

1993 ANNUAL REVIEW
SAN FRANCISCO, SAN PABLO AND SUISUN BAYS
HARBOR SAFETY PLAN

Submitted by the Harbor Safety Committee
of the San Francisco Bay Region

Pursuant to the California Oil Spill and
Prevention Act of 1990

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INTRODUCTION

The San Francisco, San Pablo and Suisun Bays Harbor Safety Plan was adopted by the Harbor Safety Committee on August 13, 1992 and supplemented by the Committee's letter of February 4, 1993 to the OSPR Administrator. This first annual review covers the 1992-93 fiscal year period and responds to comments on the initial plan as contained in the OSPR Administrator's letter dated May 12, 1993. In addition the Committee reviewed vessel operations and safety procedures for vessels to improve harbor safety within the geographic area of the Harbor Safety Plan. Changes to the initial plan are noted in the following text. The Harbor Safety Committee of the Bay Region unanimously approved the 1993 Annual Review of the Harbor Safety Plan at its September 9, 1993 meeting.

The Harbor Safety Committee of the San Francisco Bay Region consists of 15 voting and 6 non-voting members. All members of the Committee remain the same as when the Harbor Safety Plan was submitted, with the exception of the member representing Barge Operators, who is now Tom Crowley, Jr., Regional Manager of Marine Operations California of Crowley Marine Services. Two additional subcommittees were added, namely Competitive Aspects and Funding Sources.

SUMMARY OF 1993 RECOMMENDATIONS

WEATHER CONDITIONS

Underkeel Clearance. Tank vessel carrying oil or petroleum products as cargo shall maintain the following underkeel clearances:

- a. Vessels west of the Golden Gate Bridge: Ten percent (10%) of the vessel's draft
- b. Vessels under way east of the Golden Gate Bridge: Two feet (2')
- c. Vessels at final approach to berth and at berth: Always afloat

TIDES AND CURRENTS

Amend Recommendation 3. The Committee urges the OSPR Administrator to support PORTS as a high priority. The Committee requests NOAA to expedite the update and publishing of tide and current data .

DEPTH AND SURVEYS

Amend Recommendation 6. Change the recommendation that deep-draft vessels be informed when there is a one foot variance in depths in a surveyed channel to a two foot variance. Add that the Committee urges the Administrator to request that NOAA permanently assign a survey party to San Francisco Bay and that the National Ocean Service establish a systematic field survey schedule of areas identified by pilots as subject to shoaling.

HARBOR CONDITIONS

Amend Recommendation 8. Delete the recommendation to dredge the dog leg at buoy "C" of the San Rafael main ship channel. Retain the statement that: "This recommendation, along with all others in this Plan, should be the subject of a complete environmental analysis and examination of alternatives before implementation."

TUG ESCORTS

The Harbor Safety Committee submitted Permanent Tug Escort Guidelines to the Administrator of the State Office of Oil Spill Prevention and Response on February 19, 1993. The Permanent Tug Escort Guidelines differ from the previously adopted Interim Tug Escort Guidelines in a number of significant respects.

- Formula for Matching Tugs to Vessels. The Permanent Guidelines establish a matrix for matching tugs to tankers and barges based on the dead weight tonnage of the regulated vessel as related to the number of propellers of the tug in addition to meeting the bollard

pull criteria. The Guidelines change the bollard pull formula from ahead static bollard pull equal [or greater] than the dead weight tonnage of a regulated vessel to the astern static bollard pull in the same ratio.

Position of Regulated Vessels. A regulated vessel at sea shall not enter Zone 1 outside the Golden Gate Bridge until it has an outside tug escort in close attendance (weather permitting). A regulated vessel at anchor within Zones 2, 4 or 6 shall not change their positions unless attended by the required tug escort.

- Minimum Equipment Standards. The Guidelines set minimum equipment standards for fendering, line handling equipment, and tow lines. An annual inspection will be made to ensure that the standards are met. Additional standards will be set as experience is gained.
- Performance Standards. A tanker must stop within ten ship-lengths from the declaration of an emergency. The Administrator in consultation with the Harbor Safety Committee shall review and revise performance and equipment standards on an annual schedule as outlined in the Permanent Guidelines.
- Tug Escort Crew Requirements. The Permanent Guidelines outline additional training requirements for crew members such as emergency response to regulated vessel casualties and basic fire fighting skills. Also operators and deck hands must be certified by the Department of Fish and Game.

PILOTAGE

Shipping Company Employees Who Serve As Pilots. Amend the California Harbor and Navigation Code to require that shipping company employees eligible to pilot vessels in the Bay area must hold a Master's license with pilotage endorsement and have made at least 20 trips as pilot trainee or observer on vessels over the routes to be piloted within a one-year period.

Require Pilots on Board Vessels Towing Barges Over 5,000 Long Tons. Amend Coast Guard regulations for pilotage to adjust the limit of 10,000 gross tons for tank barges carrying oil or other petroleum products as cargo to 5,000 gross tons.

CHAPTER I. GEOGRAPHIC BOUNDARIES

There were no changes to this chapter.

CHAPTER II. GENERAL WEATHER, TIDE AND CURRENT, AND DEPTH CONDITIONS

C. Depths

Underkeel Clearance.

The committee determined that the following guidelines should be adopted for underkeel clearances of tank vessels carrying oil or petroleum products as cargo:

RECOMMENDATION

Underkeel clearance is the minimum clearance between the deepest point on the vessel and the bottom of the vessel in still water conditions. Tank vessels carrying oil or petroleum products as cargo shall maintain minimum underkeel clearances as listed below. The underkeel clearances are minimum standards during normal weather conditions. Masters and pilots shall at all times use prudent seamanship and shall evaluate the need for clearance in excess of these guidelines in adverse weather conditions, or when other circumstances would require such evaluation.

- a. Vessels west of the Golden Gate Bridge: Ten percent (10%) of the vessel's draft.
- b. Vessels under way east of the Golden Gate Bridge: Two feet (2')
- c. Vessels at final approach to berth and at berth: Always afloat.

STATUS OF PRIOR RECOMMENDATIONS

3. PORTS. A Congressional bill (HR 2094, Gibbons), which would transfer funds from the Harbor Maintenance Trust Fund to NOAA to establish PORTS in San Francisco Bay, appears to be stalled at this time. Passage is not expected this year.

AMENDMENT TO RECOMMENDATION 3:

Amended as follows (changes are underlined):

The Harbor Safety Committee supports the efforts to increase funding to NOAA and has submitted a resolution to the California Congressional Delegation seeking funding totaling \$4.2 million for NOAA to conduct adequate surveys and install state of the art equipment such as the Physical Oceanographic Real Time System for tide and current measurement. The Committee has also proposed that OSPR allocate funds to maintain the system once it

is installed. Ongoing efforts to secure funds will be required. The Committee urges that the OSPR Administrator support PORTS as a high priority.

The Committee further requests that NOAA expedite the update of tide and current data using the latest technology available and publish the water level and current atlases to replace the tidal current charts recalled because of inaccuracies.

The Committee wishes to reaffirm its support for PORTS and to urge NOAA to update tidal current charts based on latest available technology.

4. OPERATORS SURVEYS. No change.

5. and 6. SURVEYS AND CHARTS. As a result of the recommendation of the Harbor Safety Plan, the National Ocean Service (NOS) will soon complete survey depths of certain deep draft navigation channels in the Bay, which includes additional areas not in the original NOS commitment. Surveys included high traffic areas where shoaling occurs above and below the Richmond-San Rafael Bridge, east of Alcatraz Island, and south of the San Francisco-Oakland Bay Bridge to Hunters Point. The National Ocean Service is working to shorten the time between its surveys and published charts, which generally takes one and a half years. Upgrading cartography equipment will significantly shorten the time period from survey to chart.

AMENDMENT TO RECOMMENDATION 6:

Amended as follows: (Changes are underlined)

The Committee further recommends that NOAA update its charts in a timely fashion to reflect survey information from NOAA, COE and independent sources. When surveyed channel depths vary more than two feet (currently this is a one foot variance) from a NOAA chart, such information should be provided to VTS (Coast Guard), masters and pilots of deep-draft vessels as soon as available. NOAA should improve the frequency of published data on channel depths in areas heavily trafficked by oil tankers and barges. NOAA should devise a system to quickly alert VTS, masters and pilots.

The Committee urges the Administrator to request that NOAA permanently assign a National Ocean Service survey party to San Francisco Bay because it is a heavily trafficked harbor which has historical shallow depths and is subject to shoaling. Also NOAA should, on a priority basis, (a) establish a field survey schedule of areas in navigation lanes identified by pilots as subject to shoaling; (b) compare survey data to detect changes in depths and historic trends; and (c) establish a field survey schedule for future years based on comparative data. The Committee further requests that the Administrator urge NOS to continue and expand its program to publish new charts at larger scale to cover a smaller area which would provide more detail for commercial navigation in order to avoid shoals and hazards.

The Harbor Safety Plan previously recommended that information be immediately provided to the Coast Guard and mariners of deep-draft vessels when survey depths vary more than one foot from published NOS charts. The one foot requirement appeared to be too restrictive in triggering a "Danger to Navigation Report". The accuracy of the predicted tides and the position of the survey vessel effect whether survey soundings may be correct. With such a small margin for error, there could be an excessive number of "Danger to Navigation Reports" which might prove false. This could reduce the effectiveness of the "Report". A two foot differential is more feasible to detect and more reliable.

Accurate and timely depth surveys and charts are essential to safe navigation in the Bay because the navigation channels are essentially shallow in relation to modern deep-draft vessels. The Bay is the terminus of two major river systems, which results in siltation of the channels. The amount of siltation and shoaling can vary considerably from year to year depending upon the amount of rainfall and runoff. A systematic approach to the assignment of NOS survey teams would be of benefit to safe navigation in the Bay.

CHAPTER III. HARBOR CONDITIONS

STATUS OF PRIOR RECOMMENDATIONS

7. Underwater Rocks. In a letter dated March 8, 1993 the Commander of the 11th Coast Guard District wrote the U.S. Army Corps of Engineers to encourage the lowering of Harding, Arch, Shag, and Blossom Rocks in San Francisco Bay to a depth of -55 feet MLLW. The Coast Guard cited the close proximity of the rocks to the narrow shipping routes traveled by all tanker traffic entering and departing the Bay. Subsequently, the Corps undertook a feasibility study to survey the area to determine the type and quantities of rock material, configuration of the rocks, methods of removal and cost estimates. The survey should be completed by early fall, 1993 and results are scheduled to be reported to the Harbor Safety Committee in October.

8. Dredge Dog Leg at Buoy "C".

AMENDMENT TO RECOMMENDATION 8:

Delete the recommendation to dredge the dog leg at buoy "C" of the San Rafael main ship channel. Retain the statement that: "This recommendation, along with all others in this Plan, should be the subject of a complete environmental analysis and examination of alternatives before implementation."

The Coast Guard has eliminated traffic lanes. Reanalysis of this recommendation indicates there is no substantial danger to vessels in retaining the dog leg configuration. Pilots must make passing arrangements in order to use the deep-draft portion of the channel. Eventually the Baldwin Channel dredge project will deepen the channel. The Corps of Engineers concluded from its study of the Baldwin Ship Channel that the bend serves to direct vessels away from the Tiburon Peninsula, reducing the danger of grounding and increasing the maneuvering room for multiple vessel movements.

CHAPTER IV. VESSEL TRAFFIC PATTERNS

The Marine Exchange of the San Francisco Bay Region reported that during 1992 the total number of commercial vessel movements in the Bay remained virtually the same as the previous year. However, the number of tanker arrivals and interbay shifts increased by 8.75% and 14.44% respectively over the previous year (see Appendix A). On the other hand, Vessel Traffic Service, operated by the Coast Guard, reported 3,113 military vessel movements in 1992, which was a 15.4% decline over the previous year. No direct comparison of military vessel movements can be made to commercial vessels as military vessel movements include in-Bay, inter-Bay and out-Bay movements, so some ships may be counted three times. Within the next few years naval facilities at

Alameda, Treasure Island, Hunters Point, Mare Island and Moffet Field will be closing. A Navy spokesperson did not anticipate an appreciable change in military ship traffic until 1996 or 1997.

Due to the existence of a rather large U.S. Naval contingent in the Bay, mine sweeping training exercises are conducted on a rather frequent basis. The area of operations for this training overlaps with navigational and anchorage areas south of the Bay Bridge where many of the largest tankers in the Bay lighter. Earlier this year, training exercises occurred in very close proximity to lightering operations. Discussions were undertaken with the Navy to determine if the mine sweeping exercises could be located outside of Anchorage 9 where lightering takes place. Unfortunately, the exercise grid cannot be relocated due to air traffic control problems at the nearby airports and the depth of the water. Mine sweeping operations are to maintain a distance of 300 yards from the commercial vessels. Should these operations encroach closer to ships, operators are to contact the aircraft on VHF Channel 13 and request further distance.

STATUS OF PRIOR RECOMMENDATIONS:

9. Coast Guard/VTS Accident and Near Accident Reporting System. The Harbor Safety Committee recommended (a) that the Coast Guard and VTS devise a more consistent system of reporting accidents and near accidents, and (b) analyze the reports on an annual basis with recommendations and a summary to OSPR on the effectiveness of navigational safety measures.

(a) The Coast Guard responded that accident reporting requirements are codified in 46 CFR Part 4 of Coast Guard regulations. Owners or operators are responsible for reporting vessel casualties to the Coast Guard. This data is collected in a format standardized throughout the country. After the Coast Guard investigates accidents, the data is entered into the Marine Safety Information System as CASMAIN data. The Coast Guard also receives a number of reports of violations, reckless or negligent operations, etc. which do not fit the definition of a casualty so are not reported in the CASMAIN system. However, some reports may have triggered actions such as a civil penalty; other reports probably fit the VTS definition of an "incident".

On the other hand, there is no federal or state system to identify and file "near accident" data. The San Francisco Vessel Traffic Service has an informal system of "incident" reporting which is used to improve the internal functioning of VTS. "Incidents" are reported when VTS observes a situation that unnecessarily heightens the risk of a navigational accident (see Appendix B for 1992 vessel accidents and incidents as compiled by VTS. 1992 vessel casualty statistics were not available as of this time). This is usually due to lack of communication of timely meeting, passing or overtaking arrangements or navigating at too great a speed for the conditions or location. Since "incident" reporting is to improve VTS operations, an "incident" does not necessarily mean there was a near accident.

OSPR has specifically requested that the Coast Guard report to them any situations involving loss of power or loss of steering of deep draft vessels in the Bay or its approaches.

(b) As a result of studying VTS accident and near-miss reports, the Coast Guard has taken a number of steps to improve navigational safety in the Bay. The Captain of the Port ordered VTS

controllers to be much more aggressive regarding the early establishment of overtaking and passing arrangements and the speed of the vessel. Secondly, incidents involving the loss of power or steering are investigated by a Marine Inspector and the vessel's class society. The vessel is not allowed to leave port until proper repairs are made. The Coast Guard welcomes and responds to all reports from pilots concerning propulsion or steering difficulties. Thirdly, the Marine Safety Office drafted federal rulemaking covering speed, movement in low visibility, draft and overtaking situations in the Bay. This was recently submitted to the Harbor Safety Committee for comment prior to being forwarded into the federal rulemaking process.

The Marine Safety Office (MSO) attempted a statistical analysis of the Vessel Traffic Service incident reports. However, the MSO determined there were not enough incident reports for a true statistical analysis and the definition of an incident or a near miss is not adequately defined. It is interesting in a recent report from the Washington State Marine Oversight Board that office observed: "The Coast Guard's Marine Safety Information System contains much of the information needed but it is not amenable to tabulating accident data for analysis. A new Coast Guard system [referring to Washington State] that would provide this capability is not expected to be on line until 1997." In regards to the Bay region, the Coast Guard notes that "OSPR has not reviewed or defined how it would request this item be refined or implemented." OSPR should follow up in this regard.

The MSO did conclude that, based upon the accident and near-miss reports, a number of observed problems bear further review:

- a. There were a number of close quarters navigational situations that occurred in the Vessel Traffic Service approach areas prior to pilots being taken. Language difficulties were noted in several of these cases.
- b. There were a number of incidents where speed was a factor.
- c. Although some "Rule 9" incidents were documented, it appears that, based on discussions in public meetings, that violations are under reported to such a great extent that no meaningful statistical analysis could ever be performed. There appears to be a greater problem of recreational boaters near ferries than is generally recognized.
- d. There were a number of incidents where the Vessel Traffic Service (VTS) controllers observed that vessels did not make or follow the agreed upon meeting or passing arrangements.

The Coast Guard recommends that the following further actions are needed:

1. A defined system of incidents or near misses needs to be devised for clarity of reporting and analysis. Reports of incidents to the Marine Safety Office should be integrated with VTS reports.

2. More study should focus on the problem area at the approaches to the pilot area in order to reduce close quarters situations before vessels board their pilots.

3. OSPR should define what information is important to be reported and should develop an implementation plan for this recommendation to assure coordination between OSPR and the Coast Guard.

10. Herring Fishermen. As stated in the Harbor Safety Committee's response dated February 2, 1993 to OSPR comments on the Harbor Safety Plan, OSPR should urge coordination of federal, state, municipal and private organizations prior to each herring fishing season. The status of the 1993-94 herring fishing season is presently uncertain due to the lower numbers of herring in the Bay during the past season.

11. and 12. Observation of Sailboat Races. The St. Francis Yacht Club recently invited representatives of the Harbor Safety Committee to observe sail boat races.

13. Annual Racing Schedules. Racing Schedules have been furnished to the Marine Exchange for distribution and will be routinely furnished for future events. No further action is necessary.

14. Optional Race Course Information. The Yacht Racing Association has provided and will provide in the future information to the Marine Exchange regarding optional courses and rounding marks. No further action is necessary.

15. Rule 9 Infractions. The Harbor Safety Committee recommended (a) that the Coast Guard Auxiliary observe and report infractions, and (b) the Coast Guard prepare an insert of Rule 9 information for vessel license renewal notices.

The Coast Guard reports the following actions were taken. The Coast Guard Auxiliary is prohibited from taking any law enforcement action; it is an educational organization. The Auxiliary conducted 188 Safe Boating Courses in Northern California in 1992 with 1,278 graduates. The Auxiliary changed its Boating Safety Course curriculum to specifically include information on Rule 9, its meaning and the constraints to navigation for larger vessels in the confined shipping channels of the Bay.

With all document renewals the Coast Guard included flyers on Boating Safety Courses and information on obtaining safety pamphlets. The Coast Guard routinely includes information on Rule 9 infractions to applicants for marine parade and regatta permits. Prior to the commencement of a sailboat race, the committee boat must check in with VTS.

16. Contingency Routing. In order to reduce chances of accidents and catastrophes occurring during construction of harbor, dredging and waterway modification projects, the long standing permitting procedures of the San Francisco Bay Conservation and Development Commission, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, and the San Francisco Bay Regional Water Quality Control Board should be specifically referenced as mandates. Contractors should be responsible for informing the U.S. Coast Guard in advance of

their planned and actual construction so that the Coast Guard may advise and establish Safety Zones and/or provide cautionary notices and/or rerouting orders to mariners. A Safety Zone is a directive concerning a water area, a shoreline area, or a combination thereof to limit access to authorized vessels. The Captain of the Port is authorized to establish temporary safety zones. Planning for alternate contingency routing during a construction project is not the responsibility of the Harbor Safety Committee.

17. Educational Pamphlets. See Recommendation 15 for distribution of Coast Guard materials. In addition the Yacht Racing Association of San Francisco Bay has included in its 1993 Standard Sailing Instructions the specific reference to Rule 9. Non-observance can and has led to vessel disqualification from an event. The OSPR should encourage the Department of Motor Vehicles to include boating safety information with boat registration renewal notices. A number of marina owners furnish boating safety information to their tenants.

18. Report Rule 9 Violations. The Eleventh District Commander has encouraged the San Francisco Bay Pilots to report Rule 9 infractions. It is acknowledged there is some difficulty in positively identifying the boat numbers from the bridge of a large vessel. In addition the Captain of the Port made a presentation to the Pacific Inter-Club Yacht Association (PICYA) Conference on Rule 9 infractions. This conference was attended by officers of fifty-two yacht clubs. The Coast Guard was asked to also address individual Yacht Clubs.

19. Publicize Rule 9 Infractions. OSPR should contact the Department of Motor Vehicles regarding possible distribution to registered boat owners of punitive activities taken against boat owners by the Coast Guard.

20. Coast Guard Auxiliary Education Efforts. See Recommendation 15.

21. Boardsailors. The San Francisco Boardsailing Association is preparing a comprehensive guide to boardsailing in the Bay which will contain a section on the hazards of sailing in shipping lanes near large vessels and tugs with barges. The guide is intended to be widely distributed throughout the Region to novice and experienced boardsailors. The San Francisco Bar Pilots Association has been invited to prepare material for the brochure. No further action is necessary.

CHAPTER V. VEHICULAR BRIDGE MANAGEMENT

STATUS OF PRIOR RECOMMENDATIONS

22. through 24. and 27. Caltrans Bridges. OSPR should forward these recommendations to Caltrans, District 04 Director as outlined in the Committee's response letter dated February 4, 1993.

25. Golden Gate Bridge Racon. Earlier this year the Coast Guard evaluated the need for a racon on the Golden Gate Bridge and recommended that the radar device be installed for

navigation safety. The Bridge District included funds for installing a racon on the bridge in its 1993-94 budget. The project must gain final approval by a Board Committee this fall.

26. **Bay Bridge Racons.** No further action is necessary.

CHAPTER VI. AIDS TO NAVIGATION

As requested in OSPR's review of the Harbor Safety Plan, the following is an expanded review of aids to navigation, an evaluation of the adequacy of existing aids, and recommendations for improvements.

