

# APPENDIX H

## CHECK-OFF LIST FOR PREPARING AND RIGGING A TOW

### H-1. CHECK-OFF LIST FOR PREPARING AND RIGGING A TOW

1. The following check-off list is to be used by the preparing activity to aid in preparing a tow for sea and acceptance by the towing unit. It lists general requirements, most of which must be completed before the towing unit will accept it for sea. If the preparing activity has questions concerning this check-off sheet or preparations required to ready the tow, it should communicate via message or phone with the towing unit or its Immediate Superior in Command (ISIC). The preparing activity must fully complete this check-off list. Items which are not applicable or cannot be accomplished must be cleared through the towing unit's ISIC or the towing unit.

2. A preliminary pre-tow inspection should be conducted by the command conducting the tow as soon as possible to preclude misunderstandings and rework. In special situations, the standards reflected in this checklist can be relaxed and a calculated risk tow accepted. The Commanding Officer of the towing ship and his ISIC must agree to all calculated risk tows, as they do not relieve them of responsibility or safe practice. Calculated risk tows are not routine.

3. The Commanding Officer of the towing ship will conduct a final inspection of the tow in company with a representative of the preparing command. Upon satisfactory completion of this inspection, condition ZEBRA will be set on the tow by the preparing activity and the tow accepted and signed for by the towing ship's Commanding Officer.

#### 4. General Characteristics:

- a. Is craft designed and authorized to be ocean-towed IAW the U.S. Navy Towing Manual?\_\_\_\_\_ If not, why not?\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Use separate sheet if additional space is needed.)

- b. Nomenclature of unit being towed\_\_\_\_\_
- c. Departure from what activity and port\_\_\_\_\_

- d. Name of craft being towed \_\_\_\_\_
- e. Length \_\_\_\_\_ Beam \_\_\_\_\_  
Draft fwd \_\_\_\_\_ Draft aft \_\_\_\_\_ Mean draft \_\_\_\_\_  
Freeboard forward \_\_\_\_\_ mid \_\_\_\_\_ aft \_\_\_\_\_
- f. Maximum designed draft (include sonar dome, propellers, etc.) \_\_\_\_\_  
\_\_\_\_\_
- g. Displacement \_\_\_\_\_
- h. Does craft have a fixed rudder or a skeg? \_\_\_\_\_
- i. Is the booklet of general plans available? \_\_\_\_\_  
Where is the booklet located? \_\_\_\_\_
- j. Are instructions posted in after steering for lining up hydraulic steering systems to hand pump? \_\_\_\_\_
- k. Are plans and date of last drydocking available? \_\_\_\_\_  
Date? \_\_\_\_\_
- l. Were hull thickness recordings taken during last drydocking? \_\_\_\_\_  
Provide record of sonic drill or test. \_\_\_\_\_
- m. Is damage control book, curves of forms or other stability data available? \_\_\_\_\_  
Where? \_\_\_\_\_
- n. MTI \_\_\_\_\_
- o. TPI \_\_\_\_\_
- p. Preparing activity to provide a list of equipage assigned to the craft which is pilferable and is required to be on board at destination. Preparing and towing representatives' signatures are required. (Provide list on separate sheet; if there is none, so state.) \_\_\_\_\_

- q. If craft is a floating drydock, has it been inspected by a representative of NAVSEA?  
If yes, when? \_\_\_\_\_
- r. Do you hold a signed copy of the inspection? \_\_\_\_\_
- s. Are ladders available for boarding on both port and starboard sides on the after one-third of the tow? \_\_\_\_\_ For unmanned ships with freeboard over 10 feet, are rungs welded to the sides? \_\_\_\_\_

**5. Riding Crew:**

- a. Is a riding crew necessary? \_\_\_\_\_ (Note: Riding crews are not ordinary practice for open ocean tows.)

Attach a copy of the directive (message, letter, etc.) \_\_\_\_\_

If so, proceed with the following checks.

