Fluid Transfer Guidelines
A Guide To Safe Fluid Transfers
For Water Carriers and Supervisors

Safe Delivery Is Our Goal!
Accomplished Through Safe Participation and Watching Out for Others.
Proper Procedure For Loading Out Of A Frac Tank

- Arrive at well location
- Stop before entering location and wait for ground crew (Spotters) if provided to signal you to proceed.
- Move truck to staging area and wait for ground crew to get into position.
- When released from ground crew by hand signal proceed to back toward frac tank with caution (be sure to watch ground crew for hand signals and directions)
- When you reach an approximate 10’ distance from frac tank ground crew will stop you by crossing arms.
- Proceed to chock wheels
- Sign in with Spill Champion, review JSA, Fluid Transfer Sheet and location hazard.
- Proceed by placing metal bucket under pump exhaust, the valve on the truck and valve on frac tank.
- Hook ground wire from truck to frac tank
- Check to verify that hose is empty before hooking up
- Connect the hose from the frac tank to the truck
- Speak to Spill Champion for permission to start water transfer.
- Engage pump turn to vacuum (power take off) (if needed)
- Open valve on manifold
- Open valve on truck
- Once truck is full close valve at the manifold and open the bleeder valve at manifold to allow air to enter hose and water to vacuum into truck.
- Once hose is empty close bleeder valve and truck valve.
- Unhook hose from truck and place cap on the end of hose (not spilling any fluid)
- Disengage pump to neutral and disengage PTO
- Remove hose from valve and place on truck
- Place cap on truck valve
- Remove Ground Cable
- Remove wheel chocks
- Get in driver’s seat of truck and wait to be released by ground crew
- When released proceed off location using caution

The purpose of this guide is to communicate the requirements to safely transfer water at Shell facilities in Permian Basin. The guidelines listed below are intended to ensure that fluid transfer tasks are executed consistently and safely in order to prevent harm to people, the environment, asset, and reputation (P.E.A.R). This guide is also intended to promote efficient fluid transfer operations and a Goal Zero work environment. Always be respectful and courteous to personnel involved in Shell operations as well as fellow motorists on the Permian Basin roadways.

PRE-JOB READINESS

- Proper PPE will be worn on any Shell location
- Seatbelt will be worn anytime the truck is in motion
- Cell phones are not permitted while driving or on location.
- Write out a JSA when arriving on location
- Have a Journey Management Plan
- CB radios will only be used to communicate safety critical information or to interact with traffic
- Metal buckets
- Wheel chocks
- Cam lock securement devices
- Grounding cable
- Screws pre-installed on hose connections
- Fire extinguisher, First Aid Kit, Spill Kit
- Observe all 12 Life Saving Rules
- Remember the Golden Rules—Comply, Intervene, Respect

ARRIVAL AND STAGING

- When required comply with Traffic Management Plan and utilize CB communication only when pre-approved and required. Always ensure professional communication.
- Well sites, frac ponds, and water draws are typically very busy with truck traffic and challenges can be present with SIMOP’s. Extreme care must be taken with the traffic management plan as well as entering the work site. Traffic will increase substantially and roads conditions will change. Be alert
Proper Procedure For Unloading Into Frac Tank

- Arrive at well location
- Stop before entering location and wait for ground crew (Spotters) if provided to signal you to proceed.
- Move truck to staging area and wait for ground crew to get into position.
- When released from ground crew for hand signal proceed to back toward frac tank with caution (be sure to watch ground crew for hand signals and directions).
- When you reach an approximate 10’ distance from frac tank ground crew will stop you by crossing arms.
- Proceed to chock wheels
- Sign in with Spill Champion, review JSA, Fluid Transfer Sheet and location hazard.
- Proceed by placing metal bucket under pump exhaust, the valve on the truck and valve on frac tank
- Look inside frac tank to make sure there is room for fluid to fit in tank.
- Hook ground wire from truck to frac tank.
- Check to verify that hose is empty before hooking up
- Connect the hose from the frac tank to the truck
- Speak to Spill Champion for permission to start water transfer.
- Engage PTO (power take off) (if needed)
- Open valve on frac tank
- Open valve on tank
- Engage pump to pressure (if needed)
- Once truck is empty, close valve on truck then close the valve on the manifold
- Disengage pump to neutral and disengage PTO
- Remove hose from valve and place on truck
- Place cap on truck valve
- Remove Ground Cable
- Remove wheel chocks
- Get in driver’s seat of truck and wait to be released by ground crew

