



LPG Training and Safety Policy Manual



Last Updated January 13, 2021

Contact Info: 1-800-635-2083

<u>Ryan Velez</u>	<u>Division Supervisor</u>	<u>Ext 313</u>
<u>Dina Lucci</u>	<u>Planner/CSR</u>	<u>EXT 252</u>
<u>Kim Schaeffer;</u>	<u>Driver Manager</u>	<u>EXT 243</u>
<u>Steve Miller;</u>	<u>Florida ASP/LPG DM/CSR</u>	<u>Ext 242</u>

Paul Creamer
Training Supervisor
Venezia LPG Services
Cell 610-587-3596



Outline sections

1. Attire requirements
2. Equipment required
3. Properties of LPG
4. LPG trailer specifications
5. Pre trip tractor
6. Pre trip trailer
7. Pre trip accessories
8. Reporting Damaged equipment
9. Preparation for loading
10. General loading procedures
11. Transporting LPG
12. Unloading LPG
13. Empty out procedure
14. Section 14: MCI 331 Delivery System Inspection
15. Emergency Procedure
16. Customer Specific Procedures
17. Charts
 - a. Chart 1 for loading LPG by temp
 - b. Chart 2 for loading Butane by temp
 - c. Chart 3 for unloading into a customer's tank
18. QUALCOMM instructions
19. Dispatch
20. Breakdown

It's our goal to give you training and knowledge so that you develop a healthy respect for LPG rather than fear. There is no room for complacency when dealing with a hazardous material. A personal routine must be put into place that consists of checks and double checks to assure that all safety procedures were followed. Once you have hooked everything up and before you continue to the next step; **STOP** – double check everything, then proceed slowly.

⚠ Please pay special attention to instructions that are highlighted as they have heightened importance and are relevant to safety, product integrity, rule of law, important procedure or preventing damage to equipment.

Section 1: Attire requirements

- No shorts or sleeveless shirts permitted at any time.
- Work shoes/boots will be worn while working – driving – loading- unloading.
- Sneakers, athletic, recreational footwear or sandals are not permitted.
- Always inquire about PPE

Section 2: Required Equipment

Provided by Venezia

- Hard Hat
- Safety Glasses
- Face Shield
- Nomex Coveralls
- Fire Resistant Splash Apron
- Rubber (Thermal) Gloves
- Emergency Response Guidebook
- 1 Liquid hose
- 1 Vapor Line
- Several Fittings to Adapt to different Customer Vapor Hook up's
- Spanner Wrench
- Replacement "O" Rings
- Wheel Chocks
- Fire extinguisher
- Spark Proof Flash Light

Equipment Required but not supplied by Venezia

- Work Boots
- Long Sleeve shirt
- Long Pants
- Commercial Vehicle/HAZMAT Atlas
- Assortment of Basic tools

Section 3: Properties of LPG

What is LPG?

- Gaseous compounds removed during the initial processing of crude oil.
- Pressure will cause propane to remain in a liquefied state.
- LPG is flammable, odorless, non-corrosive and non-poisonous.
- Propane will vaporize rapidly when released from pressure, even during severe cold weather
- Butane will not vaporize below the freezing point of water.
- The pressure inside a filled LPG storage container is determined by the temperature of the liquid inside it. This is known as the vapor pressure.
- The vapor pressure of propane is higher than that of butane;
- The vapor pressure of propane ranges from 25 pounds per square inch gauge (psig) at 0 degrees F, to just under 200 psig at 105 degrees F.

LPG is highly flammable

- LPG burns with 2-1/2 to 6 times the heat provided by natural and manufactured gases and will burn with fuel-to-air ratios of 2.4 to 9.5% by volume for propane; 1.8 to 8.4% for butane.
- Ignition occurs at a temperature of 600 to 1000 degrees F depending on mixture of air. Large quantities will burn rapidly, with an explosive characteristic.

LPG is Under Extremely high pressure.

- **Propane must remain at high pressures to keep it in liquid form**
- When propane is released from pressure, it will immediately turn in to vapor. The chemical reaction that occurs will also drop the temperature of the vapor rapidly toward the boiling point which is **-44 F**. A serious and painful Burn injury can occur if it contacts your skin.
- Maximum working pressure of MC331 propane tanks is 265psi
- Maximum loading 90% capacity

Why is LPG under so much Pressure?

To explain, we'll use water as an example; Water boils at 212 deg. F and when water reaches boiling point it turns to steam. We'll refer to this as vapor. Energy is released in the boiling action so the temperature will not rise above 212 deg F. If we take the same pot of water and place it in a pressure cooker: once the pressure (caused by the increased amount of steam/vapor) rises to 9 p.s.i. the "boiling" action stops because it is held still by the pressure rising in the vessel. The pressure will rise as the temp increases until the safety device in the pressure cooker releases pressure. Since the energy is not being dissipated by the rolling (boiling) action, the temperature can climb to infinity. Propane boils at -44 deg. F and is always beyond its boiling point; especially in this region as the air temperature never gets that cold.

If propane is kept in a pressurized vessel (your trailer) where the temperature is not rapidly rising; the constant static pressure will keep the propane in its liquid state. Propane will remain liquid if it is kept in a pressurized container. This is a must for transport and storage.

LPG has an extremely Low Boiling Point

- **Boiling Point:** Propane boils at -44 degrees F. (Water boils at 212 degrees F)
- Butane boils at +30 F.
- **Thermal Burns:** LPG vapor will instantly freeze anything that it comes in contact with.
- **Thermal Burns:** If released vapor comes in contact with your skin LPG will cause a serious and painful burn injury.
- **Thermal Expansion:** Propane expands when temps rise-. When its temperature is raised 100 F, it will expand almost 20%

LPG weights vary by shipper

- Phillips 66, Linden, NJ 4.24lbs/gallon
- Hess Port Reading, NJ 4.233lbs/gallon
- PES Point Breeze Philadelphia, PA 4.2258lbs/gallon
- PES Girard Point Philadelphia, PA 4.2258lbs/gallon
- UGI Hunlock Creek, PA 4.212lbs/gallon

LPG has no color or odor

- ⊛ An artificial odorant called **stench**, ethyl mercaptan, must be added so that LPG will be noticeable in the event of leakage.
- ⊛ **Non-Stenched propane may be transported to a facility for storage purposes only!**
- ⊛ **Trailers used for transporting Non Stenched LPG must be marked – Non Odorized!**
- ⊛ **Non-Stenched product may not be delivered for retail re- sale. This product MUST BE STENCHED!**

Critical point = pressure greater than 250 psi! What causes this?