- b. Which authority has authorized that a riding crew be on board? \_\_\_\_\_  
How many men? \_\_\_\_\_
- c. Is there a sufficient number of life rafts on board with emergency rations and water to accommodate the riding crew in the event that they are required to abandon ship?  
\_\_\_\_\_  
Where are they located? \_\_\_\_\_
- d. Date life rafts were last tested/inspected \_\_\_\_\_
- e. Are life jackets and life rings on board? \_\_\_\_\_  
How many? \_\_\_\_\_ Type? \_\_\_\_\_  
Date last tested/inspected \_\_\_\_\_
- f. Are at least two P-250s and all other necessary firefighting equipment on board?  
Is there a sufficient quantity of P-250 fuel on board? \_\_\_\_\_
- g. Is storage of fuel adequate? \_\_\_\_\_
- h. What means of communications with the towing ship will be provided? \_\_\_\_\_  
\_\_\_\_\_

(Both visual and radio are recommended.)

- i. Provide list of riding crew to enter in towing ship's diary (name, rate, SSN, and NOK; address and phone number of rider and NOK for civilians).
- j. If the preparing activity normally is responsible for training the crew in damage control and support systems, are they trained? \_\_\_\_\_
- k. Is habitability and sustenance sufficient from on-board assets? \_\_\_\_\_

6. Seaworthiness:

- a. Is the craft in proper trim? \_\_\_\_\_

(Note: For a ship/craft to be in proper trim for towing, it should draw approximately one foot more water aft than it does forward for each 100 feet of length. Deep draft tows use somewhat less than one foot. Before trimming excessively, ensure that drafts obtained will allow sufficient clearing of the bottom at point of departure, transit, and point of delivery, and that stability of tow is not impaired.)

- b. Will craft require ballast? \_\_\_\_\_

- c. If so, what type of ballast? \_\_\_\_\_

- d. Describe where ballast will be placed and how much \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

- e. Draft after craft is in proper trim: fwd \_\_\_\_\_ aft \_\_\_\_\_ max navigational draft \_\_\_\_\_

- f. GM after craft is in proper trim \_\_\_\_\_

- g. KG after craft is in proper trim \_\_\_\_\_

- h. If GM is not known, "sally ship" to establish period of roll.  
 Normally  $T = 2\sqrt{\text{Beam (ft)}}$  is maximum period. The measured period of roll will be useful in detecting deteriorating stability during the tow.

$T = 2\sqrt{\text{Beam (ft)}}$  \_\_\_\_\_

T (observed) \_\_\_\_\_

- i. Are all sea valves closed and wired shut? \_\_\_\_\_  
 Is there a two-valve protection from the sea for all sea openings? \_\_\_\_\_

j. Is a list of sea valves attached? \_\_\_\_\_

(Note: Two-valve protection consists of either two valves wired shut or one valve and a blank flange. A list of all valves should be attached.)

k. Closely inspect, below decks, all drain piping which originates above the water-line and terminates within 20 feet of the waterline. Are there any loose connections or badly deteriorated spots in the piping? \_\_\_\_\_ Are all sea valves closed and wired shut with steel wire? \_\_\_\_\_

l. Are all sounding tubes capped? \_\_\_\_\_

m. Is a list of all sounding tubes attached? (Required) \_\_\_\_\_

n. Are all between-tank sluice valves closed? \_\_\_\_\_

o. Are all normally dry compartments dry? \_\_\_\_\_

p. Are all bilges free of oil and water? \_\_\_\_\_

q. Are there any broken, cracked or weak frames, longitudinals, plates, welds or rivets? Have repairs been made? \_\_\_\_\_

r. Has the hull been inspected to the best of your ability? \_\_\_\_\_

s. What type(s) of inspection was/were conducted and where? (e.g., ultrasonic interior, exterior, voids, etc.) \_\_\_\_\_

(Note: All compartments should be entered and inspected.)

t. Has steel wire or cable been used to secure all equipment to prevent any movement in heavy weather? \_\_\_\_\_

(Note: All moveable equipment must be secured by welding or secured with wire in place. No fiber rope or line will be accepted.)

u. Is/are rudder(s) locked? \_\_\_\_\_

(Note: The rudder(s) should be locked by using a structural steel of acceptable size and quantity. The lock should transfer the rudder load from the yoke to structural members of the tow's hull. Refer to Chapter 4 of the U.S. Navy Towing Manual for typical configurations and sizing.)