TRANSFER PREPARATIONS

- A well site may have several trucks entering at a time. Best conditions will allow each water truck onsite to transfer fluid at the same time.
- Check in with Spill Champion, if provided, (he/she) will authorize the opening of manifold or tank valves for off loading. Sign off on appropriate documentation.
- All water trucks will need a minimum of three metal buckets and or metal trays. Some trucks may need more. Place buckets under load valve, bleeder valves, vac pump muffler, tank vent discharge and any where oil could leak to the ground.
- Ground cable will be utilized and clamped to manifolds. Cable should not be frayed, in good condition, a solid contact must be made with clamping.
- Connections are made from the manifold hose and truck. Install low pressure 4” water hose from the manifold to the truck using cam lock connection. Ensure cam lock has locking pins, locking clips or other securement devices in place.
- Ensure bleeder valves are shut off on truck connection and at unloading manifold. Always double check cam lock connections.
- When inserting hose in manifold, use necessary best practices in order to prevent injuries to face and/or hands.
Proper Procedure For Unloading Into A Holding Pond

- Arrive at well location
- Stop before entering location pad. Wait for ground crew (Spotter) if provided to signal you to proceed
- Move truck to staging area
- Wait for ground crew to get into position
- When released from ground crew, proceed to back toward holding pond following flagger hand signals proceed with caution.
- When you reach the holding pond ground crew will stop you by crossing their arms.
- Chock wheels (front and back)
- Attach ground cable to grounding rod
- Walk around truck and remove metal buckets from truck.
- Place buckets under valve and exhaust
- Remove proper length hose from truck (if more than one hose is needed be sure to wrap the hose connection with duct tape to protect the liner in the holding pond)
- Connect hose to valve and proceed to unload making sure all fluid is draining into holding pond.
- When you have finished unloading, close valve and remove hose from valve (making sure not to spill any fluid)
- Place buckets on truck
- Replace cap on valve
- Place hose on truck and remove ground cable
- Secure hoses and buckets with adjustable straps.
- Remove wheel chocks
- Return to driver’s seat of truck and wait to be released by ground crew. Secure seatbelt
- 5mph on pads and lease Rds. Unless otherwise posted by Shell.
- Proceed off location using caution.

**TRANSPORT OF FLUID**

- Understand conditions and pressures on manifold to prevent backflow into water truck which may eventually cause a spill.
- Ensure that pressure relief valves are not wired shut.
- Water off load manifolds do not have check valves installed so precaution is always a priority.
- Gravity off loading is the accepted rule however this takes longer to transfer the fluid into the manifold.
- Not all water draws will have a manifold. Some applications will have load in headers. The headers are built with cam lock connections but without valves in place. Proper hand placement is still needed to install 4” hose to the cam lock.

- Always ensure valve on manifold is open first and then open gate valve on water truck. Truck is now ready to transfer fluid into manifold or header by gravity feeding or using vacuum pressure pump.
- While transferring fluid from the truck to a tank or frac pond, the truck driver is not allowed to leave his (her) truck at anytime. Their position must be toward the back of the truck to watch the unloading process for rates, leaks, and pressures.
- If the truck driver has determined that a successful transfer is complete, vacuum the line dry, and then shut down the Vac Pump unless it was gravity fed.
- Ensure all valves are closed and no water remains in the hose.
- If hose belongs to the truck, break apart second cam lock connection and ensure proper drainage has been completed
- If hose is to be left in place, install camlock cap or plug.
- Remember to disconnect ground cable and pick up buckets.
- Knowing conditions and pressure of manifold will prevent any mishaps. Be careful and pay attention to pressure changes.
FINAL PREPARATIONS

