VTS San Francisco

Qualification Training Binder

Content Revised 2007
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Chapter 1

Revised; July, 2005

Qualification Training Program

Overview

Introduction

Welcome to VTS San Francisco. You are about to embark on one of the most challenging training endeavors of your Coast Guard career—the VTS San Francisco Vessel Traffic Control Specialist (VTCS) Qualification Training Program.

Upon successful completion of this training program you will be a qualified Coast Guard Vessel Traffic Management Specialist.

Under Construction

The Qualification Training Program is undergoes periodic renovation in order to adapt the entire program to updated software. The road might seem a bit bumpy at times so please bear with us.

Who to Report to?

As the Training Coordinator, I will be your immediate supervisor during your qualification training. However, I will rely heavily on my Designated Trainers (DTs), the Assistant Training Coordinator and VTS watch supervisors to serve as your instructors and on-the-job training coaches.

Start all of your leave or time-off requests with the Assistant Training Director or myself. Discuss any personnel problems with the Assistant Training Director or me first.

The Executive Officer is my immediate supervisor. For any situations that either I or the Assistant Training Director cannot seem to be able to handle, feel free to talk to my boss. The XO has an open-door policy.

Leave During Training

Leave will not be granted during qualification training except in case of an emergency.

Designated Trainers

When you are in on-the-job training, the Designated Trainer will be your one-on-one coach. Follow his/her lead closely. While standing Operations Center training watches, follow the directions of the watch supervisor. The watch supervisor (also referred to in the Training Manual as the Training Supervisor) serves as the DT's immediate supervisor.

The general plan

Introduction

Overview	Here we discuss the general training plan that covers all of the knowledge, skills, and abilities that you will need to become a qualified VTMS. Remember, this plan is subject to change based on your performance.
Prerequisites	Based on your Coast Guard background and your shipboard experience, I have made some assumptions about your knowledge, skills, and abilities. Either The Assistant Training Director or I will interview you during your indoctrination to further assess your knowledge, skills, and abilities.

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Indoctrination for VTS San Francisco

Overview

The indoctrination is intended to give you the basic administrative, work-life, and safety information you need in order to be stationed at VTS San Francisco.

This process will begin on your first day and, due to scheduling and logistics issues may be ongoing throughout your first two weeks at VTS San Francisco.

Process

- Get:
  - Locker
  - Mail box
  - Coffee cup hook
  - Standard Workstation "account" and password.
- General tour of the grounds
- Personnel introductions
- Building safety
  - Fire prevention systems
  - Whom to call
  - Power shut-off switches
  - Earthquake survival kit.
- Process orders, travel claims, housing needs, etc.
- Security briefing
- Overview of the Qualification Training Program
  - Personnel
  - Scheduling
  - Sick leave
  - Training agenda
- KSA Assessment by the Training Coordinator

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Fundamental VTS Knowledge

Overview

The phrase Fundamental VTS Knowledge refers to certain knowledge that you must have before you can begin any in-depth hands-on training.

Subject Matter

1. **Overview of the VTS mission and philosophy of operations.**

   This is intended to give you an understanding of the how the background of VTS San Francisco affects its ongoing development, the various missions of VTS San Francisco, the operational philosophy of the Coast Guard VTS Program in general, and the general capabilities and limitations of VTS San Francisco's systems.

2. **VTS San Francisco geography crash course**

   Before much of the other training at VTS San Francisco will make any sense, you must know the geography of the area well. The VTS-area geography memorization crash course is designed to help you gain this knowledge.

   The geography crash course gives the names of hundreds of geographic points, shore-side facilities, aids to navigation, docks, waterways, bridges, and so on.

   When you feel comfortable with your knowledge of the material (within 15 working days of reporting aboard VTS San Francisco), you will take an exam covering all of the geography.

3. **National VTS Regulations (NVTSR)**

   The NVTSRs set the groundwork for all of the operational training. You will be introduced to these regulations in a two-hour presentation/discussion. You will then be given time to study the NVTSR Training Guide. If you feel confident of your knowledge (presumably within the following five days) you will be given an NVTSR exam.

Continued on next page

Fundamental VTS Knowledge, Continued

Subject Matter (continued)

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4. **Federal Anchorage Regulations**

   You must know the federal anchorage regulations because when the time comes (during OJT) to make anchorage-related decisions you must be able to base your decisions on the authorizing regulations.

   Much of your work on learning these regulations will be through study on your own. Today there is no training guide on these regulations. The Coast Pilot and the CFR will serve as your primary references. Essentially you must memorize the specific regulations for each of the San Francisco Bay Region Federal Anchorage Grounds. Don't worry—there is a convenient table in the CFRs that makes this chore easier.

   Before starting OJT, you may take a written exam covering the Federal Anchorage Regulations.

5. **Regulated Navigation Area (RNA) Regulations**

   In the San Francisco Bay region, the RNA Regulations are as important as the nautical Rules of the Road. You will be introduced to these regulations in a three-hour one-on-one presentation/discussion. You will be given time to study the RNA Regulations Training Guide. Then, before starting OJT, you will be given an exam on the regulations. Since these regulations dictate how vessels shall interact in specific parts of the VTS area, it is important that you have a good grasp on the geography before beginning in-depth study of these regulations.

6. **Keyboarding proficiency practice**

   Your ability to touch-type (type without looking at the keyboard) at a moderate speed with a high degree of accuracy is paramount in the operation of the computerized VTS system. You shall practice your keyboarding skills for at least 15 minutes every day starting on your first day at VTS San Francisco. Cease this training when you can demonstrate that your typing speed is at least 20 words per minute with 95 percent accuracy.

The VTS System

Overview

The phrase VTS System refers to the equipment used and procedures followed in performing the duties of the VTMS.

Much of the VTS System training will follow the VTS Operational Procedures Manual.

This manual does not include extensive material on traffic management. Because of this, we will frequently depart from the structured program laid out in this training text to cover specific traffic-management Subject Matter.

Subject Matter

1. **Operators Display Processor (ODP)**

   Here you will learn the concepts and procedures associated with setting up and working with the Operators Display Processor—the VTMS's primary tool.

   During this part of the training many VTS System elements will be mentioned but not discussed in detail.

2. **Using the display for monitoring and informing**

   Once you have a completely configured ODP you will learn how to use the traffic display for monitoring traffic and informing participants. Here you will be introduced to the skills and techniques associated with "reading the display."

   You will also be introduced to the communications procedures associated with answering vessel calls and making simple traffic reports. Terms like "traffic report," "traffic turnaround," "read-back," and "advisory" will be discussed here.

   Many of the concepts foreshadowed in the previous section will be discussed in greater detail here.

   Important: You will learn how to "read the display" before you learn how to build the display (respond to calls and complete forms).

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The VTS System, Continued

Subject Matter (continued)

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3. Sectorization

Once you have an understanding of the display and how the display is used to project and report traffic situations, you will be introduced to the sector operator's assigned responsibilities.

This section will discuss the concept of "flexible sectorization," a philosophy in which sector operators' responsibilities can change as the workload changes. You will be introduced to the importance of intra-watch teamwork and you will learn strategies for working in a bridge-team-like manner whereby you can dynamically re-allocate your workload so as to avoid overload.

You will be introduced to the concept of "cross-sector traffic management" and you will be given strategies for using known "cross-sector traffic management hot spots" to help spot vessel encounters between vessels on different sides of sector boundaries.

Communications

Overview

VTS communications procedures and goals are unique. The VTS San Francisco operator must be able to strike a balance between communications brevity and being too cryptic. We must ensure the usability of our communications for small vessels that are passively participating in (just listening to) the VTS system.

Subject Matter

1. **Responding to Vessel Movement Reporting System (VMRS) reports**

   Here you will learn and then put into practice the procedures associated with communicating with VMRS Users. You will learn how the procedures differ for different types of tracks and tracks located in different geographic areas.

   During the last week of your pre-OJT training you will practice the communications, keyboarding, and display manipulation procedures associated with launching, maintaining, and ending tracks of all types.

   You will also be introduced to some of the concepts and procedures associated with anchorage management.

2. **Enforcing federal regulations and issuing directions**

   Concise communications are critical when issuing directions to vessels. In this phase of your training you will learn about the Regulatory Communications Decision Matrix—a decision flow that you will use when communicating with vessels on regulatory issues. Upon completion of this training you will know what to say in various "regulatory situations" and exactly how to say it.

Data processing

Overview

The phrase data processing refers to the concepts and procedures associated with entering information into and retrieving information from the VTS system's track management databases.

All transit information will be recorded in database forms and retrieved by database queries and by on-plot track tags. You must be able to operate the CG VTS System's database interface tools with habitual precision in order to enter and retrieve data smoothly enough to achieve our ultimate VTS goal.

Subject Matter

1. **Databases in general**

   In this section you will be introduced to the inner workings and peculiarities of the VTS system's databases and how these databases support your operations.

   You will be taught how to use the database functions, such as lists of values, to make your job easier as you are becoming more familiar with local vessel and dock names.

   Good keyboarding and typing skills become very important here.

2. **Universal Track Data Card (UTDC) and data collection**

   One of the most challenging parts of your qualification training will be mastering the UTDC. Before becoming qualified you must be able to type information into this form as the vessel operator is speaking.

   Here you will learn the parts and functions of the UTDC and you will be introduced to strategies for navigating through the UTDC when taking calls from each of the various types of VTS participants. You must be fluent with the UTDC in order to be successful as a VTS San Francisco operator.

3. **Processing advisories**

   Here you will be introduced to the concepts and procedures for drafting, posting, and ending advisories.

   In earlier training you will have been introduced to the advisory codes. Now you will put them to use when posting advisories.

   You will learn the procedures for setting up the information in the advisory forms for regular, marine event, and ATON discrepancy advisories.

Continued on next page

Data processing, Continued

Subject Matter

4. The Prospective List

In addition to an overview of creating the Prospective List (a computer list containing information about scheduled ship movements) you will be introduced to many traffic management concepts such as scheduled ship movement resources, processing a NEW VESSEL entry, Special Categories, and using the Coast Guard MSIS database.

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Track management

Overview

Track management refers to the concepts and procedures associated with building and maintaining the traffic display.

Traffic management refers to the concepts and procedures associated with monitoring, informing, and issuing recommendations and directives to VTS participants.

Most of the Subject Matter discussed in this phase deals with the mechanics of keeping track of things (hence the name "track management").

However, in this phase you will learn the importance of thorough "traffic management" during many parts of the track management processes.

Subject Matter

1. **Fundamentals of computerized tracking**

   Before you can respond to vessel calls and use the computer system to track vessels you must know certain concepts, procedures, and terminology which are unique to the VTS environment.

   In this phase you will learn about the different ways that the CG VTS System computer tracks vessels. You will also learn about the various statuses (stages) of a vessel's transit record.

2. **Track-related menus and functions**

   Here you will learn how to use the Vessel Action Menu and the Tracks Menu to manipulate on-plot tracks. You will learn the VTS-specific terminology associated with vessel tracking and you will learn the procedures for tracking by various means.

   In this phase you will also learn why meticulous track management (including track termination) is critical to the overall traffic management effort.

Chapter 2

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VTS as an Extension of Vessels' Bridge Navigation Teams

VTS San Francisco has authority through U.S. federal regulations to direct and control ship movements in the San Francisco Bay area. However, VTS SF policy is that VTS watchstanders think of themselves and perform like members of vessels' bridge navigation teams.

A vessel transit in San Francisco Bay is not seen as a shipboard-only evolution being aided by VTS; it is viewed as a carefully orchestrated team effort in which VTS has an important role.

To support this team-oriented effort, VTS SF actively promotes the concept of VTS as bridge team member. In VTS SF's aggressive outreach program, VTS watchstanders make at least 10 ship rides a year and visit various marine facilities. Pilots, ships' masters, and pilot candidates stand familiarization watches in the VTS operations center. VTS SF provides traffic management training for more than 3000 small-vessel operators a year.
Evidence of success in developing the VTS-mariner team approach may be found in the fact that in 2004, VTS SF successfully handled more than 100,000 transits without issuing ANY ship control directions.

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Introduction

Synopsis

This paper presents the concept that VTS can operate as more than a navigational information service or a traffic control authority. Beyond these functions, VTS can act as a proactive extension of each vessel's bridge team.

This paper is divided into three parts.

Part One explains the elements VTS San Francisco found to be the necessary ingredients of a successful team relationship.

Part Two and Part Three present two case studies.

The first case study illustrates how VTS and pilots work together using the bridge-team extension concept to resolve specific navigational situations.

The second case study shows how a major change in VTS technology endangered VTS's ability to perform as part of the bridge teams and how, in a unique effort, VTS and the pilots worked together and resolved the problem.

Background

On Jan 18, 1971 at 0141 two loaded oil tankers collided directly beneath the Golden Gate Bridge. The ensuing oil spill led to a complete shutdown of port operations. More than 800,000 gallons of oil had spilled into San Francisco Bay. Ironically, watchstanders at the Coast Guard's experimental Harbor Advisory Radar Project (HARP)--the experimental predecessor to today's VTS San Francisco--had watched helplessly as it happened. The HARP was unable to reach either ship on the radio and could not do anything to prevent the collision.

This event showed how a lack of teamwork resulting in a breakdown in communications between VTS and the mariner can result in disaster.

Out of this disaster came two very important developments:

1. New regulations giving the Coast Guard the authority to direct ships if necessary to avoid an accident; and
2. The establishment of the first VTS in the United States--VTS San Francisco.

From the beginning VTS San Francisco realized that for the VTS service to be a success the local mariners would have to have a major part of its ongoing development.

VTS San Francisco and the local mariners have spent more than thirty years building and refining what is today one of the best Coast Guard / maritime-public working relationships in the United States.

Key parts of a successful team relationship

Overview

In order for VTS and mariners to work as a team, each member's roles, capabilities, and limitations must be completely understood by all members. All parts of the team must respect the knowledge and authority of the other.

The following eight key parts have proven to be successful in the maintenance of an ongoing bridge-team extension approach to VTS.

1. Put VTS on vessels

Maintain a vessel ride program in which VTS operators routinely ride with mariners on various types of vessels.

Every new VTS sector operator spends seven days assigned directly to the San Francisco Bar Pilots. During this time the VTS trainee reports to the Operations Pilot and is dispatched with pilots by the pilots' dispatcher.

Once qualified, each VTS San Francisco sector operator is required to take 10 ship-rides per year.

VTS vessel riders are not just passive observers. They:

- Learn by experiencing transits from the vantage point of the mariner,
- Train mariners on new or difficult VTS procedures,
- Conduct informal surveys of the mariners' satisfaction with VTS's service
- Evaluate VTS service from the vantage point of the radio listener.

Note: VTS personnel are scheduled for up to 30 training workdays per year to provide time for vessel rides.

2. Get mariners to VTS

Make VTS training a part of local pilotage and mariner refresher training.

Prospective pilots participate in a 16-hour training session given by VTS San Francisco. Pilot candidates receive classroom training on regulations and VTS communications procedures followed by on-the-job VTS Operations Center training.

All qualified pilots and ferry captains are highly encouraged by their own organizations to participate in ongoing VTS familiarization training by periodically spending several hours standing watch in the VTS Operations Center.

Continued on next page

Key parts of a successful team relationship, Continued

3. Conduct joint training

Conduct and participate in training exercises in which VTS personnel and local mariners train together.

VTS San Francisco and pilots conduct joint training exercises with simulated navigational scenarios in order to work out solutions to difficult situations. Training together means learning together and experiencing success and failure together. If the teamwork approach is to be successful, the team must practice together.

4. Discuss issues openly

Establish an informal (equal partner) committee with mariners to discuss positive and negative incidents.

Each month the VTS / Pilots Issues Committee, a group consisting of three pilots and three VTS persons meet to discuss lessons learned over the past month. Each party brings to the table specific incidents. The group looks for ways to use non-regulatory options for preventing bad incidents in the future.

The minutes of the meetings are distributed to all pilots and VTS personnel.

5. Measure performance quality

Implement a system to measure customers' satisfaction with your service.

Twice a year the Coast Guard scientifically surveys more than 200 hundred VTS users. Throughout the year VTS ship riders take informal (non-scientific) polls (as discussed above). Changes are made in VTS procedures based on comments in the survey results.

6. Reach out aggressively

Reach outside of the VTS and take a proactive role in educating users and stakeholders in VTS operations.

VTS San Francisco has an aggressive outreach and education program. In 1998 VTS San Francisco presented seminar-style training to more than 3000 persons from various segments of the local community.

- VTS personnel appeared as special guests on local television shows.
- Ship agents, port representatives, local political officials, and non-maritime transportation representatives were brought to VTS and trained on VTS's capabilities and limitations.

Such interaction ensures that the VTS's role in regional maritime planning and safety is regarded as essential. It also ensures that VTS's public exposure does not occur only after an accident or emergency.

Continued on next page

Key parts of a successful team relationship, Continued

7. Participate in safety groups

Participate as an active member of local port safety groups.

As a stakeholder in most of the decisions made by port safety groups VTS can only benefit from providing VTS's unique insight and by being a part of the decision-making process.

VTS San Francisco is an active member of the San Francisco Bay Harbor Safety Committee. While not voting directly on any particular issue, VTS does have great influence in votes on all issues.

8. Give users ownership in procedures

Get the stakeholders of new policies and procedures involved in their development.

When radiotelephone traffic became congested on the VTS operating frequency VTS convened a team of mariners that was tasked with finding a solution to the problem.

The team recommended that VTS shift to an alternate channel (VTS had been on channel 13, the U.S. bridge-to-bridge frequency, for 22 years) and that VTS streamline long-practiced communication procedures to avoid repeating information.

The changes were made and the communications congestion was relieved.

Since representatives of the maritime public developed the new VTS policies and procedures, other mariners accepted the change with little resistance.

Case study—A navigational example

Introduction

This case study will show how VTS becomes involved in the decision-making process early and facilitates a safe and legal meeting situation by providing information and recommendations.

Situation

Tanker Alpha reports to VTS that she is preparing to depart the inland port of Benicia for sea. Tanker Bravo is in central San Francisco Bay inbound for Benicia about 26 nautical miles away.

These two tankers will be approaching on opposing tracks that pass through two Regulated Navigation Areas (RNAs). Special restrictions apply to vessels passing through the RNAs along this route; a tanker may not meet another vessel of 1600 gross tons or more.

Their pilots must begin to plan where they will meet more than an hour and a half before they are in radio range of each other. Mountainous terrain makes radio communications between them impossible.

Because of the problems of such long-range planning, without VTS involvement it would be difficult to avoid an unintentional close-quarters situation in a narrow channel.

VTS's initial involvement

The first phase of VTS's involvement is to monitor the vessels' progress relative to each other and inform each vessel's pilot of his/her opposite's progress. VTS must respect each pilot's need to concentrate on navigational problems immediately at hand; yet VTS must supply information in such a timely fashion that neither pilot comes to a decision point regarding meeting the other without time to consider all available maneuvering options.

The pilots' involvement

The pilots, for their part, provide VTS with their ETAs to various points along their routes. As soon as possible the pilots decide which vessel will go through the RNA first. Then they communicate their intentions to VTS.

VTS's continuing involvement

VTS relays the ETAs to each pilot's opposite, allowing each pilot access to the same information to use in planning their encounter.

VTS projects the vessels' positions to verify the validity of the ETAs.

If the situation does not develop as expected VTS might recommend an alternative plan. VTS may proactively authorize a deviation from regulations early enough for the two pilots to develop a strategy for a close but safe meeting scenario. Or as a last resort VTS may direct one of the vessels to avoid the area completely.

Continued on next page

Case study—A navigational example, Continued

Diagram

The following diagram depicts the scenario described on the previous page.

Consider the following points.

- As depicted the two vessels are approximately 26 nautical miles apart.
- The terrain between the vessels is mountainous, blocking visual and radio contact. The vessels may not be within radio range for 30 minutes.
- On average VTS San Francisco simultaneously tracks 25 vessels in the area depicted. Many of these vessels may be competing for space in the Regulated Navigation Areas.

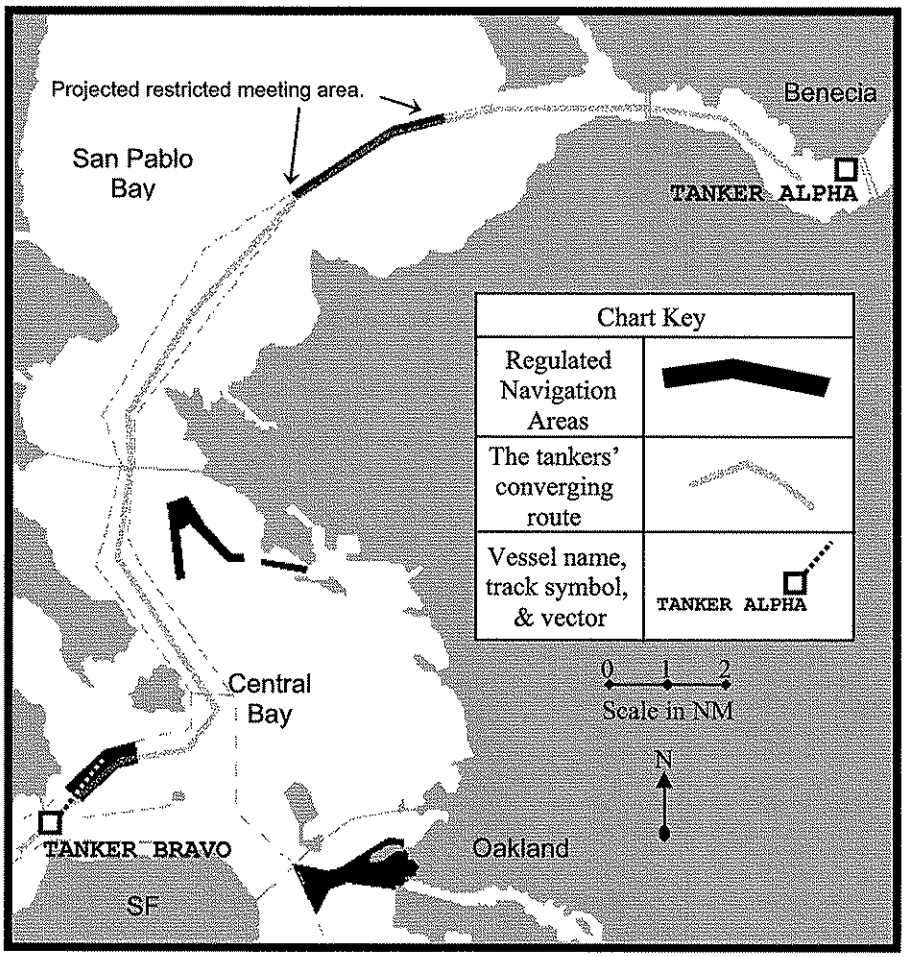

Diagram depicting tankers' route and Regulated Navigation Areas

Potential outcome

In this scenario, without VTS participation in the decision process, each vessel's pilot will realize that his/her first opportunity to communicate and their first discovery of each other might be after they are both committed to continuing.

At this point it may by too late to develop a plan that is satisfactory.

Case study—Computerization of VTS

A point to consider

If a vessel installs a highly technical automatic radar plotting system in place of the old standard radar scope, the onboard procedures must change and the new procedures must be practiced by the bridge team as a whole. Without a comprehensive training program, the new computerized plotting system may cause more problems than it solves. It may even lead to a technology-assisted collision.

Situation

In 1997, VTS San Francisco started a project to computerize the VTS Operations Center. As with any new technology the new system was greeted with skepticism on the part of the VTS personnel as well as the VTS users. With the new computers, Vessel Traffic Management Operators would no longer hand write each vessel's transit information on index cards (a simple and familiar data entry format). Instead, VTS operators would type in computer forms as each VTS user was communicating with VTS.

Using the index card-based system, the average Sailing Plan report (initial check-in report) transaction time was around 15 seconds. That same transaction took more than 45 seconds using the computer system.

The unique concerns associated with navigating through the restricted waters of San Francisco Bay require that VTS operators collect and record between five and seven critical elements of information for every transit.

The added transaction time associated with the computers severely detracted from the VTS operators' traffic management time and threatened to undermine VTS's ability to serve as a productive member of vessels' bridge teams.

Solution

It was clear that a three hundred percent increase in Sailing Plan transaction time would cripple the vessel traffic management process in the San Francisco VTS area; elimination of incoming or outgoing information was not an option.

VTS San Francisco quickly realized that the ultimate solution to this problem had to be more far-reaching than usual. Not only would VTS procedures have to change but VTS users would have to do things differently too.

So VTS got the San Francisco Bar Pilots involved.

Continued on next page

Case study—Computerization of VTS, Continued

Strategy STAGE 1

New procedures were co-developed: In several committee meetings VTS and pilots worked together to streamline and document the new Sailing Plan reporting procedures.

The order of the reported information changed slightly and predictable delays had to be preprogrammed into the procedures. In a combined effort the two agencies designed and published a tri-fold pamphlet for pilots to use as a guide when making their VTS reports.

Strategy STAGE 2

All of the pilots were trained: VTS conducted two training sessions at San Francisco Bar Pilots' monthly meetings. The new pamphlet was introduced and the new procedures were explained. Some pilots questioned the need to change their procedures to aid VTS's computers. This was a valid concern. But after pictures of the new VTS computer display were shown, most pilots were in agreement that the negative aspect—slower data input—seemed to be outweighed by the benefits of the new graphical VTS display.

Strategy STAGE 3

All VTS personnel were trained: All VTS personnel were given more than 30 hours of data entry training. As a part of the new procedures, VTS had to learn how to be firm but respectful by taking a more proactive role in controlling incoming communications. Having already achieved "buy-in" from the pilots regarding changing their habits, the sales campaign (and any major office automation project like this is a sales campaign) to the VTS personnel—the training—went much more smoothly.

Strategy STAGE 4

Other VTS users were conditioned: VTS and the sixty-five San Francisco Bar Pilots worked together on an ongoing basis to help condition the harder-to-reach segments of the San Francisco Bay region marine community. Towing vessels and unpiloted vessels began to hear the highly structured, professional-sounding communications between the pilots and VTS and they copied them. VTS published and distributed training pamphlets for each category of VTS users that were patterned after the one co-designed by VTS and the pilots. VTS still trains new pilots, towing vessel operators and ferry skippers using these training materials. Under programs supervised and enforced by their own agencies each pilot and ferry skipper makes familiarization visits to VTS to observe and learn.

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Case study—Computerization of VTS, Continued

Final outcome

Today the VTS sector operator's ability to process transit information is only limited by the speed of the computer system hardware and software. Most VTS personnel agree that the computer display is far easier to interpret than the old index-card based system. Traffic conflicts are easier to spot and solutions are easier to formulate.

VTS provides input to the computer system engineers based on comments from mariners. This input resulted in major VTS computer system software and hardware changes. These changes enhance VTS's capabilities to serve as an extension of vessels' bridge teams by further streamlining the operation of the computers.

Future technology

Excerpt From:

As of 31 December 2004, the International Maritime Organization made automatic Identification Systems (AIS) mandatory equipment onboard certain vessels. AIS transponders automatically transmit vessel position and transit information and allow VTS-like displays containing this information available on all vessels using AIS. All of these vessels use the VTS system. In preparation for the implementation of the IMO mandated AIS carriage requirements, VTS installed signal reception equipment and software upgrades to the CGVTS system which dramatically increased VTS's ability manage vessel traffic. The use of the AIS system also caused changes in reporting procedures for vessels. VTS personnel carefully planned and conducted a major training program and trained more than a thousand mariners and VTS operators in new reporting procedures. In the future, these systems may cause VTS radio traffic to become "quieter" as more information will be available to mariners in a graphic format.

New tools of the trade like this will dramatically change each party's role in the bridge-team relationship, including the VTS's. The future of navigation safety will depend on the stakeholders working more closely together than ever to ensure that these fantastic new technologies will assist and not hinder vessels' bridge teams.

Conclusion

Summary

The Ports and Waterways Safety Act of 1972 gives VTS San Francisco the authority to direct ships and to issue orders to vessel masters.

The Coast Guard could have used this authority to establish an authoritarian or "controlling" VTS. Instead, the management of VTS San Francisco decided that the VTS would apply the many strengths of a tracking station having many remote surveillance sensors to aiding vessels' navigators—to serving as a remote member of the onboard navigation team.

A testament to the success of this bridge-team extension approach is the fact that in VTS San Francisco's 26-year history you can count on one hand the number of times that VTS has resorted to directing a vessel.

Interesting closing quotes

Here are some interesting viewpoints.

Captain Arthur J. Thomas (Unit Yankee), one of the San Francisco Bar Pilots, said:

"I do not consider myself a customer of the VTS and I do not consider the VTS necessarily responsible to serve me. But rather I consider the VTS, the pilots, and the other professional mariners to be acting in concert to serve the waterway, the port, and to protect the environment."

After participating in VTS operations during his time on duty at VTS San Francisco, Captain Thomas said:

"It is clear to me that the skills required for a VTS operator are completely different than those required for a pilot. A great pilot would not necessarily make a great VTS operator."

Chapter 3

Revised July 2005

National VTS Regulations Training Guide

Contents

Section One Introduction

Overview

Vessel Traffic Service regulations make participation in all VTSs mandatory.

33 CFR 161 comprises the National Vessel Traffic Services Regulations (NVTSR).

The NVTSR, contained in 33 CFR 161, are organized into three subparts.

- Subpart A
  - National VTS Regulations (General Rules)
  - Services
  - VTS Measures
  - Operating requirements
- Subpart B
  - Vessel Movement Reporting System (VMRS) regulations
- Subpart C
  - Geographic descriptions and local regulations pertaining to VTS Areas
  - VTS Special areas
  - Reporting points

Purpose

The purpose of this training is to teach the student the operational aspects of the NVTSR and to introduce terminology associated with the NVTSR.

This training will not provide the student with a detailed analysis of the entire regulation but will identify the parts pertinent to operations at VTS San Francisco.

Prerequisite

The student must have a working knowledge of current VTS San Franciso operating procedures to effectively complete the required objectives.

Objectives

Upon completion of this training the student will be able to do the following.

1. Define the U.S. navigable waters.
2. State the boundaries of the VTS San Francisco VTS Area.
3. State the significance of the U.S. navigable waters as they apply to the NVTSR.
4. Name each of the two sectors within the VTS San Francisco VTS Area.
5. ~~Explain VTS San Francisco's philosophy regarding traffic management as it applies to the two sectors within the VTS San Francisco VTS Area.~~
6. State the two categories of vessels that make up the VTS Users.
7. Explain the VTS Users' responsibilities as they apply to channel 13 and channel 14 VHF-FM.
8. Explain the significance of 47 CFR 80.148.
9. Define the term "VMRS."
10. Define the term "VMRS Users" and state the three types of vessels that make up the category VMRS User.
11. Name and define each of the four reports which must be made by VMRS Users, and state when each report must be made.
12. Explain the reporting exemptions as they apply to:
    - Vessels on a published route and schedule,
    - Vessels operating within a three nautical mile radius, and
    - Escort or assist vessels.
13. ~~Identify the quick reference guide that lists the information required in VMRS Users' reports.~~
14. Define the term "VTS Measure."
15. Explain the significance of the Ports and Waterways Safety Act of 1972 (PWSA) (as amended) as it applies to the Coast Guard's continuing philosophy on directing vessel movements and as it applies to VTS's authority under the NVTSR.
18. ~~State what action VTS can take to enhance navigation and vessel safety, and to protect the marine environments.~~

How to proceed

- Study each training section in order to complete the objectives.
- Refer to **33 CFR 161** for the complete NVTSR.
- Contact the Training Coordinator or Assistant Training Coordinator for questions regarding the training material.

Section Two — Authority

Overview

The PWSA has been amended twice. It was first amended by the Port and Tanker Safety Act of 1978 (PTSA 78), then by the Oil Pollution Act of 1990 (OPA 90).

The PTSA 78 so drastically changed the wording of the PWSA that the original act had might as well be called the PTSA 78--but it's not. It is still cited as the PWSA.

Then came OPA 90. OPA 90 made some slight but significant changes to wording of what was left of the PWSA.

OPA 90 required that the Coast Guard specify certain vessels that must participate in a VTS.

NVTSR

The NVTSR were established in part as a response to the requirements of OPA 90.

The primary effect of the NVTSR on VTS operations was to make participation in all VTSs mandatory for certain vessels.

Authority

The following is from the Ports and Waterways Safety Act of 1972 (as amended).

"The Secretary may order any vessel ... to operate or anchor in a manner he directs if by reason of:

- *Weather,*
- *Visibility,*
- *Sea conditions,*
- *Port congestion, or*
- *Other hazardous circumstances*

... such directive is justified in the interest of safety."

Delegation

The NVTSR allows the Captain of the Port to delegate the authority of the Ports and Waterways Safety Act to the Commanding Officer of VTS.

The NVTSR then allows the Commanding Officer of VTS to further delegate the authority to Vessel Traffic Center personnel.

CO VTS

33 CFR 1.01-30(b)

"Subject to the supervision of the cognizant Captain of the Port and District Commander, [the Commanding Officer of VTS San Francisco is] delegated authority under the Ports and Waterways Safety Act to discharge the duties of the Captain of the Port that involve

- Directing
  - The operation,
  - The movement, and
  - The anchoring of vessels within the VTS Area,
- Including management of vessel traffic
  - Within anchorages,
  - Regulated navigation areas, and
  - Safety zones,
- and to enforce [through monitoring]
  - Vessel Traffic Service [regulations], and
  - Ports and waterways safety regulations.

VTS Measures

VTS may issue measures or directions to enhance navigation and vessel safety and to protect the marine environment.

Section Three

VTS Area

Overview

The term VTS Area refers to the VTS San Francisco area of responsibility.

U.S. Waters

The U.S. navigable waters are defined as:

- the internal waters of the United States and
- the territorial seas.

The territorial seas extend out 12 miles from the coastline. (33 CFR 2.05-5)

Channel 13

The Bridge-to-Bridge Radio Telephone Act only applies within U.S. navigable waters (33 CFR 26.03 (c)).

Authority

VTS San Francisco may exercise authority, as addressed in Section Two of this training guide, in the part of the VTS Area that falls within the U.S. navigable waters.

As of 10/15/02 the entire VTS San Francisco area falls within U.S. navigable waters.

~~Part of the VTS Area extends outside of U.S. navigable waters.~~

~~VTS San Francisco is a voluntary VTS in the areas outside of U.S. navigable waters.~~

VTS Area

The VTS Area consists of all of the navigable waters of the San Francisco Bay region to Stockton, Sacramento, and Redwood City, with three exceptions:

- North of Mare Island Causeway Bridge,
- Petaluma River entrance channel to Petaluma River entrance markers "19" and "20", and
- South of the Dumbarton Bridge.

The VTS Area extends outside the Golden Gate to include the waters within a thirty-eight nautical mile radius of the top of Mount Tamalpais (37-55.8'N, 122-36.6'W).

Sectors

The NVTSR gives VTS San Francisco the authority to divide the VTS Area into sectors to identify different operating requirements.

VTS San Francisco's VTS Area consists of two sectors:

- Offshore Sector, and
- Inshore Sector.

Offshore Sector

The Offshore Sector encompasses the ocean waters within a thirty-eight nautical mile radius of Mount Tamalpais excluding the Offshore Precautionary Area.

The term "OVMRS" (ancient term used to refer to the VTS San Francisco Offshore Sector) should never be used to refer to the Offshore Sector.

~~VTS has the authority to require vessels that are within the Offshore Sector and bound for San Francisco Bay to make position reports as a condition of port entry; however, VTS does not elect to exercise this authority.~~

~~Participation remains voluntary within the Offshore Sector.~~

VTS communications within the Offshore Sector are on channel 12.

Inshore Sector

The Inshore Sector encompasses the remainder of the VTS Area as defined on page 7 under the sub-heading "VTS Area."

Remember, the Inshore Sector includes the Offshore Precautionary Area.

~~Except for the area outside of the U.S. navigable waters (beginning approximately one half mile east of Main Ship Channel buoys "7" and "8") the Inshore Sector falls within the scope of the NVTSR and participation by certain vessels is mandatory.~~

~~Outside of U.S. navigable waters participation by certain vessels is requested.~~

All VTS communications within the Inshore Sector are on channel 14.

Philosophy

The Inshore Sector and the Offshore Sector are both parts of the overall VTS Area. As a vessel enters or exits the Offshore Precautionary Area it is simply moving from one sector to another.

The VTS User should not perceive a change in the philosophy of traffic management when this sector hand-off occurs. Neither should the Vessel Traffic Controller.

Continuum of Control

Part of VTS San Francisco's traffic management philosophy includes the Continuum of Control.

The continuum of control is as follows:

- **Monitor** -Using available surveillance equipment
- **Inform** -VTS will assist mariners by providing clear, concise and meaningful information.
- **Recommend** -VTS can recommend alternatives to navigation decisions to enhance safety and security.
- **Direct** (under authority of the NVTSR and enforceable only within U.S. navigable waters)

Section Four

VTS Users

Overview

The NVTSR require that certain vessels use the VTS system.

The level of VTS User participation required varies.

VTS Users

There are two categories of vessels that are **VTS Users.**

1. Vessels that are subject to the Bridge-to-Bridge Radio Telephone Act. (VTS Users)

- Vessels 20+ meters in length while navigating
- Vessels 100+ gross tons carrying 1+ passengers for hire
- Towing vessels 26+ feet while navigating
- Dredges or floating plants [operating near channels, except unmanned floating plants under the control of a dredge]

VMRS Users

2. Vessels that are required to participate in a Vessel Movement Reporting System (VMRS Users).

- Power-driven vessels 40+ meters long while navigating
- Towing vessels 8+ meters long while towing
- Vessels certificated to carry 50+ passengers for hire while engaged in trade

VTS Comms

Within U.S. navigable waters, all VTS Users that are subject to the Bridge-to-Bridge Radio Telephone Act must maintain a continuous listening watch on channel 13, and on channel 14.

Every VTS User that is required to maintain a continuous listening watch on channel 13 must have a dedicated transceiver for channel 13 and another dedicated transceiver for channel 14.

~~Outside of U.S. navigable waters many vessels are required by international law to maintain a continuous listening watch on channel 16.~~

~~Outside of U.S. navigable waters VTS Users are REQUESTED to maintain a continuous listening watch on the assigned VTS frequency (Inshore Sector, channel 14; Offshore Sector, channel 12).~~

Scanning

Radios in the scan mode do not satisfy the mandatory continuous listening watch requirements for channel 13 or for the assigned VTS frequency.

Channel 16

47 CFR 80.148 says:

VTS Users need not maintain a continuous listening watch on channel 16 if they:

- are subject to the Bridge-to-Bridge Radio Telephone Act,
- maintain a continuous listening watch on channel 13,
- are participating in a VTS, and
- maintain a continuous listening watch on the VTS frequency [channel 14].

3 To summarize, VTS Users will probably not be monitoring channel 16.

~~Remember, this federal regulation only applies within U.S. navigable waters. International regulations require vessels to monitor channel 16 outside U.S. navigable waters.~~

Reporting

VMRS Users (further defined in Section Five) must make reports to VTS.

Remember, some VTS Users are not VMRS Users. Here are some examples:

- Power-driven vessels 20 to 40 meters long,
- Dredges and floating plants, and
- Passenger vessels that are greater than 100 gross tons and less than 40 meters long, and are certificated to carry 49 or fewer passengers for hire.

These vessels should not routinely report to VTS but must maintain a continuous listening watch on channel 13 and on the assigned VTS frequency--that is, they are "required passive participants."

All VTS Users must report to VTS when hazardous conditions exist, as explained in Section Seven of this training guide.

Section Five

VMRS User

Overview

In the development of the NVTSR the Coast Guard decided not to extend the reporting requirements (mandatory participation) to all commercial vessels.

This was done primarily to achieve an operational balance allowing effective VTS service—given equipment and resources—without overburdening VTS with too many participants.

VMRS User

A VMRS User is defined as a vessel, owner, operator, charterer, master, or person directing the movement of a vessel, that is required to participate in a VMRS--[a mandatory participant]. They are:

- Power-driven vessels 40+ meters in length while navigating,
- Towing vessels 8+ meters in length while towing.
- Vessels certificated to carry 50+ passengers for hire while engaged in trade.

Old VMRS

The meaning of the term Vessel Movement Reporting System was significantly changed by the NVTSR.

Prior to the implementation of the NVTSR in 1994, the term VMRS referred to that part of the VTS Area that was not under VTS surveillance, such as the area east of the Union Pacific Railroad Bridge. This is no longer the case.

New VMRS

Under the NVTSR, the term VMRS means the entire system used to manage and track vessel movements anywhere in the VTS Area [regardless of the presence of VTS surveillance equipment].

The management and tracking of vessel movements is accomplished by vessels providing information under established procedures or as directed by VTS.

Reporting

VMRS Users must make four specific reports to VTS at specific times.

Refer to the User's Communications Guide (Third Edition) on the VTS WEB site - http://www.uscg.mil/D11/vtssf/ - for specific information required for each of the required reports.

Sailing Plan

VTS must know exactly when a VMRS User plans to enter the VTS Area.

15 minutes

Each VMRS User must make a Sailing Plan report at least 15 minutes before navigating in a VTS Area because:

- VTS has the authority to specify any VTS User's time of entry to, movement within, or departure from the VTS Area, and
- if certain conditions exist, such as dense traffic or bad weather, a VTS User can be denied permission to enter the VTS Area.

At least 15 minutes notice is required for VTS to make an accurate determination about the aforementioned

.

~~The sailing plan is like the pre-NVTSR "Pre-call Check-in Report"~~

Contents

The Sailing Plan Report will contain specific information about the vessel and its intended transit._

_

Docked

A vessel docked within the VTS Area must make a Sailing Plan report 15 minutes prior to leaving the dock (letting go last line).

Anchored

A vessel anchored within the VTS Area must make a Sailing Plan report 15 minutes prior to heaving the anchor (getting underway).

Approaching

A vessel approaching the VTS Area, such as one leaving the Petaluma River, must make a Sailing Plan report 15 minutes prior to entering the VTS Area.

A vessel inbound approaching the Offshore Sector **should** make a Sailing Plan report 15 minutes prior to passing the Offshore Sector VTS Area boundary.

Position Report

Every VMRS User must:

Entering area

State the vessel's **name and position** when entering the VTS Area.

That is:

- after letting go the last line and underway, or
- when crossing the VTS Area boundary (entering the VTS Area).

If the vessel plans to turn off the dock, those intentions must be stated in the Sailing Plan report.

Transit begins

If a vessel turned or maneuvered off a dock the vessel should make another position report when the transit begins.

Reporting points

Reporting points were not included in the NVTSR; therefore, VTS Users can not be required to comply with them unless specifically directed to (e.g. "Call again at the Antioch Bridge").

Directed

VTS may direct a VMRS User to make additional reports such as in the event of high traffic volume or loss of VTS surveillance equipment.

Special request

VTS is asking some passenger vessels to make position reports every thirty minutes to aid in VTS's tracking of the vessels.

Sailing Plan Deviation report

A VMRS User must report to VTS

- whenever there is significant deviation from previously reported information (plans or intentions change),
- whenever intentions are to deviate from a traffic routing system, or
- whenever intentions are to deviate from a VTS Measure (an order from VTS).

VTS Measures will be explained later.

Sailing Plan Deviation report (continued)

Amplification

It is not always possible for a vessel to make a complete Sailing Plan report before beginning a lengthy transit.

The term "Sailing Plan DEVIATION" does imply "changing" or "going against" an existing report. You must understand that for the purpose of this regulation the term also means "adding to" or "amplifying" the existing Sailing Plan.

A vessel must make a Sailing Plan Deviation report whenever necessary to add to or amplify the current Sailing Plan report.

Route intentions

See the Communications Guide Second Edition for the Central Bay route amplification reporting points.

Central Bay route amplification reporting points are for prompting vessel operators to provide VTS with specific route intentions in time for VTS to effectively use the information to manage the VMRS.

Final report

A VMRS User must report the vessels name and position to VTS

- upon reaching the destination (alongside the dock or anchored)

  or
- when leaving the VTS Area.

Exemptions

The following vessels are exempt from making Position and Final reports,

and

should make their Sailing Plan report between **FIVE** and fifteen minutes prior to entering the VTS Area or letting go last lines:

- vessels on a published route and schedule (e.g., ferry boats),
- vessels operating within an area with a radius of three nautical miles or less (e.g., berth shifts, short transits),
- escort vessels or assist vessels (e.g., assist tugs).

Section Six

VTS Measures

Overview

VTS has a responsibility to its users to enhance navigation safety within the VTS Area.

The continuum of control at VTS centers around monitoring, informing, and recommending; however, occasionally it is necessary for VTS to issue orders to vessel operators.

Defined

The **orders** issued by VTS are called VTS Measures.

Controlling

The Coast Guard's philosophy on controlling ships or directing vessel movements has not changed.

As stated in Section Two of this training guide, the Ports and Waterways Safety Act of 1972, which has been amended twice, has, since its implementation, given the Coast Guard the authority to control ships when in the interest of safety.

VTS Measures

VTS may issue

"[any] measures or directions necessary to enhance navigation and vessel safety, and protect the environment." (33 CFR 161.11(a))

Measure

A Measure could be a general broadcast, and inclusion in the Users Manual announcing temporary reporting points, an area where vessels are prohibited, or specific routes.

Direction

A direction is when a specific vessel is given a specific order.

Some specific examples are cited in the NVTSR (33 CFR 161.11):

- designating temporary reporting points (161.11(a)(1)),
- imposing vessel operating requirements (161.11(a)(2)),
- establishing vessel traffic routing schemes (161.11(a)(3)), and
- controlling times of entry, departure, or movement within the VTS Area (161.11(b)).

Remember VTS Measures or directions are only enforceable within U.S. navigable waters.

Liability

Grievous damage and/or liability could result from an improper VTS Measure.

VTS must ensure that every possible aspect of the VTS Measure is carefully thought out prior to its issuance.

VTS Measures should not include specific vessel operational orders such as helm or rudder commands.

The VTS Measure should clearly identify the desired outcome of the situation and allow the vessel operator to determine how to "make it happen."

Example

Directions:

- "Reduce to a safe speed." vice "Slow to 5 knots."
- "Do not enter the channel." vice "Slow your vessel."

Directing

It is on rare occasion that the VTS continuum of control will reach the level of the VTS issuing a VTS Measure.

However, when a VTS Measure is issued it must be clear to the VTS User that the vessel is being given an order from the Coast Guard.

No mariner should mistake a VTS Measure for a recommendation or an advisory.

Example

"Your vessel is directed to anchor."

Response

The VTS User's response to the VTS Measure must clearly state whether the vessel operator intends to comply with the VTS Measure or to deviate from it.

If the vessel operator's response is not clear VTS must solicit the information by asking the vessel operator.

Example

"Do you intend to follow the issued VTS Measure/direction?"

Deviation

The vessel operator is ultimately responsible for the safety of his/her vessel.

The NVTSR recognizes that compliance with the NVTSR or with VTS Measures are at all times "contingent upon the exigencies of safe navigation."

If the vessel operator feels that compliance with the NVTSR or with a VTS Measure would create a hazardous situation he/she must deviate from the regulations, or from the VTS Measure.

If a vessel operator intends to deviate from the NVTSR or from any issued VTS Measures he/she must advise VTS of this as soon as possible.

Section Seven — Hazardous Conditions

Overview

In order for VTS to effectively manage the VMRS, VTS must be abreast of all hazardous conditions that are present within the VTS Area.

The VTS is intended to be the primary source of vessel traffic information and the primary recipient of information required by Coast Guard reporting requirements.

VTS Users must not be made to duplicate any reports that are made to the Coast Guard that are required by the Navigation Regulations (Title 33, Chapter 1).

VTS duties

The NVTSR specifically addresses eight conditions that all VTS Users must report to VTS as soon as practicable.

All VTS watchstanders must be prepared to:

- receive the reports of hazardous conditions,
- swiftly respond to the VTS User,
- make timely, competent traffic management decisions,
- consider the long-term impact of the hazardous condition, and
- facilitate communications with other Coast Guard agencies such as MSO.

This training section will describe the eight conditions listed in 33 CFR 161.2(c).

Reference

Reference material containing tabulated copies of the applicable federal regulations will be located in the controller Quick Reference Binders.

Future training material will discuss the specific operational procedures for dealing with each hazardous condition.

Conditions

Following are the conditions described in the NVTSR and some examples of each condition.

The sub-lists beneath each condition are by no means the only examples of the condition.

1. **Marine casualty** *as defined in 46 CFR 4.05-1:*
   - accidental grounding
   - loss of main propulsion
   - material problems (fire, flooding, etc.)
   - loss of life
   - severe injury
   - damage in excess of $5,000
2. **Ramming of a fixed or floating object:**
   - vessel collision
   - bridge allision (striking a bridge)
   - pier allision (striking a pier)
3. **Pollution incident** *as defined in 33 CFR 151.15:*
   - discharge of other than permitted substances
   - discharge necessary to preserve life at sea
   - discharge resulting from damage to the ship
   - probable discharge
4. **Aids to navigation discrepancy**
5. **Hazardous condition** *as defined in 33 CFR 160.203:*
   - any condition which could adversely affect the safety of any vessel bridge, structure or shore area, or the environment
   - could include illness on-board
6. **Improper operation of vessel equipment** *required by 33 CFR 164:*
   - radar
   - gyro compass
7. **Hazardous materials situation** *requiring a report by 49 CFR 176.48:*
   - hazardous conditions onboard a hazardous materials vessel
   - loss or jettison of hazardous cargo

Conditions
(continued)

8. **Hazardous vessel operating condition** *as defined in 33 CFR 161.2:*
   - loss of steering, propulsion, radar
   - lack of navigational charts
   - hazardous cargo arrangement, load, under-keel clearance

Reports

The eight conditions outlined in 33 CFR 161.12(c) will be reorganized into logical, easy to understand reports, such as:

- vessel collision
- bridge incident
- equipment failure
- pollution incident
- ATON discrepancy
- hazardous materials condition

Chapter 4

Regulated Navigation Areas Training Guide

Contents

Revised Regulations as of 02/13/2004

This document is for training purposes only. Nothing stated herein supercedes the Code of Federal Regulations (CFR). For specific details on the wording a CFR consult official CFR publications.

~~This draft document should be disposed of on June 1, 2004. Contact VTS for a revised copy.~~

For questions, comments, or to report needed corrections contact Scott Humphrey, VTS San Francisco Training Director at the following e-mail address.
mailto:Shumphrey@11.uscg.mil

Section One Introduction

Overview

The Coast Guard has established regulated navigation areas (RNAs) within the San Francisco Bay Region in the waters of the Golden Gate, Central Bay, Lower Bay, San Pablo Bay, and Carquinez Strait.

VTS San Francisco is responsible for administering these RNAs.

Importance

In order to function effectively as a watchstander at VTS San Francisco you must have a complete knowledge of the San Francisco Bay Region Regulated Navigation Areas (RNAs).

This knowledge is of paramount importance if you are to effectively execute your duties to prevent vessel encounters in certain areas and prevent vessel passage through certain areas.

Under the RNAs you will be expected to pro-actively coordinate communications between vessels and issue VTS Measures and Directions when necessary to prevent maritime disasters.

Purpose

This Training Guide was designed to provide you with the information needed to ensure a comprehensive knowledge of the locations of each of the RNAs and the regulations that govern them.

Objectives

Upon completion of this training you will be able to do the following.

1. Using unlabeled chartlets, identify and label each of the RNAs.
2. Using unlabeled chartlets, identify and label each of the precautionary areas, traffic lanes, and traffic separation zones within the San Francisco Bay RNA.
3. Explain the applicability of Rule 9--Inland Navigation Rules--within the RNAs of the San Francisco Bay Region.
4. State the General Regulations that apply within all of the San Francisco Bay Region RNAs.
5. State the Specific Regulations that apply within each of the seven San Francisco Bay Region RNAs:
   - San Francisco Bay RNA
   - Oakland Harbor RNA
   - North Ship Channel RNA
   - San Pablo Strait Channel RNA
   - Southampton Shoal/Richmond Harbor RNA
   - Pinole Shoal Channel RNA
   - Benicia-Martinez Railroad Drawbridge RNA.
6. Explain the regulations that apply to requests for deviations from the Regulated Navigation Areas.

How to proceed

1. Read 33 CFR 165.1181--San Francisco Bay Region RNA.
2. Read and study each section of the Training Guide until you are able to perform each of the objectives.
3. Use the Review and Practice section of the Training Guide to test your knowledge of the material.
4. Contact the Training Coordinator if you have any questions.
5. Pass a written exam consisting of multiple choice questions and chartlets.

Section Two

The RNAs

Background

In 1972 the Coast Guard, with input from various members of the San Francisco Bay marine community, established voluntary vessel traffic routing measures (TRMs) for the waters of the San Francisco Bay Region.

In 1991 several changes were made to the TRMs. These changes included eliminating many of the traffic lanes in the Central Bay, expanding the Central Bay Precautionary Area, and establishing the Deep Water Route north of Harding Rock.

In 1993 the Coast Guard, with input from the Harbor Safety Committee of the San Francisco Bay Region, modified the voluntary TRMs and began developing RNAs to better conform to International Maritime Organization (IMO) traffic routing standards.

The RNAs are effective as of 3 May 95.

In February 2004 a revision to the original RNA regulations was implemented. This training guide includes the February 2004 revision.

Purpose

The RNAs are necessary due to vessel congestion in areas where maneuvering room is limited.

The RNAs will increase navigation safety in the San Francisco Bay Regio by:

- organizing traffic flow;
- reducing meeting, crossing, and overtaking situations in constricted channels; and by
- limiting vessels' speeds.

CFR

The RNAs are contained in 33 CFR 165.1181

The RNAs

RNAs

There are seven San Francisco Bay Region RNAs.

- San Francisco Bay RNA
- Oakland Harbor RNA
- North Ship Channel RNA
- San Pablo Bay RNA
- Southampton Shoal/Richmond Harbor RNA
- Pinole Shoal Channel RNA
- Benicia-Martinez Railroad Drawbridge RNA

The following 4 pages (Figures 1 through 4) illustrate the RNAs.

The plan

In the following sections you will be introduced to:

- the locations of each of the RNAs;
- the General Regulations that apply in all of the RNAs; and to
- the Specific Regulations that are unique to each of the RNAs.