Over the past year the Coast Guard, working with the Harbor Safety Committee, thoroughly reviewed the layout and marking of the main ship channels. This review, known as the Waterway Analysis and Management System Study (WAMS), was conducted under the auspices of the Marine Safety Office and involved pilots and industry representatives. As a result of this review, the layout of the main ship channels has been significantly changed by the substitution of precautionary areas for the preexisting two way Traffic Separation Scheme (TSS) in many parts of the Bay. The traffic routing scheme was originally established in 1972. The revised routing scheme reflects current traffic patterns and corrects the problems of contrary vessel movements noted in the Harbor Safety Plan. NOAA will include these changes when new charts are published.

The revised traffic routing scheme established a deep water traffic lane, a precautionary area between the main ship channel traffic lanes and the deep water and Central Bay traffic lane, and expanded the Central Bay precautionary area. The northern traffic lanes were redesignated (narrow) channels and the separation zones in the channels deleted. The Coast Guard is drafting a Notice of Proposed Rule Making (NRPM) that will establish Regulated Navigation Areas for San Francisco Bay and the ship channels of Oakland Harbor, Richmond Harbor/South Hampton Shoal, Pinole Shoal Channel and the channel under the Southern Pacific Railroad Bridge in the Carquinez Strait. The Harbor Safety Committee endorsed the March 15, 1993 draft of the proposed Rule (see Appendix C for draft copy).

The Coast Guard also changed markings in a number of channels. Midchannel buoy "E" in San Pablo Bay has been upgraded to a larger size buoy with a brighter light. North Channel Buoy 3 has been lighted. There are ongoing initiatives with the U.S. Army Corps of Engineers to revise the marking of both the Oakland and Richmond Harbors.

Major hazards to navigation in the Bay as previously described in the plan are bridges and rocks, both above and below the water. The bridges in the Bay under the supervision of Caltrans are scheduled to be marked by racons. There will soon be fourteen racons on bridges in the Bay Region. This is of major importance because racons are invaluable for precise radar navigation particularly in fog which is common to the Bay (see Chapter II of the Harbor Safety Plan for Weather Conditions). Racons appear on radar screens as large coded signals extending in an arc behind the racon position. When placed on the center span of bridges, the mariner can align the

ship directly under the center of the span, even in limited visibility. The Harbor Safety Committee emphasized the importance of racons on bridges.

Most of the rocks in the Bay are marked by a light. Harding Rock, a submerged rock near a main shipping area off Alcatraz Island, is marked by a lighted buoy. The Coast Guard has requested funding for a racon on a buoy as a highest possible priority. However, due to budgetary constraints, it is unknown at this time when a racon could be installed. Arch and Shag Rocks, which are submerged near Harding Rock, are unmarked. The Coast Guard determined it was not necessary to mark these rocks as they are well outside the shipping channel. The Harbor Safety Committee might consider whether the Coast Guard should mark Arch and Shag Rocks, as a container ship in 1987 sustained extensive damage to its hull by passing over Arch Rock.

STATUS OF PRIOR RECOMMENDATIONS

28. Scope of Coverage. Recommendations (a), (b) and (c) will be enacted by the National VTS Regulations scheduled for publication in late 1993. Recommendation (d) concerned expanding the area of coverage north of the Richmond-San Rafael Bridge. Radar sites at Mare Island and Point San Pablo have been funded to provide surveillance of San Pablo Bay and parts of Carquinez Strait and are scheduled for completion by August, 1994. The Coast Guard has requested funding for installation of surveillance equipment to cover the area east of Carquinez Strait to New York Point/Antioch. However, funding for this project is unlikely in the near future.

29. Changes in VTS Operations and Requirements. (a) National VTS Regulations will make VHF Channel 14 a working frequency. (b) The Coast Guard is preparing guidelines for anchoring in general anchorages to ensure safer and more disciplined anchoring practices. (c) New computerized, state-of-the-art monitoring, display and recording equipment will be installed by August, 1994 as part of the Coast Guard's VTS upgrade expansion project.

CHAPTER VII. COMMUNICATIONS

STATUS OF PRIOR RECOMMENDATIONS:

30. VTS Channel. Due to increasing congestion on channel 13, the Coast Guard will shift the primary VTS channel to VHF Channel 14 as part of the Federal regulations making participation in the VTS program mandatory. Implementation of this change is targeted for late 1993. The VTS upgrade, planned for completion in August, 1994, will include new VHF-FM radios at all four VTS communication sites, and a new radio control system at the Vessel Traffic Center on Yerba Buena Island.

31. Backup Power Sources. The San Francisco Marine Exchange is considering installation of a backup power supply for its communications system and is in the process of identifying a funding source. The Exchange has acquired back-up power for its phone system. The San Francisco Bar Pilots own and operate pilot boats which are each equipped with two generators. The pilot boats can act as an auxiliary power source for the pilot's communications system in case

of emergency. In addition, should it become necessary to abandon the communications headquarters on the dock, the pilot boats have the capability to function independently as a communications center on the water. This capability was tested during a recent military exercise.

CHAPTER VIII. TUG ESCORTS

The Oil Spill Prevention and Response Act (SB 2040) mandated the Bay Harbor Safety Committee as its highest priority to adopt tug escort recommendations. After the Harbor Safety Committee adopted Tug Escort Interim Guidelines on March 12, 1992, the Tug Escort Subcommittee continued its public workshops to develop Permanent Tug Escort Guidelines. The subcommittee met monthly and held a series of public workshops, beginning shortly after the Interim Guidelines were adopted by the full committee in early 1992 and continuing through the end of the year. All workshops were open and noticed to the public, so were well attended. Because of the complexity of establishing a scientific and rational basis for relating tug performance to the size of a loaded tanker, the committee contracted with Robert Allan Ltd., Naval Architects and Marine Engineers to:

"...supply the committee with a science-based formula which links tug static bollard pull with the deadweight tonnage of tankers. In addition the committee wishes to establish standards regarding specific equipment needs for these tugs..."

The Allen Report, entitled Analysis of Tanker Escort Services for San Francisco Bay, July, 1992 and amended, analyzed the function of escort tugs, method of deployment of tugs, environmental and geographic influences on escort tug services, and features of various types of tugs for performing escort duties. The Tug Escort Subcommittee considered this report, other reports and extensive public testimony in a series of workshops which served as a basis for preparing permanent tug escort guidelines (see Appendix D for a complete listing of reports, chronology of deliberations for the public record, and document control list). In addition a technical advisory subcommittee was formed which provided input on the guidelines.

After much lively and extensive debate, the Harbor Safety Committee adopted Permanent Tug Escort Guidelines at its January 14, 1993 meeting. The Guidelines were submitted to OSPR on February 19, 1993. OSPR forwarded its comments on the Permanent Guidelines to the Committee by letters dated June 9 and July 30, 1993. The Tug Escort Subcommittee will hold a series of meetings to prepare a response to these comments and to revise the Permanent Guidelines. Because of the complex nature of the issues, the review is expected to take six months which will result in Revised Permanent Guidelines by March, 1994.

While the Harbor Safety Committee adopted Interim Tug Escort Guidelines in March of 1992, another year transpired before regulations were in place which required tug escorting for petroleum tankers and barges in the Bay. Because of this considerable time gap, the Committee had requested that OSPR solicit voluntary compliance with the Interim Guidelines. OSPR subsequently instructed the Harbor Safety Committee to ask industry for voluntarily compliance with the proposed Interim Emergency Regulations beginning March 1, 1993 (see Appendix E for letter and Emergency Regulations). The Marine Exchange, acting as the Clearing House for tug escorts, reported

approximately 60% compliance with voluntary tug escorting, mainly American flag ships. The Interim Guidelines were translated into Interim Emergency Regulations which became effective on May 6, 1993 for the Bay. Mandated tug escorting officially began that date. The Marine Exchange, in its capacity as Clearing House for tug escorts, has published static bollard test pull results and speed for tugs operating in the Bay (see Appendix F for the most recent bollard pull results).

The Office of Administrative Law has approved an extension of the Emergency Interim Regulations until January 3, 1994. The Harbor Safety Committee, at its August 12, 1993 meeting, adopted a resolution to OSPR that the Committee did not wish to amend the interim regulations and that the regulations should continue for a period of one year, within which time the Committee would develop revised permanent tug escort guidelines, as discussed above. The Interim Regulations would continue in effect during 1994 until the Permanent Regulations are approved by the State. OSPR anticipates that Revised Permanent Guidelines will become Permanent Regulations by the end of 1994.

RECOMMENDATION: PERMANENT TUG ESCORT GUIDELINES

The following preamble and permanent tug escort guidelines were adopted by the Harbor Safety Committee:

Preamble

With the passage of the Oil Spill Prevention and Response Act of 1990 (OSPRA), the California State Legislature mandated the use of Tug Escorts in the San Francisco Bay Region. The San Francisco Bay Region Harbor Safety Committee was tasked with developing guidelines which would be the basis for regulations in those waters.

The rationale in requiring escorts for tank vessels is to reduce the risk of an incident involving a loaded tanker or barge. The purpose of the escort vessel is to assist the tanker to stop or maneuver away from navigation hazards in case of mechanical difficulties.

In October 1990 the States/British Columbia Oil Spill Task Force released their final report which contained a number of recommendations aimed at reducing oil spill risk and volume. Among these was the recommendation for mandatory tug escort and assistance in harbors and narrow passages with a potential risk reduction of 8-11%. This was only one of several ship based improvements which included double hulls (37-50% risk/volume reduction), advanced electronic chart display and information systems (19% risk reduction on tankers, 14% on barges), and improved crew training and qualification (12-17% risk reduction).

The Harbor Safety Committee appointed a Tug Escort Subcommittee to determine what was needed and how to achieve it. The subcommittee developed a set of interim guidelines which were submitted to the Office of Oil Spill Response in March 1992. These guidelines were intended to be a starting point with the full realization that as experience and information were gained the guidelines would evolve to provide the highest level of protection attainable.

Included in OSPRA are directives to the administrator of the Act which specifically task him or her to "ensure that the best achievable protection of public health and safety and the environment is employed at all times."

With this injunction in mind, the Tug Escort Subcommittee submits the first evolution in the Tug Escort Guidelines. While "best achievable protection" with "best achievable technology" is the ultimate aim, it will take time to develop and procure the hardware, and to more clearly define the mission. These guideline are planned to produce the "best achievable protection" using existing assets in the Region or readily obtainable ones. Consideration has been given to tugs which may not be the best achievable technology but experience has shown are capable of adequately fulfilling escort functions when used intelligently with appropriately sized regulated vessels. At the same time, it should be emphasized that utilization of inadequate escort vessels for cosmetic purposes must be prevented. While tethering can reduce response time in event of a propulsion or steering casualty on the Regulated Vessel, this procedure should only be used if considered safe by the pilot and masters involved under the speeds and conditions experienced during escorting.

The States/B.C. Report suggested that escorts be highly maneuverable, have speed complementary to the tanker, with sufficient power to control tanker direction, and that the power and number of escort tugs should be proportionate to the deadweight tonnage of the tanker. In order to better define requirements the Subcommittee retained a consultant to provide scientifically derived formula for matching tugs to tankers. The Subcommittee has also obtained additional reports from other regions concerning escort capabilities and has formed a Technical Advisory Group of local tanker and tug operators.

The primary factors involved in this are the size of the tanker and the speed it is traveling, with speed being the most influential. Inside the Bay there are tugs readily available to handle most of the tankers that call. Outside the Golden Gate Bridge in Zone 1 the channel is rocky and current swept; the sea conditions are rough and not conducive to fendered or skin to skin operations. With existing assets in the region it is not possible to safely tether an escort to a tanker and still be able to maintain the speed through the water required for safe passage of the Golden Gate. In the case of a tanker losing propulsion or steering in the area of the Golden Gate, the escort should assist by steering the vessel into San Francisco Bay where sea conditions allow a greater degree of control.

These guidelines should be reviewed annually and revised when mission definition and technological improvements warrant it.

A. Geographic Scope

- A set of six zones has been established. The use of zones allows the most effective use of tugboat assets, according to the operational environment in which they will be working. For example, an escort tug working in the inland area of Carquinez Strait requires different specifications than a tug working in the open turbulent waters outside the Golden Gate. The zones are described as follows:

1. From a line drawn between Point Bonita Light through Mile Rocks Light to the Shore (COLREGS Demarcation Line), eastward to the Golden Gate Bridge.
 2. From the Golden Gate Bridge, south to a line between the southern tip of Bay Farm Island and the southeastern tip of Point San Bruno Peninsula; and north to a line between Point San Pablo to Light Buoy "4", to Light Buoy "5", to Point San Pedro.
 3. From the south end of Zone 2 to one mile north of the San Mateo Bridge.
 4. From one mile north of and to one mile south of the San Mateo Bridge.
 5. From the eastern boundary of Zone 2 to the western approaches of the Carquinez Bridges at Light Buoy "15".
 6. From Light Buoy "15", through the Carquinez Strait, north on the Sacramento Ship Channel to one mile beyond the Ryer Island Ferry Terminal and east on the San Joaquin River to one mile beyond the Antioch Bridge.
- Weather permitting, outside Tug Escort(s) shall maneuver to be in close attendance to a regulated vessel prior to that vessel entering Zone 1. Outside Tug Escort(s) shall meet all U.S. Coast Guard requirements necessary to operated in Zone 1, which includes offshore sea and weather conditions. The Tug Escort will be positioned by the Pilot or Regulated Vessel Master as appropriate to best render assistance in case of a propulsion and/or steering casualty on the Regulated Vessel. The Tug Escort shall physically be in Zone 1 prior to the Regulated Vessel departing the pilot station inbound and for outbound Regulated Vessels shall remain in Zone 1 until the vessel arrives at the Pilot Station.
 - Tug Escort(s) shall also be required when a Regulated Vessel is in Zone 2, 4, or 6. These are zones with major hazards (bridges, islands, submerged rocks, etc.) and congested traffic patterns. Tug Escorts will be directed to a station keeping position where they will be best able to respond in case of a casualty. Tug Escorts utilized exclusively in these areas need not qualify for Zone 1 offshore escort work.
 - Tug Escort(s) shall not be required in Zones 3, 5, or areas outside of Zones 1-6. These areas do not have significant hazards and have mud bottoms. The hazard of an oil spill due to machinery failure was not considered great enough to require an escort.

B. Environmental Conditions

- The subcommittee feels that there is no need to increase escorting requirements inside the Bay and adequate traffic separation schemes and tanker traffic lanes exist outside the Bay.

C. Regulated Vessels

- Vessels carrying five thousand long tons or more of oil or other petroleum products (as defined in S.B. 2040) as cargo shall be considered "Regulated Vessels." A tug pushing or towing more than one barge carrying petroleum products will be considered regulated if the total amount of product is five thousand tons or more. Five thousand long tons equals approximately 36,000 barrels of Alaska crude. Barrels per ton vary depending on the grade of the product. Five thousand tons was chosen to differentiate between a vessel in ballast and a laden one, while providing for bunkering to be accomplished with non-regulated vessels. Unladen Regulated Vessels do not require Tug Escort.
- Regulated Vessels shall engage Tug Escort(s) as required by these regulations.
- When a Regulated Vessel is self-propelled, it shall have sufficient and qualified line-handling crew members standing by available to immediately receive lines from each Tug Escort. The line handlers should be able to receive the lines without power assistance. The regulated vessel shall comply with 33 C.F.R. sections 164.11 relating to general navigation underway and 164.25 relating to equipment checks prior to entering or leaving port.
- A Regulated Vessel shall have sufficient and qualified direct supervision of linehandling crew operations. Said supervision shall have direct radio communication capability with the self-propelled Regulated Vessel's bridge, or in the case of a barge, with the bridge of the attending tug.
- A Regulated Vessel at sea shall not enter Zone 1 until it has an Outside Tug Escort in close attendance (weather permitting).
- A Regulated Vessel at anchor within Zones 2, 4 or 6 shall not change their positions unless attended by the required Tug Escort.
- In the event of an emergency, the master or pilot of a Regulated Vessel is authorized to override these Tug Escort guidelines. An example of such an emergency might be a fire at a terminal requiring a vessel to shift off berth for the sake of safety. Any such event shall be reported immediately to the OSPR and to the Clearing House which shall report the occurrence to the Harbor Safety Committee at its next regular meeting.

D. Speed Limit

- Regulated Vessels in Zones requiring Tug Escort shall proceed at a safe speed which shall not exceed the speed at which their Tug Escort(s) can render assistance. Safe speed will also take into consideration environmental factors including but not limited to depth of water, visibility, wind conditions, and tidal current. Proximity of traffic and other vessels at anchor shall also be considered.

E. Minimum Performance and Equipment Standards for Tug Escorts

- Tug Escorts shall meet prescribed minimum equipment standards as follows:
 - (1) Communications — The Tug Escort must ensure communications are established with the escorted vessel by primary and secondary VHF radios. There must be a pre-escort conference between the masters of the regulated and escort vessels and the pilot (if utilized). It should at a minimum address the intended route, destination, speed, stationing location of the escort(s), communications, anticipated weather and tidal conditions and any other relevant factors.
 - (2) Fendering — The Tug Escort shall be fendered as appropriate to absorb impact in skin-to-skin operations. It should have a “shoulder” at bow and stern to pivot on in pulling away from the ship. There should be no exposed corners, large holes or metal parts which could inflict damage to the ship. The fenders should have a surface which minimizes sliding when the tug is working at an angle to the ship.
 - (3) Line Handling Equipment — Escorts must have power line handling equipment fore and aft for rapid mechanically assisted deployment of lines and/or other emergency equipment. The primary winch should be in the position best suited for the design of the tug in escort service.

Escorts must also have a line throwing capability to rapidly deliver messenger lines to the escorted vessel.

- (4) Sea keeping ability for Zone 1 — Zone 1 Tug Escorts shall meet Federal/USCG requirements for vessels of their class for coastwise service.
 - (5) Tow Lines — Tug Escorts primary assist line must have a specified breaking strength not less than the rated bollard pull of the tug multiplied by a safety factor of 2.25.
 - (6) Additional topics including Bridge Equipment, Firefighting Capability, Maneuverability, and Stability are recognized as important considerations which will require development of specific standards. These will be addressed in annual reviews and as experience is gained.
- Tug Escorts shall maintain an optimum station-keeping position as directed by the Pilot or Regulated Vessel Master so as to best render assistance if needed. In any case they shall stay within one-half mile of the Regulated Vessel while engaged in escort activity.
 - Tug Escorts shall have their static bollard pull (ahead and astern) as well as free running speed measured, inventoried and published by the Central Clearing House. The

American Bureau of Shipping or similar agency shall certify compliance with the measuring standards established by the Harbor Safety Committee.

- Tug Escorts shall be inspected annually to ensure that minimum established standards are maintained.
 - Tug Escorts shall be manned by crews meeting prescribed minimum requirements (see item F).
 - The target performance standard for escorting regulated vessels in the San Francisco Bay region shall be that tug escorts have the capability of steering a tanker and/or stopping a tanker within 10 ship-lengths from the declaration of emergency.

In order to provide safe, effective, tug escorting based on local experience and requirements, the Administrator, in consultation with the Harbor Safety Committee shall review and revise, if necessary, the performance and equipment standards for tug escorting in the San Francisco Bay Region according to the following schedule:

- (1) By the end of the first year following adoption of the regulations for permanent guidelines for tug escorts or by December 31, 1993, whichever is sooner, review and revise, if necessary, the performance and equipment standards for tug escorting based upon the experience in the area, studies of tug escorting in relation to disabled tankers, and any other relevant information.
- (2) By the end of the second year or by December 31, 1994, whichever is sooner, conduct trials and/or authenticate the ability of escort vessels to meet the performance and equipment standards.
- (3) By the end of the third year or by December 31, 1995, whichever is sooner, require that all tug escorts meet the performance and equipment standards.

F. Minimum Requirements for Escort Tug Crews

- Tug Escort operators shall be duly licensed Operators of Uninspected Towing Vessels as per 46 CFR Ch.1 Section 10.464, with an offshore endorsement for operators of Zone 1 vessels.
- Tug Escort crews shall have a minimum of two Certified deck hands. Due to the high level of equipment readiness for escort tugs, the engineer may not be included as a deck hand. This requirement does not preclude additional deck hands who are gaining experience for certification.
- Tug Escort deck hands shall be documented seamen pursuant to USCG regulations.

- Tug Escort Operators and deck hands shall be Certified by the Department of Fish and Game.
- To qualify for certification as a Tug Escort crew member an applicant must:
 - (a) Posses a Merchant Mariner's Document (Z-Card).
 - (b) Show proof of at least 120 (8 hour) days service aboard towing vessels. At least 60 days of this time must have been spent in the San Francisco Bay Area as defined by the Harbor Safety Plan.
 - (c) Successful completion of an approved education program covering:
 - basic deck seamanship*
 - basic tug boat seamanship*
 - local knowledge
 - oil spill prevention/response legislation
 - safety awareness
 - basic fire fighting skills*
 - communication systems
 - loss of steering or propulsion by a regulated vessel or escort
 - emergency response to regulated vessel casualties
 - early response procedures to oil spills

*An individual with a USCG rating of Able Seaman Special (OSV) or above may be considered to have met the seamanship requirements of the proposed education program.

- Certification shall be renewed every five years to ensure that individuals are kept abreast of changes in procedures, regulations, and improvements in technology.

G. Considerations for Matching Tugs to Vessels

- Tug Escorts shall be capable of providing a total astern static bollard pull in pounds equal to not less than the Regulated Vessel's deadweight tonnage. For example, a Regulated Vessel of 80,000 dead weight tons shall require Tug Escort(s) with a minimum of 80,000 pounds astern bollard pull.
- Tug Escort Propulsion Matrix

After the bollard pull criteria has been met, the following table will be used for determining the minimum number of tugs and if single or twin screw tugs may be used. The maximum number of tugs used to provide the required aggregate bollard pull may not exceed three units. No tug with less than 10 long tons astern bollard pull may be used for tanker escort work (not applicable to barges).

