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OCMISFBINST 16721

OFFICER IN CHARGE, MARINE INSPECTION SAN FRANCISCO BAY INSTRUCTION 16721

Subj: PROFESSIONAL REQUIREMENTS FOR FEDERAL FIRST CLASS PILOT  
LICENSES

Ref: (a) Title 46 CFR Part 10  
(b) Title 46 USC, Section 7101  
(c) Title 46 CFR Part 5

1. PURPOSE: To publish local procedures and determinations which supplement 46 CFR requirements for the Federal First Class Pilotage Examinations as to the route familiarization requirements and required examination topics in the San Francisco Bay Marine Inspection zone. Persons licensed as pilots provide the local knowledge and skills to navigate vessels through environmentally sensitive port areas and dock them safely at the berths. These vessels often carry dangerous flammable, toxic, or explosive cargoes that pose significant hazards to the ship, crew, public, and environment.

Authority: 46 U.S Code 7101 provides for the issuance of pilots licenses to applicants found qualified as to: "age, character, habits of life, experience, professional qualifications, and physical fitness." 46 Code of Federal Regulations (CFR) 10.703 details professional requirements for pilot licenses. This section includes specific Officer-in-Charge Marine Inspection authority for determination route familiarization requirements that demonstrate local experience. Table 10-910-1 (Code 24) of 46 CFR 10.910 outlines examination topic for pilotage.

Conveyance of Public Trust: The issuance of a pilot's license is a conveyance of a public trust, one that is vitally important to the personal and environmental safety and well being of the pilotage waters and the populations in and around the area to be navigated. This conveyance is not taken lightly. Cheating or fraud destroys the integrity of the examination process and betrays the public trust. Applicants are reminded that they are acting under the authority of their existing licenses while pursuing their pilotage endorsements. Any infractions will be referred for investigation under 46 CFR, Part 5. Please read and understand the listed references before proceeding.

2. CANCELLATION: Officer in Charge, Marine Inspection San Francisco Bay Instruction 16721 of May 2000 is hereby cancelled.
3. PREREQUISITE EXPEDIENCE REQUIRED:
  - a. REFERENCE: 46 CFR PART 10, SUBPART G

b. LICENSE REQUIRED:

(1) A licensed master or mate authorized to serve on vessels of over 1600 gross tons may apply for Federal Pilot's endorsement on the basis of his or her license, without regard to additional sea time.

(2) Other deck license holders may apply for a Pilots endorsement, provided they have 36 months service in the deck department, of which 18 months must be in the wheelhouse as an able seaman or higher. Of the 18 months, 12 months must be in the class of waters (inland or near coastal) for which an endorsement is desired. Route A, I, and J are near coastal. All other routes are listed as inland.

c. PRELIMINARY EXAMINATIONS REQUIRED: (46 CFR Part 10.707)

(1) A licensed master or mate authorized to serve on vessels of over 1600 gross tons must take the Rules of the Road examination if they have not done so within in the previous 12 months.

(2) Those holding other deck licenses must also pass a Navigation General, Navigation Problems, and a Deck General examination before sitting for an original Pilot's endorsement.

d. ROUTE FAMILIARIZATION REQUIREMENTS:

(1) Round trip requirements: 15 round trips are required for each route excluding Monterey Bay. All of the round trips must have been made on ships of over 1,600 gross tons, tug/barge combinations over 1,600 gross tons, or tugs engaged in tug escort work. 10 of the 15 round trips must have been made on ships over 1,600 gross tons under their own power.

(2) Subroute, nighttime, and docking experience required:

a. A specific number of round trips are required for each sub-route, as listed in the individual route requirements.

b. At least 25 percent of all trips must be made between sunset and sunrise.

c. A specific number of dockings or undockings are required, as listed in the individual route requirements. All dockings and undockings must be on vessels of over 1,600 gross tons. At least 25 percent of all dockings and undockings must be made between sunset and sunrise.

d. 100 percent of the round trips for routes requiring navigation into a "multi-point off shore mooring" must include mooring and unmooring.

(3) One of the round trips on each route must be made within the six months immediately proceeding the date of the application.