The 2 safety relief valves on the top of our trailers will open when internal static pressure reaches 250 p.s.i. They will cycle closed at 245 p.s.i. This is designed to only release enough pressure/product to keep the container intact during a catastrophic event. This will keep the major quantity of flammable gas inside the vessel until the situation that caused the pressure to rise; has been corrected.

There are only 2 ways to cause the pressure to rise enough to blow the safeties;

- 1 Over loading the LPG trailer beyond 90% or allowing pressure to rise rapidly during the loading process.
 - 🚫 **Loading a trailer higher than 90% is illegal and life threatening dangerous**
- 2 Product temperature rises inside the trailer due to an external heat source such as a fire or flame - causing rapid thermal expansion
 - Propane expands with higher temperatures and contracts with lower temperatures.
 - Drivers must follow the temperature chart, monitor product temperature and trailer pressure by the gauges on the right side of every trailer when loading.

When LPG Trailer safeties are open – product is ejected by high pressure out of the trailer into the atmosphere. This will cause a sound similar to that of a jet taking off. Since the pressure is now off the product outside of the trailer, the released product has turned into vapor. LPG vapor is heavier than air and will settle back down to the ground. If the vapor cloud migrates to flame, the vapor will ignite which will flash back to the propane coming out of the safeties. The result will be an explosive flash then 2 screaming fire cannons on top of the trailer. Once pressure has dropped to 245 p.s.i. – the safeties will close, then reopen when the pressure rises to 250 p.s.i. again causing the entire process to repeat. When this situation happens, you are no longer in control.

You must be in attendance and alert during product transfer to prevent this situation from happening. In addition, you must take all reasonable steps to keep flame well away from your transport.

When transferring LPG into your trailer (loading) during the hot summer it is crucial that you monitor the pressure inside the trailer. Also keep in mind that pressure will drop at least 20 p.s.i. as soon as the trailer is moved.

Therefore, the maximum pressure that you should load to is 225 p.s.i. Move the truck and trailer off the rack and drive around the refinery if possible. The pressure will have come down significantly allowing room for more product.

Remember we must load at least 9000 gallons.

Section 4: LPG trailer information

- Designed to transport 10,000 gallons maximum.
- Maximum working pressure of 265 p.s.i.
- Equipped with safety valves that will open when the pressure inside of the trailer reaches 250 p.s.i.
- Safety valves close when the pressure drops to 245 p.s.i.
- Open safeties on a propane trailer are very dangerous. Never allow trailer to get close to the critical point.
- LPG trailers have a “Vapor Spray Fill” (yellow cap) line that you are to load through.
 - A pipe that goes to almost the top of the inside of the barrel then either “T’s” off or has a 90 degree bend at the top.
 - Loading through the vapor spray fill line will minimize the increase in pressure.
 - If the entire load is taken in through the “Liquid Line” (red cap) the pressure will rise rapidly and an entire load will be impossible to take on. The safeties are in danger of opening.
 - It is acceptable to load through both the liquid line and the vapor spray fill if two loading arms are available at the rack if tank pressure is constantly monitored by the driver.
- Color coding of trailer lines
 - Liquid = RED
 - Vapor=YELLOW
 - Vapor Spray-Fill =YELLOW

Section 5: Tractor Pre-Trip inspection

- Approach the truck looking for abnormalities such as leaning or large unusual puddles of fluid on the ground
- Check bodywork for any damage from road debris or other vehicles parked nearby.
- Raise the hood and inspect the engine and ground for leaks
- Check all fluid levels (i.e.: oil, anti freeze, washer fluid)
- Check all serpentine and A/C belts for cracks or glaze
- Check passenger side steer axle suspension; springs “U” bolts, front and rear spring hangers.
- Check tie rod ends and that nut’s are secured and cotter pins are in place
- Check right side steer axle brakes shoes, drums, air lines, brake chamber, slack adjuster, and grease line
- Check right Side Steer tire for tread depth and side wall damage
- Look for proper inflation
- Check frame for cracks

(Section 5: Tractor Pre-Trip inspection cont.)

- Check for signs of loose bolts
- Walk to the driver side and check hood spot mirrors on the way

- Check driver side suspension as was done on the passenger side.
- Check steering shaft for play,
- Check for loose u-joint connections (steering)
- Check drag link and that nuts are secured
- Check pitman arm and that nuts are secured
- Check tie rod ends and that nuts are secured
- Start motor
- Check for oil pressure
- Check to see if air pressure is building
- Check city horn
- Check air Horn
- Make sure defroster works
- Check wiper's, washer and wiper blades
- Check fuel gauge for accuracy by looking into the fuel tank
- Check both side view and both spot mirrors for cracks and aim
- After air pressure builds apply breaks fully and check for air loss
- Check permit book for expired paper
- Check fire extinguisher for charge and secure mount
- Check for triangles
- Turn on lights and flashers, exit cab
- Check battery box lid
- Check air lines for cracks and glad hand rubbers
- Check fifth wheel perches, mounts and bolts
- Check forward axle air bags, spring, perch and hanger
- Check forward drive axle brake chambers shoes, drums and slack adjusters
- Check the same points on the rear drive axle
- Check all driver side tire; tread, sidewall, inflation and spacing
- Check lug nuts for rust streaks
- Check valve stem caps
- Check tires on passenger side in the same manner that was done on driver side
- Check exhaust system for leaks
- Check fuel tank straps
- Fuel tank cap and gasket
- Close and latch hood

Section 6: Pre-trip trailer

- Locate trailer
- Align truck and trailer and place fifth wheel at the front of trailer frame.
- **Get Out And Look!** Make sure that trailer height will match the fifth wheel and that nothing is obstructing the fifth wheel jaws
- Check that tractor mud flaps will clear the trailer during turns.