v. What type of locking device is used? \_\_\_\_\_

- w. Is/are shaft(s) locked in accordance with the U.S. Navy Towing Manual?\_\_\_\_\_
- x. Is/are propeller(s) removed?\_\_\_\_\_
- y. Are shafts equipped with extra rings of packing in the gland to allow emergency repair during transit, and is the gland tightened to its tightest position?\_\_\_\_\_
- z. Ensure that there is no leakoff at the stern tube. Can the stern tube packing gland be tightened at least two more inches before it is two-blocked?\_\_\_\_\_
- aa. Are locking nuts tight on packing glands to prevent their backing off?\_\_\_\_\_
- bb. Are all portholes sealed and covered with metal to prevent breakage?\_\_\_\_\_
- cc. Are all vents subject to heavy-weather flooding (e.g., air, fresh water, fuel tank, etc.) sealed?\_\_\_\_\_

Wood covers are not considered adequate.

(Note: Recommend remove completely and blank flange or weld closed.)

- dd. Are all hatches, scuttles, doors and other watertight closures provided with pliable gaskets? \_\_\_\_\_
- ee. Have weather decks and main transverse bulkhead watertight closures been chalk tested?\_\_\_\_\_
- ff. Are all dogs on watertight closures operable and functioning as designed?\_\_\_\_\_
- gg. Are all main spaces accessible for adequate dewatering capability?\_\_\_\_\_
- hh. Location of pumps/generators/eductors.\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- ii. Amount/location/size of hose.\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- jj. Is adequate fuel available for pumps/generators? \_\_\_\_\_
- kk. Is forward one-fifth of craft designed to withstand constant pounding during transit? \_\_\_\_\_ If not, shore in accordance with the U.S. Navy Towing Manual.
- ll. If the craft to be towed is a barge, and inspection reveals signs of serious deterioration, or the barge is suspected of being weakened, it may require shoring, particularly in the forward one-fifth of its length. Is shoring required? \_\_\_\_\_
- mm. Is steel "K" shoring installed on all longitudinals in forward and after compartments? \_\_\_\_\_
- nn. For LST-type tows, the following questions must be answered in the affirmative, or the vessel will not be accepted for ocean tow, even as a calculated risk:
- (1) Do the bow doors have hydraulic rams connected? \_\_\_\_\_
  - (2) Are mud flaps at the bottom of the doors secured? \_\_\_\_\_
  - (3) Are all dogs, heavy weather shackles, ratchet-type turnbuckles and strongbacks in place, tight and secure so that they cannot work free? \_\_\_\_\_
  - (4) Are bow ramp operating instructions posted in the hydraulic control room? \_\_\_\_\_
- oo. If craft is equipped with a bow or stern ramp, is it secured in accordance with notes on LSTs listed below? \_\_\_\_\_

YFU/LCUs are inherently unseaworthy due to wide beams and flat bottoms. A lift of opportunity should be used whenever possible. If it is absolutely necessary to tow these craft, the following must be strictly adhered to:

- (1) The bow ramp will be secured with a minimum of four angle straps on each side, welded on the outside of the ramp. The size of these straps should be a minimum of 4" x 3/8" and overlap the bow ramp and sides of the craft a minimum of 10".
- (2) All normal securing devices (i.e., ramp chains, dogs and turnbuckles) are in place and in good mechanical condition.
- (3) All hatches, scuttles and doors have good gaskets and all securing devices are in proper operating condition.

- pp. Are 1-foot by 3-foot international orange stripes or inactive ship flooding markers painted on the sides of the hull forward, aft and midships at the water's edge to allow visual inspection for proper trim during transit? \_\_\_\_\_
- qq. Are all lifelines in place and in good condition? \_\_\_\_\_
- rr. Is condition ZEBRA set throughout the tow? \_\_\_\_\_ If not, list exceptions on separate sheet.
- ss. Are liquid load diagrams and damage control flooding plates available on board? \_\_\_\_\_ If yes, where? \_\_\_\_\_
- tt. Are damage control inspection routes marked by paint/diagrams? \_\_\_\_\_