REGULATED			ESCORT TUG	
Class	Type	Size (DWT)	Minimum Number	Number of Propellers
1	Barge	Less than 20,000	1	1 (Note 1)
2	Barge	20,000 or greater	1	2 (Note 2)
3	Tanker	Less than 20,000	1	2 (Note 3)
4	Tanker	20,000 to 60,000	1	2 (Note 4)
5	Tanker	60,000 to 120,000	1	2 (Note 4)
6	Tanker	120,000 to 150,000	1	2 (Note 2)
7	Tanker	Larger than 150,000	2	2 x 2 (Note 5)

Notes: (1) Barges are assumed to have a twin screw tugboat as the propulsion unit. If the primary tugboat is single screw, then the escort tug shall be twin screw.

(2) No single screw tugs may be used.

(3) Two single screw tugs may be used, or one twin screw tug may be substituted.

(4) single screw tugs may be used, but in combination with at least one twin screw tug. If only one tug is used it must be twin screw.

(5) At least two tugs required. They must be twin screw.

H. Bow Thrusters

- No reduction in the requirements of these guidelines will be granted to vessels with bow thrusters.

I. System Redundancy

- Consideration for reduction in Tug Escort requirements may be given to Regulated Vessels with significant system redundancy such as multiple screw, multiple engine, multiple steering systems which reduce the potential for loss of propulsion or steering. At this time there are no recommendations for reduction in requirements. This shall be addressed in annual reviews.

J. Central Clearing House

- The Marine Exchange of the San Francisco Bay Region is designated as the Central Clearing House. It is responsible for the following areas:
 - 1) It is the organization to which any Regulated Vessel shall be required to present itself.
 - 2) It is the organization which shall measure and publish tug boat bollard pull and free running speed. The American Bureau of Shipping or similar organization shall certify the results of the measurements of the bollard pull and speed. Tug Escort Vessels shall be recertified every three years or following any modification which effects performance.
 - 3) It is the organization which shall maintain an inventory of Escort Tugs as well as their real-time availability.
 - 4) It is the organization which shall monitor and document compliance with Tug Escorting regulations and report violations to the Department of Fish and Game and U.S. Coast Guard.

- The Marine Exchange may be contacted by the following means:
 - 1) VHF channels 10 and 18A
 - 2) Telephone (415) 441-6600
 - 3) Telex 470-312
 - 4) Fax (415) 441-3080

K. Technological Improvements

- Future consideration will be given to technical designs that otherwise meet or exceed the intent of these requirements.

CHAPTER IX. PILOTAGE

The Committee adopted the following new recommendations:

RECOMMENDATIONS

1. The California Harbor and Navigation Code, Section 1179 regarding use of shipping company employees for piloting vessels should be amended to read:

"Notwithstanding any other provisions of this division, any shipping company which regularly employed its employees, or expressed its intent to the Board of Pilot Commissioners to use its employees for piloting vessels on the Bays of San Francisco, San Pablo and Suisun on or before July 1, 1983, may employ and use its employees in that manner in lieu of pilots provided under this Chapter so long as these employees shall hold a master's license with pilotage endorsement and have made at least 20 trips as pilot trainee or observer on vessels over the routes to be piloted within a one-year period."

Pilots within this category, known as docking pilots, are not presently required to have completed local trips within the Bays and are not subject to jurisdiction of the state pilot board. The Administrator should pursue making this change to the California Harbor and Navigation Code.

2. The U.S. Coast Guard should amend 46 C.F.R. 15.812 to change the provision for pilotage requirements by adjusting the limit of 10,000 gross tons for tank barges by amending Section 15.812(e) to read:

"A licensed individual qualifying under paragraph (c)(2) of this section may serve as pilot of coast-wise seagoing tank barges or tank barges operating upon the Great Lakes totaling not more than 10,000 gross tons carrying cargoes subject to the provision of 46 U.S.C. Chapter 37, or tank barges operating on the Bays of San Francisco, San Pablo and Suisun, carrying not more than 5,000 long tons of oil or other petroleum products as cargo."

The Committee concluded there should be federal licensing requirements for the operation of tugs towing 5,000 to 10,000 long tons of oil or other petroleum products as cargo in order to ensure local knowledge of the Bays. The Administrator should request that the U.S.Coast Guard make this change to federal licensing requirements.

CHAPTER X. PROJECT FUNDING

This chapter describes the status of funding needed to implement the various recommendations identified in Chapter XI as having a direct cost impact. Each recommendation is more fully described in other sections of the Harbor Safety Plan.

STATUS OF FUNDING FOR PRIOR RECOMMENDATIONS.

3. TIDES AND CURRENTS. Funds to establish PORTS (Physical Oceanographic Real Time System) must be appropriated by Congress. Funds for maintaining the system were requested from the state Office of Oil Spill Prevention and Response to begin FY 1996. Progress on this recommendation is described in Chapter II of this report.

4. DEPTHS AND SURVEYS. Conducting comprehensive annual condition surveys of Bay area facilities is the responsibility of each facility owner or operator. Dock facilities in question may be government owned or operated, such as the various city ports, or private commercial berths such as tanker or shipyard facilities. In either case it is the Committee's recommendation that each individual facility absorb the cost of carrying out these surveys. In fact we believe that depth surveys are already carried out at each of these facilities as a prudent measure.

7 & 8. CHANNEL DESIGN AND DREDGING. The California Congressional delegation should be requested to seek funding for the U.S. Army Corps of Engineers to carry out these recommendations.

22 THROUGH 27. VEHICULAR BRIDGE MANAGEMENT. With the exception of one recommendation pertaining to the Golden Gate Bridge, all of the recommendations concern bridges under the jurisdiction of Caltrans. The Committee recommends that the Administrator recommend to the state legislature that funds be included in the Caltrans budget for installation of fendering systems, bridge clearance gauges and water level gauges. The Golden Gate Bridge District should fund improvements from existing revenues.

28(d) and 29(c). VESSEL TRAFFIC SERVICE (VTS). Funds have been allocated and work begun to install radar at Point San Pablo and Mare Island and closed circuit television cameras (CCTV) at Mare Island and Ozol, which will be done by August, 1994. The upgrade of the display consoles in the Vessel Traffic Center and VTS radios is scheduled for completion at the same time. The Coast Guard has initiated a funding request to extend CCTV to Suisun Bay, but funding is not expected in the near future.

33. RADIO COMMUNICATIONS. Both the Marine Exchange and the San Francisco Bar Pilots have existing billing mechanisms for their services which are adequate to cover the cost of installing emergency backup power systems.

32. TUG ESCORTS. The cost of escort and standby tugs should be borne by the users. Escort and standby tugs are additions to the normal tugs already used by ships and barges in the Bay and mechanisms already exist to pay for these services.

CHAPTER XI. COMPETITIVE ASPECTS OF THE HARBOR SAFETY PLAN

The Harbor Safety Plan must (A) identify and discuss the potential economic impacts of implementing the provisions of the Plan, and (B) describe the significant differences in the restrictions that could vary from port to port within the geographic boundaries of the plan.

A. Economic Impacts

In order to make an economic assessment of the impacts of implementing the plan, identification must be made of those recommendations which have a cost implication. Once identified, their potential economic impact can be discussed. Of the thirty-three recommendations in the Harbor Safety Plan, the following have a direct cost and would therefore have an economic impact if adopted as part of the Plan:

Recommendation 3. Tides and Currents. Secure \$4.2 million in new federal funding for the National Oceanic and Atmospheric Administration (NOAA) to conduct adequate surveys and install state of the art equipment such as Physical Oceanographic Real Time System (PORTS) for tide and current measurement in the San Francisco Bay Region. OSPR should allocate state funds to maintain the system thereafter.

Recommendation 4. Depths and Surveys. Conducting comprehensive annual condition surveys noting depths alongside and at the head of their facilities would be a cost for each facility owner or operator.

Recommendations 7 and 8. Channel Design and Dredging. Lowering areas such as Arch Rock, Harding Rock and Shag Rocks to a minimum of 55' MLLW and dredging the western side of Anchorage Area No. 5.

Recommendations 22 through 27. Vehicular Bridge Management. Install energy absorbing fendering systems, bridge clearance gauges where needed, water level gauges at bridge approach points, racons on the Golden Gate and Bay Bridges and shield bridge floodlights to reduce the glare for ships.

Recommendations 28(d) and 29(c). San Francisco Vessel Traffic Service (VTS). Expand VTS to north of the San Rafael Bridge and east of the Carquinez Strait and upgrade the existing VTS to include state of the art technology.

Recommendation 31. Radio Communications. Acquire emergency backup communications power for the Marine Exchange and the San Francisco Bar Pilots.

Recommendation 32. Tug Escorts. The cost of tug escorts and standby tugs for ships and barges underway carrying more than 5,000 metric tons of oil or other petroleum products in the tug escort zones defined in the Plan would be directly borne by the shipper.

Future recommendations for pilotage, etc. may have cost implications.

Each of the recommendations listed above has a cost that would be incurred by a commercial operator, port facility, or government agency if that recommendation were implemented. To that extent, these would be economic impacts of the Harbor Safety Plan. Generally these items of cost are either capital items (such as emergency power sources) or significant additional duties for an established agency.

Other recommendations in the plan may also incur costs, but if that cost could be considered as part of a government agency's normal duties and the recommendation is to simply place a higher priority on that work item, the recommendation is not listed as having an economic impact. For example, although a cost is associated with the recommendations that the Corps of Engineers and/or NOAA immediately survey all channels that have not been surveyed within the last five years, that is not listed as having an economic impact, as it is considered within the agency's normal responsibilities.

The economic impact of the Harbor Safety Plan appears to fall equally on government agencies and private industry. The Corps of Engineers, NOAA, Caltrans, the Golden Gate Bridge District and each port and facility operator would be required to spend money to improve facilities they own or operate in order to meet the recommendations of the Harbor Safety Plan. In addition, private industry would be required to meet the cost of escort tugs and possible increased pilotage.

(B) Differences in Restrictions from Port to Port

Eight ports are within the geographic boundaries of the Harbor Safety Plan, namely: San Francisco, Oakland, Encinal Terminals, Richmond, Redwood City, Benicia, Sacramento, and Stockton. Nothing in this Plan would disadvantage any one of these port as compared to any other port within the plan area.

CHAPTER XII. PLAN IMPLEMENTATION AND ENFORCEMENT

Implementation measures are noted in each chapter.

APPENDICES for 1993 HARBOR SAFETY PLAN UPDATE

- APPENDIX A: Marine Exchange List of Vessel and Tanker Movements in San Francisco Bay in 1992
- APPENDIX B: VTS Report on Near Misses for 1992
- ~~APPENDIX C: 1992 Marine Casualties~~
- APPENDIX D: Proposed VTS Regulations
- APPENDIX E: Permanent Tug Escort Guideline Chronology and Documents
- APPENDIX F: Adopted Permanent Tug Escort Guidelines
- APPENDIX G: Interim Emergency Regulations
- APPENDIX H: Tug Bollard Pull Test Results (5/14/93)



TOTAL VESSEL MOVEMENTS

	1991	1992	% CHANGE
ARRIVALS:	3671	3646	-.68%
INTERBAY SHIFTS:	2238	2260	.98%

TOTAL TANKER MOVEMENTS

	1991	1992	% CHANGE
ARRIVALS:	1006	1094	8.75%
INTERBAY SHIFTS:	1420	1625	14.44%

Harbor Safety Committee of the San
Francisco Bay Region Clearing House

Fort Mason Center, Bldg. B, Suite 325
San Francisco, CA 94123-1380

1992 Tanker Arrivals San Francisco Bay Area

Name	Flag	Length	Deadweight	Total
ADMIRALTY BAY	AM	247	82,069	5
AL BADIYAH	KU	183	35,081	4
AL DEERAH	KU	183	35,643	3
AL SALAM	KU	175	37,583	1
AL SOOR	KU	175	37,574	1
ALDEN W.CLAUSEN	LI	179	35,587	4
AMERICAN TRADER	AM	249	80,735	3
AMETHYST RIVER	PA	181	45,691	2
ANTIPOLIS	GR	229	60,525	6
APACHE SPIRIT	LI	247	111,587	1
ARCADIA	GR	219	62,654	1
ARCO ALASKA	AM	290	188,436	2
ARCO ANCHORAGE	AM	269	120,266	4
ARCO CALIFORNIA	AM	290	188,697	1
ARCO FAIRBANKS	AM	269	120,319	5
ARCO JUNEAU	AM	269	120,266	11
ARCO PRUDHOE BAY	AM	247	70,215	34
ARCO SAG RIVER	AM	247	70,215	6
ARCO TEXAS	AM	274	89,950	10
ASPEN	AM	247	81,862	13
ATIGUN PASS	AM	276	152,405	10
AZIYA	RS	176	40,474	1
BELLUS	LI	172	41,490	1
BERTINA	NO	236	65,979	2
BLUE RIDGE	AM	201	42,268	11
BOW LION	NO	171	38,700	1
BP ADMIRAL	BR	176	41,100	1
BP ADVOCATE	BS	182	39,538	1
BP ARGOSY	BR	176	41,027	2
BREGEN	MA	243	67,980	2
BROOKS RANGE	AM	276	176,404	4
BRUCE SMART	LI	275	152,402	4
BT NESTOR	BR	247	69,903	1
BUM DONG	KO	136	17,303	4
BUM JU	KO	136	17,248	4
BURGAS	RU	227	54,589	1
CAPELLA	PA	115	9,304	1
CAPTAIN ANN	PA	176	40,432	1
CAPTAIN HELEN	PA	176	40,000	1
CENTAURUS MAR	IT	224	61,762	1
CHESAPEAKE	AM	224	50,826	1
CHEVRON ATLANTIC	BS	269	149,748	2
CHEVRON CALIFORNIA	AM	247	71,339	16
CHEVRON COLORADO	AM	198	39,842	16
CHEVRON HORIZON	LI	259	123,969	5
CHEVRON LOUISIANA	AM	199	39,795	27
CHEVRON MISSISSIPPI	AM	247	71,336	14

1992 Tanker Arrivals San Francisco Bay Area

Name	Flag	Length	Deadweight	Total
CHEVRON OREGON	AM	198	39,847	20
CHEVRON PACIFIC	LI	179	35,596	9
CHEVRON SKY	LI	280	133,604	1
CHEVRON WASHINGTON	AM	199	39,795	19
CHIBA SPIRIT	BS	203	60,875	1
CHILHAM CASTLE	BR	171	27,401	1
COAST RANGE	AM	201	40,631	37
COASTAL NEW YORK	AM	220	42,721	37
CRYSTAL RIVER	PA	181	45,720	4
DA QING 91	RC	225	62,005	2
DELAWARE TRADER	AM	201	50,860	27
EAGLE	GR	209	54,044	1
EITRHEIM	NO	174	40,158	1
EMMA MAERSK	DA	183	50,600	2
ETERNITY	BS	186	39,834	1
EVA	PA	160	17,892	1
EXXON BATON ROUGE	AM	247	76,813	8
EXXON BAYTOWN	AM	237	58,643	2
EXXON BENICIA	AM	276	149,900	22
EXXON GALVESTON	AM	171	27,726	10
EXXON JAMESTOWN	AM	218	41,528	2
EXXON LONG BEACH	AM	301	211,469	20
EXXON NEW ORLEANS	AM	244	72,655	5
EXXON NORTH SLOPE	AM	276	149,900	19
EXXON PHILADELPHIA	AM	247	77,382	11
EXXON SAN FRANCISCO	AM	247	76,813	4
FANDANGO	PA	183	46,087	2
FLAMENCO	SW	183	46,087	1
FUJIGAWA	PA	149	16,980	3
FUKUSHIN	PA	114	9,103	1
GELTRUDE F.	IT	194	50,485	1
GEORGE H.WEYERHAEUSER	BS	179	35,597	2
GLACIER BAY	AM	247	82,267	14
GOLDEN GATE	AM	223	63,141	42
GOLDEN GATE SUN	SG	232	82,542	1
GOLDEN UNICORN	BS	133	10,987	1
HATAKAZE	PA	150	16,554	4
HELLESPONT HOPE	LI	243	96,550	1
HONG ZE HU	RC	225	63,008	3
IVER KATANA	LI	151	16,982	1
JOHN YOUNG	LI	275	155,548	4
KAEDE	JA	156	21,481	1
KASTELORIZO	GR	183	45,425	1
KENAI	AM	265	125,089	5
KENNETH T.DERR	BS	179	35,587	11
KEYSTONE CANYON	AM	276	176,162	3
KEYSTONER	AM	168	18,720	11

1992 Tanker Arrivals San Francisco Bay Area

Name	Flag	Length	Deadweight	Total
KOYAGI SPIRIT	LI	222	95,000	2
KYUSHU SPIRIT	BS	233	95,562	2
LA ESPERANZA	PA	132	13,600	3
LIBERTY BELL VENTURE	LI	225	61,375	1
LION OF CALIFORNIA	AM	157	16,451	28
LONDON SPIRIT	BR	219	62,094	14
LONDON VICTORY	BR	218	62,155	6
LUNAMAR II	PA	229	57,692	1
LUZON SPIRIT	BS	245	98,624	1
MARIANNA	GR	174	30,484	1
MARIETTA C.	GR	183	45,574	2
MATSUKAZE	PA	150	16,682	1
MAY FAIR 1	PA	132	13,600	1
MELODIA	SG	172	41,450	3
MINAS LEO	PA	172	41,476	2
MINAS LIBRA	PA	172	40,200	1
NAGATINO	LI	183	47,083	1
NAMSAN SPIRIT	LI	244	104,986	1
NAVAJO SPIRIT	LI	247	111,742	1
NEPTUNE ANTLIA	SG	172	37,984	1
NEPTUNE CRUX	SG	172	40,156	1
NEPTUNE LIBRA	SG	172	40,141	2
NEPTUNE PISCES	SG	236	104,499	1
NILE RIVER	SV	235	64,818	2
NINA	LI	158	29,900	1
OMI CHAMPION	AM	201	37,874	4
OMI COLUMBIA	AM	271	136,507	1
OMI DYNACHEM	AM	192	50,857	8
OMI HUDSON	AM	192	50,851	6
OMI WILLAMETTE	AM	201	37,853	1
ONOZO SPIRIT	BS	245	100,020	7
OPPAMA SPIRIT	BS	233	81,248	1
ORCHID B.	BR	182	38,629	1
OSTANKINO	CY	183	47,083	2
OVERSEAS ALASKA	AM	223	63,000	5
OVERSEAS ARCTIC	AM	223	62,005	3
OVERSEAS BOSTON	AM	261	123,692	13
OVERSEAS CHICAGO	AM	273	92,091	2
OVERSEAS JUNEAU	AM	269	122,409	8
OVERSEAS NEW ORLEANS	AM	201	43,643	1
OVERSEAS NEW YORK	AM	273	91,843	4
OVERSEAS OHIO	AM	273	92,017	4
OVERSEAS PHILADELPHIA	AM	201	43,648	4
OVERSEAS WASHINGTON	AM	273	91,967	1
PACIFIC CHALLENGER	LI	182	41,570	1
PACIFIC SPIRIT	LI	244	104,984	1
PALM MONARCH	LI	230	81,282	1

1992 Tanker Arrivals San Francisco Bay Area

Name	Flag	Length	Deadweight	Total
PALMSTAR CHERRY	LI	245	100,024	1
PALMSTAR ORCHID	SG	243	96,530	1
PALMSTAR ROSE	BS	234	98,619	2
PATRIOT	AM	217	35,663	1
PETROBULK JAGUAR	BE	172	46,100	1
PETROBULK RAINBOW	LI	167	29,998	1
PETROBULK RULER	NO	171	29,951	1
PETROBULK RUNNER	LI	167	29,998	1
PHILADELPHIA SUN	AM	187	34,000	30
PORT ISABELLE	FR	178	40,632	1
PRIDE	LI	175	36,834	1
PRINCE WILLIAM SOUND	AM	268	123,936	9
RICHARD G.MATTHIESEN	AM	187	32,572	6
RIVERHEAD SPIRIT	AM	201	38,359	6
RYVINGEN	CY	242	68,157	1
SAMUEL H.ARMACOST	BS	180	35,607	3
SANKO HONOUR	SG	243	96,550	2
SANKO PEARL	LI	242	96,127	1
SANKO PHOENIX	LI	232	96,088	2
SANSINENA II	AM	247	71,589	16
SAPPHIRE RIVER	PA	172	41,462	2
SCOTLAND	BS	204	40,794	1
SEA BRAVES	LI	158	22,755	4
SEA EXPRESS 2	MA	205	60,962	1
SEAFALCON	BR	247	97,114	2
SEALIFT ANTARCTIC	AM	179	27,660	11
SEALIFT ATLANTIC	AM	179	27,648	1
SEALIFT CHINA SEA	AM	179	27,648	12
SEAMASTER	LI	242	101,134	1
SEAPANTHER	MA	239	66,803	1
SEISHIN	PA	143	17,351	1
SETOKAZE	BS	151	18,566	8
SHILLA SPIRIT	LI	244	105,000	1
SHOSHONE SPIRIT	LI	247	104,999	2
SIERRA MADRE	AM	200	40,631	31
SINBAD	BS	185	47,168	3
SOLIMAR II	PA	225	61,335	1
ST.MICHAELIS	GE	183	45,574	1
STAR CHERRY	SG	243	96,530	2
STAR MASSACHUSETTS	AM	184	19,678	16
STAR MISSISSIPPI	AM	190	26,588	1
STAR OREGON	AM	220	42,667	4
STAR RHODE ISLAND	AM	184	19,678	16
STATRADER	NO	176	40,520	2
STAVANGER BREEZE	NO	181	37,660	3
STELLA MAR	IT	228	60,880	1
STOLT EGRET	NO	100	5,758	1

1992 Tanker Arrivals San Francisco Bay Area

Name	Flag	Length	Deadweight	<i>Total</i>
STOLT LLANDAFF	PA	171	25,060	2
STOLT PRIDE	LI	177	31,438	1
STOLT RESOLUTE	LI	174	39,013	1
STOLT TAURUS	LI	123	12,749	1
STOLT VIKING	LI	171	30,892	1
SUNRISE	LI	258	102,719	1
SYOSSET	AM	195	31,816	36
TAGASAN	PA	243	92,715	2
TAMAGAWA	PA	123	12,681	2
TEAM CARRIER	NO	176	40,490	1
TEAM HADA	SG	186	45,831	3
TEEKAY SPIRIT	BS	234	100,336	3
TELAGA AYU	BS	175	37,615	1
THOMPSON PASS	AM	276	173,619	7
TOKYO SPIRIT	BS	172	38,384	1
TOMIS WEST	BS	190	39,768	1
TONSINA	AM	265	124,751	6
TORINITA	NO	244	108,683	1
TORM GÜNHILD	DA	183	50,600	1
TOYOKAZE	PA	161	19,917	1
TURMOIL	SG	186	39,872	1
VARDEN	NO	243	68,000	5
VENTURE	SG	229	76,000	1
WHITE SEA	BR	210	57,372	2
WILLIAM E.MUSSMAN	LI	232	81,273	3
ZOJA I	CY	179	28,296	1
			Total	1,094

VESSEL ACCIDENTS AND NEAR MISSES

Compiled by USCG VTS San Francisco

The attached is a list of vessel accidents and near misses reported to, or observed by, Coast Guard Vessel Traffic Service San Francisco during calendar year 1992. The list is not necessarily complete since it does not contain unreported incidents which occurred beyond VTS's surveillance area.