Section 6: Pre-trip trailer (cont.)

- If not enough clearance remove mud flaps on tractor
- Show where to find wash cert.

- Double check Trailer number
- Hook truck to trailer.
- Tug gently to assure unit will not come apart.
- Hook up air lines
- Check to be sure that fifth wheel handle has gone all of the way in
- Wind up landing gear.
- Inspect fifth wheel to assure that the jaws closed around trailer pin.
- Making certain that tractor protection valve is applied, release trailer brakes by pushing in trailer protection valve.
- Turn on all lights and flashers.
- Glad hand connection for air leaks
- Hot hose is stowed properly
- All hopper valves are closed
- Get down and look at trailer suspension
- Check: front axle springs
- Spring “U” bolts
- Spring hangers
- Torque arms
- Torque arm bushings
- Front axle brake shoes
- Front axle brake drums
- Kick tires (they should be hard and not bounce when hit)
- Check driver side front axle tire tread and side walls
- Check right side trailer wheel lug nuts for rust streaks
- Check tires for valve stem cap
- Check driver side rear axle tire tread and side walls
- Driver side hub oil level
- Look at driver side trailer spring equalizer
- Get down and check rear axle suspension
- Check leaf springs
- “U” bolts
- Spring hangers
- Torque arms
- Torque arm bushings
- Rear axle brakes
- Rear axle brake drums
- Note position of slack adjusters (brakes should be released)
- Check rear frame for cracks
- Go back to tractor and fully apply trolley break
- Take notice of any air escaping through glad hand connections
- Walk to back of trailer and listen for air leaks
- Check slack adjuster travel (it should be no more than 2 inches)
- Continue along passenger side of trailer

Section 6: Pre-trip trailer (cont.)

- Kick and check tires, hub oil level lug nuts tread depth, side walls, and valve stem caps

- Go over where to look for possible structural cracks on tank.
- Walk around front of tractor/trailer and check all lights and signals
- Check for any fresh damage on fenders/tank/light boxes
- Report any deficiencies from above immediately to maintenance and operations.

Section 7: Pre trip accessory equipment

- Check that you have all hoses and fittings assigned to you
- Check that you have spare Gaskets and adapters
- Inspect hoses for
 - Excessive wear
 - Flattening
 - Abraded through cover
 - Split ends
 - Swelling
 - Wide Flat points on fitting threads
- **If in doubt do not use the hose**
- All hoses are wrapped in Teflon to protect from abrasion
- Check Trailer Emergency Shut Off's by opening all internals, then activating both the emergency shut off levers - every week.

Most trailers must be equipped with "Smart Hoses" which will seal in the event of hose failure

Section 8: Reporting Damaged Trailers

- Call into dispatch before moving equipment and give description of damage.
- Upon return bring trailer to shop for repairs
- Fill out a vehicle defect report sheet with shop and take a copy
- Driver contacted by Venezia Safety Dept for a report.

Section 9: Preparation for loading process

- Obtained a blank bill of lading
- Determine the location of the loading destination and the type of access.
- Be sure your unit is properly placarded.
- Be certain that you are at the proper loading facility
- If the loading facility is unfamiliar, Park the vehicle in a safe location, inspect the area for obstructions and hazards and find the exact location for loading.
- Observe all posted rules at the loading facility. Always be with the equipment while loading is in process

Section 10: General Loading Procedure

Never load LPG trailers over 90% capacity

- Send “Arrive at shipper” in Qualcomm-see section 17
- Turn the truck engine off, remove key from ignition switch.
- Chock Wheels
- Ground the Trailer using the grounding stud/cable on trailer, if not provided use customers, on an unpainted surface.
- Recheck the Magnatel to be sure your trailer is empty.
- **Open the bleeder valve before removing the cap on any line of the trailer or the loading rack to relieve pressure.**
- Remove cap and inspect seal/gasket.
- Connect the loading rack product hose to the trailer spray-fill line.
- Attach the vapor line to the trailer vapor line, if required.
- Tighten all connections with spanner wrench.
- Close all bleeder valves.
- Open the trailer spray-fill ¼ turn ball valve, the loading rack delivery valve, and the vapor valves, if connected.

Loading through a Flow Meter:

- Proceed to the loading shack or card reader; follow any additional instructions that may apply. DO NOT OVERLOAD THE TRAILER.
- When setting the countdown meter, remember that most meters are temperature corrected to 60 degrees F, and will measure equivalent gallons of 60 degree F product, regardless of how many gallons are actually pumped.
- Select the shipping ticket or computer number for the customer that matches the information on your Load Assignment. Call an attendant or dispatch for assistance if there is a problem with the shipping papers.

Loading using the Temperature Chart

At some shippers it is required that you scale in, load the trailer, then scale out. No shipper will allow you to leave their property over gross. **It is company policy that you load at least 9,000 gallons!** You must not overload your trailer.

To aid you in determining what percentage to load the trailer to, follow the chart provided on page 26. Those instructions provide an easy to use calculation formula that takes temperature, light weight, specific gravity and the weight per gallon into account so that you can load the maximum allowed gallons without overloading the trailer.

After loading is complete and your paperwork is printed, before you sign it – **Check that the product is stench. Unstented propane is shipped for storage only and cannot be delivered to retail or industrial plants.**

Section 10: General Loading Procedure (cont.)

