PERMTX-XX CRUDE OIL LOADING PROCEDURE

Purpose

The purpose of this Operations Procedure is to provide a consistent, safe method for loading crude oil from storage tanks to transport trucks.

Required Competencies

Field Supervisor - Knowledgeable of the requirements of this procedure.

Field Operators - Skilled in this procedure

Personnel performing this task (Contract Truck Operator) should be skilled in this procedure and, prior to doing this alone, should have performed this task under the direction/guidance of the local subject matter expert (SME) or experienced operator.

Personnel should also be skilled in the recognition of H2S hazards.

Prerequisite Conditions

All required PPE should be worn while working on Shell location.

Grounding cable required

No smoking, no flame, or open lights shall be permitted in the vicinity during loading/unloading operations or within 30' of truck, tanks, or process piping.

All employees should be H2S Certified

Checking for the presence of H2S is required before starting job, and monitoring should continue throughout completion of the job.

NO employee or contractor should perform this procedure alone in the presence of H2S. The "buddy system" should be implemented if H2S is detected.

A Shell representative shall be on location when the process flow begins, if at all possible.

Risk

Backing up truck, truck rolling, static electricity, hydrocarbon (HC) spill, contact with HC, carry-over, fire, H2S, benzene, leaking valve, trips/fall, lifting

H2S exposure, fall from heights, fire, potential exposure to benzene

RAM Rating: Low, Severity & Likelihood: B3

Functional Role Responsibilities

Permian Operations supervisors shall be responsible for assuring that all personnel working in the Permian Asset, that are involved in the transfer of crude oil from fixed storage tanks to truck tanks, are skilled in the requirements of this procedure. Most of all, supervisors/operators should perform periodic "spot checks" to ensure compliance with these requirements.

CAUTION	**Special notes:** • **SCBA will be worn, and the "buddy system" shall be implemented, anytime there is a presence of H2S manually gauging storage tanks.** • **Backup personnel (buddy system) is required when using SCBA**

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Segment	Actions	Information
PREPARATION	**1. REQUIRED PPE**	• Hardhat, safety shoes, safety glasses w/side shields, SCBA (if H2S is present), FRC (on outer clothing layer), nitrile gloves, and any other PPE needed to eliminate possible exposure to produced fluids.
	2. COMPLETE DOCUMENTATION	• At minimum, a self Job Safety Analysis (JSA) is required for this activity • Ensure possession of a product custody transfer "run" ticket book
	3. EQUIPMENT REQUIRED	• Strapping tape (with grounding cable attached to the tape reel) and a plumb bob, metal bucket for catching drips, grounding cable for truck, and at least one DOT approved dry chemical fire extinguisher.
	4. FOLLOW SAFETY RULES	• The use of personal electronic devices (e.g. cell phone, lap top computer, digital camera) is prohibited within 50' of production facility. • No smoking, flame or open lights shall be permitted in the vicinity during loading/unloading operations or within 30 feet of truck, tanks or process piping

Segment	Actions	Information
SET UP WORK 	**1. WHEN ARRIVING AT JOB SITE CHECKS**	• Check-in with site supervisor (if other activity is present) before pulling in to loading position. • Check for potential hazards before positioning vehicle. (Gas leaks, portable equipment, ongoing activities, etc.) • Never back up on facility unless absolutely necessary. Use a spotter or marker cones if must back up. • Check to make sure fire extinguisher is easy accessible.
	2. SET EMERGENCY BRAKES AND INSTALL CHOCKS AT TRUCK TIRES.	• Chocks to be provided by contracted hauler.
	**3. CONNECT GROUNDING CABLE BETWEEN TRUCK AND STORAGE TANK PIPES/GROUNDING STRAPS (WITH CONTINUITY TO LOADING NOZZLE).**	• Grounding cable must be installed before load hose is hooked up.
	1. ISOLATE TANK WHEN POSSIBLE **2. CHECK POSITIONS OF FACILITY VALVES TO CONFIRM WHERE**	*Shell Operator should isolate tanks when possible. Not all tanks can be isolated prior to loading due to production rates, and available storage.

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Segment	Actions	Information
	FLUID IS GOING	HOWEVER, it is preferred not to load from/produce into tanks simultaneously
 Warning	**TANK GAUGING PRESENTS THE POTENTIAL FOR EXPOSURE TO H2S AND BENZENE. BENZENE IS A KNOWN CARCINOGEN, AND WITH THE POSSIBILITY OF ITS PRESENCE IN A KNOWN H2S ENVIRONMENT, WE CAN DRASTICALLY REDUCE OUR RISK OF EXPOSURE BY FOLLOWING THESE BASIC PROCEDURES.**	
	**3. POSITION YOURSELF TO THE SIDE OF TANK HATCH AND UPWIND OF TANK VAPORS. OPEN TANK HATCH ON A TANK, OTHER THAN THE ONE FROM WHICH OIL IS BEING LOADED. THIS WILL ALLOW BLANKET GAS TO DISPERSE, WHICH WILL REDUCE EXPOSURE POSSIBILITIES**	**This is especially important where there is H2S present on location.** Allow a few seconds for blanket gas to disperse before proceeding to gauge tank. Stay upwind or well to the side throughout the tank gauging operation.
	4. GATHER TOP TANK GAUGE, EITHER BY HAND GAUGE, OR FROM CONTROL PANEL	
	5. IF TANK GAUGES ARE NOT AVAILABLE ON CONTROL PANEL, THEN A MANUAL GAUGE MUST BE PERFORMED. ****SEE ATTACHED TANK GAUGING PROCEDURE****	** Please follow grounding procedures when hand gauging (due to static electricity possibility).

