

Appendix F

Standard Operating Procedures

General Loading/Unloading Procedures

Ensure that tank car, tank truck, and vessel loading/unloading procedures meet the minimum requirements and regulations established by the Department of Transportation.

Load and unload tank vehicles in approved locations only. Verify that required spill containment structures surround loading and unloading areas.

Prior to material transfer, check to make sure that the loading /unloading vehicle and transfer lines are located within a containment system, or over a drain or on a sloped pavement that will drain to a containment system.

Prior to material transfer, inspect all storage tank flanges, joints, connections, and outlets for evidence of cracks and other sources of leakage. Tighten, adjust, or replace as necessary prior to any filling operation.

Prior to material transfer, visually check all hoses for leaks and wet spots.

Prior to material transfer, check the pumping circuit and verify the proper alignment of valves.

Verify that sufficient volume is available on the storage tank or truck to receive the product to be pumped.

Properly lock in the closed position all drainage valves in the secondary containment structure.

Secure the loading/unloading vehicle prior to transfer operations with physical barriers such as wheel chocks, warning signs, and interlocks to safeguard against accidental movement and rupture of transfer lines. Make sure that parking brakes on tank trucks or tank cars are set.

Establish adequate bonding/grounding of the tanker truck and receiving container before connecting to the fuel transfer point.

Keep hose ends tightly capped while moving hoses into position.

When loading, keep the internal and external valves on the receiving tank open along with the pressure relief valves.

When transferring Class 3 (flammable liquids) materials, shut off the vehicle engine unless it is used to operate a pump.

Make sure that communication is maintained with the pumping and receiving stations at all times.

During transfer operations, periodically inspect the condition of bonding/grounding.

Monitor all hose couplings during transfer operations.

Monitor the liquid level in the receiving tank during filling operations to prevent overflow.

Keep a log during the operation to record time and receiving tank soundings to ensure that all the product pumped is being transferred to the receiving tank and is not leaking at other points throughout the pumping circuit.

Monitor flow meters to determine rate of flow during loading and unloading operations.

Reduce flow rate while topping off the tank to provide sufficient reaction time for pump shutdown without overflow of the receiving tank.

Never completely fill the receiving tank when loading oils; provide a minimum of 1 percent ullage to prevent leakage due to thermal expansion.

Upon completion of transfer operations, close all tank and loading valves before disconnecting.

Upon completion of transfer operations, securely close all vehicle internal, external, and dome-cover valves before disconnecting.

Make sure that all material transfer operations are complete before disconnecting any transfer lines.

Secure all hatches.

After hatches have been secured, disconnect grounding/bonding wires.

Remove any wheel chocks that have been used.

Prior to vehicle departure, make sure that all connections, fill lines, and grounding/bonding wires are disconnected.

After the transfer lines are disconnected and prior to vehicle departure, inspect the outlets for evidence of leakage.

On completion of the transfer operation, make sure that the hoses or other connecting devices are drained, vented, blown down, or blown out with inert gas to remove the remaining oil before moving them away from their connections.

Use a drip pan when breaking a connection.

Cap the end of the hose or other connecting devices before moving them to prevent uncontrolled oil leakage.

Disconnect, drain, and support out-of-service or standby hoses to avoid crushing or excessive strain.

Cap associated hose risers.

Close all hose riser valves not in use.

Specific Tank Truck Procedures

In addition to the general procedures above, the following procedures also apply to tank truck loading and unloading:

Inspect the vehicle for defects prior to commencing a product flow. Typical areas warranting inspection on a truck are brake hoses, couplers, valves, wheels, and bearings, and all sections of the undercarriage. Closely examine the lowermost drain and all outlets of any tank truck for leakage or defects; if necessary, properly tighten, adjust, or replace to prevent liquid leakage while in transit.

Periodically inspect the condition of the alligator clips, especially the joint between the bonding wire and the clip, to ensure effective bonding circuits.

During the transfer of Class 3 (flammable liquids) materials, shut off motors of the tank truck when making and breaking hose connections. If loading or unloading is done without requiring the use of the motor of the tank truck to operate pumps, keep the motor shut off throughout the transfer operation of the liquid.

The driver, operator, or attendant of a tank truck should not remain in the vehicle, and should not leave the vehicle unattended during the loading or unloading process.

Specific Railroad Tank Car Loading/Unloading Procedures

In addition to the general procedures outlined above, the following also apply to railroad tank car transfer operations:

Inspect the tank car for defects prior to commencing a product flow. Typical areas warranting inspection on a tank car are air brake hoses, couplers, wheels and bearings, axles, cushioning units, center sills, body bolsters, center plate, and all sections of the undercarriage. Closely examine the lowermost drain and all outlets of any tank car for leakage or defects. If necessary, properly tighten, adjust, or replace to prevent liquid leakage while in transit.

The tank car must be attended by a qualified person during transfer operations.