- If you experience an equipment issue, call an attendant immediately. Do not attempt to correct the situation without assistance, unless an emergency exists, and you know what you are doing.
- DO NOT use the emergency shutdown buttons as a quick stop to obtain the desired gallons.
- Upon completion of loading, be sure the meter numbers for **Net Gallons** match the amount stamped on the shipping ticket. Enter the Net Gallons loaded on the Bill of Lading. Follow the shut down instructions in the loading house prior to departure.
- Return to loading rack and close the delivery valve, the spray-fill valve and the vapor valves, if connected.
- Open bleeder valves, disconnect delivery and vapor hoses and return them to their proper locations.
- Replace the protective caps and close the bleeder valves.
- Disconnect the grounding cable and return it to its proper location.
- Prior to departing the loading rack, check all your tires and ensure that all valves are closed, and protective caps are in place.
- Remove chocks from wheels and return them to the proper storage location.
- Send “loaded call” in Qualcomm-see Section 17-be sure to use **Net Gallons.**

Section 11: Transporting LPG

- Prior to departure, know how to gain access to the customer's locations. If you are not sure, check with dispatch or speak with a driver who has been there; never break into a customer's facility.
- Upon arrival, be certain that you are at the proper delivery location; if you have any doubt about location or access, call dispatch. If it is an attended location, review the Bill of Lading with a representative in attendance.
- If you are not familiar with the customer's facility, park your vehicle in a safe location, inspect the area for obstructions and hazards and find the exact location for unloading.
- Study the Bill of Lading and special instruction sheet carefully before proceeding to unload.
- Observe all posted rules at the customer's facility. Determine the correct unloading line and vapor return line to the storage tank. If you are unsure and the facility is unattended, call dispatch. Thoroughly familiarize yourself with (follow) the plumbing

Transporting Rules and Regulations

- Trailer must be placarded at all times
- Equipment must have working fire extinguishers
- Driver must stop at **all** Railroad Crossings
- Equipment must always carry **Emergency discharge control procedures**
- **Federal law mandates a prior cargo document must accompany all empty hazmat trailers.**
- If carrying **unstented product**; unstented placards with 2 inch high letters must be visible on both sides of the trailer
- **Propane is forbidden in ALL TUNNELS!**

Transporting Safety Concerns

- Beware of product surge and extremely high center of gravity
- Any abrupt changes in speed or direction could cause the truck and trailer to become difficult to control. All movements must be planned and executed with extreme care.
- Take on and off ramps slowly

Section 12: Unloading LPG

Transfer Time:

- Each product has an optimum transfer speed for each situation and trying to exceed that speed can cause damage to equipment and does not make transfer any faster
- Look for potential problems, such as a jerking hose (pumping too fast) or a bouncing pressure gauge and adjust accordingly.

Unsafe Product Transfer Condition;

Identify unsafe conditions and call immediately

- An open flame within 300 feet of your unit or connections
- Leaking fittings or connections
- Suspicious persons or activity in the area

Upon Arriving at Customer:

- Send “Arrive at Consignee” in Qualcomm-see section 17
- Place the truck and trailer in position to unload (Unloading can be done from either side, passenger side is more efficient).
- Use the following steps to engage the tractor PTO

Engaging the PTO Hydropac – Manual Transmission

- If trailer has air operated internal valves, red Trailer Supply button must be pushed in to supply trailer with air to operate internals
- Push in clutch and put truck in 1st gear. Locate the PTO switch on dashboard or floor panel and flip to the “on” position.
- Place transmission back into neutral
- Slowly let the clutch pedal out
 - Set RPM’s (cruise control) according to the dash sticker

Section 12: Unloading LPG; Engage PTO (cont.)

Automatic Transmission

- Place foot on Brake Pedal

- Place transmission selector in “D” (Parking Brake remains applied)
- Flip the PTO switch to on
- Place Transmission selector to “N” (Parking Brake remains applied)
- Remove foot from Brake Pedal – PTO is now engaged.
- **Put on your PPE; Hard Hat with face shield, safety glasses, long sleeve shirt, Nomex Coveralls, Thermal Gloves.**
 - Exit cab and **chock wheels**
 - Note and document customer tank level and pressure.
 - Note customer tank size- **Never fill a customer’s tank above 85% capacity**
 - Calculate what the level will be once the entire load is transferred. (See chart 3).
 - Open bleeder valves on the 3” pump line and vapor return line on the trailer.
 - Using your spanner wrench; loosen the 3” pump line cap and vapor return line cap.
 - Go to the customers stanchion and open the bleeder.
 - Some customers do not have a bleeder valve at the hose connection. Crack the cap open slightly, then push the center of the cap to release pressure - Remove the cap slowly!
 - **Be careful to position yourself as not to be struck by the line cap while under pressure. Do the following:**
 - With your spanner wrench -**Slowly** loosen then remove the 3” line cap.
 - Assume there’s pressure under the cap.
 - Gloves must be worn to avoid burns
 - Remove LPG Smart Hose from trailer hose tray
 - Fasten the end to the pump line on the trailer
 - Tighten the fitting with your spanner wrench–
 - Walk the other end to the customers stanchion and prop it with the open hose end facing skyward.
 - **With the bleeder valve still open on the trailer pump line – fill the product hose with as much methanol as it will hold. Be careful not to spill any methanol on your cloths as it will eat them away. Safety glasses must be worn while handling Methanol.**
 - **Always refill the methanol container for the next guy!**
 - Hook the product hose to the customers stanchion and tighten the fitting with your spanner wrench.
 - **Close all bleeder valves on the pump line**

Section 12: Unloading LPG (cont.)

- **Slowly** open the trailer internal valve on top of the pump. At this point you might hear a pop followed by the sound of the pump filling with

- pressure. The internal has opened and the pump is now full of product and pressure.
- **Slowly** crack open the external ball valve on the trailer and allow the hose to fill with pressure.

- **Check all connections for leaks!**
 - **If a valve is opened too fast during this procedure; the internal valve will slug and be very difficult to re-open.**
 - **Always open valves slowly starting from the trailer internal and work out to the customer**

- Make sure that the customer's nitrogen system is activated so that his internal valve is open.
- Slowly open the ball valve (or Gate valve) on the customer's stanchion. See note above
- Watch the sight glass on the customer's line; the "Back Check Flap" should now be open and product should start to move.
- **Slowly** - close the hydraulic bypass valve on the trailer. Red Handle
- The pump is now activated, product will be moving into the customer's storage tank.

