

# The Safe Transport of Food

- The sanitary transport of refrigerated food is a collaborative effort between the shipper, loader, carrier and receiver.
- The burden of safety is shared between all parties involved, and often is supported by legal contracts.
- It is important for all parties and persons involved in the integrated refrigerated transport supply chain to be aware of regulatory requirements as well as industry best practices to ensure safe transit of cargo
- The Food Safety Modernization Act or FSMA enables the FDA to focus more on preventing food safety problems

# The Safe Transport of Food

- The Sanitary Transportation of Food (STF) rule allows the transportation industry to continue to use best practices concerning cleaning, inspection, maintenance, loading and unloading, and operation of vehicles to prevent adulteration linked to food safety and to enhance ongoing food safety throughout our industry
- It is critical for drivers to possess an awareness of potential food safety problems that may occur during transportation
- Records of your training will be kept for no fewer than twelve months

## What the Federal Regs Say (21 C.F.R. 1.900 et. seq).

- **(§1.906) *Vehicles and Transportation Equipment***
- \* The design and maintenance of vehicles and transportation equipment must be such to ensure that it does not cause the food that it transports to become unsafe.
- \* *1.906a* Vehicles and transportation equipment must be designed and of such material and workmanship to be suitable and adequately cleanable for their intended use to prevent food from becoming
- \* *1.906b* Vehicles and transportation equipment must be maintained in such sanitary condition for their intended use to prevent food from becoming unsafe.
- \* *1.906c* Vehicles and transportation equipment used for food requiring temperature control for safety must be designed, maintained and equipped, with adequate temperature control to prevent the food from becoming unsafe.

# What the Federal Regs Say (21 C.F.R. 1.900 et. seq).

- \* *1.906d* Vehicles and transportation equipment must be stored in a manner that prevents harborage of pests or becoming contaminated in any other manner that could result in food becoming unsafe.
- **(§1.908) *Transportation Operations***
- The measures taken during transportation to ensure food safety, such as adequate temperature controls, preventing contamination of ready to eat food from touching raw food, protection of food from contamination by non-food items in the same load or previous load, and protection of food from cross-contact::
- 1.908a General Requirements: Applies to all shippers, carriers, loaders, and receivers. A person may be subject to these requirements in multiple capacities.

# What the Federal Regs Say (21 C.F.R. 1.900 et. seq).

- 1.908a General Requirements (Cont) Competent supervisory personnel must be assigned the task of ensuring compliance with STF requirements.
- \* Transportation operations must be conducted so as to prevent food from becoming unsafe, including taking measures such as segregation, isolation, and packaging to separate foods
- \* Relevant factors (*e.g.*, animal food vs. human food, raw material vs. finished food) must be specified in determining the necessary conditions and controls for the transportation operation.
- \*. If there is any indication of a possible material failure of temperature control or other conditions that may render the food unsafe the food shall not be sold or otherwise distributed until it is determined by a qualified person that it is safe to do so

# What the Federal Regs Say (21 C.F.R. 1.900 et. seq).

- *1.908e Requirements Applicable to Carriers*
- \* The carrier must ensure that vehicles and equipment meet the shipper's specifications
- \* Upon completion of the transport and if requested by the receiver, the carrier must provide the operating temperature specified by the shipper
- \* Carriers must pre-cool each mechanically refrigerated cold storage compartment as specified by the shipper
- \* If requested by a shipper, a carrier that offers a bulk vehicle must identify the previous cargo.
- \* If requested by a shipper, a carrier that offers a bulk vehicle must provide recent cleaning information
- \* Carriers must specify practices for cleaning, sanitizing if necessary, and inspecting vehicles and transportation equipment to maintain them in appropriate sanitary condition, describe how it will comply with the temperature control requirements, and describe how it will comply with the provisions for use of bulk vehicles.

# What the Federal Regs Say (21 C.F.R. 1.900 et. seq).

- ***(§1.910) Training Requirements for Carriers Engaged in Transportation Operations***
- Training is required when the carrier and shipper agree that the carrier is responsible for sanitary conditions during transport including recordkeeping.
- ***(§1.910) Record Requirements for Shippers, Receivers, Loaders and Carriers***
- Records must be maintained of written procedures, agreements and training (required of carriers). The required retention time for these records depends upon the type of record and when the covered activity occurred, but does not exceed 12 months.

# The Supply Chain Relationship

- The relationship between shippers, carriers, loaders and receivers is key to maintaining an uninterrupted cold chain that allows for the safe transit of food cargo
- The end goal is to ensure a seamless cold chain that includes a positive working partnerships that benefit all parties. **In the end, carriers, loaders and receivers should verify that they have the final detailed instructions and requirements from the shippers in writing to ensure compliance**
- **Vehicle and Equipment Storage**
- Vehicles and transportation equipment must be stored in a manner that prevents harborage of pests or becoming contaminated in any other manner that could result in food becoming unsafe for human or animal consumption.