(4) Proof of the round trips may be submitted in the form of a trip Verification Sheet, signed by Master or Pilot. A tug verification trip needs to be witnessed by a member of the crew; or it may be in the form of a letter from your employer listing your trips with exact days and times they occurred, point of departure and destination. The pilot examiner will select several trips for verification.

e. LIMITED (TUG ESCORT OPERATOR) ENDORSEMENTS:

(1) Certain companies engaged in tug escort work now require Federal Pilot endorsements for their tug escort operators. The U.S. Coast Guard Officer-in-Charge Marine Inspection (OCMI) for San Francisco Bay considers the round-trip requirements discussed in paragraph 3.d essential to address vital safety concerns for pilots of vessels because of the extensive knowledge a pilot must have of the route. Tug escort operators who cannot meet these trip requirements will receive limited endorsements.

(2) Under 46 CFR 10.701(c) the OCMI can impose “appropriate limitations” with respect to class or type of vessels, tonnage, route and water. 46 CFR 10.711 limits this authority, with respect to class or type of vessel, to a license “restricted to tug and barge combinations” where requirements for round trip on vessels over 1600 gross tons are not met.

(3) Restricted licenses will therefore be issued as “First Class Pilot, restricted to tug escort and tug and barge combinations” over the routes where tug escort is mandated by State or Federal Law. These routes are specified in the individual route requirements.

(4) For restricted licenses, the requirements in subparagraph (1) for ten round trips to be on vessels over 1,600 gross tons is waived and a specific number of tug escort jobs may be substituted for other requirements, as listed in the individual route requirements.

(5) Such restricted endorsements may be upgraded to “First Class Pilot of any Gross Tons” if the full requirements for an unrestricted license, as listed in the individual route requirements, are met.

f. ENDORSEMENT EXCLUDING SPECIFIC SUB ROUTES:

(1) Certain tank ships companies now require deck officers to hold Federal Pilotage endorsements for the waters their tank ships transit. Since these waters do not normally encompass an entire pilotage route, the OCMI may grant endorsements for certain routes excluding certain sub-routes (see the individual route requirements). An example of this would be a tank ship operating on pilotage route C but never having to enter Oakland’s inner or outer harbors or Redwood City’s harbor. In this case a route C pilotage endorsement may be added to a license excluding subroutes C-1, C-2, and C-3.

(2) Such exclusion will normally be granted only to deck officers on tankers. For endorsements with such exclusion, specific round trip requirements are waived and other requirements substituted (see the individual route requirements). The route examination for these endorsements will not cover the excluded areas.

(3) Removing the exclusion will require fulfilling the waived round trip requirements as well as passing a special examination for the sub-route excluded, identical in form to the full route examination.

g. OTHER REQUIREMENTS:

(1) You must submit a current physical (not more than one year old).

(2) You must be present proof that you are either currently in an approved random drug-testing program or that you have passed a pre-employment drug test within the last six months.

(3) You must complete the Vessel Traffic Service San Francisco User Education Program. Contact (415) 556-2950, extension 112 to schedule a VTS visit.

4. PILOTAGE ROUTES: The Officer-in-Charge, Marine Inspection, San Francisco Bay issue Federal First Class Pilot Endorsements for the following routes:

**Note:** Sub-route requirements have been added to ensure local experience. Unless otherwise requested, the locally generated tests on each route will include all sub-routes. You must fulfill the round trip requirements for each sub-route before that sub-route will be endorsed on your license.

Docking and undocking requirements have been added to ensure local experience. You must fulfill the docking and undocking requirements listed in each route entry to sit for the local examination for that route endorsement.

a. (ROUTE A) SEA TO THE GOLDEN GATE BRIDGE: From the sea buoy to the Golden Gate Bridge. (Chart 18649)

No sub-routes. No requirements for docking or undocking.

The endorsement for this route may be granted for “tug escorts and tug and barge combinations only” in which case the requirement for ten round trips on self-propelled vessels over 1600 gross tons is waived.

b. (ROUTE B) GOLDEN GATE BRIDGE TO AND BETWEEN THE SAN FRANCISCO - OAKLAND BAY BRIDGE AND THE RICHMOND - SAN RAFAEL BRIDGE: Central San Francisco Bay. (Chart 18650 and 18653). Includes two sub-routes:

B-1: The Richmond Long Wharf and approaches including the Southampton Shoal Channel.