It is federal law that the driver remain within 25 unobstructed feet of the pump shut off valve the entire time that product transfer is taking place DO NOT SIT IN THE TRUCK WHILE TRANSFERRING PRODUCT!!

- Open the bleeder valve on the vapor return line on the trailer and remove the cap.
- Attach and tighten the vapor line to the trailer fitting.
- Walk the vapor hose over to the customers stanchion and prop with the hose end facing up.
- **With the trailer bleeder valve open** - Fill the vapor line with methanol
- Attach the vapor hose to the customers vapor line and tighten.
- **Close all vapor line bleeder valves.**

In colder months

- Use higher trailer pressure to your advantage:
 - The start of the unload process the vapor pressure will most likely be higher in your trailer than what is in the customers tank.
 - As product is transferred from your trailer to the customer's tank – the customer's pressure will rise as your trailer pressure will drop.

Section 12: Unloading LPG (cont.)

- The vapor line should not be opened until such a time that the
- customer's vapor pressure is 1 to 3 p.s.i. higher than the pressure in your trailer. This will push the methanol that you put in the vapor line

into your trailer which will help to:

Avoid a frozen internal when temps are below freezing

- Fill your vapor line and product line with methanol
- Wait until the customer's pressure is higher than the pressure on your trailer
- Open the valves on the vapor line to dump methanol into your trailer and dry up any moisture left in the trailer

In warmer months

- Monitoring vapor pressure on the customer's tank is vital.
- Storage tank safety valves will open at 250 P.S.I.
- **DO NOT allow the customers storage tank to exceed 200 P.S.I.**
- If it becomes clear that the pressure is unusually high and will continue to rise, **stop transfer and call dispatch immediately.**

- Once the trailer Magnatel gauge indicates 5% remaining on board - remove the vapor return line by doing the following:
 - Close the customers external vapor valve
 - Close the Trailer Vapor Internal valve
 - Close trailer vapor line external valve
 - Open vapor line bleeder on the trailer
 - Once pressure has bled off; remove the vapor line fittings on both ends of the hose and return the hose to the trailer hose tray
 - Focus on the customers in line sight glass on the product line past the stanchion.

- When the back check valve (flapper) closes the trailer is empty.
 - If there is no sight glass; when the trailer level gauge indicates that there is no product left in the trailer, slowly close the trailer external pump valve half way. If the pump labors there is still product remaining in the trailer. When the trailer external pump valve can be closed and no difference is noticed in the load/strain on the pump; the trailer is empty.

Section 13: Empty out Procedure

1. Open bleeder valves on the trailer
2. Close the pump internal valve on the trailer
3. Close the customers product valve

4. Open the hydraulic bypass valve on the fender of the trailer
5. Close the external valve on the trailer
6. Once pressure has bled off; remove product hose and stow on trailer hose tray.
7. Replace all product line and vapor line caps, tighten and close bleeder valves.
8. Disconnect Ground Cable
9. Document Customer Tank Level Readings on the Venezia Bill of Lading and note start and finish times.
10. Place Pink (3rd) copy of B.O.L in customer's mailbox along with the refinery B.O.L.
11. Remove chock from between wheels, stow and secure.
12. Return to the tractor and disengage PTO.
13. Check that all locks are put back into place and all nitrogen systems and valves should be closed.
14. Beyond anything - Leave everything (valves and locks) as they were when you arrived. If something appears to be out of place or wrong, - call dispatch
15. Send "empty at Consignee" in Qualcomm see section 17

Section 13: Empty out Procedure **Special Instructions**

⊛ Some storage facilities are actually designed to heat housing developments or commercial properties. Read all warning signs; locate the appropriate E.S.D's (emergency shutdown devices). Make sure that the switch or valve that you are about to close will not affect the output of the tank if it is (in fact) a supply tank specifically for community heat. **If the wrong ESD or valve is closed at these locations; propane will be cut off from the community and all pilot lights must then be re - lit. This is very time consuming and expensive.**

⊛ **Prior Cargo Must Be Retained**

Be sure to keep the bottom copy of the Venezia B.O.L.

It is federal law that you keep a copy of the prior cargo bill in the truck until such time that the vessel is reloaded. If you are dropping the trailer that you just used; a copy of the Bill of Lading must be left with the empty trailer for the next driver to transport.

Section 14: MCI 331 Delivery System Inspection

All Drivers must complete a Monthly Inspection report for Hoses, Piping and Fittings. This can be done simply by using the Qualcomm macro # 34 You will need to fill in the following information in the required fields:

- Trailer #
- Hose Serial Number
- Hose Pass Y/N
- Piping pass Y/N
- Hose serial Number
- Driver Code
- Comment

Emergency Response Cab Card

🔄 An orange laminated cab card (printed with this information) must be in the driver side door pouch with the Emergency Response Guide – at all times!

Section 15: Emergency Procedure in the event of an Incident

- If there is an uncontrolled discharge of LPG to the atmosphere during a transfer operation, the operator shall determine the safest method to “Immediately activate the internal self-closing stop valve and shut down all motive and auxiliary power equipment.”
- Venezia LPG Services, Inc. recommends the following procedure be followed by the operators of all transport tanks:
 - Shut off the truck engine as quickly as possible to remove a source of ignition. Leave the power take-off engaged, therefore reducing the potential of the vehicle-mounted transfer pump to free wheel.
 - Engage all remote safety levers (located at opposite corners) on the cargo tank.
 - Shut and close all product piping valves (globe and/or ball) on the cargo tank.
 - Engage all remote safety levers on the storage tank.
 - Shut and close all product piping valves (globe and/or ball) on the storage tank.
- If you are unable to stop the uncontrolled discharge of LPG to the atmosphere:
 - Evacuate all those persons in the area that could be injured by the uncontrolled discharge of LPG.
- **Section 15: Emergency Procedure in the event of an Incident (cont)**
 - Do NOT activate any equipment that utilizes electrical circuitry such as the Qualcomm keyboard, brake pedaled truck lights, other light switches, two-way radio, or attempt to start a motor vehicle in the area of the uncontrolled discharge of LPG . Identify and

eliminate all sources of ignition in the affected region such as vehicle traffic, open fires, furnaces, water heaters, etc.

