

KIRBY INLAND MARINE

CARGO TRANSFER PROCEDURES FOR THE BARGE

KIRBY 28745

PLEASE NOTE:

FOR PROPER VALVE ALIGNMENT AND SAFE CARGO TRANSFER GUIDANCE, PLEASE REFER TO KIRBY MARINE TRANSPORTATION'S CARGO HANDLING PROCEDURE MANUAL AND FOLLOW THE KIRBY TRANSFER PLAN.

IF YOU NEED A COPY OF THE PROCEDURE MANUAL, PLEASE CALL THE KIRBY DUTY LINE (713) 435-1618 OR (713) 435-1925 BEFORE CARGO OPERATION.

CUTAWAY TANK DEFINITION: A CARGO TANK WHERE THE VOLUME OF THE TOP PORTION OF THE TANK IS REDUCED BY 51% AS COMPARED TO THE BOTTOM OF THE TANK. THE SPEED PRODUCT LEVEL RISES AT THE SAME LOADING RATE WILL BE BETWEEN TWO AND FOUR TIMES AS FAST AS THE MAIN PART OF THE CARGO TANK. IT IS HIGHLY LIKELY YOU WILL HAVE A SPILL IF YOU STOP MONITORING THE CARGO LEVEL DURING TOP OFF OF A CUTAWAY TANK.

TABLE OF CONTENTS

SECTION#	TITLE	PAGE
155.750(a)(1):	Cargo Information	3
	I. Proper Shipping Names and Regulatory Compliance	3
	II. Hazard Information Systems and Sources	4
155.750(a)(2):	Barge Transfer System	6
	I. Piping Diagrams	7
	II. Procedures for Emptying Discharge Containment	10
155.750(a)(3):	Persons on Duty During Transfer Operations	11
155.750(a)(4):	Duties of Tankerman (Person in Charge)	12
155.750(a)(5):	Tending Vessel Moorings During Transfer	16
155.750(a)(6):	Procedures for Operating the Emergency Shutdown and Provision of Communications	17
	I. Emergency Shutdown Operations	17
	II. Communications	18
155.750(a)(7):	Procedures for Topping Off Tanks	19
155.750(a)(8):	Procedures for Ensuring All Valves Are Closed	21
155.750(a)(9):	Procedures for Reporting Discharges of Oil and Hazardous Materials	22
155.750(a)(10):	Procedures for Closing and Opening the Vessel Openings	23
155.750(a)(11):	Cargo Hoses Carried on Barges	24
155.750(e):	Overfill Protection	25

SECTION 155.750 (a)(1):

CARGO INFORMATION

I. PROPER SHIPPING NAMES AND REGULATORY COMPLIANCE

This barge is certificated for the transport of 46 CFR Subchapter “D” and Specified Dangerous Cargoes under 46 CFR Subchapter “O”.

The **Subchapter “D”** cargoes **NEED NOT BE LISTED ON THE C.O.I.** for loading (unless a vapor recovery load), transport, or unloading operations, but need to be within the approved flammability limits. This barge is approved for all Grade A and lower, thus the only Subchapter “D” products not authorized are the liquefied flammable gases.

Subchapter “O” cargoes **NEED TO BE LISTED ON THE C.O.I.** by the appropriate name for loading, (including vapor recovery), transport, and unloading operations.

Attached to this section is a table which lists the USCG names for various cargoes. The only authorized names for the cargoes are those listed in the table. Operations for cargoes by any other name are illegal.

The Subchapter “O” cargoes in the table are indicated by the letter “O” (handwritten) on the line immediately following the cargo name.

The remaining cargoes in the table are either Subchapter “D” or not regulated.

In any case, the cargo name you are presented with must match a name in this table. Mixtures of the Subchapter “D” or non regulated products are authorized as long as each component in the mixture has a name which can be found in the table.

Mixtures containing any Subchapter “O” products are not authorized unless the mixture by itself has a USCG approved name listed in the table.

Sometimes trade names or other names will be presented to you, which do not match the authorized USCG name. Here are the steps you should take:

1. The MSDS is the most accurate source of information available for the given cargo. Try to find a synonym for the product under this section in the MSDS. The Chemical Data Guide might be another good source for synonyms. If you find a match, the product has been identified by the USCG.

SECTION 155.750(a)(1) continued:

2. If a Mixture of products, look at the MSDS and see if the components are listed separately in the table. If this is the case, then mixtures has a USCG authorized name. However, if any of the components of the mixture are Subchapter "O", then the mixture is not authorized unless listed on the COI with its properly assigned USCG name.
3. If you cannot get a match in any case, then contact your supervisor, and recommend that contact be made with the customer to find the appropriate USCG Shipping Name for barges. It is not your fault that this situation exists because the customer is responsible for ensuring that their product has the proper USCG shipping name; but as part of your pre transfer inspection, you are the last line of defense to ensure legality.
4. Remember, in the case of Subchapter "O" products, even if you get a match in names, the cargo must be listed on the COI for approved operations.