B-2: Richmond Inner Harbor, including Potrero Reach.

**SPECIFIC REQUIREMENTS FOR SUB-ROUTES:** Four round trips into each sub-route. All trip legs into sub-routes to include a docking or undocking.

The endorsement for this route may be granted as “excluding Richmond inner harbor” and the required round trips into that harbor may be waived if the OCMI determines such an exclusion to be in the past public interest. An additional eight (8) dockings and undockings at any facility within the route are required to receive this waiver.

The endorsement for this route may be granted for “tug escort and tug barge combinations only” in which case the requirement for ten round trips on self-propelled vessels over 1600 gross tons is waived. To receive this limited endorsement, evidence of 16 tug escort jobs may be substituted for the requirements for a total of 16 dockings or undockings.

c. (ROUTE C) SAN FRANCISCO - OAKLAND BAY BRIDGE TO AND BETWEEN DUMBARTON BRIDGE: (Chart 18650 and 18651) South San Francisco Bay. Includes three sub-routes:

C-1: Oakland Outer Harbor

C-2: Oakland Middle and Inner Harbors

C-3: Redwood City

**SPECIFIC REQUIREMENTS FOR SUB-ROUTES:** Six round trips into C-1, C-2 and C-3, All trip legs into sub-routes to include a docking and undocking.

The endorsement for this route may be granted as “excluding the ports of Oakland and Redwood City” and the required trip legs waived if the OCMI determines such an exclusion to be in the public interest. To receive this limited endorsement, evidence of 16 tank ship anchoring/lightering operations are required to apply for this exclusion. Departing an anchorage will not receive credit for the required anchoring operation.

The endorsement for this route may be granted for “tug escort and tug barge combinations only” in which case the requirement for ten round trips on self-propelled vessels over 1600 gross tons is waived. This limitation may be combined with the exclusion in the paragraph above. Evidence of 16 tug escort or tug barge combination jobs is required to apply for this limitation.

THE EXAMINATION FOR THIS ROUTE IS IN TWO PARTS: Part I covers the area from the Oakland Bay Bridge to Hunter's Point including sub-routes C-1 and C-3. Part II covers the area south of Hunters point, including Redwood City. This part of the examination is required for the Redwood City endorsement.

d. (ROUTE D) RICHMOND - SAN RAFAEL BRIDGE TO THE CARQUINEZ STRAITS BRIDGE: San Pablo Bay. (Chart 18654). This route has no sub-routes.

SPECIFIC REQUIREMENTS FOR DOCKING OR UNDOCKINGS: Evidence of 8 dockings or undockings into facilities on this route is required, with a minimum of 4 dockings.

The endorsement for this route may be granted for "tug escort and tug barge combinations only" in which case the requirement for 10 round trips on self-propelled vessels over 1600 gross tons is waived. To receive this limited endorsement, evidence of 16 tug escort or tug barge combination jobs may be substituted for the specific requirements for docking and undocking.

e. (ROUTE E) CARQUINEZ STRAITS BRIDGE TO THE SOUTHERN PACIFIC RAILROAD BRIDGE (U.P. BRIDGE): The Carquinez Straits. (Chart 18655). This route has no sub-routes.

SPECIFIC REQUIREMENTS FOR DOCKING OR UNDOCKINGS: Evidence of 8 docking or undockings into facilities on this route is required, with a minimum of 4 dockings.

The endorsement for this route may be granted for "tug escort and barge combinations only" in which case the requirements for 10 round trips on self-propelled vessels over 1600 gross tons is waived. To receive this limited endorsement, evidence of 16 tug escort and tug barge combination jobs may be substituted for the specific requirement for docking and undocking.

f. (ROUTE F) SOUTHERN PACIFIC RAILROAD BRIDGE (U.P. BRIDGE) TO AND BETWEEN POINT SACRAMENTO AND ANTIOCH POINT: Suisun Bay (Chart 18656 east of the Southern Pacific RR Bridge). This route has no sub-routes.

