

## **GOOD MANUFACTURING PRACTICES** **IN THE FOOD INDUSTRY: PART II**

### **COURSE OUTLINE**

- **To help prevent contamination in food processing and handling facilities, the U.S. Food and Drug Administration (FDA) has created a regulation called "Current Good Manufacturing Practices".**
  - It establishes criteria for the ideal food manufacturing and handling conditions that should exist in every facility to protect food products from contamination.
  
- **The regulation requires every food processing and handling facility to create a group of their own "Good Manufacturing Practices (GMPs)".**
  - Each facility's GMPs must be based on the criteria set by the FDA.
  
- **The FDA organizes GMPs into seven groups, which address...**
  - Personnel.
  - Plant and Grounds.
  - Sanitary Operations.
  - Sanitary Facilities and Controls.
  - Equipment and Utensils.
  - Manufacturing Processes and Controls.
  - Warehousing and Distribution.
  
- **The GMPs that are developed in different facilities can vary slightly, depending on their manufacturing conditions.**
  - Each facility is responsible for creating a set of GMPs that work for them.
  
- **The last four sections of the FDA's GMP regulation focus on...**
  - The condition of the water in your facility.
  - The equipment and utensils that you work with.
  - The environment in which the food is kept.
  - The manufacturing and handling operations themselves.

- **GMPs for the "Sanitary Facilities and Controls" section of the FDA regulation should address issues regarding your facility's water and waste, such as...**
  - Providing a clean water supply that has the appropriate temperature and pressure for the food-related activities that take place in all areas.
  - Making sure that plumbing systems are designed and sized appropriately... and installed and maintained correctly.
  - Protecting the water supply from becoming contaminated by outside sources, such as sewage and rubbish.
  
- **The water in your facility should be from a source where the water is clean and sanitary.**
  - This can include a city water supply or a well.
  
- **Running water must be provided in all areas where food processing and cleaning take place.**
  - This water must have the pressure and temperature that is suitable for the work that your facility is doing.
  - This includes any locations that have equipment that must be cleaned regularly, and where tools, utensils and packaging materials are cleaned.
  - It must also be available in locker rooms and other places where employees go to clean up.
  
- **GMPs that your facility creates to address the maintenance of the plumbing in your buildings must be designed to ensure that...**
  - Adequate amounts of water are carried throughout the plant.
  - Water is flowing in the right direction.
  - Plumbing is constructed in a way that helps to avoid contamination with no "backflow" or "cross-connections" that could result in contamination.
  - Floor drainage is provided in spaces where floors get very wet.
  - Sewage systems are isolated from other piping.
  - Sewage is removed from the facility and disposed of properly.
  
- **GMPs must be developed to keep toilet and handwashing facilities clean and sanitary at all times.**
  - These areas must be easily accessible to all employees.
  
- **All garbage and rubbish should be stored in a way that minimizes odor, won't attract pests and doesn't create a contamination hazard.**
  - Your facility must also have procedures in place to dispose of it safely.

- **All facilities must create GMPs that describe what you can do to keep the equipment and utensils that you use clean, sanitized and in good working order.**
  - If the tools and utensils you use aren't clean or in good condition, you might contaminate the food you're working with.
  
- **To meet the criteria set by the FDA, these GMPs must address...**
  - The material, design and condition of the utensils and equipment that you use.
  - Keeping food contact surfaces in good repair.
  - The maintenance of utensils, equipment and food contact surfaces.
  - Ensuring that thermometers are present in every freezer and refrigerator, and that they measure temperature accurately.
  - Any other equipment issues that might affect food safety in your facility.
  
- **These GMPs must ensure that all equipment and utensils are made of materials that are appropriate for food contact, and easy to clean and maintain.**
  - They should also be kept free of oils, metal fragments and water, as well as other foreign substances that might contaminate food.
  - If a utensil or piece of equipment looks as though it might have something on it that could introduce contaminants, you need to clean and sanitize it before you use it.
  
- **Any equipment that is installed in your facility should be easily accessible as well.**
  - There shouldn't be any physical barriers that could prevent you from cleaning it thoroughly or maintaining it properly.
  