7. Flooding:

- a. Are amber (lower) and red (upper) alarm lights installed? \_\_\_\_\_
- b. Are flooding alarm lights visible from at least 90° and centered forward on the tow? \_\_\_\_\_ (Note: 360° of visibility is preferable for a high-value, escorted tow.)
- c. Are both the 1-foot and 3-foot flooding alarm lights rigged with two bulbs each?
- d. Are flooding alarm lights rigged with a separate battery source? \_\_\_\_\_ (Must not be connected to navigational lights.)
- e. Total amperage capacity \_\_\_\_\_
- f. Are flooding alarm lights rigged with flasher-type units? \_\_\_\_\_
- g. Is all wiring connected to sensor indicator lights run below decks insofar as possible? \_\_\_\_\_
- h. Is all wiring secured and protected from any chafing? \_\_\_\_\_
- i. Is all topside wiring protected from weather damage? \_\_\_\_\_
- j. Are flooding alarms rigged in all major compartments closest to the keel? \_\_\_\_\_
- k. Attach a list of below-waterline areas that do not have alarms. Tanks and voids which can be flooded without sounding an alarm should be identified and the decision not to install alarms justified.

- l. In large craft or in barges where compartments run athwartships, are flooding alarms rigged on both port and starboard sides? \_\_\_\_\_
- m. Are flooding alarm sensors well-secured to fixed objects such as stanchions, drainage pipes or ladders? \_\_\_\_\_
- n. Is the lower indicator light wire rigged to the 1-foot flooding alarm sensors? \_\_\_\_\_
- o. Is the upper indicator light wire rigged to the 3-foot flooding alarm sensors? \_\_\_\_\_
- p. Are the batteries secured for heavy weather? \_\_\_\_\_ (If topside, they must be in a watertight box.) Is battery ventilation adequate? \_\_\_\_\_

#### 8. Navigation:

- a. Are proper navigation lights installed for towed unit? \_\_\_\_\_
- b. Is each light rigged with two bulbs, so that if one burns out the craft still complies with the Rules of the Road? \_\_\_\_\_
- c. Is all wiring well-secured and protected from damage by the elements? \_\_\_\_\_
- d. Is the tow equipped with a solar switch or time switch? \_\_\_\_\_
- e. Are the batteries in a watertight box and secured for heavy weather? \_\_\_\_\_
- f. Is battery ventilation adequate? \_\_\_\_\_ (If topside, batteries must be in a watertight box. The location should be carefully considered and secured from heavy seas. If possible, they should be inside the ship.)
- g. Are the batteries charged with sufficient amperage available to keep the lights burning brightly for the duration of the trip? \_\_\_\_\_
- h. Total ampere capacity of the bank \_\_\_\_\_

Sufficient battery amperage must be calculated and available to cover the following:

- (1) Wattage of the bulbs serviced
- (2) Distance of bulbs from battery resistance
- (3) Duration of tow (taking into consideration the solar/time switch and length of the period of darkness).

(Note: Current requirements are listed in Section 6-9 of the U.S. Navy Towing Manual.)

9. Cargo:

- a. Will craft have cargo on board? \_\_\_\_\_
- b. If liquid cargo, give location and type. \_\_\_\_\_  
\_\_\_\_\_
- c. Is solid cargo stowed below the main deck secured in position? \_\_\_\_\_  
If so, list location and type. \_\_\_\_\_  
\_\_\_\_\_
- d. Is solid cargo stowed topside secured in position? \_\_\_\_\_  
If so, list location and type. \_\_\_\_\_  
\_\_\_\_\_

(Note: All solid cargo on board must be well-secured from heavy weather. All cargo topside must be secured with wire straps and properly-secured turnbuckles or equivalent securing devices. In some cases, shoring will be required.)

- e. Will cargo stowed on board adversely affect the stability of craft? \_\_\_\_\_  
(Note: If so, revise stability calculations in Section 6 of this check-off list.)
- f. Has a manifest of all cargo been prepared for the towing ship? \_\_\_\_\_

10. Towing Gear:

- a. Have towing attachment points and fairleads (including chocks/bullnose) been non-destructively tested? \_\_\_\_\_
- b. Date of last test \_\_\_\_\_
- c. Test procedures used \_\_\_\_\_
- d. Has all chain in the towing bridle been measured in accordance with NSTM 581 and the U.S. Navy Towing Manual? \_\_\_\_\_

(Note: The towing bridle is normally chain on all ocean tows. On some service craft, especially barges, wire has been successfully used. Wire should be used with extreme caution, due to problems with chafing.)