The term "collision" refers to moving vessels which collide. The term "ramming" refers to a moving vessel that collides with a stationary vessel (e.g., moored or anchored) or structure (e.g., pier or bridge).

ACCIDENTS AND NEAR MISSES DURING CALENDER YEAR 1992

SINKINGS:

Merchant Ships:	0
Other	0

GROUNDINGS:

Merchant Ships	4
Other	0

COLLISIONS:

Merchant Ships	1
Other	0

RAMMINGS:

Merchant Ships	1
Other	2 (tug rams navigational aids)

NEAR MISSES:

Between Merchant Ships and/or tugs	0
Between Merchant Ships and/or other vessels	1

SUMMARY OF INCIDENTS INDICATED ABOVE

GROUNDINGS:

2/20/92 - The M/V Alligator America ran aground on the northern side of the Oakland Bar Channel while outbound for sea from Oakland. The Oakland Bar Channel was closed to all traffic by the Captain of the Port for approximately 4 hours. The Vessel was placed on COTP hold until it could be inspected for damage. Inspectors did not locate any damage. The vessel was released and continued to sea.

6/7/92 - The Bulk Carrier Pacific Success, inbound for Pittsburgh from sea, ran aground near Light 28 off Mallard Island in Suisun Bay. The vessel was freed within one hour with no damage reported.

10/20/92 - The bulk Carrier Oriente Hope, outbound for Sea from Sacramento, ran aground in the Sacramento Deep Water Ship Channel near light 71. Vessel was freed within one hour with the help of a tug. The Grounding was probably due to a gyro casualty (vessel continued downbound using magnetic compass). The vessel anchored at New York Point until the problem could be fixed. There was no damage reported to the vessel.

GROUNDINGS (CONT):

12/13/92 - The Tanker Crystal River ran aground approximately ¼ mile north of the Southern Pacific Railroad Bridge in Suisun Bay. The vessel was downbound for sea from Wickland at the time of the grounding. No pollution or damage to the vessel was reported. The vessel was freed approximately 3½ hours later and proceeded to Anchorage 9 where it was inspected by the Coast Guard.

COLLISIONS:

7/21/92 - The Container Ship Choyang Park collided with the Sailing Vessel Piscean in Oakland Inner Harbor off American President Lines dock. The Sailing Vessel had attempted to cross the bow of the Container Ship and apparently had lost power. The persons on board the sailing vessel, seeing how close the container ship was, jumped into the water (except one elderly person) and were immediately picked up by a tug. The Sailboat broke its mast when it slid down the side of the container ship. The person who had remained aboard the sailing vessel was not injured. There was major damage reported to the sailing vessel. No damage reported to the container ship. No major injuries reported.

RAMMINGS:

1/19/92 - The Tanker Atigun Pass reported hitting the Blossom Rock Buoy while upbound for the Richmond Long Wharf from Sea. No damage reported to the vessel. The buoy was damaged.

6/4/92 - The tug American Champion towing a loaded oil barge reported it had fouled its barge with North Channel lighted horn buoy 4. Damage to the buoy was minimal. No reported injuries or damage aboard the tug or barge.

7/23/92 - The Tug American Champion towing a loaded oil barge reported its barge had struck Pinole Shoal Channel Marker 14. The ramming destroyed the aid to navigation. No reported injuries or damage aboard the tug. The tug was placed on Captain of the Port Hold in Anchorage 5 until an underwater inspection of the barge was completed.

NEAR MISSES:

5/29/92 - The USS Arkansas reported they had to back down on their engines hard in order to avoid hitting a sailboat off Pier 35 San Francisco. The Arkansas reported the Sailing Vessel "Sisu II" had passed close-aboard under his stem. There was no report of damage or injury to either vessel. The sailboat was later boarded by CG Group San Francisco.

Appendix D

U.S. Department
of Transportation.
United States
Coast Guard



Commanding Officer
U.S. Coast Guard
Vessel Traffic Service

Yerba Buena Island
San Francisco, CA
94130-5078
(415) 556-2950

3171

22 March 1993

From: Commanding Officer, Vessel Traffic Service San Francisco
To: Distribution

Subj: PROPOSED VTS REGULATION FOR SAN FRANCISCO BAY

1. At the end of our 9 March 1993 meeting where we discussed proposed VTS regulations for San Francisco Bay, I agreed to provide everyone in attendance with a revised copy of the regulations that incorporated the group's recommendations.

2. You'll find the revised copy of the proposed regulations in pages 6 thru 8 of Enclosure (1). Pages 1 thru 5 of the Enclosure provide background information for establishing a Regulated Navigation Area to make these regulations effective.

3. Below are additional changes to the regulations that are different from what we had discussed:

[Note: the paragraph numbers below refer to the paragraphs on the draft regulations dated 3/9/93 passed out at the meeting.]

- a. Paragraph (3)--prohibiting vessels from anchoring in the RNA--has been deleted since the prohibition against anchoring in an area other than an anchorage is already established under 33 CFR 110.224.
- b. Paragraph (4)(x)--the requirement for a vessel to operate with engines ready for immediate maneuver--has been deleted since Inland Rule 6 amply addresses the requirement for a vessel to operate at a safe speed, taking into account the maneuverability of the vessel with special reference to stopping distance and turning ability in the prevailing conditions.
- c. Paragraph (4) has been modified to include tug with a tow of 1600 or more gross tons, but has not been modified to include the phrase "so far as practicable." Deviations

OPERATIONS DEPT	
MAR 24 1993	
TRAD	<input checked="" type="checkbox"/>
ADM	<input type="checkbox"/>
DIF	<input type="checkbox"/>
AWB	<input type="checkbox"/>
MIS	<input type="checkbox"/>

U.S. Coast Guard
San Francisco District
3171
22 March 1993

Commanding Officer
U.S. Coast Guard
San Francisco District
3171
22 March 1993

3171
22 March 1993

Subj: PROPOSED VTS REGULATION FOR SAN FRANCISCO BAY

are addressed in paragraph (b) (Deviations) of the revised proposed regulations dated 3/15/93.

T. P. Dolan
T. P. DOLAN

Encl: (1) Proposed Regulated Navigation Area for San San Francisco Bay Region (Draft 3/15/93)

Distribution:

- Captain Morris Croce, Chairman, HSC VTS Subcommittee
- Captain Pat Buttner, President, San Francisco Bar Pilots
- Captain Carl Bowler, San Francisco Bar Pilots
- Captain Jim Shanower, San Francisco Bar Pilots
- LTJG Walt Grudniski, Eleventh Coast Guard District (oan)
- QMC Attaway, Marine Safety Office, San Francisco Bay

These regulations were passed at the meeting held on 3/15/93.

Paragraph 1(b) - providing vessel tonnage in the regulated area.

Paragraph 1(c) - the requirement for a vessel to obtain a VTS report for a vessel in the regulated area.

Paragraph 1(d) - the requirement for a vessel to obtain a VTS report for a vessel in the regulated area.



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**SAN FRANCISCO BAY REGION
REGULATED NAVIGATION AREA**

SUMMARY: The Coast Guard proposes to establish a regulated navigation area (RNA) within the San Francisco Bay Region in the waters of the Golden Gate, Central Bay, Lower Bay, and San Pablo Bay. This action is necessary due to vessel congestion in areas where maneuvering room is limited. This RNA will increase navigation safety in the San Francisco Bay Region by organizing traffic flow patterns and by reducing meeting, crossing, and overtaking situations between large vessels in constricted channels.

Background and Purpose

Vessel Traffic Service San Francisco (VTSSF) is responsible for vessel traffic management in the San Francisco Bay Region. VTSSF has established standard operating procedures which are voluntarily followed by vessels that participate in the system. This proposed regulation is a codification of many of the procedures that are applicable to larger vessels in the San Francisco Bay Region. In addition, parts of this regulation will apply to all vessels so as to increase navigation safety. This regulation will ensure that vessels have a clear understanding of traffic flow patterns and operating procedures within the San Francisco Bay Region and comply with them.

This RNA is designed to follow international routing system standards - International Maritime Organization General Provisions of Ships' Routing - as closely as possible. The public will be informed of chart changes by Local Notices to Mariners when this regulation becomes effective.

Discussion of Proposed Regulations

At this time, there are thirteen identified areas in the San Francisco Bay Region of frequent vessel congestion. The Harbor Safety Committee has recommended that regulations be established in these areas to increase navigation safety between power-driven vessels of 1600 or more gross tons. In addition, there are increasing numbers of meetings between large ships and vessels less than 20 meters in length, sailing vessels, and fishing vessels which this proposed regulation will address. There are three types of routing measures that this regulation establishes: restricted channels, traffic lanes, and precautionary areas.

Vessel Traffic Service San Francisco

VTSSF plays a vital role in navigation safety within the San Francisco Bay Region by providing information and advisories concerning vessel traffic movements in the areas subject to this regulation. All vessels in the San Francisco Bay Region are advised - and will be required by a future rulemaking - to monitor the designated VTS frequency to obtain information on any

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hazardous or unusual conditions, traffic density, or other special circumstances.

In the event that vessels do not appear to be following the requirements of this regulation, VTSSF may intervene to facilitate passing arrangements or otherwise ensure navigation safety. There may be situations where vessels will be unable to safely comply with the requirements of this regulation. In such cases, the Coast Guard may allow a vessel to deviate from this regulation. Notwithstanding this, at all times the safety of the vessel will be the responsibility of the master, and, nor does this intend to alter the applicable Inland Navigation Rules (33 U.S.C. 2001-2038, 2071-2073).

Restricted Channels

There are eight channels and one deep water route where the size of the channel is so limited for large vessels that they must be prevented from meeting, crossing, or overtaking one another. In some channels, these restrictions apply when both vessels are 1600 or more gross tons and either vessel intending to use such channels, is carrying a particular type of cargo, or is a certain type of vessel (e.g., tank vessel). In other channels, these restrictions apply to all vessels of 1600 or more gross tons. It is expected that vessels will make arrangements by VHF radiotelephone with one another in conjunction with VTSSF in order to comply with the requirements of this regulation.

The Oakland Harbor Area is comprised of channels in the vicinity of Oakland Outer Harbor, Oakland Middle Harbor, and Oakland Inner Harbor. Presently, a Limited Traffic Area (LTA) is charted in this area within which vessels of 300 or more gross tons are recommended not to cross or meet. The LTA was established in 1972 as part of an informal vessel traffic routing system associated with VTSSF, but has never been formally established by regulation. The Coast Guard has determined that there is a continuing need to manage traffic in the channels leading to and from Oakland Harbor, but only for vessels of 1600 or more gross tons. The geographic limits of the proposed Oakland Harbor Area differ slightly from the LTA to better facilitate traffic flow.

Richmond Harbor Area channels and Southampton Shoal Channel are maintained channels within which maneuvering room is severely limited. Close-quarter situations between large vessels in these channels need to be eliminated to prevent groundings and collisions. In addition, the Southampton Shoal Channel has a high number of laden tank vessels and vessels carrying certain dangerous cargo (as defined in 33 CFR 160.203) or bulk petroleum. A collision involving one of these vessels could have disastrous consequences, and so the Coast Guard has determined that the restriction of traffic flow is necessary. The Chevron Oil Long Wharf Area, between the Richmond Harbor Area channels and Southampton Shoal Channel, although fairly wide, often has

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vessels operating at low speeds where maneuverability is reduced. Therefore, it is necessary to limit vessel traffic when navigating within this area.

Pinole Shoal Channel in San Pablo Bay is a constricted waterway in which the risk of collisions or groundings is particularly high. This channel is already restricted to vessels with a draft of 20 feet or more under 33 CFR 162.205(a). Further meeting, crossing, and overtaking restrictions are necessary to reduce the likelihood of a collision when laden tank vessels, or vessels carrying certain dangerous cargo (as defined in 33 CFR 160.203) or bulk petroleum products are present.

The North Ship Channel and the San Pablo Strait Channel are two areas where it is necessary to facilitate the safe navigation of large vessels that are constricted by the depth of the surrounding water. These proposed channels are located where previously established voluntary traffic lanes existed. The depth of water varies so irregularly within the channels that vessels are not able to adhere to the existing traffic lane routing scheme.

Benicia-Martinez Bridge Area consists of relatively narrow channel where there is a high risk of vessel collisions with the Benicia-Martinez and Southern Pacific Railroad Bridges. Should either VTSSF or persons aboard the vessel make a determination that visibility is less than 1000 yards, the provisions of this regulation will apply. During this period of restricted visibility, no vessel of 1600 or more gross tons may transit under the bridges because the risk of a casualty is unacceptably high.

The Central Bay Deep Water Route (DWR) north of Harding Rock is the safest route for inbound vessels with a draft of 45 feet (usually proceeding to Anchorage 9 in the Lower Bay area) or greater and outbound vessels with a draft of 28 feet or greater, due to the presence of shoals and rocks in the Central Bay Traffic Lanes. Deep-draft vessels are required to use the DWR. All other vessels should use the Central Bay Traffic Lanes so that vessel traffic in the deep water route (DWR) is kept to a minimum. The DWR is sufficiently narrow such that no meeting, crossing, and overtaking restrictions are necessary to reduce the likelihood of a collision when laden tank vessels, or vessels carrying certain dangerous cargo (as defined in 33 CFR 160.203) or bulk petroleum products are present. Inbound deep-draft vessels are cautioned to use extreme care to avoid collisions with outbound vessels in the Golden Gate Precautionary Area.

Traffic Lanes

There are two areas where traffic lanes are necessary to manage vessel traffic. These traffic lanes are analogous to those in a traffic separation scheme, however established traffic flow in these lanes will be directed to vessels of 1600 or more

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gross tons and recommended for all other vessels. These proposed lanes are located where previously established voluntary traffic lanes existed. The original traffic lanes, established in 1972, were used to indicate on charts the recommended directions of traffic flow in the San Francisco Bay Region. Under this existing routing scheme, there are contrary vessel traffic movements within traffic lanes on a regular basis. Under this proposal there still may be situations where vessels are allowed to proceed contrary to the established direction of traffic flow, however, they will be dealt with on a case-by-case basis and only with notification to other vessels (as a broadcast on the designated VTS radiotelephone frequency).

Vessels must be particularly aware that COLREGS Rule 10 applies to all vessels in or near the International Maritime Organization (IMO) adopted "Off San Francisco" traffic separation scheme (TSS) lying seaward of the COLREGS demarcation line for San Francisco Bay (33 CFR 80.1250). Vessels navigating in the Golden Gate Traffic Lanes connecting the IMO-adopted TSS to the Golden Gate Precautionary Area must comply with this proposed regulation rather than COLREGS Rule 10. Since these areas are depicted similarly on charts, vessels must pay close attention to their position so that they may properly comply with COLREGS Rule 10 or this proposed regulation. The Coast Guard recognizes that promulgating a traffic separation scheme in these five areas, with the associated implementation of Inland Navigation Rule 10, would be unnecessarily restrictive on fishing vessels and vessels less than twenty meters in length. In those areas where established one-way traffic flow is not possible, precautionary areas are proposed rather than traffic lanes.

Precautionary Areas

There are two proposed precautionary areas where vessels are converging or crossing in such a manner that one-way traffic flow patterns, although desired, cannot be established. Notwithstanding, all vessels navigating within precautionary areas must exercise particular caution.

The Golden Gate Precautionary Area will be established in the waters around the Golden Gate Bridge connecting the Golden Gate Traffic Lanes, Central Bay Traffic Lanes, and Central Bay Deep Water Route. This proposed precautionary area overlays what used to be voluntary traffic lanes. With the addition of the Central Bay Deep Water Route, there will be crossing traffic in this area. Inbound deep-draft vessels intending to use the deep water route and outbound vessels will have to use particular care to avoid collisions in this area.

The Central Bay Precautionary Area will be established to cover a large portion of the Central Bay and part of the Lower Bay. Since there are so many possible directions that vessels could be navigating within this area, a precautionary area is the only means of reducing collisions. All vessels navigating in

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this area should be aware of the joining traffic lanes and deep water route, so as to better anticipate movements of other vessels.

Inland Rule 9 Applicability

The Port and Waterways Safety Act, as amended, authorizes the Coast Guard to establish routing systems and fairways in ports and places subject to the jurisdiction of the United States. This regulation will require all vessels to comply with Rule 9 of the Inland Navigation Rules Act of 1980 (Pub. L. No. 96-591, 94 Stat. 3415, 33 U.S.C. 2001-2038, 2071-2073) while navigating in any area subject to the regulation.

One requirement of Inland Navigation Rule 9 is the duty not to impede a vessel navigating in a narrow channel or fairway. This duty not to impede applies in both clear and restricted visibility, and according to Inland Rule 8(f), requires certain vessels to take early action to allow sufficient searoom for the passage of the other vessel. Another important aspect of Inland Navigation Rule 9 is the requirement "to keep as near to the outer limit of the channel or fairway which lies on her starboard side as is safe and practicable." This means that vessels in any of the areas subject to this regulation, and significantly in precautionary areas, shall stay to the starboard side.

Anchoring will not normally be permitted in any areas described in this regulation. Anchorage areas have been established in adjacent waters under 33 CFR 110.224. Should a vessel need to anchor in one of the areas covered by this proposed regulation, it shall do so only with VTSSF approval.

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Regulatory EvaluationList of Subjects in 33 CFR Part 165

Harbors, Marine Safety, Navigation (water), Vessels, Waterways.

For the reasons set out in the preamble, the Coast Guard proposes to amend 33 CFR Part 165 as follows:

PART 165 -- REGULATED NAVIGATION AREAS AND LIMITED ACCESS AREAS

1. The authority citation for part 165 continues to read as follows:

Authority: 33 U.S.C. 1231; 50 U.S.C 191; 33 CFR 1.05-1(g), 6.04-1, 6.04-6, and 160.5; 49 CFR 1.46.

2. Section 165.1116 is added to read as follows:

§ 165.1116 San Francisco Bay Region, California -- regulated navigation area.

(a) Applicability. This regulation applies to all vessels unless otherwise specified.

(b) Deviations. The U.S. Coast Guard may authorize a deviation from the requirements of this regulation when it is deemed necessary in the interests of safety.

(c) Regulated Navigation Areas.

(1) Restricted Channels. [as defined in annex L to SF Harbor Safety Plan dated 13 August 1992]

- (i) Oakland Harbor Area.
- (ii) Richmond Harbor Area.
- (iii) Chevron Oil Long Wharf Area.
- (iv) Southampton Shoal Channel.
- (v) Pinole Shoal Channel.
- (vi) North Ship Channel. [existing channel less separation line]
- (vii) San Pablo Strait Channel. [existing channel less separation line]
- (viii) Benicia-Martinez Bridge Area. The channel under the Benicia-Martinez and SPRR Bridges.
- (ix) Central Bay Deep Water Route.

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(2) Traffic Lanes. [see attached diagram]

(i) Golden Gate Traffic Lanes.

(ii) Central Bay Traffic Lanes.

(3) Precautionary Areas. [see attached diagram]

(i) Golden Gate Bridge Precautionary Area.

(ii) Central Bay Precautionary Area.

(d) Regulations.

(1) This regulated navigation area is considered a fairway, as such a vessel shall comply with Rule 9 of the Inland Navigation Rules (33 U.S.C. 2009).

(2) A vessel shall navigate with particular caution in a precautionary area, or in areas near the terminations of traffic lanes or restricted channels, as described in this regulated navigation area.

(3) A power-driven vessel of 1600 or more gross tons or a tug with a tow of 1600 or more gross tons shall:

(1) not enter the following areas when another power-driven vessel of 1600 or more gross tons or tug with a tow of 1600 or more gross tons is navigating therein, if such entry would result in meeting, crossing, or overtaking the other vessel:

- (A) Oakland Harbor Area;
- (B) Richmond Harbor Area;
- (C) Chevron Oil Long Wharf Area;
- (D) Southampton Shoal Channel;

(E) Pinole Shoal Channel and Central Bay Deep Water Route when either vessel is carrying certain dangerous cargoes (as denoted in section 160.203 of this chapter) or bulk petroleum products, or is a tank vessel in ballast.

