A close-up of a globe

Description automatically generatedA black and white logo

Description automatically generatedLOGO

**Cold Chain – Transportation Best Practices**

**CHECKLISTS**

**Published by the Global Cold Chain Alliance**

**February 2024; Version 4.0**

Published by the Controlled Environment Building Association

XXX 2024

**ACKNOWLEDGMENTS**

The Cold Chain Best Practice Guide Task Force worked on drafting and publishing this version of the Best Practice Guide in 2024 and whose members were:

* Don Durm, PLM Fleet
* Rob Fay, FLGO Freight
* Lauren Wilson, JB Hunt
* Wib Zook, United States Cold Storage

Special thanks for the review and guidance of The GCCA Transportation Advisory Board.

**Disclaimer**. While impossible to be all-encompassing, the goal of this updated *Best Practices Guide*, as prepared by industry experts, is to help companies across the food supply cold chain meet or exceed the ongoing food safety throughout the supply chain, and positively impact the sanitary transportation of food to consumers. Other scenarios, such as railcar loading and drop trailer loading, will have similar traits to this live truckload outline, with the most significant difference being the presence of the carrier personnel. Therefore, additional safety considerations and written communications should be taken into account.

The information the Global Cold Chain Alliance promulgated is intended to be a resource concerning the refrigerated warehousing industry. While the material has been compiled carefully, GCCA and the guide’s authors do not assume any responsibility for its use, accuracy, or applicability. All users of the information unconditionally agree: (1) not to hold GCCA or the authors responsible in any manner or to any extent for the user’s action(s) or the consequences of such action(s) relating to the use of the information provided and (2) to indemnify GCCA, and the authors for all expenses, fees, costs, damages, awards, or other amounts incurred related to or arising from the user’s use of the information. As used above, GCCA shall mean the core partners of GCCA and each organization’s directors, officers, employees, volunteers, members, and agents.

Copyright © 2024 by the Global Cold Chain Alliance.

All rights reserved.

No portion of this work may be reproduced or transmitted in any form by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system without written permission from the copyright holder.

# About GCCA

The Global Cold Chain Alliance (GCCA) was formed through the merger of the International Refrigerated Transportation Association (IRTA) and the International Association of Refrigerated Warehouses (IARW). The GCCA has adopted and updated the original *Refrigerated Transportation Best Practice Guide* created by IRTA to assist shippers, loaders, carriers, and receivers in understanding and adopting industry best practices.

## Vision

GCCA will promote and strengthen the refrigerated supply chain and, with this Best Practices Guide, specifically strengthen the refrigerated transportation sector of the industry.

## Mission

GCCA is organized to cultivate, foster, and develop commercial and trade relations between those engaged in all aspects of producing, importing, exporting, transporting, and warehousing commodities requiring temperature and/or atmospheric controls and related services:

* To gather and disseminate data and information to members.
* To protect the interests of its members from unlawful and unjust measures and practices.
* To conduct activities toward promoting and strengthening the interests of those engaged in transporting and handling temperature and/or atmospheric-controlled goods and related services.

## Transport Vehicle Inspection Checklist

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Critical Information:** | | | | | |
| **Facility Information:** | | Shipper: |  | | |
| Bill of Lading Number: |  | | |
| Unit Number: |  | | |
| Ship Date: |  | | |
| Ship To: |  | | |
| Inspector: |  | | |
| Today’s Date: |  | | |
| **Vehicle Information:** | | Trucking Line: |  | | |
| Driver’s Name (Optional): |  | | |
| Transport vehicle License Number (Optional): |  | | |
| Transport vehicle Number: |  | | |
| License Plate (State): |  | | |
| **Transport vehicle or Transport vehicle Inspection Check List:** | | | | | |
| **Area** | **Item** | | | **Satisfactory**  **Condition** | |
| **Yes** | **No** |
| **Refrigeration**  **Unit** | Refrigerator Thermostat Properly Set | | |  |  |
| Refrigerator Unit Temperature Setting (Degree F): | | | Degrees | |
| Refrigerator Unit Operational | | |  |  |
| Vents Closed/Open | | |  |  |
| **Cleanliness** | Overall Transport vehicle Condition | | |  |  |
| Floors Free of Rubbish, Product Residue or Insects | | |  |  |
| Walls Free of Product Residue and Tape | | |  |  |
| Drains Open & Unobstructed (Free Flowing) | | |  |  |
| Absence of Odor(s) | | |  |  |
| **Condition** | Ceiling Undamaged | | |  |  |
| Air Delivery Chute Intact & Functional | | |  |  |
| Door Seals Intact & in Good Repair | | |  |  |
| Door Undamaged | | |  |  |
| Walls & Wall Insulation Undamaged | | |  |  |
| Floors in Good Repair | | |  |  |
| **Final Result:** | **Satisfactory for Loading** | | |  |  |
| **Comments:** |  | | | | |