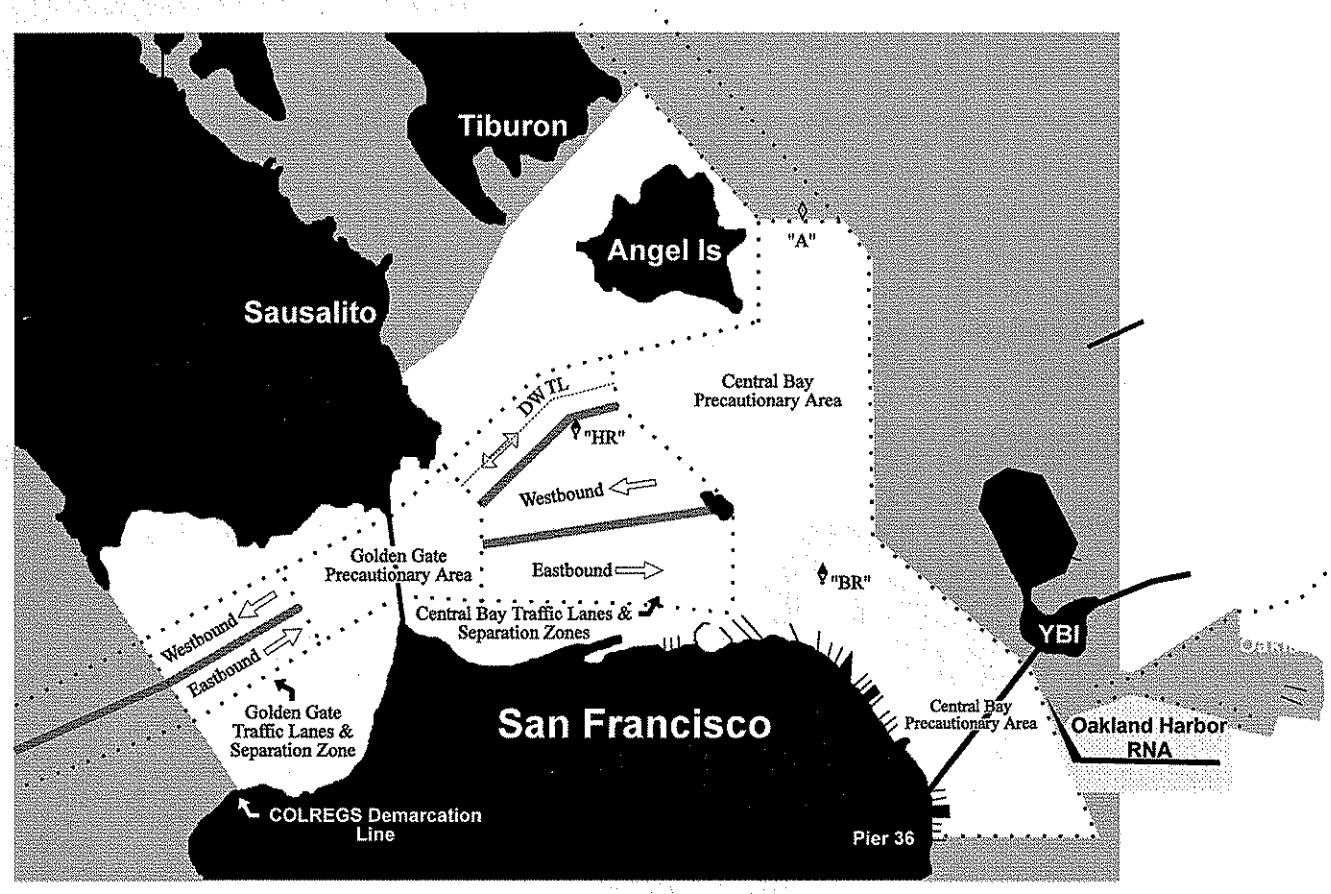


Figure 1
San Francisco Bay RNA &
Oakland Harbor RNA

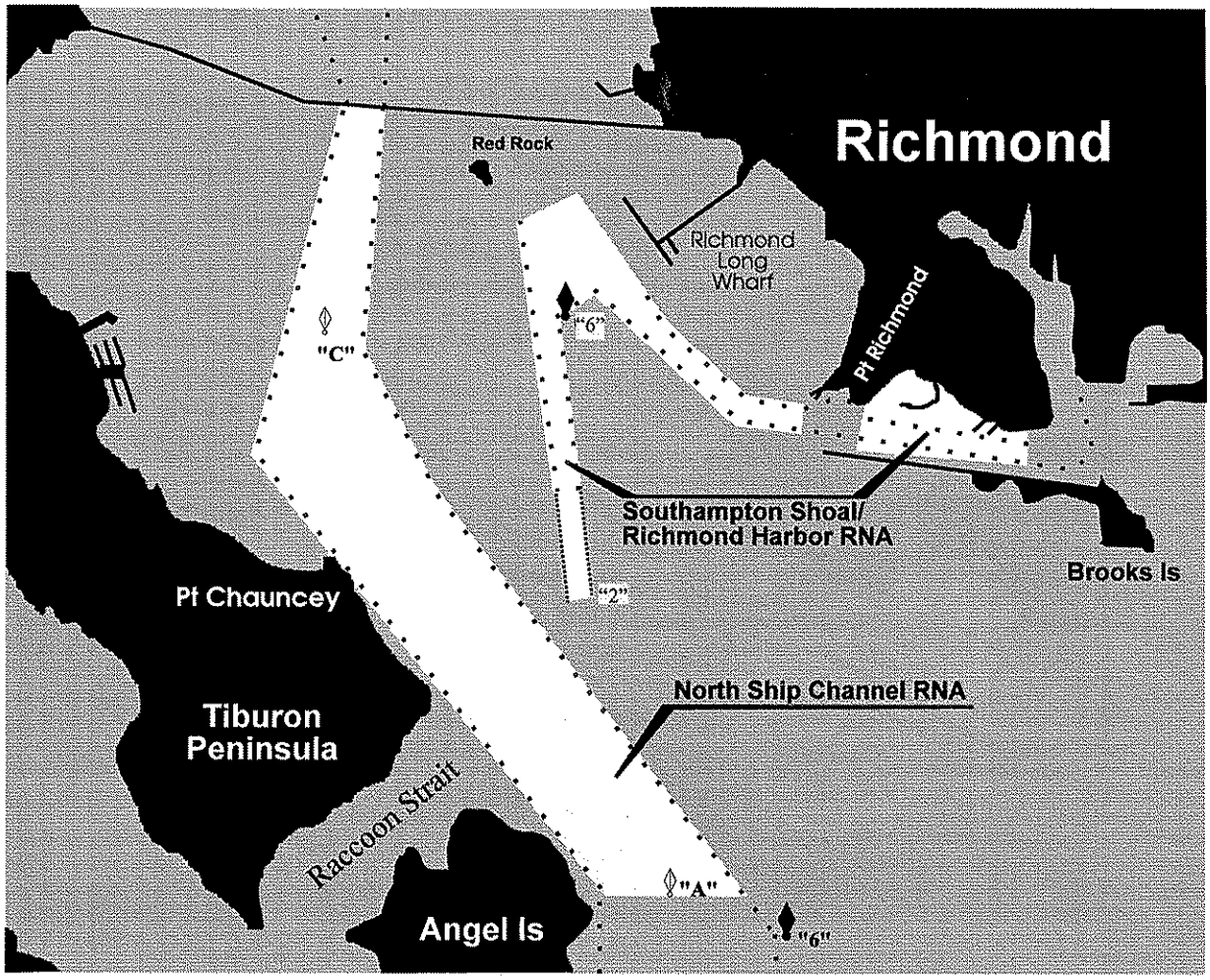


Figure 2
North Ship Channel RNA &
Southampton Shoal/Richmond Harbor RNA

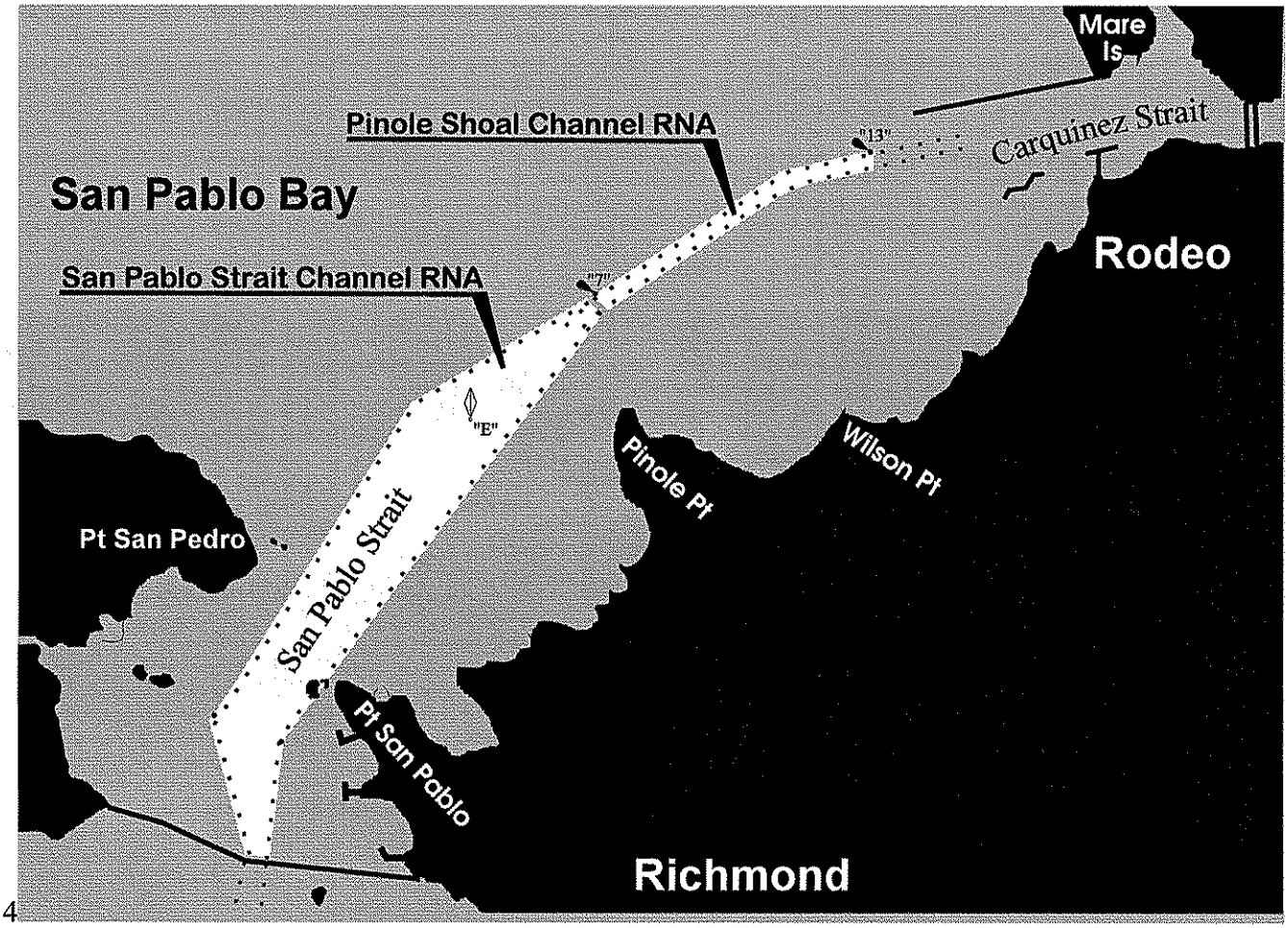


Figure 3
Pinole Shoal Channel RNA &
San Pablo Strait Channel RNA

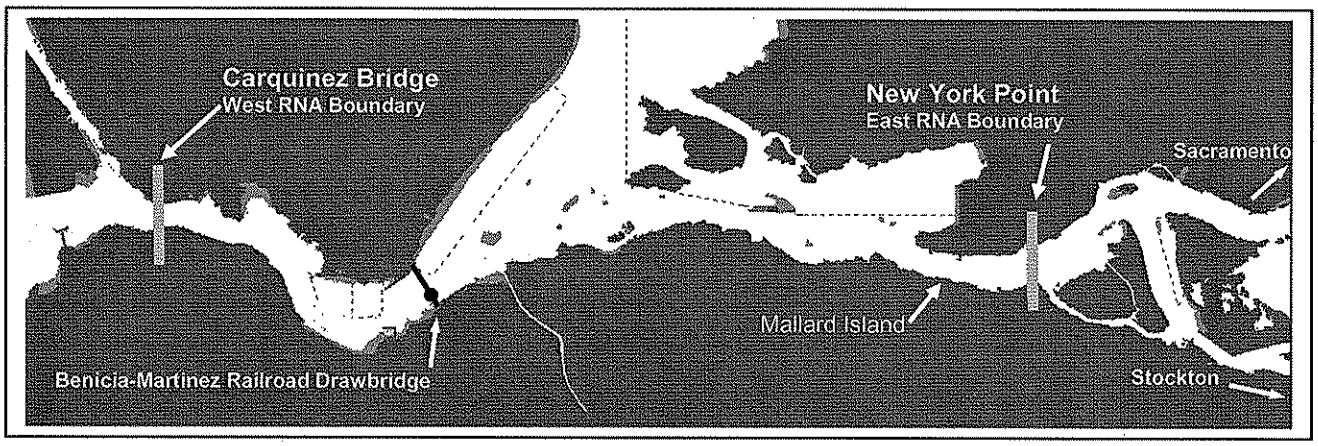


Figure 4
Benicia-Martinez Railroad Drawbridge RNA

Section Three — General Regulations

Overview

The General Regulations apply throughout all of the RNAs.

This section will explain the General Regulations.

Learning Aids

Throughout the remainder of this training guide the following special terms will be used to refer to two important categories of vessels.

These terms are meant as **learning aids** only and are not recognized as vessel categories outside of the context of this training manual.

"LARGE VESSEL"

A LARGE VESSEL is a:

- power-driven vessel of 1600 or more gross tons; or a
- tug with a tow of 1600 or more gross tons.

"HIGH-RISK VESSEL"

A HIGH-RISK VESSEL is a LARGE VESSEL (as defined above) that is:

- carrying certain dangerous cargoes (as defined in 33 CFR 160.203);
- carrying bulk petroleum products; or is a
- tank vessel in ballast.

General Regulations

Speed Limit

A LARGE VESSEL navigating within the RNAs shall not exceed a speed of 15 knots through the water.

Engine requirements

A LARGE VESSEL navigating within the RNAs:

- shall have its engine(s) ready for immediate maneuver and
- shall operate its engine(s) in a control mode and on fuel that will allow for an immediate response to any engine order, ahead or astern, including stopping its engine(s) for an extended period of time.

Narrow channels or fairways

The Captain of the Port San Francisco has designated specific areas within the San Francisco Bay Region as narrow channels or fairways. (See COTP Public Advisory 5-95.)

Included in this list of areas are the traffic lanes, channels, and precautionary areas of the San Francisco Bay Region RNAs.

Like COTP Public Advisory 5-95, the RNA regulations address the issue of narrow channels or fairways by stating that the master, pilot, or person directing the movement of **[ANY]** vessel in an RNA shall comply with Rule 9 of the Inland Navigation Rules.

Notice that while many of the RNA regulations are directed at LARGE VESSELS, Rule 9 is directed at all vessels regardless of size.

Deviations

The Captain of the Port or the Commanding Officer of VTS San Francisco may authorize a deviation from the requirements of the RNA regulations when it is deemed necessary to do so in the interest of safety.

Overview

The San Francisco Bay RNA consists of the water area in the Golden Gate east of the COLREGS Demarcation Line, the Central Bay including Raccoon Strait, and the existing charted precautionary area east of Alcatraz Island.

The San Francisco Bay RNA is the only RNA containing traffic lanes, traffic separation zones, and precautionary areas.

The white area in Figure 5 represents the entire San Francisco Bay RNA.

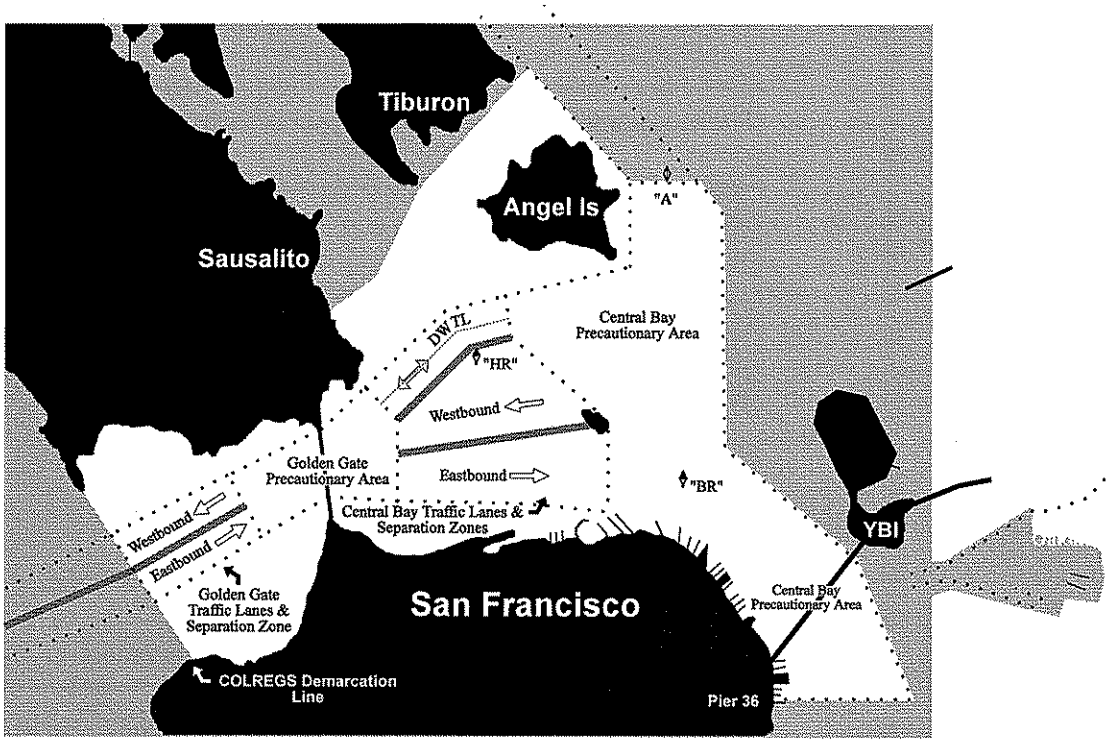


Figure 5 - San Francisco Bay RNA

In order to understand the regulations that apply within this RNA you must be able to name and locate each of the traffic lanes, separation zones, and precautionary areas.

Traffic Routing

Golden Gate Traffic Lanes and Separation Zone

The Golden Gate Traffic Lanes consist of the:

1. Westbound Traffic Lane,
2. Eastbound Traffic Lane, and the
3. Golden Gate Separation Zone.

The Golden Gate traffic lanes and separation zone are illustrated in Figure 5 as part of the San Francisco Bay RNA .

Golden Gate Precautionary Area

The Golden Gate Precautionary Area is illustrated in Figure 5.

Central Bay Traffic Lanes and Separation Zones

The Central Bay traffic lanes and separation zones consist of (from north to south) the:

1. Deep Water Traffic Lane (DWTL),
2. DWTL Separation Zone,
3. Westbound Traffic Lane,
4. Central Bay Separation Zone, and
5. Eastbound Traffic Lane.

These traffic lanes and separation zones are illustrated in Figure 5.

Central Bay Precautionary Area

The Central Bay Precautionary Area is illustrated in Figure 5.

Notice that it extends south of the San Francisco-Oakland Bay Bridge.

Specific Regulations

The **Specific Regulations** address three primary issues with respect to the San Francisco Bay RNA. They are:

1. [traffic separation rules] **similar** to those found in Rule 10--Inland,
2. mandatory use of the DWTL by certain vessels, and
3. restrictions on meeting, crossing, and overtaking (passing) within the DWTL by certain vessels.

Remember

The General Regulations, which are discussed in Section 3 apply in all of the RNAs.

Traffic Separation Rules

Rule 10--Inland does not apply within the San Francisco VTS Area.

Notice that much of the wording found in the traffic separation rules is similar to the wording in Rule 10--Inland.

All Vessels

All vessels are directed to navigate with particular caution in a precautionary area, or in areas near the terminations of traffic lanes or channels.

LARGE VESSELS

LARGE VESSELS (as defined earlier) are instructed to do the following.

1. Use the appropriate traffic lane and proceed in the general direction of traffic flow for that lane.

2. Normally join or leave a traffic lane at the termination of the lane, but when joining or leaving a traffic lane from either side do so at as small an angle to the general direction of traffic flow as practicable.

4. So far as practicable keep clear of the Central Bay Separation Zone and Deep Water Traffic Lane Separation Zone.

5. [Do] not cross a traffic lane separation zone unless crossing, joining, or leaving a traffic lane.

Deep Water Traffic Lane

Due to the presence of shoals and rocks in the Central Bay, the Central Bay Deep Water Traffic Lane provides the best water depth for transiting deep-draft LARGE VESSELS.

Mandatory use

The following vessels shall use the DWTL:

- eastbound (inbound) LARGE VESSELS drawing 45 or more feet, and
- westbound (outbound) LARGE VESSELS drawing 28 or more feet.

Passing Restrictions

A LARGE VESSEL shall not enter the DWTL when another LARGE VESSEL is navigating in the DWTL when both of the following conditions exist:

- either of the two is a HIGH-RISK VESSEL (defined on page 10), and
- entering the DWTL would result in a meeting, crossing, or overtaking situation between these two vessels.

Notice that two LARGE VESSELS may meet, cross, or overtake in the DWTL if **neither** of the vessels is a HIGH-RISK VESSEL.

Section Five

Specific Regulations
Oakland Harbor RNA

Overview

The Oakland Harbor RNA encompasses the Oakland Bar Channel, Oakland Outer Harbor Entrance, Middle Harbor, and Inner Harbor Entrance Channels.

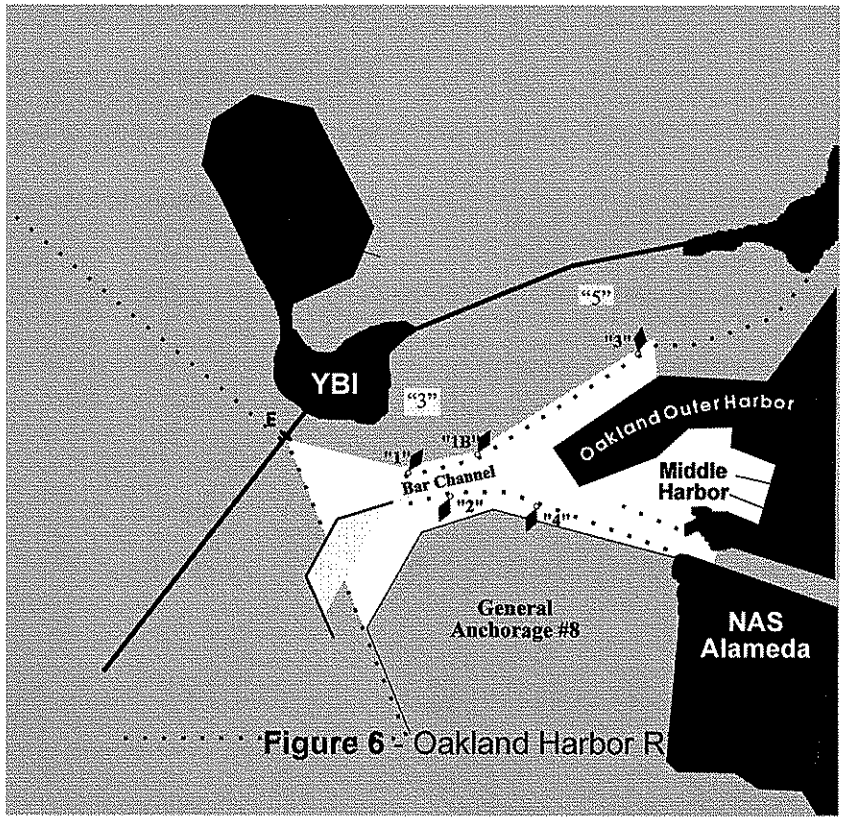


Figure 6 - Oakland Harbor R

The formerly charted Limited Traffic Area (LTA), which recommends that vessels of 300 or more gross tons transit one at a time, is replaced by the Oakland Harbor RNA.

The northern boundary of the Oakland Harbor RNA differs slightly from the boundary of the former LTA.

Specific Regulations

The Specific Regulations address only one issue with respect to the Oakland Harbor RNA--passing restrictions for LARGE VESSELS.

Remember

The General Regulations, which are discussed in Section 3, apply in all of the RNAs.

Passing restrictions

A LARGE VESSEL shall not enter the Oakland Harbor RNA when there is another LARGE VESSEL navigating within the RNA if doing so would result in a meeting, crossing, or overtaking situation developing between the two vessels.

Notice that HIGH RISK vessels are not mentioned in this restriction.

The idea of this restriction is to eliminate the possibility of any close-quarters situations developing between any LARGE VESSELS within this RNA, regardless of the vessels' cargoes.

Maneuvering room is severely limited in this RNA.

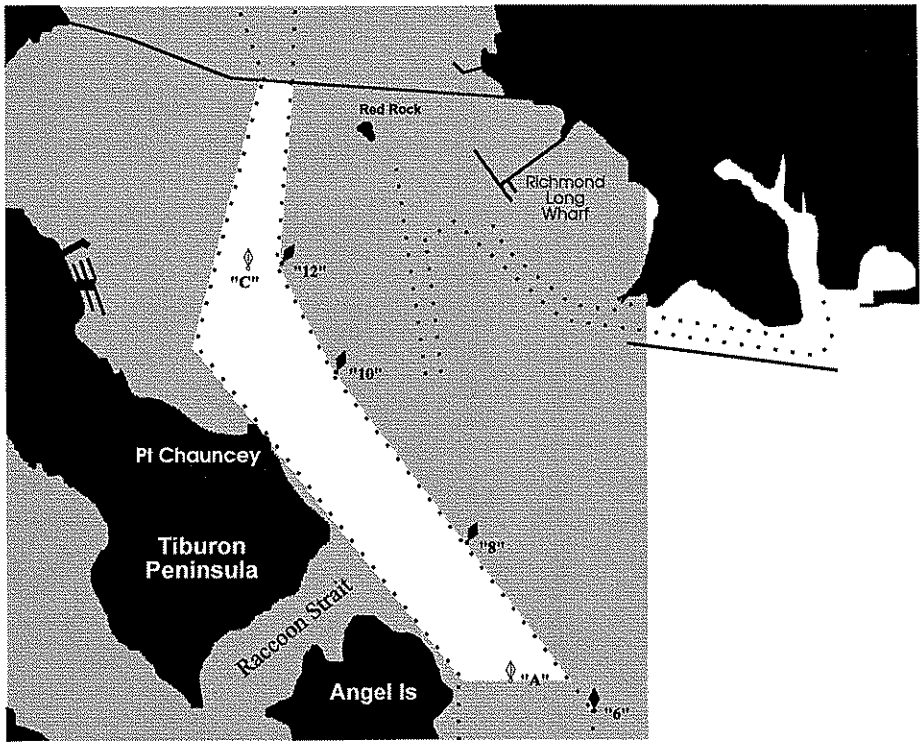
Section Six

Specific Regulations
North Ship Channel RNA

Overview

The North Ship Channel RNA consists of the existing charted channels.

The North Ship Channel RNA extends from approximately east of Angel Island to the Richmond-San Rafael Bridge.



Specific Regulations

Only the General Regulations apply within the North Ship Channel RNA.

No Specific Regulations apply.

General Regulations

Refer to Section 3 for the General Regulations.

Figure 7 - North Ship Channel RNA

Section Seven

Specific Regulations
Southampton Shoal/Richmond Harbor RNA

Overview

The Southampton Shoal/Richmond Harbor RNA encompasses Southampton Shoal Channel, the Richmond Long Wharf Maneuvering Area, the Richmond Harbor Entrance Channel, and Point Potrero Reach.

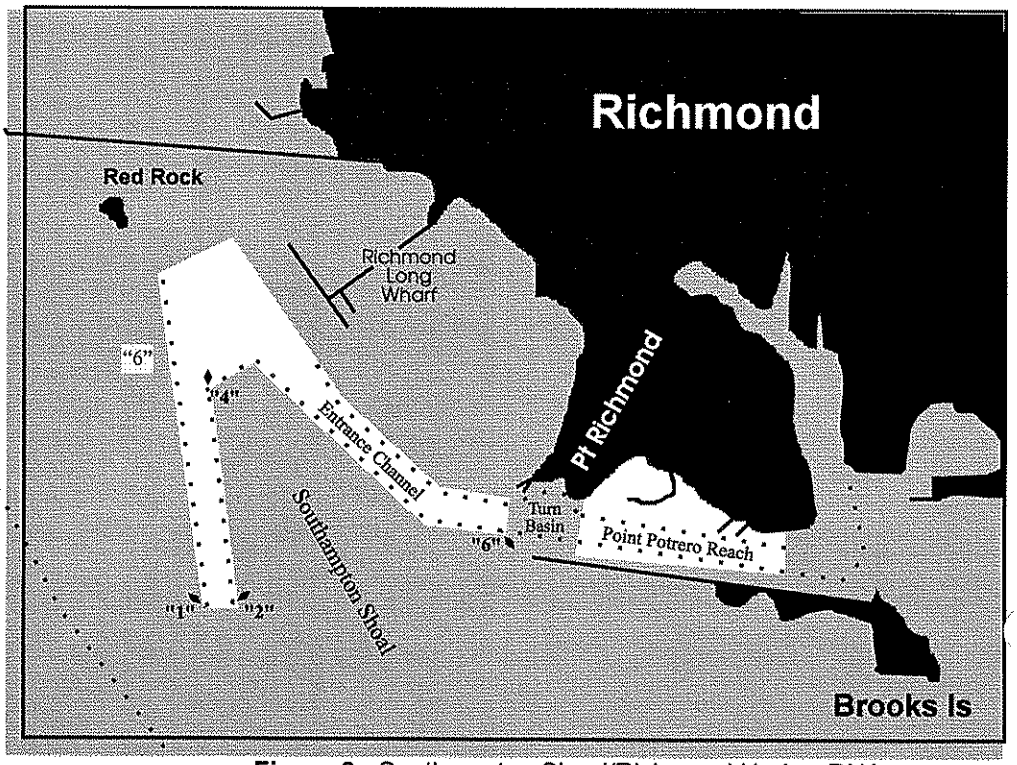


Figure 8 - Southampton Shoal/Richmond Harbor RNA

Notice that the boundary of the RNA lies **320** yards away from the Richmond Long Wharf. This allows for vessels to maneuver alongside the dock without being inside of the RNA.

Notice that the Turning Basin, located adjacent to Point Richmond, between the Entrance Channel and Point Potrero Reach, is not in the RNA.

Vessels may meet, cross, and overtake one another in the areas outside of the RNA.

Specific Regulations

The Specific Regulations address only one issue with respect to the Southampton Shoal/Richmond Harbor RNA--passing restrictions for LARGE VESSELS.

Remember

The General Regulations, which are discussed in Section 3, apply in all of the RNAs.

Passing restrictions

A LARGE VESSEL shall not enter the Southampton Shoal/Richmond Harbor RNA when there is another LARGE VESSEL navigating within the RNA if doing so would result in a meeting, crossing, or overtaking situation developing between the two vessels.

Notice that HIGH RISK vessels are not mentioned in this restriction.

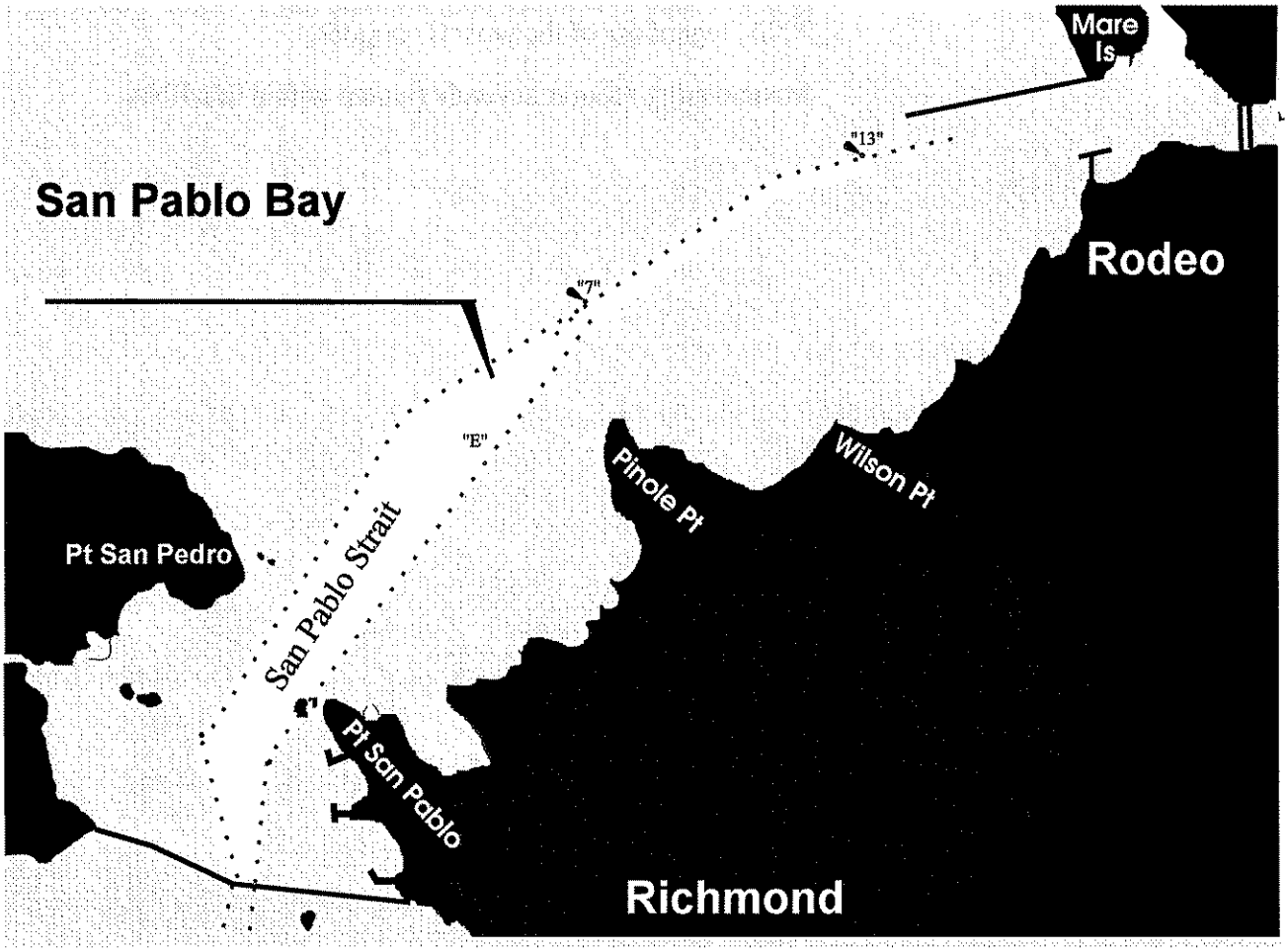
The idea of this restriction is to eliminate the possibility of any close-quarters situations developing between any LARGE VESSELS within this RNA, regardless of the vessels' cargoes.

Maneuvering room is severely limited within this RNA.

Overview

The San Pablo Strait Channel RNA consists of the existing charted channels.

The San Pablo Strait Channel RNA extends from the Richmond-San Rafael Bridge west span (the northern terminus of the North Ship Channel RNA) to approximately Pinole Point (the west end of the Pinole Shoal Channel RNA).



Specific Regulations

Only the General Regulations apply in the San Pablo Strait Channel RNA.

No Specific Regulations apply.

General Regulations

Refer to Section 3 for the General Regulations.

Figure 9 - San Pablo Strait Channel RNA

Section Nine

Specific Regulations
Pinole Shoal Channel RNA

Overview

The Pinole Shoal Channel RNA extends from approximately Light 7 to Light 13 of the Pinole Shoal Channel.

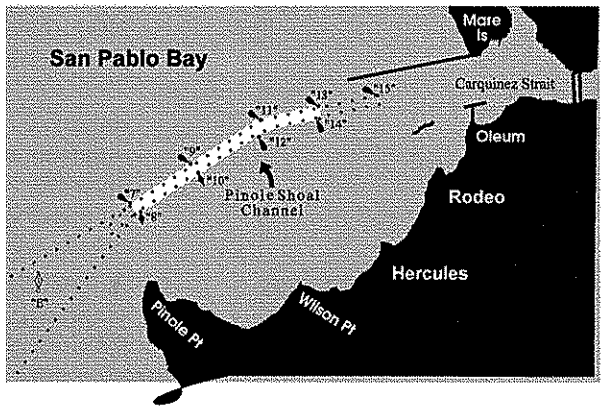


Figure 10 - Pinole Shoal Channel RNA

Specific Regulations

The Specific Regulations address two primary issues with respect to the Pinole Shoal Channel RNA. They are:

1. minimum gross tonnage restriction for vessels allowed in the RNA, and

2. restrictions on meeting, crossing, and overtaking (passing) within the Pinole Shoal Channel RNA by certain vessels.

Remember

The General Regulations, which are discussed in Section 3, apply in all of the RNAs.

Specific Regulations
Pinole Shoal Channel RNA

Minimum Gross Tonnage Restrictions

The Pinole Shoal Channel RNA is reserved for LARGE VESSELS. Only LARGE VESSELS are permitted to enter the Pinol Shoal Channel RNA.

NON-LARGE VESSELS are not permitted within the Pinole Shoal Channel RNA and are prohibited from crossing it at any point.

Historical Note: Before February 20, 2004, the Pinole Shoal Channel RNA regulations addressed 20-foot minimum draft restrictions for vessels allowed to enter the Pinole Shoal Channel RNA. As of February 20, 2004, minimum draft restrictions for the Pinole Shoal Channel RNA no longer exist.

Passing restrictions

A LARGE VESSEL shall not enter the Pinole Shoal Channel RNA when another LARGE VESSEL is navigating in the RNA when both of the following conditions exist:

- either of the two is a HIGH-RISK VESSEL (defined on page 10), and
- entering the Pinole Shoal Channel RNA would result in a meeting, crossing, or overtaking situation between these two vessels.

Notice that two LARGE VESSELS may meet, cross, or overtake in the RNA if **neither** of the vessels is a HIGH-RISK VESSEL

Residual text

There is residual text in the Pinole Shoal Channel RNA regulations that carried over from old Pinole Shoal Channel regulations that pre-date the 1995 San Francisco Bay Region RNA Regulations. It says that vessels:

1. shall proceed at a reasonable speed [when transiting the Pinole Shoal RNA],
2. shall not anchor in the channel [unless granted a deviation], and that
3. [public vessels while engaged in official business or pilot boats in emergency situations may freely transit the Pinole Shoal Channel RNA.]

Most of this text is addressed in other rules and regulations and is, therefore, redundant.

Section Ten — Specific Regulations
Benicia-Martinez Railroad Drawbridge RNA

Overview

The Benicia-Martinez Railroad Drawbridge RNA consists of the waters between the Carquinez Bridge and New York Point. In the text of the RNA Regulations, the boundaries to this RNA are described in terms of longitude lines that coincide with the aforementioned geographic points.

Figure 4 on page 9 shows the entire Benicia-Martinez Railroad Drawbridge RNA, its west and east boundary lines, and the outlying area.

Specific Regulations

A vessel's required conduct in the Benicia-Martinez Railroad Drawbridge RNA depends on the state of visibility within the RNA.

This RNA regulation only applies to LARGE VESSELS that intend to transit through the drawbridge lift span. The precise position of the lift span is described in the Code of Federal Regulations.

The Specific Regulations take into account four possible scenarios with respect to the Benicia-Martinez Railroad Drawbridge RNA.

These scenarios involve a vessel that is…

1. Westbound entering the RNA at New York Point,
2. Eastbound entering the RNA at the Carquinez Bridge,
3. Westbound already inside the RNA having passed New York Point, or
4. Anchored or moored inside the RNA…

that learns of visibility at the drawbridge lift span being less than ½ nautical mile.

Each scenario is described below.

Determine Visibility

All LARGE VESSELS must determine the visibility at the drawbridge lift span immediately after entering the RNA.

1. Visibility < than ½ nautical mile — Westbound Vessel Entering RNA

If a westbound LARGE vessel that just entered the RNA determines that visibility at the drawbridge lift span is less than ½ nautical mile, the vessel shall not pass the west end of Mallard Island.

Note: The do-not-pass point on the west end of Mallard Island is described in the RNA regulations in terms of a longitude line.

2. Visibility < than ½ nautical mile — Eastbound Vessel Entering RNA

If an eastbound LARGE VESSEL that just enterd the RNA determines that visibility at the drawbridge lift span is less than ½ nautical mile, the vessel shall not transit through the lift span.

There is no do-not-pass point specified for eastbound vessels.

3. Visibility < than ½ nautical mile
Westbound Vessel is Inside the RNA

If a westbound LARGE VESSEL enters the RNA with ½ nautical or greater visibility at the drawbridge lift span, then later the visibility **drops below ½ nautical mile**, the Mallard Island do-not-pass-point no longer applies.

In this case, the vessel has two options.

1. Continue toward the drawbridge lift span but do not pass through the lift span.

or,

2. Contact VTS San Francisco and request a deviation to transit through the drawbridge lift span regardless of visibility.

If a vessel elects to request a deviation from the RNA regulations, they shall do so in accordance with Sec. 165.1181(b).

4. Visibility < than ½ nautical mile
Anchored or Moored Inside the RNA

If a vessel that is anchored or moored inside the RNA intends to get underway and transit westbound through the drawbridge lift span, it shall not get underway if visibility at the drawbridge lift span is less than ½ nautical mile.

Note: There are no regulations prohibiting vessels that are anchored or moored inside the RNA that intend transit eastbound through the drawbridge lift span from getting underway if visibility is less than ½ nautical mile at the drawbridge lift span. Eastbound vessels shall simply NOT transit through the drawbridge lift span until visibility increases to ½ nautical mile or greater.

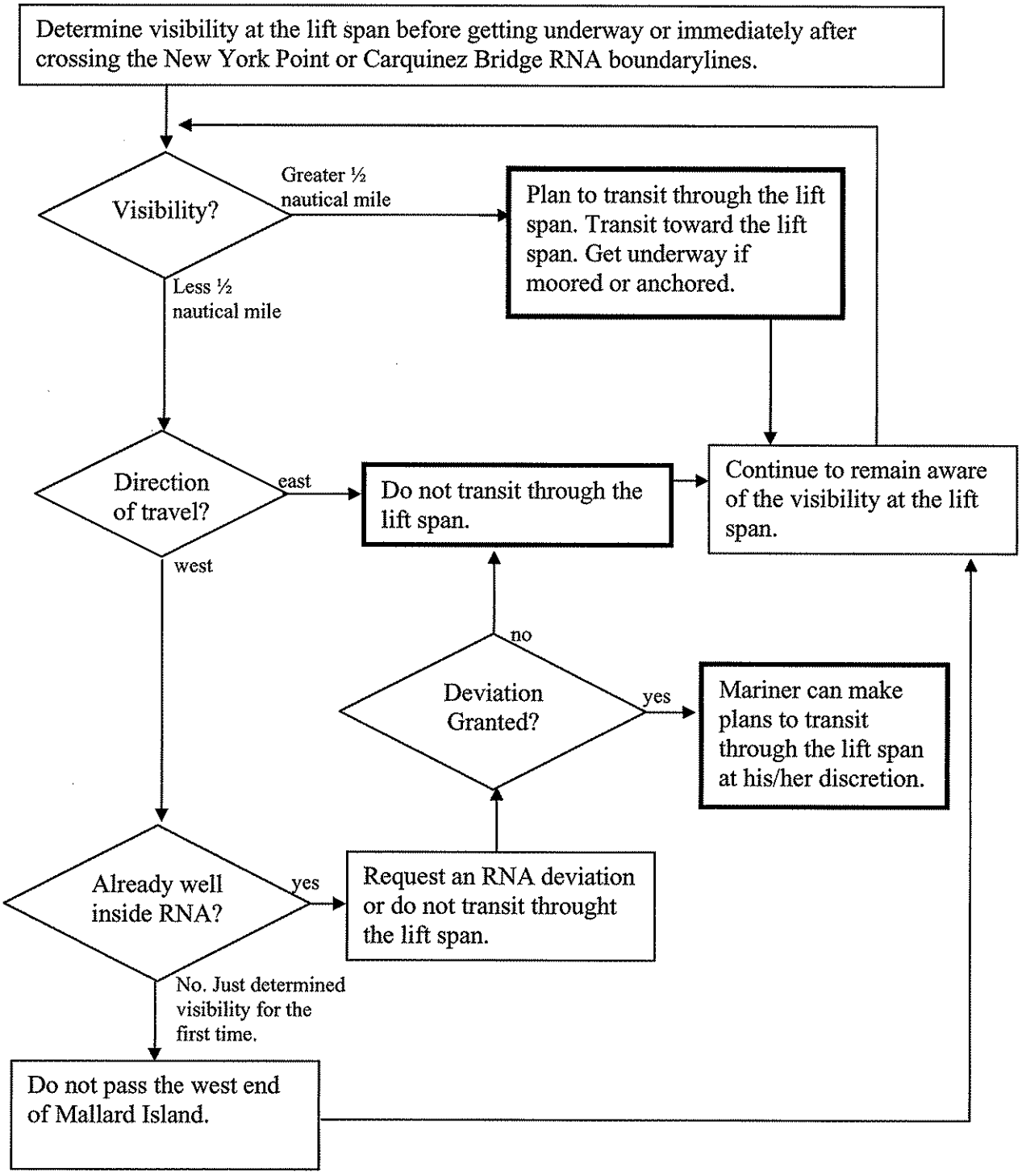
Determining Visibility

History: In the past, visibility reference points for aiding in determining visibility at the drawbridge lift span were specified in the Code of Federal Regulations. As of February 20, 2004 all such references to visibility reference points were removed from the regulations.

Common Practice: Vessels typically seek assistance from the railroad drawbridge lift tender in determining visibility at the drawbridge lift span. Often, immediately upon entering the RNA, vessels will contact the lift tender on VHF FM Channel 13 and ask the lift tender to report whether or not specific well-known geographic points are visible from the drawbridge lift tender's control room atop the drawbridge lift span.

Flowchart

The flowchart below helps explain the Benicia-Martinez Railroad Drawbridge RNA regulations.



Chapter 5

Federal Anchorage Regulations

Introduction

Purpose

This document is designed to assist you in understanding and learning the federal anchorage regulations. It will serve as a training guide to support classroom training and self-study efforts. You should study this document along with the Federal Anchorage Regulations (33CFR110.224).

Training Objectives

Upon completion of this lesson, you will be able to accomplish the following:

1. Name and locate (using internet resources) the CFR that describes the San Francisco Bay Region Federal Anchorage Areas.
2. State the general anchorage regulations for the San Francisco Bay Region Federal Anchorage Areas.
3. State the specific anchorage regulations for each San Francisco Bay Region Federal Anchorage Area listed in 33 CFR 110.224 Table 110.224(D) (1).
4. Describe VTS's authority to administrate the Federal Anchorage Areas in the San Francisco Bay Region.
5. Describe the typical usage for each anchorage area.
6. Identify by name and location the anchorage area(s) where vessel lightering or bunkering is allowed.
7. Describe the location and typical usage of (restrictions for) the Offshore Deepwater Anchorage

Prerequisites

You must successfully pass all geography examinations before proceeding with this lesson.

Contents

This publication contains the following sections.

Continued on next page

Introduction, Continued

Instructions To complete this training and meet the objectives, you should first read the federal anchorage regulations (33CFR110.224).

Federal Anchorages Overview

Statistics

In 2004, there were more than 135,000 vessel transits in the San Francisco VTS area of operations. Approximately 20% of those transits were made either to or from various anchorages in the San Francisco Bay region. Additionally, thousands of the vessels anchored to conduct bunkering and lightering operations there were no reported violations of the regulations.

Relationship to Traffic Management

In order to effectively manage vessel traffic, you must be able to quickly determine whether or not a pilot or vessel operator is in compliance with federal anchorage regulations and should be prepared, at all times, to provide assistance to mariners to ensure regulatory compliance. To gain a firm understanding of the anchorage regulations, you will need to read **33 CFR 110.224** in its entirety. A copy of this CFR is included with this text.

Regulations

The Federal Anchorage Regulations are outlined in **33 CFR 110.224.**

Title 33 CFR 110.224 describes the regulations pertaining to the anchorages in the San Francisco Bay, San Pablo Bay, Sacramento River, San Joaquin River and connecting waters. All of these areas fall within San Francisco VTS's area of operations. There are Twenty-one federal anchorages within the navigable waters of San Francisco Bay region. Each anchorage is designated as either a **General**, **Naval** or **Explosive** anchorage. 33CFR110.224 paragraph (a) outlines the general regulations applicable to **all anchorages.** Paragraph (b) outlines regulations applicable to all naval anchorages and paragraph (c) covers regulations applicable to explosive anchorages. Paragraph (d) lists the general location, purpose and specific regulations that are applicable to each anchorage.

Authority

The Captain of the Port is responsible for the port's security. To maintain safety and security, he/she will enforce a number of federal regulations that apply to the waterways. His/Her authority to enforce regulations fall in part under **33 CFR 1.01-30. Appendix A provides the exact wording of the applicable CFR.**

Continued on next page

Federal Anchorages Overview, Continued

Delegated Authority

The Commanding Officer VTS San Francisco has delegated authority from the Captain of the Port to administer and enforce the federal anchorage regulations with in the VTS AOR. This authority is granted in part under **33 CFR 160** (Ports and Waterways Safety). **See appendix B for an excerpt of the 33CFR160 governing VTS's responsibilities for enforcing the federal anchorage regulations.**

General Regulations

Explanation	There are 18 general regulations. They apply to all anchorages regardless of type (General, Naval and Explosive). These regulations are general in nature and provide for basic conduct by vessels anchoring in a federal anchorage.
General Anchorage	General anchorages are normally opened to all vessels. Small vessels and pleasure boats usually use the smaller shallow anchorages. The larger deeper anchorages are used by commercial vessels awaiting berths, conducting repairs or loading cargo.
Naval Anchorages	Naval anchorages are intended for naval and government vessels but may be used by other vessels when they are not required for use by government vessels. Private vessels in naval anchorages must notify the Captain of the Port (COTP) before anchoring and must be prepared to move within 1 hour upon notice by the COTP.
Explosive Anchorages	Explosive anchorages are temporarily activated by the COTP when required. When not activated, they become part of the surrounding anchorage. Vessels that are anchored in an explosive anchorage must be prepared to move within 1 hour upon notification by the COTP.
Notification	When these regulations require that a vessel notify the COPT, the vessel operator shall transmit such report to the Vessel Traffic Service.
Draft	Deep draft vessels shall take precedence over vessels of lighter draft in the deeper portions of **all** anchorages. VTS will normally enforce this in anchorage 9, where the deeper portion of the anchorage lies in the northwest corner of the anchorage.
Anchoring: Dead-Stick	No vessel shall anchor in a "dead-ship" status in any anchorage other than Anchorage 9.
Shifting Positions	Each vessel that is notified by the Captain of the Port (COTP) or his authorized representative (VTS) to shift her position shall do so promptly.

Specific Regulations

Explanation

There are specific regulations that apply to individual anchorages. These regulations are based on the type, size and geographical location of the anchorage. **You will be required to know exactly which regulations apply to each anchorage.**

Specific Regulations

The table below lists the each of the specific regulations outlined in 33CFR110.224.

Note	Regulation
a.	When sustained winds are in **excess of 25 knots, each vessel greater than 300 tons** using this anchorage will maintain a continuous listening watch on channels 13 and 14. The person standing radio watch must be fluent in the English language.
b.	Each vessel using this anchorage **shall not** project into an adjacent channel or fairway.
c.	This anchorage is primarily for use by vessels requiring a temporary anchorage while waiting to proceed to pier facilities or other anchorage grounds. This anchorage **may not** be used by vessels for the purpose of loading any dangerous cargos or combustible liquids unless authorized by the COTP
d.	Each vessel using this **anchorage** may not remain for more than 12 hours unless authorized by the Captain of the Port.
e.	Each vessel using this **anchorage** shall be prepared to move within 1 hour upon notification by the Captain of the Port.
f.	The maximum total quantity of explosives that may be on board a vessel using this **anchorage** shall be limited to 3,000 tons unless otherwise authorized with the written permission of the Captain of the Port.

Continued on next page

Specific Regulations, Continued

Note	Regulation
g.	The maximum total quantity of explosives that may be on board a vessel using this **anchorage** shall be limited to 50 tons except that, with the written permission of the Captain of the Port, each vessel in transit, loaded with explosives in excess of 50 tons, may anchor temporarily in this **anchorage** provided that the hatches to the holds containing explosives are not opened.
h.	Each vessel using this **anchorage** will be assigned a berth by the Captain of the Port on the basis of the maximum quantity of explosives that will be on board the vessel.
i.	Reserved
j.	Each vessel using this **anchorage** shall promptly notify the Captain of the Port, upon anchoring and upon departure.
k.	See Sec. 162.270 of this title establishing restricted areas in the vicinity of the Maritime Administration Reserve Fleet. No vessel will anchor within 500 feet of the reserve fleet.
l.	Vessels using this **anchorage** must exceed 15 feet draft, have engines on standby, and have a pilot on board.
m.	Any vessel anchoring in a "dead-ship" status shall have one assist tug of adequate bollard pull on standby and immediately available (maximum of 15 minute response time) to provide emergency maneuvering. When the sustained winds are 20 knots or greater, or when the wind gusts are 25 knots or greater, the tug must be alongside.

Continued on next page

Applicability

Table 1 below, lists the type and rules that apply to each anchorage.

Table 1

Anch.	Type	Applicable Notes
A4	General Anchorage	Notes a,b
A5	General Anchorage	Notes a,b
A6	General Anchorage	Note a
A7	General Anchorage	Notes a,b,c,d,e
A8	General Anchorage	Notes a,b,c
A9	General Anchorage	Notes a,b,m
A10	Naval Anchorage	Note a
A12	Explosive Anchorage	Notes a,f
A13	Explosive Anchorage	Notes a,e.g
A14	Explosive Anchorage	Notes a,f,h
A18	General Anchorage	
A19	General Anchorage	Note b.
A20	General Anchorage	
A21	Naval Anchorage	
A22	General Anchorage	
A23	General Anchorage	Notes c,d,e,l
A24	General Anchorage	Note j
A26	General Anchorage	Note k
A27	General Anchorage	
A28	General Anchorage	
A30	Explosive Anchorage	

COTP directed Rules

Through written advisories and letters of instruction, the Captain of the Port has set additional rules for certain anchorages which VTS San Francisco has the responsibility to enforce. The following COTP directives remain effective:

- VTS shall ensure a safe anchoring distance of 750 yds is maintained between vessels in anchorages 8 and 9. (Ref: COTP Letter of Instruction to COVTS).
- VTS may extend the 12 hour limit for vessels in anchorages 7 and 23 up to 6 hours. VTS may authorize one extension request. Any subsequent requests from the vessel exceeding that six-hour extension shall be referred to the Marine Safety Office (MSO) Command Duty Officer for approval. Ref: (COTP Letter of Instruction to COVTS).
- Lightering and bunkering of vessels at anchorage will only be conducted in anchorage 9. (Ref: COTP Advisory 4-95).

Anchorage Locations

Explanation

As a VTS operator, you must also know the boundaries and location of each anchorage. This section will also give a brief explanation of the general location of each anchorage and its significance. You must refer to a nautical chart to learn the exact boundaries of each anchorage.
Appendix C shows diagrams of each anchorage.

General Locations

Table 2 South San Francisco Bay

A8	GENERAL	South of Oakland Bar Channel.
A9	GENERAL	South S. F. Bay
A12	EXPLOSIVE	In anchorage #9
A14	EXPLOSIVE	In anchorage #9

Table 3 Central Bay

A4	GENERAL	North of Tiburon Peninsula
A5	GENERAL	West of Southampton Shoal Channel
A6	GENERAL	South of Brooks Island
A7	GENERAL	West of Treasure I.
A10	NAVAL	East of Sausalito
A13	EXPLOSIVE	In anchorage #4

Table 4 San Pablo Bay

A18	GENERAL	North of Pt San Pedro
A19	GENERAL	West of Mare I.
A20	GENERAL	Southeast of Pinole Shoal Channel
A21	NAVAL	South of Mare I.

Table 5 Carquinez Strait and River/Delta

A22	GENERAL	South of Benicia
A23	GENERAL	South of Benicia
A24	GENERAL	West of Benicia
A26	GENERAL	East of Benicia
A27	GENERAL	Honkers Bay
A28	GENERAL	West of Sherman I.
A30	EXPLOSIVE	East of Prisoners Pt. Vicinity of Stockton Deep Water Channel

Table 6 Offshore

ODWA	GENERAL	Offshore Deep Water Anchorage: Centered on a position 4NM North of SFSB

Continued on next page

Anchorage Locations, Continued

Significant Information

The table below lists some significant information about some of the anchorages in San Francisco Bay.

A4 – A14	Note (a) which requires certain vessels to maintain a listening watch on Channels 13 and 14 only applies to anchorages 4 through 14. This is because each of these anchorages falls within VTS SF's range of radar coverage. Operators have the ability to monitor a vessel's rate of swing.
A5	Tug and barges often use this anchorage while awaiting a berth in Richmond or waiting for favorable weather conditions before proceeding to sea. They also use this anchorage as a maneuvering area when re-configuring their tow arrangement.
A9	The deepest portion of A9 is in the northwest portion of the anchorage. VTS operators will normally monitor ship's drafts to ensure safe anchoring areas are available for those ship's that may require a greater depth.
A10	Although this anchorage is designated a naval anchorage, few naval vessels anchor there and it is normally used by private vessels.
A12, 13 & A14	When these anchorages are activated by the COTP, there is a 667yd. forbidden anchorage zone around the perimeter of each anchorage.
A23	This anchorage is one of the most restrictive and the only anchorage where a pilot must remain onboard. Vessels normally anchor here while waiting for visibility conditions to improve before transiting through the Union Pacific Railroad Drawbridge. Additionally, a submarine cable runs through this anchorage.
Offshore Deep Water Anchorage	In the past, vessels anchored here while awaiting pilotage. Following the 9/11 attacks, the COTP suspended the use of this anchorage.

Appendix A

33CFR 1.01-30 Sec. 1.01-30 Captains of the Port.

Captains of the Port and their representatives enforce within their respective areas port safety and security and marine environmental protection regulations, including, without limitation, regulations for the protection and security of vessels, harbors, and waterfront facilities; anchorages; security zones; safety zones; regulated navigation areas; deepwater **ports**; water pollution; and **ports** and **waterways** safety.

Appendix B

33CFR160.5(d) Sec. 160.5(d) Delegations.

(d) Subject to the supervision of the cognizant Captain of the Port and District Commander, Commanding Officers, Vessel Traffic Services are delegated authority under 33 CFR 1.01-30 to discharge the duties of the Captain of the Port that involve directing the operation, movement, and anchorage of vessels within a Vessel Traffic Service area including management of vessel traffic within anchorages, regulated navigation areas and safety zones, and to enforce Vessel Traffic Service and ports and waterways safety regulations. This authority may be exercised by Vessel Traffic Center personnel. The Vessel Traffic Center may, within the Vessel Traffic Service area, provide information, make recommendations, or, to a vessel required under Part 161 of this chapter to participate in a Vessel Traffic Service, issue an order, including an order to operate or anchor as directed; require the vessel to comply with orders issued; specify times of entry, movement or departure; restrict operations as necessary for safe operation under the circumstances; or take other action necessary for control of the vessel **and the safety of the port or of the marine environment.**

Appendix C

Diagrams This appendix provides you with diagrams of the boundaries of each anchorage.

Under Development (August 2005)

Chapter 6

Revised: 08/29/2005

VMRS Reports and Associated Communications Procedures

Section introduction

Overview

This section explains the concepts and procedures associated with responding to VMRS reports.

Contents

This section contains the following parts. Each part has its own contents block.

Example wording

Throughout this section you will be given example communications wording. Most examples are presented in the form of communications scenarios—dialogues between VTS and vessels.

These examples shall serve as wording guidelines for VTS personnel when formulating routine communications. VTS personnel shall attempt to structure communications in accordance with the guidelines.

VTS personnel shall always be prepared to improvise communications wording in cases where the situation diverges greatly from anything addressed in VTS manuals.