SPECIFIC REQUIREMENTS FOR DOCKING AND UNDOCKINGS: Evidence of 15 docking or undockings into facilities on this route is required. **Due to the unique characteristics of the area** at least 5 of these must be below Point Edith, and another 5 above Point Edith, with a minimum of 3 dockings below Point Edith and 3 dockings above Point Edith.

The endorsements for this route may be granted for "tug escort and tug barge combinations only" in which case the requirements for 10 round trips on self-propelled vessels over 1600 gross tons is waived. To receive this limited endorsement, evidence of tugs escort and tug barge combination jobs may be substituted for the specific requirement for docking and undocking.

Licensed Masters in the California State Pilot Training Program may receive this endorsement with the limitation “LICENSED MASTERS IN THE CALIFORNIA STATE BOARD OF PILOT COMMISSIONERS PILOT TRAINEE TRAINING PROGRAM AND UNDER THE SUPERVISION OF A LICENSED FIRST CLASS PILOT.” To receive the limitation a total of 8 roundtrips, to include 4 dockings and undockings and all exams passed. The limitation will be removed upon completion of additional required roundtrips, dockings and undockings.

g. (ROUTE G) ANTIOCH POINT TO AND BETWEEN STOCKTON: The San Joaquin River.(Chart 18661). This route has no sub-routes.

SPECIFIC REQUIREMENTS FOR DOCKING AND UNDOCKINGS: Evidence of 15 dockings and undockings into facilities on this route is required.

Licensed Masters in the California State Pilot Training Program may receive this endorsement with the limitation “LICENSED MASTERS IN THE CALIFORNIA STATE BOARD OF PILOT COMMISSIONERS PILOT TRAINEE TRAINING PROGRAM AND UNDER THE SUPERVISION OF A LICENSED FIRST CLASS PILOT.” To receive the limitation a total of 8 roundtrips, to include 4 dockings and undockings and all exams passed. The limitation will be removed upon completion of additional required roundtrips, dockings and undockings.

h. (ROUTE H) POINT SACRAMENTO TO AND BETWEEN SACRAMENTO: The Sacramento River past light 8 (Charts 18661 and 18662).

SPECIFIC REQUIREMENTS FOR DOCKING AND UNDOCKINGS: Evidence of 15 dockings and undockings into facilities on this route is required.

Licensed Masters in the California State Pilot Training Program may receive this endorsement with the limitation “LICENSED MASTERS IN THE CALIFORNIA STATE BOARD OF PILOT COMMISSIONERS PILOT TRAINEE TRAINING PROGRAM AND UNDER THE SUPERVISION OF A LICENSED FIRST CLASS PILOT.” To receive the limitation a total of 8 roundtrips, to include 4 dockings and undockings and all exams passed. The limitation will be removed upon completion of additional required roundtrips, dockings and undockings.

i. (ROUTE I) SEA TO HUMBOLDT BAY: Humboldt Bay. (Chart 18622)

SPECIFIC REQUIREMENTS FOR DOCKING AND UNDOCKINGS: Evidence of 15 dockings and undockings into facilities on this route is required.

j. (ROUTE J) SEA TO MONTEREY BAY: Monterey Bay. (Chart 18685)

This route requires 8 round trips for individuals licensed as First Class Pilot of San Francisco Bay (Route A). The table listed below will be used to determine the number of round trips that must be on vessels greater than 1600 gross tons.

<b>License Held</b>	<b># of round trips required On vessels &gt; 1600 GT</b>
Master of Ocean Steam or Motor vessels of any GT endorsed as First Class Pilot of San Francisco Bay (Route A)	0
Chief Mate of Ocean Steam or Motor Vessels of any GT endorsed as First class Pilot San Francisco Bay (Route A)	0
Second Mate of Ocean Steam or Motor Vessels of any GT endorsed as First Class Pilot of San Francisco Bay (Route A)	3
Third Mate of Oceans Steam or Motor Vessels of any GT endorsed as First Class Pilot of San Francisco Bay (Route A)	6
Other deck licenses endorsed as First Class Pilot of San Francisco Bay (Route A)	8
All other deck licensed	15

k. FULL SAN FRANCISCO BAY ENDORSEMENT: “Authorized to serve as First Class Pilot of Vessels of any Gross tons upon the waters of San Francisco Bay from Sea to and between the Dumbarton Bridge, Stockton, and Sacramento, including all tributaries therein.”