Specific Ship/Shore Loading/Unloading Procedures

In addition to the general procedures outlined above, the following also apply to ship/shore transfer operations:

General Information.

During ship-to-shore oil transfers, no person may serve as the operations supervisor on more than one vessel at a time unless (1) the vessels are immediately adjacent, (2) there is ready means of access between vessels, and (3) the supervisor is someone other than the person in charge of the facility.

The National Maritime Service has developed a useful form (NMS Form 305) that allows the individual in charge of cargo transfer on the vessel and the counterpart on the dock to communicate and together attest that all critical items involved in cargo transfer have been checked and are in good order before actual transfer begins. This contact between the two key individuals in the cargo transfer operation assures good communication between the shore facility and the vessel. It also provides an opportunity to determine the loading rate and to identify any special problems, either ashore or afloat, which should be recognized before beginning the operation.

Operating Procedures.

Inspect all equipment aboard the tanker/ barge and on the loading dock prior to transfer line connection. Oil transfer hoses should not have any loose covers, kinks, bulges, soft spots, or any gouges, cuts, or slashes that penetrate the hose reinforcement.

Approve mooring lines and the method of mooring. Check and adjust these lines, as necessary, at half hour intervals.

Check and approve the ship's spill response equipment and cargo papers.

Check to make sure that communications required by 33 CFR 154.560 are operable for transfer operations.

Check to make sure that the emergency means of shutdown required by 33 CFR 154.550 and 155.780, as appropriate, are in position and operable.

Check to make sure that the designated personnel are on duty to-conduct the transfer operations in accordance with the facility operations manual and vessel oil transfer procedures.

Close or cover all drains in the discharge containment and On the pier in the vicinity of transfer operations while operations are in progress.

Deploy oil containment boom before any ship-to-shore transfer operations begin, and stop transfer operations immediately if a discharge of oil to the water occurs during the transfer. Notify immediate supervisor of any spill event. The Navy will issue a notification to the U.S.

EPA and the Coast Guard.

Tightly close and seal (with a numbered seal which is logged in the ship's log book) all sea valves connected to the cargo piping, stern loading and discharge connections, and ballast discharge valves.

Be sure that lines and valves in the pump rooms and on the deck of the ship are checked by the ship's master or other responsible party to see that they are properly set for discharging cargo.

Blind flange or seal all hose and cargo risers not intended for use in the transfer. Close all air valves on headers.

On vessels, check each overboard discharge or sea suction valve that is connected to the vessel's oil transfer, ballast, or cargo tank system to ensure that it is sealed, lashed, or locked in the closed position before and after transfer operations.

Verify readiness for cargo discharge with the ship's captain and the shore-side personnel.

Authorize the start of pumping operations.

Frequently inspect the surrounding water during transfer operations for possible leakage or spillage.

Switch Loading.

In addition to the general procedures outlined above, the following also apply to switch loading operations:

Install special handling arm regulator tip that produces a minimum flow turbulence.

When switch loading low vapor pressure oil into a compartment which previously contained a high vapor pressure product, inject a sufficient quantity of inert gas into the vapor space prior to loading.

Allow at least 30 seconds relaxation time for oil flows between filter and loading tip.

Containment Area Draining Operations.

Drain the spill containment area periodically to remove accumulated rainwater to prevent loss of spill containment capacity. Also drain a containment area following a discharge. When draining the containment area, follow this procedure:

Prior to draining a containment area, check the water for oil sheen. If small amounts of oil are present, drain contaminated water to an oil-water separator or use sorbent mats.

If significant quantities of oil are present, alert supervisor and determine if a discharge has occurred.

Supervisor must determine whether to drain the material to oil-water separator or to pump out for recycling/ reclaiming.

Check exposed piping, hoses, and connections before draining.

Obtain supervisor's permission before draining the containment area.

Keep a log showing the time of opening and closing the drain valve, and the operator's signature verifying that the drain valve was locked after closing.

Tank Water Draining Procedures.

General Operating Procedures.

Monitor the tank draining operation constantly.

Make sure that the valves are piped into spill drainage systems leading to impoundments or containers.

Keep water drain valves locked in a closed position when not in service.

Pipe these valves into spill drainage systems leading to impoundments or containments.

Ensure that the opening and closing of the valves is done under strict authority.

Make frequent inspections of the valves to ensure that the security of the valves has not been violated in any way.

Other.

When draining water from a tank, follow these steps:

Close the outside valve and open the water drain valve (the inner and outer) to drain oil from the system into a portable container through the sampling valve.

When water appears at the sampling valve, partially open the outside valve and partially close the sampling valve.

Drain water until oil appears; then close the inner valve of the water drain valve and the outside valve; keep the outer valve of the water drain valve opened to drain the water from the valve and its piping through the sampling valve, until there is no more water.

Close the outer valve of the water drain valve and lock the water drain valve.

Close the sampling valve; make sure that all valves are closed.