- **Your facility must also develop GMPs addressing the condition of "food contact surfaces".**
  - These surfaces must be non-toxic as well as corrosion-resistant.
  - They must also be made of materials that aren't easily damaged by chemicals, water and other substances that might be present in your environment.
  - Harmful microorganisms can very easily accumulate in any cracks and crevices on surfaces, so all food contact surfaces should be smooth and seamless.

- **The FDA regulation requires that freezers and refrigerators contain a thermometer that records the temperature accurately.**
  - Substances that are kept at too high a temperature are vulnerable to harmful microorganisms, which could affect the raw materials, ingredients or finished product during storage.
  - If you feel that there might be a problem with the temperature in a freezer or a refrigerator in your facility, you should report it to your supervisor immediately.
  
- **Using compressed air improperly can spread contaminants throughout food-contact areas.**
  - Compressed air must always be used in a "controlled" way that doesn't affect the safety of the food products that you are working with.
  
- **GMPs that are developed for the "Manufacturing Processes and Controls" section of the FDA regulation must designate a "competent person" to ensure that your facility meets the criteria for...**
  - Handling raw materials and ingredients.
  - Keeping food safe during the entirety of
  - the manufacturing and handling operations.
  - Quality control and testing.
  
- **The safety and quality of the raw materials and ingredients that you're working with should also be monitored at all stages of the manufacturing process.**
  - "Raw materials" are those unprocessed substances which can be used in food manufacturing that are plant-based, like fruit or nuts, or animal-based, such as meat or milk.
  - "Ingredients" are materials that have been processed in some way before you use them.
  
- **The GMPs that are set up in order to prevent the contamination of ingredients and raw materials should include inspecting them for cleanliness and storing them properly.**
  - Some raw materials must undergo a "process" such as cooking or washing before they are safe to eat.
  - Your facility's GMPs should contain specific directions on when and how to use these processes when they are needed.
  
- **The containers that hold the ingredients and raw materials should be designed to protect them from contaminants as well as keep them at acceptable temperature and humidity levels.**
  - Materials that are stored in bulk must be held to the same standards.

- **Frozen ingredients must also be kept at proper temperatures.**
  - If they need to be thawed before use, this must be done in a controlled environment, so they don't become adulterated.
  
- **GMPs should also be developed to ensure that ingredients and raw materials are protected from contamination caused by metals or other foreign objects.**
  - If you think that a raw material might have been exposed to contaminants, it should be washed using clean water or otherwise decontaminated before it's used.
  
- **It is important that manufacturing and handling operations themselves are free from contamination, minimize the growth of bacteria and prevent spoilage.**
  - To help mitigate these risks, your facility's GMPs should provide clear instructions for cooking, sterilizing and refrigerating ingredients and raw materials.
  
- **Using equipment that is clean and sanitary is a vitally important part of protecting food during manufacturing operations.**
  - As you do your job, you need to make sure that you are following GMPs for cleaning and sanitizing as well.

**\*\*\* SUMMARY \*\*\***

- **The U.S. Food and Drug Administration has developed a "Current Good Manufacturing Practices" regulation that sets criteria for minimizing the risk of contamination in food manufacturing and handling environments.**
- **Based on the FDA regulation, your facility must create its own "Good Manufacturing Practices" that are specific to your operations.**
- **Keeping utensils, equipment and surfaces clean, sanitized and in good condition is a crucial part of minimizing contamination of the food products that you're working with.**
- **Protecting your facility's water supply from sources of contamination, and establishing processes and procedures for sewage and rubbish disposal are areas that need to be addressed by your GMPs as well.**
- **GMPs that address the operations in your facility should focus on keeping the environment free from contamination, minimizing the growth of bacteria and preventing spoilage.**
- **Following good manufacturing practices can significantly reduce the risk of the food products that you work with from becoming contaminated... which benefits both your customers and your company.**
- **So by following your company's GMPs, you can do your part to help produce products that are safe and enjoyable... and keep your customers coming back for more!**