All example communications are in *italic typeface*.

Required wording

Where specific wording is required the *italicized text is underlined*.

Part 1
VMRS Reports

Part introduction

Overview

This part contains the procedures for responding to each of the Vessel Movement Reporting System (VMRS) reports. It explains concepts and policies associated with those procedures.

Some of the procedures in this part contain sub-procedures that are given in later sections.

In this section

The following topics are discussed in this part.

Sailing Plan report procedures

Procedure

A vessel calling VTS to make a Sailing Plan report initiates the following procedure.

Step	Action
	Vessel: *"Traffic, this is Unit XX on the Hanjin Tokyo, over."*
1	Start filling out the form using any already-given information. Document what you can before answering the call. Do not answer the vessel until you are ready to deal with the remaining incoming information.
1a	If you expect a lengthy delay direct the vessel to stand by.
	VTS: *"Unit XX, Traffic. Stand by."*
2	Answer the call.
	VTS: *"Unit XX, Traffic. Go ahead, over."*
3	The vessel reports its information.
	Vessel: *"Traffic, this is Unit XX on the Hanjin Tokyo. We are preparing to get underway from Oakland 22 outbound for sea..."*
4	Direct the vessel to provide any missed information.
	VTS: *"Unit XX, Traffic. What is your draft? Over."*
	Vessel: *"Traffic, Unit XX. Our draft is 32 feet 4 inches. Over."*
5	Fill out the form completely.
6	Perform a readback.
	VTS: *"Roger. Unit XX on the Hanjin Tokyo preparing to get underway..."*
7	Consider the Sailing Plan Decision Matrix before continuing. (See Appendix A) Factors on the Sailing Plan Decision Matrix must be recalled from memory and decisions must be made swiftly.
8	Perform a traffic report.
	VTS: *"The tug Marin Twilight pushing one barge is..."*
	Vessel: *"Roger Traffic. I copy the Marin Twilight. Will call when underway."*
9	Perform a traffic turnaround.
	VTS: *"Roger. Break. Marin Twilight, Traffic. Did you copy Unit XX on the...?"*
10	Launch the track and start the transit. You will normally launch the track as an AIS track however, certain conditions may dictate launching it as a manual or radar track.

Position report procedures

Types of Position reports

There are two types of position reports. They are shown below in two separate procedure tables.

1. Procedure type 1 is a "last lines" call.
2. Procedure type 2 notifies VTS of a vessel's current position.

Procedure
Type 1: Last lines

The vessel is now underway by the technical Rules of the Road definition.

Note: It is important to know ahead of time if the vessel will be proceeding directly out or turning off the dock or in a turning basin.

If the vessel is maneuvering off the dock or in a turning basin (as in this case):

- DO NOT perform a traffic report yet (unless absolutely necessary).
- ~~DO NOT start the track on a standard route for tracks in SR-only areas~~.

Step	Action
	Vessel: *"Traffic, Unit XX Hanjin Tokyo. Underway and starting our turn off the dock."*
1	Respond to the call with the key phrase below.
	VTS: *"Unit XX, Traffic. Roger. Out."*
2	Edit the vessel's transit data as necessary. • Record TIME and POSITION for non AIS equipped vessels. • Clear obsolete "preparing" information.
3	Reposition the track icon over the water area to show that the vessel is no longer preparing to get underway. Note: For Manual tracks only)

Continued on next page

Position report procedures, Continued

Procedure
Type 2: Position

The vessel is reporting its position. Notice the two scenarios below.

Step	Action
	Scenario 1—Turn is completed and vessel is outbound: **Vessel:** *"Traffic, Unit XX. Hanjin Tokyo is turned around now and outbound for sea."* **Scenario 2—Regular position update for a transiting vessel:** **Vessel:** *"Traffic, this is Unit XX. Hanjin Tokyo is passing the UPRRB upbound for Stockton."*
1	Respond to the call when ready.
2	Edit the vessel's transit data as necessary. • Record TIME and POSITION for non AIS equipped vessels. • Clear obsolete information.
3	Provide VTS reports (readback, traffic report, traffic turnaround) if traffic conditions have changed since the previous Position report.
4	Update the track icon. • ~~Reposition the track to a more accurate position on the SR.~~ • ~~Update the track to another SR.~~ • Assign the tracking radar. • Reposition a manual track.

Sailing Plan Deviation/Amplification report procedures

Facts

- Each vessel must report its Sailing Plan before entering the VTS area.
- Each vessel must report to VTS when its Sailing Plan changes.
- A vessel cannot be expected to come up with a complete Sailing Plan at the beginning of a lengthy voyage that will take the vessel through many decision points.
- Each vessel must update VTS when new Sailing Plan information comes to light during its transit.

Explanation

A Sailing Plan Deviation/Amplification report (referred to hereafter as a Sailing Plan Deviation report) is any post-Sailing Plan report from a vessel that changes or adds to previously reported information.

Avoid splitting hairs: A routine Position report immediately becomes a Sailing Plan Deviation report if the vessel adds new transit information in the Position report.

In this case treat the Position report as a Sailing Plan Deviation report.

Example: *"Traffic, this is Unit XX Mundogas Europe at the UPRRB upbound for Stockton.* ***We'll be stemming the current off NWS for an hour...*** *"*

Procedure

- VTS shall respond to a Sailing Plan Deviation report exactly the same as for a Sailing Plan report.
- Sequence and content of communications and reports for a Sailing Plan Deviation report are the same as for a Sailing Plan report.

Teamwork

VTS operators shall ensure that all traffic center personnel are advised of changes or additions to a vessel's Sailing Plan even though the changes are reflected on the graphic display.

Make sure all other operators understand and acknowledge the new information.

Think about other sector operators who may have been:

- transmitting on another radio channel
- looking at another chart window
- manipulating an on-screen form
- talking to the supervisor.

Final report procedures

Explanation

A Final report indicates that a vessel is ending its transit and checking out of the VTS area at one of the following places:

- dock
- anchorage
- boundary of the VTS area.

After a Final report VTS is no longer obligated to track the vessel (except as necessary to carry out Federal Anchorage Administration duties for an anchored vessel).

Procedure

A vessel calling VTS to make a Final report initiates the following procedure.

Step	Action
	Vessel: *"Traffic, this is Unit XX on the Tavi. We are all fast at the RLW and checking out."*
1	Check the display to verify that the vessel is indeed exiting the VTS area.
	See **Premature Final report procedures** if vessel is not actually exiting the VTS area.
2	Respond to the call when ready. Note: Do not do a Read-back or Traffic Turnaround for Final reports.
	VTS: *"Unit XX, Traffic. Roger. Out."*
3	End the transit. (Close the transit record.)

Premature Final report

If a vessel makes a Final report before actually docking or crossing the VTS area boundary use the following key phrase to direct the vessel to call again later:
"Make a Final report when...(docked / at boundary)."

Anchoring vessels

Vessels making a Final report in an anchorage initiate another procedure with unique computer, decision, and communications specifications.

Part 2
Traffic Management Communications

Part introduction

Overview

This part contains the procedures for performing specific types of traffic management communications.

The procedures in this part are performed in concert with the VMRS communications procedures.

In this section

The following topics are discussed in this part.

Readback procedures

Terminology

1. Standard order refers to the sequence in which VTS expects information from a vessel. The standard order for each type of VMRS user report is specified under the procedures for capturing Sailing Plan report information.
2. Exempted vessels refer to those vessels identified in 33CFR161.23.
3. NON-exempted vessels refer to those vessels identified in 33CFR161.16.

Purpose

Purposes for doing a readback report are:

- to paraphrase the vessel's intentions using standard terminology.
- to re-broadcast the vessel's intentions using VTS's powerful radio transmitter.
- to verify that VTS copied the information accurately.

When to do a readback

VTS shall always perform a readback report for Sailing Plan reports and Sailing Plan Deviation reports from the following vessels:

- all National VTS Regulations non-exempted vessels
- all vessels in areas of restricted visibility.

VTS may perform a readback any time the VTS operator feels that doing so will help clarify the situation.

VTS may perform a readback whenever necessary to verify received information.

In order to avoid unnecessary radio clutter, VTS shall avoid performing readbacks for Position reports and Final reports unless absolutely necessary.

How it flows together

Proceed directly with the readback immediately after a vessel **completes** the report.

Example:

Vessel: *"Traffic, this is Unit XX aboard the CS Nedlloyd preparing...and intend to use the deep draft route. Tugs on channel 7A, over."*

VTS: *"Roger. Unit XX, CS Nedlloyd preparing..."*

Do not use a call-up or transitional phrase like the one below at the beginning of the readback:

"Unit XX this is Traffic. Roger, understand you are..."

Continued on next page

Readback procedures, Continued

Incomplete reports

Do not read back an incomplete report. First get the missing information.

Communication procedures

Although strict adherence to the standard order is not always possible, VTS shall make every effort to adhere to the standard order when reading back information.

The example below demonstrates how to report a VMRS User POWER DRIVEN VESSEL 40+ METERS IN LENGTH only.

This example Sailing Plan report has information slightly out of order.

"Traffic, this is Unit XX on the Nedlloyd preparing to depart Oakland 32. The ship's draft is 33 feet 9 inches. I intend to transit through the Delta-Echo span and the deep-draft route outbound for sea. Tugs on channel 7A."

Data elements in order of read-back...	Example VTS readback
1. Pilot ID	• *Roger, Unit XX...*
2. Vessel's name	• *CS Nedlloyd...*
3. Position	• *preparing to depart Oakland 32...*
4. Destination	• *outbound for sea...*
5. Deepest draft (tug or barges)	• *draft 33 feet 9 inches.*
6. Route	• *Intends to transit Delta-Echo span Oakland Bay Bridge and DWTL.*
7. Tug frequency (when using assist tugs)	• *Tugs on channel 7A.*

Note: The information is read back like a bulleted list rather than like a long sentence.

Leave out unnecessary phrases such as "aboard the", "and is", etc.

Traffic report procedures

How it flows together

After the readback, take a breath; then proceed directly into the traffic report.

Order of information

Report each pertinent VTS user's information in the standard order just as if you were reading back his/her Sailing Plan report.

The example below shows how to report a VMRS User POWER DRIVEN VESSEL 40+ METERS IN LENGTH only.

Data elements in order…	Example VTS traffic report
1. Pilot ID	• *Unit YY…*
2. Vessel's name	• *CS Matsonia…*
3. Position	• *preparing to depart Oakland 30…*
4. Destination	• *outbound for sea …*
5. Deepest draft (tug or barges)	• *draft 27 feet 3 inches.*
6. Route	• *Intends to transit Delta-Echo span Oakland Bay Bridge and WTL.*
7. Tug frequency (when using assist tugs)	• *Tugs on channel 77.*

Note: Omit individual data elements if they are not at all pertinent to the traffic report. (E.g., draft is usually not pertinent to the traffic report.)

Transition to next vessel

Transitioning from one vessel to another within the traffic report:

- Simply take a breath and put a natural pause between each vessel to be reported.
- Do not use transitional phrases like *"followed by"* or *"also."*

Negative report

When there is nothing to report at this time simply reply with the key phrase *"Roger. Out."* in place of the traffic report.

If the vessel questions you as to whether or not there is any traffic of concern use the phrase:

"There is no reported traffic (along your route / between you and…)."

Continued on next page

Traffic report procedures, Continued

Suspending the Traffic report

When there is a lengthy delay between two vessels in the traffic report do not keep the microphone hot. Instead suspend the traffic report; continue it later.

Step	Action	What you say…
1	Suspend the traffic report.	*"Standby for additional traffic. Out."*
2	Take care of business.	Radio is silent.
3	Re-contact the vessel.	*"Unit XX, Traffic."*
4	Wait for the vessel to reply.	*"Traffic, Unit XX."*
5	Resume the traffic report.	*"Additional traffic—tug Sky preparing…"*

Radar targets

VTS shall report single large radar targets (perhaps a non-participating required VMRS user) and shall report clusters of small radar targets.

Situation: VTS radar shows…	What you say…
• a radar target apparently large enough to be a VMRS User (but perhaps not participating).	*"Traffic's radar shows an unidentified target east of Quarry Point tracking in a southerly direction at approximately 12 knots."*
• a cluster of small radar targets not believed to be associated with a known event.	*"Traffic's radar holds a cluster of small, unidentified radar targets south of Alcatraz between San Francisco 45 and San Francisco 39."*
• a cluster of small radar targets believed to be a known event.	Report the Marine Event followed by: *"Traffic's radar holds a cluster of small radar targets south of Alcatraz between San Francisco 45 and San Francisco 39 believed to be this event."*

Splitting the traffic report

If you are unable to see all of the pertinent traffic on your ODP display and the adjacent ODP isn't immediately set up to display the necessary area, split up the traffic report by suspending it and then handing it off to an adjacent sector operator.

Details are discussed in the procedures for sectorization.

What to report and when

Normal conditions

Following are some of the items that must be included in traffic reports under normal visibility conditions.

- Participating vessels (positions, intentions, transit details, etc.)
- Advisories (minimum-wake requests, special operations, etc.)
- marine events
- Concentrations of radar targets (fishing or recreational vessels)
- Unidentified radar targets deemed to be a potential hazard
- ATON discrepancies (just reported to VTS--not yet released in a BNM)
- Uncharted hazards to navigation
- Areas of restricted visibility
- Regulatory hindrances to the transit (safety zones, etc.).

Note: Exempted vessels (commuter ferries, escort tugs, etc.) and small non-exempted excursion vessels (dinner cruises, etc.) are not included in traffic reports under normal visibility conditions.

Low visibility

In conditions of low visibility (**one nautical mile or less**) VTS shall report (in addition to the items listed above):

- all VTS users including exempted vessels and small non-exempted excursion vessels
- small single radar targets which may affect a vessel's transit.

What to report NOW

Use the following table as a guideline for deciding which items to include in a traffic report.

	Include this item if the mariner…
1	must begin planning NOW for a possible close-quarters encounter with the vessel even if it is presently at a great distance. (Think of RNAs, known bottleneck areas, etc.)
2	is expected to meet, cross, or overtake the vessel between now and the next anticipated traffic report.
3	is expected to see (visually sight) a vessel between now and the next expected traffic report and you suspect that seeing the vessel might confuse the mariner (based on the other vessel's position and/or aspect) into believing that an encounter between the two vessels is possible.
4	might alter his/her Sailing Plan NOW based on the reported waterway situation (even if the situation is far away).

Managing the amount of information reported

Facts

- Research suggests that people can effectively process and remember no more than seven (plus or minus two) pieces of information at one time.
- As the information increases in complexity the amount of information one can manage decreases.
- **One vessel's voyage information could easily consist of seven or more pieces of information.**

Avoiding over-reporting

- Don't necessarily report everything at once.
- Only report items that the vessel MUST hear about now.

	Consider reporting this item (or these items) later if ...
1	the vessel is at a great distance and its intentions are still unknown.
2	there is a long list of items to report and some of the items lower on the list can be reported just as safely in a future traffic report. Note: Great geographic distance between a report item and the vessel receiving the traffic report does not always disqualify an item from inclusion in a traffic report.
3	reporting this item makes the list so long that the mariner is likely to forget some items of more immediate importance.

Break up the traffic report

Break up a traffic report by directing the vessel to make a Position report at a specific point.

1. Report everything that may be an issue before the reporting point.
2. Direct (not request) the vessel to "call again" at a specific reporting point.
3. Use the vessel's next Position report as a prompt to report the remaining information.

Over-reporting due to unknown ETD

Situation: Over-reporting often occurs when a vessel makes a Sailing Plan report. This happens because VTS doesn't know how long the "preparations to get underway" will take; to be safe the VTS reports all of the encounter traffic at once. But much of the reported traffic may be clear by the time the vessel actually gets underway.

Solution: Ask the pilot for an ETD from the dock. Then reassess the traffic conditions based on that ETD before making a traffic report.

Traffic turnaround procedures

Explanation

The traffic turnaround ensures that all vessels that are included in a traffic report know about the vessel that they were reported to.

The traffic turnaround allows you to advise a group of vessels about the action of one vessel without having to call each vessel individually and issue a separate traffic report.

Whom to address

The traffic turnaround shall be addressed to every participating vessel or activity that was reported in the traffic report.

Note: Include marine events or special operations if it may result in the marine event or special operation taking action (e.g., delaying race start, ceasing operations temporarily).

Two occasions for a traffic turnaround

There are two occasions for a traffic turnaround:

1. after a vessel acknowledges VTS's traffic report;
2. after the readback of a position report if other vessels are planning their transits based on the progress of the reporting vessel.

Example (Unit XX is making a Position report.):

Unit XX: *"Traffic, Unit XX is at Pinole Shoal 7 and 8 and clear of the Pinole Shoal Channel. Over."*

VTS: *"Roger, Unit XX at PS 7 and 8, clear of the PSC. BREAK.* ***Unit YY, Unit ZZ, Traffic. Did you copy Unit XX's position? Over."***

Continued on next page

Traffic turnaround procedures, Continued

Communication procedures

Scenario: The steps in the procedure table below begin after VTS reads back Unit ZZ's Sailing Plan report.

Notice how the traffic turnaround flows right in with VTS's response to Unit ZZ in the transition between steps 1 and 2.

Step	Action
1	VTS performs a traffic report and the vessel acknowledges.

VTS: *"Unit XX—Tavi, preparing to depart RLW, bound for sea. Tugs on 7A. Unit VV—Arco Juneau, just underway at New Richmond 15, bound for the RLW. Tugs on 77. Tug Anna Foss pushing a barge passing Ferry Point bound for Foss Tug Richmond. Over."*

Unit ZZ: *"Roger Traffic, I copy Unit XX, Unit VV, and the Anna Foss. Over."*

2	VTS acknowledges then proceeds directly with collective call.

Traffic turnaround →

VTS: *"Roger. BREAK. Unit XX, Unit VV, Anna Foss, Traffic. Did you copy Unit ZZ? Over."*

3	Each of the vessels replies.

Unit XX: *"Unit XX copies."*

Unit VV: *"Traffic, Unit VV copies."*

4	VTS re-calls any vessels that did not reply.

VTS: *"Tug Anna Foss, Traffic. Did you copy Unit ZZ? Over."*

Tug: *"Traffic, Anna Foss. Negative. I didn't copy."*

5	VTS repeats information.

VTS: *"Anna Foss, Traffic. Unit ZZ on the..."*

Appendix A

Sailing Plan decision matrix

Explanation

Here are some of the factors that must be considered before starting every transit.

Importance

You must consider the Sailing Plan decision matrix before giving the traffic report and particularly before finishing the transit-starting process (before launching the track).

This is important for two reasons.

1. Certain track information is not visible once the track is launched.
2. Sometimes it is safest to prevent a vessel transit from starting in order to prevent an unsafe situation from developing later in the transit.

What to consider

The following are immediate concerns that may affect the start of the transit.

Ask yourself the following questions
1. Is the vessel prohibited from getting underway or from entering the VTS area (e.g., MSO HOLD)?
2. Are there special transit concerns associated with the vessel (e.g., SIV, HAZMAT, etc.)?
3. Is the vessel's ETD within either five or 15 minutes (depending on what type of vessel it is)? (33 CFR 161.19)
4. Is there an immediate safety concern (as in 33 CFR 161.11[b]) that would prohibit the vessel from getting underway or from entering the VTS area?
5. Will the vessel's estimated time of departure conflict with advance notification requirements (e.g., one-hour notice required for passage)?
6. Is there a possibility for an RNA encounter based on the vessel's estimated time of departure?
7. Is there a safety or prohibited zone along the vessel's route?
8. Is the destination dock occupied by a vessel that is not scheduled to depart in time to make vacancy?
9. If the vessel's destination is a federal anchorage do the vessel's intentions conflict with the anchorage's restrictions?

Results

If the answer to any of the questions in the matrix above is YES, VTS shall consider directing the vessel to remain outside the VTS area, to remain at anchor, or to remain at the dock.

Appendix B

General radiotelephone procedures

Future appendix

This appendix will contain interpretations and examples of general Coast Guard and industry standard radiotelephone procedures. It will also contain specific do's and dont's.

VTS San Francisco Training

VMRS Reports and Associated Communications Procedures

Revised July 2005

Chapter 7

VTS San Francisco Training

Regulatory Communications Procedures

Revised - July 2005

Revised July 2005

Regulatory Communications Procedures

Overview

The following handout explains the concepts and procedures associated with performing regulatory communications at VTS San Francisco.

Contents

In this document the following topics are discussed.

Example wording

Throughout this document you will be given example communications wording. Most examples are presented in the form of communications scenarios—dialogue between VTS and vessels.

These examples shall serve as wording guidelines for VTS personnel when formulating routine communications. VTS personnel shall attempt to structure communications in accordance with the guidelines.

VTS personnel shall always be prepared to improvise communications wording in cases where the situation diverges greatly from anything addressed in VTS manuals.

All example communications are in *italic typeface*.

Required wording

Where specific wording is required the *italicized text is underlined*.

Traffic management continuum

Explanation

The traffic management continuum is not a single four-stage process but rather four distinct processes.

The following table briefly explains each process in the traffic management continuum.

Process	Explanation
Monitoring	Using VTS surveillance and radios to keep track of traffic in the VTS area.
Informing	Eliminating surprises by disseminating information about navigational situations to active (those communicating with VTS) and passive (those just listening to VTS) users.
Recommending	Serving as an extension of the vessel's bridge team by offering suggestions or alternatives in various navigational situations.
Directing	Issuing an order to (a) vessel(s) by the authority and responsibility delegated in the Oil Pollution Act of 1990.

Two discrete VTS roles

VTS has a dual role with respect to merchant shipping.

On one hand: Due to VTS's integrated wide surveillance capability we can provide the mariner with information beyond the ability of his/her on-vessel navigational team. Based on information available to us, VTS can also make recommendations to the mariner. It is important to understand, however, that VTS recommendations are issued without much knowledge of the vessel's on-scene conditions and that acceptance of VTS recommendations by the vessel is subject to evaluation by the on-vessel navigational team.

On the other hand: The Oil Pollution Act of 1990 requires that VTS give directions to vessels if necessary to prevent a navigational disaster.

Continued on next page

Traffic management continuum, Continued

Keeping the distinction clear

There should never be a blurry line between VTS's execution of the two roles outlined above. It should always be clear to the mariner when VTS is serving as a member of the team and when VTS is issuing a compulsory order.

How to keep it clear

1. Use the term *recommend* when VTS is offering the mariner a suggestion, as would any other member of the vessel's bridge team. This term does not mean that VTS is leading to a direction or is politely issuing a direction.
2. When you intend to issue a direction simply state the desired outcome.
3. Never use the term *request* unless you are relaying the words of another station (e.g., *"...and Unit XX requests you stay clear of the channel..."*).

Common types of directions

The following table illustrates some common types of directions.

Type of direction	Example wording
Position reports	"Call again at the Golden Gate Bridge..."
Vessel-to-vessel communications	"Establish communications with Unit XX on channel 13..."
Make passing arrangements	"Make passing arrangements with Unit XX on channel 13."
Compliance with regulations	"Adhere to the 15-knot speed requirements set forth in the RNA regulations."
Hold at the dock	"Do not get underway until..."
Update your AIS Unit	"Update the destination field of your AIS unit to show your new destination." Or - "Unit XX...Please ask the vessel's master to update the destination field of their AIS unit" Or - "Please ask the vessel's master to turn on their AIS unit".

Regulatory decision matrix

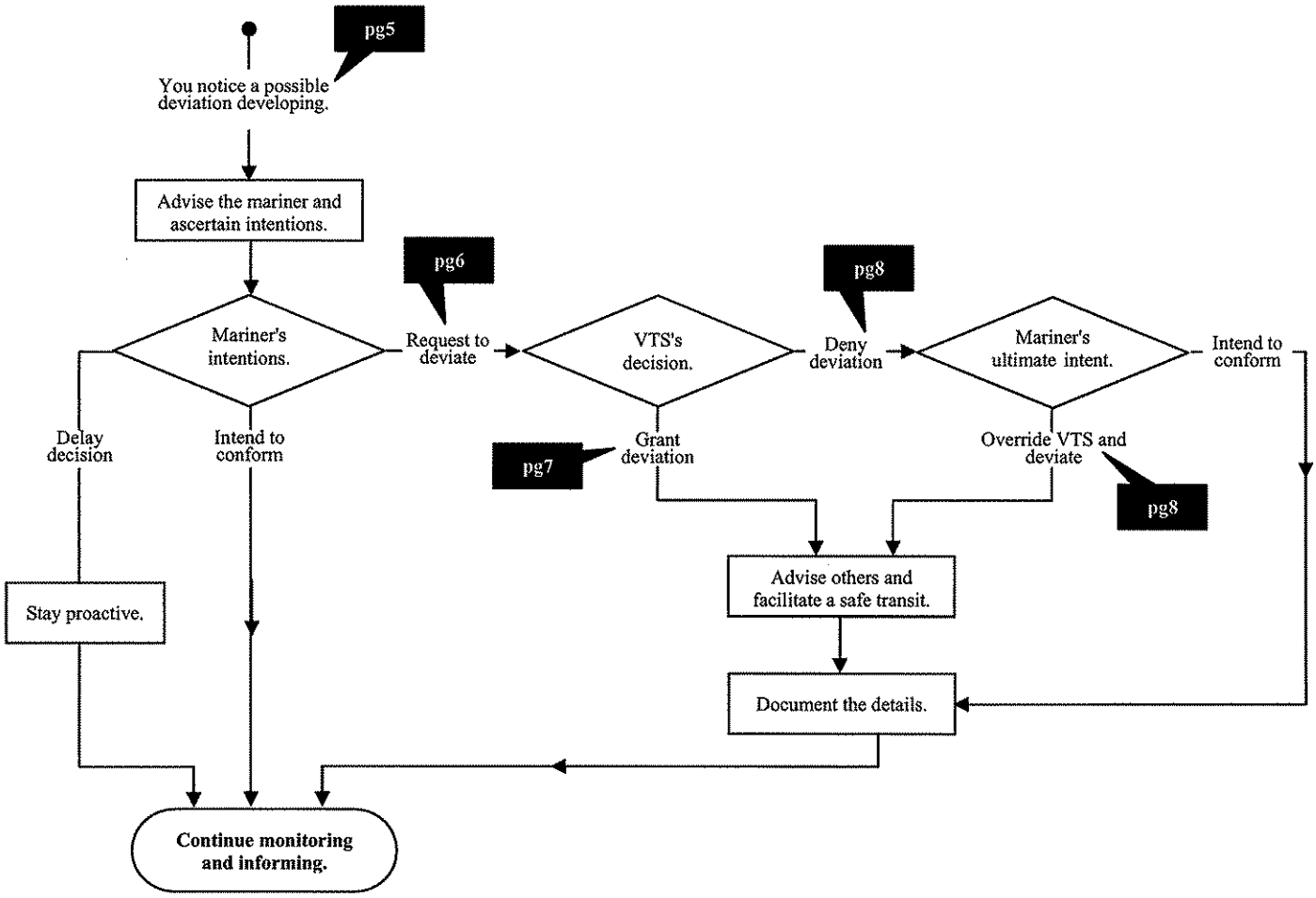
Process diagram

The following flowchart shows the overall decision process associated with the enforcement of rules and regulations.

Many cases will involve only part of the process.

Communication guidelines

The flowchart statement that is flagged with a page number has an associated VTS communications guideline.



Apparent intent to deviate procedures

Potential deviation

Intent to deviate is apparent when you notice that something out of compliance with a regulation is about to take place. Indications may include:

- A vessel's vector points toward a wrong lane
- You overhear through bridge-to-bridge communications intentions that are contrary to an existing rule.

Without exception...

- Address an apparent intent to deviate early. Do not allow a deviation situation to develop beyond a vessel's point of no return.
- Demand a clear statement of intentions from the vessel as early as possible.

Procedure

When it is apparent that intent to deviate exists proceed as follows.

Step	Action	What you say
1	Contact the mariner and state VTS's observation.	**VTS:** *"Tug Kitty, Traffic. Traffic's display shows your vessel may be heading eastbound into the Westbound Traffic Lane."*
2	Ascertain the mariner's intentions.	**VTS:** *"Do you intend to comply with the RNA regulations by using the Eastbound Traffic Lane? Over."*

VTS's further actions will depend on how the vessel answers the question in Step 2.

3a	Mariner intends to comply.	**VTS:** *"Roger. Out."*
3b	Mariner requests to deviate.	(See Deviation Request procedures.)

Deviation request procedures

Wording

The phrase *"safety-related reason"* is key terminology in the vessel's request for a deviation. When the vessel uses this phrase it means the vessel operator believes that the SAFEST course of action is to proceed in accordance with the request.

Procedure

Perform the following steps when a vessel requests a deviation from a regulation.

Step	Action	What you say
1	Vessel articulates a deviation request. Note: Don't expect perfect request wording from the vessel.	**Vessel:** *"... We'd like to go outbound south of Alcatraz, using the inbound traffic lane."*
2	Read back the deviation request.	**VTS:** *"Understand you request to deviate from the RNA and would like to transit westbound in the Eastbound Traffic Lane."*
3	Get the safety-related reason if one was not already given.	**VTS:** *"What is your safety-related reason?"* **Vessel:** *"It looks like we will meet Unit XX (another vessel) in the DWTL..."*
4	Evaluate the safety-related reason.	
5	**Option:** Provide an amplifying traffic report if there is information that is pertinent to the mariner's plans.	**VTS:** *"... VTS radar shows a large concentration of sailing vessels between Presidio Shoal and Pier 39."*
6	Allow the vessel to reply with updated intentions based on the new information.	**Vessel:** *"...Roger, I still think it will be safer to go westbound in the ..."*
7	GRANT or DENY the deviation.	(See Grant a deviation request procedures or Deny a deviation request procedures.)

Important

When a deviation request is made always GRANT it or DENY it. Don't leave the mariner wondering about VTS's position on the request.

Grant a deviation request procedures

Wording

The phrase *"Deviation granted. Proceed in accordance with your request to..."* is a key phrase when granting a deviation. Always use this wording.

Procedure

Perform the following steps to grant a deviation request.

Step	Action	What you say
1	Advise the vessel that the deviation is granted.	**VTS:** *"Deviation granted. Proceed in accordance with your request to...*
2	Restate (read back) the intentions.	*... transit westbound in the Eastbound Traffic Lane."*
3	Deliver a Traffic Report to the vessel.	
4	State the radiotelephone proword "BREAK".	**VTS:** *"Break."*
5	Deliver a safety signal (securité) broadcast on channels 14 and 16.	(See scripted procedures elsewhere.)
6	State the radiotelephone proword "BREAK".	**VTS:** *"Break."*
7	Perform a traffic turnaround.	
8	Document the deviation using VAM: REG REMARKS.	

All concerned parties must agree

Example case: An inbound vessel (just over 1600 tons—a small RNA vessel) is in the DWTL bound for Oakland 60. There are two large vessels preparing to get underway from Oakland Outer Harbor outbound for sea. The inbound vessel is granted a deviation to enter the Oakland Harbor RNA regardless of the positions of the outbound vessels.

If granting a deviation to one vessel affects the RNA decisions of another vessel, ensure that all concerned vessels have made passing arrangements in accordance with the deviation plans.

When performing the traffic turnaround advise all concerned parties. If you are unable to reach one of the concerned parties direct the deviating vessel to either make contact with the other vessel(s) or adhere to the regulations.

Small vessels

When giving traffic reports and traffic turnarounds for deviations be especially conscious of small vessels—small radar targets—and other non-VTS users. These vessels are the most likely to be caught off-guard by a large vessel transiting in a manner contrary to regulation(s).

Deny a deviation request procedures

Wording

The phrase *"Deviation denied. Traffic requires that you comply with [the regulation]..."* is a key phrase when denying a deviation. Always use this wording.

Overriding intent

In the procedure below Step 4b addresses a vessel's OVERRIDING INTENT to deviate from a VTS direction.

A vessel will only take such action when the captain believes that doing so will be safer than complying with VTS's direction. In this case VTS shall not debate the situation and shall aid the vessel in facilitating a safe transit.

Procedure

Perform the following steps to deny a deviation request.

Step	Action	What you say
1	Advise the vessel that the deviation is denied.	**VTS:** *"Deviation denied. Traffic requires that you comply with the RNA regulations...*
2	State VTS's requirements.	*...and transit westbound through the Deep Water Traffic Lane."*
3	Ascertain the vessel's intentions.	*"What are your intentions, over?"*

After VTS denies a deviation the vessel will either:

a. Agree to **COMPLY** and follow the regulation(s) or
b. Disagree with VTS and **OVERRIDE** VTS's direction to comply.

4a	If the vessel agrees to COMPLY continue to monitor the vessel's progress. End of procedure.	**VESSEL:** *"Intend to adhere to the RNA regulations and use the Deep Water Traffic Lane outbound."*
4b	If the vessel intends to OVERRIDE VTS's direction and deviate, continue on as if you had granted the deviation. Aid in facilitating a safe transit.	**VESSEL:** *"For the safety-related reason stated earlier intend to proceed in accordance with my request and transit Westbound in the Eastbound Traffic Lane."*
5	Deliver a traffic report to the vessel.	
6	State the radiotelephone proword "BREAK".	**VTS:** *"Break."*
7	Deliver a safety signal (securité) broadcast on channels 14 and 16.	(See scripted procedures elsewhere.)
8	State the radiotelephone proword "BREAK".	**VTS:** *"Break."*
9	Perform a traffic turnaround.	
10	Document the transit using VAM: REG REMARKS.	

Safety Signal broadcast for deviation

Purpose

VTS makes the broadcast to alert vessels that

- Are non-VMRS Users and so will not be included in a traffic turnaround;
- Are not VTS Users and so may not be listening to channel 14;
- May have been on a working frequency when the deviation was discussed on channel 14.

Channels

Perform this safety signal broadcast on VHF-FM channels 14 and 16.

The broadcast

The following table shows the Safety Signal broadcast broken down and explained.

Part	What you say
Preamble	*"Securité, securité, securité. Hello all stations. This is United States Coast Guard Vessel Traffic Service San Francisco."*
Pilot and vessel	*"Unit XX on the container ship Star...*
Location	*"...is at Blossom Rock..."*
Destination	*"...outbound for sea."*
Situation (see examples)	*"The ship will transit westbound in the Eastbound Traffic Lane, going south of Alcatraz."*
Closing	*"This is United States Coast Guard Vessel Traffic Service San Francisco. Out."*

Continued on next page

Safety Signal broadcast for deviation, Continued

Wording for various situations

Consider the following wording for describing various situations.

Situation	What you say
Meeting, crossing, or overtaking in an RNA	*"...The two ships will meet in the DWTL."*
Contrary move	*"...The ship will transit eastbound in the Westbound Traffic Lane going south of Harding Rock and north of Alcatraz Island."* Note: Always use the official names when referring to routes and lanes but don't hesitate to include geographic reference points to help clarify the route of the vessel.
Speed limit	*"...The ship will transit from North Ship Channel Alpha Buoy to the Richmond San Rafael Bridge at approximately 20 knots through the water."*
Engine requirements	*"The ship will transit from the Golden Gate Bridge to Anchorage 9 with the engine in the sea-steaming fuel mode. This means the vessel may be unable to quickly change the engine speed."*

Apparent intent to deviate case-specific communications

Explanation	1. The advisory is how you might address your concerns to the vessel. 2. The extra explanation is how you might explain the regulation or requirement to the vessel to avoid confusion.
Encountering where forbidden	**Advisory**: *"Tug Victor, Traffic. Traffic's display indicates you may (meet, cross, overtake) the tanker Tavi in the DWTL."* **Extra explanation:** "*The RNA regulations prohibit such a (meeting, crossing, overtaking) because both vessels are over sixteen hundred gross tons and one is a tank vessel."*
Contrary move	**Advisory:** *"Tug Victor, Traffic. Traffic's display indicates you may be heading westbound into the Eastbound Traffic Lane."* **Extra explanation:** *"Since your vessel is over sixteen-hundred gross tons the RNA regulations require that you proceed in the general direction of traffic flow."*
Exceeding 15 knots in an RNA	**Ask the vessel:** *"Motor vessel Alpha, Traffic. What is your speed through the water?"* **Extra explanation:** *"Since your vessel is over sixteen hundred gross tons the RNA regulations require that you not exceed 15 knots through the water."* Note: If necessary perform the procedures in Unsafe Speed Procedures.
Pinole Shoal Channel draft	**Advisory:** *"Tug Victor, Traffic. Traffic's display indicates you may be heading into the Pinole Shoal Channel."* **Extra explanation:** *"Since your vessel's size is reported to be less than 1600 Gross Tons, the RNA regulations prohibit you from entering the channel."*
Benicia/Martinez Railroad Drawbridge	**Advisory:** *"Unit XX, Traffic. Traffic's display indicates you are heading toward the Benicia/Martinez Railroad Bridge lift span with visibility at the bridge reported to be less than one-half mile."* **Extra explanation:** *"Since your vessel is over sixteen hundred gross tons you are prohibited from transiting through the Union Pacific Railroad Bridge with visibility at the bridge reported at less than one-half mile."*

Unsafe speed procedures

Speed limits

In all of the San Francisco Bay Region RNA's, the speed limit for a LARGE VESSEL is 15 knots through the water.

Outside of the RNAs there is no "posted" speed limit.

Throughout the VTS area vessels must comply with Rule 6—Safe Speed and navigate at a speed safe for the conditions.

If VTS believes that a vessel is proceeding at an unsafe speed for the conditions, regardless of the vessel's position, VTS shall take action.

Directing speed

If VTS believes that a vessel is going at an unsafe speed for the conditions, VTS may direct a vessel using the following wording.

"Slow to the slowest possible safe speed."

VTS shall never direct a specific speed.

INCORRECT: *"Slow to 5 knots."*

VTS's speed measuring

Due to the inherent limitations of land-based radar, VTS radar shall be used to detect vessel speed but vessels shall be directed to provide a speed report before VTS takes action.

If the vessel's report severely conflicts with VTS radar, VTS shall use the following wording to advise the vessel.

"Unit "M" Traffic,....Traffic's radar indicates approximately X knots over the ground. Do you concur?"

Continued on next page

Unsafe speed procedures, Continued

Procedure

When you believe that a vessel is going at an unsafe speed for the conditions perform the following procedure.

Note: The vessel's communications are omitted from the example procedure below.

Step	Action	What you say
1	Ascertain the vessel's speed through the water.	**VTS:** *"What is your speed through the water?"*
2	Ascertain the on-scene current direction and speed.	**VTS:** *"What is your approximate water-current direction and speed?"*
3	Ask vessel for on-scene visibility or advise vessel of special traffic conditions.	**VTS:** **a.** *"What is your visibility?"* **b.** *"Traffic's radar shows a concentration of small craft..."*
4	Ask vessel if it believes that the reported speed is safe.	**VTS:** *"Do you consider X knots through the water a safe speed considering [the conditions]?"*

If a vessel believes its speed to be safe VTS has two options:

a. Perform a SAFETY SIGNAL BROADCAST to aid in facilitating a safe transit.
b. DIRECT THE VESSEL TO SLOW.

5a	SAFETY SIGNAL BROADCAST: VTS is concerned about speed and conditions.	**VTS:** *"...The motor vessel XX is passing Main Ship Channel 7 and 8 outbound for sea and is reportedly going 17 knots through the water. Visibility is reportedly one-quarter mile in the area. All vessels in the area are advised to keep a sharp visual and radar lookout and contact the vessel on channel 13 if necessary..."*
5b	DIRECT THE VESSEL TO SLOW: VTS believes the vessel's speed is unsafe for the current conditions.	**VTS:** *" Slow to the slowest possible safe speed."*

Chapter 8

Revised: July 2005

Operator Display Processor Mechanics

Introduction

Overview

This section contains the procedures for setting up the Operator Display Processor (**ODP**) for traffic management.

In this section

This section covers the following topics.

Setting up the ODP

Procedure

Perform the following steps when logging in to an ODP from the DII COE screen.

Step	Action
1	Log in at the DII COE log-in screen. **a.** Enter the Name and press [Enter]. **b.** Enter the Password and press [Enter]. Note: Name and password must be typed in lower case. Also, spaces, backspaces, tabs, etc. will cause login to fail.
2	Log in at the sector log-in window. **a.** Enter the Username and press [Tab]. **b.** Enter the Password. **c.** Select (click on) "1-VTSSF" under the heading CGVTS Login sector. **d.** Push OK.
3	Continue setting up the ODP by opening the left eye system chart job-aid and following its instructions. On the Main menu bar select **Chart > [which] sector > [sector] Left eye > System chart**

In the job aids

The procedures called for in the on-screen job-aid are discussed in the following pages.

1. Subscribing to radars.
2. Opening chart windows.
3. Recalling a stored map into a chart window.
4. Making a window pannable.
5. Activating standard routes.
6. Re-coloring standard routes.
7. Activating overlays.
8. Digital nautical chart profile activation.

Default settings

Each ODP must be set up initially and remain set up in accordance with the default settings stated in the job-aids and in this Operational Procedures Manual.

Logging out of the ODP

Why log out?

Occasionally you will log out of the ODP in order to clean up the ODP's file systems and reset the ODP's memory buffers.

1. **Preventative maintenance:** Doing routine, scheduled log-outs will improve ODP performance and will prevent some known system problems.
2. **Problem solving:** Some unpreventable known problems (forms locking up, display freezing, etc.) can only be resolved by logging out of the ODP.

Procedure
Partial Log-out

Perform the following steps to do a partial log-out (a system cleanup) of an ODP.

Note: A partial log-out cleans up many of the computer file systems without the delays associated with a complete log-out. Recovery from a partial log-out is much faster than from a complete log-out.

Step	Action
1	On the Main Menu Bar select **Sector > Logoff > (push) OK.** • Note: Sector Summary closes.
2	Push the System Exit button in the CG VTS LOGIN SCREEN. • All radars will unsubscribe on that ODP.
4	When the Logout Confirmation box appears, push CANCEL LOGOUT. • CG VTS LOGIN SCREEN sits waiting on the screen.
5	Log back in via the CG VTS LOGIN SCREEN.
6	Re-subscribe to radars.
7	Activate radar in each chart window as appropriate.

Procedure
Complete Log-out

To log all the way out to DII COE, in Step 4 above (Partial Log-out) push CONTINUE LOGOUT instead of CANCEL LOGOUT.

Doing this will bypass Steps 5 and 6 and will log the ODP out the DII COE.

Note: Recovery from a complete log-out takes much longer than from a partial logout.

Revised: July 2005

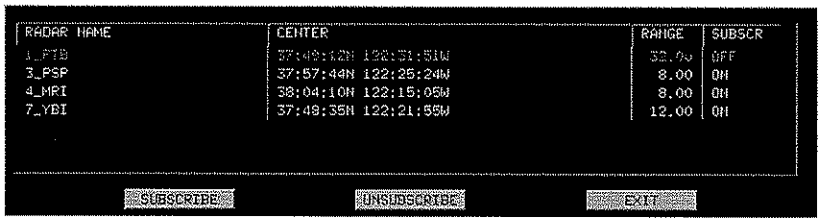
Radar subscribing procedures

Explanation

Subscribing to a radar site on an ODP makes that site's video available to all chart windows on the ODP.

Procedures

Perform the following steps to subscribe a radar to an ODP.

Step	Action
1	Open the Radar Image Control window. **Radar > Radar Image Control .** 
2	Select the desired radar site.
3	Push the Subscribe button. • The word "NO" will change to "YES" under the "SUBSCR" (subscribe) column for the site that you selected. This means that the radar successfully subscribed.

Opening chart windows

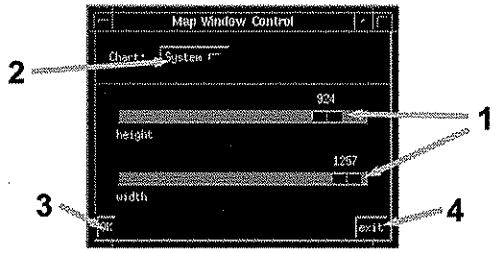
Procedures

Perform the following steps to open a chart window.

Step	Action
	Always open the system chart on the left eye first.
1	Activate the job-aid for the chart window. On the Main menu bar select **Chart > [which] Sector > [which] Eye > [which] Chart** Note: The job-aid positions its chart window automatically and lists set-up procedures for that window.
2	Activate the Open Charts dialogue box. On the Main menu bar select **Chart > Open Charts**
3	Select the chart window that you wish to open. In the Open Charts dialogue box select **System > [select chart window from list]**
4	Set the height and width sliders to the dimensions in the job-aid.
5	Push OK to open the chart window.
6	Make the chart window pannable per job aid instructions.

Diagram

The following diagram shows the parts of the Open Charts dialogue box.



Part	Function
1. Dimensions sliders	• Readout indicates height and width in pixels. Note: The Chart Window Dimensions pop-up gives dimensions in the opposite order (width by height). • Readout changes as you move the slider. • Slider can be nudged one digit at a time using the [Left-arrow] and [Right-arrow] keys.
2. Chart list button	• System is up by default. • Push System for the list.
3. OK button	Push to open the chart window after adjusting settings.
4. Exit	Push to exit the Open Charts window without opening any chart window.

Recalling a stored map into a chart window

Procedures

Perform the following steps to recall a stored map into a chart window.

Step	Action
1	Open the Stored Maps dialog box. **Map options > Stored maps .**
2	Double-click on the name of the desired stored map. • The stored map will appear in the chart window.

What's stored with a Stored Map?

The following parameters are stored with the stored map.

1. center point for the charted area
2. width of the charted area
3. radar site video to display
4. radar site colors
5. overlays to activate
6. VPF features to activate.

Relation to chart scale

A stored map is defined as a center point and a width. By choosing the size of the chart window into which you recall the stored map, you determine the scale at which it is displayed.

Map Control Warning

If you see the prompt below when you recall a stored map, it means that the stored map includes radar input but the subject radar isn't subscribed to on this ODP.

To correct this problem, simply subscribe to the subject radar; then recall the stored map again.

Making windows pannable

Explanation

VTS uses pannable chart windows to save room on the display screen while permitting viewing of sufficient area.

Procedures

Perform the following steps to re-size a chart window.

Step	Action
1	Open the chart window.
2	Recall the appropriate stored map into the chart window.
3	If the chart window is larger than the space allotted for it on the display, proceed with this step. Click and drag the bottom window border to the desired height dimension. • The chart window dimensions pop-up shows the changing dimensions.

Note: The image scale does not change when you re-size the chart window. You are simply cropping the displayed image. The computer processor still sees the entire image.

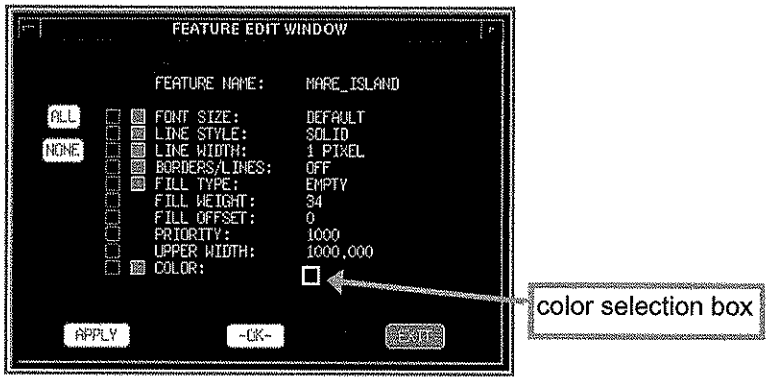
Radar video activation procedures

For default settings

To activate the default radar video settings for a chart, follow the steps to recall the default stored map into that chart. Remember that radar video settings are stored with the stored map.

Procedure

If you want to activate non-standard radar video in a chart window, perform the following steps.

Step	Action
1	Open the **Features in *[chart window name]*—default mode window** dialog box from the chart window menu bar. **Map Options > Features**
2	Select the desired radar site name and push the Edit button.
3	Click the color selection box and select a color from the pop-up menu. 
4	Click the OK button.
5	Exit the **Features in *[chart window name]*—default mode window** dialog box.

Overlay activation procedures

Individual chart window

Overlays must be activated in each chart window where you desire to see the overlay—activation doesn't carry over from one chart window to another.

Procedures

Perform the following steps to activate an overlay.

Table 1—Activating the overlay

Step	Action
1	Open the Overlay window. **Map Options > Overlays**
2	Click on the overlay you wish to activate.
3	Right-click inside the Overlay window to activate the pop-up menu.
4	Select Activate from the pop-up menu. Choose NO in the ANSWER PLEASE "Recall Overlay Map" dialogue box.
5	Does the activated overlay appear to be missing segments?

Yes	No
Go to Step 6 and activate all of the overlay's segments.	Click EXIT to close the Overlays dialogue box.

Table 2—Activating individual segments of an overlay.

6	Double-click on the overlay name in the list. • The Overlay Editor window will appear.
7	Locate and select the de-activated overlay segments.
8	Activate the pop-up menu.
9	Select Activate from the pop-up menu and push OK. • The missing overlay segments should appear on the chart window.
10	Push OK.
11	Push the EXIT button to close the Overlay window.

Standard routes activation

Overview

Standard routes (SRs) are activated through a chart window menu; however, activating SRs applies to every chart window on the ODP.

Procedure

Perform the following steps to activate the default standard routes.

Step	Action
1	Open the Standard Routes dialog box.
	 • The dialog box will close itself when the routes are done activating.
5	Exit the Standard Routes dialog box.

Standard Routes no longer used:

Standard Routes commands (SR) were used to set a track into motion along a pre-set dead reckoning (DR) track. The course and speed of the track was programmed into the system based on typical courses and speeds for vessels transiting along common routes through the VTS area of operations. The track's movement only indicated an approximation of the vessel's true position however, "standard routing" helped the operator maintain situational awareness while managing traffic. Launching and tracking vessels in the SR mode was normally used for areas where little no radar coverage was available. When the CGVTS System was updated to support AIS monitoring, the SR track option was discontinued.

Re-coloring standard routes

Explanation Standard routes can be re-colored while they are active.

Procedure Perform the following steps to re-color an active standard route

Step	Action
1	Select Map Options from the Chart Window menu bar.
2	Select Standard Routes from the pull-down menu.
3	Stretch the Standard Routes window length wise so that you can see the majority of the standard routes.
4	Select the standard routes that you desire to re-color.
5	Right-click inside the Standard Routes window to activate the pop-up menu.
6	Select CHANGE COLOR from the pop-up menu.
7	Select the new color from the Color window.
8	Press OK. • The selected standard routes will change color. • The Color window will disappear.
9	Press EXIT to close the Standard Routes window.

Digital nautical chart (DNC) profile selection

Warning!

NEVER perform any functions anywhere within the Vector Display window other than those functions specified in the procedures below. Doing so—even just clicking in the window—can permanently damage the chart profiles.

Procedures

Perform the following steps to load a VPF Feature profile.

Step	Action
1	Activate the Vector Display window. **Map Options > VPF Edit .**
2	Activate the Profiles menu; then select the desired profile.
3	Push the Apply button to check your changes without closing the Vector Display window—OR skip to step 4. Note: Once you have pushed the Apply button you cannot cancel your action by pushing the Cancel button. You must reload the correct profile to return the chart window to its previous VPF Feature settings.
4	Push the OK button to apply the changes and instantly close the Vector Display window.

Terminology

1. The charts on VTS's ODP screens are called Digital Nautical Charts (or DNCs).
2. Vector Product Format (or VPF) is a system used for digitizing graphics such as the charts on VTS's display screens. Technically, they are "vector charts."
3. VPF Features (also known as "chart data" or "chart features") are digital chart markings such as aids to navigation, buildings, land and shoreline, and port facilities (docks, etc.).
4. A profile is a file of selected VPF Features. In creating the profile the user configures the features—setting the color, texture, and other qualities to be shown on screen. For example, one profile might include land and shoreline colored gray, selected buoys in green and red, and the trans-bay BART tunnel as a dashed line.
5. The Default DNC is the DNC profile normally used on VTS's ODPs.
6. The VPF Editor is the computer program that is used to create, change, and select profiles on VTS's system. (It can also be used to display VPF Features without using a profile.)

Multiple workspace procedures

Explanation

Each monitor contains two "workspaces." A workspace is equivalent to a computer desktop. Each workspace can contain one or more windows.

Immediately after log in

Immediately after log-in, the left monitor comes up in workspace two and contains all of the ODP "utility" windows. You must jump to workspace one before opening any chart windows in the left eye.

The right monitor comes up in workspace one by default.

Note: Make sure all utility windows (two windows and one icon) have opened in the left eye before jumping to workspace one in the left eye.

Workspace ONE

The following windows must always occupy workspace ONE:

- all chart windows
- UTDC.

Changing workspaces

Move the pointer to the desired ODP monitor; then strike the [Workspace] hot key to jump back and forth between the two workspaces.

Remember, each monitor has two workspaces. However, there is no on-screen label showing you which workspace you are in.

Moving windows

Perform the following steps to move a window to another workspace.

Step	Action
1	Position the pointer over the window's title bar.
2	Right-click with the mouse. • A pop-up menu will appear.
3	Select OCCUPY WORKSPACE from the pop-up menu. • The Select Workspace window will appear. • The name of the current workspace will be highlighted.
4	Select the opposite workspace from the list.
5	Select OK. • The subject window will disappear from the current workspace.

Which workspace am I in?

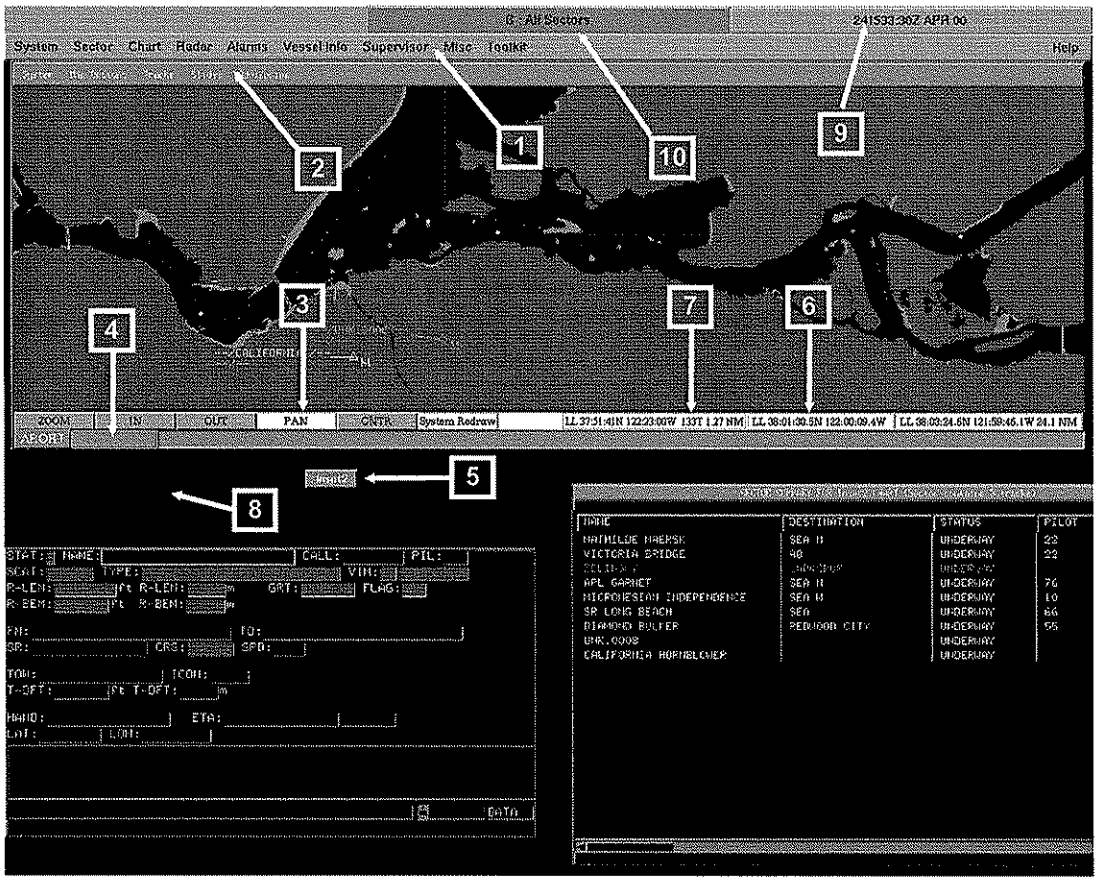
Your current workspace is always highlighted in the list in the Select Workspace window.

Appendix A

Display parts and functions

List The illustration below shows one display eye with the parts annotated.

Part	Description	Function
1	Main Menu Bar	Menu items that apply to the whole system.
2	Chart Window menu bar	Menu items that apply only to that chart window.
3	PAN button	Turns the pointer into a "hand" symbol which you use to shift the chart image around in its frame. Note: Do not push any of the other buttons here.
4	Re-draw indicator	Shows a thermometer-like bar indicating the status of a chart window re-draw. Moves from left to right.
5	Icon	This is a window that has been "shrunk" to take up little display space but is still stored in the computer memory; it will reappear instantly if you double-click on the icon.
6	Lat/Long display	Shows the latitude and longitude of any point chosen.
7	Brg/Rng display	Shows the bearing and range from any selected point.
8	Background	Blank area on which windows sit.
9	Date and time readout	Shows the date and time. Click to change the format of the readout from LOCAL to GMT.
10	Sector status	Shows which sector the ODP is logged into.