- Notify emergency authorities and your office as soon as possible. In some areas, a “911” call may be appropriate. A nearby phone, out of harms way, may be available to you or, if reasonable, ask someone to relay your message.
- Regardless of the size of the incident, whether collision, spill or leak, it must be reported immediately.

Secure the Scene

- Set out warning devices before doing anything, except for an immediate emergency.
- Do not move your vehicle unless absolutely necessary.
- Arrange for the direction of traffic. If there is a spill or leak, keep the public away, upwind if possible.
- Avoid confrontations with others...
- Do not leave the scene. Arrange for the notification of police and emergency personnel as required.

Render Aid

- If there are injuries to others, render aid to them as soon as safely possible. Seek assistance if necessary. If trained medical personnel arrive or are at the scene, let them direct the activities.

Be Factual

- Do not offer information to anyone, except as necessary for the well being of others and for the required exchange of insurance information between any parties involved.
- When requested by officials, such as police, medical, or rescue workers, give only information of which you are certain and which is based upon fact; offer no opinions or speculations and admit no fault, even if you believe you were at fault.

Section 16: Customer Specific Procedures

**Bath NY
Driver loading Procedures
Effective Nov 21, 2012**

Inergy has completed the Bath truck rack upgrades the Bath NY facility. Our upgrades will increase daily loading capacity and streamline loading time for each driver. Effective Nov 25, 2012, we will begin implementing the following new loading procedures:

Driver arrives to the Bath facility and will check-in will remain unchanged.

The Transport driver will have a Supplier and a customer number needed to load propane.

1. **DRIVER ID:** The Driver will arrive to the facility and input information into Driver ID# - Driver will be prompted to create a unique 4 digit pin number for that driver (only the first time loading). During the initial set up, the driver will be prompted to re-enter that same unique 4-digit pin number. This pin number will be used for each subsequent load, so the driver will need to remember this information.
2. **TRACTOR #:** The driver will be prompted to enter their Tractor #
3. **TRAILER # :** The Driver will be prompted to enter their Trailer #
4. **CUSTOMER #:** The Driver will be prompted to enter the Customer #
Example – Inergy Supply- 16
5. **SUPPLIER #:** The Driver will be prompted to enter the Supplier #
Example; Inergy Wholesale- 1
6. **DESTINATION:** The Driver will be prompted to enter the applicable destination information.

Each customer will be assigned a customer number that we will provide as a separate e-mail.

If you have any questions, please feel free to contact Terry Rice, Bath Terminal Manager, at 607-776-4201

Unloading LPG at Thompson Distribution Facilities:

**Galen Manor
Charles Town Race Track
Potomac Market**

Please note that the storage tanks at the above-mentioned locations supply LPG for heat directly to buildings and residences. If an Emergency Shut Down (ESD) is triggered; gas supply to countless homes and business will be blocked. This will require Thompson personnel to manually re-light all pilot lights that are affected. This will inconvenience many, and will be very costly! Make sure that you don't accidentally trip the wrong ESD!! If you are unsure – Call Thompson Gas at (301) 432 – 6611

- **All Venezia transfer procedures must be followed**
- **When attempting to unload; if any situation is present that will not allow you to transfer product, or if you notice any ESD triggered; contact Thompson Distribution immediately at (301) 432 - 6611**
- **All Deliveries to the residential distribution tank at Galen Manor must be made between the hours of 9:00 AM and 3:00 PM Monday through Friday only**

Section 17: Charts

Chart 1: Loading Propane by Temperature

<u>PRODUCT</u> <u>TEMPERATURE</u> (Degrees F)	<u>PERCENTAGE</u>
0-6 -----	80%
2-8 -----	81%
8-14 -----	82%
16-22 -----	83%
24-30 -----	84%
32-38 -----	85%
40-46 -----	86%
48-54 -----	87%
56-62 -----	88%
64- 70 -----	89%
72- 78 -----	90%
80-86 -----	91 %
88-94 -----	92%
96-102 -----	93

Chart 2: Loading Butane by Temperature

PRODUCT TEMPERATURE	Normal BUTANE	ISO.
30 Deg. F	90%	89%
40 Deg. F	91%	90%
50 Deg. F	92%	91%
60 Deg. F	93%	92%
70 Deg. F	94%	93%
80 Deg. F	95%	94%
90 Deg. F	96%	95%

Chart 3: Determine if a load will fit into the customer tank:

Customer Gauge Reading	Customer Tank Capacity					
	12000	16000	18000	30000	60000	
5.0%	9600	12800	14400	24000	48000	
10.0%	9000	12000	13500	22500	45000	
15.0%	8400	11200	12600	21000	42000	
20.0%	7800	10400	11700	19500	39000	
25.0%	7200	9600	10800	18000	36000	
30.0%	6600	8800	9900	16500	33000	
35.0%	6000	8000	9000	15000	30000	
40.0%	5400	7200	8100	13500	27000	
45.0%	4800	6400	7200	12000	24000	
50.0%	4200	5600	6300	10500	21000	
55.0%	3600	4800	5400	9000	18000	
60.0%	3000	4000	4500	7500	15000	
65.0%	2400	3200	3600	6000	12000	
70.0%	1800	2400	2700	4500	9000	
75.0%	1200	1600	1800	3000	6000	
80.0%	600	800	900	1500	3000	
85.0%	0	0	0	0	0	

All Calculations are based on 85% tank Capacity.