5. THE EXAMINATION PROCESS:

- a. After you have fulfilled all prerequisites for your route, including all the required preliminary examinations, you will receive a written approval from the pilot examiner to sit for the local examination. You may sit for your local examination at any time after receiving this notification. Please call ahead to coordinate and schedule your test. If you wish, you may arrange for testing at a different Regional Examination Center, contact the Pilot Examiner for details.
- b. The local examination for each route consists of a chart sketch. You will also be required to display local knowledge (route description) and reproduce light list, all generated from memory. For routes A - D there is also a tidal current examination.
- c. These modules must be taken in any order on consecutive days during the same workweek. You may not use any part of the examination already completed as an aid in completing any other part. Prior to taking the examination, you will be provided copy of the exam room rules.
- d. You must provide your own drafting equipment for the chart work and may take no other reference materials or personal property into the examination room.
- e. As you are not permitted to leave the exam room for lunch and later continue working on the same exam module, you will be permitted to bring a meal and eat it in the exam room while the REC is closed for lunch.
- f. The chart sketch, local knowledge (route description), and light list all are graded by subtracting points for each error found. The number of points subtracted depends on the seriousness of the error. A perfect score is 100 points per module, with 90 points required to pass each of the modules. Grading details are located in sections 6, 7 and 8 of this instruction.
- g. If you fail any section, you may retake that section twice, starting from scratch, within 90 days. If you fail any section three times, you must wait three months to retest, and retake the entire examination over again.
- h. This office reserves the right to revise and modify examination requirements at any time.

6. THE CHART SKETCH:

- a. To fulfill the chart sketch requirements: you will work from a blank chart sketch prepared by this office and given to you as you enter the exam room. The blank sketch you are provided will include only a general outline of the shoreline. Fixed bridges will be included, as will a scale of yards and nautical miles. Isolated rocks will not be included, nor will lines of longitude or latitude.

b. PLEASE DO NOT ATTEMPT TO EXACTLY REPRODUCE THE NAUTICAL CHART. The position of all gradable objects (as defined in paragraph 6.d below) will be evaluated based on their position relative to nearby shoals, anchorage's, channel boundaries and so on. In other words, if your chart sketch shows the proper relative position of gradable objects it is correct even if those objects are not in their exact geographical position.

c. Your sketch will not be evaluated on its artistic quality, but solely on the information it contains.

d. Your sketch must include at a minimum the following gradable objects:

(1) Depths in the form of contour lines or soundings. Draw the contour lines for 18 and 30 feet. Also include sufficient soundings to show areas of concern to vessels transiting the area at maximum draft. Areas of concern are: shoals and hazards shallower than the maximum draft outside the channel where a vessel could divert in an emergency, and minimum depths within anchorages. You must provide enough contour lines or soundings to delineate these areas to the same standard as the 1:40,000-scale chart. Extended areas with depths less than 18 feet or greater than 60 feet are of limited interest in navigation and need only be marked with the legend "depth greater than (less than) 60 (18) feet."

(2) Table of Controlling Depths.

(3) Courses for each route laid out with true direction and lengths, together with sufficient direction to enable a competent mariner not familiar with the area to pilot a ship through that route. These courses must be those you would steer on an actual transit. The areas where a ship needs to be continuously coned, without settling on a fixed course, through a route must be indicated by a dotted or curved line.

(4) All aids to navigation, except private aids with a light having a visibility of 2 miles or less, or no light at all. Aids operated by state or local governments or large corporations are not considered "private aids" within the meaning of this paragraph and must be included.

(5) A compass rose indicating true and magnetic North, magnetic variation, year computed, and the annual change.

(6) Designated anchorages including depth and type of bottom. Mooring buoys used by oceangoing vessels must be included.

(7) Objects such as tanks, buildings, peaks, and towers useful in piloting. Include lighted objects of use at night. Also include danger bearings, where applicable and natural ranges or leading marks, where used.

(8) The vertical and horizontal clearances of all bridges. All overhead cable crossings, including vertical clearances. Also, all submarines cable areas, vessel traffic lanes, restricted areas and disposal areas.