DRAFT 3/15/93

(ii) not transit the Benicia-Martinez Bridge Area in restricted visibility (less than 1000 yards);

(iii) use the Central Bay Deep Water Route if westbound with a draft of 28 feet or greater or eastbound with a draft of 45 feet or greater;

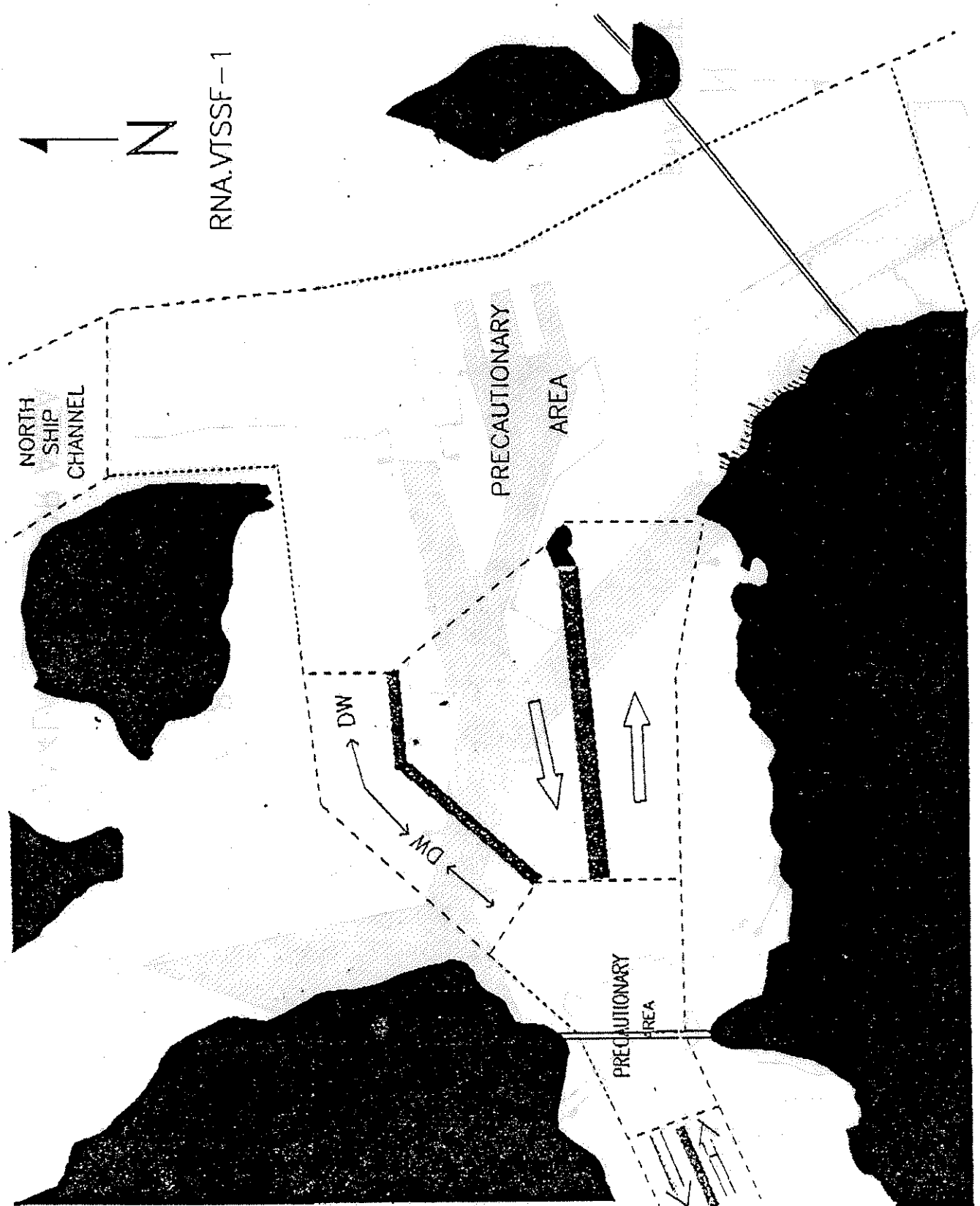
(iv) proceed in the appropriate traffic lane in the general direction of traffic flow for that lane;

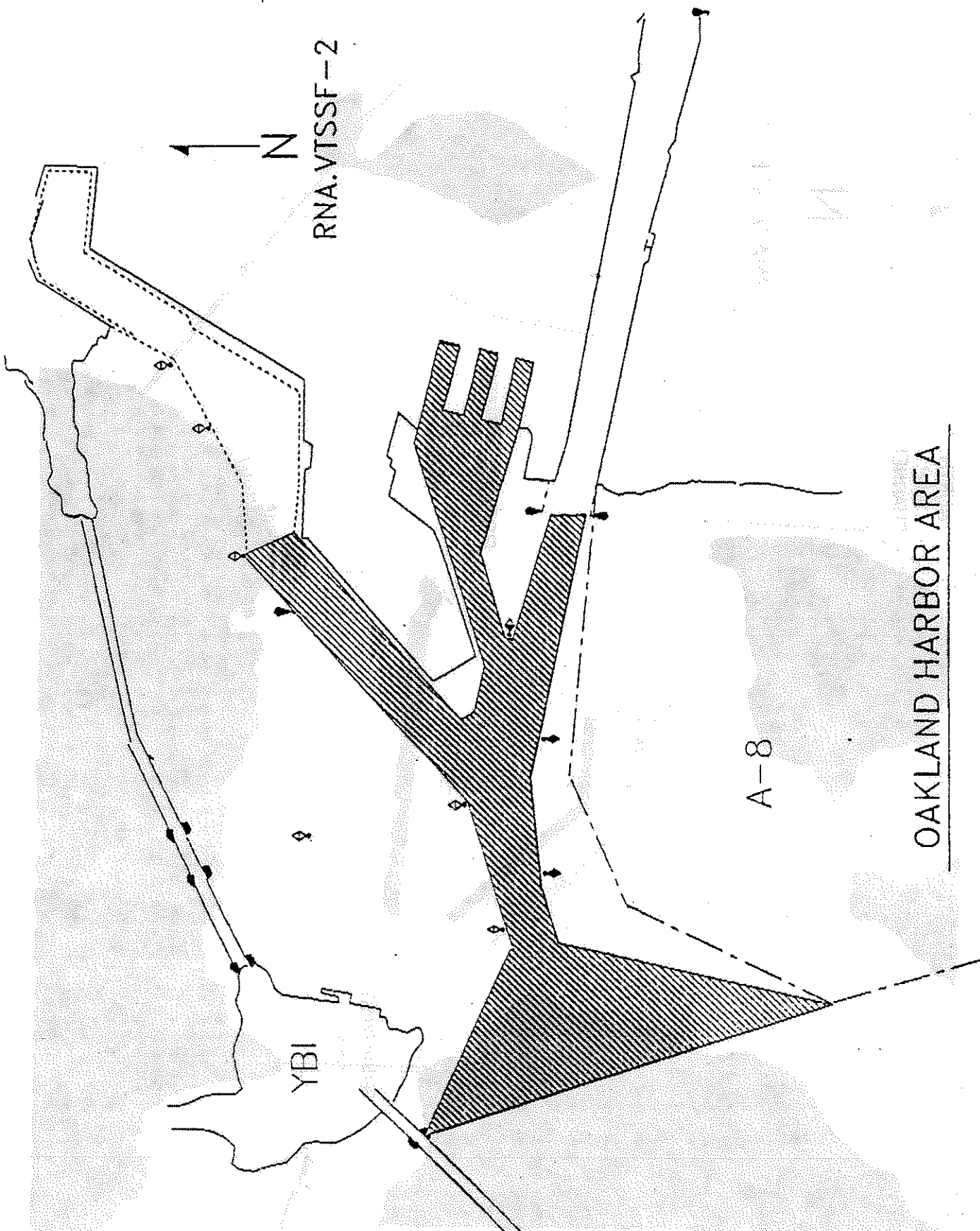
(v) normally join or leave a traffic lane at the termination of the lane, but when joining or leaving from either side, shall do so at as small an angle to the general direction of traffic flow as practicable;

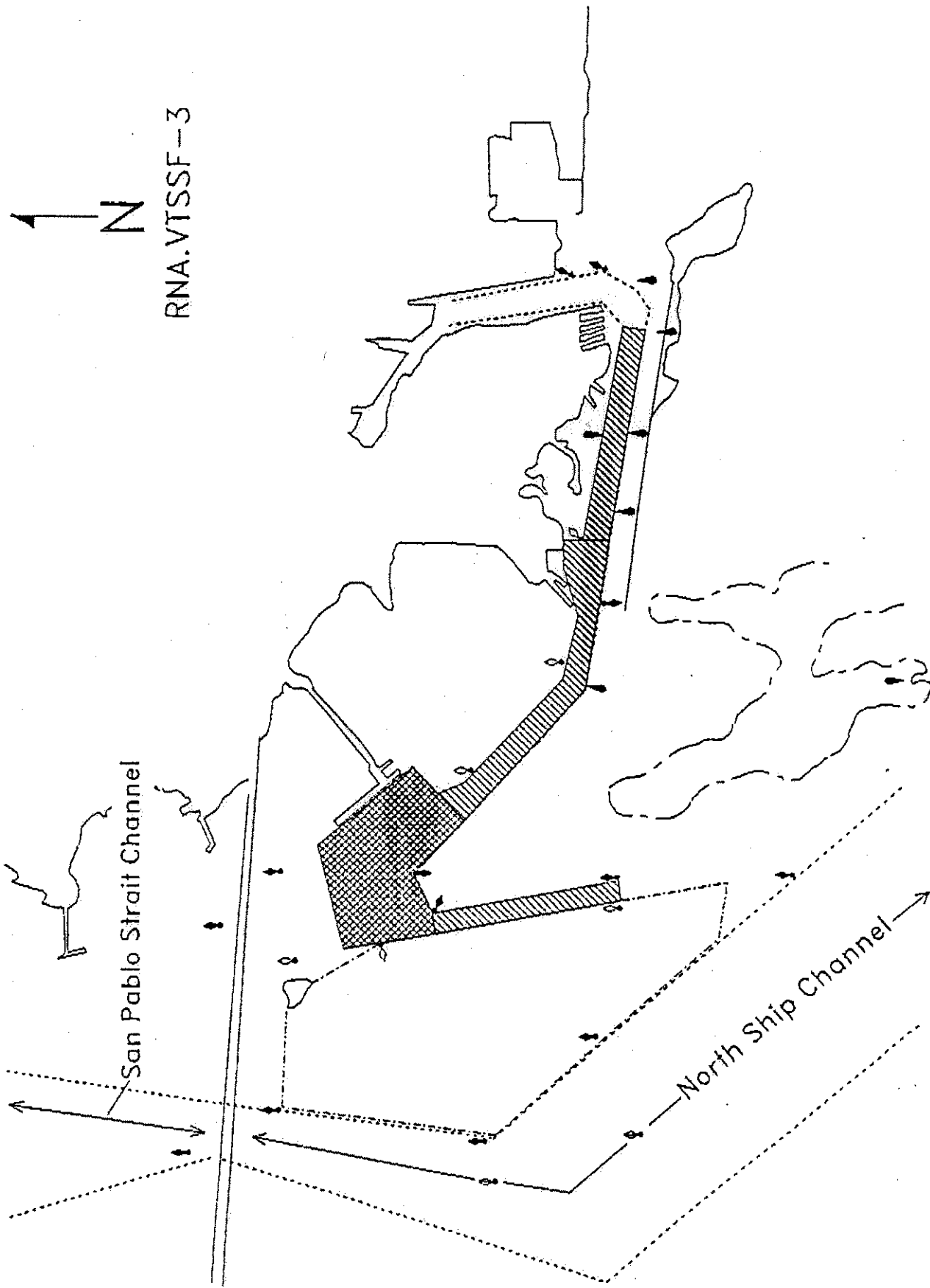
(vi) avoid crossing traffic lanes, but if obliged to do so, shall cross on a heading as nearly as practicable at right angles to the general direction of traffic flow;

(vii) so far as practicable keep clear of a traffic separation line;

(viii) not cross a separation line unless crossing, joining, or leaving a traffic lane.







SOUTHAMPTON SHOAL/CHEVRON LONG WHARF/RICHMOND HBR AREA

RNA.VTSSF-3

**HARBOR SAFETY COMMITTEE
OF THE
SAN FRANCISCO BAY REGION
Tug Escort Sub-Committee
Proposed Permanent Guidelines**

Chronology of deliberations and input for Public Record

March 1992

- 26 Tug Escort Subcommittee (TES) public meeting to develop process and procedure for selection of naval architect to develop scientific formula linking bollard pull and deadweight tonnage.

May 1992

- 08 TES public meeting to review proposals from naval architect firms (5). Two firms were determined to meet the qualifications. No decision reached on which would be hired.
- 29 TES public meeting to decide on naval arch. firm. Decision was for R. Allen of Seattle. Review of regs. for Zone 1.

July 1992

- 06 TES receives Allen Report.
- 10 Plan revision- Tug Escort review
Fine tuning of Interim Tug Escort Regs
- 11 Tug Escort formula work
Evaluation of stability formula from CFR in relation to Escorts. Note: using input from MSC fleet tug produces a GM of 53' which seems excessive.
- 15 Tug Escort review
- 29 Local accident/Tug Escort analysis
Included as Appendix P in HSP.

August 1992

- 06 Consideration of Tug Escort philosophy and how to start work on permanent guidelines. More experience in the field is needed and caution in make in rash regulation is needed.
- 10 Tug Escort review of comments received
- 13 Guidelines for the development of permanent rules sent to TES.
Consideration of comments received concerning the Interim Guidelines.
- 28-30 TES provides input to consultant P. Moloney (PM).
- 31 TES contact with USCG re. input and discussion between subcomm. members about direction to take with perm. guidelines.

September 1992

- 03 Tug Escort Subcommittee meeting and discussions.
- 24 Tug Escort Subcommittee meeting and discussions
- 25 Tug Escort Guidelines outline draft preparation (PM)
- 26 Tug Escort material review

- 27 Tug Escort material review
- 28 Tug Escort USCG NPRM review/States-BC requirements, Allen report review
- 29 Tug Escort Permanent Guidelines drafting (PM). Draft memo to Tug Escort Advisory Committee-R. Peters (RP)
- 30 Tug Escort Permanent Guidelines drafting (PM)

October 1992

- 01 Tug Escort Permanent Guidelines drafting (PM)
- 02 Tug Escort Plan Revision/ Fax to Subcomm. and respond to comments received.
- 05 Tug Escort Plan revision (PM)
- 06 Tug Escort Tech. Advisory Mtg @ SFBP (TES)
- 06 Tug Escort Subcomm Mtg
- 07-11 Tug Escort Plan revision (PM)
- 08 Check on shipboard bitt pull-test requirements (PM)
- 11 Tug Escort Plan objectives, develop for including in revision. (PM)
- 13 Tug Escort Plan revision/faxing (PM)
- 13 Tug Escort Subcomm Mtg (TES)
- 14 Tug Escort Plan revision presented to TES
- 15 Tech. advisory group input to plan
- 21 Tug Escort Subcomm Mtg, PM present latest draft to TES
- 22 Tug Escort Guideline Revision
- 26 Tug Escort Subcomm mtg, PM present updated revisions and respond to comments.
- 27 Tug Escort Draft 2 provided to TES

November 1992

- 05 Tug Escort Workshop (TES)
- 05 Tug Escort Material review (PM)
- 06 Tug Escort Material review/Marine Exch. for info. (PM)
- 07-09 Tug Escort Workshop input review (PM)
- 10 Tug Escort Workshop input. Take the total input from workshop and develop bullets that address each concern. These should then be grouped into areas of concern and addressed individually. (TES)
- 12 Update R. Peters, pickup info fm J. Lundstrom (PM)
- 13 Tug Escort revision, bullet prep, review comments from M. Croce. (TES)
- 14 Tug Escort Workshop bullet prep (PM)
- 16 Fax bullets to subcomm members, subcomm mtg. (TES)
- 17 Tug Escort bullet review (PM)
- 19 Bullet annotation/develop standards (PM)
- 23 Bullet annotation (PM)

December 1992

- 07 Review all workshop comments for revision of plan. Revise proposed Tug Escort Plan/fax to J. Faber.
- 22 Tug Escort research w/ Am. Nav.

January 93

- 11 Tug Escort Final Draft prep. (PM). Conference call (TES).

**HARBOR SAFETY COMMITTEE
LIST OF SEPARATELY BOUND REPORTS**

<u>Item</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
	Marine Emergency Management Study, partial	Santa Barbara County, Energy Division	5/92
	The Exxon Valdez Oil Spill: A Management Analysis, partial	CMC	9/89
	No Safe Harbor, Tanker Safety in America's Ports, partial	NRDC	???
	Analysis of the Puerto Rican Tanker Incident, Recommendations for Future Oil Spill Response Capability, partial	TCES MJ Herz D Kopec	10/31/85
	Personnel Qualification Standard, YO/YTB Yardcraft, Propelled	USN	8/89
	North Puget Sound Tanker Escort & Tug Assistance Study	Glosten	9/91
	Foss Escort/Assist Spill Response Tractor Tug Characteristics	Foss	1/90
	Rational Selection of Tug Type and Power	Foss Glosten	1988
	Analysis of Tanker Escort Services for San Francisco Bay and Addendum No. 1	R Allan	7/93
	Tables of Bollard Pull Requirements based on R Allan's Report	Marine Exchange	7/92
	Escort Vessels for Certain Oil Tankers-Notice of Proposed Rulemaking & Escort and Response Vessels (ERV)	USCG LOOP	6/1/92 1992
	Operations Plan for Tanker Assist & Escort, Valdez and Prince William Sound	Crowley	1992?
	Inspection Report Tugs/Barges	Texaco	11/25/92
	Escort Tugs, Design, Construction and Handling-The Way Ahead	Various Rina and Ni Conference	2/5/93
	Z-Drive Technology	Aquamaster Rauma	6/22/93
	Port Safety Guidelines for the Movement of Vessels on San Francisco Bay and Tributaries, revised	SFBP	4/8/87

- 12 Tug bollard pull witness (PM)
- 15 Draft 3 Rev. Tug Escort (PM)
- 19 Prep. draft 4 Tug Escort Plan and distribute to TES members.
- 21 OSPR Workshop/Tug Escort matters
- 22 Draft 4 discussion (T.E. Subcomm.)
- 26 Tug Escort discussion w/ USCG (PM)

Report of Exploratory Tanker-Tug Maneuvering Tests of Tanker Dept. of
Arco Anchorage and Tug Sea Swift -- Final Report

12/78

(hsclist1.rlp)

**Habor Safety Committee
Tug Escort Subcommittee
Permanent Guidelines Document Control List**

<u>Item</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
AA	Report - Military Standard Tug Requirements for Handling U.S. Navy Ships, re: technical standards used to contract commercial tugs	Dept. of Defense	3/3/92
AB	Report - Matching Tugs to Tank Vessels, re: creating vessel categories by size	M. Goebel	3/4/92
AC	Report - Marine Hawser Towing Guide, re: power considerations, towing hawsers	R. Cady	1979
AD	Letter to Sanders Towboat Service, re: comments on tug escort considerations	J. Wilson	3/9/92
AE	ROC w/ Tom Winslon, re: science-based tug escort study project	R. Peters	3/9/92
AF	ROC w/ Tim Healey, re: 1980 rulemaking	R. Peters	3/10/92
AG	Federal Rulemaking on Tug Escort, etc, re: Withdrawal of the proposed rules and list of reference materials	Fed. Register & T. Healey	4/26/82
AG1	HSC 3/12/92 agenda and minutes	HSC	3/12/92
AH	Presentation of the Revised Interim Report on Guidelines for Tug Escorting to the SF Bay Harbor Safety Committee	R. Peters	3/12/92
AI	Central Coast OCS Regional Studies Program letter to Art Thomas, re: Comments for the interim guidelines	W. Chabot	3/17/92
AJ	Letter from Pacific Merchant Shipping Association, re: Comments for the interim guidelines	L. Brien	3/19/92
AK	TES 3/26/92 meeting agenda, with comments	R. Peters	3/26/92
AL	Letter of self-introduction of Glosten Associates, Inc.	B. Hutchison	3/26/92
AM	HSC draft letter of Request for Proposals for a science-based formula for matching tugs to tankers	J. Faber	3/27/92

Note: ROC=Record of Conversation

AN	Bay & Delta letter, re: Study for Texaco by John McMullen involving matching bollard pull to dead weight tons	D. Luce	3/30/92
AO	HSC letter of invitation and mailing list for bollard pull formula study	R. Peters	4/3/92
AP	HSC 4/9/92 meeting agenda and minutes	HSC	4/9/92
AQ	Proposal to perform bollard pull formula study	Glosten Assoc	4/16/92
AR	Proposal to perform bollard pull formula study	Giannotti Engineering	4/27/92
AS	Proposal to perform bollard pull formula study	R. Allan	4/28/92
AT	Proposal to perform bollard pull formula study	M. Kossa	4/28/92
AU	Proposal to perform bollard pull formula study	Walther Engineering	5/4/92
AV	Notes, Tug Escort Subcommittee 5/8/92 meeting	R. Peters	5/8/92
AW	HSC 5/14/92 meeting agenda with minutes	HSC	5/14/92
AX	Washington Tug Escort Law - Pilotage Act		1988
AY	TES 5/29/92 meeting agenda with minutes	R. Peters	5/29/92
AZ	Letter "Marine Tankers: Considering the Alternatives"	WSPA	6/92
AZ1	TES letter to HSC selecting Robert Allan	R. Peters	6/4/92
BA	HSC letter to notify Robert Allan selecting him as consultant for the tug escort regulated vessels project	T. Hunter	6/92
BB	Robert Allan letter to HSC, re: Suggested schedule for the project	R. Allan	6/9/92
BC	Announcement of completion of the work of the States/British Columbia Oil Spill Task Force and selected sections regarding mandatory tug escorts	Members	10/16/90
BD	HSC 6/18/92 meeting agenda and minutes	HSC	6/18/92
BE	Barge and Towing Industry Assoc. letter of recommendations to the USCG for the proposed rulemaking of the Tug Escort	T. Allegretti	5/12/92

