamination: controls in place to prevent bare hand contact with ready-to-eat foods, glove use, use of tongs/forks/deli tissue.
- ✚ Time and Temperature Parameters for Controlling Pathogens: procedures in place to limit the time food spends in the danger zone; practices for thawing/cooling/heating/cooking/hot-cold TCS food temperatures; requiring food employees to check food temperatures at specific intervals.
- ✚ Consumer Advisory: notices provided to customers if serving raw or undercooked foods and statement about the risk of eating such foods.

#### STEPS TO DEVELOP AN ACTIVE MANAGERIAL CONTROL

- (1) Identify the 5 risk factors as they apply through the flow of foods - identify any issues that could impact food safety.
- (2) Develop policies and procedures that address the issues identified in step 1.
- (3) Train employees on all procedures so they know and follow them.
- (4) Verify compliance with internal procedures and health department inspections. Monitor procedures and verify that procedures are addressing the risk factors.
- (5) Evaluate program for changes (menus, staffing), correction procedures, emphasis on prevention.

RECEIVING TEMPERATURE LOG

Date	Time	Vendor	Product Name	Actual Measured Temp. (°C)	Comments	Verified Date/Initial

CALIBRATION RECORD SHEET

Item No.	Item Description	Calibrated	Calibrated By	Next Cal. Due	Notes

Signature of Quality Control/Quality Assurance Manager: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Revision Issued by (U.S. Manager): \_\_\_\_\_      Signature: \_\_\_\_\_



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Are You Practicing Managerial Control: YES or NO

Y	N	
		Managers certified food safety managers.
		All staff receive formal food safety training.
		Establishment conducts and documents daily food safety inspections.
		Establishment has private/ corporate self-inspections.
		Establishment documents handwashing and glove use.
		Establishment provides sanitizer concentrations and usage by logging in concentrations on a log sheet.
		Establishment records on a log sheet dishwasher sanitizer concentrations or sanitizer temperatures on a daily basis.
		Establishment has a written employee illness policy.
		Types of thermometers are available in your operation. <input type="checkbox"/> Thermocouple <input type="checkbox"/> Digital <input type="checkbox"/> Dial
		Establishment has a thermocouple with a thin probe.
		Establishment has written Standard Operating Procedures that are utilized.
		Establishment documents food temperatures every 2-3 hours, including the following temperatures: receiving, initial cook, cooling, reheating, hot and cold holding.
		Establishment calibrates its thermometers daily.
		Establishment documents corrective actions.
		Facility has preventative maintenance contracts for: <input type="checkbox"/> Pest Control <input type="checkbox"/> Refrigeration Maintenance <input type="checkbox"/> Dishmachine Maintenance

**GETTING STARTED**

- ⇒ HAVE STANDARD OPERATING PROCEDURES, USE THEM AND FOLLOW THEM
- ⇒ PERFORM DAILY SELF INSPECTIONS
- ⇒ HAVE COOLING PROCEDURES AND TEST THEM TO ENSURE THEY WORK
- ⇒ MONITOR HOT AND COLD HOLDING TEMPERATURES AND RECORD THEM ON LOGS
- ⇒ TAKE INTERNAL TEMPERATURES OF FOOD
- ⇒ SCHEDULE BASIC CLEANING, DEEP CLEANING AND MAINTENANCE THROUGHOUT YOUR FACILITY AND FOLLOW IT
- ⇒ DISCUSS WITH EMPLOYEES ILLNESSES AND SYMPTOMS REPORTABLE TO MANAGEMENT
- ⇒ FOCUS ON GOOD HYGIENE PRACTICES, 20 SECOND HAND WASHING AND THE PROPER USE OF GLOVES
- ⇒ TRAIN NEW EMPLOYEES TO TAKE PERSONAL RESPONSIBILITY FOR YOUR ESTABLISHMENTS HIGH STANDARDS
- ⇒ HAVE HIGH STANDARDS
- ⇒ CREATE A FOOD SAFETY CULTURE
- ⇒ ESTABLISH CORRECTIVE ACTIONS IF STANDARDS ARE NOT MET
- ⇒ CORRECTIVE ACTIONS SHOULD NOT ONLY BE AN IMMEDIATE ACTION BUT A TWO PRONG APPROACH THAT ALSO ADDRESSES FUTURE INCIDENTS WITH TRAINING AND REVIEW OF PROCEDURES
- ⇒ FOLLOW UP ON TRAINING, MONITORING TEMPERATURES, SCHEDULES. PEOPLE PERFORM BETTER IF THEY KNOW SOMEONE IS WATCHING.