# The Supply Chain Relationship

- **Food Safety Procedures (FSP)**
- Transportation operations must be coordinated such that food is transported in a sanitary manner. Clearly defined and written transportation procedures, specifically related to maintaining food safety, must be developed and shared with all parties involved in the transport of perishable foods.
- **Temperature Requirements**
- The type of goods being transported will determine the temperature requirements. Specified numeric temperature or a range of temperatures in either Fahrenheit or Celsius to be maintained during transport with identified tolerances
- **Time & Temperature Deviations and Corrective Actions**
- Shipper specified transport temperatures; including set-point temperature as well as upper control limit (UCL) and lower control limit (LCL) are used to establish the desired temperature

# The Supply Chain Relationship

- **Cleaning and Sanitation**
- Cleanliness prevents bacterial, chemical, and odor contamination of food product loads. Remove all loose debris and wash or sweep the floors clean. The floor drains and grooves should be free of debris so drainage will not be blocked.
- Cleaning and sanitation of bulk food containers (trailers) is a critical step in the food safety procedures, and should include proper cleaning and sanitation procedures as well as information about the most recent cleaning of the trailer.
- Equipment transporting human or animal food items requires a higher level of inspection and maintenance. Equipment needs to be clean and otherwise suitable for the transport of food items or goods associated with the manufacture of food items.

# Pre-Loading Protocol

- Before picking up a load, always run the refrigeration unit in high speed cool for at least 20 minutes and perform an automatic Pre-Trip test. The unit **MUST** pass the Pre-Trip test.
- **Computerized Pre-trip:** “Pre-tripping” the refrigeration unit and documenting the time and date of pre-trip is a key, ***and required***, ingredient to assuring that the refrigeration unit is operating correctly and to preventing losses and mitigating claims and litigation.
- Users should set the unit controller to the desired set-point temperature and other settings
- Select the proper operating mode as appropriate for the cargo being transported and/or per shipper requirements. Choose either the ‘Continuous Run’ or the “START-STOP” mode appropriate for the cargo being transported.
- Before loading product, pre-cool the trailer or container to the desired carrying temperature unless otherwise specified by the shipper and carrier. Turn the refrigeration unit ‘OFF’ when product is ready to be loaded and **BEFORE** box doors are opened.

# Pre-Loading Protocol

- Pre-cooling trailers is a crucial part of the refrigerated distribution process and represents a industry Best Practice for carriers.
- Pre-cooling trailers may take up to two hours or possibly more to maintain stable temperatures.
- Proper loading will help ensure cargo quality/condition is maintained throughout its journey and mitigate risks for Carriers. Carriers should always cross-check procedures with the shipper/PCQI Food Safety Plan (FSP) to ensure requirements are met and actions are taken to ensure compliancy.
- Turning off the refrigeration unit when the doors are open prevents:
  - a. Moisture from accumulating on the evaporator coil
  - b. Ice accumulation on the coil
  - c. Poor refrigeration performance
  - d. Blockage of conditioned air movement to the cargo

# Pre-Loading Protocol

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- Load the product quickly and efficiently and use loading patterns that maximize air circulation 'around' and 'through' the entire load for frozen cargo and chill cargoes, respectively. Frozen product should always be palletized and centerline-loaded in order to maintain a cold air envelope around all six sides of the load. Pallet placement must allow refrigerated air to pass between the load, the walls, and the floor.
- The pallet placement in a trailer must allow conditioned air to pass between the load, walls and the floor. Air flows between the walls and the load only if the pallets or cargo are not touching the walls. Cargo height should not extend high enough to touch the air chute

## Trailer Loading Best Practices Impacting Temperature Control

- Verify the product being loaded is within the appropriate temperature limits for the product type.
- Temperature verification can usually be accomplished by placing a calibrated thermometer
- If the order does not completely fill the trailer, a “Load Bar” should be used to stabilize the load.
- Any product damaged during trailer loading should be immediately addressed according to the customer’s previously stated expectations.
- Care should be taken to ensure that the top cases in the trailer do not inhibit airflow
- Loading the trailer should proceed in an expeditious manner to prevent product temperature abuse.
- Place a unique security seal on the truck door and record the seal number on the shipping paperwork.
- Appropriate records should be maintained for all activities for traceability/recall purposes
- Stacking cargo directly on the floor or against the sidewalls can cause product warming or chilling.

## Check-Out Practices from the Shipper that Impact Temperature Control

- The check-out personnel should validate that the paperwork is accurately and completely filled out.
- The driver will be handed all appropriate paperwork as well as a gate pass if necessary.
- The driver should sign any appropriate paperwork as necessary, including driver logs, bill(s) of lading, etc. and provided copies.
- The site will retain similar copies following corporate or local retention policies.
- The driver is now clear for departure.
- The local site should update its logs and paperwork, noting the time that unloading of the trailer was completed as well as the time the driver was cleared for departure.

# .En-Route Compliance Requirements

- Monitoring the trailer while in transit provides the operator with valuable information about the quality and performance of the trailer and the driver
- It is imperative that the compartmental air temperatures are being monitored on a real-time basis. If the air temperature is properly maintained, the product temperature cannot go out of threshold specification
- Data collection of real-time transit information requires the use of a Telematics device.



# **Post-Trip Inspection – End of Route**

- At the conclusion of the trip/route, drivers should conduct a post-trip inspection to verify the conditions of their vehicles