Note: ROC=Record of Conversation

<u>Item</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
BF	USCG Formula for calculating stability	USCG	10/1/91
BG	Proposed Rulemaking for Escort Vessels for Certain Oil Tankers	USCG	7/7/92
BG1	TES 7/7/92 meeting agenda and minutes	R. Peters	7/7/92
BH	HSC letter to Pete Bontadelli, re: Request withdrawal from current consideration of the Guidelines for Tug Escorting dated 3/12/92	A. Thomas	7/7/92
BI	Center of Marine Conservation comments on Robert Allan's Report	B. Heneman	7/10/92
BJ	Exxon Table of Vessel to Escort Tugs Power Relationship	M. Goebel	7/10/92
BK	ROC with Robert Allan, re: stability, speed, thrust, fendering, lines and communications	R. Peters	7/14/92
BL	Sanders Towboat comments on Robert Allan's report	G. Skarich	7/14/92
BM	American Navigation comments on Robert Allan's report	M. Merritt	7/14/92
BN	Bay and Delta comments on Robert Allan's report	R.L. Frost	7/15/92
BO	Foss Maritime comments on Robert Allan's report	D. Hogue	7/15/92
BP	HSC 7/16/92 meeting agenda and minutes	HSC	7/16/92
BQ	TES's report at HSC 7/16/92 meeting	R. Peters	7/16/92
BR	Central Coast OCS Regional Studies comments regarding Zone 1 and Robert Allan's report	W. Chabot	7/13/92
BS	Foss Maritime additional comments on Robert Allan's report	D. Hogue	7/20/92
BT	TES 7/23/92 meeting notes	R. Peters	7/23/92
BU	HSC letter to Pete Bontadelli, re: Amending the 3/19/92 Interim Tug Escort Guidelines	A. Thomas	7/24/92
BV	Notes, meeting with M. McDonald, USCG on 7/31/92	R. Peters	7/31/92
BW	TES 8/3/92 meeting notes	R. Peters	8/3/92

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<u>Item</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
BX	Study of Disabled Tanker Towing in Prince William Sound	Oil Pollution Act of 1990 News Update	6/3/92
BX1	Memo to TES, re: thoughts on permanent guidelines process and content	J. Faber	8/6/92
BY	Natural Resources Defense Council letter to P. Bontadelli, re: Interim Guidelines	A. Notthoff	8/7/92
BZ	Save SF Bay Assoc. letter to P. Bontadelli, re: Tug Escorts	B. Nelson	8/12/92
CA	Article "Regional Citizen's Advisory Council to co-sponsor tanker towing study"	RCAC	1/92
CB	American Navigation fax to RLP, re: request for Federal comments announcement	M. Merritt	8/12/92
CC	Center for Marine Conservation comments for the OSPR Workshop on Interim Tug Escort Guidelines for the San Francisco Bay Region	B. Heneman A. Notthoff	8/12/92
CD	HSC 8/13/92 meeting agenda and minutes	HSC	8/13/92
CE	Tug Escort Subcommittee Report to the HSC - Outline for Developing Permanent Rules	R. Peters	8/13/92
CF	TES Comments to OSPR Public Workshop on guidelines for Tug Escorting for the San Francisco Bay Region	R. Peters	8/13/92
CG	Joint letter to P. Bontadelli, re: Emergency Regulations for Tug Escorts (Citizens for a Better Environment, Golden Gate Audubon Society, Bay Institute of San Francisco, The Marine Mammal Center, Coastal Resources Center, Audubon Canyon Ranch)	G. Karras A. Feinstein D. Behar P. Barrett E. Laychak S. Schwartz	8/12/92
CH	Inlandboatmen's Union letter to Pete Bontadelli, re: Tug Escort Interim Guidelines	M. Secchitano	8/19/92
CI	Oscar Niemeth Towing comments, re: establishing permanent guidelines	R. Niemeth	8/19/92
CJ	Inlandboatmen's Union and Masters' Mates & Pilots comments, re: establishing permanent guidelines	M. Secchitano D. Best	11/27/91

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Title

Author

Date

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Note: ROC=Record of Conversation

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<u>Item</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
CK	Center for Marine Conservation comments, re: establishing permanent guidelines	B. Heneman	8/21/92
CL	Sanders Towboat comments, re: establishing permanent guidelines	G. Skarich	8/20/92
CM	Westar comments, re: establishing permanent guidelines	M. McMillan	8/21/92
CN	Not used		
CN1	M. Brown's comments regarding tug escort	M. Brown	8/27/92
CN2	M. Brown's goal statement, re: TES request	M. Brown	8/92
CO	Outline of Study Items of TES Workshop on 9/3/92	R. Peters	8/29/92
CO1	J. Faber's outline for developing permanent rules	J. Faber	8/28/92
CP	Schedule, Comments Received, Goal Statement, Policy Issues and Study Items of TES Workshop scheduled for 9/3/92, with revisions 9/10/92	R. Peters	8/28/92
CP1	R. Peters' draft goal statement, re: Permanent Tug Escort Guidelines	R. Peters	8/30/92
CP2	National Boating Federation requested input for 9/3/92 HSC workshop	M. Brown	8/31/92
CP3	Memo to R. Peters & M. Brown, re: Interim Guidelines	J. Baber	8/31/92
CQ	Draft Minutes of 9/3/92 TES Workshop	F. Black	9/04/92
CR	Report "An Industry Response to the Proposed Rulemaking on Escort Vessels for Certain Oil Tankers"	International Chamber of Shipping, et al	9/08/92
CS	HSC 9/10/92 meeting agenda with minutes	HSC	9/10/92
CT	Draft Memo to Morris Croce, re: Technical Advisory Committee	R. Peters	9/29/92
CU	Draft Minutes of 9/24/92 TES Workshop	F. Black	9/29/92
CV	HSC 10/8/92 meeting agenda with minutes	HSC	10/08/92

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<u>Item</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
CV1	Draft "Tug Escort Proposed Permanent Guideline"	P. Molonwy	10/8/92
CW	Draft "Tug Escort Proposed Permanent Guidelines"	P. Moloney	10/13/92
CW1	Draft "Tug Escort Proposed Permanent Guidelines"	P. Moloney	10/14/92
CX	Center for Marine Conservation suggestions for specific language changes for permanent tug escort guidelines	B. Heneman	10/12/92
CY	Center for Marine Conservation additional suggestions for specific language for permanent guidelines	B. Heneman	10/19/92
CY1	Draft "Tug Escort Proposed Permanent Guidelines"	P. Moloney	10/21/92
CY2	Tug Escort Technical Advisory Committee Report	M. Croce	10/21/92
CZ	Tanker Incident, BP Chartered Vessel "Kenai"	B. Feidt	10/20/92
DA	Draft "Tug Escort Proposed Permanent Guidelines"	P. Moloney	10/22/92
DA1	Article "New Foss Tug Will Escort Tankers"	Marine Digest	10/92
DA2	Letter to HSC & OSPR, re: Permanent Guidelines	Tweed Towing Oscar Niemeth Seaway Towing	10/23/92
DB	Draft "Tug Escort Proposed Permanent Guidelines"	P. Moloney	10/27/92
DB1	Smooth copy of "Tug Escort Permanent Guidelines" Draft 2	P. Moloney	10/27/92
DB2	Article "World's largest tractor tug serves LOOP"	Marine Log	10/92
DC	ASTM Newsletter on Committee on tug escorts	ASTM	10/30/92
DC1	Sanders comments on the proposed permanent guidelines	Sanders Towboat	11/2/92
DC2	Bay and Delta Towing comments on the proposed permanent guidelines	R. Frost	11/2/92
DC3	Center for Marine Conservation comments on the proposed permanent guidelines	B. Heneman	11/3/92
DC4	Sailors' Union comments on the proposed permanent guidelines	G. Lundeberg	11/2/92

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<u>Item</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
DC5	Capt. R. Addicott comments on the proposed permanent guidelines	R. Addicott	11/3/92
DC6	Tosco Refining Company comments on the proposed permanent guidelines	G. Alterton	11/2/92
DC7	BCDC Oil Spill Program comments on the proposed permanent guidelines	J. Lundstrom	11/2/92
DC8	State Lands Commission comments on the proposed permanent guideline	G. Gregory	11/2/92
DC9	Inlandboatmen's Union comments on the proposed permanent guidelines	M. Secchitano	11/3/92
DC10	Arco Marine comments on the proposed permanent guidelines	J. Dabbar	11/3/92
DC11	Draft Minutes for TES Workshop		11/5/92
DD	Outline for TES Workshop on Draft Permanent Guidelines	R. Peters	11/5/92
DD1	Foss Maritime letter, re: North Puget Sound Tanker Escort and Tug Assistance Study	B. Eliot	11/6/92
DE	Memo to HSC members, re: Regulations Development Procedures/Timeframes	Regulations Unit, OSPR	11/6/92
DE1	Article "Tug Escort Guidelines to be Developed by ASTM		11/6/92
DE2	Towline Pull Criterion		11/7/92
DF	Procedure - Required Regulatory Classes for vessel operations and shoreside facilities	Crowley	11/9/92
DF1	"Pure Thought" bullets	P. Moloney	11/10/92
DF2	"48 Bullets"	P. Moloney	11/10/92
DG	Center for Marine Conservation additional comments on Proposed Permanent Tug Escort Guidelines	B. Heneman M. Glazer A. Notthoff	11/11/92
DH	HSC 11/12/92 meeting agenda and minutes	HSC	11/12/92
DH1	HSCTES report	R. Peters	11/12/92

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<u>Item</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
DI	Draft "Standard Guide for the Selection of Towing Vessel Escorts for Tank Vessels"	USCG	11/12/92
DJ	Central Coast OCS Regional Studies and Chevron additional correspondence	G. Patton M. Croce	11/14/92
DK	List of Tug Escort Public Workshop Comments (R. Peters' notes)	R. Peters	11/16/92
DK1	List of Tug Escort Public Workshop Comments (P. Moloney's notes)	P. Moloney	11/16/92
DL	Draft "Best Achievable Technology" language	J. Faber	11/17/92
DM	Annotated Tug Escort Public Workshop Comments	P. Moloney	11/19/92
DN	California Coastal Commission information for future upgrade of tug escort regulations guidelines, Regional Citizen Advisory Council press release	J. Lundstrom	11/20/92
DO	Memo and Graph depicting Interim Guidelines vs. Robert Allan's Formula	M. Goebel	11/20/92
DP	Annotated Tug Escort Public Workshop Comments	P. Moloney	11/23/92
DQ	American Institute of Shipping comments on tug escorting	J. Cox	11/24/92
DR	Annotated Tug Escort Public Workshop Comments	P. Moloney	11/25/92
DS	Stan Stephens Cruises memo to RCAC Council members, re: On a tractor tug attached in the narrows	S. Stephens	11/23/92
DS1	Annotated Tug Escort Public Workshop Comments for Revision 3	P. Moloney	12/7/92
DT	Proposed Permanent Guidelines - Draft version 3	P. Moloney	12/7/92
DT1	Tug Escort Permanent Guidelines - Draft version 3	P. Moloney	12/7/92
DU	HSC 12/10/92 meeting agenda and minutes	HSC	12/10/92
DV	Seaways Article "The Escort Tug"	K.H. Ross	10/92
DW	Draft "Clearing House"	T. Hunter	12/17/92

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<u>Item</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
DX	Journal of Commerce article "SF Area Tanker Operators Oppose Tug Escorts"	A. Wastler	12/17/92
DX1	Tug Running Speed Test Procedures & Speed Formula		1/3/93
DY	Westar's Letter to Roger Peters, re: recommendations for the Draft Version 3 of Tug Escort Proposed Permanent Guidelines	M. McMillan	1/04/93
DZ	Sanders Towboat's letter to Roger Peters, re: comments on the Draft Version 3 of Tug Escort Proposed Permanent Guidelines	G. Skarich	1/02/93
EA	ROC of Tug Escort Subcommittee, re: final recommendation to HSC for approval	R. Peters	1/11/93
EA1	Letter from Dept. of Fish & Game, Implementation of tank vessel escort regulations for the SF Bay Region	P. Bontadelli	1/11/93
EA2	California Coast Commission letter to HSC, re: recommendations for the Draft Version 3 of Tug Escort Proposed Permanent Guidelines	J. Lien	1/13/93
EB	Letter from Dept. of Fish & Game, re: 1/21/93 Public Workshop	P. Bontadelli	1/14/93
EC	HSC meeting 1/14/93 meeting agenda, minutes and TES report documents	HSC	1/14/93
ED	Proposed Permanent Guideline - Draft Version 4	P. Moloney	1/19/93
EF	Roger Peters' letter to Art Thomas, re: HSC approved permanent guidelines	R. Peters	1/25/93
EG	PMSA's memo to Oil Spill & AWO Committees, re: OSPR Oversight Hearing	L. Brien	1/27/93
EH	ARCO's letter to Pete Bontadelli, re: SF HSC Public Workshop	J. Dabbar	2/03/93
EI	HSC 2/11/93 meeting agenda & minutes	HSC	2/11/93
EJ	Letter from Dept. of Fish & Game, re: request from OSPR to provide notification for tank vessel escort regulation compliance	P. Bontadelli	2/05/93

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<u>Item</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
EK	Journal of Commerce article "Crowley to Spend \$100 Million On Special Tugs"	JOC	2/10/93
EL	American Pilots' Assoc's Draft Report of Meeting at USCG Headquarters 1/12/93	R. Scott	2/11/93
EM	Interim Tank Vessel Escort - Regulation Notice of Proposed Rulemaking	USCG	

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SAN FRANCISCO, SAN PABLO AND SUISUN BAYS

HARBOR SAFETY PLAN

TUG ESCORT

PERMANENT GUIDELINES

PREAMBLE

With the passage of the Oil Spill Prevention and Response Act of 1990 (OSPRE), the California State Legislature mandated the use of Tug Escorts in the San Francisco Bay Region. The San Francisco Bay Region Harbor Safety Committee was tasked with developing guidelines which would be the basis for regulations in those waters.

The rationale in requiring escorts for tank vessels is to reduce the risk of an incident involving a loaded tanker or barge. The purpose of the escort vessel is to assist the tanker to stop or maneuver away from navigation hazards in case of mechanical difficulties.

In October 1990 the States/British Columbia Oil Spill Task Force released their final report which contained a number of recommendations aimed at reducing oil spill risk and volume. Among these was the recommendation for mandatory tug escort and assistance in harbors and narrow passages with a potential risk reduction of 8-11%. This was only one of several ship based improvements which included double hulls (37-50% risk/volume reduction), advanced electronic chart display and information systems (19% risk reduction on tankers, 14% on barges), and improved crew training and qualification (12-17% risk reduction).

The Harbor Safety Committee appointed a Tug Escort Subcommittee to determine what was needed and how to achieve it. The subcommittee developed a set of interim guidelines which were submitted to the Office of Oil Spill Response in March 1992. These guidelines were intended to be a starting point with the full realization that as experience and information were gained the guidelines would evolve to provide the highest level of protection attainable.

Included in OSPRA are directives to the administrator of the Act which specifically task him or her to "ensure that the best achievable protection of public health and safety and the environment is employed at all times."

With this injunction in mind, the Tug Escort Subcommittee submits the first evolution in the Tug Escort Guidelines. While "best achievable protection" with "best achievable technology" is the ultimate aim, it will take time to develop and procure the hardware, and to more clearly define the mission. These

guidelines are planned to produce the "best achievable protection" using existing assets in the Region or readily obtainable ones. Consideration has been given to tugs which may not be the best achievable technology but experience has shown are capable of adequately fulfilling escort functions when used intelligently with appropriately sized regulated vessels. At the same time, it should be emphasized that utilization of inadequate escort vessels for cosmetic purposes must be prevented. While tethering can reduce response time in event of a propulsion or steering casualty on the Regulated Vessel, this procedure should only be used if considered safe by the pilot and masters involved under the speeds and conditions experienced during escorting.

The States/B.C. Report suggested that escorts be highly maneuverable, have speed complementary to the tanker, with sufficient power to control tanker direction, and that the power and number of escort tugs should be proportionate to the deadweight tonnage of the tanker. In order to better define requirements the Subcommittee retained a consultant to provide scientifically derived formula for matching tugs to tankers. The Subcommittee has also obtained additional reports from other regions concerning escort capabilities and has formed a Technical Advisory Group of local tanker and tug operators.

The primary factors involved in this are the size of the tanker and the speed it is traveling, with speed being the most influential. Inside the Bay there are tugs readily available to handle most of the tankers that call. Outside the Golden Gate Bridge in Zone 1 the channel is rocky and current swept; the sea conditions are rough and not conducive to fendered or skin to skin operations. With existing assets in the region it is not possible to safely tether an escort to a tanker and still be able to maintain the speed through the water required for safe passage of the Golden Gate. In the case of a tanker losing propulsion or steering in the area of the Golden Gate, the escort should assist by steering the vessel into San Francisco Bay where sea conditions allow a greater degree of control.

These guidelines should be reviewed annually and revised when mission definition and technological improvements warrant it.

A. Geographic Scope

o A set of six zones has been established. The use of zones allows the most effective use of tugboat assets, according to the operational environment in which they will be working. For example, an escort tug working in the inland area of Carquinez Strait requires different specifications than a tug working in the open turbulent waters outside the Golden Gate. The zones are described as follows:

1. From a line drawn between Point Bonita Light through Mile Rocks Light to the shore (COLREGS Demarcation Line), eastward to the Golden Gate Bridge.
2. From the Golden Gate Bridge, south to a line between the southern tip of Bay Farm Island and the southeastern tip of Point San Bruno Peninsula; and north to a line between Point San Pablo to Light Buoy "4", to Light Buoy "5", to Point San Pedro.
3. From the south end of Zone 2 to one mile north of the San Mateo Bridge.
4. From one mile north of and to one mile south of the San Mateo Bridge.
5. From the eastern boundary of Zone 2 to the western approaches of the Carquinez Bridges at Light Buoy "15".
6. From Light Buoy "15", through the Carquinez Strait, north on the Sacramento Ship Channel to one mile beyond the Ryer Island Ferry Terminal and east on the San Joaquin River to one mile beyond the Antioch Bridge.

o Weather permitting, outside Tug Escort(s) shall maneuver to be in close attendance to a regulated vessel prior to that vessel entering Zone 1. Outside Tug Escort(s) shall meet all U.S. Coast Guard requirements necessary to operate in Zone 1, which includes offshore sea and weather conditions. The Tug Escort will be positioned by the Pilot or Regulated Vessel Master as appropriate to best render assistance in case of a propulsion and/or steering casualty on the Regulated Vessel. The Tug Escort shall physically be in Zone 1 prior to the Regulated Vessel departing the pilot station inbound and for outbound Regulated Vessels shall remain in Zone 1 until the vessel arrives at the Pilot Station.

o Tug Escort(s) shall also be required when a Regulated Vessel is in Zone 2, 4, or 6. These are zones with major hazards (bridges, islands, submerged rocks, etc.) and congested traffic patterns. Tug Escorts will be directed to a station keeping position where they will be best able to respond in case of a casualty. Tug Escorts utilized exclusively in these areas need not qualify for Zone 1 offshore escort work.

o Tug Escort(s) shall not be required in Zones 3, 5, or areas outside of Zones 1-6. These areas do not have significant hazards and have mud bottoms. The hazard of an oil spill due to machinery failure was not considered great enough to require an escort.

B. Environmental Conditions

o The subcommittee feels that there is no need to increase escorting requirements inside the Bay and adequate traffic separation schemes and tanker traffic lanes exist outside the Bay.

C. Regulated Vessels

o Vessels carrying five thousand long tons or more of oil or other petroleum products (as defined in S.B. 2040) as cargo shall be considered "Regulated Vessels." A tug pushing or towing more than one barge carrying petroleum products will be considered regulated if the total amount of product is five thousand tons or more. Five thousand long tons equals approximately 36,000 barrels of Alaska crude. Barrels per ton vary depending on the grade of the product. Five thousand tons was chosen to differentiate between a vessel in ballast and a laden one, while providing for bunkering to be accomplished with non-regulated vessels. Unladen Regulated Vessels do not require Tug Escort.

o Regulated Vessels shall engage Tug Escort(s) as required by these regulations.

o When a Regulated Vessel is self-propelled, it shall have sufficient and qualified line-handling crew members standing by available to immediately receive lines from each Tug Escort. The line handlers should be able to receive the lines without power assistance. The regulated vessel shall comply with 33 C.F.R. sections 164.11 relating to general navigation underway and 164.25 relating to equipment checks prior to entering or leaving port.

o When a Regulated Vessel is not self-propelled (such as a barge), it shall have sufficient and qualified linehandling capable crew members standing by available to receive lines from each Tug Escort. In the interest of crew safety, when entering or leaving Zone 2 bound to or from sea (the Golden Gate Bridge), crew transfers may occur in the vicinity of Alcatraz Island. Qualified in this instance shall mean a documented seaman (holder of a Merchant Seaman's Document).

o A Regulated Vessel shall have sufficient and qualified direct supervision of linehandling crew operations. Said supervision shall have direct radio communication capability with the self-propelled Regulated Vessel's bridge, or in the case of a barge, with the bridge of the attending tug.

o A Regulated Vessel at sea shall not enter Zone 1 until it has an Outside Tug Escort in close attendance (weather permitting).

o A Regulated Vessel at anchor within Zones 2, 4 or 6 shall not change their positions unless attended by the required Tug Escort.

o In the event of an emergency, the master or pilot of a Regulated Vessel is authorized to override these Tug Escort guidelines. An example of such an emergency might be a fire at a terminal requiring a vessel to shift off berth for the sake of safety. Any such event shall be reported immediately to the OSPR and to the Clearing House which shall report the occurrence to the Harbor Safety Committee at its next regular meeting.

D. Speed Limit

o Regulated Vessels in Zones requiring Tug Escort shall proceed at a safe speed which shall not exceed the speed at which their Tug Escort(s) can render assistance. Safe speed will also take into consideration environmental factors including but not limited to depth of water, visibility, wind conditions, and tidal current. Proximity of traffic and other vessels at anchor shall also be considered.

E. Minimum Performance and Equipment Standards for Tug Escorts

o Tug Escorts shall meet prescribed minimum equipment standards as follows:

1.8
3.0
5
o (1) Communications - The Tug Escort must ensure communications are established with the escorted vessel by primary and secondary VHF radios. There must be a pre-escort conference between the masters of the regulated and escort vessels and the pilot (if utilized). It should at a minimum address the intended route, destination, speed, stationing location of the escort(s), communications, anticipated weather and tidal conditions and any other relevant factors.

8
o (2) Fendering - The Tug Escort shall be fendered as appropriate to absorb impact in skin-to-skin operations. It should have a "shoulder" at bow and stern to pivot on in pulling away from the ship. There should be no exposed corners, large holes or metal parts which could inflict damage to the ship. The fenders should have a surface which minimizes sliding when the tug is working at an angle to the ship.