## Checklist for Properly Staging Products for Loading

* Verify Jacks and Forklifts are operational
  + Use approved equipment types for loading
  + Battery and/or fuel levels
* Verify Temperatures with properly calibrated devices
  + Cool Dock environment
  + Product pulping temperatures
* Verify Load and Pallet integrity
* Ensure BOL and shipper requirements and confirm load
  + Ensure that pallets are at proper height and will not block normal airflow
  + Ensure appropriate packaging of products to be transported before loading
  + Identify potential cross-contamination issues
  + Stabilize pallets
  + Shrink-wrap pallets
* Pre-position refrigerated products (pallets) near the dock door
  + Arrange pallets in accordance of loading sequence based on product mix, delivery schedule, or shipper requirements

Suggested steps include:

* Secure the Glad Hand Locks
* Secure the Wheel Chocks
* Ensure the transport vehicle is properly spotted in the Dock Door
* Ensure that the dock door is not opened until Transport vehicle is spotted and secured

Once the transport vehicle is physically secured and in position, warehouse personnel should:

* Secure the Dock Door Seals
* Raise the Dock Plate
* Ensure the Dock Light is “Green” before opening up the transport vehicle door

Next, check the condition of the transport vehicle compartments and components:

* Verify Operational Readiness of the Transport vehicle
* No Debris/ Obstructions
* Cleanliness Check (Free of pest, microbes, etc.)
* Bulk Head(s) are functional
* Straps and Load bars (E-tracks) are functional

## Transport Vehicle Loading Checklist

* Verification of Product packaging
* Crush proof
* Non-vented for frozen products or chilled meat
* Vented for fresh products
* Pre-cool and store cargo at desired temperature ‘Before’ loading
* Run Unit 20 minutes in High Speed Cool and perform an Auto Pre-Trip to confirm proper operation
* Verify Set-Point temperature to ensure that it is set correctly
* Ensure correct selection of Continuous Run or CYCLE-SENTRY operating mode to prevent hot spots and top freezing
* Pre-cool transport vehicle/body to desired temperature
* Verify product temperature to confirm it is at the desired temperature
* Turn unit ‘OFF’ while loading to minimize inside and outside air exchange
* Air circulation is unobstructed around ALL six sides of load
* Stabilize the load to minimize ‘Load Shift’ risk and resulting cargo physical damage
* Initiate Defrost Cycle to clear evaporator coil and ensure maximum cooling performance

## Stowage Checklist

* The floor is clean and free of debris and off-odors
* Transport vehicle interior is free from damage
* Door seals are in good repair and floor drains are open
* Transport vehicle is pre-cooled to the desired loading temperature
* The bulkhead is snug up against the ceiling, floor and sidewalls
* Palletized cargo is stowed on clean, four-way pallets with openings on all four sides
* Cargo does not block the evaporator discharge outlet or return air inlet
* Cargo is stowed without chimneys or vertical air paths to avoid short cycling of cold air
* Chilled cargo is stowed loosely (not tightly block stowed) with specified spacing between the load and the evaporator inlet and outlet, ceiling, sidewalls, floor, and rear divider
* Freeze cargo is block stored (solid stow) with specified spacing between the load and the evaporator inlet and outlet, ceiling, sidewalls, floor and rear divider
* Cargo is stowed with spacer of at least 3” between the bag and the side walls
* Cargo is stowed 3” between the rear of the load and the divider bulkhead (multi-temp)
* Cargo is stowed at least 9” between the top of the load and the ceiling
* Warmer dry or refrigerated cargoes are separated from cooler chilled cargoes by a space to avoid unwanted heat transfer
* Airflow is not blocked by ice, slip sheets, dunnage or plastic wraps
* Packaged iced cargo is not stowed on top of other cargo
* Cargoes stowed in the same transport vehicle are compatible with regard to temperature, humidity, ethylene, atmosphere and odors
* Portable temperature recorders are positioned to sense cargo air temperatures (generally on the top of load about 1/3 to 2/3 of the way to the rear of the load)