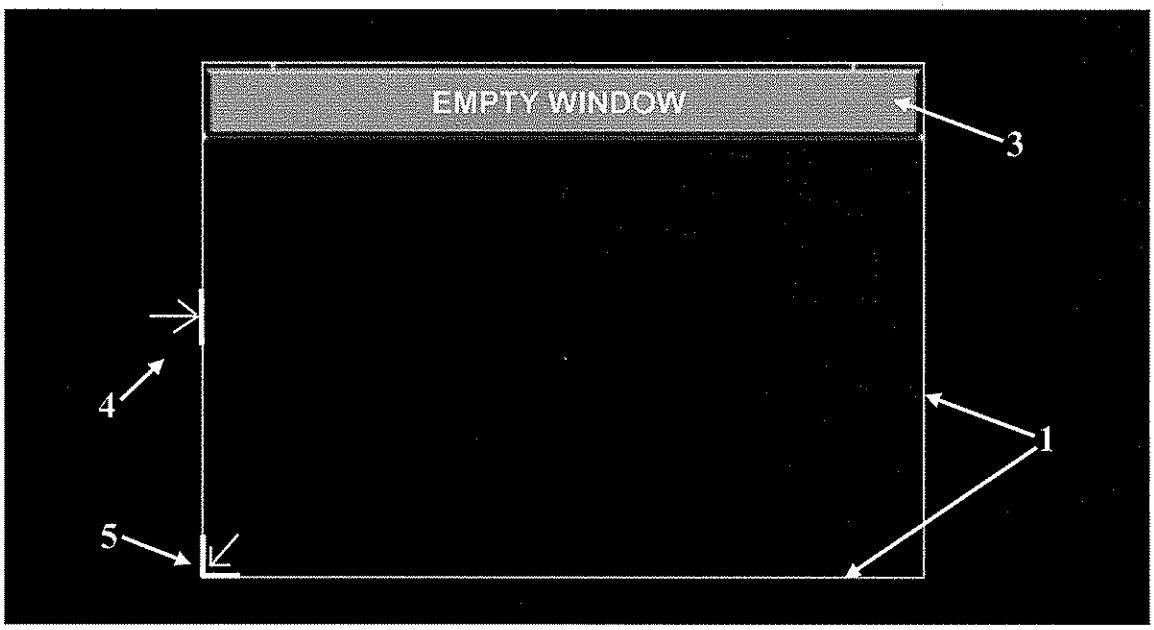


Appendix B

Window widgets

List The table and illustration below describe the window manipulation controls. A chart window is used in the example. All windows have the controls discussed here.

Part	Description	Function
1	Window border	Click and drag to re-size window. Highlighted when window is hot (has the focus).
2	Close Box	Window control menu activated by right-clicking on a window's title bar or border. Touch the window border with the mouse arrow and the mouse arrow will look like below. Now you can right-click to activate the Close box.
3	Drag Bar (Title Bar)	Click and drag to move the window around on the display. Highlighted when window is hot (has the focus).
4	Resizing along one axis	Mouse pointer looks like this when you touch the left, right, top, or bottom axis alone. Click and drag to resize along the one axis—i.e., in one direction.
5	Resizing from a corner	Mouse pointer looks like this when you touch a corner. Click and drag to resize along the two axes simultaneously.



Close Box

Appendix C

Special ODP terminology

Terminology There are specific terms associated with the ODP.

Term	Description
Window	A window is a rectangular area on the screen that is enclosed by borders. It may contain a picture, an interactive "form," or a list.
Focused or "has the focus"	The window that is currently active and highlighted; the hot window.
Workspace	This is equivalent to a computer desktop. It can contain one or more windows.
Click	To quickly depress and release the **left** mouse button.
Double-click	To click (**left** mouse button) twice in rapid succession.
Right-click	To click with the **right** mouse button.
Center-click	To click with the **center** mouse button.
Drag	To click down and hold a mouse button while moving the mouse.
Button	This is a digital picture that looks like a depressible button. You activate it by clicking on it.
Pop-up menu	Right-click in certain types of windows to activate a pop-up menu. The menu pops up next to the pointer. Select one of the menu items by dragging the pointer onto the menu item.  Sector summary pop-up menu (size exaggerated)
Sticky menu and non-sticky menu	A sticky menu stays on the screen after you release the click. A non-sticky menu requires that you hold the click down while selecting a menu item.
Hot key	A keyboard key (sometimes labeled) or combination of keys pressed together that performs a specific function. Hot keys usually take the place of a function that can be done by clicking on the graphic display.

Chapter 9

Sectorization

Introduction

Overview This section contains the procedures for sectorizing watch operations.

In this section This section covers the following topics.

Explanation of Sectorization

Definition

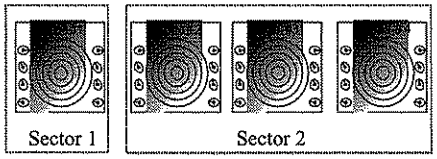
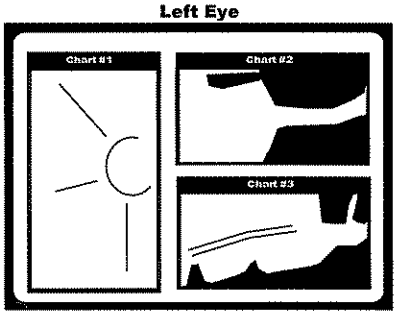
A *sector* is an area of traffic management responsibility. *Area* may be a geographical region or it may be a type of track, a type of radio call, or some other conceptual device.

Goal

The goal of a sectorization plan is to divide the VTS watchstanders' workload so that each sector operator is able to spend the maximum time possible closely monitoring the tracks and managing the traffic in his/her sector without being overloaded.

Flexible Sectorization

The use of computerized VTS equipment makes flexible sectorization possible. The following table compares NON-flexible sectorization to flexible sectorization.

NON-flexible Sectorization	Flexible Sectorization
Geographic sector boundaries are dependent on what areas the side-by-side Operations Center radar repeaters cover. Example: 	Any geographic area or combination of geographic areas can be displayed on one ODP using multiple windows. Example (Note: Only ONE ODP monitor shown below.): 
Sectorization is exclusively based on geographic boundaries. VTS system limitations prevent the easy sharing of track information.	Sectorization can be based on things such as track type (e.g., ferry vessels), type of report (e.g., Sailing Plan Sector). All sector operators have access to all important track information from all tracks in the VTS system.

Flexible Sectors

Factors

Each of VTS San Francisco's sectors is defined by two factors.

Factor	Explanation	Significance
Geographic Area	Portion of the VTS area of responsibility for which the sector operator is responsible.	ODP is configured to provide optimum coverage of the sector's geographic area at optimum scales.
Tracks of interest	Specific types of tracks (e.g., all ferry tracks, all anchored tracks) under the responsibility of the sector operator.	Tracks making similar types of reports, operating in a specific manner, or possessing similar tracking characteristics are grouped together for ease of management.

Value to VTS

VTS San Francisco's sectors are flexible. That is, sector operators' responsibilities (geographic area or tracks of interest) can change when situations change.

See the following examples.

Situation	Flexible Option
Few vessels throughout VTS area.	One sector operator can expand his/her geographic area and/or handle a wider spectrum of vessel types.
Many vessels throughout the VTS area.	Track management workload can be divided along logical sector boundary lines or according to vessel types.
Many vessels in a limited part of the VTS area.	Sector operators' responsibilities can be quickly divided in order to redistribute the workload. Note: Watch supervisors can anticipate increases in traffic and plan to use flexible sectorization accordingly.
Special operation or emergency affecting a limited geographic area.	One sector operator can be assigned to focus attention on the operation or emergency while another sector operator is managing tracks in and around the limited geographic area.
Sudden burst of radiotelephone traffic within one sector.	Upon request a second sector operator can temporarily pick up the overflow traffic, then return track management responsibilities to the original sector operator.

Continued on next page

Flexible Sectors, Continued

Information Sharing

Sector operators must be able to see the positions of and report information about tracks outside of, but significant to traffic in, their sectors.

Sometimes a sector operator must defer part of a traffic report to another sector operator in order to ensure that a vessel gets up-to-date information about all significant traffic.

Also, when vessel type is the primary factor in a sector's definition and its geography overlaps that of another sector, all sector operators who are sharing that geographic area must be able to report all information about all tracks in the geographic area, even for the tracks not under their direct management.

Sector operator responsibilities

Terminology

Managing a vessel track means to do the following. (This is not a complete list.)

1. Respond to the vessel's Sailing Plan report and start the track's transit.
2. Respond to the vessel's Position reports and adjust track position.
3. Respond to the vessel's Sailing Plan Deviation reports and edit route information.
4. Ensure that the track icon position is always representative of the vessel's position.
5. Report all traffic of interest to the vessel.
6. Report all navigational hazards to the vessel.
7. Project the vessel's position to prevent unsafe or illegal situations.

Geographic areas

The following table describes each sector's geographic area.

Notice that the Bay Left and Bay Right sectors share the same geography.

Sector name	Geographic area
Ocean & Delta	The navigable waters: 1. (Ocean) west of the COLREGS Demarcation line to the outer limits of the VTS area; 2. (Delta) east of New York Point.
Bay Left	All navigable waters between the COLREGS Demarcation line and New York Point.
Bay Right	

Continued on next page

Sector operator responsibilities, Continued

Track (traffic) management

Each sector operator is responsible for performing specific traffic management functions within his/her geographic area of responsibility.

It is each sector operator's duty to ensure that all traffic under his/her management is properly accounted for.

The traffic management duties are listed below.

Notice that although the Bay Left and Bay Right sectors share the same geography, each has unique track responsibilities.

Check marks appear in the columns on the right underneath the heading for the sector operator that is responsible for that traffic management duty.

Duty	Ocean Delta	Bay Left	Bay Right
1. Manage vessel tracks of all power-driven vessels 40 meters in length or more.	✓	✓	
2. Manage vessel tracks on all towing vessels 8 meters in length or more.	✓	✓	
3. Manage vessel tracks on all passenger vessels certificated to carry 50 or more passengers for hire.	✓		✓
4. Manage vessel tracks on all NON-VMRS users that are actively participating with VTS.	✓		✓
5. Maintain a watch on all anchored vessels.	✓	✓	
6. Initiate advisories.	✓		✓
7. Manage information displayed on all marine events.	✓		✓
8. Perform the Offshore Vessel Traffic Advisory.	✓		

Continued on next page

Sector operator responsibilities, Continued

Managing the workload

Specific duties, types of tracks, and geographic areas are assigned to each sector operator in order to ensure that all tracks and areas are accounted for.

An individual sector operator may become overwhelmed by a sudden influx of calls or by one particularly difficult call. Or VTS equipment casualties may disable one sector operator's ODP, making him/her unable to answer radio calls.

In any case, sector operators must work together and must stand ready to re-distribute the workload on the fly whenever necessary.

Understand that VTS San Francisco's flexible sectorization plan must remain flexible. You must be ready to bend the proverbial "sector boundary" (whether it be geographic or track/duty related) as necessary to get the job done.

Following are some examples of ways sector operators can flex the sector boundaries in order to assist each other in maintaining the traffic picture.

Scenario	Solution
Ocean & Delta sector operator is performing the Offshore Vessel Traffic advisory. Bay Left sector operator hears a ship call and make a Position report from the Delta area.	Bay Left sector operator: 1. responds to the vessel; 2. copies the time and position in the vessel's VDC (by opening the VDC from the Sector Summary since s/he does not have charts covering the Delta); 3. directs the vessel to stand by for a traffic report.
Bay Right sector is inundated with successive ferry calls and the Ocean-Delta sector operator overhears the Port of SF Divers calling VTS for a minimum-wake request at Pier 9.	Ocean & Delta sector: 1. confers quickly with Bay Right sector; 2. directs divers to call traffic on channel 12; 3. initiates the advisory.

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Sector operator responsibilities, Continued

Managing the workload (continued)

Scenario	Solution
The time is 0743 (two minutes before the Offshore Sector Vessel Traffic Advisory) and the Ocean-Delta sector operator notices several vessels approaching reporting points. The operator expects several Position reports during the OVTA.	The Ocean-Delta sector: 1. asks Bay Left to respond to the Position reports if they come in during the extended traffic advisory; 2. de-selects the channel 14 radio before starting the broadcast to avoid the radio distraction during the broadcast.

No one sector operator should ever approach the envelope of overload alone. Anticipate "spikes" in workload and establish definitive plans well ahead of time to deal with these spikes.

Hot spots for the Ocean-Delta sector operator

List The following tables show some hot spots where the Ocean-Delta sector operator must pay close attention to cross-sector traffic management.

Table 1—Concerns for vessels in the Bay

If an inbound vessel…	think about…	because …
Is approaching the Main Ship Channel…	• Outbound traffic south of the Oakland Bay Bridge… • Outbound traffic between the Echo Buoy and the Richmond Bridge…	The vessels might encounter each other in the DWTL.
Is approaching the east end of the Main Ship Channel…	Traffic that will be outbound in the Central Bay…	The vessels might encounter in the Golden Gate Precautionary Area.
	Minimum-wake requests in the Central Bay…	The vessel might need to plan speed reductions ahead of time.
	Concentrations of radar targets in the Central Bay…	The vessel may base Central Bay lane intentions on such early information.
Is approaching the COLREGS Demarcation Line…	• Outbound traffic approaching the Golden Gate Precautionary Area…	This is a potential area for close-aboard or confusing encounters.
	• A vessel at the destination berth scheduled to depart but not checked in…	The inbound pilot needs as much time as possible to make contingency plans.
	• A vessel departing Oakland…	They may meet in the Oakland Harbor RNA.
	• A vessel departing Richmond…	They may meet in the Richmond-Southampton Shoal RNA.
States Central Bay lane intentions…	Conferring with the Bay Sector operator about the information…	All outbound encounter traffic must be advised of the inbounder's lane intentions.

Continued on next page

Hot spots for the Ocean-Delta sector operator, Continued

List (continued)

Table 2—Concerns for vessels approaching the Delta area

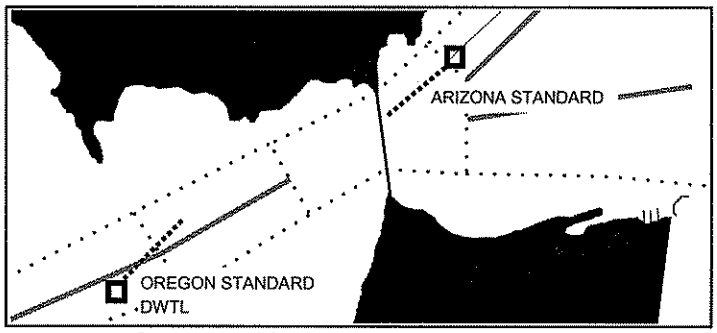
If a downbound vessel...	think about...	because ...
is approaching New York Point...	upbound vessels between San Pablo Strait and Carquinez Bridge...	the vessels might encounter in the UP RRB RNA or in a narrow channel.
	visibility conditions at the UP RRB...	downbound vessels require this information for making RNA decisions.

Hot spots for the Bay Left sector operator

List The following tables describe areas where the Bay Left sector operator must pay close attention to cross-sector traffic management.

Table 1—Concern with vessels approaching from the ocean

If a vessel is…	think about…	because …
preparing to depart a dock in the Central Bay or south San Francisco Bay outbound for sea…	traffic between the Offshore Pilot Area and the COLREGS Demarcation line…	the vessels might encounter in the central Bay.
	conferring with the Ocean & Delta sector operator about the new outbounder's Sailing Plan information …	the inbounders must be kept abreast of the outbounders' intentions.
approaching the Golden Gate Precautionary Area outbound…	traffic that is approaching the COLREGS Demarcation line inbound and the associated approach angles [see diagram below]...	an inbounder's inclination to transit toward the northern part of the precautionary area must be detected and reported early, especially in restricted visibility.



Concern with vessels' approach angles

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Hot spots for the Bay Left sector operator, Continued

List (continued)

If a vessel is…	think about…	because …
approaching the Golden Gate Bridge outbound…	traffic between the Offshore Pilot Area and the Golden Gate Bridge…	the outbounder must be kept abreast of the order and intentions of the inbounders.
	inbound traffic approaching the Offshore Precautionary Area (requires conferring with Ocean & Delta sector operator)…	the outbounder reports offshore lane intentions around the Golden Gate Bridge and must be advised of expected Offshore Precautionary Area encounter traffic.
scheduled to depart a berth to which another vessel is bound but the departure has not checked in…	advising the vessel bound for that berth of the situation…	the pilot needs as much time as possible to make contingency plans.

Continued on next page

Hot spots for the Bay Left sector operator, Continued

List (continued)

Table 2—Concern with factors under the management of the Bay Right sector operator.

If a vessel is…	think about…	because …
operating anywhere in your sector…	location and content of all advisories…	the Bay Right sector operator may have placed new advisories recently.
	tracking statuses of all Bay Right sector tracks…	many of these tracks are assigned to Standard Routes and have deceptive collision vectors.
	positions and intentions of all Bay Right sector tracks including commuter ferries and tour boats…	in low-visibility conditions you must report all traffic to all vessels.
		you may be called upon to assist the Bay Right sector operator on a moment's notice.
		you must confer with the Bay Right sector operator if you detect a close-aboard encounter between vessels in the two sectors.

Table 3—Concern with vessels approaching from the Delta area.

If a vessel is…	think about…	because …
between San Pablo Strait and Carquinez Strait heading to the UP RRB…	the location of downbound vessels approaching New York Point…	the two vessels might encounter in the UP RRB RNA or in a narrow channel.

Hot spots for the Bay Right sector operator

List The following tables show areas where the Bay Right sector operator must pay close attention to cross-sector traffic management.

Table 1—Concern with vessels approaching from the ocean

If a vessel is…	think about…	because …
a passenger vessel westbound heading for the vicinity of the Golden Gate Precautionary Area…	inbound vessels in the Main Ship Channel…	passenger vessels move slowly and maneuver abruptly beneath the Golden Gate Bridge while conducting bay tours.
transiting (or planning to transit) at a high rate of speed…	other vessels' minimum-wake requests…	towing vessels and other vessels often request minimum-wake passage from passing ferries. This information will be documented in VDCs by the appropriate sector operator.

Table 2—General cross-sector concerns

Where?	think about…	because …
Throughout your sector	visibility conditions…	reports of reduced visibility conditions will key the Bay Left sector operator to include all vessels in traffic reports.
	the position and intentions of all Bay Left sector tracks…	you must report this information to all Bay Right sector tracks
		you may be called upon on a moment's notice to assist the Bay Left sector operator.

Display continuity between ODPs

Terminology

The following terms are important for this discussion.

Term	Explanation
Dynamic updating	This means that changes made at one ODP to tracks, overlays, and other system features show up automatically and immediately on all other ODPs.
Ping	This means to quickly open, then close a computer window.

Fact

The Upgrade system currently lacks dynamic updating on Alarm conditions.

Concerns

The following table shows areas where display continuity is especially important.

Think about...	because...
accuracy of display...	Other sector operators are using information that you initiate. If that information is inaccurate or out of date, incorrect information will be reported across the sectors.
refreshing or deleting alarm filters...	• newly-defined alarms (such as swing circle alarms) do not automatically appear on other ODPs; • newly-deleted alarms do not automatically disappear from other ODPs. Refer to the information on Alarm Filters for details on how to keep alarms up to date on all ODPs.

Chapter 10

Revised: July 2005

Parts and functions of the UTDC and the UTDC List of Values window

Introduction

Overview

This section lays out procedures for using the Universal Track Data Card (UTDC) and lists of values (LOVs).

In this section

This section is divided into two parts.

Part One
UTDC Parts, Functions, and Procedures

Part introduction

Overview

This part explains the parts, functions, and procedures for operating the UTDC and for manipulating data in the UTDC.

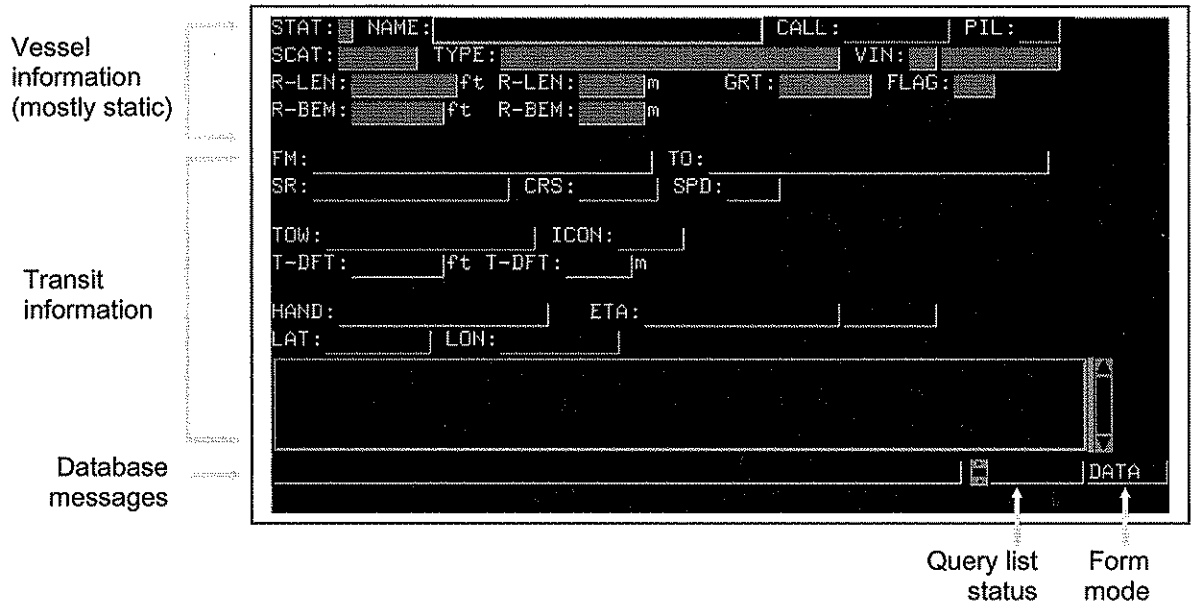
In this part

The following topics are discussed in this part.

Parts of the UTDC Form

Diagram of form

This diagram shows the major divisions of the UTDC form



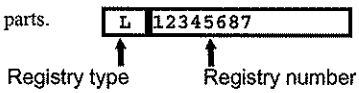
Part	Function
Vessel information	When a vessel's name is typed into the NAME field or a call sign is typed into the CALL field, the light gray fields automatically populate with that vessel's static data. The PIL field must be edited for each transit.
Transit information	These data change with each transit. They are: • reported by the vessel and entered by the sector operator or • listed on the Pilot's List and entered by the watch supervisor.
Database messages	This part displays messages regarding database and operator actions such as how many choices match the letters typed.
Query list status	This field indicates which record is currently displayed relative to the number retrieved. This field is empty unless you are viewing a list of records in the UTDC.
Form mode	This shows which mode the UTDC is in. Following is a brief explanation of the UTDC form modes.

Mode	Used when…
DATA	• entering Sailing Plan data • typing in the form to retrieve transit data.
QUERY	searching the Transit Table.
ON PLOT	viewing or editing transit data for any track that has an icon on the screen.

Continued on next page

Parts of the UTDC Form, Continued

Field explanations The following table explains the usage and functionality of each of the UTDC fields. This table is laid out in the order of the fields on the UTDC.

Label	Full Name	Specific Usage or Special Explanation	Editable	LOV
STAT	Track status	Displays the vessel's track status. • D - Docked • A - Anchored • O - Out of AOR • U - Underway If the STAT field is empty it means the subject vessel has never been logged into the VTS system.	No	No
NAME	Vessel name	1. Enter a vessel's name to call up that vessel's record. 2. Change the name that applies to an underway or anchored transit.	Yes	Yes
CALL	Vessel call sign	Enter a vessel's call sign to call up that vessel's record.	Yes	Yes
PIL	Vessel pilot	Pilot designator for the transit.	Yes	No
SCAT	Special category	Displays in red text the special category. Special Category refers to special rules or restrictions that apply to a vessel's transit. The Watch Supervisor enters them through the Vessel Maintenance Form.	No	No
TYPE	Vessel Type	Displays the "Lloyds" vessel type as stored in the Vessel Identification Table.	No	No
VIN	Vessel Identification Number	The VIN is the number that uniquely identifies a vessel in the CG VTS system Vessel Identification Table. This field is broken into two parts. 	No	No
R-LEN	Registered length overall	Self-explanatory.	No	No
R-BEM	Registered beam	Self-explanatory.	No	No
GRT	Gross tonnage	Used in determining RNA applicability for non-towing vessels.	No	No
FLAG	Flag of registry	Self-explanatory.	No	No
FM	From	Enter the name for the transit point of departure.	Yes	Yes
TO	To	Enter the name for the transit destination.	Yes	Yes
~~SR~~	~~Standard route~~	~~1. During the Sailing Plan report or Prospective list entry, enter the name for the SR that you will be launching the track to or associating the track with. Strike [Ctrl S] to launch the track to that SR.~~ ~~2. For ON PLOT tracks this field shows which SR the track is associated with or tracking on. Check the FARMS character to determine the tracking status.~~ ~~3. For ON PLOT tracks use this field to change the SR that the track is associated with or tracking on.~~	~~Yes~~	~~Yes~~
CRS	Course	Displays the track's true course. • For radar tracks—displays the course according to the radar processor. • For SR tracks—displays the course of the current leg of the SR. • For manual tracks—shows `000.00`.	No	No
SPD	Speed	1. Displays the track's tracking speed. a) For radar tracks—displays the speed according to the radar processor. b) For SR tracks—displays the speed for the current leg of the SR. c) For manual tracks—shows `00.0`. 2. Use this field to override (to change) the SR tracking speed of SR tracks.	Yes (only SR tracks)	No
AIS	MMSI	3. Displays a vessel's MMSI number	Yes	No

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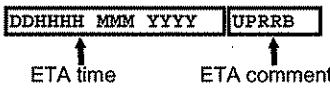
Parts of the UTDC Form, Continued

Field explanations (continued)

Name	Full Name	Specific Usage or Special Explanation	Editable	LOV
TOW	Towing configuration	Enter the towing configuration codes here. Enter no more than four characters in this field. The contents of this field will automatically show as the first four characters in the track tag second line.	Yes	No
ICON	Track icon	Displays the icon stored with the vessel record in the Vessel Identification Table. For towing vessels, change the icon to fit the RNA applicability of the tow.	Yes	Yes
T-DFT	Transit draft	Enter the draft for the current transit.	Yes	No
HAND	Transit Handling	• Enter route intentions or other important transit data. • Contents appear on line two of the track tag. • Enter no more than fifteen characters in this field. Clear this field when contents become obsolete.	Yes	No
ETA	Estimated time of arrival	This field is divided into two parts as shown below.  1. **ETA time field** a) Speed-fill functionality: Type a four-digit time and it will automatically be converted into a date-time group when you tab out of the field. If you enter a four-digit time that is earlier than the current time it will automatically assume the date is tomorrow. b) DTG functionality: Type a full date-time group for any date or time using the format shown above. 2. **ETA comments field**: Type a short text comment explaining to what point the ETA time refers.	Yes (both fields)	No
LAT & LON	Latitude & longitude	Enter the reported latitude and longitude of a vessel in these fields. When you [Ctrl-M], the system will position the icon at the position entered. Formats must be as follow. ("d" = degrees; "m" = minutes; "s" = seconds.) LAT: ddmmss.0 LON: dddmmss.0	Yes	No
(un-labled)	Remarks	This is a free-form text field. • You cannot [tab] out of this field; however, you can [shift-tab] out of it. • You cannot [Return] out of this field. Use this field for recording offshore vessels' course, speed, and ETA information. This field's contents are not displayed on the track tag; the information stored here can be seen by calling up the vessel's transit record.	Yes	No

Populating the UTDC with data

Procedure

There are three ways to populate the UTDC with vessel data.

1. **Typing procedure:** Clear out the UTDC; then type in a vessel's name or call sign into the appropriate field and tab to the next field.
2. **Double-click procedure:** With the UTDC either empty or populated, double-click on a track icon.
3. **Sector Summary procedure:** With the UTDC either empty or populated select the track in the Sector Summary (highlight it); then select UTDC from the Sector Summary popup menu.

Track icon indication

While a track's data are in the UTDC the track's icon symbol is circled and is highlighted in white.

When another track's data are called into the UTDC the previous track's icon is automatically deselected (original color returns and the circle disappears).

Unsaved data lost

For the double-click procedure and Sector Summary procedure, any unsaved data in the UTDC will be lost when a new track's data are called into the form.

Error prompts

Occasionally you will see ***"Error updating Oracle"*** when you attempt to populate the UTDC by double-clicking or by selecting from the Sector Summary. If this happens simply clear the UTDC with [Ctrl L] and try again.

Same record open on multiple ODPs

It is possible to open the same vessel's record simultaneously on more than one ODP. This action alone will not cause a computer problem.

WARNING: However, the changes made by the last ODP that saves the record will be the changes that get recorded in the database. This fact can cause data to be lost.

For example:

1. ODP 1, ODP 2, and ODP 3 populate the UTDC with the tug "Marin".
2. ODP 1 changes the TO field from BERKLEY to RICHMOND and saves the data using the [Ctrl O] function.
3. ODP 2 makes no changes and clears the UTDC using [Ctrl L].
4. ODP 3 makes no changes and activates [Ctrl O], saving the data that are currently in the ODP 3 UTDC.

Result: ODP 2's action had no affect on the data because ODP 2 cleared the form without saving. ODP 3's action caused the changes made by ODP 1 to be erased.

Prevention: To prevent the aforementioned result, always clear the UTDC using the [Ctrl L] function unless you specifically intend to save changes.

UTDC navigation and keyboard functions

Facts

1. The ability to touch-type—even very slowly—is important in successful operation of the UTDC form.
2. Continuous shifting of the hands back and forth between the pointer device and the keyboard introduces great delays in the data entry process. It is always more efficient to keep your hands positioned over the keyboard.

Making the UTDC form hot

Keep the UTDC form the last hot window in its monitor.

That way if you are working in the opposite monitor all you have to do is hit the [R-Eye] or [L-Eye] key, the cursor will jump to the UTDC form's monitor, and the UTDC form is hot.

Selecting (highlighting) text

These editing functions work in UTDC Form fields as well as in almost every database form of the CG VTS system.

Action	Result
double-click on word	Selects (highlights) the word.
triple-click on a line	Selects (highlights) the line
click and drag over text	Selects (highlights) as much text as you drag the cursor over.

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UTDC navigation and keyboard functions, Continued

Navigation and database hotkeys

The following table explains the keyboard hotkeys and key combination shortcuts for navigating through the UTDC and for the UTDC database functions.

Added 07/18/2003. Already present in printed copy.

Hotkey	Function
[Tab]	Moves the cursor forward to the next field. Note: Doesn't work in the Remarks field.
[Shift tab]	Moves the cursor backward to the previous field.
[Ctrl tab]	Use in the Remarks field only to jump forward to the Name field. Note: In the Remarks field the [Tab] key works like a traditional tab function in a word processor. You cannot escape the Remarks field using the [Tab] key alone.
[Ctrl O]	Saves your data and clears the UTDC fields.
[Ctrl V]	Validates the data in the LAT & LON fields. Note: Validation also occurs when you save data or launch the track.
[Ctrl D]	Removes a vessel record from the Prospective list.
[Ctrl U]	Clears the field in which the cursor is positioned.
[Ctrl L]	Clears all fields without saving any changes.
[Ctrl T]	Makes the UTDC hot and sends focus to its first field from any location on the display.
[Ctrl X]	Closes the UTDC.
[Ctrl I]	When the cursor is in Remarks, inserts a black line at the beginning of Remarks and puts the cursor at the beginning of the blank line.
[F5]	Toggles between the DATA and QUERY mode.
[F4]	Activates the LOV window in an LOV field. After selecting from the LOV the cursor advances to the next field.
[Shift F4]	Same functionality as F4 except after selecting from the LOV the cursor jumps to the previous field.
[Down-arrow]	• With a not-on-plot vessel record in the UTDC, adds the record to the Prospective list. • With the Prospective List (P-list) showing in the UTDC, brings up the next record in the P-list. • With a blank UTDC, brings up the prospective / cued records and jumps to the most recently entered record.
[Shift]+ [Down-arrow]	• With a blank UTDC, brings up the prospective / cued records and jumps to the most recently entered record. • With a Prospective list showing in the UTDC, jumps to the most recently entered record.
[Up-arrow]	• With the P-list showing in the UTDC, jumps to the previous record in the P-list. • With a blank UTDC, brings up the first record on the P-list.
[Shift]+ [Up-arrow]	• With a blank UTDC, brings up the prospective / cued records and jumps to the record that was entered earliest. • With a Prospective list showing in the UTDC, jumps to the record entered earliest.
[Esc]	• Closes the LOV window without making a selection. • For the NAME field, activates the prompt *"Name not in database. Do you want to continue?"*. Selecting YES adds the contents of the NAME field to the VID Table.

Note: The phrase most recently entered means the last record that was entered by anyone on any ODP in the network.

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UTDC navigation and keyboard functions, Continued

Track launch hotkeys

The following table explains the keyboard hotkeys and key combination shortcuts for launching tracks.

Hotkey	Function
[Ctrl A]	Launches an AIS track. • Activates a passive AIS track.
[Ctrl M]	Launches a manual track. • If the place in the FM field has an associated position in the database, the track will automatically appear at that location. Otherwise, a Position Prompt will appear.
~~[Ctrl S]~~	~~Launches a standard route track.~~ ~~• If the place in the FM field has an associated position in the database, the track will automatically appear at that location and assign to the SR specified in the UTDC.~~ ~~• If no SR is specified in the UTDC [Ctrl S] will have no affect.~~
[Ctrl R]	Launches a radar track. • After activating, a Position Prompt will appear.

Rules about filling in the UTDC form

General Rules

The following general rules always apply when completing the UTDC form.

Rule	Explanation
1. Shortest route	Navigate efficiently through the form. 1. Always take the shortest route to the appropriate field. 2. Use the [shift-tab] function to go backward in the form.
2. Hot keys (function keys)	Whenever possible use the keyboard for track manipulation. Using the pointer device causes you to lose touch with the keyboard and lose focus with the data entry.
3. Semper paratus	Keep yourself poised with your fingers at the ready on home row (to steal a phrase from your 10th-grade typing teacher). You must be ready to type when a vessel calls.

Specific Rules

The following specific rules apply to certain UTDC form fields.

Rule	Explanation
1. Name field	If you feel sure that a vessel is in the database but the ***Warning: Name Not In Database. Do You Want To Continue?*** window tells you that it is not, use the LOV feature and try to get the name right. However, give up and accept the vessel as NEW if you get behind.
2. From and To field	Try hard to find the correct place name (POD) in the list of values. However, if you are getting behind select a general place name (e.g., MARTINEZ instead of SHORE TERMINALS MARTINEZ) or leave the field blank and move on. Never select the wrong place name.
3. Icon field	Check the icon for every track. Pay particular attention to towing vessels since their icons vary depending on the tow.
~~4. Standard Route field~~	~~Always select a standard route through the UTDC form if possible. Doing this will allow you to launch the track directly to that SR using [Ctrl-S] for ferries and will limit the VAM steps later for upriver vessels.~~
5. Hand field	Practice discipline with respect to the Hand field. • Keep the field clear of obsolete information. • Only put information here that MUST be seen on the display. • Avoid over-typing information that is still pertinent.

Adding a new vessel record through the UTDC

At this point If you are here you have deduced that a vessel name is not in the database.

Procedure Perform the following steps to enter new-vessel data through the UTDC.

Note: These steps apply whether you are entering a new vessel for the Prospective list or "on the fly" as a new vessel checks into the system.

Accepting the New Vessel

Step	Action
1	Type the new vessel name in the NAME field.
2	Double-check to ensure that you have spelled the name correctly.
3	Strike the [Tab] key and a WARNING window will appear. It will say *"Name not in database. Do you want to continue?"* The CANCEL button is highlighted. Note: Do this only if you are certain that the entry is a new vessel. If there is a chance that you are misspelling the entry, re-check the LOV.
4	Push the OK button in the WARNING window. • The cursor will jump to the next field. • A new vessel name will be added to the Vessel ID table. • The following fields will automatically populate.
5	Enter the rest of the prospective or transit information.
6	Add the record to the Prospective list ([Ctrl O]) or launch the track.

Field	Contents
VIN	U ##
CALL	NONE
ICON	UNK

As soon as possible

6	Obtain vessel particulars information from MSIS by following the steps in the MSIS job-aid.
7	Complete the just-entered record in the Vessel ID Table using the MSIS data. Note, Ensure you verify the vessel's correct MMSI.

Changing an on-plot track's identification

UNK track names

If a track is launched without a name the computer automatically assigns the name UNK #### (where # stands for any whole number from 0 through 9). The computer also automatically puts the UNK name in the VID table.

If the transit for the UNK vessel is ended (the track is docked, anchored, or out of AOR'd) the UNK name will be recorded along with the transit history.

Requirement

- If an operator launches a track and then realizes that the track is linked with the wrong VID table record, s/he must change the track's identification.

  For example, the ferry Golden Bear checked in with VTS and the operator accidentally launched the training ship Golden Bear.

- If an UNK track is later identified by name, the operator must change the track's identification.

Procedure

Perform the following steps to change the identity of any on-plot track (including changing UNK tracks to named tracks).

Step	Action
1	Bring up the record of the track to be changed in the UTDC.
2	Clear the NAME field.
3	Enter the new name in the NAME field.
4	Strike [Ctrl O] to save the change. • The fields in the UTDC will populate with the vessel's stored data.

Call queuing procedure

Purpose

Call queuing allows the operator to collect part of a Sailing Plan report, store the incomplete record, and then recall it to complete it and launch the associated track.

Frequently asked questions

- **How and where are queued records stored?**
  Queued calls are stored in the prospective list along with all of the supervisor-entered prospective records. The prospective list (like other database lists) is stored on the database server computer in the back room.
- **Why is the aforementioned fact important to know?**
  There are two reasons.
  a. If the watch supervisor runs a Prospective List Report while a call is in the queue, the queued call will appear on the Prospective List Report.
  b. If one sector operator queues a record and then another sector operator queues another record, then both of the records will be visible when the first sector operator brings up the queue.
- **How do we prevent queued records from mixing in with piloted prospective records?**
  Inside the computer database, prospective records are sorted so that the most recent entry (regardless of ETD) is always at the BOTTOM of the prospective list.

  Since the watch supervisor enters all of the piloted prospective records at once they tend to be grouped together toward the TOP of the list.

  Since queued records are almost always more recently entered than supervisor-entered piloted prospective records, when you queue up a record it almost always appears at the BOTTOM of the list.

  When you call up the list of queued records you always use [shift]+[Down-arrow]. With this, the UTDC jumps to the bottom of the list and shows the record added most recently.
- **What do I do if queued records get mixed in with supervisor-entered piloted prospective records?**
  If by chance you queue up a record at the same that the supervisor is entering piloted prospective records (building the Prospective List) you may find the queued record mixed in with the piloted prospective records. If this happens simply scroll through the displayed list using the [Up-arrow] and [Down-arrow] keys and find your queued record.

Continued on next page

Call queuing procedure, Continued

Procedure (example scenario)

The following table (example scenario) shows the procedure to follow when using the [down-arrow] call queuing function. In the column on the right you will see how the prospective list (stored inside the computer) looks at each step in the procedure.

Note: To show the procedure and results clearly, three ferry vessels are used in the example below. To show the relationship between the queued ferry vessels and the existing prospective records, three supervisor-entered prospective records are shown in the prospective list also (in bold-face type).

Queuing up the vessels' transit records

Step	Action	What the P-list looks like now
Entering and queuing the first vessel: Ferry One		
1	Fill in desired UTDC fields and strike the [down-arrow] key.	NEDLLOYD TOKYO MATSONIA DIRECT KIWI Newest record→FERRY ONE
2	• Ferry One data (partial transit record) is stored. • UTDC clears out.	
Entering and queuing the second vessel: Ferry Two		
3	Fill in desired UTDC fields and strike the [down-arrow] key.	NEDLLOYD TOKYO MATSONIA DIRECT KIWI FERRY ONE Newest record→FERRY TWO
4	• Ferry Two data (partial transit record) is stored. • UTDC clears out.	
Entering and queuing the third vessel: Ferry Three		
5	Fill in desired UTDC fields and strike [down-arrow].	NEDLLOYD TOKYO MATSONIA DIRECT KIWI FERRY ONE FERRY TWO Newest record→FERRY THREE
6	• Ferry Three data (partial transit record) is stored. • UTDC clears out.	

Launching the queued tracks

Step	Action	How the prospective list looks
1	Strike [shift]+[down-arrow] and the last record entered (Ferry Three) populates the UTDC.	NEDLLOYD TOKYO MATSONIA DIRECT KIWI FERRY ONE FERRY TWO In the UTDC →FERRY THREE
2	Complete the record for Ferry Three and launch the track. • The UTDC is blank after you launch the track.	
3	Strike [shift]+[down-arrow] and the next record up (Ferry Two) populates the UTDC.	NEDLLOYD TOKYO MATSONIA DIRECT KIWI FERRY ONE In the UTDC→FERRY TWO
4	Complete the record for Ferry Two and launch the track. • The UTDC is blank after you launch the track.	
5	Strike [shift]+[down-arrow] and the next record up (Ferry One) populates the UTDC.	NEDLLOYD TOKYO MATSONIA DIRECT KIWI In the UTDC→FERRY ONE
6	Complete the record for Ferry One and launch the track. • The UTDC is blank after you launch the track.	
7	Now all the sector operator-queued vessel records are out of the list of prospective records. If the operator were to strike [down-arrow], the Direct Kiwi, a supervisor-entered prospective record, would come up in the UTDC.	NEDLLOYD TOKYO MATSONIA In the UTDC→DIRECT KIWI

Part Two
UTDC List of Values Parts, Functions, and Procedures

Overview

This part explains the parts and functions of the UTDC List of Values (LOV) window and explains the procedures for using the UTDC list functions for finding the correct record with the minimum number of keystrokes.

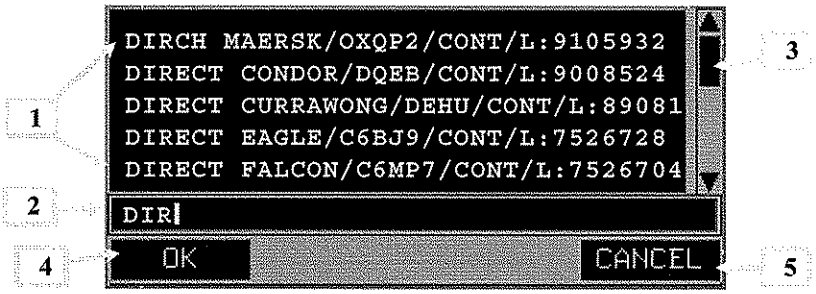
In this part

The following topics are discussed in this part.

Parts of the LOV window

LOV window Diagram

The table and diagram below show the parts of the LOV window and explain their functions.



Part	Function
1. List window	Shows the list of matches. The total number of matches is shown in the Data Messages field on the UTDC.
2. Find field	Type here to refine the list in the list window. As you type the list will get shorter. WARNING: Never clear out this field. Doing so will cause a great delay while the entire database table (more than 5000 records) populates the list.
3. Scroll bar	Indicates that the list has more members than are shown in the list window.
4. OK button	Accepts the selected record. (No record is selected in the example above.) [Enter] key performs the same function faster.
5. CANCEL button	Closes the LOV window without making a selection. [Esc] key performs the same function faster.

Data breakdown

The diagram below shows the data elements that are displayed for each vessel record in the NAME field LOV list window. The CALL field is similar except that the positions of the call sign and vessel name are reversed. All other UTDC field LOV list windows show only one field.

Slant bars separate the data elements.

Narrow a LOV by typing

Overview

Following are steps to use if you want to narrow a list of values by typing.

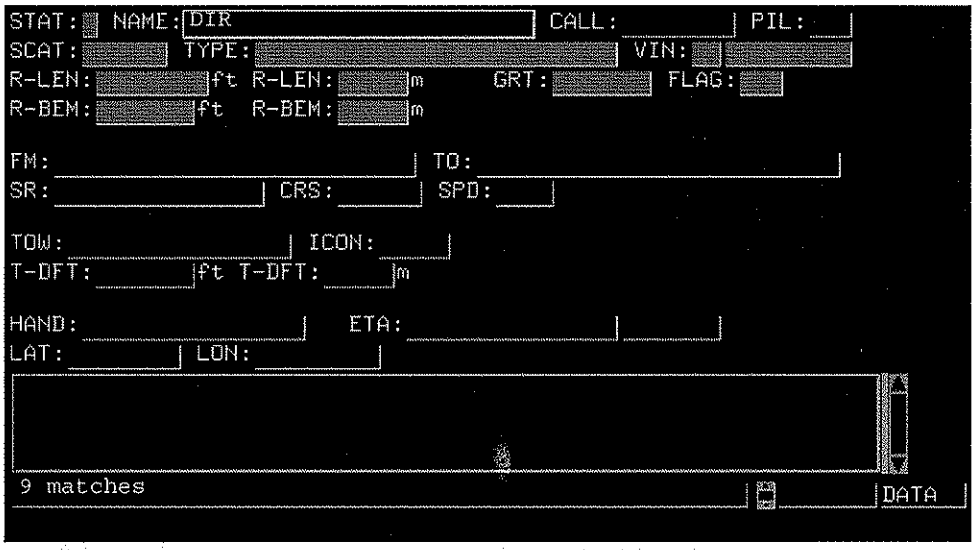
Multiple records found

As you type in an LOV field the computer compares your entry, keystroke by keystroke, with the entries in the database table corresponding to that field.

With each character that you type the UTDC reports how many records in the data table match so far.

Example:

Stage	Description
1	You type the letters **DIR** .
2	The UTDC reports that 9 matches were found.
3	This tells you that if you strike [Tab] a LOV will appear containing 9 records, all starting with the letters **DIR** .



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Narrow a LOV by typing, Continued

Single record found

When you've typed enough to identify one single entry in the database table the computer displays that entry in its entirety at the bottom of the form.

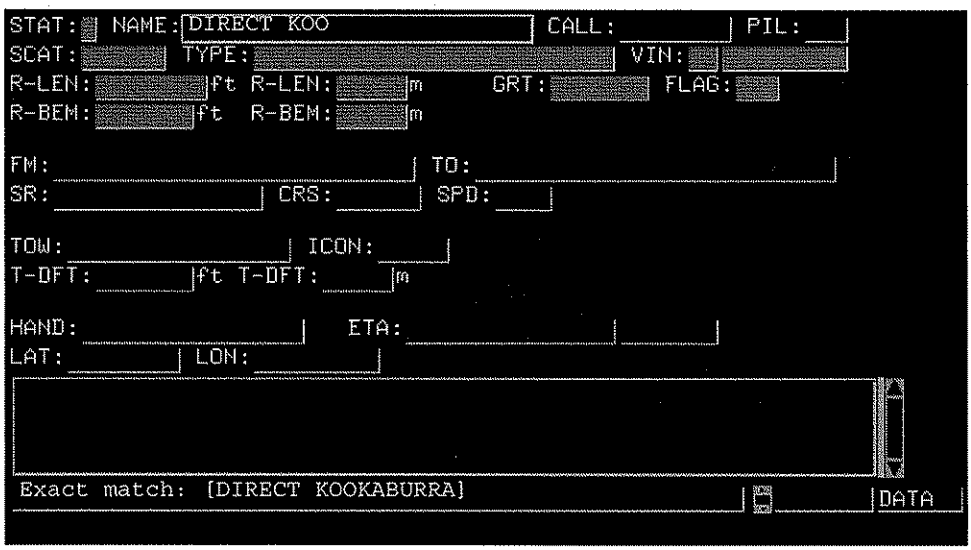
If the displayed entry is correct, simply strike [Tab] and the field will instantly populate. The cursor will jump to the next field.

If the displayed entry is incorrect, simply backspace to bring back a closely-related list; or strike [Ctrl U] to clear the field and bring up a new list.

WARNING: Even if you type the full word (the exact match) in a field, you must [Tab] out of the field to correctly populate the form. If you try to save the record or launch the track without first [Tab]ing out of the field, the data in that field will be lost.

Example:

Stage	Description
1	You type the letters **DIRECT KOO**
2	The UTDC shows that **DIRECT KOOKABURRA** was found to be the only matching value in the database table.
3	To select **DIRECT KOOKABURRA** strike [Tab].
4	To reject **DIRECT KOOKABURRA** and bring a closely-related list of values back, backspace one or a few characters. To reject **DIRECT KOOKABURRA** and bring up a brand new list, strike [Ctrl-U].



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Narrow a LOV by typing, Continued

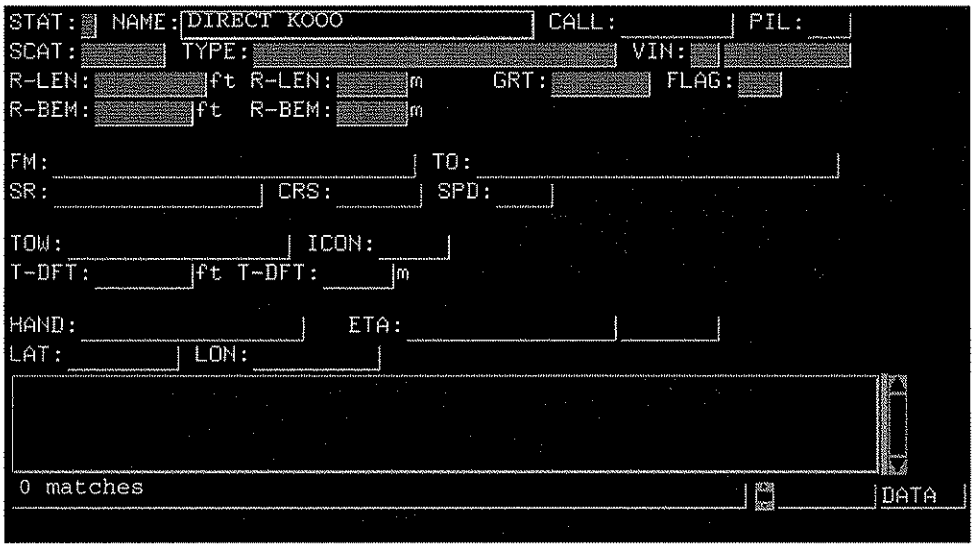
Zero records found

If you type too far and/or make a mistake you may instantly go from one record found to "0 matches" found.

In this case, backspace if you need only erase a few characters; strike [Ctrl U] to completely clear the field.

Example:

Stage	Description
1	You type the letters **DIRECT KOOO**
2	The UTDC reports "0 matches" found.
3	Do not strike [Tab]. Backspace or clear the field.



Wildcard symbol usage for narrowing a LOV

Overview

The wildcard will enable you to:

1. locate hard-to-spell and hard-to-start-spelling names by replacing unknown characters with the wildcard in the UTDC field;
2. bring up an exact match on the first try with the fewest possible characters in a UTDC field;
3. quickly reduce the size of an LOV window list using the wildcard in the LOV window Find field.

Wildcard?

The percent sign (**%**) is the wildcard character.

In addition to the [Shift 5] key combination, there are two hot keys on the CG VTS System keyboard that will produce a wildcard symbol.

These hot keys are labeled with a percent sign.

Explanation

The following table shows you how the wildcard character works.

Note: The term "[spc]" refers to a single space between characters.

You type this	The computer does this	Example records
`A% [spc]`	Looks for records • that contain at least two words • where the first word starts with the letter "A" .	**A**TLANTIC HIGHWAY **A**CE ENTERPRISE **A**DRIATIC SEA
`%A [spc] %SH`	Looks for records • that contain at least two words • where the first word ends with the letter "A" • and second word contains the text string "SH"	SE**A** FLOURI**SH** DARY**A** LAK**SH**MI
`%BURR`	Looks for any record • containing any number of words • where one word contains the text string "BURR" .	DIRECT KOOKA**BURR**A
`%BASS%RID`	Looks for any record • containing any number of words • containing the text string "BASS" • and containing the text string "RID" .	AM**BASS**ADOR B**RID**GE **BASSRID**ER

Continued on next page

Wildcard symbol usage for narrowing a LOV, Continued

Finding hard-to-spell names

Some names (docks, vessels) contain non-intuitive letter combinations making their spelling difficult.

Sometimes the non-intuitive letter combinations are in the first few letters of the name. When this is the case it is difficult to bring up a manageable-sized list of values to pick from.

To make this easier, insert a wildcard character in place of the unknown characters (or even the first few characters) to help eliminate the possibility that you will find no records.

Example: You are searching for the vessel KAPITAN MAN.

First try results in failure

Stage	Description
1	You expect the traditional spelling. You type the letters **`CAPT [Tab]`** in the UTDC.
2	The following LOV pops up. **`CAPTAIN ALPHA`** **`CAPTAIN BRAVO`** **`CAPTAIN CHARLEY`** **`CAPTAIN DELTA`** The KAPITAN MAN is not in the LOV but you know that it is in the database.
3	You close the LOV window and try again.

Second try with wildcard results in success

Stage	Description
1	You type the letters **`%N MAN [Tab]`** in the UTDC. Note: You selected this character string because you are relatively sure of the spelling on this part.
2	UTDC reports "**`Exact match [KAPITAN MAN]`**" .

Continued on next page

Wildcard symbol usage for narrowing a LOV, Continued

Exact match on the first try

By typing exactly the right characters (as in the example below) you can instantly achieve an exact match in the UTDC.

The following table shows two methods that you can use to achieve an exact match in the UTDC. In each of the following cases the characters entered in the UTDC's field are just enough to achieve an exact match.

Notice the number of keystrokes associated with each method ("# keys" column).

Method 1		Method 2			
Type enough to be unique	**# keys**	**Type with wildcard**	**# keys**	**Full vessel name**	**# keys**
NEDLLOYD VAN C	14	N%CLO	5	NEDLLOYD VAN CLOON	18
SAN FRANCISCO SPIRIT	13	S%S%SP	6	SAN FRANCISCO SPIRIT	20
MICRONESIAN I	13	M%INDE	6	MICRONESIAN INDEPENDENCE	24
BENICIA C	9	%COK	4	BENICIA COKE	12

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Wildcard symbol usage for narrowing a LOV, Continued

Instantly reduce a LOV

The wildcard can be used in the UTDC fields or in the LOV window Find field.

The following process description shows how to use the wildcard in the LOV window Find field.

In the following process example you are looking for the vessel **NEDLLOYD VAN NECK**.

Note: Due to a continuously changing Vessel Identification Database you may not be able to duplicate the example scenario below. However, any vessel records with similar characteristics can be used to illustrate the process.

Stage	Description	What you see
1	Type **NED** in the UTDC NAME field.	
2	UTDC reports "14 matches".	
3	Strike [Tab] and the LOV window opens. • Notice that your vessel is not visible in the list. • Focus is in the LOV window Find field. • The letters **NED** are in the Find field.	
4	Type wildcard (%) followed by **V** . No space necessary. • The list instantly cuts to the records containing the letter **V**.	
5	Type another wildcard followed by the letters **CK** (a letter combination that you suspect will instantly reduce the list to one record). • The list instantly reduces to the **NEDLLOYD VAN NECK**. • The above record is highlighted.	
6	Strike [Enter] to select the highlighted record.	

Selecting a record by scrolling through the list of values

Overview

Sometimes you will want to see a short list of values from which to select a valid entry. The LOV window provides you with such capability.

Procedure

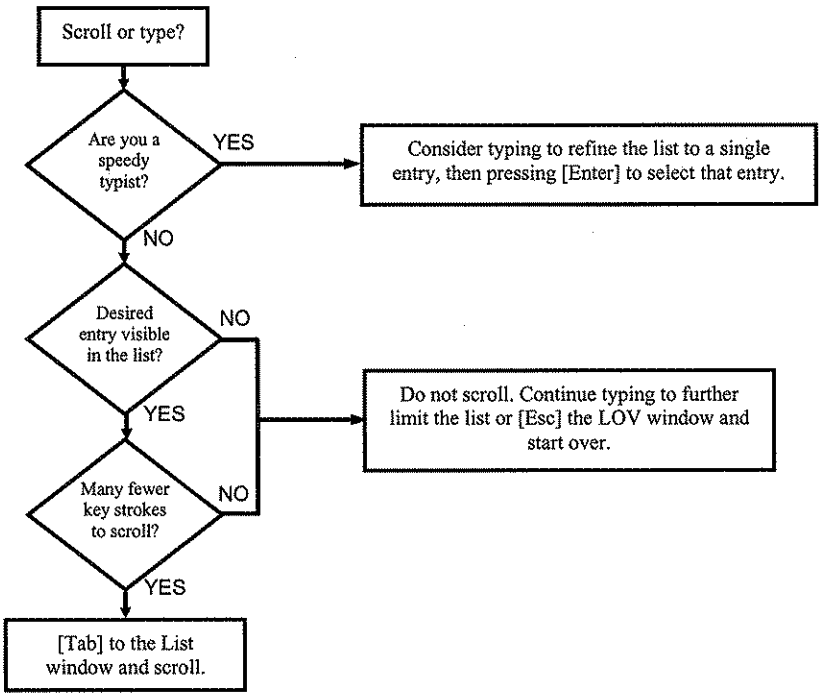
After activating the LOV window perform the following steps to scroll through a list.

Step	Action
1	The LOV window comes up with focus in the Find field. It's ready for you to type.
2	Strike [Tab] to send focus to the List window.
3	The first record in the List window is selected.
4	Strike [Enter] to select the first record or [Down] or [Up] arrow to scroll through the list.