- Once the truck driver has determined that a successful transfer is complete, the pump needs to be shut down and valves closed.
- Always vacuum hose dry back into the truck.
- Always be prepared when breaking apart cam lock connections. Use correct hand placement and make it a habit.
- Drivers must ensure no oil drips or minor spills have been left. If an incident has occurred, it must be cleaned up immediately and notification given to the Onsite Representative and/or Logistics Lead and Road Transport Authority.
- Perform walk around for inspection and pick up wheel chocks.
- If a spotter is designated, wait for his signal to pull forward and slowly leave the site observing all safety regulations and speed limits. Otherwise pull out of location with caution.
- Follow a journey management plan for your next assignment.

Proper Procedure For Loading From A Holding Pond

- Arrive at well location
- Stop before entering location pad, wait for ground crew (Spotters) if provided to signal you to proceed
- Move truck to staging area
- Wait for ground crew to get into position.
- When released from ground crew by hand signal, proceed to back toward holding pond with caution.
- Be sure to watch ground crew for hand signals and direction
- When you reach the holding pond ground crew will stop you.
- Proceed by chocking your wheels, front and back of wheels.
- Walk around truck and remove metal bucket from truck.
- Place buckets under valve and exhaust
- Hook ground cable from truck to ground post provided.
- Remove proper length hose from truck (if more than one hose is needed be sure to wrap end of hose connection with duct tape to protect liner in holding pond) and connect hose to valve.
- Engage PTO (power take off).
- Engage pump to vacuum open valve and proceed to load.
- When truck is loaded close valve
- Return pump to neutral
- Turn off PTO
- Remove hose from valve (be sure hose drains into holding pond and DO NOT spill any fluid)
- Put cap on valve.
- Secure cap with cam lock safety pins or other securement device.
- Put hose on the truck and unhook ground cable
- Place buckets on truck and remove chocks
- Return to driver’s seat and wait to be released by ground crew.
- Proceed off location using caution.
- 5mph on pad and lease Rds. Unless otherwise posted.

YOUR FLUID TRANSFER IS SUCCESSFUL WHEN THERE ARE NO DRIVING INCIDENTS, NO SPILLS, NO INJURIES, AND FLUID IS EFFICIENTLY DELIVERED.

MAKE THIS YOUR GOAL EVERYDAY!
Loading From A Fresh Water Withdrawal

- Arrive at withdrawal Location
- Back into desired position
- Stop truck, set parking brake
- Set wheel chocks
- Read the meter and take down accurate meter reading to make sure you have not exceeded the daily withdrawal amount.
- Hook ground cable
- Hook the hose to the back of the truck and put the bucket in place under valve & exhaust
- Engage PTO
- Proceed to load the truck
- Return to meter to ensure the truck is loading and the meter is registering withdrawal
- Once loaded to desired amount, close the valve and vac the line dry
- Once hose is vacuumed dry, unhook hose from truck, remove bucket and replace valve cap
- Secure cap with locks or pins
- Secure hoses, wheel chocks and buckets with straps or chains.
- Return to meter and log your end meter reading
- Remove wheel chocks
- Return to work
- Fasten seatbelt and proceed from withdrawal point with caution

Traffic Management

In the event it is necessary or required, Shell will provide a traffic management team to assist the water carriers on location. When spotters, spill champions, and flaggers are provided, it is Shell’s expectation that all trucks respect and listen to the directions given by the traffic management team. The reason spotters are on location is to assist the drivers. In most cases we will make every effort to avoid backing. However in many cases this is not practical because of the well sight configuration. Remember these three easy steps when it comes to backing of water trucks:

- When backing always use a spotter and watch for backing signals
- If no spotter is present then ensure we use another truck driver to assist
- In the unusual case that no traffic management is present, then the driver must get out of the truck and do a walk around prior to backing.