II. HAZARD INFORMATION SYSTEMS AND SOURCES

Due to the many cargoes that Kirby barges are certificated for, it makes no sense, as had been done in the past, to use generic information sheets from the voluminous CHRIS manuals, unless the barge was dedicated to a specific product. Further, the CHRIS information is too generic in nature. However, PIC's should ensure that the following information systems are available to ensure compliance with USCG regulations:

For Subchapter "D" cargoes, the MATERIAL SAFETY DATA SHEET (MSDS) needs to be reviewed by you and made readily available to all interested parties involved with the barge operation. This includes USCG personnel when you are boarded and asked to provide such.

For Subchapter "O": cargoes, the regulations require that a CARGO INFORMATION CARD (CIC) be posted by the barge's warning sign and remain there until the product is changed or the barge is cleaned and gas free. If a CIC is not available, at least ensure that an MSDS is posted in its place. The USCG still could possibly issue you a citation for not having a CIC, but they might ease off if at least the information is available. This way the spirit of the regulation is met, if not the letter, so to speak.

As a minimum, and according to the regulations governing the contents of this section of the transfer procedures, the MSDS, CIC, or appropriate cargo information source must contain the following information. The PIC must be familiar with the following particulars and ensure quick access to the information source when needed:

SECTION 155.750(a)(1) continued:

1. Identification of the cargo, including the appropriate regulatory shipping name as designated by the USCG in Tables 46 CFR 151.05 (Subchapter “O”), and 46 CFR 30.25-1 (Subchapter “D”) or the other correspondence as provided by the USCG Commandant. Note: instead of referring to these regulatory references, you can check for the correct name in the table of these procedures as discussed in the previous **SUBSECTION “I”**.
2. Physical and chemical properties addressing the appearance and odor. Be aware of the ODOR THRESHOLD LIMIT in particular, and how it compares with the TLV or PEL values. If it is higher than the PEL or TLV, you might be exposed to dangerous levels prior to detecting such through sense of smell.
3. A statement of the hazards involved and instructions for the safe handling of the cargo as applicable, the need for special cargo environmental control such as inert padding and inhibitors or stabilizers.
4. Emergency procedures stating the necessary precautions in the event of spills, leaks, or equipment/machinery breakdowns and/or uncontrolled release of cargo in to the atmosphere or the waterways.
5. Precautions to be observed in the event of personnel exposure to toxic cargoes.
6. Fire fighting procedures to be used in the event of a fire occurring on or adjacent to the barge, and utilization of the limited equipment available for response.

As stated earlier, the Cargo Information Cards for Subchapter “O” cargoes are required by law so use them. Unfortunately, they, like all other CHRIS based information, are too generic in nature. DUE to the various “different” types of cargoes provided by the customers, it is best for the PIC to ensure that the MSDS is reviewed and always readily available. THE MSDS IS THE MOST ACCURATE SOURCE OF INFORMATION AVAILABLE, because they are, or at least should be, specific to the particular product manufactured by the customer. Unfortunately, the MSDS is not a very “user friendly” format for marine PIC’s. That is why the PIC must take the time to review the information as noted above, and any additional information of concern. The MSDS must be made available to you under the “Right to Know” laws, so ask for it.

SECTION 155.750(a)(2):