When to scroll

Never scroll through a list of values containing more than five records. In this case keep typing until the list is shorter or [Esc] the LOV window and type a more specific entry in the UTDC field.

Consider the following decision matrix when deciding whether scrolling or typing is faster.



Chapter 11

Revised: August 2005

Mechanical Procedures for Recording Sailing Plan Information

Document introduction

Overview

This document explains the mechanical procedures for recording incoming Sailing Plan information from vessels.

The document describes what type of information is received from each of the VMRS users, and how and where that information is recorded.

It also explains abbreviations associated with data collection.

Not in this document

- This document does not cover communications procedures.
- The procedures for processing information from vessels in the Offshore Sector (west of the COLREGS Demarcation Line) are consolidated into another document.

Contents

This document covers the following topics.

Piloted prospective vessel Sailing Plan report

Sailing Plan Report

A Piloted Prospective vessel's Sailing Plan report will consist of the following data elements.

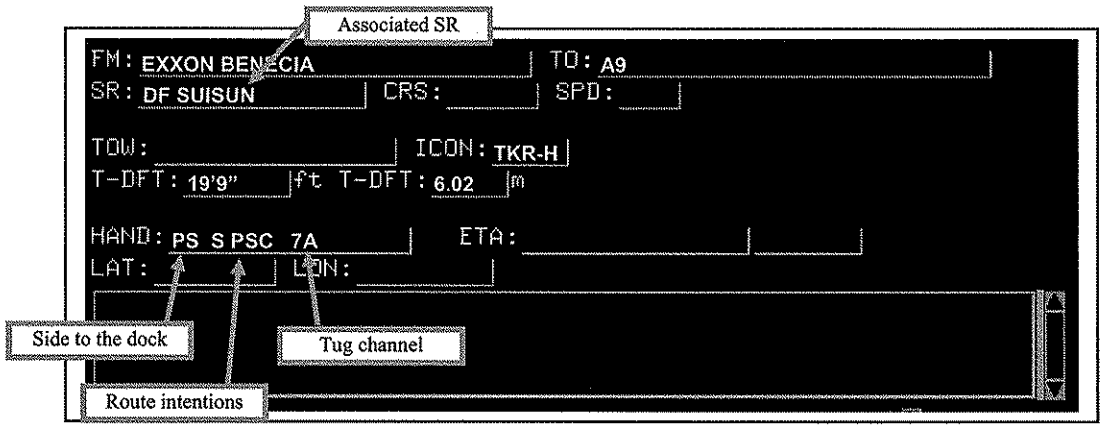
Note: This example is of an upriver transit in order to illustrate the use of the SR (Standard Route) field. For non-upriver transits do not use a standard route.

Data element...	UTDC Form field...	What it sounds like...
1. Pilot ID	Pilot	*"Traffic this is Unit XX...*
2. *Vessel's name	Vessel name	*...on the TK SR Galveston*
3. *Position	From	*...preparing to depart Exxon Benicia...*
4. *Destination	To	*...bound for A9.*
5. Deepest draft (tug or barges)	Draft	*"The ship's draft is 19 feet 9 inches.*
6. Route	Hand	*"Intend to transit south of the Pinole Shoal Channel.*
7. Tug frequency (when using assist tugs)	Hand	*"Working tugs on channel 7A."*

Note: The data elements with the "*" will usually already be in the vessel's prospective record (entered by the watch supervisor).

Diagram of information in the UTDC form

The following diagram shows how a typical Prospective Piloted vessel Sailing Plan report will be documented in the UTDC form.



Entered by the watch supervisor

The watch supervisor will enter the following additional data elements when s/he makes the prospective list.

- ~~Standard route will be in the SR field for upriver transits. When the vessel reports underway simply VAM: SR TRACK.~~
- Ship's side to the dock will be coded in the Hand field. (PS = port side to; SS = starboard side to).

Towing vessel Sailing Plan report

Sailing Plan Report

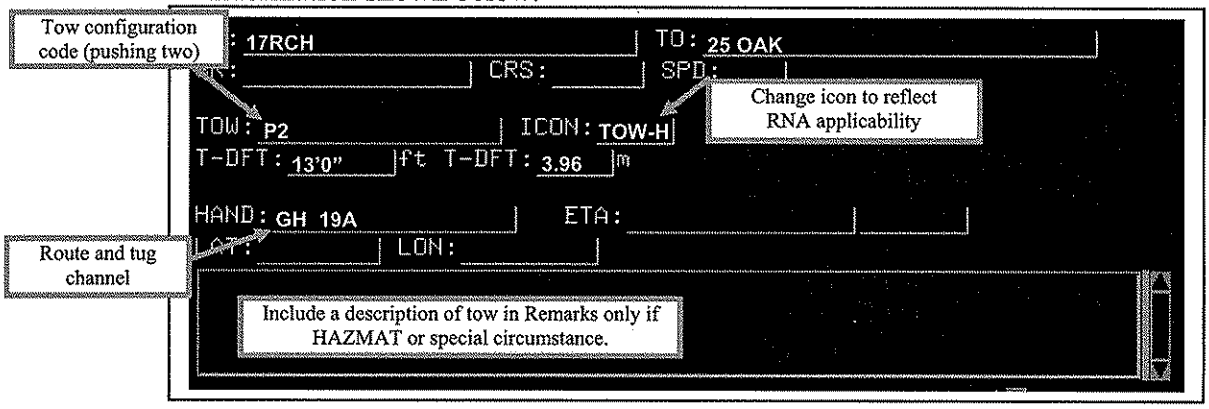
A towing vessel's Sailing Plan report will consist of the following data elements.

Data element...	UTDC field...	What it sounds like...
1. Towing vessel's name	Name	*"This is tug Sky...*
2. Position	From	*...preparing to depart IMTT Richmond...*
3. Destination	To	*...bound for Oakland 25.*
4. Configuration (towing astern, alongside, pushing ahead)	Tow (code)	*"We are pushing...*
5. Number and type of barges	Tow (number)	*...one deck barge and one oil barge.*
6. Total gross tons (+ type = RNA applicability)	Icon	*"The tow is over 1600 gross tons.*
7. Deepest draft (tug or barges)	Draft	*"Deepest draft is on the barges—13 feet.*
8. Route	Hand	*"Intend to transit through the Golf-Hotel span of the Oakland Bay Bridge.*
9. Tug frequency (when using assist tugs)	Hand	*"Assist tug on channel 19A."*

Diagram of tow information in the UTDC form

The following diagram shows how a typical towing vessel Sailing Plan report will be documented in the UTDC form. (Note: Not all fields are shown.)

See the following pages for a breakdown of the towing vessel codes and information shown below.



Upriver towing transits and standard routes

For upriver towing transits put the appropriate standard route in the SR field; then launch the vessel as Manual.

While the vessel is preparing the SR is associated. When the vessel calls outbound simply VAM: SR TRACK.

Explanation of towing information and codes

Background

There is a long-lived tradition in the San Francisco Bay Region for towing vessels to report their tows using descriptions like "partially loaded mud scow" or "empty oil barge."

Cargo and tow description

For traffic management purposes the cargo and description of all tows will be grouped into one of the following four categories regardless of how it is reported by the towing vessel.

Cargo category	Gross tons	Icon	Remarks field annotation further describing tow
1. Bulk petroleum products or a tank vessel in ballast	1600 or more	TOW-H	None
2. Certain dangerous cargoes as defined in 33 CFR 160.203	1600 or more	TOW-H	Type an abbreviated description of the HAZMAT (e.g., "AMMO" for ammunition barge).
3. Neither of the above categories	1600 or more	TOW-P	None
4. Any cargo	Less than 1600	TOW-G	None

Note: If there is a special attribute about a tow that you feel is noteworthy annotate the Remarks field accordingly (e.g., high air draft). Do not annotate the Remarks field to describe routine tows (e.g., partially loaded mud scow).

Draft

A towing vessel's draft must represent the deepest draft (the tug or the tow—whichever is deeper).

Example: If the tug has a nine-foot draft and the barge has an eight-foot draft the reported draft is nine feet.

Continued on next page

Explanation of towing information and codes, Continued

Towing configuration

Type the applicable towing configuration code in the Tow field.

The table below describes each of the towing configuration codes.

Code	Meaning	Diagram
P	Pushing ahead. Towing vessel is pushing the tow directly ahead.	
A	Pushing alongside. Towing vessel is pushing the tow alongside the towing vessel.	
T	Towing astern. The towing vessel is pulling the tow astern with a towing line.	

Note: If the tug has more than one barge, type the number of barges next to the configuration code (e.g. "P2" for a vessel pushing 2 barges).

Track tag

The Tow field text will appear on Line Two of the track tag.

There is a total of four spaces available on the track tag for the towing configuration.

The track tag diagram below shows a tug PUSHING TWO barges with TWO BARGES ALONGSIDE. All available track tags space is used in the example.

```
--/SKY/RLW
P2A2/DE DWTL
```

Ferry vessel Sailing Plan reports

Sailing Plan Report

A ferry vessel's Sailing Plan report will consist of the following data elements.

Notice that there are three predominant types of ferry transits.

1. Commuter transits (pre-determined routes)
2. Bay tours (pre-determined routes)
3. Dinner cruises (routes variable).

Example 1—Commuter transit

Data element...	UTDC Form field...	What it sounds like...
1. Vessel's name	Vessel name	*"This is the Encinal...*
2. Position	From	*...departing Clay Street...*
3. Destination	To	*...bound for the Ferry Building...*
4. Route *(With position and destination known you know the route.)*	~~SR and Spd~~	
5. Passenger count (optional)	(with code) Rmks	*...with 213 persons on board."*

Example 2—Bay tour

Data element...	UTDC Form field...	What it sounds like...
1. Vessel's name	Vessel name	*"This is the Old Blue...*
2. Position	From	*...departing Pier 39...*
3. Route intentions	~~SR and Spd~~	*...on a westbound....*
4. Destination (returning to Departure point)	To	*...bay tour...*
5. Passenger count (optional)	(with code) Rmks	*...with 312 persons on board. "*

Example 3—Dinner cruise

Data element...	UTDC Form field...	What it sounds like...
1. Vessel's name	Vessel name	*"This is the California Hornblower...*
2. Position	From	*...preparing to depart Pier 33...*
3. Destination (returning to Departure point)	To	*...on a bay cruise...*
4. Route intentions	Hand	*...initially westbound...*
5. Passenger count (optional)	(with code) Rmks	*...with 312 persons on board. "*
6. Estimated time of return	ETA & Comment	*"Scheduled time back at the dock 2230. "*

~~Overriding the SR speed~~

~~If the reporting ferry runs faster than the programmed speed of the SR then override the SR speed through the Spd field of the UTDC.~~

Passive-participant ferries

Certain ferry vessels will participate with VTS passively. That is, each day they will make a Sailing Plan report before their first run of the day.

See **Processing passive-participation ferry transits** for details on dealing with these vessels.

Ferry vessel routes and transit information

Circular tour routes

Bay tours and dinner boats usually take a pre-established circular route departing from and returning to the same dock.

For these transits, type the departure dock name (the From field data) in the To field when you fill out the UTDC.

Commuter routes

Commuter ferries transit along pre-established one way routes. That is, their routes and estimated times of arrival (ETAs) at their destinations do not vary much from one transit to another.

For these transits you need not describe the route or the ETA in the Remarks field. The standard route tracking (the DR route) will make the vessel's route apparent.

If the vessel reports that the route or duration of a planned-route transit will deviate from the pre-established route, annotate the Remarks field or the ETA field with the new information.

Dinner cruise routes

Route intentions for dinner cruises vary depending on the environmental conditions. To help keep track of the dinner cruise boats annotate the HAND field with route intentions and type the ETA into the ETA field. Never type just "three hour cruise" (as it is typically reported from the vessel).

Require Sailing Plan Amplification reports from the dinner cruise frequently. At each report update the HAND field with new route intentions and tell the vessel where to call with the next Sailing Plan Amplification report.

Persons on board

Some ferries report number of persons on board in case of a ferry boat disaster. This number should represent the TOTAL number of persons on the vessel, not just the number of passengers.

Type this information in the Remarks field using the following coded format.

For a report of 321 persons aboard type **C321** in the Remarks field.

If the ferry doesn't report a passenger count enter nothing. Do not type **C0** ("C-zero").

Never direct any ferry vessel to provide a passenger count.

Passive-participation ferry Sailing Plan reports

Explanation

Certain ferry vessels participate with VTS in a "passive" manner.

They do not make regular VMRS reports to VTS.

Sailing Plan Report

A passive-participation ferry vessel's Sailing Plan report consists of the following data elements.

Data element...	What it sounds like...
1. Vessel's name	*This is the Royal Star...*
2. First departure point	*...preparing to get underway from Pier 41...*
3. First destination	*...for Alcatraz.*
4. Number of runs today	*This will be the first of eight round trips...*
5. Itinerary	*With departures from Pier 41 at minute 45 and departures from Alcatraz at minute 15. Last run is at 1630. We will call you at the first and last run.*

Note: VTS has copies of ferry schedules and itineraries.

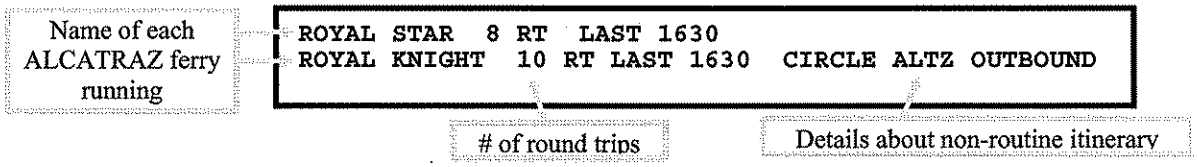
It is not necessary to capture itinerary information in the Text Overlay Remarks unless the day's itinerary deviates from the printed schedule.

Layout of data

You will capture the aforementioned information in the Edit Advisory window.

Lay out the data in the Remarks field exactly as shown below.

An advisory represents a ferry route—not a single ferry. Notice how the data for each ferry running this route are on a separate line.



Note: A ferry advisory will be active if one of the ferries listed in it is still running even though others on that advisory have checked out for the day.

Stages of the ongoing dredging operation

Explanation

Ordinarily a vessel's transit begins and ends at a dock, anchorage, or VTS area boundary.

For vessels engaged in an ongoing dredging operation, transits end and begin at specific stages of an operation, regardless of where in the AOR the vessel may be.

Why?

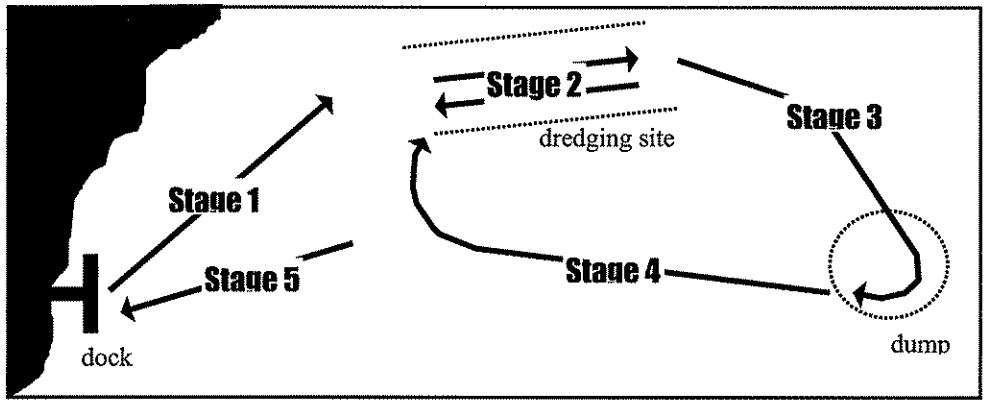
Ongoing dredging operations:

1. require VTS to keep special records for Federal Disposal Site administration;
2. are often long-term and often span more than one day. In order for VTS to accurately account for track management workload, the otherwise lengthy single transits are broken into multiple transits when the vessel's operational stage changes.

Process

The following process diagram shows the various stages of the ongoing dredging operation.

Stage	Dredge transits...
1	from DOCK/ANCHORAGE to DREDGING SITE.
2	WITHIN DREDGING SITE while dredging.
3	from DREDGING SITE to DISPOSAL SITE.
4	from DISPOSAL SITE back to DREDGING SITE.
5	from ANY STAGE back to DOCK.



Note: A tug towing a dump scow does not perform Stage 2. An Advisory is used to mark the dredge's (stationary) position.

Procedures to process an ongoing dredging project

Stage 1—Processing the transit from dock to dredge site

Procedure

The steps for responding to a dredge's Sailing Plan report from dock or anchorage to dredge site are the same as for any other Sailing Plan report. However, there is an increased chance that the TO information will not be in the data table.

Step	Action
1	Complete the UTDC with the following specific entries. **Field** / **Entry** FM: **DOCK** or **ANCHORAGE NAME** TO: **DREDGING AREA** If the LOV window does not have the dredge site in it, leave the To field blank, enter the dredging site in the HAND field (to get it on the track tag), and start entering a new destination in the database.
3	Launch the track. • The vessel transits to the dredging area as a regular power-driven vessel.

Procedures to process an ongoing dredging project

Stage 2—Processing "commenced dredging" report

Procedure

Perform the following steps when the dredge reports that it has arrived at the dredge site and is commencing dredging.

Step	Action
1	VAM QUICK TURN AROUND . • The transit ends. • FM field and TO field information trade places. • The transit fields clear. • A new transit begins.
	Wait five seconds.
2	Bring the record up in the UTDC.
3	Change the TO field to the dredge site name. Note: Both the FM and TO field should contain the dredge site name.
4	Type **DREDGING** in the HAND field.
6	Strike [Ctrl O] to save the changes.

Procedures to process an ongoing dredging project

Stage 3—Processing "departure for disposal site" report

Procedures

Perform the following steps when the dredge reports that it is departing the dredging area bound for the disposal site.

Table 1—Ending the dredging transit

Step	Action
1	VAM QUICK TURN AROUND . • The transit ends. • The HAND field is cleared. • A new transit begins.
	Wait five seconds.
2	Bring the record up in the UTDC.
3	Edit the TO field. **Important:** You must enter the disposal site name exactly as it is in the data table or this disposal run will not appear on the Army Corps of Engineers Disposal Site Administration Log. Disposal sites always start with the letter "D" followed by a one- or two-digit number.
4	Re-enter configuration in the TOW field.
5	Click Help on the Main Menu bar and select Dredge Confirmation.
6	Strike [Ctrl O] to save the changes.
7	Click OK in the Dredge Confirmation window.

Table 2—Managing the disposal-run transit

8	Monitor the dredge's position as it approaches the disposal site to ensure that it dumps inside the boundaries of the disposal site.
9	Do you suspect that the dredge might dump outside the disposal site? **Yes** — Contact the dredge and voice VTS's concerns.

Procedures to process an ongoing dredging project

Stage 4—Processing "dump completed" report

Procedures Perform the following steps when the dredge reports that it has dumped the dredge spoils.

Step	Action
1	VAM QUICK TURN AROUND . • The transit ends. • From field and To field information trade places. • The HAND field is cleared. • A new transit begins.
	Wait five seconds.
2	Bring the record up in the UTDC.
3	Re-enter configuration in the TOW field.
4	If you suspect the dredge dumped outside the disposal site, do the following. 1. Advise the supervisor. 2. VAM: REG REMARKS and enter the violation. 3. Log the latitude and longitude of the dredge's radar video in the Remarks field. 4. Print the applicable chart window. 5. Print the UTDC containing the transit data.

Procedures to process an ongoing dredging project

Stage 5—Processing "discontinue dredge operation" report

Procedure

Perform the following steps when a dredge reports at any stage that it is bound for a destination other than the dredge site or disposal site.

Table 1—Ending the transit

Step	Action
1	VAM QUICK TURN AROUND . • The transit ends. • From field and To field information trade places. • The HAND field is cleared. • A new transit begins.
	Wait five seconds.
2	Bring the record up in the UTDC.
3	Re-enter configuration in the TOW field.
4	Enter the new destination in the TO field.

Appendix A

Table of commonly used route intention abbreviations

Table

The following table shows how some of the commonly used route intentions and transit information may be abbreviated.

Route intentions are captured in the HAND field of the UTDC.

Note: The following abbreviations are not intended as rules but rather as examples.

Operation or remark...	Abbreviation in context with example...	Example communication...
Pilot change	PCBLNT	*...conducting a **pilot change** at Point Blunt....*
Going alongside	AS SRNS	*...for A9 to go **alongside the SR North Slope**...*
Turning off the dock	TURN DOCK	*...and we'll be turning off the dock, then...*
In or outside channel	SPSC	*...and we'll transit **south of Pinole Shoal Channel**...*
Adjusting tow	A5 ADJ	*...bound for **A5 to adjust tow** then on to the...*
Swinging compass	SW COMP	*We'll be **swing compass in the South SF Bay**.*
Engine trials	ENG TRIALS	*...conducting engine trails in the South SF Bay.*
Central Bay deviation	W ETL	*...from San Francisco 35. We'll be going **west in the Eastbound Traffic Lane** for Sea.*
Turning at 9th Avenue	TURN 9TH	*...outbound for Sea. We'll be **turning the ship at 9th Avenue**.*
Search and rescue	SAR	*...**conducting search and rescue** in the vicinity of the Golden Gate Bridge...*
Helicopter operations	HELO	*...**conducting Helo Ops** north of Alcatraz...*
Dredging operations	DREDGING	*...commenced dredging off Ferry Pt...*
Request minimum wake	MW	*...and we **request a no wake (slow bell)** from passing vessels...*
Proceeding on a slow bell	SLOW	*...bound for Oakland 22 **proceeding on a slow bell** awaiting dock space...*
Deep water traffic lane	DWTL	*...using the **Deep Water Traffic Lane** outbound for sea...*
Eastbound traffic lane	ETL	*...using the **Eastbound Traffic Lane** bound for A9...*
Westbound traffic lane	WTL	*...using the **Westbound Traffic Lane** bound for Sea...*
Oakland Bay Bridge span	DE	*...using the **Delta-Echo span** for Oakland 22.*
Richmond San Rafael Bridge span	RSRBW	*...using the **west span of the Richmond San Rafael Bridge**, bound for...*
Tug working channel	7A	*...from Oakland 22 for Sea working tugs on channel 7A...*
Side to the dock	PS (SS)	Pilots list says port side to (starboard side to).
Hazardous materials carrier	HAZMAT	MSO designated as a HAZMAT carrier in accordance with 33CFR160.

Appendix B

Track tag layout

Purpose of the track tag

Transit data are entered into the UTDC and displayed on the track tag.

Diagram

The tables diagram below explains the parts and functions of the track tag.

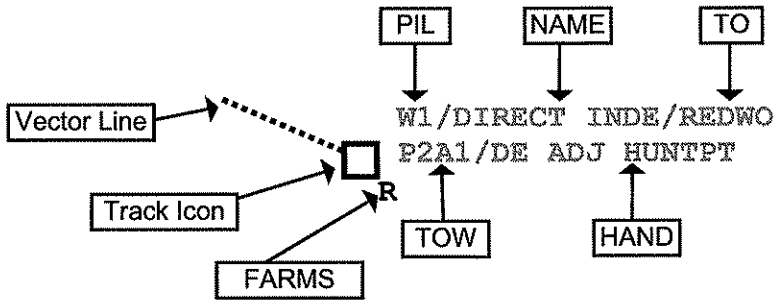
Part 1—Symbology

Part	Function
Track icon	Simple geometric shape that represents the category of vessel being tracked. (See Icon definitions on pg. 17.)
Vector line	Indicates direction of movement and projected position in a specific time period. (You set the time period).
FARMS tracking status indicator	Single character that indicates tracking status. 1. **F** - Fused track (not used yet) 2. **A** - AIS track (not used yet) 3. **R** - Radar track. Sector summary says GOOD. 4. **M** - Manual track. 5. **S** - Standard Route track. (not used)

Part 2—Text tag

Field	Shows the first…	…of the UTDC…
PIL	2 characters	PIL (pilot) field.
NAME	11 characters	NAME (vessel name) field.
TO	5 characters	TO (destination) field.
TOW	4 characters	TOW (towing configuration) field.
HAND	13 characters	HAND (transit handling) field.

Note: The diagram below depicts a towing vessel with a pilot in order to show all of the fields of the track tag fully populated



Appendix C

Icon definitions

Explanation

At VTS San Francisco icons are used to represent vessel characteristics which are pertinent to the enforcement of the National VTS Regulations and the San Francisco Bay region RNA Regulations.

Automatic association

Every vessel record in the Vessel ID Table is automatically associated with an icon. This automatic association is usually correct for all vessels except towing vessels.

Since towing vessels' RNA applicability is based on their tow—not on the tug—a towing vessel's icon must be adjusted for each transit.

Changing an icon

The icon is changed through the UTDC ICON field.

Changes to a vessel's icon apply until the vessel is docked, anchored, or made out of AOR.

List

The following table describes the icons and gives their meanings.

Note: The terms LARGE VESSEL and HIGH-RISK VESSEL refer to the categories of vessels defined in the Regulated Navigation Areas Training Guide.

Shape	Color	Name	Stands for...
□	green	TKR-G	VMRS User
□	orange	TKR-P	VMRS User — LARGE VESSEL
	yellow		
○	green	TOW-G	Towing vessel — VMRS User
○	orange	TOW-P	Towing vessel — VMRS User — LARGE Tow
	yellow		
+	Blue	FER	Commuter Ferry or Tour Vessel
2	Blue	GOVT	Participating non-VMRS User
(	magenta	UNK	Unidentified Vessel of Interest

Chapter 12

Revised 02/01/2005
Previous revision 01/06/2000

Offshore Data Collection and Reporting

Overview

This document contains the procedures for processing and reporting data from vessels offshore.

In this section

This section covers the following topics.

Revised 02/01/2005
Previous revision 01/06/2000

Inbound Offshore vessel Sailing Plan report

Sailing Plan Report

An inbound offshore vessel's Sailing Plan report will consist of the following data elements.

Note: The reporting format below is also used for the Sailing Plan Amplification report for vessels outbound from the Offshore Pilot Station.

Data element...	UTDC Form field...	What it sounds like...
1. Vessel's name	NAME	*This is the CS Nedlloyd Tokyo entering your system...*
2. Position	Listen and verify but do not type this in the UTDC.	*...abeam Pescadero Point in position 37 degrees 17.5 minutes north, 122 degrees 34.5 minutes west.*
3. Reported Course	Handling	*My course is 020...*
4. Reported Speed	Handling	*...speed 15 knots.*
5. Route	[leave blank]	
6. ETA 1	Handling	*Estimating Pillar Point at 1900.*
7. ETA 2	Handling	*Estimating the SFSB at 2020.*

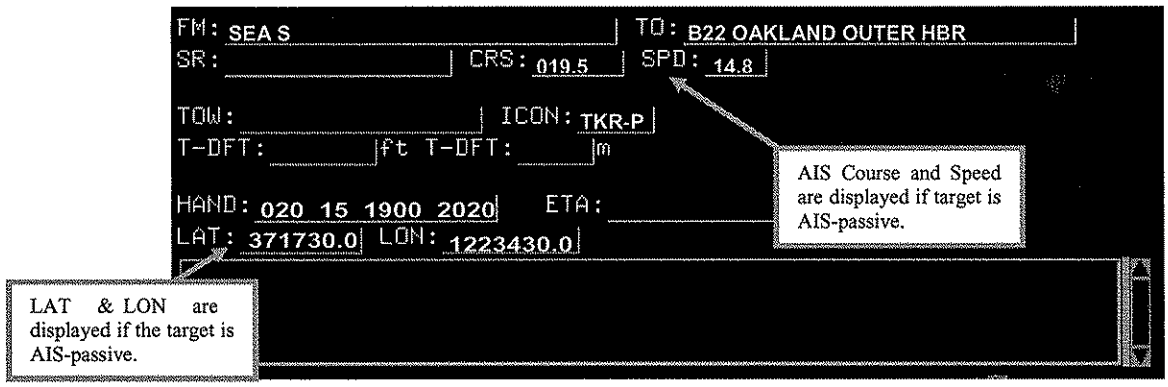
Note: If a vessel reports an extra ETA (e.g., traffic lane buoy) or other amplifying transit information, type it in the Remarks field.

Diagram of information in the UTDC form

The diagram below shows the completed UTDC just before launching the track.

The vessel's position coincides with the position of the AIS-passive track. The data was brought into the UTDC by typing the vessel name in the UTDC.

FM and TO information is present because there was a Prospective List record for this AIS-passive target.



Data Entry for Offshore Vessels with AIS and Radar Tracking

Table

The table below describes what to type in each UTDC field when recording Sailing Plan data for offshore vessels during AIS and/or radar tracking.

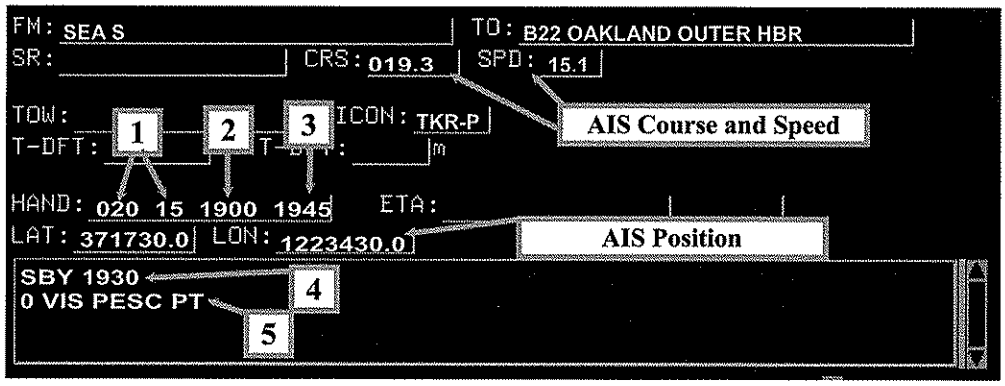
Table 1--Handling Field

Element	Explanation
1. Course and speed	Reported (in the Sailing Plan) course and speed. Note: When entering this information in the UTDC Handling field for offshore vessels, always round reported course and speed values to the nearest whole number. Round up for decimal-5 values (e.g., 12.5 knots is entered and reported as 13 knots).
2. ETA1	For both inbound and outbound vessels, this is the ETA at the seaward end of an IMO traffic separation scheme. • north—Point Reyes • west—Southeast Farallon Island • south—Pillar Point
3. ETA 2	1. For inbound vessels this is the ETA at the San Francisco Sea Buoy. 2. For outbound vessels this ETA is as follows. • north—Bodega Head or Cordell Bank • west—western limit or southwestern limit • south—southern limit

Important

Table 2--Remarks field

4. ETA X	Type additional ETA information in the Remarks field with a short abbreviation telling the position the ETA is for followed by four-digit time.
5. Important text	Type in the Remarks field route intentions or other important text information that will be reported in traffic reports and broadcasts.



UTDC for an Offshore AIS or Radar Track Vessel

Offshore routes, reporting points, and ETA points

ETA points

For vessels in the offshore area, collect ETA information for at least two ETA points. Vessels will make Position reports at these ETA points (reporting points) and update their ETAs and transit information to the next ETA points.

Since most offshore vessels follow highly predictable routes, ETAs are typed in the Handling field without amplifying text.

The diagrams on the following pages will show the typical transit routes for vessels in the offshore area. Their ETA 1 and ETA 2 points and their reporting points are annotated.

TSS buoys

All inbound and outbound vessels will also make Position reports at the appropriate Traffic Separation Scheme buoy (November, Whiskey, or Sierra buoy).

Continued on next page

Offshore routes, reporting points, and ETA points, Continued

Inbound points The following diagram shows ETA and reporting points for inbound vessels.

Inbound from the north—Bodega Head	
Report	Bodega Head
ETA 1 + Report	Pt. Reyes
Report	"N" Buoy
ETA 2	SFSB

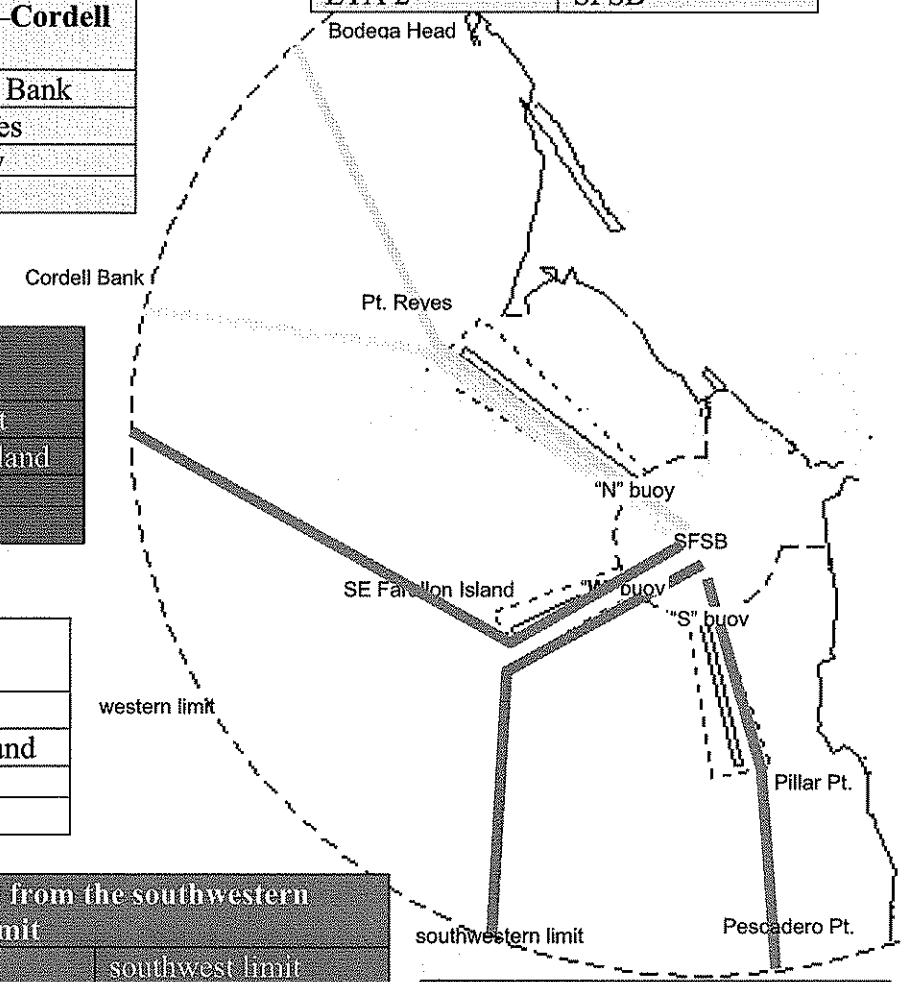
Inbound from the north—Cordell Bank	
Report	Cordell Bank
ETA 1 + Report	Pt. Reyes
Report	"N" buoy
ETA 2	SFSB

Inbound from the northwest limit	
Report	northwest limit
ETA 1 + Report	SE Farallon Island
Report	"W" buoy
ETA 2	SFSB

Inbound from the western limit	
Report	western limit
ETA 1 + report	SE Farallon Island
Report	"W" buoy
ETA 2	SFSB

Inbound from the southwestern limit	
Report	southwest limit
ETA 1 + report	SE Farallon Island
Report	"W" buoy
ETA 2	SFSB

Inbound from the southern limit	
Report	southern limit
ETA 1 + report	Pillar Point
Report	"S" buoy
ETA 2	SFSB



Continued on next page

Offshore routes, reporting points, and ETA points, Continued

Outbound points

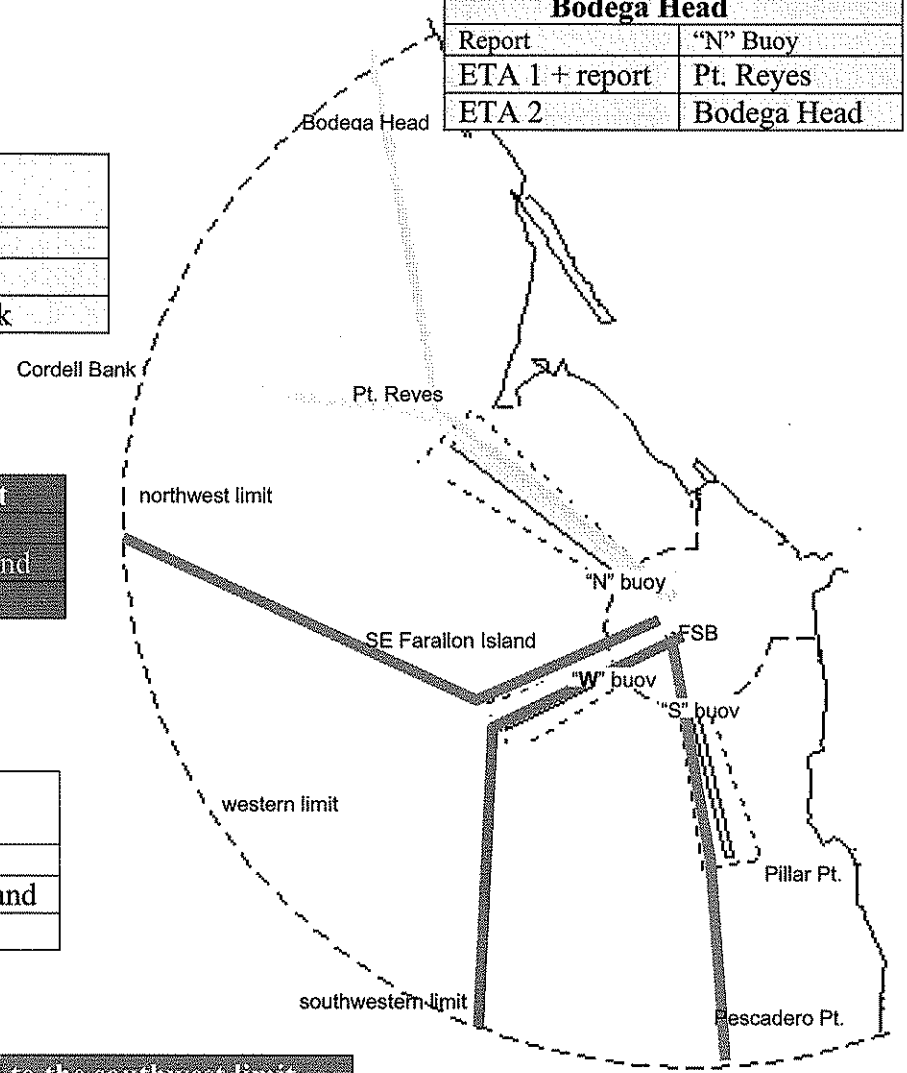
The following diagram shows ETA and reporting points for outbound vessels.

Outbound to the north—Bodega Head	
Report	"N" Buoy
ETA 1 + report	Pt. Reyes
ETA 2	Bodega Head

Outbound to the north—Cordell Bank	
Report	"N" Buoy
ETA 1 + report	Pt. Reyes
ETA 2	Cordell Bank

Outbound to the northwest limit	
Report	"W" buoy
ETA 1 + report	SE Farallon Island
ETA 2	northwest limit

Outbound to the western limit	
Report	"W" Buoy
ETA 1 + report	SE Farallon Island
ETA 2	western limit



Outbound to the southwest limit	
Report	"W" buoy
ETA 1 + report	SE Farallon Island
ETA 2	southwest limit

Outbound to the southern limit	
Report	"S" buoy
ETA 1 + report	Pillar Point
ETA 2	Pescadero Pt.

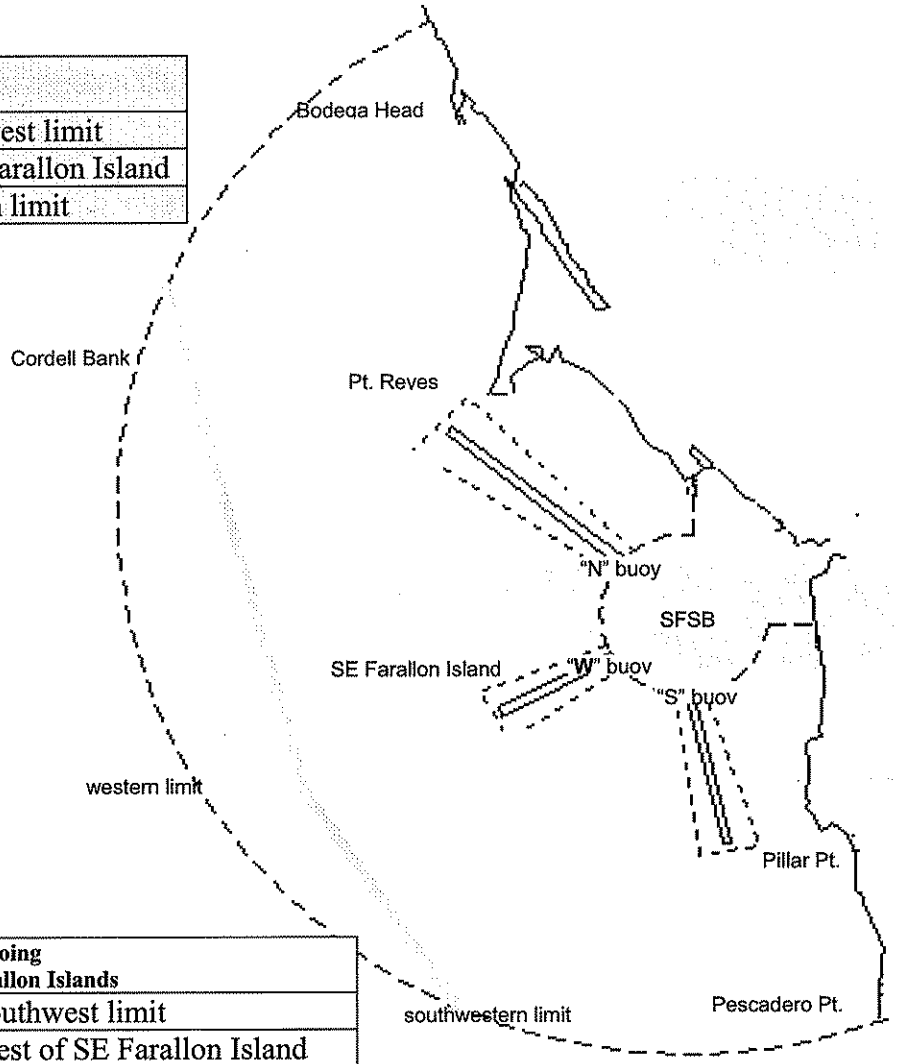
Continued on next page

Offshore routes, reporting points, and ETA points, Continued

Transiting west of the Farallon Islands

The following diagram shows ETA points for vessels transiting the offshore area going west of the Farallon Islands.

Transiting to the south going WEST of the Farallon Islands	
Report	north/northwest limit
ETA 1 + report	west of SE Farallon Island
ETA 2	southwestern limit



Transiting to the north going WEST of the Farallon Islands	
Report	southwest limit
ETA 1 + report	west of SE Farallon Island
ETA 2	Cordell Bank

Continued on next page

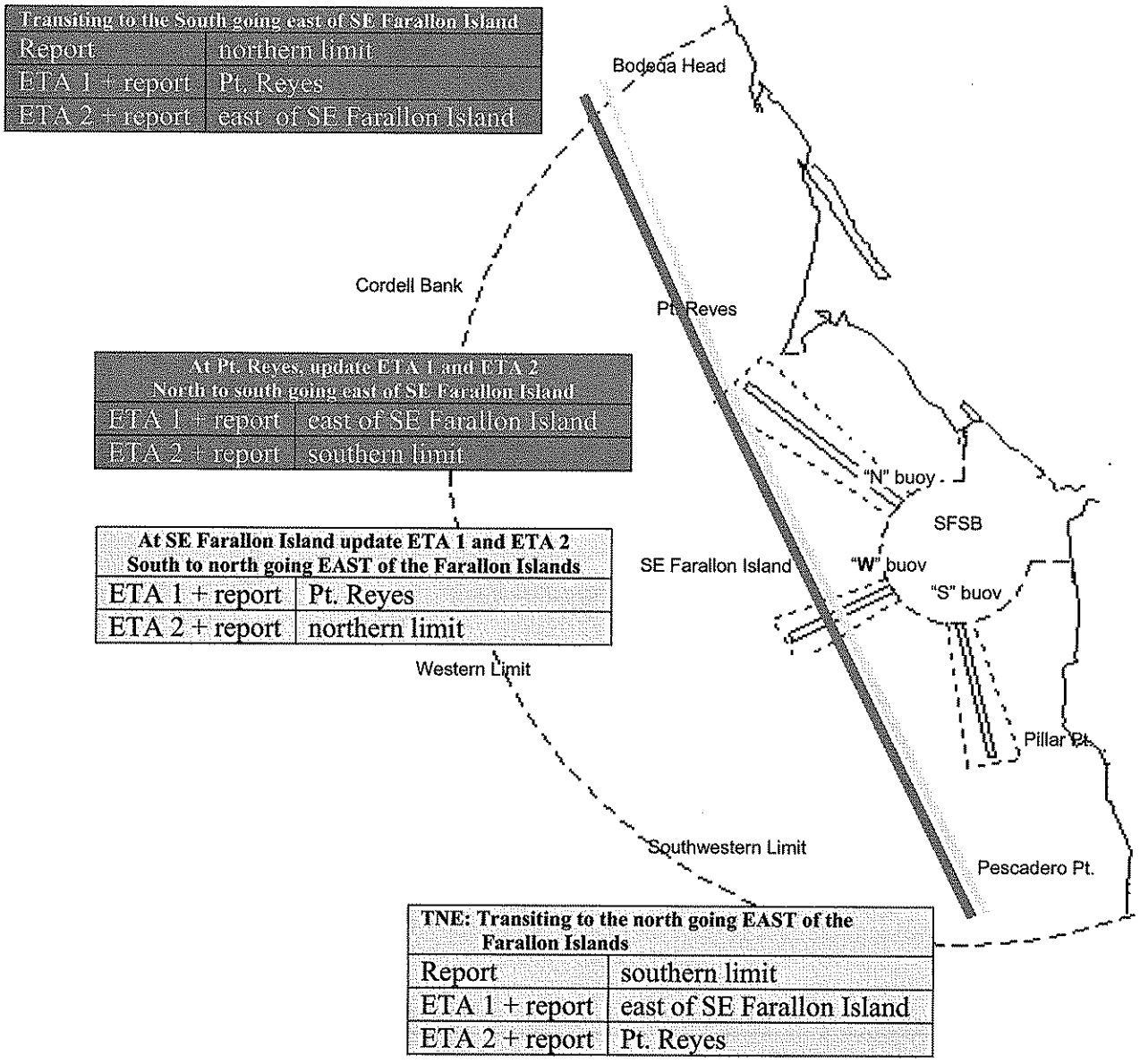
Offshore routes, reporting points, and ETA points, Continued

Transiting east of the Farallon Islands

The following diagram shows ETA points for vessels transiting the offshore area east of the Farallon Islands.

Notice that these transits are broken into two parts. This is because these vessels will potentially cross two Traffic Separation Schemes. It is useful to ascertain the ETAs for these crossings.

So that you will always have at least two ETA points recorded, update ETA 1 and ETA 2 at the first reporting point.



Divisions of the ocean approaches for the OVTA

Area explanations

The ocean area approaching San Francisco Bay is divided into six areas for the purpose of the OVTA. The table below and the diagram on the next page describe each area.

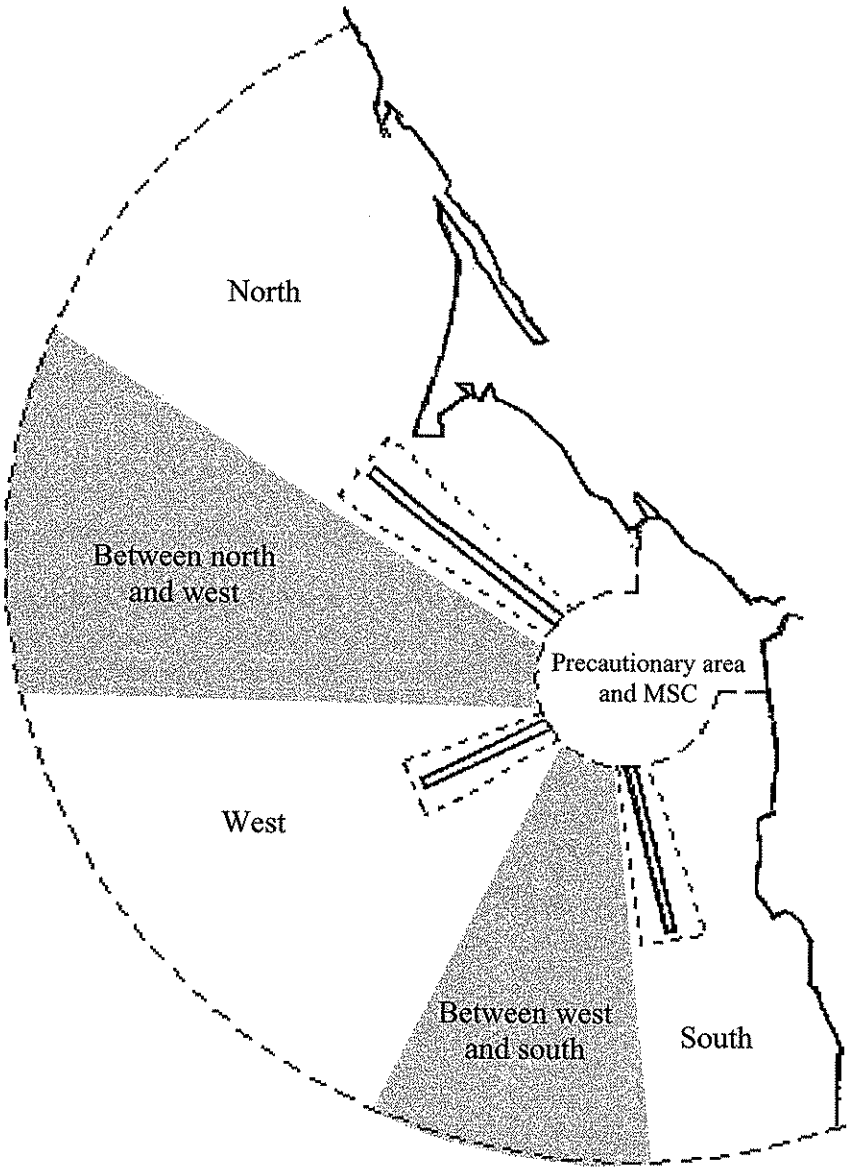
Area	Explanation
1. North	This area encompasses the Northern Traffic Separation Scheme and its approaches from the vicinity of Bodega Head and Cordell Bank. It includes the waters shoreward of the Northern Traffic Separation Scheme.
2. West	The west area consists of the Main (Western) Traffic Separation Scheme and its approaches from the western limit.
3. South	The south area is the Southern Traffic Separation Scheme and its approaches from the vicinity of Pescadero Point. This includes the waters shoreward of the Southern Traffic Separation Scheme.
4. Between north and west	These terms refer to the waters between the respective traffic schemes. They apply to vessels that are: a. transiting across the Offshore sector without entering the Offshore Precautionary Area (e.g., vessels transiting between Los Angeles and Seattle); b. transiting inbound or outbound between the TSSs; c. conducting operations between the TSSs (e.g., research vessels).
5. Between west and south	
6. Precautionary Area and Main Ship Channel	This area comprises the Offshore Precautionary Area and Main Ship Channel as far east as the COLREGS Demarcation Line. This area includes the Bonita Channel.

Continued on next page

Divisions of the ocean approaches for the OVTA, Continued

Diagram

The diagram below shows the offshore as divided for the Offshore Vessel Traffic Advisory.



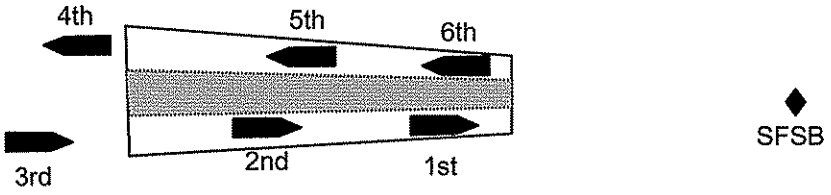
Offshore Vessel Traffic Advisory (OVTA) procedures

Time and channel

Perform the OVTA on VHF FM Channel 12 at minute 15 and minute 45 of each hour.

Order of vessels

In each area (excluding the Offshore Precautionary Area) report vessels in the order that they would be encountered. Start with the inbound vessels.



AIS or Radar Tracking

Report the actual bearing and range from the San Francisco Sea Buoy for each vessel that is tracked by radar or AIS. Also use this procedure for manual tracks if radar video is visible, even if radar tracking is not possible.

Example: *"...the tanker Oilier bearing 180 degrees, range 24 nautical..."*

Manual Tracking

Report time at last position for each vessel that is not being tracked by radar or AIS. See Appendix A.

Example: *"...the tanker Oilier time 1900 reported position bearing..."*

Reporting unusual transits

The script on the following page will cover vessels transiting and approaching TSSs in the routine fashion. For vessels transiting between TSSs, approaching a TSS from an unusual direction, or engaged in special operations, use the script as a guideline for improvising. See **Offshore example communications.**

Reporting "no traffic"

1. With no traffic to report in the north or west or south tract, say:
   "In the **[TRACT NAME(S)]** *there is no reported traffic."*
2. With no traffic to report in the entire Offshore area, say:
   "There is no reported traffic in the Offshore Sector."
3. When there is no traffic to report between tracts or in the Offshore Precautionary Area/Main Ship Channel, don't mention those areas.

Continued on next page

Offshore Vessel Traffic Advisory (OVTA) procedures, Continued

Procedure Use the following procedure and script when formulating the OVTA.

Note: Only perform alternate steps if target is manually tracked and radar video is not visible. If radar video is visible, report bearing and range of the radar blip.

Step	Report part	What you say
1	Preamble	*This is United States Coast Guard Vessel Traffic Service San Francisco.* *Following is the Offshore Sector Vessel Traffic Advisory as of time* **[TIME]**.
2	Inbound AIS or radar tracking	2a. Inbound in the TSS: *Inbound in the* **[TSS NAME]** *Traffic Lane* 2b. Inbound approaching the TSS: *Inbound from the* **[CARDINAL DIRECTION]** **[VESSEL TYPE & NAME]** *-bearing* **[DDD]** *degrees* *-range* **[RR.R]** *nautical miles from the San Francisco Sea Buoy* *-reported course* **[CCC]** *degrees* *-speed* **[SS.S]** *knots* Skip if vessel is in the TSS…. *-estimated time* **[at ETA 1] [HHMM]** *-estimated time* **[at ETA 2] [HHMM]**.
(2)	(Alternate step) Inbound manual tracking. No radar video.	2a. Inbound in the TSS: *Inbound in the* **[TSS NAME]** *Traffic Lane* 2b. Inbound approaching the TSS: *Inbound from the* **[CARDINAL DIRECTION]** **[VESSEL TYPE & NAME]** *-at time* **[HHMM]** *reported position…* *-bearing* **[DDD]** *degrees* *-range* **[RR.R]** *nautical miles from the San Francisco Sea Buoy* *-reported course* **[CCC]** *degrees* *-speed* **[SS.S]** *knots* Skip if vessel is in the TSS…. *-estimated time* **[at ETA 1] [HHMM]** *-estimated time* **[at ETA 2] [HHMM]**.
3	Outbound AIS or radar tracking	3a. Outbound in the TSS: *Outbound to the* **[CARDINAL DIRECTION]** 3b. Outbound approaching the TSS: *Outbound in the* **[TSS NAME]** *Traffic Lane* **[VESSEL TYPE & NAME]** *-bearing* **[DDD]** *degrees* *-range* **[RR.R]** *nautical miles from the SF Sea Buoy* *-reported course* **[CCC]** *degrees* *-speed* **[SS.S]** *knots* Skip if vessel is out of TSS…. *-estimated time* **[at ETA 1] [HHMM]** *-estimated time* **[at ETA 2] [HHMM]**.
(3)	(Alternate step) Outbound manual tracking No radar video.	3a. Outbound in the TSS: *Outbound to the* **[CARDINAL DIRECTION]** 3b. Outbound approaching the TSS: *Outbound in the* **[TSS NAME]** *Traffic Lane* **[VESSEL TYPE & NAME]** *-at time* **[HHMM]** *reported position…* *-bearing* **[DDD]** *degrees* *-range* **[RR.R]** *nautical miles from the San Francisco Sea Buoy* *-reported course* **[CCC]** *degrees* *-speed* **[SS.S]** *knots* Skip if vessel is out of TSS…. *-estimated time* **[at ETA 1] [HHMM]** *-estimated time* **[at ETA 2] [HHMM]**.
4	Offshore Precautionary Area	*In the Offshore Precautionary Area* **[VESSEL TYPE & NAME]** -Describe approximate position in reference to SFSB. -Describe intentions up to the next anticipated reporting point.
5	Bar channel inbound	*In the Main Ship Channel inbound* **[VESSEL TYPE & NAME]** -Describe approximate position in reference to buoys. - Describe intentions up to the Golden Gate Bridge.
6	Bar channel outbound	*In the Main Ship Channel outbound* **[VESSEL TYPE & NAME]** -Describe approximate position in reference to buoys. -Describe intentions up to the TSS.
7	Closing	*Listen for the next scheduled broadcast on Channel 12 at time* **[HHMM]**. *This is United States Coast Guard Vessel Traffic Service San Francisco. Out.*

Responding to offshore vessel position reports

General rule

Treat all Offshore Sector and Offshore Precautionary Area Position reports as Sailing Plan Deviation/Amplification reports and perform all associated VMRS communications proceduresrea dback, traffic report, and traffic turnaround.
In addition, perform the following procedures for directing where and when the vessel shall re-establish communications with VTS.