(9) Any obstructions above or below the water that are a hazard to navigation shall be clearly marked in red.

(10) The names of all channels, points of land, terminals, harbors, bodies of water, and other significant objects of use in piloting. The name or number and depth of water alongside all piers and wharves used by oceangoing vessels.

e. Your chart sketch will be graded as follows:

(1) A sketch will be failed for:

- a. Omitting a major aid to navigation, such as critical leading light or buoy marking a major hazard in the midst of shipping lanes.
- b. Omitting a major hazard to navigation, such as covered rocks in the midst of the shipping lanes.
- c. Omitting a critical shoal (for example, an area 42 feet deep or less in a channel is a major shoal if ships with drafts of 50 feet pass through that channel).
- d. A course line laid down that would seriously hazard a vessel if steered (for example, if the course in the channel were 206 degrees true and the applicant showed it as 226 degree true, that single error is ground for failure).
- e. Failure to provide the 18 and 30 foot contour lines or failure to provide sufficient soundings to show areas of concern to vessels transiting the route.

(2) 5 points will be subtracted for:

- a. Omitting an important aid to navigation, such as a buoy marking the main channel.
- b. Omitting a significant hazard to navigation, such as a rock near the edge of a channel.
- c. Omitting a shoal area inside or near channel boundaries.
- d. Errors in properly plotting/labeling rapid transit tubes, explosive anchorages, or items in subparagraph (1) above.
- e. Omitting the compass rose.

(3) 3 points will be subtracted for:

- a. Omitting a secondary aid to navigation.
- b. Omitting minor hazards or obstructions (such as isolated small rocks near or outside the channel boundary).
- c. Missing single soundings in or near the channel boundary.
- d. Omitting a leading mark.
- e. Errors in properly plotting/labeling cable crossing, anchorages, tug escort zones, important landmark, or objects in subparagraph (2) above.

(4) 1 point will be subtracted for minor omissions, significant errors in the table of controlling depths, or errors in properly plotting/labeling objects in subparagraph (3) above.

(5) The Federal Pilot Examiner will, upon request, review with you examples of each class of aids, hazards, and soundings to ensure a clear understanding of how the test will be graded.

7. THE LOCAL KNOWLEDGE (ROUTE DESCRIPTION):

a. The applicant shall be required to describe in writing, detailed information about the route, including the natural effects and prominent features needed to navigate the route. The route description shall be built around an exact description of the courses to be steered and turns to be made while navigating a ship through the route.

b. The route description must include length and direction of all course legs on all routes commonly used by shipping, both inbound and outbound for sea, as well as:

(1) Leading marks for that course, for both day and night, as well as on radar in restricted visibility.

(2) Turn bearings or marks for every turn, both inbound and outbound for sea. The turn bearings or marks shall be for the largest vessels that normally transit the route in question. A turn bearing or mark denotes the spot where the rudder is put over. This discussion must include the procedure to follow when the visual turning marks are obscured by fog, as well as adjustments to point where the rudder is put over for flood and ebb tides.

(3) Where a ship is continuously coned through a route without settling on a fixed course, this must be clearly explained in your route description, together with sufficient direction to enable a competent mariner, not familiar with the area, to pilot a ship through that route.

c. Other items which need to be discussed in your route description include:

(1) The currents running at various states of the tide over each leg of the route, especially eddies and crosscurrents. Include descriptions of bridge abutments or buoys where the state of the tide may be judged by direct observation. Include how much later the tidal changes occur at points on the route further from the sea.

(2) The general configuration of waterways and ports, including hazards to navigation and shoals on or near the traffic route.

(3) Prominent geographic features and buildings including the first sightings of a feature and any value that feature may have in marking turns or as a leading mark.

(4) Major aids to navigation along each course, including “first sightings” and any points at which an aid is obscured.

(5) Anticipated traffic, including cross traffic, ferries, recreational vessels, current dredging operations, blind zones (where a ship on an opposing course cannot be seen), passing routes and emergency anchorage routes.