BARGE TRANSFER SYSTEM

I. PIPING DIAGRAM (S)

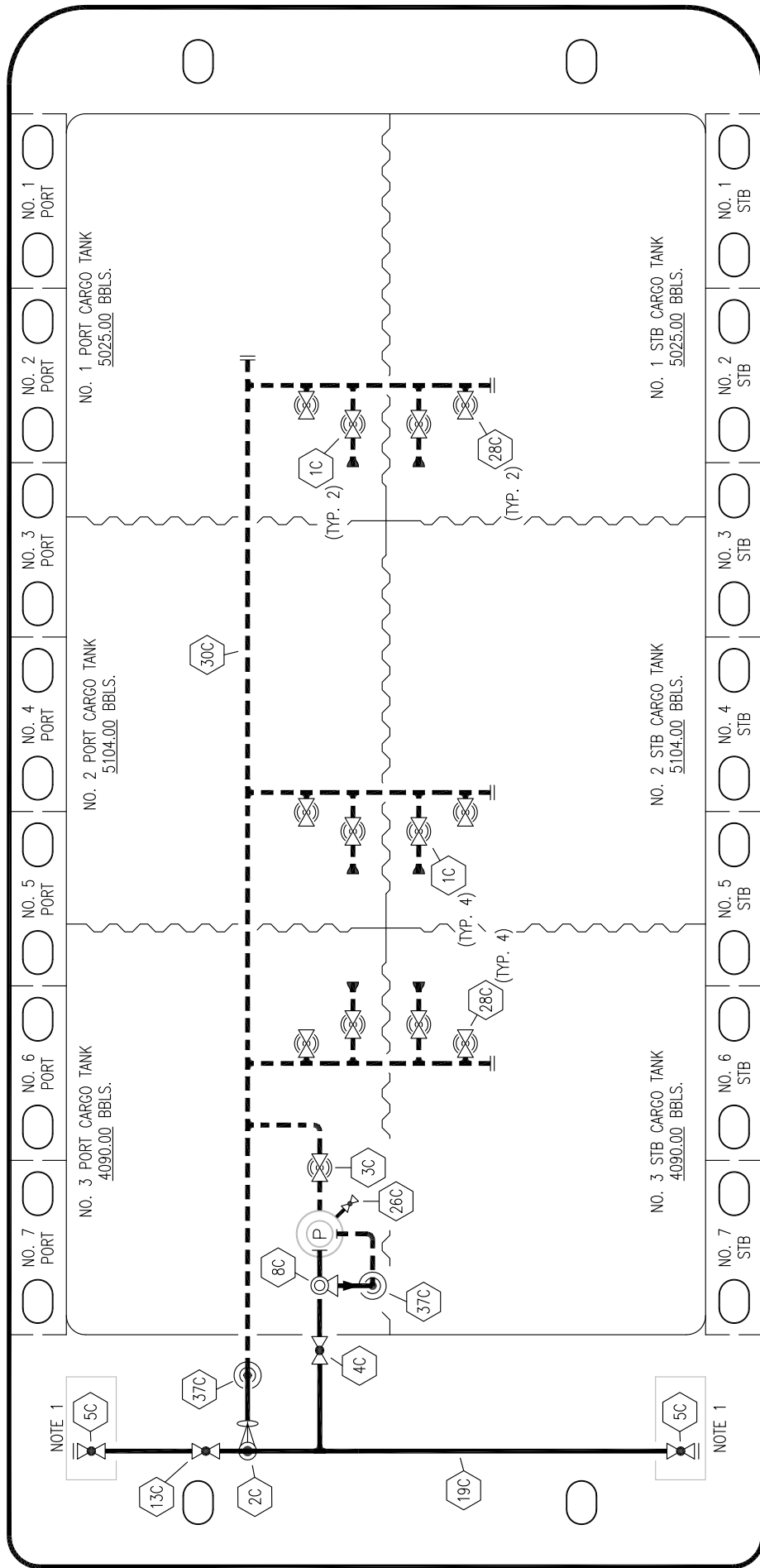
Enclosed are the cargo, venting, and hot oil piping systems for this barge. A few important notes:

REGARDING THE HOT OIL PIPING; SINCE THIS SYSTEM IS INDEPENDENT OF THE CARGO PIPING SYSTEM, IT IS OK TO KEEP THE VALVES OPEN AFTER USING THE HEATING SYSTEM. WE ARE FINDING THAT CLOSING THE VALVES WITH THERMAL FLUID STILL IN THE PIPING CAUSES LEAKAGE TO OCCUR AT VALVES AND PACKING IN THE SYSTEM. THIS IS DUE TO EXPANSION OF THE THERMAL FLUID. KEEP THE VALVES OPEN.

PORT

BOW

STERN



STARBOARD

NO	DESCRIPTION	NO	DESCRIPTION
1C	10" CARGO SUCTION VALVE	26C	PUMP WELL DRAIN VALVE
2C	10" LOAD VALVE	28C	10" HIGH LOAD VALVE
3C	12" MASTER SUCTION VALVE	30C	12" CARGO PIPELINE
4C	8" DISCHARGE VALVE	37C	CARGO DROP
5C	8" HEADER VALVE	—	ABOVE DECK PIPING
8C	6" RELIEF VALVE	---	BELOW DECK PIPING
13C	8" CARGO PIPING BLOCK VALVE		
19C	8" CARGO HEADER		