**REQUIRED SIGNS**

- ❖ **SANITATION POSTER:** This poster in each kitchen, describes basic required sanitation methods for employees.
- ❖ **SULFITE WARNINGS:** Informs customers by a sign, menu listing, product label listing or other effective means if foods containing a sulfite preservative is sold or served. is acceptable.
- ❖ **PRESENCE OF FOOD SERVICE MANGER:** Sign indicates that a certified manager is required to be on duty at all times.
- ❖ **HANDWASHING SIGN/POSTER/ICON:** Posted in a clearly visible location in all toilet rooms and at all hand-washing sinks used by food employees.
- ❖ **PROPER DISPENSING PROCEDURES:** Conspicuously posted in the immediate display area instructing customers on proper dispensing procedures for bulk food from a self-service counter or buffet. For example, this sign is required for bulk candies and nuts display area, gourmet snack items display area, etc.
- ❖ **NOTIFICATION TO OBTAIN CLEAN TABLEWARE:** A card or sign must be displayed to notify customers that clean tableware is to be used upon return to self-service areas such as salad bars and buffets.
- ❖ **FOG NOTICE:** Post conspicuously in an area accessible to all employees, a notice that describes the ordinance requirements of grease traps.

**PERMITS****FEES INCREASE FOR ALL SERVICES BEGIN JANUARY 1 OF EACH YEAR****Food Dealer's Permit**

Required for food service establishments. Permit must be posted in public view; is valid for one year and must be renewed on or before the expiration date.

**FROZEN DESSERT PERMIT**

Any establishment or mobile food unit engaged in the production of frozen desserts must purchase a frozen dessert permit. This permit is needed for machines that manufacture frozen desserts such as icee, slurpee, milk shake, soft-serve ice cream and yogurt, etc.

**PRODUCE DEALER'S PERMIT**

Required for any person engaging in the distribution of produce (peddler) or sales from a produce stand where farm produce in its natural state is the only food sold.

**CERTIFIED FARMER'S MARKET PERMIT**

Required for any person operating a farmer's market which has been certified by the Texas Department of Agriculture pursuant to Subchapter D of Title 4 of the Texas Administrative Code. The only foods Certified Farmers Markets may sell are farm produce and farm products. A certified manager must be on duty during sampling operations.

**FEES INCREASE FOR ALL SERVICES BEGIN JANUARY 1 OF EACH YEAR**

**FOOD SERVICE MANAGERS CERTIFICATION**

A certified manager is required to be on duty and present in each food service establishment during make-ready, food preparation, cleanup, processing, packaging, manufacturing, or production and have in her/his possession a valid and current food service manager's certification issued by the City of Houston.

- ◆ Students must complete the required 9-hour (1-day) course and, pass the examination with a score of 70 or above.
- ◆ An optional examination session is available.
- ◆ The certificate is valid for five years. Prior to expiration, obtain a new certificate by attending the course or Optional Exam.
- ◆ The wall certificate is required to be posted in public view.
- ◆ The wallet card is required to be on his/her person while on duty as proof of certification.
- ◆ Failure to make the passing score requires the applicant to reapply and complete the initial course and examination.
- ◆ Food service establishments that are required to have certified managers must post the following notice in a conspicuous place, easily accessible to all employees:  
"OPERATION WITHOUT A FOOD SERVICE MANAGER PRESENT IS UNLAWFUL"
- ◆ The City of Houston provides the courses in English, Spanish, Vietnamese, and Chinese languages.
- ◆ Classes are conducted at the various multi-service centers throughout the city. Call for class location.
- ◆ Reservations for all classes are required. Call the Consumer Health Service Bureau at 832-393-5100 or register on-line at [www.HoustonConsumer.org](http://www.HoustonConsumer.org)

Payments must be received at least 2 days prior to class by mail, in person, or on-line.

- ◆ Some food service establishments (packaged-food-only retail store, restricted bar, restricted warehouse), may be exempt from the certification requirement. This can only be verified by an inspection conducted by the field sanitarian to confirm the operation type. You may call the Food Inspection Program at 832-393-5100 for assistance.
- ◆ Courses may be conducted at your establishment (or other location) however, a required attendance of 20 or more students is necessary. Call 832-393-5100 for information.
- ◆ City of Houston On-Line Food Service Manager and Food Handler state of Texas accredited courses:  
[www.Houstonconsumer.org](http://www.Houstonconsumer.org)



For inquiries about the Food Ordinance, call 832-393-5100. Copies of the Houston Code of Ordinances, Chapter 20 may be obtained from the internet at [www.HoustonConsumer.org](http://www.HoustonConsumer.org)

For additional information regarding the Consumer Health Services Bureau, feel free to contact  
**(832.393.5100)**