(6) On all routes with piers or wharves, explain the normal techniques and philosophy used in docking vessels, considering the tides and currents around the piers and wharves, the placement and use of tugs, and any special precautions required. In channels where tugs are usually made up, such as Southampton Shoals Channel, explain their placement and use in detail.

(7) Explain all regulations that affect pilotage, including regulations for anchorages, restricted routes, descriptions of Regulatory Navigation Areas (RNA's), routes defined as Narrow Channels by the Coast Guard Captain of the Port, and VTS frequencies and procedures.

(8) Explain any tug escort requirements in detail, including standard rigs for tug escort on both the tanker and tug and discuss tug placement during escort. Explain two emergency procedures: One for an engine failure and one for a steering failure. Include commands to the tug, bridge team, and deck crew. Discuss the danger of "tripping" the tug and of crew injury during emergency evolutions. Those sitting for the endorsement "for tug escort and tug and barge combination only" must also explain the procedures followed on the tug, including engine orders and orders to the tug deck crew.

(9) Explain all precaution and procedures that, while not required by law or regulation, represent "any precaution which may be required by ordinary practice of seaman, or by the special circumstances of the case" in keeping with the public trust associated with the safe movement of vessels within the environmentally sensitive waters of the state of California. This discussion should include under-keel clearances, speed, points at which tugs should be made up, and limitations imposed by the state regarding tide or visibility.

(10) Discuss the bridge types, clearances, hours of operation, and VHF-Fm channels and procedures to contact bridge-tenders that are found along the route.

(11) Discuss wind and weather conditions, which affect navigation, and how to obtain the latest weather information and forecast.

d. The standard by which your route description will be judged is whether a mariner unfamiliar with the harbor could bring a ship in by means of your route description alone, without charts, tides tables, or any other aid. The route description will be graded as follows: a maximum of 5 points will be assigned for each item listed in sections 7.a and 7.b with 90% as the minimum passing score. Complete omission of any of the items in sections 7.a and 7.b will result in a failure. Your route description will not be graded on its literary quality, only on the information it contains.

## 8. THE LIGHT LIST EXAMINATION:

a. You will be required to prepare from memory a complete list of the lights and aids along the route. Private aids with visibility of less than 2 miles need not be included. "Private" in this instance means "owned by a marina or private individual" and does not refer to aids maintained by NOAA, Bridge Authorities, other governmental bodies, or large corporations. Aids placed by these entities must be included in your Light List.

b. All of the information included in the Coast Guard Light List must be duplicated in the examination with exception of Latitude and Longitude.

9. THE TIDAL CURRENT EXAMINATION:

- a. On routes A, B, C, and D you will be required to place on a preprinted chart the tidal current vectors for both ebb and flood tides. The examination should represent the vectors found in the Tidal Current Tables.
- b. You must provide a sufficient number of vectors to safely pilot a ship along the route.

10. REGENCY AND RENEWAL POLICY: (46 CFR Part 10.713 and 46 CFR Part 10.202(e))

- a. First class pilots are reminded that if they have not made at least one round trip over a given route within the past 60 months, their endorsement is invalid for that route, and remains invalid until they have completed the required refresher round trip. While there are provisions in 46 CFR 10.713 (b) for the OCMI, at his or her discretion, to allow this requirement to be satisfied by a review of the navigation charts, the Coast Pilot and Tidal Current Tables, no such waiver will be granted by this port.
- b. An applicant for any original Pilotage license or endorsement, must have at least three months' qualifying service on vessels of the appropriate tonnage within three years immediately preceding the date of application.

11. SUMMARY:

- a. Pilot applicants are required to master and recall an extensive amount of information. However, navigation on the San Francisco Bay Estuary is difficult and the consequences of error may be catastrophic in terms of the potential for loss of life and environmental damage. While the examination process is time consuming, it is needed to assure a high level of safety and environmental protection.

GERALD M. SWANSON  
Captain, U.S. Coast Guard  
Officer-in-Charge, Marine Inspection

- Encl: (1) Application check off sheet User fee  
(2) Periodic Drug Testing Requirement  
(3) Application for License as Officer, Operator, Staff Officer(CG -719B)  
(4) Merchant Marine Personnel Physical Examination Report (CG-719K)  
(5) Trip Verification for First Class Pilot License