NOTE 1: CONTANMENT P/S



KIRBY INLAND MARINE

CARGO

PIPING FLOW DIAGRAM

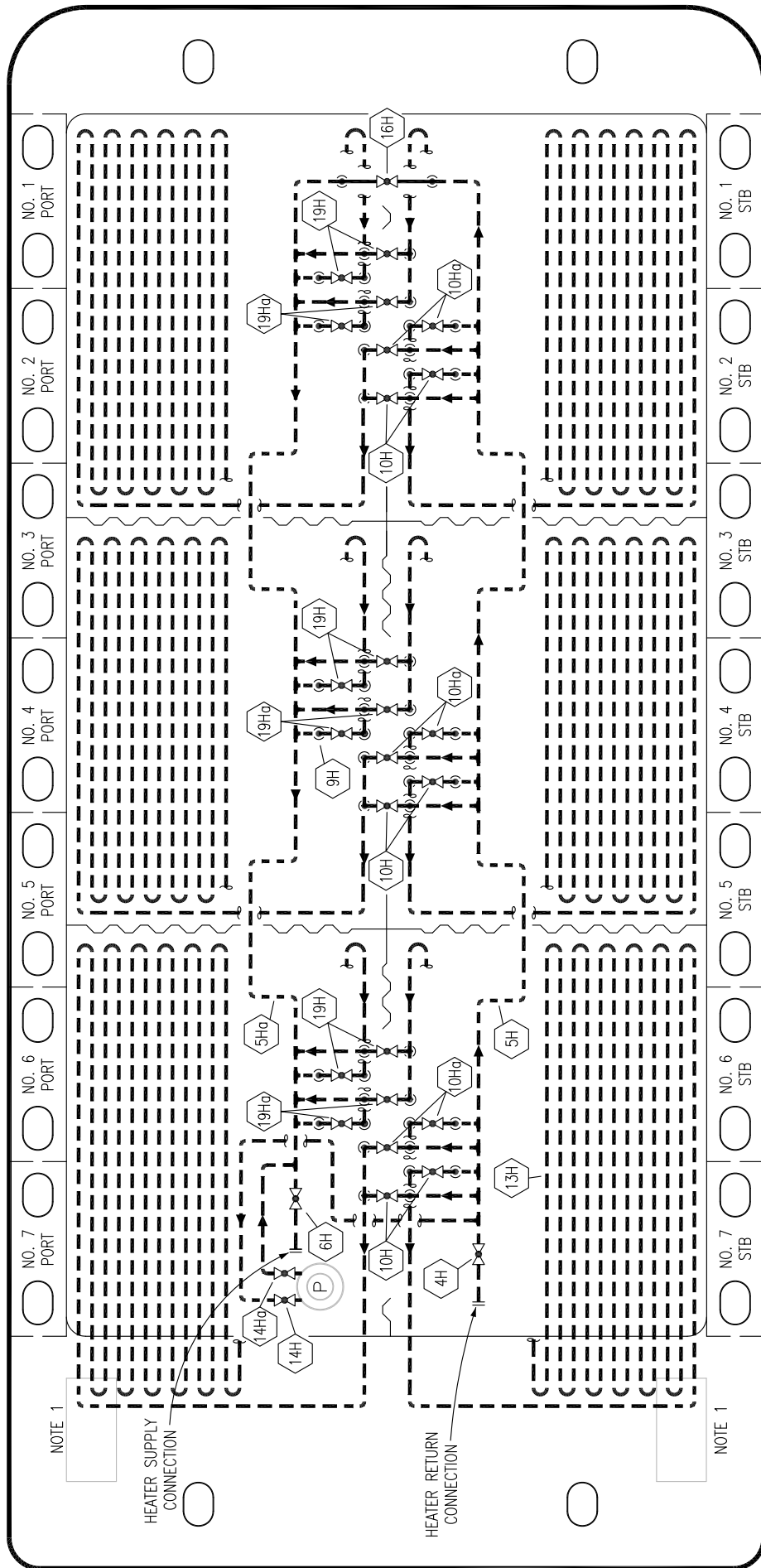
KIRBY 28745

REV.	DATE	BY	CHK	APP	REVISION DESCRIPTION
2	04/27/18	WFB	DDA		REVISED PER CLIENT COMMENTS
1	02/16/18	WFB	DDA		REVISED PER CLIENT COMMENTS
0	11/16/16	WFB	DDA		ISSUED FOR APPROVAL

TRINITY MARINE - EX. WTC 2001-2004

PORT

BOW



STERN

TRINITY MARINE - EX. WTC 2001-2004



KIRBY INLAND MARINE

HEATER

PIPING FLOW DIAGRAM

KIRBY 28745

SCALE: NONE
PAGE: 2 OF 2

REV. **2**

STARBOARD

DESCRIPTION

DESCRIPTION

- NO. 4H RETURN MAIN VALVE
- NO. 5H SUPPLY STEAM HEADER
- NO. 5Ho RETURN STEAM HEADER
- NO. 6H SUPPLY MAIN VALVE
- NO. 9H STEAM (HEATING) DROP
- NO. 10H UPPER COIL SUPPLY VALVE
- NO. 10Ho LOWER COIL SUPPLY VALVE
- NO. 13H STEAM PIPELINE
- NO. 14H PUMP SUPPLY VALVE
- NO. 14Ho PUMP RETURN VALVE
- NO. 16H SUPPLY/RETURN ISOLATION VALVE
- NO. 19H UPPER COIL RETURN VALVE
- NO. 19Hq LOWER COIL RETURN VALVE
- ABOVE DECK PIPING
- - - BELOW DECK PIPING

- NO. 4H RETURN MAIN VALVE
- NO. 5H SUPPLY STEAM HEADER
- NO. 5Ho RETURN STEAM HEADER
- NO. 6H SUPPLY MAIN VALVE
- NO. 9H STEAM (HEATING) DROP
- NO. 10H UPPER COIL SUPPLY VALVE
- NO. 10Ho LOWER COIL SUPPLY VALVE
- NO. 13H STEAM PIPELINE
- NO. 14H PUMP SUPPLY VALVE
- NO. 14Ho PUMP RETURN VALVE
- NO. 16H SUPPLY/RETURN ISOLATION VALVE
- NO. 19H UPPER COIL RETURN VALVE
- NO. 19Hq LOWER COIL RETURN VALVE
- ABOVE DECK PIPING
- - - BELOW DECK PIPING

REV.	DATE	BY	CHK	APP	REVISION	DESCRIPTION
2	04/27/18	WFB	DDA		REVISED PER CLIENT COMMENTS	
1	02/16/18	WFB	DDA		REVISED PER CLIENT COMMENTS	
0	11/16/16	WFB	DDA		ISSUED FOR APPROVAL	

[VENTING SYSTEM PIPING DIAGRAM INSERTED HERE]

NOTE: If this page is included, then a venting system piping diagram is not available for this barge.