******* Call Dispatch if your load will take customers tank over 85%**



Procedure Used Determine How Much Gas to Load Using the Temperature Chart

- After light weighing, subtract the truck/trailer light weight from 80,000
- Divide this number by 4.23
- Divide that number by trailer water capacity
- Ignoring the decimal point, the first 2 digits is the percent you will load to at 60°
- If the temperature of the product is different than 60 degrees F; use the chart below

If the temperature of the gas while loading is:

- 0° to 2° Minus 7 Percentage Points
- 3° to 12° Minus 6 Percentage Points
- 13° to 22° Minus 5 Percentage Points
- 23° to 30° Minus 4 Percentage Points
- 31° to 38° Minus 3 Percentage Points
- 39° to 46° Minus 2 Percentage Points
- 47° to 54° Minus 1 Percentage Points
- 55° to 62° - Load to the percent indicated by your calculation
- 63° to 68° Add 1 Percentage Points
- 69° to 76° Add 2 Percentage Points
- 77° to 84° Add 3 Percentage Points
- 85° to 88° Add 4 Percentage Points
- 89° to 94° Add 5 Percentage Points
- 95° to 100° Add 6 Percentage Points

Example:

80,000 (max legal gross) - 39,500 (light weight)= 40,500

40,500 (desired net weight) ÷ 4.23 (weight of LPG per gallon) = 9, 574

9,574 (desired net gallons) ÷ 11,600 (water capacity of trailer)= 82%

If the product temp is different than 60° then use the chart to determine percent to load.

Section 18:

Qualcomm instructions

- Hours of Service
 - Messages -> Compose Tab
 - Select Macro13 “Drivers Hours of Service”
 - Type in all fields in the date
 - Type in all fields of hours
 - Press “Send”

- Arrived at Shipper
 - Messages -> Compose Tab
 - Select Macro 4 “Arrived at Shipper”
 - Type in Venezia order number
 - Press “Send”

- Loaded Call
 - Messages -> Compose Tab
 - Select Macro 5 “Loaded Call”
 - Type in Venezia Order number
 - Type in Net Weight of load
 - Type in BOL number
 - Type in Trailer number
 - Press “Send”

- Arrive at Consignee
 - Messages -> Compose Tab
 - Select Macro 6 “Arrive at Consignee”
 - Type in Venezia Order number
 - Press “Send”

- Empty Call
 - Messages -> Compose Tab
 - Select Macro 7 “Empty Call”
 - Type in Venezia Order number
 - Type in Y or N for Unload
 - Type in Drop trailer (only if dropping trailer)
 - Type in Pick trailer or Current
 - Press “Send”

Section 18: Qualcomm instructions cont.

- Arrived at Extra Stop
 - Messages -> Compose Tab
 - Select Macro 8 “Arrived at Additional Stop”
 - Type in Venezia order number
 - Press “Send”

- Unload at Extra Stop
 - Messages -> Compose Tab
 - Select Macro 9 “Arrive at Extra Stop”
 - Type in Venezia order number
 - Press “Send”

- Hook Call (for picking up a trailer at any yard)
 - Messages -> Compose Tab
 - Select Macro 12 “Hook”
 - Type in Venezia Order number
 - Type in Trailer number
 - Press “Send”

- Directions/ customer info
 - Messages -> Compose Tab
 - Select Macro 14 “Customer Info Request”
 - Type in company ID (First 3 letters of company name and first 3 letters of city name).
 - Press “Send”

- Preplan Commitment
 - Messages -> Compose Tab
 - Select Macro 2 “Preplan Commit”
 - Type in Y for Yes and N for No
 - Type in Venezia order number
 - Press “Send”

- Park- Drop loaded Trailer
 - Messages -> Compose Tab
 - Select Macro 11 “Drop Trailer”
 - Type in Venezia order number
 - Type in drop trailer
 - Type in pick up trailer
 - Press “Send”

Section 18: Qualcomm instructions cont.

- Breakdown/Trouble message
 - Messages -> Compose Tab
 - Select Macro 18 “Breakdown/Trouble”
 - Type in Tractor/Trailer
 - Need help: Y or N
 - Type in Location with Directions
 - If delivering-will be late Y or N
 - Press “Send”
- Accident
 - Messages -> Compose Tab
 - Select Macro 19 “Accident”
 - Answer all questions Y or N
 - Press “Send”
- Emergency Message
 - Messages -> Compose Tab
 - Select Macro 23 “Emergency Message”
 - Type in message
 - Press “Send”
- Decline Trip
 - Messages -> Compose Tab
 - Select Macro 20 “Decline Trip” ←
 - Type in order #
 - Press “Send”
 -
- Load Request
 - Messages -> Compose Tab
 - Select Macro 30 “Load Assignment Request”
- Comments (To communicate privately with VP or Ops or Payroll)
 - Messages -> Compose Tab
 - Select Macro 31 “Suggestion or Comment”
- Liquid trailer inspection
 - Messages -> Compose Tab
 - Select Macro 34 “Monthly MC331 Delivery Systems”
 - Follow steps in Qualcomm

<p>This function serves as a “refusal of dispatch” and disciplinary action may follow.</p>
--

Section 18: Qualcomm instructions cont.

- Tractor and trailer defects

- Messages -> Compose Tab
- Select Macro 35 “VCR/Defect Macro
- Follow steps in Qualcomm

Section 19:

Dispatch

- By phone
 - From Sunday at 5:00PM to Friday at 5:00 PM we have someone in the office 24 hrs/day answering the phones.
 - Saturday live phone coverage hours from 8:00AM to 11:00AM
 - Call 1-800-635-2083
 - Call between 12 noon and 4:30 PM the day prior
 - Make sure when you call you get:
 - Pickup time
 - Delivery time
 - Delivery location
 - Product you are delivering
 - Any special delivery instructions
- By Qualcomm
 - Corporate monitors Qualcomm messages from trucks at 5:00PM Sunday to 5:00PM Friday.
 - Saturday Qualcomm monitoring 8:00AM to 11:00 AM.
 - Load assignments and pre-plans generally get sent the day prior.
 - Load changes will occur via Qualcomm
 - Assignment includes all load information
 - Venezia pays per message and per character on Qualcomm so please abbreviate and avoid un-necessary messages.
 - Dispatch can see if a driver reads their dispatch
 - Driver is expected to call dispatch if any questions regarding assignment.
- If something goes wrong call dispatch immediately.
Allow dispatch to take responsibility for decisions made

Section 20: Breakdown

- Qualcomm a “Breakdown/Trouble message”(see section 22)
- Do not call terminal location mechanic directly