Shell is developing new ways to avoid backing of trucks. It is for Shell’s and the water carriers benefit to eliminate risk. There is also efficiencies to be gained with “Drive Through” unloading.
CARRIER INCIDENT REPORTING

All water carriers are responsible for advising Shell and Schneider Logistics in the event of any road accidents or high potential incidents while working for Shell. In the event there is a driving incident or an unannounced release of fluids, it is imperative that it be reported to Shell immediately. Rely on Shell's Golden Rules as your parameter:

- Comply with the laws, standards, and procedures
- Intervene on unsafe or non-compliant actions
- Respect our neighbors

Incident reporting, timing, and documentation are essential to managing incidents. It informs management of both parties (Shell and carrier) that a problem exists. Immediate reporting protects our respective companies by knowing and acting in a timely fashion. In the event of an incident, the immediate notification must be called and personally speak to one of the following Shell or Schneider personnel within one hour:

- CSR or PIC on site
- SLI HSSE Manager
- Road Transport Safety Specialist
- Road Transport Authority
- SLI Operations Manager
- Shell Logistics Lead

If any incident will cause a delay, service failure, or interruption of service, the water carrier is required to notify the Bulk LC at 432-214-3821.
HALT PROGRAM

The Logistics Group along with Road Transportation has adopted the HALT program for our water carriers and supervisors. HALT is a program developed to help all workers at a location participate in and improve the frequency / quality of stop work interventions. Intervention means:

- Acting immediately to STOP an unsafe act or non-compliant situations.
- Never tolerating at-risk actions.
- Having the Confidence to be able to intervene, prevent incidents and keep people safe in the workplace.

We want all water carriers, supervisors, techs, and PICs to participate because:

- Stopping work is not an easy thing to do.
- Some fear peer pressure from coworkers.
- Others may think the work is too important to stop or it will cost the company a lot of money.
- Negative consequences may be experienced from a supervisor if work is stopped.
- There are a multitude of other reasons why people are reluctant to stop the job.

Why do we want water carrier participation?

- For the safety of you and your teammates it is your obligation to intervene in unsafe acts.
- Intervening in unsafe acts results in a safe work environment.
- Benefit of driving behaviors and changing safety cultures.
- Intervene in operations when warranted — No Harm — Goal Zero.
- Improved overall safety performance.
- All HALTS are reviewed, tracked, and trended at the Logistics office for site assessments, with HALTS being selected for quarterly recognition and announced by the Logistics Team Leaders.
- Recognition is given quarterly to the person(s) with the best HALT intervention.

Nothing we do in our business is more important than assuring the safety of our operations. It is our firm expectation that work shall never be allowed to commence, or to continue, until the safety of the operation can be assured. All water carriers and contractors, regardless of rank or position must be willing and free to intervene in any job or task when safety concerns or doubts arise. We must continually promote and reinforce this culture by setting our own example and making our expectations well known.

INSPECT WHAT WE EXPECT – TOOLS FOR THE JOB

There are many expectations for each water carrier and employees. The good news is there are tools, processes, and reports to help you each day on the job. What may seem like more paperwork is. But inspections, sign in sheets, and job permits enhance our ability for incident free work.

Inspection Reports – there are two ways we utilize inspections. One is using the Fluid Transfer Inspection report assigned to specific line managers, OSR’s, and PIC’s to audit vehicles at well sites and supporting locations. This inspection addresses the vehicles condition, safety equipment and road worthiness. The other inspection (particularly on a frac site) is the Spill Champion. The Spill Champion will utilize the fluid transfer permit to inspect and guide the unloading at a frac site. Pay close attention to whichever inspection is utilized as both can assist your work and bring you home safe.

Job Safety Analysis – is expected at every job. It should be “fresh” and not generic. Each job location has challenges and is unique. With this being the case, a JSA should be written daily listing the work sequence or job step, identify the hazard or potential incident, actions to take to mitigate or eliminate hazards.

Short Service Employee – For those employees with less than 6 months of service with their current employer. Ensure you have met the criteria for Attachment I and Attachment J. Ensure you carry the documentation with you for JSAs and proof of your status. Always have another driver as a Mentor and learn the proper procedures.