Segment	Actions	Information
SAMPLING OIL IN TANKS	**1. IF HAND-GAUGING, RETRIEVE REQUIRED SAMPLES FROM OIL TANK, TAKE TO TRUCK FOR SHAKEOUT TO VERIFY THAT OIL IS SELLABLE (AVE. BS&W SHOULD BE NO MORE THAN 1%). TANK BOTTOMS (BS&W) SHOULD NOT BE HIGHER THAN 8" ABOVE BOTTOM OF TANK.**	Normally, samples are taken from top-middle-bottom (most tank outlets are 14" above bottom of tank). REMINDER: IF LOCATION IS IDENTIFIED TO HAVE PRESENCE OF H2S, THE BUDDY SYSTEM MUST BE IMPLEMENTED PRIOR TO ANYONE GOING ONTO TANK WALKWAYS.

Segment	Actions	Information

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 **WARNING**	***While loading, never leave the operation unattended. DRIVER SHOULD BE NO MORE THAN 10' FROM TRUCK DURING LOADING/UNLOADING*** ***If the driver leaves the truck while parked waiting to load or unload, always chock tires of unattended truck*** ***If it is necessary to discontinue loading or unloading for any reason, all valves shall be tightly closed and all loading or unloading connections disconnected.***	
CONNECT AND LOAD	**1. VERIFY THAT GROUNDING CABLE IS CONNECTED TO GROUNDING SYSTEM OR LOAD LINE. CONNECT LOADING HOSE, AND VENT VAPOR RETURN HOSE (WHERE PRESENT).**	• Use metal buckets/ drip pans to catch any small drips that may accidentally occur • NOTE: IF VENT HOSE IS NOT PRESENT, PARK IN DIRECTION SO THAT VENT LINE ON TRUCK IS DOWNWIND OF DRIVER.
	2. BREAK AND RECORD SECURITY SEAL NUMBER ON TANK OUTLET VALVE	• **NOTE: WHERE HAND-GAUGING, AND MANUAL OIL SHAKEOUTS ARE REQUIRED, DO NOT CUT SEALS UNTIL OIL IS DEEMED "SELLABLE".** • Properly dispose of all old security ("boxcar") seals (hauler)
	3. OPEN VALVE ON FRONT OF TANK, LOAD LINE VALVE, AND VENT LINE VALVE.	
	4. OPEN TRUCK TANK VALVE	
	5. ENGAGE PUMP AND START TO LOAD CRUDE OIL.	• Visually check pump, valves, tanks, and hoses to confirm proper flow of fluids. • **CONFIRM TRAILER VENT LINE IS OPEN, AND VAPOR HOSE IS CONNECTED TO TANK VENT LINE WITH VALVE OPEN TO TANK VENT LINE.
	DO NOT OVERFILL TRUCK TANK. **NOTE: HAULING COMPANIES WILL BE RESPONSIBLE FOR OIL DRIPS/SPILLS DUE TO LEAKING PUMPS, HOSES, OR OIL DROPPED ON THE GROUND WHILE CONNECTING/DISCONNECTING HOSES. NOTIFY SHELL FIELD SUPERVISOR IMMEDIATELY IF ANY SPILL OCCURS.**	

Segment	Actions	Information
DISCONNECT HOSES	**1. WHEN DESIRED LOAD IS OBTAINED, REDUCE PUMP RPM, CLOSE SHELL LOAD LINE VALVE AT TANK FROM WHICH LOAD IS BEING TAKEN.**	
	2. PUMP ANY REMAINING CRUDE OIL OUT OF HOSE	
	3. CLOSE SHELL LOAD LINE VALVE AT	

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	HOSE CONNECTION END.	
	4. CLOSE SHELL LOAD LINE VALVE AT HOSE CONNECTION END.	• Store, and/or transport, tank gauging tape in toolbox in the back of a truck. Do not store, or transport, tape/bob/oily rags in truck cab.
	5. DISENGAGE PUMP.	
	6. RIG DOWN/BREAK DOWN TRUCK FLUID AND VAPOR RETURN HOSES.	• Drips shall be caught in a metal bucket and disposed of in the condensate tank. • ******INSURE TANK VENT LINE VALVE IS SHUT PRIOR TO DISCONNECTING VAPOR RETURN HOSE.**
	7. DISCONNECT GROUNDING CABLE	
REGAUGE TANKS / RETURN TO NORMAL SERVICE	**1. REINSTALL DUST CAP ON SHELL 4" CAM LOCK CONNECTION ON LOAD LINE**	
	2. GATHER BOTTOM GAUGE LEVEL FROM CONTROL PANEL, OR MANUALLY, IF PLC IS NOT PRESENT.	
	3. MAKE SURE TANK VALVES ARE LEFT IN THEIR ORIGINAL POSITION	
	4. INSTALL NEW PRODUCT SECURITY SEAL AND DOCUMENT ON RUN TICKET.	
	5. REMOVE CHOCKS FROM TRUCK TIRES.	
	6. PERFORM FINAL VEHICLE CHECK	• Walk around vehicle to check for tools, connections and hazards before driving away
	7. SLOWLY EXIT LOCATION	
 Warning	**In case of an emergency or spill contact Shell operations immediately.** **DO NOT LITTER!**	

Approved For Use at Location:		Date:	Time:
Technical Authority:		Date:	Time:
Reviewers:	Chip Roemisch	Date: 4-25-13	Time: 1:40pm