- e. Is towing bridle of sufficient size and length? The following restrictions apply:
- (1) For service craft up to 500 tons, no less than 1 1/4-inch chain.
  - (2) For service craft above 500 tons, no less than 1 5/8-inch chain.
  - (3) For ships, the bridle must be equal in size to the ship's anchor chain, but not less than 1 1/4 inch. Large ships do not need chain larger than 2 1/4 inches when towed by U.S. Navy towing ships. More powerful commercial tugs will require larger chain bridles.
  - (4) Non-magnetic chain and attaching hardware will not be used for towing bridles.
  - (5) The length of each leg of the bridle from the towing attachment point to the flounder plate after rigging is completed must be equal to or greater than the horizontal distance between the attachment points.
  - (6) A bridle apex angle should be between 30 and 60 degrees, with 60 degrees the optimal angle.
  - (7) On some ships with high bows (e.g., CVA, AD, AOR, AFS, etc.), it may be necessary to rig a one- or two-shot chain pendant between the bridle flounder plate and the towing hawser.
- f. Are all detachable links in the bridle legs and chain pendant locked with a hairpin?  
 If not, towing bridle is unsatisfactory.  
 See Appendix D of the U.S. Navy Towing Manual.
- g. Are the bridle legs of the same size chain and equal in length when rigging is complete? \_\_\_\_\_ Link count \_\_\_\_\_
- (Note: To ensure accuracy, counting links prior to rigging and painting bench marks is the only positive method. Total links per bridle leg should be equal at the attachment point on the tow.)
- h. If a wire bridle is used, is there a point of chafe on the tow? \_\_\_\_\_  
 If so, strongly reconsider the decision to use wire. If there is a point of chafe and wire is used, sufficient and adequate chafing gear must be installed on the wire.
- i. If towing pads do not exist and bitts or cleats must be used, are they substantial enough to handle the strain of towing? \_\_\_\_\_  
 See Chapter 6 of the U.S. Navy Towing Manual.

- j. Are fairlead chocks and/or bullnose substantial enough to handle strain of towing?  
\_\_\_\_\_
- k. Is the deck area surrounding bitts or cleats in good condition? \_\_\_\_\_  
(Note: If not, consider non-destructive testing.)
- l. Is the tow bridle fairlead angle sufficiently straight to preclude excessive side loading to fairlead points? \_\_\_\_\_
- m. If mooring bitts are used, state the condition of bitts and surrounding deck area. If any doubt exists, request that the area be non-destructively tested. \_\_\_\_\_  
\_\_\_\_\_
- n. All towing bridles, when rigged correctly, must have a backup securing system. This is normally accomplished by using wire rope of appropriate size (able to lace through chain links) and taking sufficient bights of wire from a second securing point (bitts, heavy cleats, etc.) and lacing the wire rope through the after end of links in the chain bridle (no less than four bights). Size and number of bights of wire should equal the strength of the chain used in the bridle. If a towing pad is used to connect the bridle to the tow, the backup wires must be laced forward of the towing pads. If a set of mooring bitts is used as a securing point for the bridle on the tow, the wire should be laced through the chain links that remain astern of the bitts after the three or more "figure eights" are secured on the bitts. There must be at least 3x diameter plus one wire clip on each bitter end of the backup wire, aligned in the same direction with "U" on bitter end side placed 6 rope diameters apart. Is the towing bridle rigged as stated above? \_\_\_\_\_
- o. Type of backup, cleats, bitts, padeye \_\_\_\_\_
- p. Distance from towing pad or bitts to backup point \_\_\_\_\_
- q. If mooring bitts are used, with sufficient strength to withstand the entire towing load, does the towing bridle have a round turn followed by three or more complete "figure eights" around bitts before the end of the chain is laced with the backup wire? \_\_\_\_\_  
\_\_\_\_\_
- r. When using a chain bridle and sets of bitts as the towing point, it is preferable to terminate the chain before reaching the bitts, using wire to make the connection to the bitts. When load-sharing between two sets of bitts, take only one round turn around

one barrel of the first set and lead the wire to the second set, where it is terminated with a round turn followed by "figure eights." Has this been done? \_\_\_\_\_