## Shipping Checklist

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Critical Information:** | | | | | |
| Customer Name: | |  | | | |
| Customer Contact: | |  | | | |
| Customer Phone: | |  | | | |
| Customer Fax: | |  | | | |
| Load Information: | | Purchase Order or Release Number: | |  | |
| Number of Cases or Units: | |  | |
| Number of Different Items in Load: | |  | |
| Type of Loading (pallet, floor, slip sheets): | |  | |
| Temperature of Load (chilled or frozen): | |  | |
| Estimated Arrival Time at Facility: | |  | |
| Participating Pallet Exchange Program? | |  | |
| Name of Carrier: | |  | |
| **Action Item:** | | | **Responsible Party:** | **Completed By:** | **Date & Time:** |
| Assign or record PO or Release Number | | |  |  |  |
| Obtain loading diagram from customer | | |  |  |  |
| Notify shipping dock of truck arrival | | |  |  |  |
| Collect appropriate paperwork from driver | | |  |  |  |
| Collect appropriate I.D. from driver (photo or copy of Driver’s License) | | |  |  |  |
| Document truck arrival time at plant | | |  |  |  |
| Verify customer data from table above | | |  |  |  |
| Resolve any discrepancies in paperwork, notify customer of any changes | | |  |  |  |
| Assign shipping door for loading | | |  |  |  |
| Send appropriate paperwork to shipping dock supervisor | | |  |  |  |
| Enter data into database (if appropriate) | | |  |  |  |
| Verify the condition (cleanliness and odor) of the transport vehicle. If dirty, have driver take appropriate cleaning action(s) or contact the customer for additional direction | | |  |  |  |
| Ensure proper transport vehicle position at dock, verify that safety procedures have been followed (wheel chocks, ICC bars, dock plate, etc.) | | |  |  |  |
| Document any transport vehicle damage (insulation or door closures and seals) | | |  |  |  |
| Verify that floor drains are closed | | |  |  |  |
| Verify that transport vehicle refrigeration unit is running and that the transport vehicle is pre-cooled | | |  |  |  |
| Collect Appropriate Loading Data: | Load Pick Up or PO number | |  |  |  |
| Arrival time at dock | |  |  |
| Start time of loading | |  |  |
| Collect Appropriate Loading Data: | End time of loading | |  |  |
| Thermostat setting | |  |  |
| Number of pallets in the truck at arrival (for pallet exchange programs) | |  |  |
| Obtain proper product for shipment from warehouse or staging area | | |  |  |  |
| Cross-Check Loading Process: | Verify case counts | |  |  |  |
| Cross-check item codes (SKU) | |  |  |
| Cross-check lot numbers | |  |  |
| Cross-check delivery and pick tickets | |  |  |
| Collect “catch” or “take” weights, if required by the customer | |  |  |
|  | |  |  |
| Cross reference load information with Purchase Order (PO), correct any discrepancies | | |  |  |  |
| Request that the driver count the products submitted for shipment (Optional, if the driver is allowed on the dock) | | |  |  |  |
| Have the driver sign the delivery ticket | | |  |  |  |
| Close the transport vehicle doors upon completion of loading and verification. If the transport vehicle is sealed, record the seal number | | |  |  |  |
| Verify that all information on this form is correct, signatures and date/time is entered. | | |  |  |  |

## 

## Arrival Procedures – Inbound Carrier

*Processes and procedures will vary from site to site; the following list is an example of commonly seen procedures.*

* Upon arrival, driver proceeds to the pre-designated check-in location (Guard Shack, Office or Welcome Center)
* Check-In personnel obtains appointment number and the Bill of Lading (BOL) from driver
* Check-In personnel verifies that the driver is at the correct location
  + If not, driver advised to contact his/her dispatch
  + If so, procedure to check in procedure
* Driver is “logged” into facility (electronic or paper/manual process).
* Collect Information:
  + Carrier Name
  + Driver Name
  + Arrival Time
  + Transport vehicle/Cab Numbers
  + DL/Identification Number
* Verify if a seal is required and present
* Inspect the transport vehicle for seal
* Verify seal number against paperwork for match

Note: If a seal is required but not present you should document exceptions on internal documentation (transport vehicle inspection logs or other forms) and BOL (i.e. Broken, Missing, Invalid/No Match). Company, or Customer Specific procedures should be followed for dealing with exception, including but not limited to:

* Contact the customer to determine handling requirements
* Determine if load should be accepted:
  + If accepted, follow remaining arrival procedures
  + If rejected, notify carrier/carrier dispatch and document accordingly
* If the site is an appointment-only site, then the check-in personnel should validate the driver’s appointment
* If an appointment is verified, then driver should be assigned staging location (Dock Door, Drop Lot or Sit-Lot)
* If no appointment, then the driver should contact their dispatcher to verify
* Non-Appointment sites will follow similar procedures as above, but likely on a first-come/first-serve basis
* Any discrepancies or variations to expectations on the inbounding of the carrier should be noted with detail in the event of need for further follow-up
* Upon completion of arrival process, staging and/or unloading procedures will be followed.