- Call Venezia 1-800-635-2083 (ext 273) and talk to road breakdown person
- Breakdown person will ask questions in an effort to diagnose the problem.
- Sometimes the driver will be asked to perform small tasks in an effort to get him/her back on the road sooner.
- Road service may be called out if unit cannot be moved safely.
- Breakdown may send driver to a terminal or an outside shop for repairs.
- When repairs complete driver is to request a control # from dispatcher for all time over an hour broken down.
- Place control # on Trip-Pak envelope.
 - Note: Driver has to log breakdown time and 10 hour breaks are not paid.
 - Note: Automatic 1 hour not given if a re-occurring problem

LPG TRAINEE EVALUATION

TRAINER: _____

WEEK ENDING: _____

TRAINEE: _____

Article I. Skill rating: 1=Poor, 2=Below Average, 3=Average, 4=Above Average, 5=Excellent

	SCORE	COMMENTS
1) TRAILER INSPECTION: A. Learn how to do monthly inspections and record in Q-comm C. Inspect hose and fittings valves and trailer fittings	_____	_____
2) TRANSFER TIME	_____	_____
3) UNSAFE PRODUCT TRANSFER CONDITIONS	_____	_____
4) LOADING	_____	_____
5) BEGIN LOADING	_____	_____
A. CHOCK WHEELS	_____	_____
B. GROUND TRAILER	_____	_____
C. MAKE SURE TRL IS EMPTY	_____	_____
D. ENSURE DRV KNOWS CAPACITY OF PRODUCT PER TEMP. CHART	_____	_____
E. COLOR CODING ON TRAILERS	_____	_____
F. RELIEF OF BLEEDER VALVES	_____	_____
G. CONNECTING LOADING RACK & HOSE TRK	_____	_____
H. UNDERSTANDING LOADING PROCEDURES	_____	_____
I. VERIFY UNHOOKING PROCEDURES	_____	_____
6) REVIEW OF PLOT PLAN	_____	_____
7) UNLOADING	_____	_____
A. POSITIONING OF TRL	_____	_____
B. CHOCK WHEELS	_____	_____
C. GROUND WIRE	_____	_____
D. GAGE STORAGE TANK RECORD READINGS	_____	_____
E. UNDERSTANDS UNLOADING PROCEDURE	_____	_____
F. RECORD POST LOADING READINGS	_____	_____
8) PROCEDURES IN CASE OF INCIDENT	_____	_____
9) UNDERSTANDS HOW TO ENGAGE PTO	_____	_____
10) UNDERSTANDS HOW TO CONNECT HYDRAULIC LINES	_____	_____
11) UNDERSTANDS WORKING HYDROPAC AND CHECKS OIL	_____	_____

VERIFY TRAINEE HAS A COPY OF THE FOLLOWING MATERIALS:

- 1. EMERGENCY OPERATION PROCEDURE _____
- 2. PROPANE MANUAL _____

_____ **YES, THIS DRIVER IS FULLY TRAINED IN HAULING PROPANE.
NO FURTHER TRAINING IS NEEDED.**

_____ **NO, THIS DRIVER IS NOT FULLY TRAINED. MORE TRAINING NEEDED.**

Trainer Signature _____ Date _____

Please add any comments below

LPG TRAINEE EVALUATION

TRAINER: _____

WEEK ENDING: _____

TRAINEE: _____

Article II. Skill rating: 1=Poor, 2=Below Average, 3=Average, 4=Above Average, 5=Excellent

	SCORE	COMMENTS
2) TRAILER INSPECTION: A. Learn how to do monthly inspections and record in Q-comm C. Inspect hose and fittings valves and trailer fittings	_____	_____
2) TRANSFER TIME	_____	_____
3) UNSAFE PRODUCT TRANSFER CONDITIONS	_____	_____
4) LOADING	_____	_____
5) BEGIN LOADING	_____	_____
A. CHOCK WHEELS	_____	_____
B. GROUND TRAILER	_____	_____
C. MAKE SURE TRL IS EMPTY	_____	_____
D. ENSURE DRV KNOWS CAPACITY OF PRODUCT PER TEMP. CHART	_____	_____
E. COLOR CODING ON TRAILERS	_____	_____
F. RELIEF OF BLEEDER VALVES	_____	_____
G. CONNECTING LOADING RACK & HOSE TRK	_____	_____
H. UNDERSTANDING LOADING PROCEDURES	_____	_____
I. VERIFY UNHOOKING PROCEDURES	_____	_____
6) REVIEW OF PLOT PLAN	_____	_____
7) UNLOADING	_____	_____
A. POSITIONING OF TRL	_____	_____
B. CHOCK WHEELS	_____	_____
C. GROUND WIRE	_____	_____
D. GAGE STORAGE TANK RECORD READINGS	_____	_____
E. UNDERSTANDS UNLOADING PROCEDURE	_____	_____
F. RECORD POST LOADING READINGS	_____	_____
8) PROCEDURES IN CASE OF INCIDENT	_____	_____
9) UNDERSTANDS HOW TO ENGAGE PTO	_____	_____
10) UNDERSTANDS HOW TO CONNECT HYDRAULIC LINES	_____	_____
11) UNDERSTANDS WORKING HYDROPAC AND CHECKS OIL	_____	_____

VERIFY TRAINEE HAS A COPY OF THE FOLLOWING MATERIALS:

- 1. EMERGENCY OPERATION PROCEDURE _____
- 2. PROPANE MANUAL _____

_____ **YES, THIS DRIVER IS FULLY TRAINED IN HAULING PROPANE.
NO FURTHER TRAINING IS NEEDED.**

_____ **NO, THIS DRIVER IS NOT FULLY TRAINED. MORE TRAINING NEEDED.**

Trainer Signature _____ Date _____

Please add any comments below



Acknowledgment – Venezia LPG Services Policies and Procedures

I have received a copy of the Venezia LPG services Policies and Procedures outlining the responsibilities as a driver and the responsibility of Venezia. I have read the information and I understand its contents.

I agree to comply with the guidelines, policies and procedures of Venezia.

Signature of Driver

Date

Print Name