SECTION 155.750(a)(2) continued:

II. PROCEDURES FOR EMPTYING DISCHARGE CONTAINMENT

The pollution pen or coaming around the machinery area must have scuppers with the plugs inserted. Since the barge has drip pans of the correct capacity, this coaming is an extra support to pollution prevention. It is to be expected that some water might be contained within this area, and it is usually desired to drain this water off. However, if a sheen is visible on this water, then simple draining cannot be done since the intent of the regulations is to avoid the spillage of any oil or hazardous material into the water. Further, an additional storm or variations in barge trim might cause an overflow of the sheen/water mixture. The PIC is advised to monitor the levels within the coaming and take into account the various barge trim (especially during unloading operations) and approaching weather conditions expected during the transfer. The barge might have to be brought to the shipyard for proper disposal of this sheen/water mixture prior to the transfer.

Also, in the case of products where stripping system use is not desirable from an operational standpoint, there is no other alternative but to have the shipyard provide the means of proper disposal from residual accumulations in drip pans or other areas.

SECTION 155.750(a)(3):

PERSONS ON DUTY DURING TRANSFER OPERATIONS

USCG regulations state that no person may serve as the PIC (PERSON IN CHARGE) of transfer operations on more than one vessel at a time during transfers between vessels or between two or more vessels at a facility unless authorized by the COTP MSO zone serving as the location of the transfer. These waiver authorizations (as LETTERS OF ALTERNATIVE COMPLIANCE) must be in writing and are placed in the front of these transfer procedures as required by the USCG.

If you are involved in such a transfer, read the Letter of Alternative Compliance from the USCG MSO that applies to your location. Bear in mind that USCG waivers of this nature have some operational contingencies you need to comply with, and they might vary between MSO zones. Read the correct one for your zone of transfer.

The PIC shall be aboard the barge at all times when the transfer operations are in progress. Do not be fooled by the statement in the regulations which state that the PIC needs to be in the "immediate vicinity." That statement is based on the assumption similar to ships where an entire watch is conducting the transfer. YOU are the watch. You are to remain on the barge. People have been written up by the USCG for standing on the gangway, so be careful.

Further, trainees are not yet licensed tankerman, or they would not be trainees. Do not be tempted to let the trainee stay on the barge while you, as the PIC, remain on the dock or in the dock shack in the "immediate vicinity." That will not work, either.

SECTION 155.750(a)(4):

DUTIES OF TANKERMAN (PERSON IN CHARGE)

2.4(a) COAST GUARD REGULATIONS FOR TRANSFER

According to the Coast Guard regulations found in 33 CFR Part 156.120, a transfer operation may not commence unless:

- A. The vessel moorings are checked to verify that they are strong enough to hold during all expected conditions of surge and current and allow for change in draft, drift, and tide;
- B. The transfer hoses and loading arms are long enough to allow the vessel to move within the limits of its moorings without placing a strain on a hose, loading arm, or piping system;
- C. Each hose is supported to prevent chaffing, kinking, or other damage to the hose or hose couplings;
- D. The PIC verifies that each appropriate transfer system is aligned to allow the proper flow of cargo;
- E. Each part of the transfer system not in use is securely blanked or shut off;
- F. Each end of any hose and loading arm that is not in use is securely blanked off with a blind flange;
- G. The transfer system is attached to a fixed connection on the vessel and the facility, except when a vessel is receiving fuel, then an automatic back pressure nozzle may be used;
- H. Each overboard discharge (if fitted) or sea suction valve that is connected to the vessel's transfer system or cargo tank system is sealed or locked in the closed position;
- I. Each transfer hose has no unrepaired loose covers, kinks, bulges, soft spots, or any other defect which would permit the discharge of oil or hazardous materials through the hose. The hose must not have gouges, cuts, or slashes that penetrate the first layer of the hose reinforcement;

- J. Each hose or loading arm meets 33 CFR Part 154.500 and 33 CFR Part 154.510;
- K. Each connection meets the following requirements of 33 CFR Part 156.130:
 - 1. Uses suitable material in joints and couplings to ensure a leak-free seal;
 - 2. Uses a bolt in every hole, no case less than four bolts, in each temporary bolted connection that uses a flange that meets ANSI standard flange requirements under 33 CFR Part 154.500(d)(2);
 - 3. Bolts and nuts must be tightened to uniformly distribute the load and ensure a leak-free seal;
- L. Any monitoring devices required by 33 CFR Part 154.525 are installed properly and operating properly;
- M. The discharge containment equipment required by 33 CFR Part 154.545, as applicable, is readily accessible or deployed as applicable;
- N. The discharge containment required by 33 CFR Parts 154.530, 155.310, and 155.320, as applicable, is in place and periodically drained to provide the required capacity;
- O. Each drain scupper or spill rail plug is double checked and closed securely;
- P. All connections in the transfer system are leak free; except for those components in the transfer system, such as the packing glands of a pump, may leak at a rate that does not exceed the capacity of the discharge containment provided during the transfer operation;
- Q. The communications required by 33 CFR Parts 154.560 and 155.785 are operable for the transfer operation;
- R. The emergency means of shutdown required by 33 CFR Parts 154.550 and 155.780, if applicable, is in position and operable;
- S. There is one PIC on both the transferring and receiving vessel or facility unless otherwise authorized ;