## Arrival Procedures – Outbound Carrier

*Processes and procedures will vary from site to site; the following list is an example of commonly seen procedures.*

* Upon arrival, driver proceeds to the pre-designated check-in location (Guard Shack, Office, Welcome Center)
* Driver provides appointment number and any other appropriate or required documentation to the check-in personnel
* Driver verification is determined
  1. Correct location, destination, and consignee
  2. Appointment-only site; verify appointment
  3. Non-appointment site; first come, first served
  4. Discrepancies should be noted
* Driver is “logged” into facility via established process (electronic or paper/manual):
* Collect Information:
  + Carrier Name
  + Driver Name
  + Arrival Time
  + Transport vehicle/Cab Numbers
  + DL/Identification Number
* Once verified and logged in, drivers are directed to appropriate staging location and load (Dock Door, Drop Lot or Sit-Lot).

## Receiving Checklist

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Critical Information:** | | | | | |
| Customer Name: | |  | | | |
| Customer Contact: | |  | | | |
| Customer Phone: | |  | | | |
| Customer Fax: | |  | | | |
| Load Information: | | Purchase Order or Release Number: | |  | |
| Number of Cases or Units: | |  | |
| Number of Different Items in Load: | |  | |
| Type of Loading (pallet, floor, slip sheets): | |  | |
| Temperature of Load (chilled or frozen): | |  | |
| Estimated Arrival Time at Facility: | |  | |
| Participating Pallet Exchange Program? | |  | |
| Name of Carrier: | |  | |
| **Action Item:** | | | **Responsible Party:** | **Completed By:** | **Date & Time:** |
| Assign or record PO or Release Number | | |  |  |  |
| Obtain loading diagram from customer | | |  |  |  |
| Notify shipping dock of truck arrival | | |  |  |  |
| Collect appropriate paperwork from driver | | |  |  |  |
| Collect appropriate I.D. from driver (photo or copy of Driver’s License) | | |  |  |  |
| Document truck arrival time at plant | | |  |  |  |
| Verify customer data from table above | | |  |  |  |
| Resolve any discrepancies in paperwork, notify customer of any changes | | |  |  |  |
| Assign shipping door for loading | | |  |  |  |
| Send appropriate paperwork to shipping dock supervisor | | |  |  |  |
| Enter data into database (if appropriate) | | |  |  |  |
| Verify the condition (cleanliness and odor) of the transport vehicle. If dirty, have driver take appropriate cleaning action(s) or contact the customer for additional direction | | |  |  |  |
| Ensure proper transport vehicle position at dock, verify that safety procedures have been followed (wheel chocks, ICC bars, dock plate, etc.) | | |  |  |  |
| Document any transport vehicle damage (insulation or door closures and seals) | | |  |  |  |
| Verify that floor drains are closed | | |  |  |  |
| Verify that transport vehicle refrigeration unit is running and that the transport vehicle is pre-cooled | | |  |  |  |
| Collect Appropriate Loading Data: | Load Pick Up or PO number | |  |  |  |
| Arrival time at dock | |  |  |
| Start time of loading | |  |  |
| End time of loading | |  |  |
| Thermostat setting | |  |  |
| Number of pallets in the truck at arrival (for pallet exchange programs) | |  |  |
| Obtain proper product for shipment from warehouse or staging area | | |  |  |  |
| Cross-Check Loading Process: | Verify case counts | |  |  |  |
| Cross-check item codes (SKU) | |  |  |
| Cross-check lot numbers | |  |  |
| Cross-check delivery and pick tickets | |  |  |
| Collect “catch” or “take” weights, if required by the customer | |  |  |
| Cross reference load information with Purchase Order (PO), correct any discrepancies | | |  |  |  |
| Request that the driver count the products submitted for shipment (Optional, if the driver is allowed on the dock) | | |  |  |  |
| Have the driver sign the delivery ticket | | |  |  |  |
| Close the transport vehicle doors upon completion of loading and verification. If the transport vehicle is sealed, record the seal number | | |  |  |  |
| Verify that all information on this form is correct, signatures and date/time is entered. | | |  |  |  |