- |   |                                  |
|---|----------------------------------|
| <input type="checkbox"/> Assistant Director<br>Bureau of Consumer Health Services   | Patrick Key, RS                  |
| <input type="checkbox"/> Bureau Chief (Interim)   | Christopher Sparks, MPA ,MPH, RS |
| <input type="checkbox"/> (Interim Chief Sanitarian) Retail Food Inspections<br>Food Establishment Program,<br>Specialized Food, Pre-opening Inspections | Abeid Fells, RS                  |
| <input type="checkbox"/> Chief Sanitarian - Food Protection and Training,<br>Mobile Units, Plan Review Programs   | Renee L. Beckham, RS             |
| <input type="checkbox"/> Administration<br>(Permit fees, Budget, Bureau Support)  | Conrad Janus, RS                 |

#### RESOURCES AND WEB SITES

For specific questions about the Texas Food Establishment Rules (TFER), contact the Texas Department of Health (TDH) at 512-719-0232, or

Visit the web page at <http://www.tdh.state.tx.us/bfds/retail/rfdmain.htm>

Other helpful web sites:

- Federal Food and Drug Administration (FDA)  
[www.fda.gov](http://www.fda.gov)
- United States Dept. of Agriculture Food Safety and Inspection Services (FSIS)  
[www.usda.gov/fsis](http://www.usda.gov/fsis)
- Food and Nutrition Information Center  
[www.nal.usda.gov/fnic](http://www.nal.usda.gov/fnic)
- University of Iowa State Food Safety Program  
[www.exnet.iastate.edu/](http://www.exnet.iastate.edu/)
- International Food Safety Council  
[www.foodsafetycouncil.org](http://www.foodsafetycouncil.org)
- Centers for Disease Control and Prevention (CDC)  
[www.cdc.gov](http://www.cdc.gov)

Ottawa County Environmental Health  
[www.miottawa.org/HealthComm/health/enviro.htm](http://www.miottawa.org/HealthComm/health/enviro.htm).

Michigan Department of Agriculture  
[www.michiganfoodsafety.com](http://www.michiganfoodsafety.com)



CITY OF HOUSTON
HEALTH DEPARTMENT
BUREAU OF CONSUMER HEALTH SERVICES
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FORM 1-B Conditional Employee or Food Employee Reporting Agreement

Preventing Transmission of Diseases through Food by Infected Conditional Employees or Food Employees with Emphasis on Illness due to Norovirus, Salmonella Typhi, Shigella spp., or Shiga toxin-producing Escherichia coli (STEC), nontyphoidal Salmonella or Hepatitis A Virus

The purpose of this agreement is to inform conditional employees or food employees of their responsibility to notify the person in charge when they experience any of the conditions listed so that the person in charge can take appropriate steps to preclude the transmission of foodborne illness.

I AGREE TO REPORT TO THE PERSON IN CHARGE:

Any Onset of the Following Symptoms, Either While at Work or Outside of Work, Including the Date of Onset:

- 1. Diarrhea
2. Vomiting
3. Jaundice
4. Sore throat with fever
5. Infected cuts or wounds, or lesions containing pus on the hand, wrist, an exposed body part, or other body part and

Future Medical Diagnosis:

Whenever diagnosed as being ill with Norovirus, typhoid fever (Salmonella Typhi), shigellosis (Shigella spp. infection), Escherichia coli O157:H7 or other STEC infection, nontyphoidal Salmonella or hepatitis A hepatitis A virus infection)

Future Exposure to Foodborne Pathogens:

- 1. Exposure to or suspicion of causing any confirmed disease outbreak of Norovirus, typhoid fever, shigellosis, E. coli O157:H7 or other STEC infection, or hepatitis A.
2. A household member diagnosed with Norovirus, typhoid fever, shigellosis, illness due to STEC, or hepatitis A.
3. A household member attending or working in a setting experiencing a confirmed disease outbreak of Norovirus, typhoid fever, shigellosis, E. coli O157:H7 or other STEC infection, or hepatitis A.

I have read (or had explained to me) and understand the requirements concerning my responsibilities under the Houston Food Ordinance under Section 20-21.7 Employee Health and the Texas Food Establishment Rules under Section 228.35, 228.36, and 228.37 with respect to reporting, exclusions and restrictions from opportunities to transmit disease in a food establishments and this agreement to comply with:

- 1. Reporting requirements specified above involving symptoms, diagnoses, and exposure specified;
2. Work restrictions or exclusions that are imposed upon me; and
3. Good hygienic practices.

I understand that failure to comply with the terms of this agreement could lead to action by the food establishment or the food regulatory authority that may jeopardize my employment and may involve legal action against me.

Conditional Employee Name (please print) \_\_\_\_\_

Signature of Conditional Employee \_\_\_\_\_ Date \_\_\_\_\_

Food Employee Name (please print) \_\_\_\_\_

Signature of Food Employee \_\_\_\_\_ Date \_\_\_\_\_

Signature of Permit Holder or Representative \_\_\_\_\_ Date \_\_\_\_\_

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**FOOD SERVICE MANAGER'S CERTIFICATION MANUAL**



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