- T. Each PIC on duty at the site of the transfer operation, has checked to ensure that a copy of this manual is on the barge; As appropriate, the PIC conducts the operations according to the manual and is immediately available to transfer personnel during the transfer operation;
- U. The PIC of the dock facility or other vessel boat speak the same language (English);
- V. The transfer is conducted in accordance with all local, state, and federal regulations;
- W. A conference must be held between the person-in-charge of the dock facility vessel and PIC. They must understand all of the following details of the transfer operation:
 - 1. The identity of the product to be transferred;
 - 2. The sequence of the transfer operations;
 - 3. The transfer rate;
 - 4. The name or title, and the location of each person involved in the transfer operations and the procedures for relieving watch or changing the shift;
 - 5. Details of the transferring and receiving system;
 - 6. Critical stages of the transfer operations;
 - 7. Federal, state, and local rules that apply to the transfer;
 - 8. Emergency procedures;
 - 9. Discharging containment procedures;
 - 10. Discharge notification procedures (vessel to vessel, or vessel to dock);
 - 11. Watch of shift change arrangements;
 - 12. Transfer shutdown procedures;
 - 13. The Declaration of Inspection has been signed, and is in the possession of the PIC;

- X. The PIC of transfer operations on the vessel or facility loading the cargo and the PIC of transfer operations of the receiving vessel or facility agree to begin transfer operations;
- Y. The transfer operation between tank barges and the dock facility is adequately lighted between sunset and sunrise;
- Z. Any restrictions on loading and discharging by the USCG Captain of the Port for the particular zone or facility are verified by checking on the Coast Guard authorization letter which is provided in the front of this manual, and,

SECTION 155.750(a)(5):

TENDING VESSEL MOORINGS DURING TRANSFER OPERATIONS

Proper mooring of the barge is essential for both safety and pollution prevention. You may not transfer cargo to or from a barge unless its moorings are strong enough to hold in all expected conditions of surge, current, and weather. The mooring lines must be long enough to allow for changes in draft, trim, surge, and tide during transfer operations.

All conditions at the dock must be considered to determine the adequate size, proper lead and the number of lines necessary. Surge of the barge, both at parallel to and at right angles to the dock, will be influenced by the proximity of traffic in the channel, the dock design, the state of the tide and the barge's draft. Be sure that all lines have the proper lead and are secure.

Be particularly mindful of docks with high and low mooring dolphins, etc. It may be necessary to shift from lower mooring supports to higher or visa versa, as the barge goes down or comes up from the water.

When mooring the barge, as a MINIMUM standard, the PIC should ensure that the number of mooring lines used is in accordance with the governing Standard Operating Procedures for the service of this barge. The lines are used in combination to fulfill the following functions:

- (1) Towing lines
- (2) Backing lines
- (3) Spring lines

SECTION 155.750(a)(6):

PROCEDURES FOR OPERATING THE EMERGENCY SHUTDOWN AND PROVISION OF COMMUNICATIONS

I. EMERGENCY SHUTDOWN OPERATIONS

In case of hose rupture, tank overflow, or other emergency, normal means of stopping the flow of product may require inadequate time to properly arrest it. To ensure a more timely, if not immediate, shutdown, both the vessel and facility are required to have emergency shutdown equipment.

The facility must have an emergency means to enable the person in charge the transfer on board the vessel, at that person's usual operating station, to stop the flow of oil or hazardous material from the facility to the vessel. The means must be – (1) An electrical, pneumatic, or mechanical linkage to the facility; or (2) An electronic voice communications system continuously operated by a person on the facility who can stop the flow of oil or hazardous material immediately.

For unloading situations, in addition to the facility provided system, the barge is required to have a means of shutting down the barge transfer system by shutting off the driver for the cargo pump; in this case a diesel powered engine. This is accomplished with the use of a simple shutdown cable which is connected to close the air intake "flapper" of the engine. This activation point of the shutdown cable needs to be at least 100' away from the engine. This should be tested by grabbing the handle of the cable at the marked shutdown station and pulling upwards. Then inspect the intake area of the engine to ensure proper closure of the flapper valve.

Be suspicious of barges which have the cable strung through a lot of corners and edges back in the machinery flat area. Do not check the operation at closer locations than the remote station.