Improvise if necessary

You must be able to improvise and modify the following procedures to deal with vessels transiting outside of normal traffic routing or engaging in special operations. In such cases modify the key phrases (underlined phrases) but ensure that the meaning of each key phrase is not lost.

Procedures

In addition to routine VMRS communications, perform the following procedures when communicating with offshore vessels

Procedure 1—Vessel inbound from sea

Stage	Vessel reports at...	What you say and do
1	Offshore sector boundary.	Direct vessel to *"Call again at Pt. Reyes"* **or** *"...Southeast Farallon Island"* **or** *"...Pillar Point."* These places are near the seaward end of a TSS.
2	Seaward entrance of the IMO Traffic Separation Scheme (TSS).	Direct vessel to *"Call again at the November buoy"* **or** *"...Whiskey buoy"* **or** *"...Sierra Buoy."* These buoys mark the junction of a TSS and the boundary of the Offshore Precautionary Area.
3	TSS buoy.	Direct vessel to *"Switch and monitor channels 13 and 14."*

Procedure 2—Vessel outbound from the Offshore Precautionary Area

Step	Vessel reports at...	What you say and do
1 EARLY REPORT	Offshore Precautionary Area after disembarking pilot.	Direct vessel to *"Call again at the November buoy"* **or** *"...Whiskey buoy"* **or** *"...Sierra Buoy."* Each of these buoys marks the junction of a TSS and the boundary of the Offshore Precautionary Area.
2	TSS buoy	a. Direct vessel to *"Switch to channel 12"* if the call is not on 12. b. On channel 12, perform Readback, Traffic report, and Traffic Turnaround. c. Direct vessel to *"Call again at Pt. Reyes"* **or** *"...Southeast Farallon Island"* **or** *"...Pillar Point."*
3	Offshore sector boundary	State *"Have a safe voyage. No further calls to Traffic are required. Traffic out."*

Offshore example communications

Overview

Use the following examples as guidelines for formulating communications.

Precautionary Area and Main Ship Channel

Consider the following scenarios and example communications when describing vessel positions and intentions in the Offshore Precautionary Area and Main Ship Channel.

Scenario	Example
Two vessels maneuvering in the Offshore Precautionary Area.	*"In the Offshore Precautionary Area* 1. *the tanker Chevron Oregon is one nautical mile north of the sea buoy disembarking the pilot. Will be outbound to the north.* 2. *The tanker Tavi is three nautical miles south of the sea buoy inbound for the pilot area."* Round off distances to the nearest nautical mile. Use general compass bearings relative to the SFSB.
Two vessels inbound in the Main Ship Channel.	*"In the Main Ship Channel inbound* 1. *the tanker Silvan Sea is approaching Mile Rocks inbound for Richmond.* 3. *The container ship HanjinBeijing is between Main Ship Channel 1 and 2 inbound for Oakland."* State the port to which each inbound vessel is destined.
Two vessels outbound in the Main Ship Channel.	*"In the Main Ship Channel outbound* 1. *the container ship Tokyo is between Main Ship Channel 5 and 6 outbound for the pilot area, after the pilot disembarks, the vessel will outbound to the north.* 2. *The tanker Kiwi is abeam Point Bonita outbound for the pilot area, after the pilot disembarks, the vessel will outbound to the west."*

Continued on next page

Offshore example communications, Continued

Special situations

Consider the following scenarios and example communications when describing special situations or vessel intentions in the course of offshore communications.

Scenario	Example
Unusual route intentions.	After reporting a position you might say *"...intends to transit south of the Main Ship Channel..."*
Vessel's operations do not fall clearly inside the procedures for reporting inbound and outbound vessels.	After reporting traffic in the northern tract you might say *"The research vessel Research Ace is maneuvering on various courses and speeds near position ____ conducting research with gear in the water."*
Reported hazardous weather conditions.	After reporting the southern tract you might say *"Dense fog with zero visibility is reported in the vicinity of Pillar Point."*
Concentrations of small vessels (whether reported or spotted on radar).	After reporting traffic in the Main Ship Channel you might say *"Traffic's display shows a concentration of small radar contacts in the vicinity of Mile Rocks."*
Vessel transiting from abeam Southeast Farallon Island to the southwestern limit.	After reporting the western tract you might say *"Transiting from north to south, the freighter Wood Chips is four nautical miles south of Southeast Farallon Island. Position bearing..."*

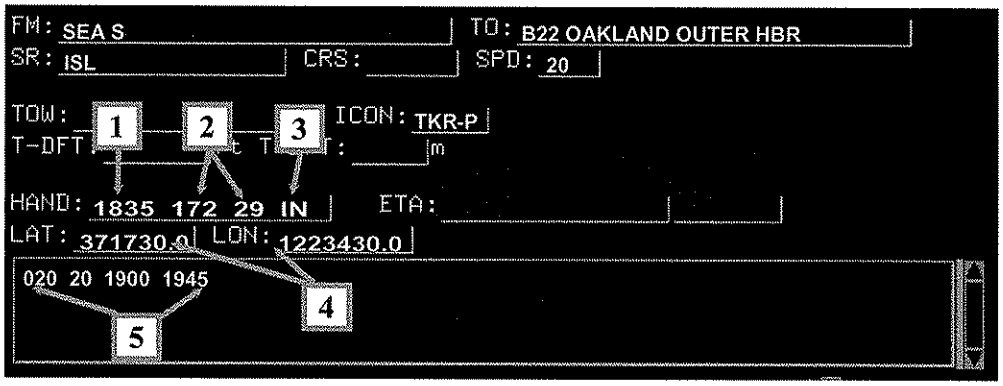
Appendix A—Data Entry for Manual Tracking Offshore

Manual Tracking UTDC Data Layout

Overview

The table below describes what to type in each UTDC field when recording Sailing Plan data for offshore vessels during manual tracking conditions.

Data	Explanation
1. Time of report	Enter the time that the vessel makes a Sailing Plan or Position report to VTS.
2. Bearing and range	Immediately after launching the track, convert the automatically-plotted latitude/longitude position into bearing and range from the San Francisco Sea Buoy. As the vessel makes subsequent Position reports to VTS, update this information.
3. Direction	General direction of travel. • IN =inbound • OUT =outbound • NS =transiting north to south • SN =transiting south to north
4. LAT and LON	When the vessel makes a Sailing Plan report, enter the vessel's reported LAT and LON. See procedures on the next page.
5. Course, speed, and ETA	This format is exactly like the format described in Table 1 on page 3. In this case it is simply typed in the Remarks field instead of in the Handling field. Format: **CCC SS ETA1 ETA2** 020 20 1900 1945



UTDC for an Offshore Manual Track Vessel

Entering Latitude and Longitude

Guidelines

When entering data into the UTDC LAT &ON fields, you must follow the guidelines stated below.

1. Use the following format. Failure to do so will result in the UTDC error code: *"Warning: 1 or more fields failed validation."* This will prevent the manual track from launching.

Format

Latitude	DDMMSS.t
Longitude	DDDMMSS.t

Key

```
D = Degrees
M = Minutes
S = Seconds (whole numbers)
t = Tenths of seconds
```

2. Fill every place in the LAT and LON reference. If there are no seconds or tenths of seconds reported you must enter zeros in their places (e.g., DDMM**00.0**).
3. If the vessel reports seconds as tenths of minutes (e.g., DDMM**.5**) you must convert the tenths of minutes into seconds before entering it (e.g., DDMM**30.0**). Refer to the conversion table below.

Table

Use the conversion table below for converting tenths of minutes to seconds.

Frequently reported as (tenths of minutes)	**Always entered as** (number of seconds)
DDMM.1	06.0
DDMM.2	12.0
DDMM.3	18.0
DDMM.4	24.0
DDMM.5	30.0
DDMM.6	36.0
DDMM.7	42.0
DDMM.8	48.0
DDMM.9	54.0

Chapter 13

Advisories

Introduction

Overview

This section contains the procedures for creating and working with the advisories.

In this section

This section covers the following topics.

Advisory initial report procedure

Terminology

The term advisory initial report is the advisory equivalent to the term vessel Sailing Plan report.

Communications

When responding to an advisory initial report, use the Sailing Plan report procedures for structuring communications.

Recurring advisory

A recurring advisory is used for an operation that starts and stops repeatedly and has some of the same information pertaining to it each time. For these advisories, an inactive advisory record is often stored in the appropriate Advisory List.

When initiating the recurring advisory select the inactive record from the list, update the information, and then activate the advisory.

Procedure

Perform the following procedure when a vessel or activity makes an initial advisory report to VTS.

Step	Action
1	Activate the appropriate Edit Advisory form. Activate the Edit Advisory form directly from the Chart Window menu bar or through the Advisory List depending on whether you suspect the existence of a stored recurring advisory. **Type of call** / **Typical procedure to follow** MARINE EVENT: Open the Marine Event Advisory List to select a prepared advisory. ATON: Open the ATON Advisory form to initiate a new advisory. GENERIC: • If you suspect a recurring Advisory open the Generic Advisory list. • If you suspect a new Advisory open the Generic Advisory form.
2	Record reported information in the Edit Advisory form. • Avoid full sentences; use terse phrases. • Take control of the communications early and direct the caller to provide information piece by piece if necessary. (This avoids rambling, incomplete reports.)
3	Click in the Activate checkbox and push the APPLY button. • The advisory tag will appear on the plot on all ODPs in all applicable chart windows.

Information layout

Refer to the instructions for each type of Advisory Edit form for information on laying out the reported advisory data

Advisory final report procedure

Terminology

The term advisory final report is the advisory equivalent to the term vessel Final report.

Communications

When responding to an advisory final report use the vessel Final report procedures for structuring communications.

Procedure

Perform the following procedure when a vessel or activity makes an advisory final report to VTS.

Step	Action
1	OPERATOR: Deactivate the advisory using the Advisory Tag pop-up menu.
2	SUPERVISOR: • Delete the advisory through the Advisory List or • Clean out obsolete text and retain deactivated as a recurring advisory. 1. Remarks field. 2. Time fields.

Advisory codes

Table

The following table shows commonly used advisory codes and illustrates how they are combined with expanded information to make up the advisory tag text.

Subject Code	Definition of Subject Code	Advisory tag with expanded information	Meaning
ATON Advisories			
AX	Aid to navigation extinguished.	**AX..NC2**	North Channel Buoy 2 is reported extinguished.
AM	Aid to navigation missing.	**AM..MSC7**	Main Ship Channel Buoy 7 is reported missing.
AO	Aid to navigation off station.	**AO..HR**	The Harding Rock Buoy is reported off station.
Generic Advisories			
D 2H	Dredging project has an advanced notice requirement.	**D 2H..B60**	An anchored dredge barge off Berth 60 needs a two-hour advanced notice for passage.
DI	Diving operation.	**DI..P9**	Divers are working at Pier 9; minimum wake is requested.
O	Obstruction to navigation.	**O..DEBRIS**	Debris was reported to be obstructing navigation in the geographic location of the advisory tag.
MW	Minimum wake.	**MW..B32**	Minimum wake is requested at Berth 32 from all vessels.
SAR	Search-and-rescue operation.	**SAR..PIW**	A person was reported in the water near the geographic location of the advisory tag. SAR is in progress.
Marine Event Advisories			
M	Marine event.	**M..200SV**	A marine event involving 200 sailing vessels is in progress in the vicinity of the advisory tag.

Improvising

There is not a subject code for every possible advisory. You must improvise when the subject of the advisory does not fall into one of the above subject codes.

For example:

Subject	Meaning
PYRO..GGB	Pyrotechnics training near the Golden Gate bridge.
ATEMP..RACE	Temporary buoy called RACE BUOY in place.

Generic advisory form

Form activation

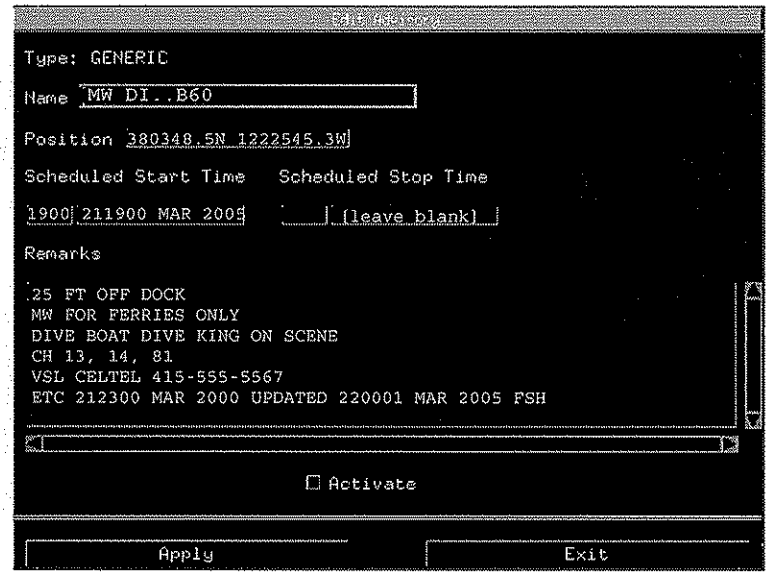
To activate the Edit Advisory form for generic advisories select the following from the chart window menu bar:

Advisories > Generic > Form..

Form diagram

The following diagram and table show a completed generic Edit Advisory form, explain each of the parts, and show how they are used.

Changed 09/26/2003 FSH



Part	Function
Type field	Shows which Edit Advisory form is open (GENERIC, MARINE EVENT, or ATON).
Name field	Contents of this field show up as the advisory tag. • Enter the advisory code(s) followed by two dots. • Enter the location of the special operation (pier, general geographic area, channel.)
Position field	Click on the chart window to automatically populate this field with the latitude and longitude of the advisory tag.
Scheduled Start Time field	(Usually left blank.)
Scheduled Stop Time field	Enter the reported time that the special operation will be completed.
Remarks field	Enter details about the special operation. Use a separate line for each type of detail. • on-scene vessel name • details about the location • details of potential interest to mariners • radio channels to be monitored • telephone numbers (specify on-scene or office)
Activate check-box	When selected, the advisory will be active (displayed on the plot) immediately upon applying. Otherwise the advisory will be stored for later activation.
Apply button	Push this button to save or activate a completed advisory.
Exit button	Push this button to close the Edit Advisory form without saving changes. When opening the Edit Advisory form to view information always push this button to avoid accidentally saving unwanted changes.

Marine event advisory form

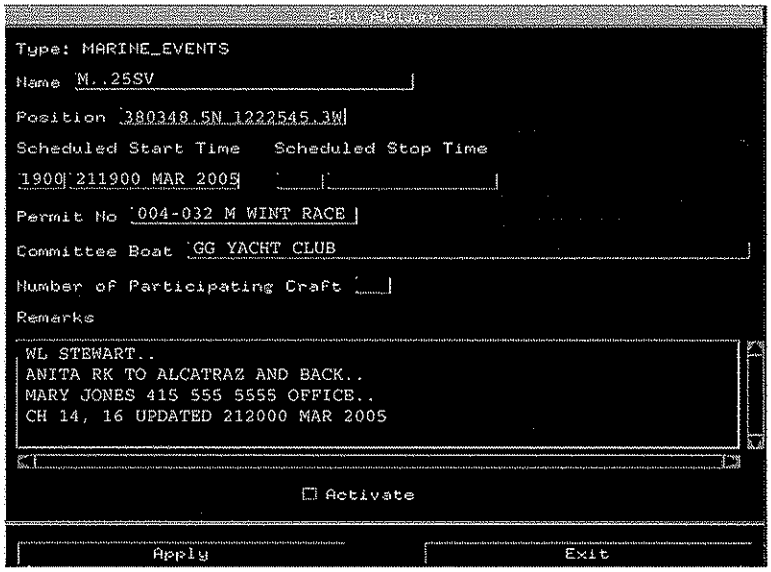
Form activation

To activate the Edit Advisory form for marine event advisories select the following from the chart window menu bar:

Advisories > Marine Events > Form..

Form diagram

The following diagram and table show a completed Marine Event Edit Advisory form, explain each of the parts, and show how they are used.



Part	Function
Type field	Shows which Edit Advisory form is open (GENERIC, MARINE EVENT, or ATON).
Name field	Contents of this field show up as the advisory tag. • Enter the marine event advisory code followed by two dots. • Enter the type and number of participants.
Position field	Click on the chart window to automatically populate this field with the latitude and longitude of the advisory tag.
Scheduled Start Time field	Dual-purpose field. • Before check-in: shows the scheduled start time for the event. • After check-in: shows the start time as reported during check-in with VTS.
Scheduled Stop Time field	Dual-purpose field. • Before check-in: shows the scheduled end time for the event. • After check-in: shows the end time reported during check-in with VTS.
Permit number	Shows the marine event permit number issued by Group San Francisco.
Committee boat	***(misnamed field)*** Yacht club or sponsoring agency name.
Number of…	(unused field)
Remarks field	Enter details about the marine event. Use the following layout. 1. on-scene vessel name (followed by two dots) 2. route description (followed by two dots) 3. telephone point of contact including type of phone (followed by two dots) 4. radio channels to be monitored

AtoN advisory form

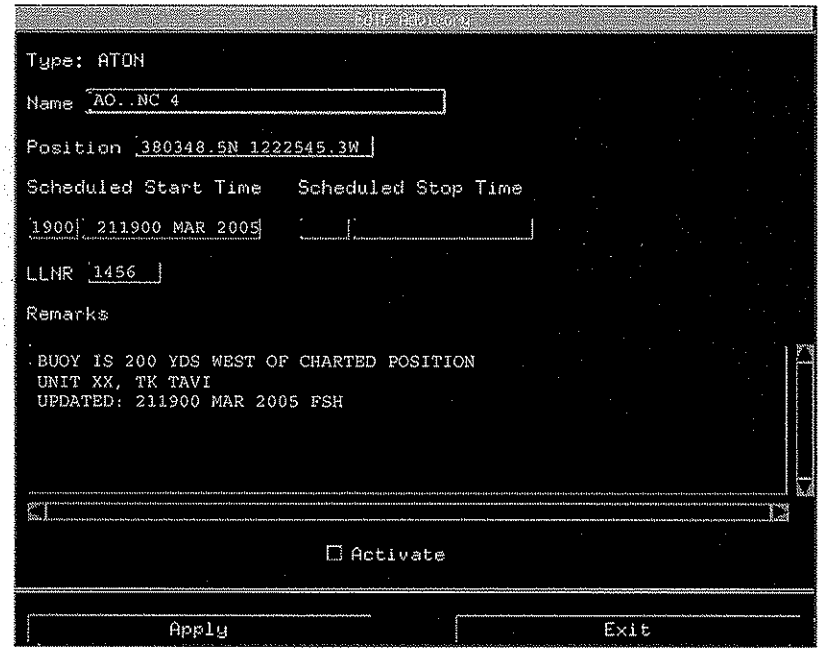
Form activation

To activate the Edit Advisory form for generic advisories select the following from the chart window menu bar:

Advisories > ATON > Form..

Form diagram

The following diagram and table show a completed ATON Edit Advisory form, explain each of the parts, and show how they are used.



Part	Function
Type field	Shows which Edit Advisory form is open. (GENERIC, MARINE EVENT, or ATON)
Name field	Contents of this field show up as the advisory tag. • Enter the advisory code followed by two dots. • Enter the abbreviated buoy name as it is spoken.
Position field	Click on the chart window to automatically populate this field with the latitude and longitude of the advisory tag.
Scheduled Start Time field	Enter the time that the AtoN discrepancy report was received by VTS.
Scheduled Stop Time field	• This is usually left blank. • Enter the estimated time that the AtoN discrepancy will be resolved (repaired).
LLNR	Supervisor: enter the Light List number when there is time.
Remarks field	Give brief details about the AtoN discrepancy. Use a separate line for each detail. • Enter details that might help mariners identify the AtoN (current location of the aid, observed damage, condition of light, buoyancy, etc.) • Tell who reported the discrepancy (pilot designator and vessel name).

Advisory list window and pop-up menu

Form activation

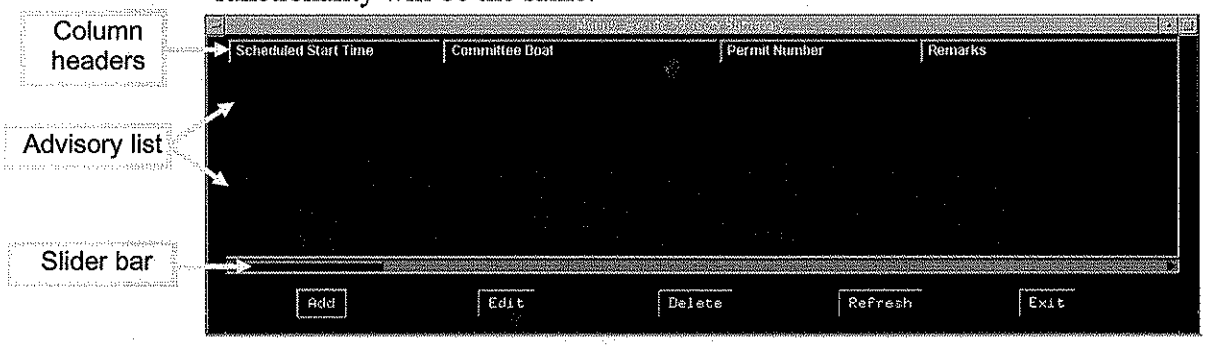
To activate the Edit Advisory form for generic advisories select the following from the chart window menu bar:

Advisories > Generic / ATON / Marine Event > List..

Diagram of list window

The following diagram shows an advisory list window, explains each of the parts, and shows how they are used.

The diagram below depicts the marine event advisory list window. The columns in the window will be different for each type of advisory but the functionality will be the same.



Part	Function
Column Headers	Column headers correspond with the related advisory form's field labels. Since fields are different for each of the three advisory types (GENERIC, ATON, MARINE EVENTS), the columns are different for each type. To sort the list: Click in a column header to re-sort the entire advisory list based on that column. Click once for ascending sort; click again for descending sort. Note: The Remarks field column is always on the right side. Only the first few characters of the Remarks field are shown. To see the remainder of this field use the slider bar.
Advisory list	Active (on plot) and inactive (saved but not on plot) advisories will be listed here. • Active advisories will be in blue text. • Inactive advisories will be in white text. Select (click on) advisories for manipulation with the pop-up menu OR double-click on an advisory to open the Edit Advisory window for it.
Slider bar	Click and drag to view the remainder of the Remarks column and/or any columns that are off the right side of the window.
Add button	Push to open an empty (new) Edit Advisory window.
Edit button	Push this button to open the Edit Advisory window for the selected (highlighted) advisory. Note: Select only one advisory at a time for editing.
Delete button	Push this button to permanently delete selected advisories. If an advisory is active you cannot delete it. If you try to do so you will get an error message.
Refresh button	Sometimes the advisory list doesn't automatically update to reflect advisory status changes (activate / deactivate, etc.). Push this button to update (or refresh) the list.
Exit button	Closes the advisory list window.

Continued on next page

Advisory list window and pop-up menu, Continued

List window pop-up menu

The advisory list window pop-up menu contains all of the options that are available through the on-screen buttons plus some additional important options.

The following table explains each of the pop-up menu options.

Part	Function
Activate	Activates (causes to be displayed on plot) the selected advisory.
Deactivate	Deactivates (causes to disappear from the plot) the selected advisory.
Add	Same functionality as on-screen button.
Edit	Same functionality as on-screen button.
Refresh	Same functionality as on-screen button.
Delete	Same functionality as on-screen button.
Delete All	Does not work.
Copy	Makes a copy of the selected advisory and all of its contents. Adds the phrase *"Copy of"* to the advisory name.
Archive	Stores all of the selected advisories in a special archive file. If the "original" of an archived advisory is accidentally deleted, it can easily be restored from the archive file.
Restore	Recalls all of the selected advisories from the archive file to the advisory list window. You select the advisories in the Clipboard window.
Select All	Instantly selects (highlights) all advisories in the list.
Unselect All	Instantly deselects (de-highlights) all selected advisories in the list.
Select columns	Does not work.
Default columns	Does not work.

Advisory tag and pop-up menu

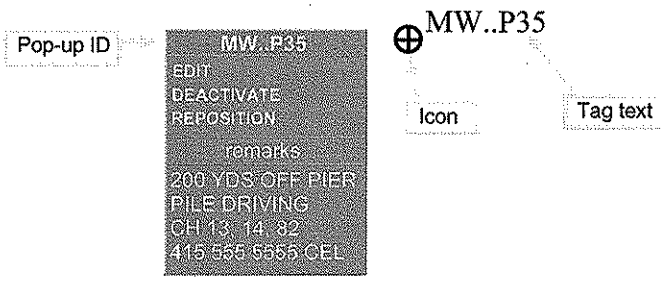
Activation

- To activate the advisory pop-up menu, right-click on the icon or tag text.
- To instantly activate the Edit Advisory window, double-click on the icon or text.

Diagram

The following diagram and table show the advisory tag and pop-up menu, explain each of the parts, and show how they are used.

COLOR: Advisory tag and text appear in pink in order to avoid confusion with vessel track tags.



Advisory Pop-up

Part	Function
Pop-up ID	Repeats the advisory tag text to verify that you have activated the correct advisory pop-up.
Edit	Activates the Edit Advisory window. Double-clicking on the advisory tag does the same thing.
Deactivate	Deactivates the advisory (but does not delete it).
Reposition	Activates the position prompt. Click in any chart window after the position prompt appears to reposition the advisory tag.
Remarks	Read-only text. The content comes from the Edit Advisory window Remarks field. The pop-up menu grows lengthwise and widthwise to accommodate all the Remarks field text.

Advisory Tag

Part	Function
Icon	• Color and shape indicate that it is an advisory. • It is plotted at the latitude and longitude shown in the Edit Advisory window Position field.
Tag text	Whatever is typed in the Edit Advisory window Name field appears here.

Note: Dynamic declutter does not affect the Advisory Tag in any way. Track tag text can lie on top of the Advisory Tag text.

Advisory form known problems

Accidental deletion of text
KNOWN PROBLEM

Problem:
When you tab into any Advisory form field, all of the text in the field is instantly, automatically selected (highlighted).

If you begin typing with all of the text selected you will delete the text and overwrite it with your typing.

Workaround:

- Use the mouse pointer to navigate in the form.
- Always strike the [Right-arrow] key before typing in a field. This will deselect the text.

If you make a mistake:
If you accidentally overtype text, simply EXIT the form. This will reject your changes and return the advisory to its previous content.

Multiple forms
KNOWN PROBLEM

Problem:
It is possible to open more than one advisory window for the same advisory by double clicking again and again on the same advisory tag.

If you do this, changes that you make in the first advisory window may be overwritten by the other open copies of the advisory if you push APPLY to close the other windows.

Workaround:
Be careful to double click only once.

If you suspect that you may have triple or quadruple clicked and opened duplicate copies for the same advisory tag, drag the suspect advisory window aside to reveal the other windows.

If you make a mistake:
If after editing an advisory you realize that duplicate windows are open for that advisory, EXIT the duplicate windows without saving changes.

Chapter 14

Revised August 2005

On-plot Track Manipulation

Introduction

Overview

This section lays out the procedures for using the menu options and functions associated with manipulating on-plot tracks.

In this section

This section is divided into two parts.

Part One
Vessel Action Menu

Part introduction

Overview

This part explains the functions, procedures, and requirements for using each of the Vessel Action Menu (VAM) options.

In this part

The following topics are discussed in this part.

VAM: RADAR TRACK

General rules

1. All ship and towing vessel VMRS Users shall be tracked with radar if AIS is not possible.
2. Ferries shall be tracked with radar or AIS when necessary to assess the risk of collision or any other risk.
3. Unknown radar targets shall be radar tracked whenever doing so may help prevent a hazardous encounter for any VTS participant.

Procedure

Once you have activated the *radar track start function*, perform the following procedures.

Step	Action
1	VAM: RADAR TRACK
2	Respond to the position prompt by clicking slightly ahead of the radar video.
3	Select a radar site from the Radar Selection box. **Step** / **Action** a — Type the site number. Do not use the mouse. b — Hit [Return] to select the highlighted site. c — Hit [Return] again to track at the selected site.
4	Track acquisition: **Successful** — FARMS character will change to **R** . **Failed** — a. FARMS character will remain **M** or **S** . b. Re-attempt radar acquisition no more than two times. **Wrong target** — Re-attempt radar acquisition no more than two times. Note: Track acquisition may take as long as thirty seconds. If the FARMS character hasn't changed to **R** in thirty seconds, assume that track acquisition failed. **Failed track acquisition will NOT bring up any operator prompts or warning windows.**

Acquiring unidentified radar video

To radar track unidentified radar video perform the following steps.

1. Activate a blank UTDC.
2. Strike [Ctrl R] to start a radar track with no data associated.
3. Follow the procedures above (from Step 2) when the position prompt appears.

VAM: SR TRACK

What it does VAM: SR TRACK assigns a track to a standard route. If you select NONE as the SR, the track will remain (or become) a manual (M) track.

Procedure VAM: SR TRACK will be used in the following situations.

<table>
<tr><th>Situation</th><th>Procedure</th></tr>
<tr><td>1. A radar track reaches an SR tracking area.

2. A manual track in an SR tracking area makes its first position report off the dock.

3. An SR track reaches the end of its route and needs to be switched to the next standard route.</td><td>
<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>VAM: SR TRACK.</td></tr>
<tr><td>2</td><td>Select an SR.</td></tr>
<tr><td>3</td><td>Observe the track jump to the route and begin tracking.</td></tr>
<tr><td>4</td><td>Observe the FARMS character switch to S</td></tr>
</table>
</td></tr>
<tr><td>4. A radar track must be changed to a manual track.</td><td>
<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>VAM: SR TRACK.</td></tr>
<tr><td>2</td><td>Hit [Return] twice to select NONE.</td></tr>
<tr><td>3</td><td>Observe the FARMS character switch from R (radar) to M (manual).</td></tr>
</table>
Warning: Do not perform this action with an anchored track. Doing so will change its status to UNDERWAY and break its link with the swing circle alarm.
</td></tr>
</table>

VAM: ASSOCIATE SR

What it does

VAM: ASSOCIATE SR performs the following two functions.

1. It links a manual or radar track with a standard route. Thus the track has the SR as a "backup." It does not change the track's tracking status; the system continues tracking it as a manual or radar track.
2. It switches a standard route track from one SR to another.

Procedure

VAM: ASSOCIATE SR is used in the following situations.

Situation	Procedure
1. To remove all standard route association.	Step 1: VAM: ASSOCIATE SR. Step 2: Hit [Return] twice. Step 3: Ensure that the Sector Summary indicates **no** SR.
2. To switch an SR track from one SR to another.	Step 1: VAM: ASSOCIATE SR. Step 2: Select the new SR name. Step 3: Observe the track jump from one SR to another.
3. To tell a radar track which SR to jump to if the radar drops track (becomes LOST).	Step 1: VAM: ASSOCIATE SR on a radar track. Step 2: Type in the backup SR name. Step 3: Watch the Sector Summary indicate the backup SR number.

Backing up radar tracks with SRs

Backing up a radar track (having the radar track associated with an SR) is problematic. Do this only if you are certain that the radar track will closely follow the course of the SR.

As a general rule, once you have acquired radar (tracking status is GOOD) you should disassociate that track from all SRs. To do this perform the steps outlined in method 1 above.

Note: Most radar tracks will not have associated SRs.

Continued on next page

VAM: ASSOCIATE SR, Continued

Problem scenario:
You forgot to disassociate an SR

Allowing an SR to remain associated with a radar track causes confusion when the track loses radar (the Tracking Status becomes LOST). In such a case the track icon will jump to the closest point of the associated SR.

The following process example illustrates this problem.

Stage	Description
1	A track is associated with D SUISUN (the down-bound Suisun Bay route).
2	You VAM: RADAR TRACK successfully at the Carquinez Bridge but fail to disassociate the D SUISUN route. • The radar track is associated with the SR called D SUISUN.
3	The radar track transits to the Richmond – San Rafael Bridge but drops track as it passes under the bridge. (Remember that the track is still associated with D SUISUN.)
4	The track icon jumps back to the closest point on the associated SR (D SUISUN) – it disappears from your display.

VAM: ANCHOR / UNDERWAY

Functionality explanation

VAM: ANCHOR / UNDERWAY is a two-function menu item.
If the track is underway, VAM: ANCHOR / UNDERWAY anchors it.
If the track is anchored, VAM: ANCHOR / UNDERWAY gets it underway.
The VAM always says VAM: ANCHOR / UNDERWAY.

When to use

1. Use VAM: ANCHOR when an underway vessel reports "anchor down."
2. Use VAM: UNDERWAY when an anchored vessel makes a Sailing Plan report indicating that it will be heaving anchor.

Process
VAM: ANCHOR

Following is the VAM: ANCHOR process.

Stage	Description
1	A vessel reports "anchor down."
2	You activate VAM: ANCHOR
3	The Anchor Window (confirmation window) appears.

Select...	To do this...
ANCHOR	Proceed with the anchor process and build a swing circle alarm.
CANCEL	Abort the anchoring process and keep the track underway.

If ANCHOR was selected, the following stages apply.

4	The track status becomes A (ANCHORED).
5	The track icon becomes an anchor symbol.
6	The track icon location (swing circle center) is automatically recorded in the computer.
7	The Swing Circle Alarm window appears. a. The latitude and longitude of the swing circle center appear in the LAT/LONG field. **WARNING: While the LAT/LONG field is highlighted, never click in the chart window. Doing so will reposition the swing circle center.** b. The latitude and longitude of the swing circle center are automatically copied to the track's Remarks field. c. The vessel's registered length (R-LEN in the UTDC) automatically appears in the LENGTH field. d. The Swing Radius readout indicates the current swing radius in yards (at this point based only on the vessel length).
8	You fill out the Swing Circle Alarm form, and then press OK. Note: Pushing CANCEL will leave the vessel anchored with no swing circle.
9	A swing circle alarm will activate and appear on your ODP only.
10	All other ODP operators must open the Alarm Toolkit and activate the alarm on their ODPs after the vessel has fetched up.

Continued on next page

VAM: ANCHOR / UNDERWAY, Continued

Process
VAM: UNDERWAY

Following is the VAM: UNDERWAY process.

WARNING: There is no way to abort the process once you have activated VAM: UNDERWAY. If you accidentally activate this function you must re-anchor the vessel from scratch.

Stage	Description
1	A vessel makes a Sailing Plan report indicating that it will be heaving anchor.
2	You activate VAM: UNDERWAY (**before** editing the transit data).
3	The track status becomes U (UNDERWAY).
4	The swing circle alarm automatically disappears from your ODP.
5	The track icon shape reverts to its default shape for its vessel type.
6	You open and edit the vessel's transit information using the UTDC.
7	All other ODPs must deactivate and delete the swing circle.

VAM: DOCK

When to use

Activate VAM: DOCK when a vessel makes its Final report in the following cases:

1. a vessel ties up at a berth, pier, bridge tower, etc.;
2. a vessel ties up alongside another vessel in an anchorage;
3. a vessel checks out at a VTS area boundary.

When NOT to use

Do not use VAM: DOCK in the following cases:

1. processing an ongoing dredging operation (except when the vessel returns to dock);
2. a towing vessel hands off a tow from one tug to another;
3. a vessel ends its transit without tying up, securing alongside an anchored vessel, or crossing a VTS area boundary line—
   a. a light tug begins escort duty;
   b. a voluntarily participating non-VTS User says s/he no longer needs VTS assistance.

Process

Following is the DOCK process.

Stage	Description
1	A vessel makes its Final report.
2	You activate VAM: DOCK.
3	The track icon disappears from the screen.
4	The transit ends and is registered in the daily count.
5	The vessel's track status becomes D (DOCKED).

VAM: OUT OF AOR

When to use

Use the VAM: OUT OF AOR function in the following cases:

1. a towing vessel hands off a tow to another tug somewhere inside the VTS area;
2. a vessel ends its transit without tying up, anchoring, or crossing a VTS area boundary line—
   a. a light tug begins escort duty;
   b. a voluntarily participating non-VTS User says s/he no longer needs VTS assistance.

When NOT to use

Do not use VAM: OUT OF AOR in the following cases:

1. checking a vessel out at a VTS area boundary (use VAM: DOCK instead);
2. processing an ongoing dredging operation (including a tug exchanging barges at a dredge).

When to keep or delete icon

After activating the VAM: OUT OF AOR function a confirmation window appears asking whether you want to **"DELETE TRACK AFTER PLACING IT OUT OF AOR?"**

Select...	To do this...	If this is true...
YES	Delete the icon	A tug is handing off its tow to another tug and the light tug will not be a VMRS User (the light tug is less than 40 meters long).
NO	Keep the icon	1. A tug is handing off part of its tow to another vessel, but the first tug still has a tow (and is therefore still a VMRS User). 2. A tug that is over 40 meters in length (and therefore a VMRS User when running light) hands off its tow to another vessel.
CANCEL	Abort	You accidentally activated VAM: OUT OF AOR.

Process

Following is the VAM: OUT OF AOR process.

Stage	Description	
1	A vessel makes a Final report.	
2	VAM: OUT OF AOR.	
	Option 1	Option 2
3	Select YES to delete the icon.	Select NO to keep the icon.
4	Transit ends.	Transit ends—new transit begins instantly.
5	Icon disappears from the screen.	Icon remains on the screen.
6		Previous transit TO data jumps to FM field.
7		FM field is left blank.

VAM: QUICK TURNAROUND

When to use

ONLY use the VAM: QUICK TURN AROUND function when processing ongoing dredging operations.

When NOT to use

Do not use the VAM: QUICK TURN AROUND function for the following:

- ending ferry transits
- processing multi-stop transits such as debris patrols.

Process

Following is the Quick Turn Around process.

Stage	Description
1	The track reaches the end of its transit.
2	You VAM: QUICK TURN AROUND.

WARNING: After activating VAM: QUICK TURN AROUND, wait at least five seconds before bringing that vessel's data into the UTDC. Failure to wait will result in database errors.

3	The transit ends and is registered in the daily count.
4	For SR tracks: Standard route tracking stops. The tracking status goes to Manual. Note: The standard route name clears from the SR field; SR speed shows "00.0."
5	FM and TO field information flip-flops.
6	The following fields are cleared. 1. HAND 2. Remarks 3. T-DFT 4. ETA 5. SR
7	The computer instantly starts another transit for this vessel.
8	The track icon remains on the screen.

VAM: SPEED OVERRIDE

Dual functionality

The VAM: SPEED OVERRIDE function serves dual functions.

1. With the Override switch checked, it overrides the default tracking speed for a standard route track to the speed that is entered into the form.
2. With the Override switch UN-checked, it reinstates the default speed for the standard route track (including all subsequent legs of the standard route).

When to use

Override a standard route track's default speed in the following cases.

1. A standard route track is consistently ahead or behind DR.
2. A vessel reports intentions to go at a speed different from the standard route's default speed.

When NOT to use

VAM: SPEED OVERRIDE does not work for a track that is ASSOCIATED WITH but not ASSIGNED TO a standard route.

Process
Override default speed

Following is the process for overriding the default speed.

Stage	Description
1	You activate VAM: SPEED OVERRIDE.
2	The Speed Override window appears. 1. The speed field is automatically selected. 2. The OVERRIDE switch is automatically checked.
3	You type in the new speed.
4	You push [Return] to accept the changes and close the Speed Override window.

Process
Reinstate default speed

Following is the process for reinstating the default speed.

Stage	Description
1	You activate VAM: SPEED OVERRIDE.
2	You UN-check the OVERRIDE switch.
3	You push OK to accept the changes and close the Speed Override window. Note: Ignore the SPEED field when reinstating the default speed.

VAM: TRACK REPOSITION

When to use

Activate VAM: TRACK REPOSITION to
1. reposition the track icon for a MANUAL track;
2. reposition a track icon along the assigned standard route for an SR track.

When NOT to use

Do not use the VAM: TRACK REPOSITION function for a radar track.

Process

Following is the VAM: TRACK REPOSITION process.

Stage	Description
1	You activate VAM: TRACK REPOSITION.
2	Wait for the position prompt. 
3	• Click on the chart window at the new track position. or • Push the CANCEL button to abort the track reposition.

Special functionality

The VAM: TRACK REPOSITION function allows you to reposition tracks from chart window to chart window and from monitor to monitor.

Part Two
Tracks Menu on the Chart Window Menu Bar

Part introduction

Overview

This part explains the functions, procedures, and requirements for using each of the menu options on the Chart Window Menu Bar TRACKS menu.

In this part

The following topics are discussed in this part.

Swap track process

Menu location

The Swap Track function is located on the Chart Window Menu Bar Tracks menu.

When to use

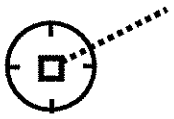
When two radar tracks (vessels Alpha and Bravo for this explanation) pass close together occasionally the track icon for vessel Alpha will jump onto radar video for vessel Bravo and the track icon for vessel Bravo will jump onto the radar video for vessel Alpha.

Use the Swap Track function to swap their icons back to the correct radar video.

Terminology

1. Select track means single-click on a track icon. When selected, a track icon is white. When selecting a track, never double-click on the icon.

WARNING: Never perform track swap or other track tag manipulation functions with a track's data open in the UTDC. When a track's data are in the UTDC, the track will look like the diagram below—there will be a circle around the track icon.



2. Deselect all tracks means double-click on a blank spot on the chart window. Track icons return to their default colors when deselected.

Procedure

Following is the swap track procedure.

Step	Action
1	Deselect all tracks. Make sure none are highlighted (white).
2	Select the first of the two tracks to swap.
2	Select the second of the two tracks to swap.
4	On the Chart Window Menu Bar click **Tracks > Swap Track**.
5	Observe the track tags and track data swap.
6	Deselect all tracks again. Make sure none are highlighted (white).

Vector line activating and adjusting procedure

When to use

1. Activate vector lines on every chart window whenever you set up an ODP console for sector operations (after it has been logged off).
2. Adjust the vector line time period (line length) whenever necessary to project the positions of tracks.

General rules

1. All chart windows shall be set to display vector lines (instead of speed leaders).
2. Vector lines shall always be activated on all chart windows.
3. The VTS operator shall always know the current vector line projection time setting in each chart window.

Procedure

Perform the following steps to activate vector lines and to adjust the time period for vector lines.

Step	Action
1	On the Chart Window Menu Bar select **Tracks > Vector Lines**.

The SPECIAL PLOT CONTROLS dialog window will appear.

2	**Turning on vector lines instead of speed leaders:** In the SPEED LEADER MODE box select Vector Line.
3	**Setting the length of the vector lines:** In the SPEED LEADER MODE box TIME PROJECTION field, highlight the current entry and type the desired projection time period into the field.
4	Press APPLY to apply changes.
5	Press EXIT to close the SPECIAL PLOT CONTROLS dialogue window.

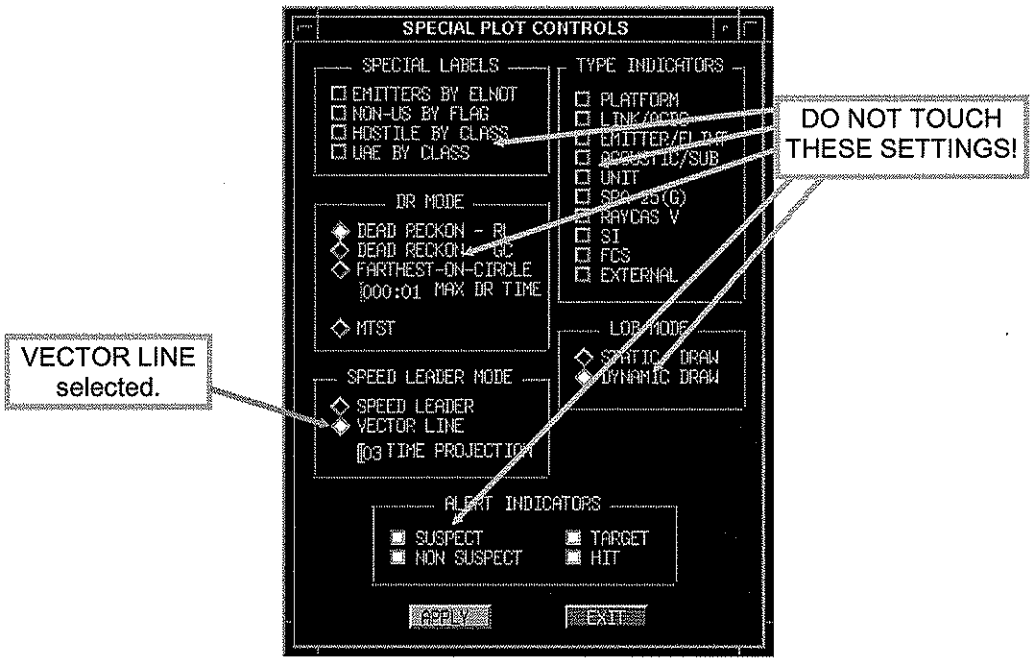
Continued on next page

Vector line activating and adjusting procedure, Continued

Diagram

The diagram below shows the SPECIAL PLOT CONTROLS dialogue window.

WARNING: Only manipulate the settings in the SPEED LEADER MODE section of this dialogue window. Manipulating the settings in other areas of this window may result in unpredictable computer performance including the loss of tracks and track data.



Activating dynamic declutter

Explanation

The dynamic declutter function continuously monitors the positions of all of the track tags as the track icons move around on the chart windows.

When two track tags overlap, the dynamic declutter function automatically moves one of them to an open space. To help the VTS operator easily correlate track tags with track icons, the dynamic declutter function connects each track tag to its track icon by a line drawn between the two.

Note: Dynamic declutter does not work for Advisories, Overlays, or chart features. It only works for vessel track tags.

When to use

Activate dynamic declutter on every chart window whenever you set up an ODP console for sector operations.

Procedure

Perform this procedure to activate dynamic declutter.

On the Chart Window Menu Bar select
Tracks > Declutter > Dynamic Declutter.

Perform this procedure to deactivate dynamic declutter.

On the Chart Window Menu Bar select
Tracks > Declutter > No Declutter.

Special function
Manual declutter

While the dynamic declutter is activated you can override the dynamic declutter for one track at a time.

To do so:
1. Position the mouse pointer over a tract tag.
2. Hold down the middle mouse button.
3. Drag the track tag to a new location.

Once you perform this special function this track tag will remain in the manually set position until the chart window is panned.

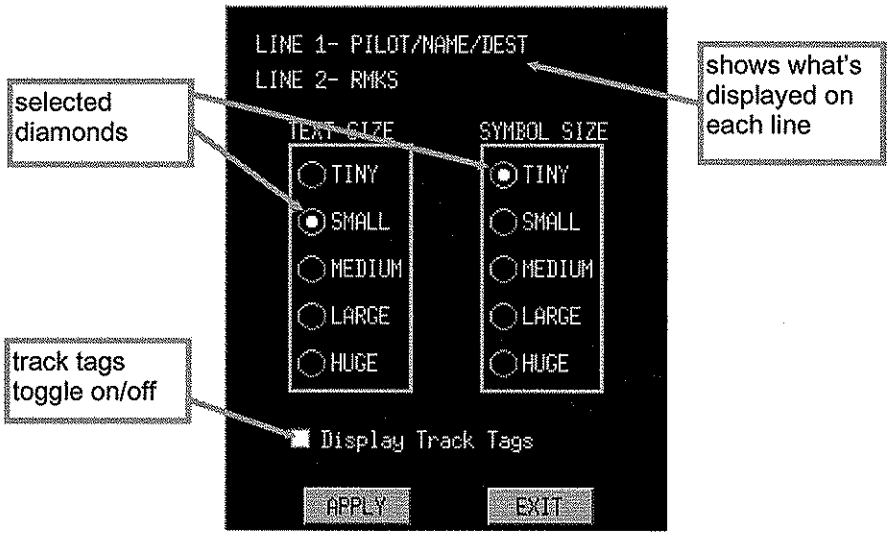
Setting the track tag text and symbol size

Procedures

Perform the following steps when setting the track tag text and symbol size. Refer to the diagram below the table.

Note: These settings only apply to the chart window in which the settings are made.

Step	Action
1	On the Chart Window menu bar click Tracks; select Track Tags on the pull-down menu. • The TRACK TAGS dialogue box will appear.
2	Click the Text Size and Symbol Size diamonds to select the default sizes of the text and symbols.
3	Click the Display Track Tags diamond to toggle the track tags ON or OFF.
4	Check the Line 1 and Line 2 entries to confirm that the track tags' fields match the required defaults. • If Line 1 or Line 2 has the wrong contents, contact the system administrator immediately.
5	Push the APPLY button to accept your changes.
6	Push the EXIT button to close the dialog box.



Track Tags dialogue box

Appendix A

Track status explanation

Terminology

A track is a combined vessel record and transit record represented on the display by an icon and track tag or in the transit history table as a record.

Track status is a category in which the VTS computer system holds a track.

A transit starts at the vessel's Sailing Plan report and concludes at the vessel's Final report.

Explanation

As a vessel passes through the various stages of its participation in the Vessel Movement Reporting System, its track status changes.

The following table describes each track status.

Track status	Description
UNDERWAY	• The vessel has made its Sailing Plan report. • Transit history start time is recorded. • Track status remains UNDERWAY throughout the track's transit. • There is an icon representing the vessel on the display. Note: The track status "UNDERWAY" has nothing to do with the nautical Rules of the Road definition of "underway."
DOCKED	• The vessel has made its Final report at the dock or at a VTS area boundary. • Transit history ending time is recorded and the transit history is saved. • There is no icon on the display for this track.
ANCHORED	• The vessel has made its Final report in an anchorage. • The transit history ending time is recorded and transit history is saved. • There is an anchor-shaped icon representing the vessel on the display.
OUT OF AOR	• The vessel has made its Final report without tying up—participation rules applicability changed due to a change in vessel configuration. • The transit history ending time is recorded and transit history is saved. • The operator is given the option to delete the icon from the display.
prospective flag	Prospective is a "flag" that is added to a DOCKED, ANCHORED, or OUT OF AREA vessel's record to indicate that the vessel has a scheduled transit. The PROSPECTIVE flag is automatically removed and the status is shifted to UNDERWAY when the VTS controller launches the track. The PROSPECTIVE flag causes the vessel record to appear on the Prospective List.

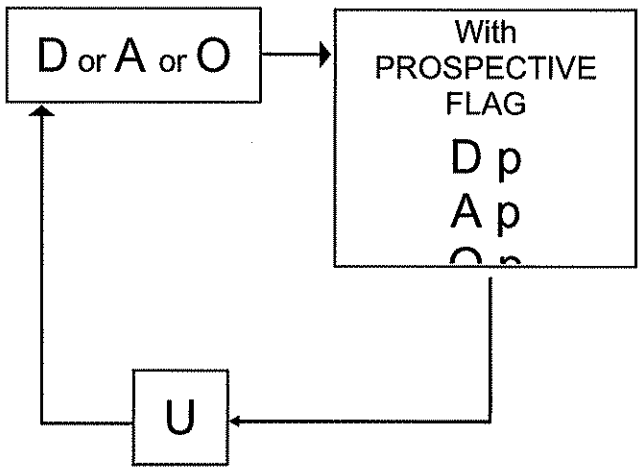
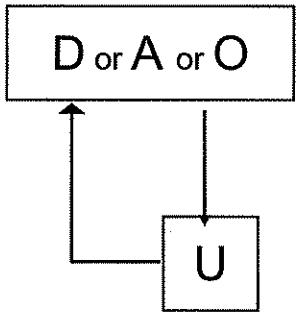
Continued on next page

Track status explanation, Continued

Block Diagram

The table and diagrams below show how tracks progress through the track statuses.

Abbreviations
U = UNDERWAY
D = DOCKED
A = ANCHORED
O = OUT OF AOR
p = prospective flag

Type of track	Track Status Progression
Scheduled transit *Transit published on Pilots list, Marine Exchange List, etc.* • *ships* • *Navy*	
Unlisted transit *Vessel makes a Sailing Plan report with no prior notice.* • *towing vessels* • *ferries*	

Track Status Progression Block

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Track status explanation, Continued

Example 1

The following table depicts one listed vessel's track status as it changes through every possible track status.

Abbreviations
U = UNDERWAY
D = DOCKED
A = ANCHORED
O = OUT OF AOR
p = prospective flag

Date and Time	Event	Track status becomes
02 0200	The tanker Tavi docks at Arco and the VTS controller activates VAM: DOCK.	D
02 0600	VTS watch supervisor receives the faxed Pilots List which shows tanker Tavi scheduled to depart for A9 at 1130. The supervisor puts that information on the Prospective list.	Dp
02 1130	The tanker Tavi makes a Sailing Plan report. The VTS controller "launches" the track.	U
02 1155	The tanker Tavi reports underway from Arco bound for Anchorage 9.	U
02 1330	The tanker Tavi reports anchored in Anchorage 9. The VTS controller activates VAM: ANCHOR.	A
02 1600	VTS watch supervisor receives the faxed Pilots List which shows the tanker Tavi scheduled to depart for sea at 2200. The supervisor puts that information on the Prospective list.	Ap
02 2205	The tanker Tavi makes a Sailing Plan report. The VTS controller activates VAM: UNDERWAY.	U
02 2235	The tanker Tavi reports anchor up and underway from Anchorage 9 bound for sea.	U
03 0030	The tanker Tavi reports passing Bodega Head outbound and checks out. The VTS controller activates VAM: DOCK.	D
05 1200	VTS watch supervisor receives the faxed Pilots List which shows that the Tavi is scheduled to arrive from sea at the Pilot Station at 1600. The watch supervisor puts the information for the tanker Tavi onto the Prospective List.	Dp
05 1400	The tanker Tavi makes a Sailing Plan report near Cordell Bank indicating that the vessel is approaching the VTS boundary inbound.	U

Continued on next page

Track status explanation, Continued

Example 2 This table depicts five different unlisted vessels' track statuses changing in the logical sequence.

Event	Track status... From	Track status... To
A ferry makes a Sailing Plan report to VTS at Clay Street.	D	U
A Coast Guard 41-footer makes a Sailing Plan report at Station San Francisco.	D	U
A towing vessel makes a Sailing Plan report to VTS at Richmond.	D	U
A ferry makes a Final report to VTS at the Ferry Building.	U	D
A towing vessel makes a Final report at APL.	U	D

Example 3 This table depicts two towing vessels' track statuses changing in logical sequence. In this example you see the VAM: OUT OF AOR function in use.

Time	Event	Track status... From	Track status... To
02 0200	The tug Marin makes a Sailing Plan report from Arco to A9 pushing two oil barges of 900 GT each (together over 1600 GT). The Marin indicates that it will hand off one of the barges to the tug Foss in A5, then proceed to A9 with the other. • VTS operator launches the track and sets the icon to TOW-H.	D	U
Tug Foss transits light from home dock to A5.			
02 0300	Tug Foss makes a complete Sailing Plan report from A5 indicating that it now has one of the tug Marin's barges and that the tug Foss will be pushing the barge to Huntway Oil in Benicia. VTS operator launches the tug Foss and sets the icon to TOW-G since the one barge is under 1600 GT.	D	U
	VTS operator activates VAM: OUT OF AOR on the tug Marin. Icon is not deleted; transit data are updated, and icon is changed to TOW-G.	U	U
Now there are two tugs, each with one barge.			
02 0500	The tug Marin makes a Final report alongside the tanker Tavi in A9. VTS operator activates VAM: DOCK.	U	D
02 0650	The tug Foss makes a Final report at Huntway. VTS operator activates VAM: DOCK.	U	D

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Track status explanation, Continued

Block Diagram

The table and diagrams below show how tracks progress through the track statuses.

Abbreviations
U = UNDERWAY
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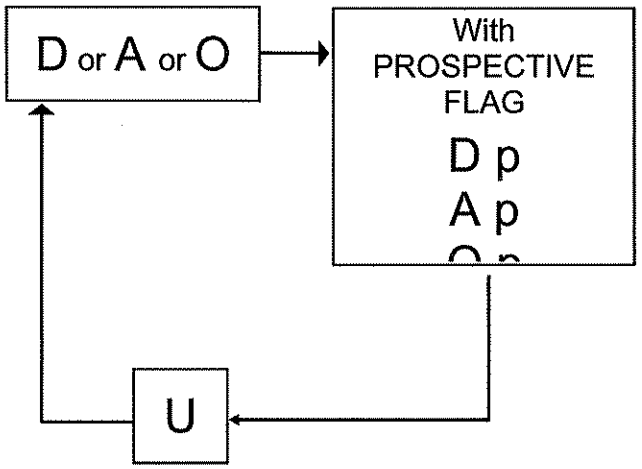
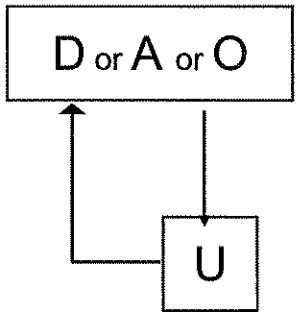
p = prospective flag

Type of track	Track Status Progression
Scheduled transit *Transit published on Pilots list, Marine Exchange List, etc.* • *ships* • *Navy*	
Unlisted transit *Vessel makes a Sailing Plan report with no prior notice.* • *towing vessels* • *ferries*	

Track Status Progression Block

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Track status explanation, Continued

Example 1

The following table depicts one listed vessel's track status as it changes through every possible track status.