- s. Has all slack been taken out of the "figure eights"? \_\_\_\_\_
- t. Has all the slack been removed from the backup wires so that all parts will take an equal strain if the attachment points fail? \_\_\_\_\_
- u. In most cases, the bridle legs are run through closed chocks before being connected to the towing pads or bitts. The lead angle from the connecting point to the chocks must be fairly straight to prevent bending and failure of the chain where it passes through the chock. Does the towing rig conform to the above? \_\_\_\_\_
- v. Is there sufficient and adequate metal thickness at all potential chafing points to prevent the bridle from cutting into the chocks, gunwale or hull? \_\_\_\_\_
- w. If mooring bitts are used as bridle attachment points, heavy channel iron must be welded across the bitts to prevent the chain from jumping out. Has this been accomplished? \_\_\_\_\_

(Note: A minimum of 4-inch channel iron is recommended.)

- x. Is the size of the bridle retrieving pendant adequate (i.e., providing a 4:1 safety factor in lifting bridle weight, but no less than 5/8-inch wire rope)? \_\_\_\_\_
- y. Is there an adequate number of wire clips securing the retrieval pendant (3 x diameter of wire plus 1)? \_\_\_\_\_

(Note: Install wire clips aligned in the same direction with "U" on bitter-end side, placed 6 rope diameters apart.)

- z. When attached from the bow of the tow to the flounder plate, is there sufficient slack to allow the retrieval pendant to droop slightly with no strain when the unit is being towed? \_\_\_\_\_
- aa. Are flounder plates and plate shackles of approved design, and rigged in accordance with the U.S. Navy Towing Manual? \_\_\_\_\_
- bb. If there is a clearance in excess of 1/16" in securing pins in plate shackles, flounder plates and other towing jewelry, the rig is unacceptable. Is the towing rig jewelry within acceptable clearance limits? \_\_\_\_\_

- cc. All plate and safety shackle pin nuts must be locked with a minimum of a 5/16-inch machine bolt through a drilled hole in the plate shackle nut and pin. Secure the machine bolt in place with jam nuts. Has this been accomplished? \_\_\_\_\_

(Note: Welding is not acceptable.)

- dd. Lateral movement must be removed from the plate shackle connections by using washers or welding bosses on the plates. Has this been accomplished? \_\_\_\_\_
- ee. Are all safety shackles of the approved types and materials listed in the U.S. Navy Towing Manual? \_\_\_\_\_
- ff. If multiple tows are planned, and you are the preparing activity, have you checked to ensure that all the necessary equipment is available to rig and stream the appropriate towing method? \_\_\_\_\_

Standard U.S. Navy practice allows three possible versions: the Christmas Tree, Honolulu, and Tandem rigs. Any rig selected must be rigged in accordance with the U.S. Navy Towing Manual. Rig selected \_\_\_\_\_

(Note: Preparing activity should check with the towing activity as to desired rig.)

- gg. Is shoring required to prevent damage to deck fittings, wiring, scuttles, doors, etc.? \_\_\_\_\_
- hh. Does craft have the equipment on board to anchor in 60 feet of water with at least a ratio of 3:1, scope to depth? \_\_\_\_\_  
Is anchor of sufficient size and anchor cable of sufficient size and length to accomplish this? \_\_\_\_\_
- ii. Has the anchor windlass brake been tested? \_\_\_\_\_
- jj. If plans have been made to anchor the tow at port of delivery, is power available to raise the anchor? \_\_\_\_\_
- kk. Major ocean tows are normally rigged with a secondary emergency towing system to recover the tow in case of failure of the primary system. Is such a system rigged? \_\_\_\_\_
- ll. Are the secondary towing system's attachment and fairlead points adequate to tow the vessel? \_\_\_\_\_