Due to engine wear from the past, it is not recommended to start up the engine and check for proper shutdown operation by seeing if the engine dies. However, if you are suspicious of complete flapper valve operation, then test the shutdown with the engine idling at very low rpm's.

SECTION 155.750(a)(6) continued:

II. COMMUNICATIONS

In vessel to vessel transfers, and vessel to facility transfers, there must be a means of continuous two-way voice communications between the Persons in Charge of each entity.

The means of communication must be usable and effective in all phases of the transfer operation and in all conditions of weather.

If portable radio devices are used to comply with this requirement, they must be intrinsically safe as defined in 46 CFR 110.15-100(f), and meet Class 1 Division 1 Group D requirements as defined in 46 CFR 111.80.

Be Careful during unloading operations when you are within the vicinity of the operating pump engines. More frequent radio or other voice communication checks may be necessary to ensure timely notification.

SECTION 155.750(a)(7):

PROCEDURES FOR TOPPING OFF TANKS

Prior agreement in the reduced transfer rates to be used during topping off and trimming the barge should be discussed during the pre transfer conference. The PIC must give the facility PIC proper notice before topping off the final tank so that the flow rate can be reduced in preparation for the final shutdown. Further, reduced loading rates should be agreed upon when the initial topping off of the first set off tanks begins, if desired. Reduced rates or shutdown procedures should be discussed and utilized whenever something does not look right or if problems should arise during the topping off stage.

Generally, in a simultaneous (non split) load the barge SHOULD BE TOPPED OFF FROM BOW TO STERN making certain that it is kept as level as possible to prevent system load; or from entering the common vent system or leaking through butterworths. ALTHOUGH BOW TO STERN TOPPING OFF IS STRONGLY ENCOURAGED YOU CAN DEVIATE FROM THIS SEQUENCE IF THE BARGE APPEARS TO TRIM IN A MANNER SUPPORTING SUCH. This could happen due to different barge designs and cargo specific gravities.

Top off only one tank at a time. It is best to either close or restrict flow by pinching down on the valves to those tanks adjacent to the one being topped off. For example, assuming a bow to stern sequence, while topping of the #1's, the #2's might be pinches down, with the #3's either pinched down more than the #2's, or perhaps closed.

As the product level approaches the required level in the tank, pinch down on the tank valve, and open more of the valves in the adjacent tank or tanks. This helps in reducing hammer pressure on the piping. For example, as the required level is approached in the #1's, pinch down on the #1's and open more of the #2's.

Once the product reaches the desired level in the tank, close the valve tightly, then re-open it to slightly wash away scale in the valve gate. Close it again tightly.

Use the same sequence of pinching down, opening, and closing, the valves to the tanks of concern and those adjacent tanks as you top off in the proper direction. IT IS BEST TO BEGIN TOPPING OFF WHEN THERE IS ABOUT TWO TO THREE FEET OF CARGO TANK SPACE IN EACH REMAINING SET OF TANKS. This outage might be higher if the barge for one reason or another is not trimming too evenly up to this point.

While topping off the last tank, ensure that enough room is left for the hose draining or line blowback.

SECTION 155.750(a)(7) continued:

Once the facility PIC is informed of the shutdown, ensure that the facility shore side valves are closed first before the barge header valves. This prevents over-pressurization of the transfer hose or loading arm.

The following additional points are important to remember:

- A. Closing off one tank valve increases the rate of flow to the other tanks of the system
- B. The rate of flow into any tank which is nearly full can quickly be reduced by opening the valve to another tank.
- C. The greater the pressure against a valve (such as head pressure), the longer it will take to open it.
- D. The liquid level in topped off tanks should be checked frequently to ensure that the liquid level is not rising. This may occur if the barge stripping system is not properly secured or if the cargo valves are leaking.

NOTE: On 10,000 bbl barges, no more than 18 inches of trim allowed.

SECTION 155.750(a)(8):

PROCEDURES FOR ENSURING ALL VALVES ARE CLOSED

Upon completion of barge transfer operations and the clearing of the dock cargo hose or pipeline, the PIC should perform the following procedures on the barge:

1. Close the cargo tank valves, the loading valve (to the load drop), or pump suction and discharge valve, and the header valves.
2. Ensure all valves of the cargo system are closed on the barge.

EXCEPTIONS TO THE PROCEDURE

1. Freezing cargos procedure needs to follow (KIM 07.362)
 2. Asphalt / VTB procedure needs to follow (CPRM G7.302)
 3. Valve has been locked open with Lock out / Tag out
3. Close the vent stack if the product of load or discharge (since there are still vapors present in the tanks) is a Grade A, B or C flammable liquid, or if it is Subchapter "O" cargo which requires "PV" venting in lieu of "OPEN" venting. If you are not sure of the venting requirement for a particular Subchapter "O" cargo, then check the table 46 CFR 151.05 or bring this matter to the attention of your supervisor. If you are unsure of the flammability grade of a Subchapter "D" cargo, then check the MSDS. Also, the terminal might require the vent stack to be closed after the transfer even if not required by USCG regulations, so be aware of this.
 4. If the barge does not have a common header and vent stack, then ensure that the cargo tank domes and/or ullage hatches are closed, since these were probably used to vent the cargo tanks while loading. This is required for all Grade A, B and C cargoes under Subchapter "D" and those Subchapter "O" cargoes requiring "PV" venting in 46 CFR Table 151.05. Grades D and E Subchapter "D" cargoes, plus those Subchapter "O" cargoes with an "Open" venting requirement in Table 151.05 can have hatches open (with flame screen) but it is usually best to transit with the ullages closed and allow venting through the PV valve installed on the tanks.