Abbreviations
U = UNDERWAY
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A = ANCHORED
O = OUT OF AOR
p = prospective flag

Date and Time	Event	Track status becomes
02 0200	The tanker Tavi docks at Arco and the VTS controller activates VAM: DOCK.	D
02 0600	VTS watch supervisor receives the faxed Pilots List which shows tanker Tavi scheduled to depart for A9 at 1130. The supervisor puts that information on the Prospective list.	Dp
02 1130	The tanker Tavi makes a Sailing Plan report. The VTS controller "launches" the track.	U
02 1155	The tanker Tavi reports underway from Arco bound for Anchorage 9.	U
02 1330	The tanker Tavi reports anchored in Anchorage 9. The VTS controller activates VAM: ANCHOR.	A
02 1600	VTS watch supervisor receives the faxed Pilots List which shows the tanker Tavi scheduled to depart for sea at 2200. The supervisor puts that information on the Prospective list.	Ap
02 2205	The tanker Tavi makes a Sailing Plan report. The VTS controller activates VAM: UNDERWAY.	U
02 2235	The tanker Tavi reports anchor up and underway from Anchorage 9 bound for sea.	U
03 0030	The tanker Tavi reports passing Bodega Head outbound and checks out. The VTS controller activates VAM: DOCK.	D
05 1200	VTS watch supervisor receives the faxed Pilots List which shows that the Tavi is scheduled to arrive from sea at the Pilot Station at 1600. The watch supervisor puts the information for the tanker Tavi onto the Prospective List.	Dp
05 1400	The tanker Tavi makes a Sailing Plan report near Cordell Bank indicating that the vessel is approaching the VTS boundary inbound.	U

Continued on next page

Track status explanation, Continued

Example 2 This table depicts five different unlisted vessels' track statuses changing in the logical sequence.

Event	Track status... From	Track status... To
A ferry makes a Sailing Plan report to VTS at Clay Street.	D	U
A Coast Guard 41-footer makes a Sailing Plan report at Station San Francisco.	D	U
A towing vessel makes a Sailing Plan report to VTS at Richmond.	D	U
A ferry makes a Final report to VTS at the Ferry Building.	U	D
A towing vessel makes a Final report at APL.	U	D

Example 3 This table depicts two towing vessels' track statuses changing in logical sequence. In this example you see the VAM: OUT OF AOR function in use.

Time	Event	Track status... From	Track status... To
02 0200	The tug Marin makes a Sailing Plan report from Arco to A9 pushing two oil barges of 900 GT each (together over 1600 GT). The Marin indicates that it will hand off one of the barges to the tug Foss in A5, then proceed to A9 with the other. • VTS operator launches the track and sets the icon to TOW-H.	D	U
Tug Foss transits light from home dock to A5.			
02 0300	Tug Foss makes a complete Sailing Plan report from A5 indicating that it now has one of the tug Marin's barges and that the tug Foss will be pushing the barge to Huntway Oil in Benicia. VTS operator launches the tug Foss and sets the icon to TOW-G since the one barge is under 1600 GT.	D	U
	VTS operator activates VAM: OUT OF AOR on the tug Marin. Icon is not deleted; transit data are updated, and icon is changed to TOW-G.	U	U
Now there are two tugs, each with one barge.			
02 0500	The tug Marin makes a Final report alongside the tanker Tavi in A9. VTS operator activates VAM: DOCK.	U	D
02 0650	The tug Foss makes a Final report at Huntway. VTS operator activates VAM: DOCK.	U	D

Appendix B

Tracking status

Definition A tracking status indicates the means by which the VTS system is keeping the track correlated on the display with the vessel's real-world position.

List The following table describes each tracking status.

Tracking status	Description
GOOD	Strong radar track. The radar processor is automatically updating the track icon's position.
COAST	Weak radar track. Track icon's position is still automatically updated but the radar processor is "experiencing difficulty" maintaining continuous GOOD radar track. If tracking status remains COAST too long tracking status will go to LOST.
LOST	Dropped radar track. LOST is a temporary tracking status to alert you that the radar processor has lost (dropped) track of the radar target. Tracking status will only remain LOST for a very short period. After that it will either go to MANUAL or SR (Standard Route) status.
MANUAL	Stationary track that requires you to "manually" reposition it in order to keep up with the vessel's position.
~~SR (Standard Route)~~	~~Dead-reckoned track. The track icon automatically moves along the course of a pre-established Standard Route at the pre-set speed of the Standard Route or if it went SR from LOST at the speed last held by the radar processor.~~
~~EOR~~	~~An SR track that has reached the end of its route.~~

Determining The table below explains how tracking status is reported to the operator.

Track type	Sector Summary The details of the tracking status…	FARMS character on track tag The general tracking status…
Radar	"GOOD", "COAST", or "LOST"	**R**
Manual	"MANUAL" or "EOR"	**M**
~~Standard Route~~	~~"SR" and the SR number~~	~~**S**~~

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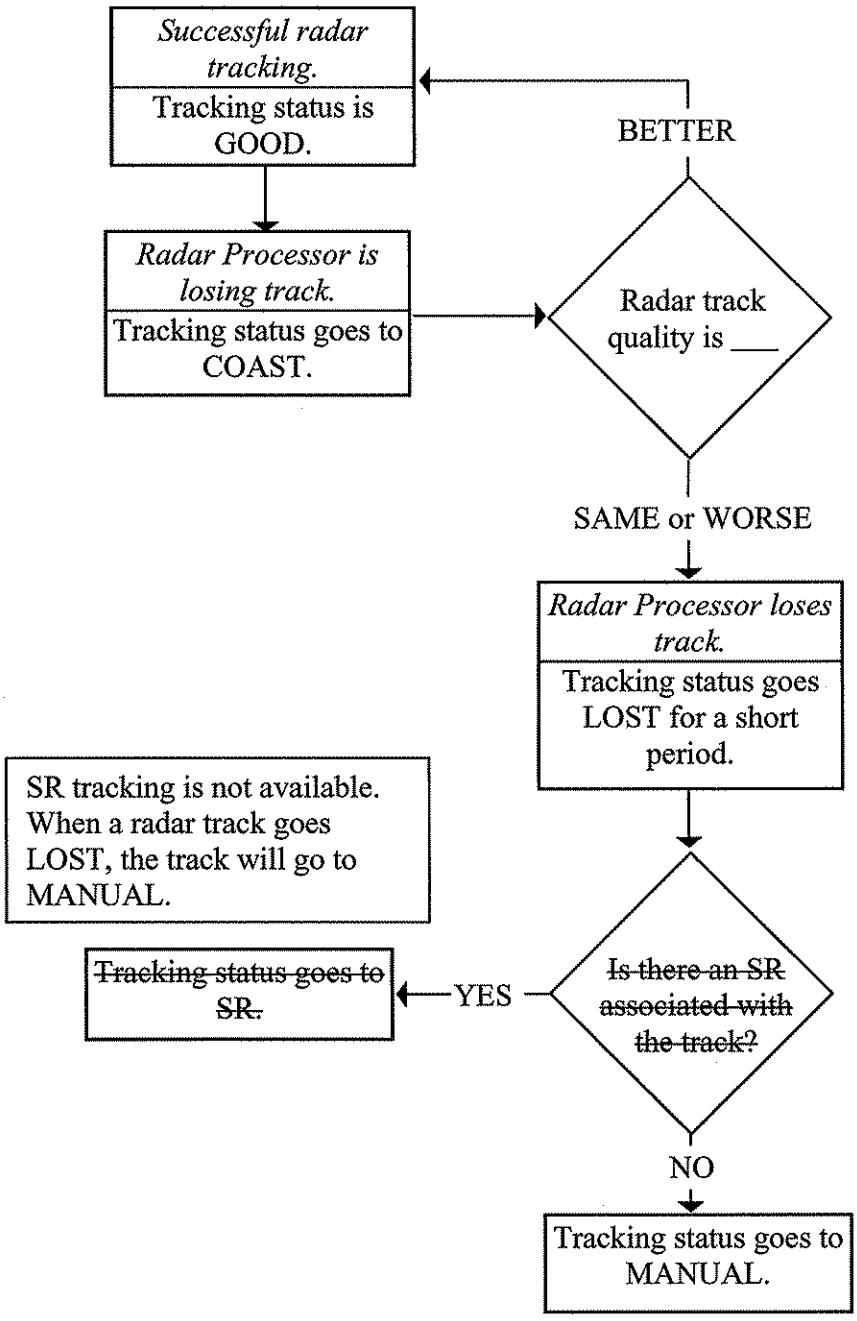
Tracking status, Continued

Block Diagram The following diagram shows the logical progression of a track's tracking status as it changes from GOOD to COAST to LOST to MANUAL or SR.



Logical progression of tracking status

Appendix C

Radar site selection instructions

Radar coverage

The following table shows radar sites and describes the general geographic areas that each radar site covers best.

- Primary refers to the area that the site optimally covers.
- Secondary refers to the area that the site can be relied upon to cover under special circumstances (e.g., primary site is inoperable or will not track).

Radar site	Use for tracks...	
Point Bonita	Primary	West of the Golden Gate Bridge (GGB).
	Secondary	GGB to Treasure Island via the Eastbound traffic lane
Mare Island	Between the Carquinez Bridge and (just west of) Pinole Point.	
Point San Pablo	Primary	Between Pinole Point and the Richmond Bridge.
	Secondary	Central bay east side and Larkspur Channel area.
Yerba Buena Island	Central bay, south San Francisco Bay, and Oakland-Alameda Estuary.	

The best radar site

Generally the best radar site is the one closest to the target's position. The farther a target gets from a radar site the less accurate radar tracking from that site will be.

Choosing a site that is not displayed

It is possible to track from a radar site even if that site isn't displayed on a given chart window.

For example: On the Bay Sector ODP the central bay chart doesn't include Point San Pablo (PSP) radar video. However, since the Bay Sector ODPs are subscribed to the PSP radar that radar is listed when you attempt to start a radar track.

Why would you do such a thing?

In areas where two sites have coverage (e.g., near the RLW) or in areas where one site is shadowed (e.g., Larkspur Channel area) you may have success tracking with an adjacent site even though the adjacent site isn't displayed.

In this case you would use the radar video from the displayed site as a reference for clicking on the screen; then you would select the adjacent site from the Radar Selection Menu.

Warning: When you choose a site that's not displayed you run the risk of accidentally acquiring the wrong target due to misalignment between the two sites.

Appendix D

Factors affecting radar display and tracking

WARNING: Radar video masking

All land areas and bridges are masked. That is, these areas are made invisible to the radar system.

In some places these masks extend slightly into the water areas.

WARNING: Vessels may disappear from radar when they come close to land or bridges.

Leading the radar video

When prompted by the position prompt to click on radar video, do not click directly on the mass of the radar target. Click slightly ahead of the radar target. This procedure is know as "leading the radar video."

Why?

The computer display receives radar information in two ways:

1. Radar video (image that you see)
2. Radar track data (where the computer "believes" the radar track is).

The ODPs update the positions of the radar track data more frequently than they update the radar video. Therefore, it is likely that the radar track (that which you are really acquiring) is slightly ahead of the radar video (that which you see) by approximately six seconds.

Bridges

Sometimes the system will not track targets as they pass under bridges. The track icon may separate from the radar video and begin to track the bridge or may go LOST and stop on the bridge.

Shadows

There are many radar shadows in VTS's radar coverage area. The computer system will not reliably track targets when they pass through radar shadows if the target is obscured too long.

Sudden excessive video

The radar processor is a computer. There is a limit to the amount of track data that the radar processor can handle.

Remember, all of the radar video that you see is regarded by the radar processor as potential tracks—it is processing everything. If weather or sea conditions suddenly worsen—thereby increasing the amount of radar return—radar tracking will suffer. It is important to take corrective actions quickly after noticing that conditions have worsened.

Chapter 15

Prospective List

Introduction

Overview

This section contains the procedures for creating and working with the prospective list.

In this section

This section covers the following topics.

Processing the Prospective List

What is Prospective?

A prospective record is a temporary record stored in a database for an upcoming transit—a transit that is projected on the Pilot's list or Marine Exchange List, etc. It contains transit information such as estimated time of departure, vessels destination, vessel's side to the dock.

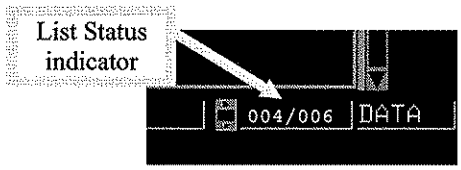
If there is a prospective record in the database it will show up—containing all of the already-entered transit information—when the vessel checks in to VTS and the operator types the vessel's name in the UTDC. The operator need not retype the prospective information.

When the track is launched and the transit is started the prospective record disappears from the database and all of the prospective information is transferred to the active transit record.

Already Prospective?

How can you tell if a vessel is already prospective?

1. When you bring the vessel record up in the UTDC the form populates with common prospective information. (E.g., the FM field and TO field are filled in; the side to the dock code is in the HAND field).
2. When you bring the record up in the UTDC the List Status indicator at the bottom of the UTDC shows numerals indicating record number *x* of *y*. In the DATA mode this field is usually empty.



Lower right corner of the UTDC

Process

The following describes the five-stage process for making the prospective list.

Stage	Description
1	Review resources and add each vessel to the prospective list.
2	Purge non-anchored vessel records from the prospective list for postponed transits.
3	Purge anchored vessel records from the prospective list for postponed transits.
4	Annotate records with Special Categories.
5	Run and print the prospective list report.

Adding a vessel record to the prospective list

Preparation

For this procedure, make the following preparations.

- Get an up-to-date pilot's list.
- Make necessary telephone calls to ascertain independent ship movements.
- Go to ODP 1, the watch supervisor console.

Procedure

Perform the following steps to enter the prospective information.

Step	Action
1	Bring the vessel record into the UTDC by typing.
1a	If you discover that the vessel isn't in the VID table: 1. Clear out the UTDC. 2. Add the vessel to the VID table with the Vessel Maintenance Form. 3. Go back to Step 1. Note: If you do not have time to process the new VID table entry (MSIS, VMF) before the vessel checks in with VTS, enter the new vessel into the VID table as an UNK using the UTDC; then make it prospective.
2	**FM** and **TO** fields: Fill in the FM and TO fields.
3	**ETD** field: Type the ETD (time the vessel will enter the VTS area). Note: Only the watch supervisor's console has the ETD field.
4	**HAND** field: • Type "PS" for vessels that are or will be moored port side to the dock. • Type "SS" for vessels that are or will be moored starboard side to the dock.
5	Strike [Ctrl O] to save the record to the prospective list.

Editing existing prospective information

To edit existing prospective information simply:

1. bring the vessel record into the form;
2. make the necessary changes;
3. strike [Ctrl O] to save the changes.

Purging vessel records from the Prospective List

Procedure

Perform the following steps to purge vessel records from the prospective list.

Procedure 1—NON-anchored vessels

Step	Action
1	Bring the vessel record into the UTDC by typing.
2	Strike [Ctrl D] to delete the prospective record.
3	Answer YES to the warning prompt.

WARNING: Do not use [Ctrl D] to purge anchored prospective records. Doing so will delete the transit record and will delete the track icon from the screen.

Procedure 2—Anchored vessels

1	Bring the vessel record into the UTDC.
2	Clear out the ETA field.
3	Clear out any other fields holding prospective information. • HAND • RMKS
4	Strike [Ctrl O] to save the changes.

Entering Special Categories

Purpose

When added to a vessel's Vessel ID Table record the Special Category serves as a flag for alerting the operator to special concerns that apply to the vessel.

When a vessel with a Special Category is brought into the UTDC the SCAT field contains the Special Category code and the code is highlighted in red.

SCAT defined

Following is a list of Special Categories and a brief explanation as to their meanings.

SCAT	Explanation
MSO	Marine Safety Office / Captain of the Port hold is in effect.
HAZ	This is a hazardous materials transit by CFR definition.
LOD	Letter of deviation has been issued. (Look for hard copy.)
SIV	Nation of registry makes it a special-interest vessel (per 33 CFR 160 subpart c).
SOLAS	Detention has been issued for violation of international Safety of Life at Sea conventions.
TUGESC	Special case (not a routine tanker transit) requiring tug escort.
DEEP	There are draft-related concerns for this transit.
LAW	Law enforcement lookout is requested for this vessel.

Procedures

Perform the following steps to enter, change, or delete Special Categories.

Step	Action
Part 1—In the Vessel Maintenance Form	
1	Activate the Vessel Maintenance Form.
2	Query for the record of the vessel whose Special Category needs updating.
3	Enter the Special Category in the Special Category field. • To remove a Special Category, clear the field.
4	Click OK.
5	Exit the form.
Part 2—In the UTDC	
6	Bring the record up in the UTDC by typing.
7	Verify that the change was effective.
8	Strike [Ctrl O] to save the changes (even if you made no direct changes via the UTDC).

Viewing and printing the prospective list report

What is it?

The prospective list report is a list showing scheduled vessel movements.

The list is intended to be "sector-operator friendly" with traffic management-oriented data grouped together and sorted in a useful way.

Procedure

Perform the following steps to run and print the prospective list report.

Step	Action
1	Activate Reports on the Main Menu bar; select P-List. • The Runtime Parameter Form window appears.
2	Push Run Report. • A preview window appears on the screen containing the report.
3	Push Print if you want to print the report. Otherwise skip to Step 5 and close the report window. • The Print Job window appears.
4	Push Print (in the Print Job window). • The report prints.
5	Push Close when finished. • The Report window disappears.

Chapter 16

REVIEWED: August 2005

Zetron Communications System

Introduction

Overview

This section contains the procedures for operating the Zetron communications control system.

In this section

This section covers the following topics.

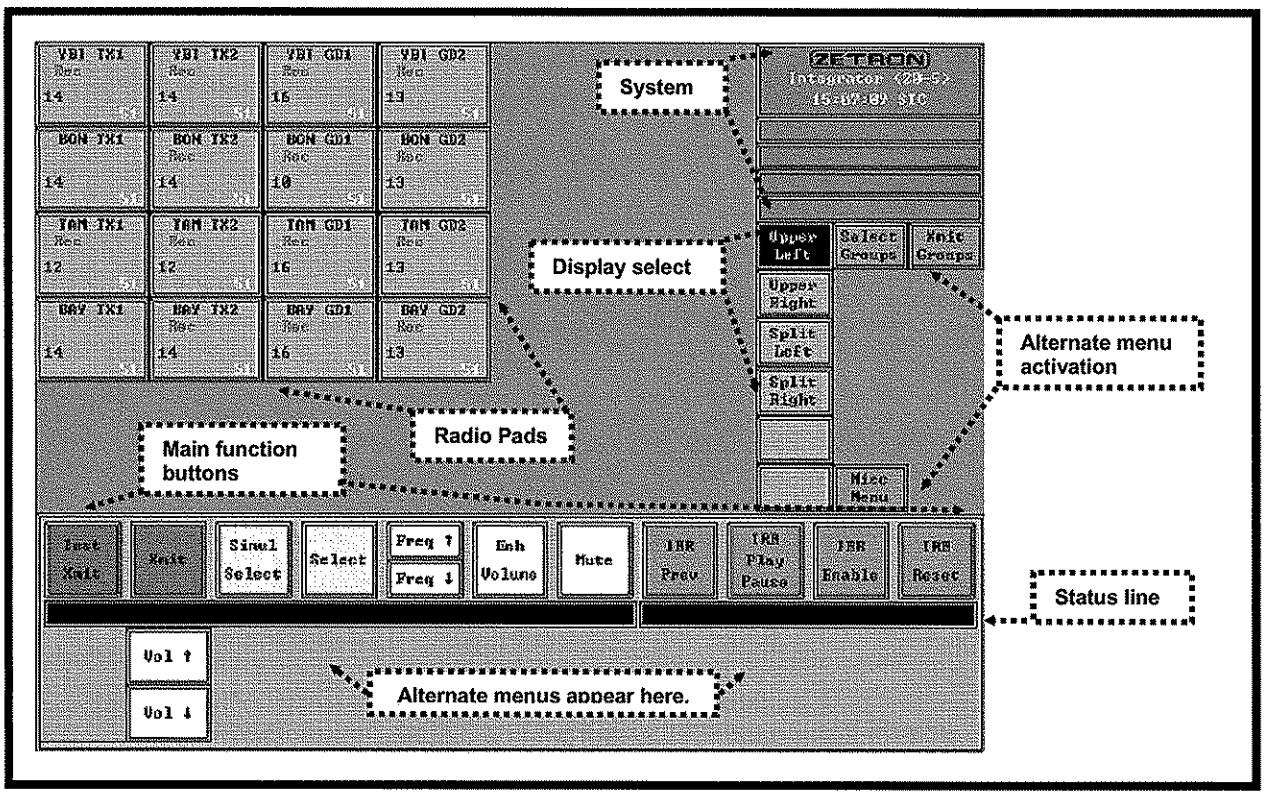
REVIEWED: August 2005

Status display and control screen

Functionality All of the controls and system status indications are on one screen.

Parts The Zetron control and display screen has the following areas.

Area	Function
1. System	Refer to Zetron Model 4217NT / iNTegrator Installation and Operation Manual pages. 3-5, 3-6, and 5-2. Special: Line three shows All Mute timeout countdown.
2. Radio pads	Radio pads are used for selecting and highlighting radios for transmitting and receiving, and for controlling (channel selection, volume adjustment, etc.).
3. Display select	Used for choosing a radio pad display configuration.
4. Alternate menu selection	Used for activating alternate function menus that appear at the bottom of the screen.
5. Status line	Used to display text messages for specific menu operations.
6. Main function buttons	Contains the primary control buttons for radio selection, adjustment, transmitting, and call playback.
7. Alternate menu display	Shows alternate menus that are activated via the alternate menu buttons.



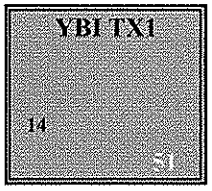
Default VTS San Francisco Zetron console parts and configuration

Highlighted versus selected

Highlighted

This radio pad is highlighted only.

Procedure: Just touch the pad to highlight.



For this radio you can:

- control volume
- change frequency
- `Select` (not `Simul select`).

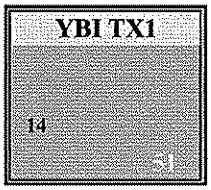
For this radio do not:

- activate IRR because you will not hear the results;
- `Mute` or `Enh Volume` because you will not hear results.

For this radio you will not receive any audio through the headset.

Selected

This radio pad is selected only.



For this radio you can:

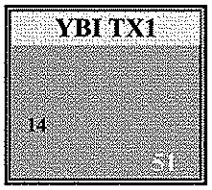
- guard (listen to) the audio through your headset
- `Xmit` (simulcasting on all selected radios).

For this radio do not:

- `Xmit` unless you intend to simulcast on all selected radios
- push the foot pedal or the belt-clip key—only the highlighted radios will transmit using those.

Both

This radio pad is both highlighted and selected

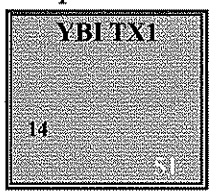


For this radio you can:

- do everything as with selected or highlighted radio pads;
- transmit using the foot pedal, belt-clip, or `Instant Xmit`
- control the IRR.

Neither

This pad is neither highlighted nor selected.



For this radio you can only observe channel activity.

No received audio will be heard in your headset.

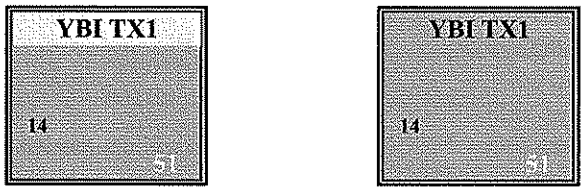
Selecting and deselecting radios

What it means

When a radio is *selected*:
- audio from that radio is heard in the headset;
- pushing the `Xmit` button keys the radio if it is a transmitter.

Indication

When a radio is selected its pad shows a green bar across the top.



Single radio selection

To select one radio and deselect all other radios instantly:
1. make sure the `Simul Select` button is in the up position;
2. highlight the pad for the radio to be selected;
3. push the `Select` button.

Note: When the `Simul Select` button is down, pushing the `Select` button:
- will toggle the highlighted radio between selected and deselected;
- will not deselect all other radios.

Simultaneous radio selection

Any number of radios can be selected at once.

To select more than one radio simultaneously:
1. push the `Simul Select` button down;
2. touch the pad for each radio that you want to select.

Group select

To instantly select a predefined group of radios:
1. push `Select Groups`;
2. touch the button for the desired group.

De-selection

To deselect a radio:
1. push the `Simul Select` button down;
2. touch any selected radio pad. The green bar will disappear.

Transmitting (keying radios)

Three methods

There are three methods to key a radio. The effect of each method is as follows.

Method 1. Transmits on the highlighted radio ONLY—doesn't transmit on the selected radios.

Method 2. Transmits on all selected radios simultaneously (simulcasting).

Method 3. Transmits on a special, predefined group of radios and disregards highlighted or selected radios (simulcasting).

Important: Under normal conditions, use Method 1 only. Simulcasting can cause radio interference and echo making your transmission unreadable.

Transmit on highlighted radio

To instantly transmit on only the highlighted radio do one of the following.

- Push and hold the `Inst Xmit` (Instant Transmit) button.
- Step on the foot pedal.
- Depress the belt-clip.

Transmit on all selected radios

Push and hold the `Xmit` button to transmit simultaneously on all selected radios.

Transmit groups

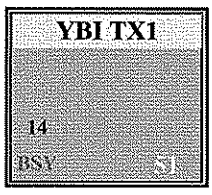
To instantly transmit on a predefined group of radios—thereby overriding all radio selection and highlighting—do the following.

1. Push the `Xmit Groups` button down.
2. Push and hold the desired transmit group button.
3. Release the `Xmit Groups` button when finished.

WARNING: If a radio in the transmit group is not selected, no received audio will be heard from that radio through your headset.

Indication

When a radio is keyed (and is transmitting) the BSY indicator will show.



Selected radio showing BSY indicator

Note: When you are using Method 2, the BSY indicator will show on all selected radio pads regardless of whether the radio is a transceiver or a guard receiver.

Receiving an incoming call

Selected radios

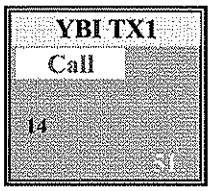
Received radio traffic on selected (green bar across the top) radios will be heard through your headset. If a radio is not selected, you will not hear a call received on that radio.

Indication

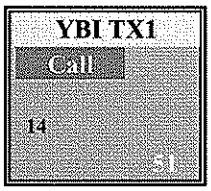
When a radio call is detected, the CALL indicator will show.

Color scheme

Colors	Meaning
Red on White	IRR not enabled
White on Red	IRR is enabled



Selected radio without IRR enabled receiving a call.



Selected radio with IRR enabled receiving a call.

Note: Incoming calls on unselected radios will indicate exactly as with selected radios.

Hearing yourself

You will never hear yourself transmit in your own headset. Your ear piece will be silent whenever your console is keyed. This is done to prevent unwanted digital delays and echo from interrupting your call.

Hearing other operators

If your console is configured to guard another operator's transmit frequencies, you will hear the other operator's traffic if it is received by one of your radios.

Expect a delay in the received audio.

Adjusting radio volume

Terminology

1. `Mute` instantly reduces the highlighted channel's volume to a preset volume level. Muting does not silence the channel.
2. `Enh Volume` (Enhance volume) instantly boosts the highlighted channel's volume to the preset Enh Volume level.

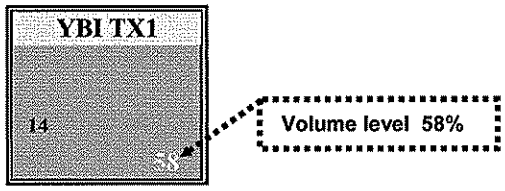
Note: See Appendix A for volume level preset values.

Single channel volume adjustment

To adjust the volume for a radio channel, do the following.

1. Highlight the desired pad.
2. Push the `Vol ↑` or `Vol ↓` button.
3. Watch the volume level change in increments of three percentage points.

Volume minimum and maximum settings are pre-set. See Appendix A.



Selected and highlighted channel showing volume level 58

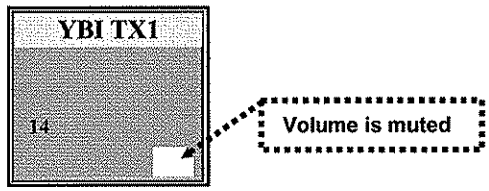
Mute a channel

To mute a radio channel, do the following.

1. Highlight the desired pad.
2. Push the `Mute` button.
3. The volume level indicator will turn into a yellow square.

To un-mute a radio channel simply highlight the muted channel's pad and push the `Mute` button again.

Default setting: During routine operations all non-channel 14 or channel 12 radios should be muted so that the operator can differentiate between calls on the VTS assigned frequencies and other calls.



Selected and highlighted channel showing volume muted

Continued on next page

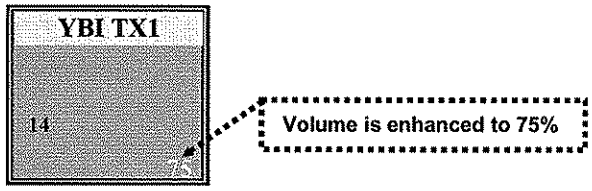
Adjusting radio volume, Continued

Enhance (boost) a single channel's volume

To Enh Volume (boost the volume) for a single radio channel, do the following.

1. Highlight the desired pad.
2. Touch the `Enh Volume` button.
3. The volume level indicator will show the enhanced volume and the number will blink while Enh Volume is on.

To disable Enh Volume for a channel, simply highlight the enhanced channel; then push the Enh Volume button again.



Selected and highlighted channel showing volume enhanced to 75 percent

Note: If the highlighted channel's volume is already adjusted to a value greater than the Enh Volume value, the Enh Volume feature will actually reduce the volume to the preset Enh Volume value.

Changing frequencies

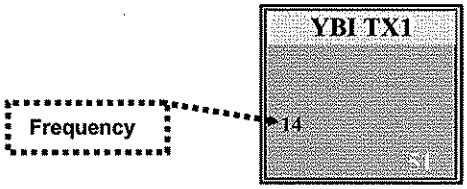
Terminology

1. "Frequency" refers to the VHF FM marine band channel number. (E.g., channel 14 is referred to in the Zetron as frequency 14.)
2. "Pad" refers to a single square in the Radio Channel part of the touch screen.

Procedure

To change a radio frequency do the following.

4. Highlight the desired pad.
5. Touch the `Freq↑` or `Freq↓` button.
6. Watch the highlighted pad's frequency change.



Selected channel showing frequency 14

Default setup

Except when being used under special circumstances all radios channels must always be set to default frequencies.

See Appendix A for default channel frequency settings.

Instant record and recall

Concept of operations

The IRR system works by recording a continuous loop of audio for up to four minutes for each channel. Recorded audio is divided into "calls" by the intervals of silence between the calls.

The total call recording capacity (number of calls) depends on the length of each call.

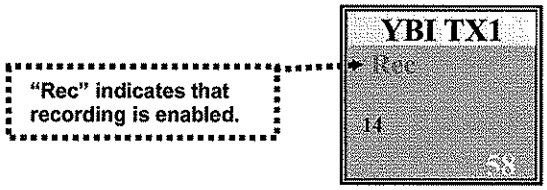
For example: Capacity is one four-minute call or four one-minute calls.

Enabling / disabling recording

Enabling the channel activates the Instant Record and Recall for that channel only.

To enable a channel, do the following.

1. Highlight the desired channel.
2. Push the `IRR Enable` button.



Selected and highlighted channel showing IRR enabled

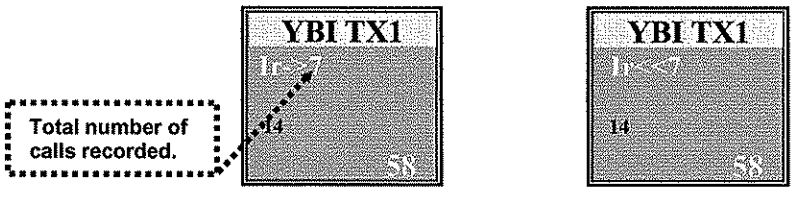
To disable recording, highlight the enabled channel; then push `IRR Enable` again.

Important: All selected channels must be enabled for IRR at all times.

Playing the last recorded call

To play the last recorded call (most recent call heard by you) for a channel, do the following.

1. Highlight the channel.
2. Push the `IRR Play Pause` button once and playback will begin instantly.
3. To rewind **this** call press the `IRR Prev` button once while the audio is playing; then press `IRR Play Pause` again to re-start playback.



2. Playing most recent call 3. Rewinding most recent call

Note: If a call is received or a transmission is initiated while playback is in progress, the playback will be paused.

Continued on next page

Instant record and recall, Continued

Playing earlier recorded calls

To skip through the list of recorded calls to a preceding recorded call do the following.

1. Press the `IRR Prev` button repeatedly until the desired call number is displayed.
2. When the desired call number is displayed, press the `IRR Play Pause` button to start the playback.

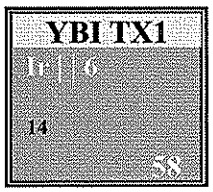
   When a preceding recorded call is finished playing, the IRR will automatically pause at the end of the call and wait for your command.

3. Now you can do any of the following:
   a. rewind and replay this call by pressing `IRR Prev` once, then `IRR Play Pause`;
   b. skip to the preceding call in the list by pressing `IRR Prev` twice; or
   c. halt playback by pressing `Reset IRR`.

Pausing playback

Pausing playback will hold the playback of a call at the pause point indefinitely.

To pause playback simply press the `IRR Play Pause` button during playback.



Playback of call 6 is paused

Resetting the IRR

Resetting the IRR for a channel will instantly halt the playback and return the message pointer to the end of the recorded calls.

To reset the IRR for a channel simply press the `IRR Reset` button.

Reloading configuration

Permission and passwords

Password security: Only watch supervisors shall possess the configuration password. Watch supervisors shall guard the password and prevent it from being compromised.

Only the on-duty watch supervisor is permitted to type in the configuration password and reload a console's configuration. Operators shall never type in the password and shall never reload a configuration on their own.

When and why

Whenever a Zetron console is rebooted or logged out, or when the Zetron console software is restarted, the configuration file automatically reloads on that console.

Warning
Known problem

Reloading a configuration file on one console affects every other console. Once the new configuration is loaded on one console, the accuracy of the radio frequency display on all other consoles is questionable.

These are the requirements to negate the known problem.

- Whenever one console configuration is reloaded, every other console must immediately have its configuration reloaded.
- Never key a radio after a configuration reload until all consoles have been reloaded.

Procedure

Perform the following steps to reload a configuration.

Note: For these procedures you will need the Zetron console mouse and keyboard.

Step	Action
1	On the keyboard, strike Ctrl – T to make the Zetron touch-screen display into a separate window. The window's title bar will now be visible.
2	Right-click on the title bar to activate the pop-up menu.
3	Select "Reload Configuration" from the pop-up menu.
4	Type in the password and press OK. The displays on every Zetron console will gray out, then reset.

Continued on next page

Reloading configuration, Continued

Effect

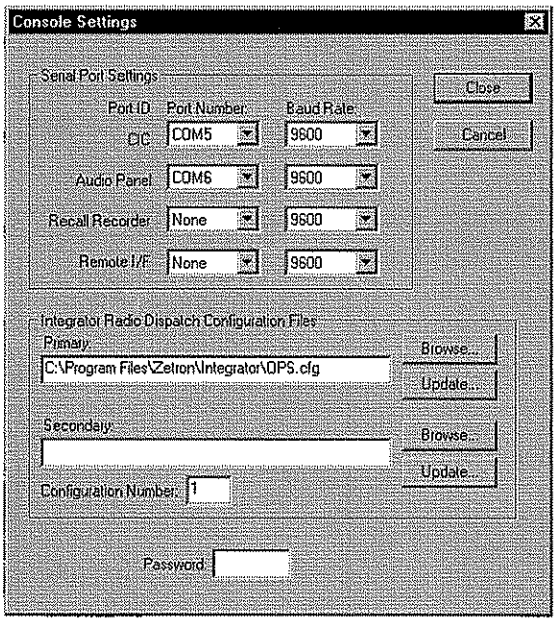
Reloading the configuration affects the following.

Parameter	Effect
Enhanced volume	All are "de-enhanced" on the console that initiates the configuration reload.
IRR channel status	IRR is unaffected by configuration reload.
Muted channels	All are un-muted on the console that initiates the configuration reload.
Radio frequencies	All are reset to the default on the console that reloads. All other consoles inaccurately show the pre-reload frequency configuration.
Selected channels	All channels are deselected on the console that initiates the configuration reload.
Volume levels	All return to the default setting on the console that initiates the configuration reload.

Advanced console settings

The graphic below shows the advanced console settings. These settings should never be changed except under the direct guidance of the system administrator.

The graphic is provided as a job-aid in case these settings are accidentally maladjusted during the course of reloading the configuration.



Appendix A — Default operational settings

Frequency settings

The diagram below shows the default frequency settings.

YBI TX1 14	YBI TX2 14	YBI GD1 16	YBI GD2 13
BON TX1 14	BON TX1 14	BON GD1 10	BON GD2 13
TAM TX1 12	TAM TX2 12	TAM GD1 16	TAM GD2 13
BAY TX1 14	BAY TX2 14	BAY GD1 16	BAY GD2 13

Note: Any of these radios may be changed to other frequencies for short periods if necessary. Whenever possible, operators should use alternate transceivers for alternate frequencies, leaving the routinely-selected transceiver tuned to the default frequency.

Selection and highlighting

The diagrams below show which radios must, during routine operations, be selected and highlighted and set to a "readable" volume.

- Selected radios are indicated with a green (darker) bar at the top.
- Highlighted radios are indicated with blue (dark) background.

Note: Any of these radios may be deselected or muted for short periods when necessary to conduct undisturbed communications on other radios.

Note: Diagrams depict TX1 being used. Settings are the same regardless of which transceiver is in use or if a combination of transceivers is in use.

Sector	Selection diagram
Bay (Left & Right)	YBI TX1 14 / YBI TX2 14 / YBI GD1 16 / YBI GD2 13 BON TX1 14 / BON TX1 14 / BON GD1 10 / BON GD2 13 TAM TX1 12 / TAM TX2 12 / TAM GD1 16 / TAM GD2 13 BAY TX1 14 / BAY TX2 14 / BAY GD1 16 / BAY GD2 13
Ocean & Delta	YBI TX1 14 / YBI TX2 14 / YBI GD1 16 / YBI GD2 13 BON TX1 14 / BON TX1 14 / BON GD1 10 / BON GD2 13 TAM TX1 12 / TAM TX2 12 / TAM GD1 16 / TAM GD2 13 BAY TX1 14 / BAY TX2 14 / BAY GD1 16 / BAY GD2 13
Supervisor	YBI TX1 14 / YBI TX2 14 / YBI GD1 16 / YBI GD2 13 BON TX1 14 / BON TX1 14 / BON GD1 10 / BON GD2 13 TAM TX1 12 / TAM TX2 12 / TAM GD1 16 / TAM GD2 13 BAY TX1 14 / BAY TX2 14 / BAY GD1 16 / BAY GD2 13

Chapter 17

Reviewed: August 2005

Coordination of Communications for Union Pacific Railroad Bridge Lift Operations
(the "Communications Protocol")

Introduction

Purpose

The purpose of this document is to outline the communications procedures related to ships transiting through the Union Pacific Railroad Bridge.

Example communication

In this document you will find examples of communications (*in italics*). These examples show what typical communications might sound like.

In this document

In this document the following topics are discussed.

Regulation

Refer to `33 CFR 117 – Drawbridge Operating Regulations` for rules and regulations pertaining to drawbridge operations.

References

This document is based on extensive input from Union Pacific Railroad, VTS San Francisco, the San Francisco Bar Pilots, AMTRAK, and the Capitol Corridor Joint Powers Commission.

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Section 1 — Routine Communications

Basic instructions

When to call

This communications protocol is based on the vessel establishing initial contact with the bridge when the vessel is at the following locations.

Vessel is…	Establish first communications…
Transiting eastbound	When the vessel is underneath the Carquinez Bridge and prior to the Position report to VTS.
Transiting westbound	When the vessel is between New York Point and Naval Weapons Station Pier 3. Call no later than NWS and prior to the Position report to VTS.
Moored between the Carquinez Bridge and New York Point	As soon as possible after making the Sailing Plan report to VTS.

Key phrases

In order for the communications protocol to be successful both parties must make every effort to communicate in accordance with the example communications provided herein.

These key phrases are intended to aid in avoiding confusion with respect to when a lift is required.

VTS's role

VTS's primary role with respect to this communications protocol is to monitor communications. If key phrases are not used either party (rail or bridge) may be prompted by VTS to repeat communications.

Whenever confused as to the intended meaning of communication VTS may intervene.

Note: Either party (rail or bridge) may request the other to repeat communications whenever key phrases are not used or meaning is unclear.

Call signs

The following radio call signs apply

Station	Call sign
Ship	Pilot unit designator: *"Unit Tango"*
Rail	*"Union Pacific Railroad Bridge"* or *"UP Bridge"*
VTS	*"San Francisco Traffic"* or *"Traffic"*

Advance call procedures

Procedure Perform the following steps to advise the bridge of an expected lift request call.

Note: Where there are superscript numbers, refer to the explanations in Appendix A.

Who	Part	Syntax
Ship to Rail	NOTICE	*This is Unit* [unit designator] *aboard the* [ship name] *at* [location] *making an ADVANCE CALL. I will call you at* [1] *[time] to request a full lift.*
Rail to Ship	REPEAT & ACK	*Understand Unit* [unit designator] *is making an ADVANCE CALL and will call at* [time] *to request a full lift.*

During the above communications the rail will assess the situation and will be prepared to present Option 1 or Option 2 (below). If necessary rail should tell the ship to *"stand by"* to allow extra time for situational assessment.

Option 1 — If no trains are expected…

Rail to Ship	AFFIRM	[2] *Standing by for your call.*
Ship to Rail	VERIFY & END	*That is correct. Out.*

Option 2 — If a train might conflict with the lift request time…

Rail to Ship	PROPOSE	*There is a* [passenger / freight] [3] *train scheduled over the bridge. Can you delay your request for a lift until* [time] ?
Ship to Rail	ANSWER	a) *Affirmative. Unit* [unit designator] *will delay request for a full lift until* [new time] . or b) *Negative. Unit* [unit designator] *is not able to delay request for a full lift.*
Rail to Ship	REPEAT & ACK	*Understand that Unit* [unit designator] *is* *able / not able* *to delay lift request and will call at* [time] *to request a full lift.*
Rail to Ship	AFFIRM	[2] *Standing by for your call.*
Ship to Rail	VERIFY & END	*That is correct. Out.*

IMPORTANT: If the bridge or the ship experiences problems which may impact the lift time the party experiencing the problem shall notify the other immediately.

Requesting a lift procedures

Procedure Perform the following steps when requesting a lift.

Note: Where there are superscript numbers, refer to the explanations in Appendix A.

Who	Part	Syntax
Ship to Rail	REQEST	*This is Unit* [unit designator] *aboard the* [ship name] *at* [location] [4] *making a LIFT REQUEST. Request a full lift now.*
Rail to Ship	REPEAT & ACK	*Understand Unit* [unit designator] *is making a LIFT REQUEST for a full lift now.*
Ship to Rail	VERIFY	*That is correct.*
Rail to Ship	INFO	1. **LIFTING NOW:** *The lift has started.* or 2. **ROUTINE DELAY:** *There is a* [passenger / freight] *train moving through the block. Lift will start at approximately* [time] . or 3. **MAJOR DELAY:** *I cannot lift the bridge due to* [briefly describe] .
Ship to Rail	REPEAT & ACK	*Understand* [repeat information from bridge] .
Rail to Ship	VERIFY & END	*That is correct. Out.*

When the bridge is at a full lift.

Rail to Ship	INFO	*You have a full lift.*
Ship to Rail	REPEAT & ACK	*Understand I have a full lift.*
Rail to Ship	VERIFY & END	*That is correct. Out.*

Canceling request for a lift

Procedure

Perform the following steps when canceling a request for a lift.

Note: Where there are superscript numbers, refer to the explanations in Appendix A.

Who	Part	Syntax
Ship to Rail	CANCEL	*This is Unit* [unit designator] *aboard the* [ship name] *at* [location] *canceling the lift request.* [5] *No bridge lift is required.*
Rail to Ship	REPEAT & ACK	*Understand Unit* [unit designator] *is canceling the lift request. No bridge lift is required.*
Ship to Rail	VERIFY & END	*That is correct. Out.*

Keeping the ship informed

If the vessel's decision to cancel the lift request is based on information reported by the rail (e.g., mechanical problems with the bridge, train stuck on the bridge, etc.), the rail should keep the ship advised of current conditions. As soon as the problem is corrected and the bridge is able to lift, the ship should be notified.

Section 2 — Emergency Communications

Basic instructions

Purpose of the reports

A "danger imminent" report from a vessel prepares the bridge to take immediate steps to mitigate damage or injury.

A "danger imminent" report from the bridge warns nearby vessels to take immediate action to avoid approaching the bridge.

An "initial damage assessment report" provides critical post-accident damage control information. This report contains only that information which must be acted on ASAP to forestall harm or prompt immediate rescue or pollution response.

Reporting priorities

Consider the following reporting priorities in an emergency situation.

Priority	Radio Channel	What To Do
1st	13	Warn the affected parties using the emergency communication procedure.
2nd	14	Report the emergency to VTS San Francisco.

Channel 16 facts

Channel 16 is the international maritime calling and distress channel.

Onlookers may report an emergency to the Coast Guard on channel 16.

However…

- In the San Francisco Bay Region vessels participating with VTS are not required to monitor channel 16.
- The UPRRB never monitors channel 16.

Emergency communications procedures

Emergency alert radio signal

When giving a radio alert of an emergency concerning the Union Pacific Railroad Bridge (UPRRB) or a ship approaching or transiting through the UPRRB, the word ***"Emergency"*** should be stated three times in succession on VHF FM Channel 13 as in the procedure below.

Procedure

Following are the emergency communication procedures.

Danger imminent (Report ASAP before an accident.)

Who	Part	Acton and syntax
Ship to Rail or Rail to Ship	WHISTLE ALERT	Five or more rapid blasts of the whistle.
Ship to Rail or Rail to Ship	INITIAL CALL	State: [ship/rail call sign] ***this is*** [station reporting the emergency] .
Ship to Rail or Rail to Ship	RADIO ALERT	State: ***Emergency, Emergency, Emergency.***
Ship to Rail or Rail to Ship	INFORMATION	Report the nature of the emergency. Examples: • Imminent collision with the bridge. • Obstructions hanging from bridge. • Train derailment affecting waterway. • Flammable liquids falling from bridge. • Toxic gas cloud. • Bridge lowering in front of ship. • Person falling from bridge.

Initial damage assessment (Report ASAP after an accident.)

Who	Part	Action
Ship to VTS or Rail to VTS	DAMAGE REPORT	Answer these questions: 1. Rail track obstruction or damage? 2. Structural damage to bridge support?
Ship to VTS or Rail to VTS	RESPONSE INFORMATION	Answer these questions: 1. People injured or in the water? 2. Navigation channel passable? 3. Pollution? 4. Damage (fire, flooding, collapse, etc.)?

Appendix A — Terminology and phrases

From the document The following terminology and phrases are used in the document.

1. The time referred to by the ship in the phrase *"...will call you at [time] to request a full lift..."* refers to the time of day that the ship is expected to make the lift request not the time of day that the ship should expect the bridge to be at a full lift.
2. The affirmation phrase *"Standing by for your call."* means the following to the vessel:

   With the information that I (referring to the bridge tender) have at this time, I should be able to lift the bridge when you call back at the time specified.

3. The phrase *"train scheduled over the bridge"* means that the train is expected to occupy the bridge rail block (circuit) at the request time thereby preventing the bridge from opening.
4. The phrase *"...making a LIFT REQUEST. Request a full lift now."* satisfies 33 CFR 117.5 Drawbridge Operating Regulations]which directs the bridge to open when the request is made. It says:

   "drawbridges shall open promptly and fully for the passage of vessels when a request to open is given in accordance with the subpart."

5. The phrase *"No bridge lift is required."* means that the bridge is no longer under obligation to lift the bridge until another lift request is made by the vessel.

Chapter 18

Reviewed: August 2005

Radar Operation and Control

Introduction

Overview

This section contains the concepts and procedures for operating and controlling the VTS San Francisco radar at PCRP radar sites.

PCRP installation timeline

~~As of April 4, 2003, VTS San Francisco's Yerba Buena Island and Point Bonita radar sites are PCRP radar sites.~~

~~Later in 2003 VTS San Francisco will upgrade the Mare Island and Point San Pablo sites to PCRP.~~

In this section

This section covers the following topics.

Reviewed: August 2005

Radar Processor at a PCRP Site

Terminology

The abbreviation PCRP means Personal Computer Radar Processor. The "PC" signifies that the radar processor software runs on an off-the-shelf, high-end "personal computer."

What does the PCRP do?

The PCRP (radar processor) performs five primary functions.

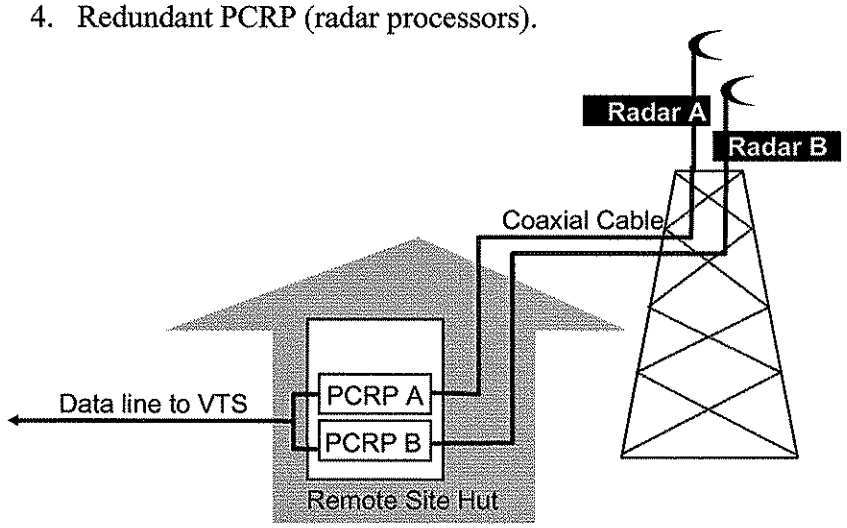
1. Converts raw radar video into computerized radar video.
2. Analyzes the computerized radar video to differentiate between actual radar targets and radar noise, interference, and clutter.
3. Performs anti-clutter functions to allow operators to see radar targets through radar clutter.
4. Evaluates and keeps track of potential radar tracks waiting for the VTS operator to activate VAM: RADAR TRACK.
5. Feeds radar track information to the CG VTS System for tracks that the VTS operator acquires at the ODP using VAM: RADAR TRACK.

Block Diagram

At PCRP radar sites, VTS San Francisco has true redundancy in radar systems. The block diagram below shows the radar equipment at PCRP radar sites.

In the diagram below, notice:

1. Redundant radar transceiver units (Radar A and Radar B)
2. Redundant coaxial cables to the remote site hut.
3. Redundant antennas.
4. Redundant PCRP (radar processors).



Reviewed: August 2005

Radar Land Masking

Explanation

Radar land masking eliminates superfluous radar video. Radar land masks are basically polygons "drawn" around bodies of land and other stationary objects that serve no purpose to display on screen. When masked, an area becomes completely invisible to the radar processor—it "sees" no radar video, and provides no radar tracking.

What is masked

Radar land masks cover the following areas.

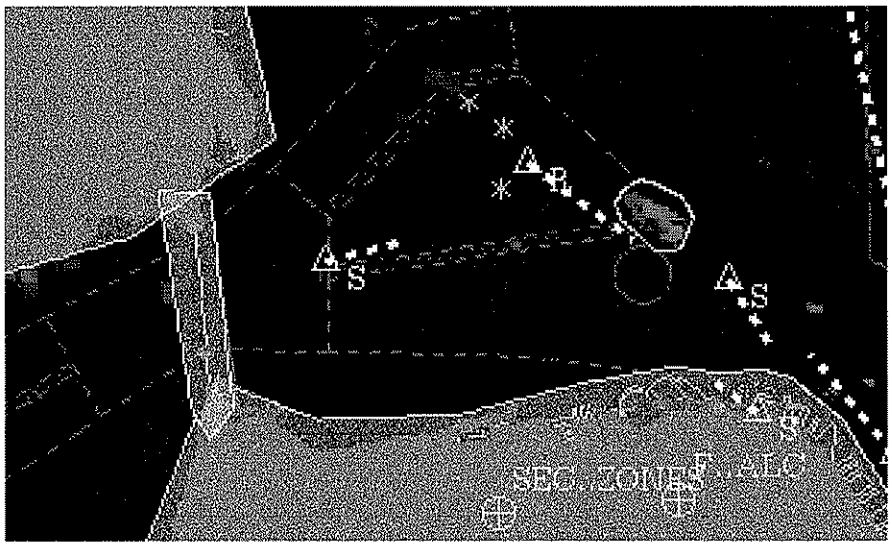
1. large bodies of land and large islands
2. bridges, piers, and break walls
3. marinas
4. bodies of water where radar does not typically cover

Over-masking

Over-masking refers to land masks which extend out beyond land into the adjacent waterway.

This is necessary in the following case:

- In areas where variation in land contours are extreme.
- In areas where radar distortion causes the shoreline radar video to be stretched into the waterway.
- Around bridges where radar distortion causes the bridge to appear on radar much wider than it actually is.



Land mask diagrams

Refer to Appendix B for diagrams showing all of the land mask areas.

Changing the Radar Range Scale and PW/PRF

Policy

1. Radar range and PW/PRF settings shall not be changed for the Yerba Buena Island radar site.
2. Radar range settings may be changed at Point Bonita for short-term, short-range searching. As soon as the short-range search is complete, the Point Bonita radar shall be re-set to the 48-mile range setting.

Resolution warning

The greater the range scale, the poorer the resolution. Greater range scales mean longer pulses. Longer pulses result in more target stretching (distortion). When using longer range scales, targets closer to the antenna will be more distorted.

PW/PRF settings

The table below shows the correct radar/pulse width settings for the two COMARPA radar sites.

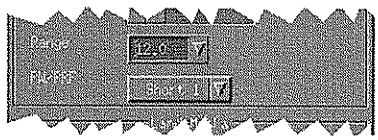
WARNING: Failure to select the correct PW/PRF setting for a particular range setting will result in a degraded radar picture.

Site	Range	PW-PRF
YBI	12	Short-1
PTB	24	Med-2
PTB	48	Long-1

Procedures

Perform the following steps to change radar range scales and setting PW/PRF.

Step	Action
1	Open the Radar Control/Tuning window for a PCRP radar site.
2	Select the desired range from list of range scales.
3	Select the right PW/PRF setting from the list of PW/PRF settings.
4	On the Radar Control/Tuning window, push Apply to transmit the settings.
5	Observe the results of your changes on the display.
6	When satisfied, on the Radar Control/Tuning window push Cancel to close the window. If Apply was pushed in Step 4, changes will be saved.



Reviewed: August 2005

Switching Radars at PCRP Radar Sites

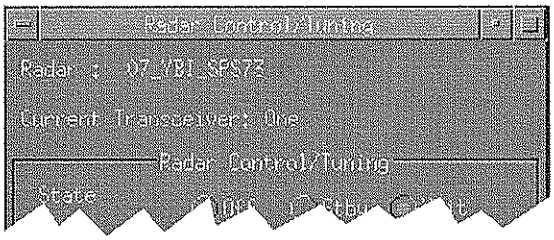
Explanation

Each PCRP radar site has redundant radar systems (transceiver, antenna, and radar processor).

Using the CG VTS System radar control interface, you can easily switch between these redundant systems.

Known problem

The Radar Control/Tuning window does not update to indicate which radar system is active. It always shows **Current Transceiver: One**. To see which transceiver is active you must use the COMARPA window.



Procedure

Perform the following steps to switch between radar transceivers at a PCRP radar site.

Step	Action
1	Open the Radar Control/Tuning window for a PCRP radar site.
2	On the Radar Control/Tuning window, push Switch button.
3	Watch for the following popup windows. Do not push **OK** on the popup windows. They will disappear automatically. a. Switch in Progress. b. Switch Message Sent. c. Unable to Confirm Switch Operation. d. Waiting for Radar to Warm Up in 65 Seconds. e. Download Land Mask. f. Switch Process Complete.

WARNING: Never push the **OK** button on the Radar Control/Tuning Window.

4	On the Radar Control/Tuning window, push Cancel to close the window.

Adjusting radar parameters using slide-bar controls

Explanation

This section describes the procedures for using the PCRP Radar Control Interface slide-bar controls.

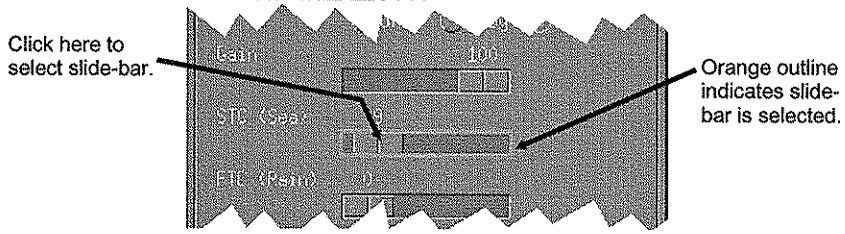
Refer to the Appendix A -Anti-clutte r Decision Matrix, pg. 11 for specific instructions on decision-making and methodology for optimizing gain and anti-clutter controls.