- mm. Is adequate chafing protection provided for the vessel's primary and secondary towing systems? \_\_\_\_\_
- nn. Is the secondary towing pendant at least 1 5/8-inch wire rope? \_\_\_\_\_
- oo. Is the secondary towing pendant stopped off in bights on one side of the tow? \_\_\_\_\_  
\_\_\_\_\_
- pp. Are the stops sufficient to hold in heavy weather, but accessible to allow cutting and light enough to be broken without damaging the towing pendant or tow? \_\_\_\_\_
- qq. Will the secondary pendant fall free without turns that will cause kinking as they pull out? \_\_\_\_\_
- rr. Is the secondary towing pendant fitted with a synthetic line messenger to facilitate passing it to the tug? \_\_\_\_\_
- ss. If the tow is unmanned, is a polypropylene floating retrieval line attached to the end of the messenger with a small buoy secured at its end? \_\_\_\_\_
- tt. Normally, an open-ocean tow has solid connecting jewelry, but in cases of damaged and some calculated risk tows (such as some SINKEXs), an emergency quick-disconnect method such as a pelican hook is advisable. If this is such a tow, is an emergency quick disconnect provided? \_\_\_\_\_ If so, what? \_\_\_\_\_
- uu. If an emergency disconnect is provided, will all jewelry fit through all fairleads through which it must pass (e.g., the bullnose)? \_\_\_\_\_
- vv. What is the weakest element in the towing rig? \_\_\_\_\_ What is its strength? \_\_\_\_\_

#### 11. Special Considerations:

- a. Some types of tows require special considerations. For instance, YTBs, YTM's and other self-propelled service craft were not designed to go to sea and are not very seaworthy. In these craft, the watertight envelope must be absolutely complete; they have low freeboards and water will constantly be breaking over them even in moderate seas. Topside weight must be reduced to an absolute minimum. Barges must be in excellent condition and, in most cases, reinforced on the inside of the bow because of the constant pounding of the seas caused by their flat bottoms. Submarines are not designed with towing in mind. Generally, a towing padeye is installed near the sail as a single towing point. See Chapter 5 and Appendix J of the U.S. Navy Towing Manual for data concerning submarine tows.

- b. There are many hulls whose design will require special towing rigs. Additional work may be required to rig an applicable bridle to ensure safe delivery of a craft from port to port. This will require additional lead time to prepare the tow(s) for ocean transit. Submarines, wooden-hull mine sweepers, sailing craft, etc., fall into this category.
- c. When towing a sharp "V-shaped" hull that has a bullnose and a bulbous bow/sonar dome, the single leg bridle is the preferred method of rigging. Rig using at least two shots of the tow's anchor chain, if that chain is acceptable, in accordance with the U.S. Navy Towing Manual.

12. Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

13. The tow described above is certified as seaworthy in all respects. The material condition is noted. Copies of the master inventory and storage keys are receipted for.

\_\_\_\_\_  
Representative of command having prepared the tow for sea.      Date

**H-2. SAMPLE CERTIFICATE OF SEAWORTHINESS/DELIVERY LETTER**  
**FIRST ENDORSEMENT**

1. Upon inspection of the tow described above, the following unsatisfactory conditions were found, which render the tow unseaworthy or not ready for towing (if none, so state).

- a.
- b.
- c.
- d.

2. (Cross out the statement which is not applicable).

- a. I find the tow described above in a condition satisfactory for towing, and hereby assume responsibility for delivery to the port of destination prescribed in my sailing orders.
- b. I will accept the tow as a calculated risk only upon authorization of my operational commander. I have notified my operational commander of the reasons for this action.

\_\_\_\_\_  
Commanding Officer, USS \_\_\_\_\_

\_\_\_\_\_  
Date

**SECOND ENDORSEMENT (To be accomplished only if calculated risk tow is acceptable to delivering authority).**

1. The following conditions listed in the first endorsement remain uncorrected.

- a.
- b.

2. It is requested that you accept this tow in the above condition as a calculated risk.

\_\_\_\_\_  
Representative of command having  
cognizance of towed unit.

\_\_\_\_\_  
Date

**THIRD ENDORSEMENT**

1. As authorized by \_\_\_\_\_

(DTG reference of operational commander's message)

I accept this tow, with conditions existing as described in the second endorsement, as a calculated risk for delivery to the port designated in my Sailing Orders.

\_\_\_\_\_  
Commanding Officer, USS \_\_\_\_\_

\_\_\_\_\_  
Date

**SAMPLE DELIVERY LETTER**

From: (Receiving Activity)

To: (Commanding Officer of Towing Vessel)

1. Received custody of (describe tow) this date.

\_\_\_\_\_  
Representative of Receiving Activity.

\_\_\_\_\_  
Date