SECTION 155.750(a)(9):

PROCEDURES FOR REPORTING DISCHARGES OF OIL AND HAZARDOUS MATERIALS

In the event a discharge of oil or hazardous material occurs on deck or in the water, the PIC must shut down the transfer operation and notify the wheelhouse person on watch of the accidental discharge. Wheelhouse personnel will contact the appropriate dispatch office who will notify the appropriate USCG office(s).

The PIC will also take immediate action to protect personnel from exposure to hazardous chemical vapors by moving upwind and if necessary, donning personal protective equipment.

If the spill is contained on deck the dispatch officer will probably not notify the USCG. If the Spill is in the water then the USCG will be notified. You, as the scene PIC must be prepared to provide at least the following information to those who will be notifying the appropriate government agency:

1. Barge name
2. Time of the incident
3. Geographic location of the barge
4. Wind and tide conditions
5. Condition of the barge, particularly the equipment that might be associated with the discharge.
6. An estimate of the quantity of product discharge into the water; or the amount contained on deck.

SECTION 155.750(a)(10):

PROCEDURES FOR CLOSING AND OPENING THE VESSEL OPENINGS

Upon the completion of transfer and preparatory to getting underway, the PIC shall ensure that all closure mechanisms on the following openings are properly closed:

1. Expansion trunk hatches
2. Ullage openings
3. Sounding ports
4. Tank cleaning butterworth openings
5. Any other tank openings that maintain the seaworthy condition of the barge and prevent the inadvertent release of oil or hazardous material in the event of an accident. This includes, therefore, the rake void, and wing/innerbottom voids.

No person is allowed to open any of the closures mentioned above while underway or fledged unless authorized to do so by the person in charge.

SECTION 155.750(a)(11):

CARGO HOSES CARRIED ON BARGES

History has taught us that cargo hoses can be a weak link in the transfer system, so the USCG regulates them rather stringently. All we are required to address are hoses attached or assigned to the barge, but the PIC should bear in mind that an incident resulting from improper use of a facility hose used for facility/barge hook up might also result in the USCG citing the barge PIC under 33 CFR 156 for DOI items. It is best that the PIC take note of the following and apply the principles to ALL hoses used in the transfer.

Hose MAWP as marked should at least be 150 psig.

The hose should be marked with the words "OIL SERVICE", or if in hazardous material "non oil" service, by chemical name. If the marking references "HAZMAT SERVICE__ See.....", which is another sheet of paper or document on the barge, and if that document is not available, check with your supervisor.

The MAWP is required to be marked on the hose as well.

Hoses are pressure tested annually. If the test date is not marked on the hose, check the supporting paperwork to ensure a valid and current test date. Ensure that the hose serial# marked on the hose matched the serial # referenced in the supporting paperwork.

Hoses involved in the transfer should not have loose covers, kinks, bulges, soft spots, gouges, cuts, slashes that penetrate the reinforcement. The hose should have no external deterioration and, to the extent internal inspection is possible with both ends open, no internal deterioration.

Ensure that hoses are supported so that they are not pinched between the barge and the facility. Ensure they are long enough to allow the vessel to move within the limits of its moorings to avoid placing strain on the hose of manifold systems.

Inspect the hose frequently during the transfer. Remember, it is the weak link.

Do not let the hose fall to the deck during handling, connecting or disconnecting.

Any hose that is not clean and gas free must be blanked off.

SECTION 155.750(e):

OVERFILL PROTECTION

Cargo tanks are fitted with a 1 meter stick gauge that will assist in loading, discharging, and rate determination. For USCG purposes, it is to assist in preventing spills during critical topping off stages; not to be the sole reliable source, of course, but nevertheless, a valuable assisting resource. The following steps should be used in preparation for operation:

1. Locate the stick by referring to the vapor piping diagram in Section 155.750(d)(1) of these procedures.
2. Unscrew the stainless steel cover.
3. Slowly lift the dipstick until you can feel it magnetically interlock with the float.
4. Vertically adjust for specific gravity (if applicable).
5. Constantly check the dipstick level as you are topping off bearing in mind that the second high level alarm should not be tripped (is applicable) and in no case, a load limit of 98.5% be exceeded.
6. As the cargo tank is topped off and the cargo tank valves are closed, continue to monitor the indicator stick which will help indicated whether or not the tank valve is properly closed or leaking.
7. After the transfer, slowly lower the dipstick into its housing. Do not free fall the stick back into its housing.
8. As a general precaution, care should be exercised when gauges are riding high and strong winds are present.