5.8
(d) o (3) Line Handling Equipment - Escorts must have power line handling equipment fore and aft for rapid mechanically assisted deployment of lines and/or other emergency equipment. The primary winch should be in the position best suited for the design of the tug in escort service.

Escorts must also have a line throwing capability to rapidly deliver messenger lines to the escorted vessel.

1.8
(e) o (4) Sea keeping ability for Zone 1 - Zone 1 Tug Escorts shall meet Federal/USCG requirements for vessels of their class for coastwise service.

351.8
(10) (5) Tow Lines - Tug Escorts primary assist line must have a specified breaking strength not less than the rated bollard pull of the tug multiplied by a safety factor of 2.25.

(6). Additional topics including Bridge Equipment, Firefighting Capability, Maneuverability, and Stability are recognized as important considerations which will require development of specific standards. These will be addressed in annual reviews and as experience is gained.

o Tug Escorts shall maintain an optimum station-keeping position as directed by the Pilot or Regulated Vessel Master so as to best render assistance if needed. In any case they shall stay within one-half mile of the Regulated Vessel while engaged in escort activity.

o Tug Escorts shall have their static bollard pull (ahead and astern) as well as free running speed measured, inventoried and published by the Central Clearing House. The American Bureau of Shipping or similar agency shall certify compliance with the measuring standards established by the Harbor Safety Committee.

1.8
(2) o Tug Escorts shall be inspected annually to ensure that minimum established standards are maintained.

o Tug Escorts shall be manned by crews meeting prescribed minimum requirements (see Item F).

o The target performance standard for escorting regulated vessels in the San Francisco Bay region shall be that tug escorts have the capability of steering a tanker and/or stopping a tanker within 10 ship-lengths from the declaration of emergency.

In order to provide safe, effective, tug escorting based on local experience and requirements, the Administrator, in consultation with the Harbor Safety Committee shall review and revise, if necessary, the performance and equipment standards for tug escorting in the San Francisco Bay Region according to the following schedule:

(1) By the end of the first year following adoption of the regulations for permanent guidelines for tug escorts or by December 31, 1993, whichever is sooner, review and revise, if necessary, the performance and equipment standards for tug escorting based upon the experience in the area, studies of tug escorting in relation to disabled tankers, and any other relevant information.

(2) By the end of the second year or by December 31, 1994, whichever is sooner, conduct trials and/or authenticate the ability of escort vessels to meet the performance and equipment standards.

(3) By the end of the third year or by December 31, 1995, whichever is sooner, require that all tug escorts meet the performance and equipment standards.

F. Minimum Requirements for Escort Tug Crews

o Tug Escort operators shall be duly licensed Operators of Uninspected Towing Vessels as per 46 CFR Ch.1 Section 10.464, with an offshore endorsement for operators of Zone 1 vessels.

o Tug Escort crews shall have a minimum of two Certified deck hands. Due to the high level of equipment readiness for escort tugs, the engineer may not be included as a deck hand. This requirement does not preclude additional deck hands who are gaining experience for certification.

o Tug Escort deck hands shall be documented seamen pursuant to USCG regulations.

o Tug Escort Operators and deck hands shall be Certified by the Department of Fish and Game. *- admin may delegate to a qualified third party as certification authority*

o To qualify for certification as a Tug Escort crewmember an applicant must:

(a) Possess a Merchant Mariner's Document (Z-Card).

(b) Show proof of at least 120 (8 hour) days service aboard towing vessels. At least 60 days of this time must have been spent in the San Francisco Bay Area as defined by the Harbor Safety Plan.

(c) Successful completion of an approved education program covering:
basic deck seamanship*
basic tug boat seamanship*
local knowledge
oil spill prevention/response legislation
safety awareness
basic fire fighting skills *
communication systems
loss of steering or propulsion by a regulated vessel or escort
emergency response to regulated vessel casualties
early response procedures to oil spills.

*An individual with a USCG rating of Able Seaman Special (OSV) or above may be considered to have met the seamanship requirements of the proposed education program.

o Certification shall be renewed every five years to ensure that individuals are kept abreast of changes in procedures, regulations, and improvements in technology.

G. Considerations for Matching Tugs to Vessels

o Tug Escorts shall be capable of providing a total astern static bollard pull in pounds equal to not less than the Regulated Vessel's deadweight tonnage. For example, a Regulated Vessel of 80,000 dead weight tons shall require Tug Escort(s) with a minimum of 80,000 pounds astern bollard pull.

o Tug Escort Propulsion Matrix

After the bollard pull criteria has been met, the following table will be used for determining the minimum number of tugs and if single or twin screw tugs may be used. The maximum number of tugs used to provide the required aggregate bollard pull may not exceed three units. No tug with less than 10 long tons astern bollard pull may be used for tanker escort work (not applicable to barges).

REGULATED VESSEL			ESCORT TUG	
Class	Type	Size (DWT)	Minimum Number	Number of Propellers
1	Barge	Less than 20,000	1	1 (Note 1)
2	Barge	20,000 or greater	1	2 (Note 2)
3	Tanker	Less than 20,000	1	2 (Note 3)
4	Tanker	20,000 to 60,000	1	2 (Note 4)
5	Tanker	60,000 to 120,000	1	2 (Note 4)
6	Tanker	120,000 to 150,000	1	2 (Note 2)
7	Tanker	Larger than 150,000	2	2 x 2 (Note 5)

- Notes:
- (1) Barges are assumed to have a twin screw tugboat as the propulsion unit. If the primary tugboat is single screw, then the escort tug shall be twin screw.
 - (2) No single screw tugs may be used.
 - (3) Two single screw tugs may be used, or one twin screw tug may be substituted.
 - (4) Single screw tugs may be used, but in combination with at least one twin screw tug. If only one tug is used it must be twin screw.
 - (5) At least two tugs required. They must be twin screw.

H. Bow Thrusters

o No reduction in the requirements of these guidelines will be granted to vessels with bow thrusters.

I. System Redundancy

o Consideration for reduction in Tug Escort requirements may be given to Regulated Vessels with significant system redundancy such as multiple screw, multiple engine, multiple steering systems which reduce the potential for loss of

propulsion or steering. At this time there are no recommendations for reduction in requirements. This shall be addressed in annual reviews.

J. Central Clearing House

o The Marine Exchange of the San Francisco Bay Region is designated as the Central Clearing House. It is responsible for the following areas:

1) It is the organization to which any Regulated Vessel shall be required to present itself.

2) It is the organization which shall measure and publish tug boat bollard pull and free running speed. The American Bureau of Shipping or similar organization shall certify the results of the measurements of the bollard pull and speed. Tug Escort Vessels shall be recertified every three years or following any modification which effects performance.

3) It is the organization which shall maintain an inventory of Escort Tugs as well as their real-time availability.

4) It is the organization which shall monitor and document compliance with Tug Escorting regulations and report violations to the Department of Fish and Game and U.S. Coast Guard.

o The Marine Exchange may be contacted by the following means:

1) VHF channels 10 and 18A

2) Telephone (415) 441-6600

3) Telex 470-312

4) Fax (415) 441-3080

K. Technological Improvements

o Future consideration will be given to technical designs that otherwise meet or exceed the intent of these requirements.

Harbor Safety Committee

of the San Francisco Bay Region

Mandated by the California Oil Spill
Prevention and Response Act of 1990

Appendix G

FEB 10 1993

February 10, 1993

To: All Interested Parties

The California Department of Fish and Game, Office of Oil Spill Prevention and Response (OSPR) has instructed the Harbor Safety Committee of the San Francisco Bay Region to provide an update on the status of tank vessel escort regulation development.

The enclosed regulations are in the process of gaining approval from the Office of Administrative Law (OAL) to become adopted as emergency Regulations. It is expected that by no later than February 19, 1993, the OAL will make a decision. If the OAL grants the request for emergency status, the regulations will become effective immediately. If the OAL does not agree that the tank vessel escort regulations warrant emergency implementation, OSPR asks that, by March 1, 1993, operators of regulated vessels voluntarily comply with the proposed emergency regulations until such time as the normal regulations become effective.

When these regulations become mandatory, either as emergency or under normal procedures, additional notification will be given.

Enclosed, you will find two packets. The first is the regulations described above. The second is the procedure developed for reporting regulated vessel movements to the Clearing House, a map displaying escort zones, and the most current certified escort vessel inventory for hiring tugs. If you have any questions regarding the escort program regulations or procedures please contact the Clearing House at (415) 441-6600.

Enclosures

Harbor Safety Committee c/o Marine Exchange of the San Francisco Bay Region
Fort Mason Center, Building B, Suite 325, San Francisco, CA 94123-1380 (415) 441-7988

TITLE 14, CALIFORNIA CODE OF REGULATIONS
SECTIONS 851 THROUGH 851.8
INTERIM TANK VESSEL ESCORT REGULATIONS

FINDING OF EMERGENCY

The Administrator of oil spill response (the Administrator) finds that the emergency adoption of regulations governing tank vessel escort requirements is necessary for the preservation of the public peace, health and safety or general welfare, within the meaning of Government Code Section 11346.1.

DESCRIPTION OF SPECIFIC FACTS WHICH CONSTITUTE THE EMERGENCY

Government Code Section 8670.23 of the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act or "the Act" (Chapter 1248, Statutes of 1990) requires the Administrator to create harbor safety committees for five different harbors: San Diego; Los Angeles/Long Beach; Port Huacame; San Francisco, San Pablo, and Suisun Bays; and Humboldt Bay. Each harbor safety committee must prepare a harbor safety plan for the safe navigation and operation of tankers, barges and other vessels within the harbor. By identifying existing hazardous practices and conditions in harbors and by developing methods to reduce or eliminate these hazards, the safety plans will help to reduce the number of accidents which occur in harbors. One method of reducing accidents is for the mandatory use of tug escorts to assist laden tankers in certain harbors. The reduction in accidents will in turn reduce the number of oil spills, since spills are often a result of accidents.

Oil spills are a reality in California marine waters. During 1991, 1,006 spills were reported to the Office of Oil Spill Prevention and Response (OSPR), including a 13,000 gallon spill in the Los Angeles/Long Beach Harbor. Harbors represent the highest-risk area for oil spills because of the volume of vessel traffic and the activities which occur in harbors. In addition, spills which occur in harbors, because of the proximity to land, often present a significant risk to public health and the environment.

Government Code section 8670.23(d) directs the Administrator to adopt regulations and guidelines for the development of the harbor safety plans, while Government Code Section 8670.23(e) requires that the five plans be submitted to the Administrator by December 31, 1991.

Government Code Section 8670.17 (c) (3) states:

"The Legislature finds and declares that the appropriate use of tug escorts can improve tanker safety, particularly in the harbors of San Francisco, San Pablo, and Suisun Bays, and that

those rules, regulations, and guidelines concerning tug escorts shall be adopted as quickly as practicable, and may be adopted before the adoption of all other rules, regulations, and guidelines...."

Government Code Section 8670.23 (d) states, inter alia:

"With respect to harbor safety plans, the administrator shall give his or her highest priority to the development of regulations and guidelines concerning tug escorts...and shall expeditiously that portion of the regulations and guidelines relating to tug escorts so that the harbor safety committee for the harbors of San Francisco, San Pablo, and Suisun Bays can expeditiously conform to the requirements...."

The Harbor Safety Committee for the San Francisco Bay Area submitted its portion of their harbor safety plan affecting tug escorts to the Administrator on August 13, 1992. Industry has indicated that certification of the tug escorts cannot be accomplished prior to February 8, 1993.

The intent of the Act in requiring these plans was to ensure that the safety of California harbors be evaluated and that improvements be implemented. The completed plans will improve the state's ability to prevent vessel accidents which cause many of the oil spills now occurring in California harbor waters. This in turn will protect the public health and the environment. Consequently, the emergency adoption of these regulations is needed to provide the necessary information and guidance to the industry affected and the Committee to enable them monitor the industry for compliance within the shortest possible time period.

AUTHORITY AND REFERENCE

Government Code Section 8670.23(d) grants the Administrator the authority to adopt regulations and guidelines for harbor safety plans in consultation with the port authorities of the harbors and other affected parties. These regulations implement, interpret and make specific Government Code Section 8670.23. Government Code Section 8670.23 (d) requires the administrator shall give his highest priority to the development of regulations and guidelines concerning tug escorts. Government Code Section 8670.17 (c)(3) provides clear legislative intent and findings that the appropriate use of tug escorts can improve tanker safety, particularly in the harbors of San Francisco, San Pablo, and Suisun Bays, and that those rules, regulations, and guidelines concerning tug escorts must be adopted as quickly as practicable.

INFORMATIVE DIGEST

The Lemport-Keene-Seastrand Oil Spill Prevention and Response Act (see Government Code Sections 8574.1 through 8670.72, and Public Resources Code Sections 8750 through 8760) created a new and comprehensive state oil spill program for marine waters. The new law greatly expanded the authority, responsibilities and duties of the Department of Fish and Game under the direction of the Administrator for oil spill response. Government Code section 8670.6 provides authority for the establishment of the OSPR which contains staff to assist the Administrator in performing the duties specified in the Act.

Government Code Section 8670.23 of the Act authorized the Administrator to create harbor safety committees for the following five harbors: San Diego; Los Angeles/Long Beach; Port Hueneme; San Francisco, San Pablo, and Suisun Bays; and Humboldt Bay. Each committee is required to develop a harbor safety plan for the safe navigation and operation of tankers, barges and other vessels within the harbors; these plans must be submitted to the Administrator for approval. Government Code Section 8670.23 also directed the Administrator to adopt regulations and guidelines for the development of harbor safety plans and tug escort requirements for specified harbors.

There are no prior regulations to implement the recommendations of harbor safety plans. These emergency regulations implement the requirement in Government Code Sections 8670.17 and 8670.23 which require the Administrator to adopt regulations for the development of harbor safety plans and institute requirements for tug escorts as soon as practicable.

The emergency regulations do three things. First, they define terms associated with harbor safety plans and tug escorts. Secondly, they provide reporting procedures for vessels subject to the regulations. Thirdly, they specify the minimum requirements for tug escorts in terms of performance standards, and the areas where certain tug escorts having such performance capabilities must operate.

COMPLIANCE WITH GOVERNMENT CODE SECTIONS 8574.10 AND 8670.23(d)

In accordance with Government Code Section 8570.10, these emergency regulations have been submitted to the Review Subcommittee of the State Interagency Oil Spill Committee for review and comment.

Also, in accordance with Government Code Section 8670.23(d), these emergency regulations have been developed in consultation with the port authorities as specified in Government Code Section 8670.23(e) and other affected parties.

LOCAL MANDATE STATEMENT

These regulations do not impose a mandate upon local agencies or school districts. The Act, upon which these regulations are based, requires the Administrator to appoint harbor safety committee members to develop recommendations for tug escorts and other matters from specific groups of people, but no individual is required to accept appointment. Government Code Section 8670.23(b) provides that those persons who agree to serve on the committees shall be reimbursed for actual and necessary expenses incurred in the performance of committee duties. Reimbursement for these expenses comes from the Oil Spill Prevention and Administration Fund in the State Treasury (see Government Code Sections 8670.38 through 8670.40). Monies in this Fund are generated by a fee assessed on barrels of crude oil or petroleum products and do not involve the expenditure of General Fund monies.

COST AND SAVINGS ESTIMATES

1. **Costs or Savings to State Agencies:** OSPR has determined that these regulations do not result in costs or savings to state agencies.
2. **Costs or Savings to Local Agencies or School Districts:** OSPR has determined that these regulations do not result in costs or savings to state agencies within the meaning of Part 7 (commencing with Section 17500) of Division 4 of the Government Code.
3. **Nondiscretionary Costs or Savings to Local Agencies:** OSPR has determined that these regulations do not result in nondiscretionary costs or savings to local agencies.
4. **Costs or Savings in Federal Funding to the State:** OSPR has determined that these regulations do not result in costs or savings in federal funding to the state.

TITLE 14, CALIFORNIA CODE OF REGULATIONS
SUBDIVISION 4, OFFICE OF OIL SPILL PREVENTION AND RESPONSE
CHAPTER 2, OIL SPILL PREVENTION AND RESPONSE PLANNING
SUBCHAPTER 6, INTERIM TANK VESSEL ESCORT REGULATIONS
SECTIONS 851 - 851.8

INITIAL STATEMENT OF REASONS

The Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (Chapter 1248, Statutes of 1990) (the Act) mandates that the Administrator promulgate regulations affecting the transportation of oil over or adjacent to the marine waters of the State of California. Additionally, the Act requires the Administrator to address such operations in order to "...provide the best achievable protection of marine resources."

Immediately following the enactment of the above-cited legislation, the Office of Oil Spill Prevention and Response was formed within the Department of Fish and Game. Various programs within the Office have become involved in the planning and development of the necessary requirements for the transfer of oil while in the marine waters and the preventative measures necessary to ensure the best achievable protection. One of these programs conducted a review of current industry practices concerning the escort of tank vessels using California marine waters. Statutory requirements set forth in Government Code Section 8670.17, 9670.18 and 8670.23 require regulations governing the escort of tank vessels and other preventative measures to reduce oil spills into California's marine waters.

These regulations are needed to communicate clear and consistent guidelines to those parties either affected by their adoption or charged with their enforcement.

Certain of these regulations may restate parts of the Act and Federal Regulations. The Administrator has determined that this restatement is necessary to provide those affected by this regulatory action with one concise document on which to rely, rather than referring the user first to either the California statutory language or to federal regulations and then back to these regulations. Restating these statutory provisions within the regulations ensures both clarity and accessibility. However, where restatement of lengthy federal regulation would be cumbersome to the reader, the Federal citation is instead provided. To the extent that there are Federal regulations affecting tank vessels, tug vessels or other requirements for the prevention of oil spills in marine waters, these regulations are consistent with all cited federal provisions.

ARTICLE 1
General Requirements

Section 851. Short Title.

This section is necessary to distinguish California's regulations from their federal counterparts and to provide a distinction in citing the State regulations.

Section 851.1 Applicability.

This section is needed to explain which parties are affected by this Article, specifically those involved in vessel escort operations. Vessels affected are described in terms of oil carried in long tons. A long ton is approximately 7 barrels at 42 U.S. gallons per barrel. The applicability section is needed to ensure that the regulated community, and other affected parties, are aware of requirements set forth in this separate Article.

Section 851.1.5 Effective Dates of Regulations.

This section is needed to explain that the effective date, the date on which the regulations may first be enforced, is the date that they are filed with the Secretary of State. Further, it is the intent that unless otherwise extended, that the regulations shall not remain effective longer than a period of two years from the filing date. This section is needed to ensure that the regulated community, and other affected parties are aware of the dates which determine periods of compliance with these regulations.

Section 851.2. Definitions.

Each of the terms defined in this section is used within the body of the regulations and could be assigned more than one meaning by persons affected by these provisions. These definitions will assure that those persons have a clear understanding of the terms as they are used in these regulations.

The terms defined in subsections (a) and (b), (e) restate certain provisions contained in GC Section 8670.3. The Office of Oil Spill Prevention and Response (OSPR) has determined that this restatement is necessary to provide the regulated community with one concise document on which to rely, rather than referring the user first to the statutory language for certain definitions and back to the regulations for others. Restating the appropriate definitions within this regulation section ensures both their clarity and accessibility.

Subsection (c) defines "clearing house". The Office of Oil Spill Prevention and Response (OSPR) has determined that this definition is necessary to provide the regulated community with notice that certain authorities of the Administrator may be delegated to an individual, organization or corporation for the purpose of providing one source and gathering point for information require by these regulations. The section is needed to ensure that the term is understood by the regulated community, and other affected parties, and used consistently by all affected parties.

Subsection (d) defines "deadweight tonnage" to specify the weight of a vessel which transports a cargo of oil. The definition excludes certain portions of a vessel's weight. Since there are different ways to determine the weight of a vessel, the definition stated here is necessary to ensure that the term is understood by the regulated community and used consistently by all affected parties.

Subsection (e) defines "escort vessel", subsection (g) defines "stand by escort vessel". These particular definitions describe the vessels subject to these regulations and the activity required in the conduct of their operations. These definitions are needed to ensure that the terms are understood and used consistently by all affected parties.

Subsection (f) defines "oil". GC Section 8670.3 (i) defines "oil" to include all liquid hydrocarbons. The definition stated here differs from the statutory definition in that the vessel escort regulations will only affect those vessels transporting petroleum based liquid hydrocarbons, which was the intent and recommendation of the Harbor Safety Committee. The definition is necessary to provide the regulated community with an understanding as to what types of cargo require the services of an escort vessel.

Subsection (h) defines "static bollard pull". The definition stated here is necessary to provide the regulated community with a definition of a specific measurement of force necessary for certain types of escort operation.

Subsection (i) defines "tanker". GC Section 8670.3 (r) defines "tanker" to include all self-propelled, waterborne vessels constructed for the carriage of oil in bulk or in commercial quantities as cargo. The definition stated here differs from the statutory definition in that the size of tanker required to obtain the services of an escort vessel, as recommended by the Harbor Safety Committee, excludes some smaller tankers subject to the statutory definition. The definition is necessary to provide the regulated community with an understanding as to what size tanker will require the services of an escort vessel.

Subsection (j) defines "tank vessel". GC Section 8670.3 defines both "tanker" and "barge" but does not provide a term that can be used interchangeably for both. The term "tank vessel" may include tankers and barges. This definition is needed to ensure that the term is understood and used consistently by all affected parties.

Subsection (k) defines "transporting oil in bulk". GC Section 8670.3 (r) defines "tanker" to include all self-propelled, waterborne vessels constructed for the carriage of oil in bulk or in commercial quantities as cargo. The definition stated in statute does not exclude clingage after all cargo has been removed. It was recommended by the Harbor Safety Committee, that clingage be excluded from the understanding of bulk oil carriage. The definition is necessary to provide the regulated community with an understanding as to when a tank vessel will require the services of an escort vessel.

Section 851.3. Clearing House.