Work Permits – not always used with water carriers; however, work permits are an important ingredient especially during SIMOP operations. If involved know the full scope of the work, ask questions, know who you are working with. Before you sign on the work permit ensure you are comfortable and assured your part of the job is well understood.

Material Safety Data Sheets (MSDS) – information sheets should be available at job site. You as an employee have the RIGHT TO KNOW what chemicals are in the workplace. The MSDS explains the chemical makeup, any potential risk, and what to do in an emergency. Check with your PIC or OSR for more information.
SAFETY LEADERSHIP MATTERS

Never has it been so evident for the need to properly lead and safely supervise in today’s work place. Our water carriers have an important need to fill. So it is equally important that our carriers are properly directed and encouraged by the front line supervisors or the “Truck Pusher”. Planning and scheduling is important for the Truck Pusher and Field Supervisors to effectively plan his business. Active leadership and participation, with the business at hand, reinforces the safety amongst the drivers and the commitment towards continuous improvement. At Shell, we encourage our truck pushers and field supervisors to be the “Eyes and Ears” in the field and be visibly active where our water carriers are working. Truck Pushers and Field Supervisors should:

- Regularly schedule field visits and stick to this commitment
- Know HSE issues or performance of location
- Wear your own PPE and “Get out of the truck”
- Engage, join in, and review Job Safety Analysis with drivers
- Assist and keep a watch with route lanes and other carriers during a frac
- Perform on site inspections with all carriers not just their own
- Be visible and engage the PIC or OSF on site
- Know the dynamics of the loading and unloading sites
- Can I demonstrate to others I value protection over production?
- Demonstrate daily: “I follow the Life Saving Rules”

Onsite Visits For Truck Pushers and Field Supervisors Should Include:

- DECIDE — what to look for
- OBSERVE — the workplace
- INTRODUCE — yourself to other carriers
- EXPLAIN — why you are on location
- ASK — what is the work performed
- PRAISE — things that are completed well
- EXPLORE — what might be going wrong
- FIND OUT — why
- WHAT — should be done differently

Every visit should have a purpose with the intent to constantly improve. Your visible leadership will positively impact your water carrier’s work place and make the job safer.

Continuous engagement by contractor leaders at every level is required for us to make Goal Zero a reality. Truck Pushers play an important role and need to demonstrate visible and felt safety leadership in the field. This energy must continue.

WELL SITE OPERATIONS AND TRANSFERS

When a water carrier is tendered an order for an individual well site, to transfer fluid, it is important to remember the risk involved. Because of the site being logistically isolated or not manned, there is a very good chance the water carrier is working independently. Because of these known conditions we must be able to depend on a well-trained truck driver capable of making good common sense decisions while working alone.

Generally speaking Shell will try to avoid night time activities however there will be occasions when this activity cannot be eliminated or if a frac is active. The night time transfer brings added risk with limited lighting, failure to see possible leaks, obstructions, tripping hazards, and limited communications. Water carriers have to be on the alert. If at all practical the best practice will be to dispatch two trucks if possible.

Because of this isolated work it is important to remember these guidelines:

- Ensure your truck is fit for duty and all applicable lighting intact
- Do I have adequate directions to the well site?
- Do I clearly understand the task to be completed?
- When pulling production tanks determine what the beginning levels and ending levels are. Write them down and report
- Are production tanks isolated or equalized? Examine and know the difference
- Examine production tanks and frac tanks for any leaks
- When transferring fluid into frac tanks, gauge the level in the tank first. Know your level and limitations
- Check frac tanks for isolation or equalized
- Check containment for any excess fluid
- Always walk out the piping you are pumping from and into. Know where your fluid is going and verify no leaks in the piping or hoses
- Examine position of all valves and ensure you left the valves as you found them unless otherwise directed.
- Have a portable Intrinsically Safe LED light attached to your hard hat for night time operations
- Always check in with Night Dispatch to know your whereabouts
- If you see an issue or problem be a HERO and report it