This section is necessary to provide the affected community and other interested members of the public with a clear and concise explanation regarding authorities and obligations of the clearing house as designated by the Administrator. In addition to measuring bollard pull, the clearing house shall gather and receive certain information on behalf of the Administrator, and make such information available to the Administrator as well as those persons directly involved in the transporting of oil or similar activities.

Section 851.4 Designated Escort Areas

This section is necessary to make clear the delineation of the areas where escort vessel services are required. Prior to entering areas specified in this section operators of vessels must ensure compliance, as appropriate. In order to understand the areas applicable, description of specific geographic areas is necessary to ensure compliance with these regulations. This section clearly and concisely states the areas affected.

Section 851.5 Minimum Requirements for Escort Vessels.

Subsection (a) is needed to provide information to the escort vessel master regarding the responsibility for maintaining station from the tank vessel so as to be effective and in relative proximity in the event assistance is required. It specifies a maximum distance from the vessel being escorted and limits the escort vessel. It is necessary for the prevention of oil spills into California marine waters.

Subsection (b) is needed to provide information concerning minimum requirements for escort crew members, and is the operative section for the section following which specified such minimum JV. It is necessary for the prevention of oil spills into California marine waters.

Section 851.6 Minimum Requirements for Escort Vessel Crews.

Subsection (a) is needed to provide information to the regulated community that licensing requirements set forth in Coast Guard regulations will be applicable to escort vessel crews. It is necessary for the prevention of oil spills into California marine waters.

Subsection (b) is needed to provide information concerning minimum requirements for the number of certain escort crew members. It is necessary for the prevention of oil spills into California marine waters.

Subsection (c) is needed to provide information to the regulated community that licensing requirements set forth in Coast Guard regulations will be applicable to escort vessel deckhands. It is necessary for the prevention of oil spills into California marine waters.

Subsection (d) is needed to provide information to the regulated community that minimum experience requirements aboard towing vessels will be applicable to escort vessel deckhands. It is necessary for the prevention of oil spills into California marine waters.

Section 851.7 Escorts Required.

Subsection (a) is needed to specify the requirements which set forth the mandatory use of escorts by certain tank vessels. It specifies a minimum bollard pull as determined by the deadweight tonnage of the vessel to be escorted. It is necessary for the prevention of oil spills into California marine waters.

Subsection (b) is needed to provide information regarding the requirement to report to the clearing house prior to entering the marine waters of California. It is necessary for the prevention of oil spills into California marine waters.

Subsection (c) describes the two types of information required to be on file with the clearing house affecting performance standards of escort vessels, speed and bollard pull. It is necessary for the prevention of oil spills into California marine waters.

Subsection (d) is needed to provide the affected public with information regarding the prohibition against an escort vessel escorting more than one tank vessel at any given time. It is necessary for the prevention of oil spills into California marine waters.

Subsection (e) is needed to specify the requirements which set forth the speed of a vessel's transit when escorts are required. It specifies a maximum speed commensurate to the circumstances and limitations of the escort vessel. It is necessary for the prevention of oil spills into California marine waters.

Subsection (f) is needed to provide information to the tank vessel master regarding the responsibility for safe navigation and prudent marinership in the operation of his or her vessel, and that the use of escort vessel services does not relieve the master from any provision of law or regulation or custom applicable to the safe operation of the tank vessel. This section is needed to explain to parties affected by this section, specifically those involved in vessel escort operations, that other requirements are still applicable notwithstanding the specific requirements set forth in these regulations. It sets forth requirements for reporting any deviation from requirements specified in this Article.

Section 851.8 Penalties.

This section is needed to explain the effective penalties possible for violation of the regulations. This section is needed to ensure that the regulated community, and other affected parties are aware of the available penalties to a prosecuting agency for failure to comply with these regulations.

TITLE 14, CALIFORNIA CODE OF REGULATIONS
SUBDIVISION 4, OFFICE OF OIL SPILL PREVENTION AND RESPONSE
SECTIONS 851-851.8
SUBCHAPTER 2. INTERIM TANK VESSEL ESCORT REGULATIONS

Article 1

851 Short Title.

This Article shall be known and may be cited as the Department of Fish and Game, Office of Oil Spill Prevention and Response Interim Tank Vessel Escort Regulations for San Francisco, San Pablo, and Suisun Bay.

Note: Authority: Sections 8670.17, 8670.18 and 8670.23, Government Code.
Reference: Section 8670.17, Government Code

851.1 Applicability.

(a) This part prescribes regulations to implement section 8670.17 and 8670.23 of the Government Code. The regulations will reduce the risk of oil spills from tank vessels carrying over 5,000 long tons of oil in bulk by requiring that these tank vessels be escorted by a suitable escort vessel or vessels. The escort vessels will be available to influence the speed and direction of travel of the tank vessel in the event of a casualty or steering or propulsion failure, thereby reducing the possibility of groundings or collisions.

(b) Unless otherwise stated, the requirements of this part apply to tank vessels carrying over 5,000 long tons of oil in bulk when underway on waters specified in Section 851.6.

Note: Authority: Sections 8670.17, 8670.18 and 8670.23, Government Code.
Reference: Section 8670.17, Government Code

851.1.5 Effective Dates of Regulations.

These regulations are effective on February 8, 1993 or upon filing with the Office of Administrative Law, whichever is later, and shall remain effective no longer than two years from the effective date unless extended, amended, or otherwise replaced by subsequent regulations. Any such amendment, or replacement, of these regulations shall provide for

the best achievable protection for the marine waters of California.

Note: Authority: Sections 8670.17, 8670.18 and 8670.23, Government Code.
Reference: Section 8670.17, Government Code

851.2 Definitions.

The following definitions shall govern the construction of this chapter.

- (a) "Administrator" means the administrator for oil spill response appointed by the Governor.
- (b) "Barge" for purposes of this Article only means any vessel that carries oil in commercial quantities as cargo but is not equipped with a means of self-propulsion that is carrying 5000, or more, long tons of oil or other petroleum products.
- (c) "Clearing House" means an individual, organization, corporation or agency as designated by the Administrator to carry out those responsibilities described in Section 851.3.
- (d) "Deadweight tonnage" means the weight of cargo, fuel, water, and stores necessary to submerge a vessel from her light draft to her load draft. As listed in Lloyds Register or with the country of registry.
- (e) "Escort vessel" means any vessel that is accepted by the tank vessel master to escort a tank vessel transiting waters where an escort is required under this Article and meets the minimum requirements of Section 851.3 and 851.7.
- (f) "oil" means any kind of petroleum, petroleum-based liquid hydrocarbon, petroleum product or any fraction or residue therefrom, including, but not limited to, crude oil, bunker fuel, gasoline, diesel fuel, aviation fuel, oil sludge, oil refuse, oil mixed with waste, and liquid distillates from unprocessed natural gas.

(g) "Operating" in this Article only, means that a vessel is not at anchor, made fast to the shore or an anchored vessel, or aground.

(h) "Static bollard pull" means the force, in pounds, that a towing vessel is capable of exerting against a stationary object. Astern force is the force applied when the towing vessel is pushing backwards or pulling astern; ahead force is the force applied when the towing vessel is pushing or pulling ahead.

(i) "Tanker" for purposes of this Article only, means any self-propelled, waterborne vessel, constructed or adapted to transport oil in bulk or in commercial quantities as cargo, and is carrying five thousand long tons or more of oil or other petroleum products. A vessel meeting the definition of this section having a double hull as certified by the U.S. Coast Guard, is considered a tanker for purposes of this Article.

(j) "Tank Vessel" means a barge or tanker as defined by this section.

(k) "Transporting oil in bulk" means the carriage of oil in cargo tanks, not in packaged form, by a vessel subject to these rules. This term does not include residue or clingage remaining in the cargo tanks after the cargo oil has been discharged.

Note:

Authority: Sections 8670.3, 8670.17, 8670.18 and 8670.23, Government Code.
Reference: Section 8670.17, Government Code

851.3

Clearing House.

(a) The Administrator designates the San Francisco Marine Exchange to operate as a Clearing House which, under procedures agreed upon by the Administrator, shall effectively and impartially carry out the following responsibilities:

(1) Measure and record the static bollard pull, both ahead and astern, and running speed of each escort vessel under these regulations, and

(2) Engage the American Bureau of Shipping to certify the measurements made under this subsection, and

(3) Maintain and publish, for each escort vessel measured under this subsection, a register which lists the following:

- (A) vessel name
- (B) vessel operator
- (C) official number
- (D) length
- (E) static bollard pull ahead
- (F) static bollard pull astern
- (G) running speed
- (H) type and configuration of the propulsion system
- (I) type and configuration of the steering system

(4) Receive reports required under Section 851.7 (b) from vessels subject to these regulations prior to the entry of such vessels into the marine waters of the state, and

(5) Monitor compliance with these regulations and report all violations to the Office of Oil Spill Prevention and Response and the Harbor Safety Committee for the San Francisco Bay Region.

(b) The San Francisco Marine Exchange shall charge to every vessel subject to this Article or escort vessel providing service to a vessel subject to this Article, a fee according to a schedule developed and approved by the Administrator, for each report required pursuant to Section 851.7 (b).

(1) Any fee charged pursuant to this Article shall be consistent with a fee schedule approved by the Administrator.

(2) The fee schedule shall be reviewed annually wherein adjustments may be made according to anticipated service provided by the San Francisco Marine Exchange and projected revenue for the upcoming year, except that in no instance shall such fee exceed \$50.00 (Fifty Dollars) for each report required pursuant to Section 851.7 (b).

Note: Authority: Sections 8670.3, 8670.17, 8670.18 and 8670.23, Government Code.
Reference: Section 8670.17, Government Code

851.4 Designated Escort Areas

(a) Geographic Scope

(1) Six tank vessel escort zones are established.

(A) Zone 1: From a line drawn between Point Bonita Light, through Mile Rocks Light to the shore (the COLREGS Demarcation Line), eastward to the Golden Gate Bridge.

(B) Zone 2: From the Golden Gate Bridge, south to a line between the southern tip of Bay Farm Island and the southeastern tip of Point San Bruno Peninsula, and north to a line from Point San Pablo to San Pablo Bay Light 4 (Light List number 5880), to San Pablo Bay Channel Light 5 (Light List number 5885), to Point San Pedro.

(C) Zone 3: From the south end of Zone 2 to one mile north of the San Mateo Bridge.

(D) Zone 4: From one mile north of and to one mile south of the San Mateo Bridge.

(E) Zone 5: From the eastern boundary of Zone 2 to the western approaches of the Carquinez Bridges at Light 15.

(F) Zone 6: From Light 15, through the Carquinez Strait, north on the Sacramento Ship Channel to one mile beyond the Ryer Island Ferry Terminal and east on the San Joaquin River to one mile beyond the Antioch Bridge.

(b) Escort vessel(s) shall be required when a tank vessel subject to this Article is operating in Zone 1, 2, 4, or 6.

(c) Escort vessel(s) shall not be required in Zones 3, 5, or areas outside of Zones 1-6.

(d) For each tank vessel, as defined in these regulations, when operating in an area bounded by an Arc eight nautical miles seaward of and centered on Mile Rocks Light, escort vessel(s), as required by Section 851.7, shall be positioned in Zone 1.

(e) In the event of an emergency, the master or pilot of a tank vessel is authorized to override requirements of this section. For purposes of this section an emergency is defined as imminent and immediate danger to the vessel, its cargo, its crew or any such danger to a marine terminal, service or escort vessel, or any emergency declared by the Captain of the Port. Any deviation from, or overriding of, requirements under this section shall be reported, as soon as practicable and in no case later than the vessels departure from the marine waters of the state, by the master of the tank vessel to the Clearing House.

Note: Authority: Sections 8670.17, 8670.18 and 8670.23, Government Code.
Reference: Section 8670.17, Government Code

851.5 Minimum Requirements for escort vessels

(a) Escort vessels shall maintain a station-keeping distance of no more than one-half mile from the tank vessel while engaged in escort activity.

(b) Escort vessel crews shall meet prescribed minimum requirements as set forth in Section 851.6.

Note: Authority: Sections 8670.17, 8670.18 and 8670.23, Government Code.
Reference: Section 8670.17, Government Code

851.6 Minimum Requirements for Escort Vessel Crews

(a) Escort vessel operators shall be duly licensed Operators of Uninspected Towing Vessels as set forth in Title 46, Code Federal Regulations, Part 10.464.

(b) Escort vessel crews shall have a minimum of two Certified deck hands. Due to the high level of equipment readiness for escort tugs, the engineer may not be included as a deck hand. This requirement does not preclude additional deck hands who are gaining experience for certification, but such deckhands do not meet the manning requirements of this section.

✓ (c) Escort vessel deck hands shall be certificated pursuant to 46 CFR Part 12.

✓ (d) Escort vessel deck hands shall have a minimum of 120 days of experience on board towing vessels. Documentary evidence of such service shall be maintained by the operator of the escort vessel, and shall be made available on request to the Administrator or his or her authorized representative.

Note: Authority: Sections 8670.17, 8670.18 and 8670.23, Government Code.
Reference: Section 8670.17, Government Code

851.7 Escorts required.

✓ (a) No tank vessel subject to these regulations may transit the waters described in Section 851.4 unless escorted a registered vessel having ahead static bollard pull or escort vessels having aggregate ahead static bollard pull in pounds equal to, or more than, the tank vessel's deadweight tonnage.

✓ (b) Prior to entering or transiting the marine waters of California, a tank vessel subject to these regulations shall present itself by reporting its name, official number and position to the Clearing House as defined in Section 851.3.

✓ (c) An escort vessel must have bollard pull and free running speed registered with the Clearing House in accordance with Section 851.3.

✓ (d) An escort vessel may not simultaneously engage in the escort of more than one tank vessel.

✓ (e) The speed or speeds selected for the transit must permit stationing the escort vessels to allow the escort vessels to effectively influence the tank vessel's movement in the event of a casualty.

✓ (f) The tank vessel master remains responsible for the safe navigation and maneuvering of the vessel in all circumstances. These escort requirements are in addition to, and not a limitation of, any other responsibilities created by custom, law, or regulation.

(g) A tanker shall have sufficient and qualified line-handling-capable crew members standing by available to immediately receive lines from each Escort vessel(s) and it shall comply with all applicable federal regulations relating to anchor readiness.

(h) A barge shall have sufficient and qualified line-handling-capable crew members standing by available to receive lines from each escort vessel(s). In the interest of crew safety, when entering or leaving Zone 2 bound to or from sea (Golden Gate Bridge), crew transfers may occur in the vicinity of Alcatraz Island.

(i) Tank vessels shall have sufficient and qualified direct supervision of line-handling-crew operations. Supervisors shall have direct radio communication capability with the bridge of the tank vessel or vessel towing a barge.

(j) The master of any tanker or barge subject to these regulations shall maintain, at all times for which escort vessel services are required by this Article, direct two way radio communications on VHF-FM with the master of the escort vessel on a channel agreed to by both the master of the tank vessel and the master of the escort vessel providing escort services.

Note: Authority: Sections 8670.17, 8670.18 and 8670.23, Government Code.
Reference: Section 8670.17, Government Code

851.8 Penalties.

Any person who intentionally or negligently violates any provision of this Article shall be liable for an administrative civil penalty as prescribed in Government Code Section 8670.67 (b).

Note: Authority: Sections 8670.17, 8670.18 and 8670.23, Government Code.
Reference: Section 8670.17, Section 8670.67 (b), Government Code and Sections 17203 and 17207 of the Business and Professions Code.

BOLLARD PULL TEST RESULTS

(as of 5/14/93)

American Navigation Co. (510) 234-8847

	Forward	Astern	Speed	Prop
Avenger	67,430	48,585	12.42	2
Expeditor	53,910	37,413	12.76	2
Predator	90,668	60,315	13.49	2
Renegade	62,623	52,245	12.74	1
Titan	66,433	57,588	11.55	2

Bay and Delta Towing (800) 339-5811

	Forward	Astern	Speed	Prop
Benicia	64,908	47,262	13.49	2
Capt. Jack	81,453	21,293	12.69	1
Maggie	62,956	43,354	12.92	1
Pt. San Pablo	69,340	44,223	12.9	1
Sonja V	45,590	36,453	13.44	1

Chevron Shipping Co.

	Forward	Astern	Speed	Prop
Chevron Richmond	106,193	66,366	11.70	2
Standard 4	34,103	21,575	10.35	2

Crowley Maritime Corp. (415) 546-2600

	Forward	Astern	Speed	Prop
Cavalier	149,675	117,608	14.2	2
Guardian	121,008	88,220	14.08	2
Hunter	146,485	114,807	14.64	2
Lassen	26,355	19,465	10.91	2
Pt. Thompson	47,115	44,828	10.56	2
San Joaquin River	27,990	19,618	11.24	2
Sea Cloud	102,580	67,731	13.41	2
Sea Duke	46,458	28,020	11.98	1
Sea King	104,918	67,558	14.11	2
Sea Lark	33,500	17,003	11.62	1
Sea Scout	45,858	25,320	11.62	1
Sea Venture	238,273	129,225	13.16	2

Exxon Shipping Co.

	Forward	Astern	Speed	Prop
Exxon California	212,960	130,905	13.24	2
Exxon Carquinez	105,670	66,098	11.88	2

Marine Tug and Barge (415) 236-5880

	Forward	Astern	Speed	Prop
Marin Sky	15,095	11,470	7.84	2
Marin Sunshine	37,283	26,680	11.24	2

Oscar Niemeth Towing Inc. (510) 893-0231

	Forward	Astern	Speed	Prop
American Eagle	98,968	57,058	12.12	2
Sea Eagle	39,305	23,943	11.2	2
Silver Eagle	88,990	71,285	12.29	2

Sanders Towboat Services Inc. (707) 745-4340

	Forward	Astern	Speed	Prop
Delaware	88,173	42,255	12.27	1
Gail S.	29,858	16,463	10.42	1
Mary D.	79,618	38,990	12.76	1

Seaway Transportation Co. (510) 521-3283

	Forward	Astern	Speed	Prop
Southern Cross	45,015	23,950	11.82	1

Westar Marine Services (415) 495-3191

	Forward	Astern	Speed	Prop
Bearcat	19,980	15,368	10.82	2
Betty L	20,760	16,588	9.4	2
Panther	19,013	8,893	10.26	1
Taurus	32,190	17,481	11.13	1
Warrior	18,980	11,780	9.94	1

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<u>Author</u>	<u>Date</u>	<u>Date</u>
A. Groh		8/21/92
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cord of Conversation

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py	10/8/92	Addicott comments on the proposed permanent	R. Addicott	11/3/92
7	10/13/92	fining Company comments on the proposed	G. Alterton	11/2/92
v	10/14/92	t guidelines		
in	10/12/92	l Spill Program comments on the proposed	J. Lundstrom	11/2/92
		t guidelines		
in	10/19/92	ds Commission comments on the proposed	G. Gregory	11/2/92
		t guideline		
y	10/21/92	tmen's Union comments on the proposed permanent	M. Secchitano	11/3/92
	10/21/92	s		
	10/20/92	rine comments on the proposed permanent guidelines	J. Dabbar	11/3/92
y	10/22/92	utes for TES Workshop		11/5/92
gest	10/92	or TES Workshop on Draft Permanent Guidelines	R. Peters	11/5/92
ing	10/23/92	itime letter, re: North Puget Sound Tanker Escort	B. Eliot	11/6/92
eth		Assistance Study		
wing		HSC members, re: Regulations Development	Regulations	11/6/92
		es/Timeframes	Unit, OSPR	
7	10/27/92	Tug Escort Guidelines to be Developed by ASTM		11/6/92
	10/27/92	Pull Criterion		11/7/92
	10/92	e - Required Regulatory Classes for vessel	Crowley	11/9/92
	10/30/92	is and shoreside facilities		
wboat	11/2/92	ought" bullets	P. Moloney	11/10/92
	11/2/92	ets"	P. Moloney	11/10/92
1	11/3/92	or Marine Conservation additional comments on	B. Heneman	11/11/92
		l Permanent Tug Escort Guidelines	M. Glazer A. Notthoff	
rg	11/2/92	12/92 meeting agenda and minutes	HSC	11/12/92
		s report	R. Peters	11/12/92

Conversation

			<u>Date</u>
Y & Delta letter, re: Study for Texaco by John McMullen involving matching bollard pull to dead weight tons	D. Luce	3/30/92	10/1/91
HSC letter of invitation and mailing list for bollard pull formula study	R. Peters	4/3/92	7/7/92
HSC 4/9/92 meeting agenda and minutes	HSC	4/9/92	7/7/92
Proposal to perform bollard pull formula study	Glosten Assoc	4/16/92	7/7/92
Proposal to perform bollard pull formula study	Giannotti Engineering	4/27/92	
Proposal to perform bollard pull formula study	R. Allan	4/28/92	7/10/92
Proposal to perform bollard pull formula study	M. Kossa	4/28/92	7/10/92
Proposal to perform bollard pull formula study	Walther Engineering	5/4/92	7/14/92
Minutes, Tug Escort Subcommittee 5/8/92 meeting	R. Peters	5/8/92	7/14/92
HSC 5/14/92 meeting agenda with minutes	HSC	5/14/92	7/14/92
Washington Tug Escort Law - Pilotage Act		1988	7/15/92
HSC 5/29/92 meeting agenda with minutes	R. Peters	5/29/92	7/15/92
Letter "Marine Tankers: Considering the Alternatives"	WSPA	6/92	7/16/92
HSC letter to HSC selecting Robert Allan	R. Peters	6/4/92	7/16/92
HSC letter to notify Robert Allan selecting him as consultant for the tug escort regulated vessels project	T. Hunter	6/92	7/13/92
Robert Allan letter to HSC, re: Suggested schedule for the project	R. Allan	6/9/92	7/20/92
Announcement of completion of the work of the States/ British Columbia Oil Spill Task Force and selected sections regarding mandatory tug escorts	Members	10/16/90	7/23/92 7/24/92
HSC 6/18/92 meeting agenda and minutes	HSC	6/18/92	7/31/92
Shipping and Towing Industry Assoc. letter of recommendations to the USCG for the proposed rulemaking of the Tug Escort	T. Allegretti	5/12/92	8/3/92