Procedure

Perform the following steps to adjust Gain, STC, and FTC sliders.

Step	Action
1	Open the Radar Control/Tuning window for the PCRP radar site.

WARNING: Slider adjustments are very sensitive. Do not drag the slider using the mouse. Use the keyboard to nudge the slider one increment at a time.

2	Click directly on top of the center of the slider to highlight the slide bar. Be careful to not click left or right of the centerline on the slider or the slider will move. 
3	With the slide-bar highlighted, use the left and right keyboard arrow keys to adjust one increment at a time.
4	**ABORT?** Push Cancel on the Radar Control/Tuning window if you accidentally over-adjust the slider or lose track of the original setting value. Doing so will close the Radar Control/Tuning window and ignore all unapplied settings.

WARNING: Changes cannot be aborted once you push Apply on the Radar Control/Tuning window.

5	After each one-increment adjustment, push Apply.
6	Watch the display for effect.
7	Repeat steps 5 -7 until satisfied with display.

WARNING: Never push the OK button on the Radar Control/Tuning Window.

8	On the Radar Control/Tuning window, push Cancel when finished.

Adjust the STC

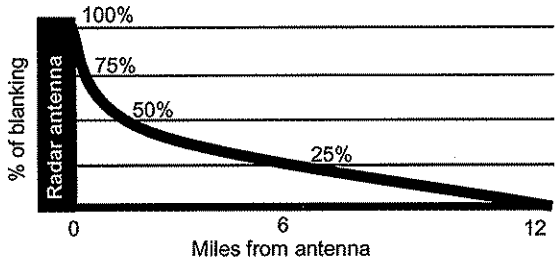
Affects

Adjusting the STC will affect the following.

Part	Function
Ability to track	Any STC setting above 0 can inhibit the ability to radar track.
Ability to detect	As you increase the STC setting, your ability to detect radar targets closer to the radar antenna decreases. As the STC numbers increase, the STC blanks out targets closest to the antenna first on a gradually decreasing intensity as distance from the antenna increases.

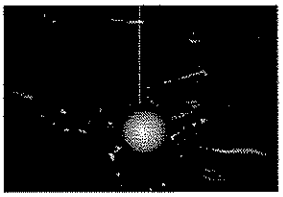
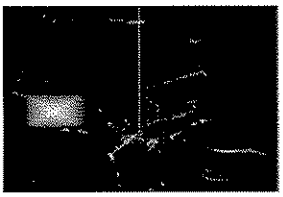
STC Curve

The STC Curve refers to the idea that STC blanks out targets to a lessoning degree as the targets get further from the antenna. The diagram below shows an example of an STC curve.



Applications for STC

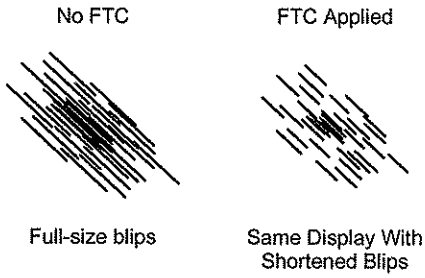
Consider the following radar conditions when applying STC.

Do or Don't	When	Example
Do	Apply STC when there is radar clutter around the area of the radar antenna.	
Don't	Do not apply STC when there is clutter in one azimuth area only. By the time the STC affects the cluttered area all targets close in will be blanked out. Use FTC instead.	

Adjusting FTC

Radar theory

FTC shortens the length of each and every radar blip, thereby reducing the clutter caused by radar blips that are only one pulse length long (all of the rain drops). Of course, the length of all other blips is reduced too.

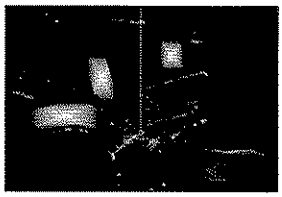
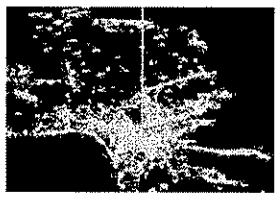


The hope is that with FTC you will eliminate the screen-coating clutter associated with the millions of raindrops, thereby allowing masses of smaller pulses to be more visible.

Part	Function
Ability to track	As you increase the FTC, tracking reliability decreases equally through the radar coverage area. First the smaller targets become more difficult to track.
Ability to detect	Increased FTC causes targets to appear smaller (radially) on the display. This effect is equal throughout the radar coverage area.

Applications for FTC

Consider the following radar conditions when applying FTC.

Do or Don't	When	Example
Do	Apply FTC when there are dense patches of radar clutter spread around the radar coverage area (e.g., rain squalls, high winds causing clutter due to wave action).	
Don't	Do not apply FTC when radar gain can be reduced to help eliminate clutter.	

Adjusting the Gain

Explanation

Gain traditionally refers to the sensitivity of the radar receiver. On the PCRP, adjusting the gain does not actually affect the sensitivity of the radar transceiver itself; however, the effect *for the operator* of gain adjustments on the PCRP is the same as adjustments of a traditional radar gain.

Known Problem

Although there may be little display difference between a gain setting of 90, 95, and 100, technicians and operators have reported radar tracking problems when gain is set to 100.

If tracking becomes a problem, check the gain and consider reducing the gain to a setting below 100.

Settings

The following gain settings have proven to be effective.

During normal conditions consider using the following gain settings.

YBI — Gain 88
PTB — Gain 90

When to adjust the gain

Consider adjusting the gain in the following conditions.

What to do	When
Increase the gain	1. Typically visible targets (buoys, landmarks, etc.) are not visible. 2. The radar picture seems dim or weak. 3. Large vessels appear as weak radar targets. 4. Attempts to radar track strong targets fail.
Decrease the gain	1. Many close-together radar targets merge together. 2. The radar picture is generally cluttered with interference. 3. Radar clutter or interference is consistent across the display. 4. Small, nearly-single-pixel dots of radar interference appear consistently across the display. 5. Attempts to radar track strong targets fail.

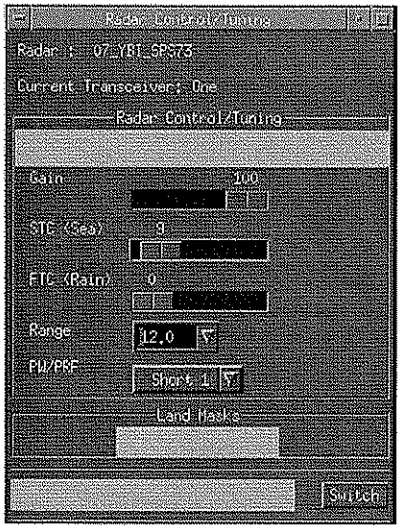
Radar Control Interface for PCRP Radar Sites

Policy

Operations Center personnel shall not manipulate the functions that are blanked out in the PCRP Radar Control Interface diagram below. These functions are for technicians only.

Diagram

The diagram to the right shows the CG VTS System radar control interface for the PCRP. Functionality of each part of the window is explained in other parts of this document.



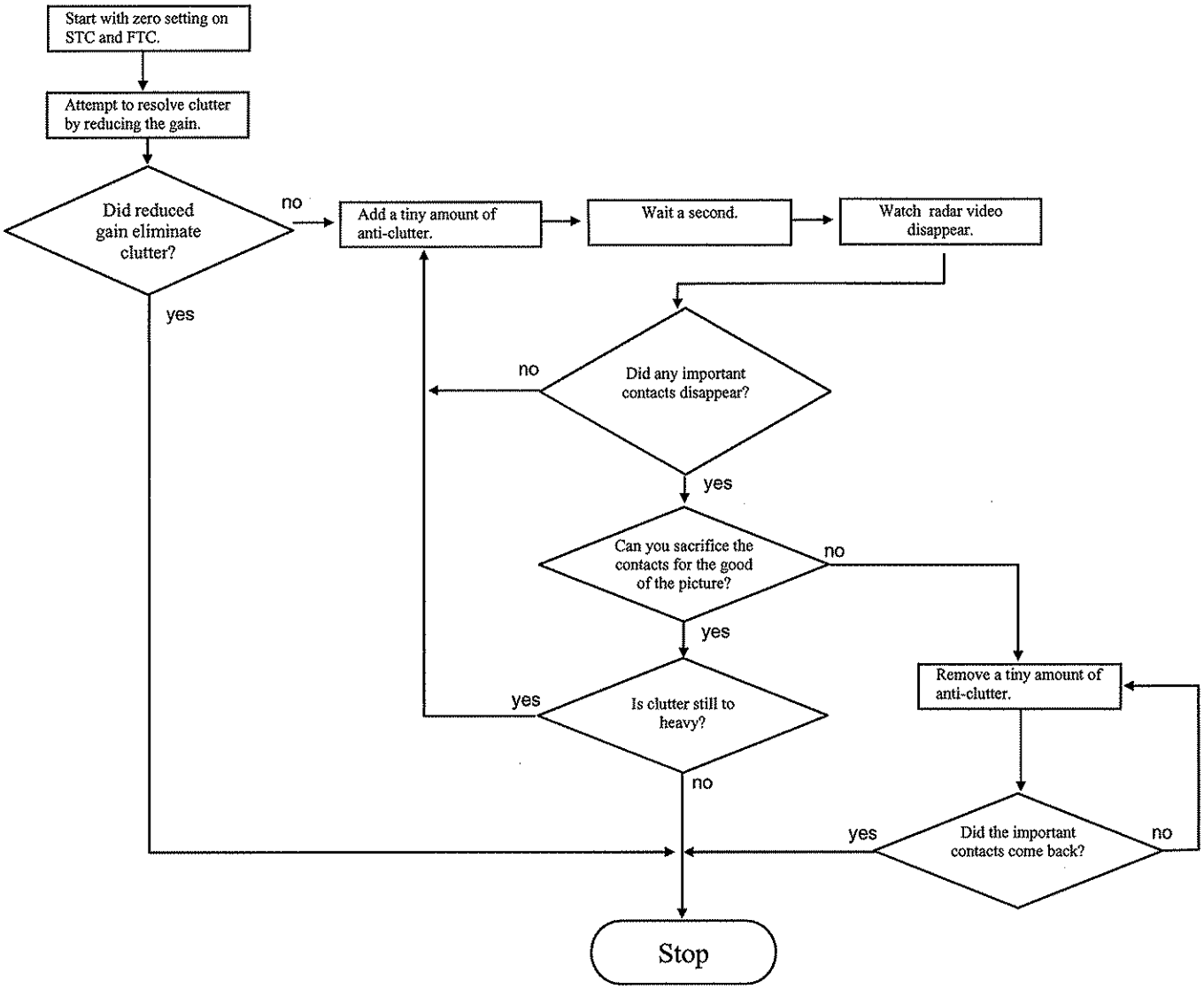
Part	Function
Radar	Indicates which radar site is selected for control.
Current Transceiver:	BROKEN. IGNORE.
Gain	Slide-bar for setting receiver gain. Higher number means more radar video.
STC (Sea)	Slide-bar for setting Sensitivity Time Control. Higher number means less radar video.
FTC (Rain)	Slide-bar for setting Fast Time Constant. Higher number means less radar video.
Range	Drop-down pick-list for setting radar processor range. PW/PRF settings must be changes when radar range is changed. Warning: It is possible to type range values in this field. Personnel should not do this.
PW/PRF	Drop-down pick-list for setting pulse width and pulse repetition frequency.
Switch	Push to activate switch-radar process. Warning: Pushing this button immediately activates the Switch Radar process. Once the button is pushed it is impossible to stop the process.

Appendix A – Anti-clutter Decision Matrix

Flowchart

Consider the following flowchart diagram when adjusting radar anti-clutter controls.

Note: This diagram is not meant to serve as a job-aid.



Chapter 19

Vessel Traffic Management Specialist
Simulation Training

Table of Contents

Simulation Training

Introduction

Welcome to simulation training. During this portion of your training, you will learn and practice the skills needed to manage traffic effectively from an Operator Display Console. (ODP) You will be working at the ODP mini-loops and AIS simulator while under the supervision and guidance of a designated trainer. The simulated traffic management exercises that you will experience are designed to be realistic as well as dynamic and will help you gain the requisite knowledge to begin operating under instruction in a real-time environment in the operations center. There are 5 phases in this part of your training. Your skills will gradually develop as you progress through each phase and you must demonstrate proficiency in one phase before you can move to a subsequent phase.

Note: You must successfully complete all 5 phases of this training before starting On-the-Job Training (OJT) in the Operations Center (OpCen).

Contents

The table below lists each phase:

Phase	Topic
Phase One	Data Entry
Phase Two	Intermediate data Entry
Phase Three	Basic VMRS Communications
Phase Four	Intermediate VMRS Communications
Phase Five	Advanced VMRS Communications and Team Integration

Phase One

Phase One: Data Entry

This phase will focus on the mechanics of entering data into the universal tracking data card (UTDC) based on each of the four types of sailing plan reports (piloted prospective, towing vessels, passenger ferry, and offshore sector). Students will not be challenged with VMRS communications (e.g., read back, traffic report, turnaround, etc.) or traffic management procedures (e.g., RNA encounters) at this phase. This phase will begin with simple, consistent sailing plan reports giving the student practice with UTDC mechanics and with sailing plan contents. Students will be given plenty of repetitious practice with each type of sailing plan report. As each type of sailing plan report is presented, the student will be taught supporting concepts (i.e, towing configurations, track ICON names, definitions, etc.).

Phase One Objectives

- At the Operations Center simulator, respond to and enter sail-plan data into the UTDC for each type of sail-plan report (Piloted Prospective, towing vessel, offshore sector vessels and ferries) with 100% accuracy.
- At the Operations Center simulator, launch each type of track (AIS, Radar, Manual) with 100% accuracy.
- At the Operations Center Simulator, narrow the list of values (LOV) in the UTDC to one single entry with 100% accuracy.
- At the Operations Center Simulator, use the wildcard (%) symbol in the UTDC to reduce the LOV to the lowest number of choices.

Phase Two

Phase Two: Intermediate Data entry

During phase two, the student will continue responding to and entering sailing plan information in the UTDC. As this phase progresses and students demonstrate proficiency, they will be challenged with variations in sailing plan report order and will be required to notice and rectify missing sailing plan report information.

Phase Two Objectives

- At the Operations Center Simulator, respond to the various types of sailing plan reports and enter data with 100% accuracy.
- At the Operations Center Simulator, respond to the various types of sailing plan reports with missing or incorrect information. Using the prescribed R/T procedures, ask for the missing information and enter the data in the UTDC with 100% accuracy.
- At the Operations Center Simulator, respond to various sailing plan reports, enter data in the UTDC and perform read backs with 100% accuracy.

Phase Three

Phase Three: Basic VMRS Communications

At phase three, the students will practice basic Vessel Movement and Reporting System (VMRS) Communications Procedures. Students will respond to various sailing plans, enter data into the UTDC and perform read backs and traffic reports. They will also perform traffic turn-arounds and respond to all other VMRS reports (position reports, sailing plan deviation reports and final reports) Students will also begin responding to sailing plans from dredges and anchored vessels and will practice performing Offshore Vessel Traffic Advisories. (OVTA) The Sail plan decision matrix will be introduced and stressed during this phase.

Phase Three Objectives

- At the Operations Center Simulator, and with a minimum of 2-3 active tracks, respond to various sailing plans, position reports, sailing plan deviation reports and final reports with 100% accuracy.
- At the Operations Center Simulator, respond to a sailing plan report from exempted vessels and perform traffic reports with 100% accuracy.
- At the Operations Center Simulator, respond to various VMRS reports in the offshore area with 100% accuracy.
- At the Operations Center Simulator, perform the OVTA with a minimum of 6 actives tracks in the offshore area with 100% accuracy.
- At the Operations Center Simulator and using proper VMRS communications procedures, respond to sailing plan reports and final reports from anchored vessels and perform the mechanical procedures to anchor or get the vessel underway with 100% accuracy.
- At the Operations Center Simulator and using proper VMRS communications procedures, respond to various VMRS reports from dredges at all 5 stages of the dredge operation with 100% accuracy. Perform quick-turn around procedures with 100% accuracy.
- At the Operations Center Simulator, using proper VMRS communications procedures, respond to all three types of ferry transits (Commuter, Bay Tour, Dinner Cruise) with 100% accuracy.

Phase Four

Phase Four: Intermediate VMRS Communications

During phase four, the students will respond to all types of VMRS reports for all types of VMRS and VTS users and properly manipulate the ODP to manage traffic. As this phase progresses, the number of active contacts will increase. The students will also report advisories such as marine events, minimum wake requests, etc. The students will also practice entering advisories into the system and manipulate tracks using all functions of the Vessel Action Menu (VAM).

Note: the area of concern and the number of active contacts will gradually increase as the student's ability to manage traffic progresses.

The amount of prompting and assistance given by the trainer will gradually decrease as the student's ability develops.

Phase Four Objectives

- At the Operations Center Simulator and with a minimum of 5-10 active contacts, use proper VMRS communications procedures to respond to various VMRS reports with 100% accuracy.
- At the Operations Center Simulator and using proper VMRS communications procedures, report all advisories with 100% accuracy.
- At the Operations Center Simulator, manipulate tracks using all functions of the VAM with 100% accuracy.
- At the Operations Center Simulator, respond to a request to deviate from a regulated navigation area regulation and perform all regulatory communications procedures to grant a deviation with 100% accuracy.
- At the Operations Center Simulator, respond to a request to deviate from a regulated navigation area regulation and perform all regulatory communications procedures to deny a deviation with 100% accuracy.
- At the Operations Center Simulator, use proper VMRS communications procedures to respond to a sailing plan from a vessel intending to transit through the offshore area with 100% accuracy.

Phase Five

Phase Five: Advanced VMRS Communications and Team Integration

This phase will focus on a more advanced level of traffic management procedures designed to prepare the student for On-the-Job (OJT) training in the Operations Center. The training will mirror the operation center environment with both an offshore sector and inshore sector operator. The students will be exposed to all traffic management scenarios that qualified operators face while on watch. The amount of active tracks advisories and situations will gradually increase as the student's skill develops. Each student will actively manage traffic in his or her assigned sector and will be required to operate as a team, handing off calls to one another and assisting each other in facilitating safe transits for vessel movements between sectors.

The trainer will only assist or prompt the student when necessary to allow the training session to progress.

Phase Five: Objectives

- At the Operations Center Simulator, and with an unlimited number of active tracks, respond to all types of VMRS reports with 100% accuracy.
- At the Operations Center Simulator, Monitor and assist with Union Pacific Railroad Lift-bridge communications protocol.
- At the Operations Center Simulator, enter a new vessel's information into the database with 100% accuracy.
- At the Operations Center Simulator, perform sector hand-offs with 100# accuracy.
- At the Operations Center Simulator, determine when a "read-back", "traffic report " and "traffic turn-around" is or is not needed following a position report with 100% accuracy.
- At the Operations Center Simulator, proactively perform traffic reports when necessary without prompting from the mariner.
- At the Operations Center Simulator, direct a vessel operator to make a position report.
- At the Operations Center Simulator, recognize situations between vessels that are out of sight of one another and direct vessels to establish communications with each other with 100% accuracy.
- Perform security broadcasts in conjunction with granting or denying a deviation request with 100% accuracy.
- During simulation training, solve all watch related problems imposed by the trainer, including equipment or traffic management related problems.

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Learning how to Learn VTS Area Geography

Purpose

This training session—Learning how to Learn VTS Geography—is intended to provide the new VTS San Francisco Vessel Traffic Control Specialist trainee with best practices and proven tactics for learning VTS Area geography.

Explanation

VTS San Francisco's geography training is a total-emersion training program.

During the first few weeks at VTS San Francisco the trainee will spend the bulk of his/her time learning the local geography.

To maximize the effectiveness of the VTS San Francisco Geography Training Program and to speedup the process of learning the VTS Area geography, the trainee must interact with numerous persons and systems related to VTS operations.

Objectives

Upon completion of Learning how to Learn VTS Geography training the learner will know the fundamental process for studying and memorizing VTS area geography.

To achieve this objective the learner must know how to do the following.

1. Use the Geography Crash Course computer program as a study aid and memorization tool for learning geography.
2. Locate publications and charts related to VTS San Francisco geography.
3. Set up and conduct a ferry ride and a piloted vessel ride.
4. Manipulate the functions on an ODP and Zetron associated with monitoring sector operator operations.
5. Prepare for a vessel ride in order to maximize the training benefit from the ride.

Training Method

To achieve the aforementioned objectives, a qualified VTS operator or supervisor will provide one-on-one coaching for the trainee.

Additionally, the trainee should refer to VTS organization and training policies regarding geography training and vessel ride/area familiarization procedures.

Geography Emersion Training Program

Purpose

This material describes the geography emersion training program process, learning objectives, and testing process and standards.

Objectives

Upon completion of the Geography Emersion Training Program the trainee will know from memory the VTS San Francisco Area geography with at least 95 percent accuracy.

Testing

Using the Geography Crash Course computer program, given a geographic location name (DOCK, POINT or ATON), the trainee will be able to find and click on the location. Each geography exam will include a set of locations chosen randomly by the person administering the exam.

Process

Use the following fundamental process when studying/memorizing the VTS Area geography. Modify the process as necessary to meet your needs.

Table 1 – Preparing to Study an Area

Stage	Description
1	Photocopy chartlets from nautical charts covering the module area.
2	Read the part of the Coast Pilot coinciding with the module area.
3	Annotate chartlets with names for bridges, channels, political areas (cities, counties, port authorities, etc.).
4	Seek assistance from the on-duty watch supervisor regarding long-term special operations, typical obstructions, etc. in the module area.

Table 2 – Area Familiarization and Geography Memorization

Stage	Description
1	Use the Geography Crash Course alongside the nautical charts and begin to memorize the geographic points (Docks, Points, ATON).
2	With cursory knowledge of a module area, plug in at a position in the OpCen and monitor operations. Focus on the module area.
3	Continue work with the Geography Crash Course until you are able to score at least 95% on a quiz covering the module area.
4	Do a route analysis and conduct a vessel ride that will cover the module area. Consider Underway Resources described in the training module breakdown table on page 3.
5	Take a self-administered exam covering module area.

Geography Modules Breakdown

Overview

The geography training modules are described here. One training module does not necessarily represent one training day.

The modules are intended to break down the VTS San Francisco Area into logical parts for time management and training resource planning.

The modules are not necessarily to be completed in the order listed.

Table

The table below shows a breakdown of the Geography Training Modules.

Mod	Area	Underway Resources
1	Includes: Entire shoreline and all waters of the Central San Francisco Bay between the Golden Gate Bridge, Richmond San Rafael Bridge, and SF/OAK Bay Bridge. Exclude: • Richmond Long Wharf and Richmond Harbor. • Waters of the Southampton Shoal Channel and Richmond Harbor Entrance Channels. • Brooks Island (Richmond Inner Harbor)	• Blue and Gold 60-minute Westbound Bay Tour • Golden Gate Sausalito, Tiburon and Larkspur ferries • Blue and Gold Sausalito and Tiburon ferries • Hornblower dinner cruise yachts • Coast Guard Station Golden Gate patrol boats
2	Includes: • Entire shoreline and all waters San Pablo Bay to the Petaluma River VTS area boundary and between Richmond San Rafael Bridge and Carquinez Bridge. • Entire shoreline and all waters Carquinez Strait between Carquinez Bridge and Union Pacific Railroad Bridge. • Entire shoreline and all waters of Mare Island Strait to the VTS area boundary.	• Coast Guard Station Vallejo patrol boats • Bay Link Vallejo Ferry

Continued on next page

Geography Modules Breakdown, Continued

Mod	Area	Underway Resources
3	Includes: • West shoreline of the South San Francisco Bay and all waters between the SF/OAK Bay Bridge and the San Mateo Bridge. • Entire shoreline and all waters Deep San Francisco Bay including Redwood City between the San Mateo Bridge and the Dumbarton Bridge. • East shoreline of the South San Francisco Bay of Alameda's Bay Farm Island. Excluding: Alameda Island, Oakland Estuary, and Port of Oakland.	• Station San Francisco patrol boats • Air Station San Francisco helicopter over-flights • Harbor Bay Island Ferry (run by Blue and Gold)
4	Includes: • Entire shoreline and all waters of the Port of Oakland Outer Harbor • Entire shoreline and all waters Port of Oakland Inner Harbor including shoreline and waters of the Oakland Estuary on the Oakland and Alameda • Entire shoreline of Yerba Buena Island and Treasure Island • Entire shoreline on all sides of Alameda Island • SF/OAK Bay Bridge west and east spans	• Station San Francisco patrol boats • Blue and Gold Alameda & Oakland ferries • High-endurance Coast Guard cutters
5	Includes: • Richmond Long Wharf and entire shoreline and all waters Richmond Inner Harbor. • All waters approaching the Richmond Harbor including the Southampton Shoal Channel and Richmond Harbor Entrance Channels.	• Station San Francisco patrol boats.
6	Includes: Entire shoreline, all waters, and all islands of the Suisun Bay from the Union Pacific Railroad Bridge to the San Joachim River (to the Antioch Bridge), and to the Sacramento River (to Toland Landing).	• Station Rio Vista patrol boats. • Air Station San Francisco helicopter over-flights.
7	Includes: • Entire shoreline and all waters of the Sacramento River from Toland Landing to, and including, the Port of Sacramento. • Entire shoreline and all waters of the San Joachim River from the Antioch Bridge to, and including, the Port of Stockton.	• Air Station helicopter over-flights. • Port of Sacramento or Port of Stockton-bound piloted ship ride.
8	Includes: • Entire California coastal shoreline between Pescadaro Point and Bodega Head inland to the Golden Gate Bridge. • All of the California coastal waters out to a distance of approximately 38 nautical mile radius from Mount Tamalpais including the Farallon Islands and all small close-to-the-coast islands inland to the Golden Gate Bridge.	• Station Golden Gate patrol boats • Air Station helicopter over-flights. • Air Station Sacramento C-130 over-flights. • Birdseye view from atop Mount Tamalpais.

03/23/2005

Dock Numbering in the San Francisco Bay Region

Overview

VTS San Francisco in cooperation with the San Francisco Harbor Safety Committee is implementing a new dock numbering scheme throughout the VTS San Francisco Area. The new numbering scheme goes into effect on March 31, 2005.

Under the new dock numbering scheme, most docks in the VTS Area are now numbered.

Goals

The new dock numbering schemes were designed with the following goals in mind.

1. Prevent confusion created when mariners and VTS refer to the same dock by several different names.
2. Provide concise data for AIS users to enter into their AIS Destination Fields, thereby making possible the use of AIS for navigation safety planning.
3. Prevent potentially dangerous confusion between AIS data and VTS-reported information.

Training Objectives

Upon completion of the training you should be able to do the following.

1. Given a city name, state the UN/LOCODE for that city.
2. Given a UN/LOCODE, state the name of the city for that code.
3. Given a dock code or a dock commonly-used-name, instantly locate the precise position of the dock on the Geography Crash Course computer-based trainer and on the CG VTS System ODP.
4. Given a sample Sailing Plan Report, enter the reported departure point and destination into the UTDC FM and TO fields.
5. Given a dock code, state the spoken name for that code.
6. Use the UTDC features to find a dock code when only a name is given.

Testing

To test your skills you will be given the following exams.

1. Fill-in-the-blank exam to test knowledge of correlation between city names and UN/LOCODES, and to test knowledge of the spoken names.
2. Multiple-choice exam to test your knowledge of VTS policy.
3. Computer-based-exam on the Geography Crash Course to test ability locate a dock, given a dock code or commonly used name.

United Nations Location Codes (UN/LOCODES)

Overview

UN/LOCODES are managed by the United Nations in accordance with international standards. The UN/LOCODES are intended to provide a standardized unique reference name for cities and ports worldwide. Today there are over 40,000 UN/LOCODES worldwide.

In the VTS San Francisco Area there is a short list of UN/LOCODES (including codes with extensions) that will be used frequently.

List

This table shows the VTS Area cities that have UN/LOCODES.

Note: Some UN/LOCODES have an extension which was added by VTS. The extension is not part of the UN/LOCODE but it is used by VTS when entering data and when describing vessel locations on the radio.

City	UN/LOCODE + extension
Alameda	US NGZ
Alameda (with Alameda Point extension)	US NGZ AP
Antioch	US ANZ
Benicia	US BNC
Concord	US CCR
Crocket	US CRM
Martinez	US MRZ
Napa (VTS Area boundary at Mare Island Causeway Bridge)	US APC
Oakland	US OAK
Petaluma (VTS Area boundary at Petaluma River 19 and 20)	US PUM
Pittsburg	US PBG
Redwood City	US RWC
Richmond	US RCH
Richmond (with Point San Pablo extension)	US RCH PSP
Richmond (with Richmond Long Wharf extension)	US RCH RLW
Rio Vista	US RVA
Sacramento	US SAC
San Francisco	US SFO
San Francisco (with Fort Mason Center extension)	US SFO FMC
San Jose (VTS Area boundary at the Dumbarton Bridge)	US SJC
San Leandro	US SNH
San Rafael	US SRF
Sausalito	US JMC
Stockton	US SCK
Stockton (with Rough and Ready Island extension)	US SCK RR
Tiburon	US XTN
Vallejo	US VLO

Passenger Ferry Terminal Codes

Overview

Each VTS San Francisco Area ferry terminal has a two-character code. These codes are combined to create the ferry route code used by ferries in their AIS Destination Field. These codes are also used by other vessels bound for a ferry terminals (e.g., towing vessel taking a barge to a ferry terminal).

VTS will use these codes combined with the UN/LOCODE city code whenever entering FM or TO data in the UTDC for any vessel bound for a ferry terminal.

List

This table shows each of the ferry terminal codes.

Entered in AIS	Entered into CG VTS	Location
>US SFO 39	39SFO	Pier 39 San Francisco
>US SFO 41	41SFO	Pier 41 San Francisco
>US SFO 43	43SFO	Pier 43 San Francisco
>US XTN AI	AIXTN	Angel Island Ferry Landing
>US NGZ AP	APNGZ	Alameda Point Ferry Landing
>US SFO AZ	AZSFO	Alcatraz Ferry Landing
>US SFO BP	BPSFO	SBC Ball Park Ferry Landing
>US SFO CP	CPSFO	Candlestick Park Ferry Landing
> US OAK CS	CSOAK	Clay Street Ferry Landing
> US XTN EG	EGXTN	East Garrison Angel Island
> US SFO FB	FBSFO	Ferry Building San Francisco
> US OAK GW	GWOAK	Gateway Ferry Landing
>US NGZ HB	HBNGZ	Harbor Bay Island Ferry Landing
>US --- LK	LK LARKSPUR	Larkspur Ferry Landing
>US JMC SS	SSJMC	Sausalito Ferry Landing
>US XTN TB	TBXTN	Tiburon Ferry Landing
>US VLO VF	VFVLO	Vallejo Ferry Landing

Dock Codes

Overview

Dock codes consist of the city's UN/LOCODE followed by a number or letter code to describe the specific dock.

Format

The diagrams below show complete dock codes as they should be entered in the vessel's AIS, as they should be entered into the CG VTS System FM and TO fields, and as they are spoken.

	Without an Extension	With an Extension
Entered in AIS	En route to >US BNC 4 Country, City, Dock #	En route to >US RCH PSP 4 Country, City, Extension, Dock #
Entered in CGVTS	4BNC	4PSPRCH
Spoken	Benicia Four	Point San Pablo Four

Variations of Dock Codes

The table below shows examples of the most common variations of dock codes, how they should be entered into the CG VTS System, and how they should be spoken.

Situation	Dock Code	Entered into CG VTS	Spoken
Typical Dock	US SFO 35	35SFO	San Francisco Thirty-five
Dock with extension	US RCH PSP 2	2PSPRCH	Point San Pablo Two
Federal Anchorage	US SFO A9	A9SFO	Anchorage Nine
Disposal Site	US SFO D11	D11SFO	Dumpsite Eleven
Dredging Site	US SFO DH	DHSFO	Dredging Area Hotel
Tanker Escort Zone	US SFO Z1	Z1SFO	Zone One
Ferry Dock	US XTN EG	EGXTN	East Garrison Angel Island
No UN/LOCODE with #	RODEO 1	1RODEO	Rodeo One
No UN/LOCODE w/o #	LARKSPUR	LARKSPUR	Larkspur

Dumpsites

What is?

Dumpsites refer to designated locations around the San Francisco Bay Region where channel-deepening dredges dump dredge spoils.

Many years ago, the dumpsite codes shown below (e.g., D11) were listed in Code of Federal Regulations. Today they are not; however, VTS San Francisco and the San Francisco Bay Region Army Corps of Engineers still rely on these codes to identify dumpsites.

Format

All dumpsites in the VTS San Francisco area use the UN/LOCODE "**>US SFO**." In the context of dumpsites, US SFO refers to the VTS San Francisco Area rather than referring specifically to the city of San Francisco.

Entered in AIS	En route to **>US SFO D11** Country / VTS SFO Area / Dumpsite #
Entered in CGVTS	**D11SFO**
Spoken	Dumpsite Eleven

Dumpsite Codes

The table below describes each dumpsite and its associated codes.

Entered in AIS	Entered into CG VTS	Location
>US SFO D8	D8SFO	South of the Main Ship Bar Channel offshore.
>US SFO D9	D9SFO	Directly south of Mare Island.
>US SFO D10	D10SFO	San Pablo Bay near the Echo Buoy.
>US SFO D11	D11SFO	Central Bay south of Alcatraz
>US SFO DOFF	DOFFSFO	Appx. 50 miles due west of the Golden Gate

Reclamation Dredging Sites

What is?

Reclamation dredging refers to dredging when the dredged material is not dumped in a disposal site but instead retained for some practical application.

These codes are not intended to be used for dredging associated with deepening a navigation channel.

Format

All reclamation dredging sites in the VTS San Francisco area use the UN/LOCODE "**>US SFO**." In the context of reclamation dredging sites, US SFO refers to the VTS San Francisco Area.

Entered in AIS	En route to **>US SFO DB** Country / VTS SFO Area / Dredge Site #
Entered in CGVTS	**DBSFO**
Spoken	Dredge site Bravo

Reclamation Dredge site Codes

The table below describes each reclamation dredge site and its associated code.

Entered in AIS	Entered into CG VTS	Location
>US SFO DA	DASFO	North of Raccoon Strait Buoy 1
>US SFO DB	DBSFO	South of Raccoon Strait Buoy 1
>US SFO DC	DCSFO	South of Harding Rock
>US SFO DD	DDSFO	Area ¼-mile north of Alcatraz
>US SFO DE	DESFO	Area west of Alcatraz to Alcatraz Shoal
>US SFO DF	DFSFO	Area surrounding Alcatraz Shoal to Arch Rock
>US SFO DG	DGSFO	Area north of Aquatic Park to Alcatraz
>US SFO DH	DHSFO	Presidio Shoal
>US SFO DM	DMSFO	Middle Ground near markers 20 & 21 Suisun Bay
>US SFO DN	DNSFO	Chips Island to Broad Slough Suisun Bay

Federal Anchorages

What is?

Federal Anchorages refer to those areas described in 33 CFR 110.224.

Format

All Federal Anchorages in the VTS San Francisco area, even those far from the city of San Francisco, use the UN/LOCODE "**>US SFO**." In the context of Federal Anchorages, US SFO refers to the VTS San Francisco Area rather than referring specifically to the city of San Francisco.

Entered in AIS	En route to ↓ **>US SFO A23** ↑ Country ↑ VTS SFO Area ↑ Anch #
Entered in CGVTS	**A23SFO**
Spoken	Anchorage Twenty-three

Anchorage Codes and Locations

The table below names each anchorage and describes it's location.

Entered in AIS	Entered into CG VTS	Location
>US SFO A4	A4SFO	Larkspur Channel.
>US SFO A5	A5SFO	Between North Channel RNA and Southampton Shoal Channel. Adjacent to the Richmond Long Wharf.
>US SFO A6	A6SFO	East side of the San Francisco Central Bay.
>US SFO A7	A7SFO	West of Treasure Island.
>US SFO A8	A8SFO	West of Alameda Point. South of the Oakland Harbor RNA.
>US SFO A9	A9SFO	South of the NAS Channel. North of the San Mateo Bridge. East side of the South San Francisco Bay.

Continued on next page

Federal Anchorages, Continued

Anchorage Codes and Locations *continued*

Entered in AIS	Entered into CG VTS	Location
>US SFO A10	A10SFO	Sausalito Naval Anchorage.
>US SFO A12	A12SFO	Explosive anchorage within Anchorage 9, north.
>US SFO A13	A13SFO	Explosive anchorage within Anchorage 4.
>US SFO A14	A14SFO	Explosive anchorage within Anchorage 9, south.
>US SFO A18	A18SFO	San Pablo Bay, northwest side.
>US SFO A19	A19SFO	San Pablo Bay, northeast side.
>US SFO A20	A20SFO	San Pablo Bay, south of the Pinole Shoal Channel.
>US SFO A21	A21SFO	Naval anchorage south of Mare Island.
>US SFO A22	A22SFO	Carquinez Strait south of Benicia.
>US SFO A23	A23SFO	Carquinez Strait south of Benicia, east of Anchorage 22.
>US SFO A24	A24SFO	Carquinez Strait between Dillon Point and Benicia Point. Includes Southampton Bay.
>US SFO A26	A26SFO	Reserve fleet. Suisun Bay north side.
>US SFO A28	A28SFO	San Joaquin River west of Sherman Island.
>US SFO A30	A30SFO	San Joaquin River north of Mandeville Point.
>US SFO AODWA	AODWASFO	Offshore Deep Water Anchorage north of the San Francisco Sea Buoy

Maritime Work Zone (MWZ) Operations

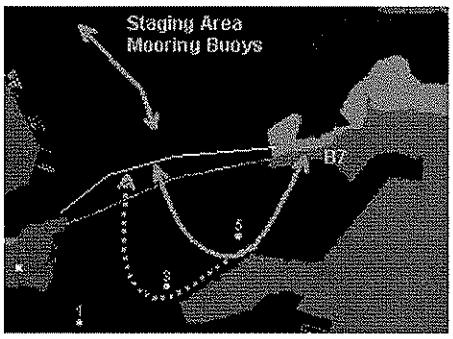
What is?

Maritime work zones are used in areas where a pre-defined group of vessels transit back and forth between the same pre-defined destinations for an extended period of time. While operating in these zones, AIS users do not update their AIS Destination field. MWZs are published on the VTS web page as well as being published in the Notice to Mariners.

Data Entry for MWZs

For vessels in Maritime Work Zones (MWZ), VTS will enter destination information with more granularity than the vessel's AIS destination information. VTS destination data entry will denote each leg of the MWZ transit where the vessel's AIS Destination Field data simply denotes transiting within the work zone.

In the example below notice what the vessel will enter into their AIS Destination field versus what VTS enters on a transit-by-transit basis in the UTDC Destination field.



Vessels AIS Destination Field

- `<>US OAK OBBSKYWAY`

Example VTS Destinations

- `7OAK`
- `TI EAST MOORINGS`
- `OBB E`

New MWZ Destinations

When the first vessel makes the first run to a MWZ destination, the Watch Supervisor will enter the new destination in the CG VTS System as a new special destination.

MWZ-related special destinations will not change under the new dock numbering scheme.

Entering Data in the UTDC

POD Table

The CG VTS System POD table was updated with the new destination data. Old data was removed from the POD Table.

Data Format

Location names are in the database in the following format.

There are never spaces between the dock number or code, and the city code.

```
##LOC PLACE_NAME
65OAK SCHNITZER
```

The place names are in this format so that operators can get a short list or an exact match after typing only a few characters in the FM or TO fields.

Name Given

The wildcard key ("%") is helpful in getting a short list or an exact match, especially when a vessel reports a place name without reporting the official dock number code.

Consider the following examples showing data entry in a case when the operator can not immediately remember which dock code to use.

Bound for (name)...	Type this...	List of Values
Schnitzer Steel	%SCH	65OAK SCHNITZER...
Gateway Alameda	%GATEW	GWNGZ GATEWAY...
Benicia Coke	%COK	3BNC BENICIA COKE 2PBG TESORO COKE
Sausalito Ferry	%SAU	ACOEJMC ACOE SAUSALITO SSJMC SAUSALITO FERRY TERMINAL

Dock Code Given

If the dock code is given in the vessel report, type the dock number or code followed by the first few letters of the city code. Usually you will achieve an exact match without having to type the entire UN/LOCODE.

Consider the following examples.

Bound for (name)...	Type this...	List of Values
Oakland Berth 65	65	65OAK SCHNITZER STEEL...
Benicia Berth 4	4B	4BNC VALERO BENICIA
Pier 1 San Francisco	1SF	1SFO

New Richmond Numbering Schemes

Overview

The Port of Richmond was completely renumbered as part of the VTS San Francisco Area dock numbering project.

Explanation

The new Port of Richmond numbers are divided into three areas; Richmond Inner Harbor, Point San Pablo area, and the Richmond Long Wharf.

The Richmond Inner Harbor docks are numbered in sequential order starting at Point Richmond, wrapping around the inner harbor clockwise, and ending at the old Ford Motor Assembly plant just west of the Richmond Marina.

The Point San Pablo docks are numbered in sequential order starting at the Richmond San Rafael Bridge going north to the actual charted position of Point San Pablo.

The Richmond Long Wharf docks retained their original numbering scheme.

Background

There is significant risk for confusion with respect to the Port of Richmond dock numbers. Over the last few decades, the Port of Richmond has been renumbered at least three times.

Many years ago the Parr family ran the Port of Richmond and numbered the docks with the prefix "Parr" (e.g., Parr 1). Approximately ten years ago the Port of Richmond renumbered the docks again using the prefix "Richmond Terminal" (e.g. RT5). The RT numbering system did not align perfectly with the Parr numbering system. For example, Parr 5 was renumbered RT9.

The New RCH numbering scheme is intended to finally standardize dock numbering in the Port of Richmond.

Examples of Potential Confusion

Consider the following examples of the potential confusion.

- New RCH 20 is the old Parr 5.
- Within the last few years, Parr 5 was designated by the Port of Richmond as Richmond Terminal 9. Very few mariners use RT 9; therefore, today old Parr 5 is often confused with Richmond Terminal 5 which is at the opposite end of the port.
- New RCH 5 is not in the same location as either of the former #5 docks.
- False confidence: Old Parr 4 was most recently Richmond Terminal 4 and is now Point San Pablo 4.

New Richmond Procedures

Phrase "New Richmond"

When spoken all Richmond dock numbers should be prefaced with the phrase "New Richmond." For example RCH 12 is spoken "New Richmond Twelve."

If a vessel fails to use the phrase "New Richmond" ask the vessel "are you referring to New Richmond…?"

Unknown Names

As part of the training to prepare for the dock renumbering, you must learn the most recently used common (non-code) name for each Richmond dock. However, some vessels may not know the most recent name for a dock and, when reporting to VTS, may refer to the dock by a name that is several years out of date—by a name that you have never heard of.

When this happens either ask a more experienced VTS operator for help or simply ask the vessel to be more specific with the location.

- get the latitude and longitude for a dock
- direct a vessel to determine the New Richmond dock number
- ask for the name of adjacent docks

Reporting

Regardless of your VTS experience, you should never read back or report an obsolete place name. VTS should always report vessel positions using the new dock numbers. When vessels use old numbers VTS should advise the vessel of the new numbering scheme recommend that the vessel consult the VTS web page for a complete list of the new dock numbers.

Comms Situations

Consider the following communications situations.

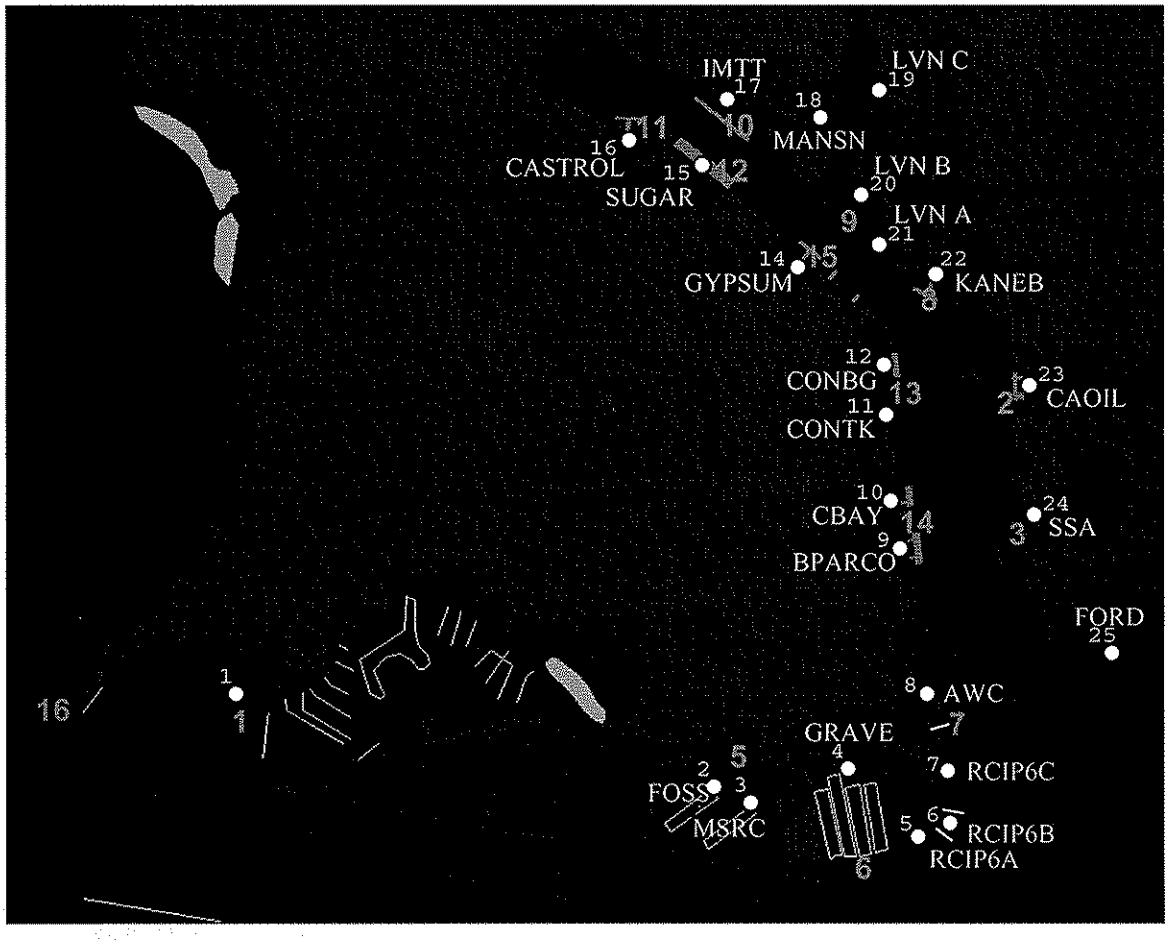
Vessel says…	VTS should say something like…
(Foss tug) …bound for Richmond Terminal 5…	Are you referring to New Richmond 2?
…bound for Levins…	Levins is now numbered New Richmond 19 through New Richmond 21. Which Levins dock are you bound for?
…bound for California Oils…	California Oils is now called New Richmond 23.
…bound for UEIONY… (you've got no idea)	• Where is UEIONY? • What dock is it adjacent to? • What is the latitude and longitude…?
…bound for Parr 4…	Are you referring to New Point San Pablo 4?

Richmond Inner Harbor Cross-reference Diagram

Diagram

The diagram below shows the following.

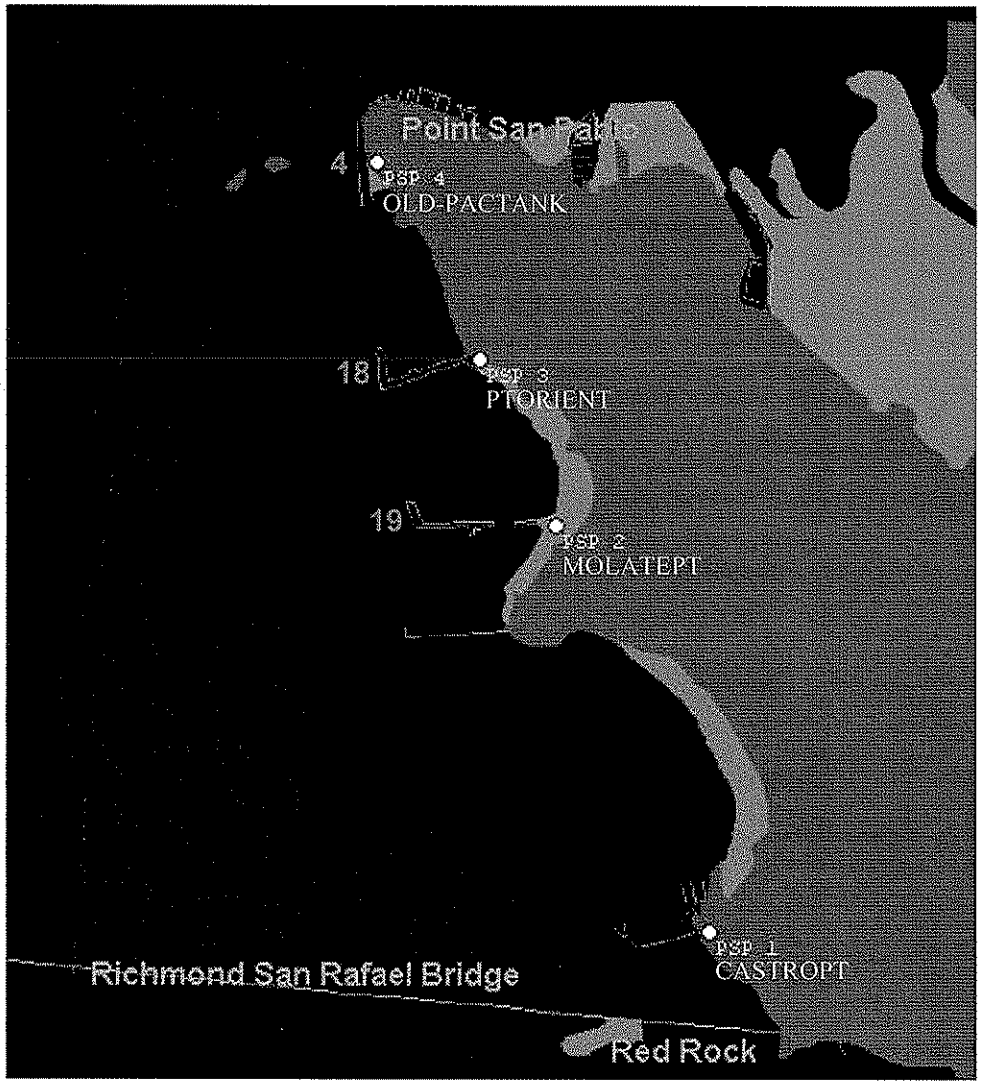
- Red numbers: Old Richmond Terminal numbers.
- Yellow numbers and dots: New Richmond numbers.
- Yellow text: Abbreviations of recent facility names.



Richmond Point San Pablo Cross-reference Diagram

The diagram below shows the following.

- Yellow numbers and dots: New Richmond numbers.
- Yellow text: Abbreviations of recent facility names.
- Red numbers: Old Richmond Terminal numbers.



Revised: August 2005

Instructions for Towing Vessel Rides

Purpose

The objective of your towing vessel ride week is to become immersed in inner workings and operations of a towing vessel company.

Specific objectives

While onboard the towing vessels you should do the following:

1. Spot geographic reference points at night.
2. Spot aids to navigation at night.
3. Compare visual reference points to charted points.
4. Observe how different towing configurations affect maneuverability.
5. Observe the tug shift towing configurations.
6. Observe lightering or bunkering operations (or any barge alongside ship operations).
7. Observe how onboard communications between crew members affects the tug skippers ability to communicate with VTS.
8. Observe how VTS traffic reports are used by the tug skipper.
9. Listen for cases when excessive information is reported from VTS causing confusion to the tug skipper.
10. Observe how the towing vessel's RNA applicability affects navigational decisions.
11. Observe how the deep draft affects navigational decisions.
12. Observe operations in fog conditions if possible.
13. Observe vessel-to-vessel communications.
14. Observe cases when the tug must maneuver around numerous small vessels.

Special situations

While onboard you may observe a notable event or the vessel crew might call on you to take note of a specific hazardous or (allegedly) illegal situation (e.g., small vessel impedes their passage, etc.).

In the case of an urgent situation encourage the vessel captain contact the Coast Guard directly as soon as possible. In any case you should document the situation thoroughly and inform the towing vessel captain that you will report the situation to the proper Coast Guard department on arrival at the dock.

Under no circumstance should you attempt to exercise any regulatory authority over the towing vessel crew or over another vessel or party during the ride. Wait until you are shoreside then report to the VTS commanding officer ASAP.

Continued on next page

Revised: August 2005

Instructions for Towing Vessel Rides, Continued

Written report

Document the following in a separate report for each vessel ride:

1. Your name
2. Vessel name
3. Tug captain's name
4. Time of departure and departure point.
5. Time of arrival and destination.
6. List (and explain) examples of objectives that you encountered during the ride.

Example report

My name: PO Smith
Vessel name: Anna Foss
Captain: Tom Jones
Departed: 041900SEP98 RLW
Arrived: 042300SEP98 ARCO

- Shifted barge from ahead to alongside at Ferry Point. This was a very communications intensive evolution. VTS called twice during the shift and the captain wasn't able to answer the radio.
- Encountered low visibility off of Marin Tug and Barge. Lookout was posted. VTS was notified of low visibility.
- Etc.

Pointers

- Bring an orange VTS float coat. Make sure it's fully stocked with safety equipment.
- Dress very casually. Blue-jeans and tee shirt are OK (no printed tee shirts).
- Wear VTS ball cap if you like.
- Wear closed-tow shoes that you don't mind getting a bit scuffed.
- Bring a micro-cassette recorder if you have one (makes note taking easier).
- Bring your geography chartlets for point spotting and reference.
- Don't bring nautical charts—too much to carry.
- Bring a small note pad and several pens. Don't borrow from the tug.
- Get a beeper, cellular phone, or radio from VTS.
- Offer to bring a bag lunch (although the tug will probably offer to feed you).
- For long rides ask about sleeping accommodations on the tug.
- Arrange for VTS transportation or use of the Government vehicle as soon as possible.
- Write down all important contact numbers well ahead of time.

Making arrangements

- The tug company dispatcher is your point of contact for individual rides.
- Ask the dispatcher how he/she wants you to keep abreast of a transit.

Reviewed: August 2005

Instructions for Piloted Vessel Rides

Purpose

The objective of your piloted vessel ride week is to become immersed in inner workings and operations of the San Francisco Bar Pilots and to receive maximum exposure to the VTS area geography by riding on ships transiting throughout all parts of the VTS area.

Specific objectives

While onboard the ships you should do the following:

1. Spot geographic reference points at night.
2. Spot aids to navigation at night.
3. Compare visual reference points to charted points.
4. Observe how different types of vessels maneuver differently.
5. Observe the pilot directing tugs during mooring and un-mooring.
6. Observe ship alongside-ship (lightering, etc.) operations if possible.
7. Observe ship anchoring operations if possible.
8. Observe how communications between the pilot, the ship's crew, and assist tugs affects the pilots ability to communicate with VTS.
9. Observe how VTS traffic reports are used by the pilot.
10. Listen for cases when excessive information is reported from VTS causing confusion to the pilot.
11. Observe how the pilot's first position report (off the dock) is handled by VTS and how excessive VTS reporting at this time would be bad.
12. Observe how a ship's RNA applicability affects navigational decisions.
13. Observe how the deep draft affects navigational decisions.
14. Observe operations in fog conditions if possible.
15. Observe vessel-to-vessel communications.
16. Observe cases when the ship must maneuver around numerous small vessels.

Continued on next page

Instructions for Piloted Vessel Rides, Continued

Special situations

While onboard you may observe a notable event or the pilot might call on you to take note of a specific hazardous or (allegedly) illegal situation (e.g., small vessel impedes their passage, etc.).

In the case of an urgent situation, encourage the pilot to contact the Coast Guard when possible. In any case you should document the situation thoroughly and inform the pilot that you will report the situation to the proper Coast Guard department on arrival at the dock.

Under no circumstance should you attempt to exercise any regulatory authority over the ship or over another vessel or party during the ride. Wait until you are shoreside then report to the VTS commanding officer ASAP.

Written report

Document the following in a separate report for each vessel ride:
(E-mail report to TC, CO, XO, OPS)

1. Your name
2. Vessel name
3. Tug captain's name
4. Time of departure and departure point.
5. Time of arrival and destination.
6. List (and explain) examples of objectives that you encountered during the ride.

Example report

My name: PO Smith
Vessel name: Nedlloyd Happyland
Pilot: Capt. Tom Jones
Departed: 041900SEP98 B22
Arrived: 042300SEP98 A9

- Pilot was so busy working tugs off the dock that he couldn't answer VTS on channel 14.
- Ship agreed to hold position off the dock to avoid an RNA encounter with another ship in the Oakland Harbor RNA.
- Pilot commented that VTS was helpful in reporting the positions of inbound vessels when preventing RNA encounters.
- Etc.

Continued on next page

Reviewed: August 2005

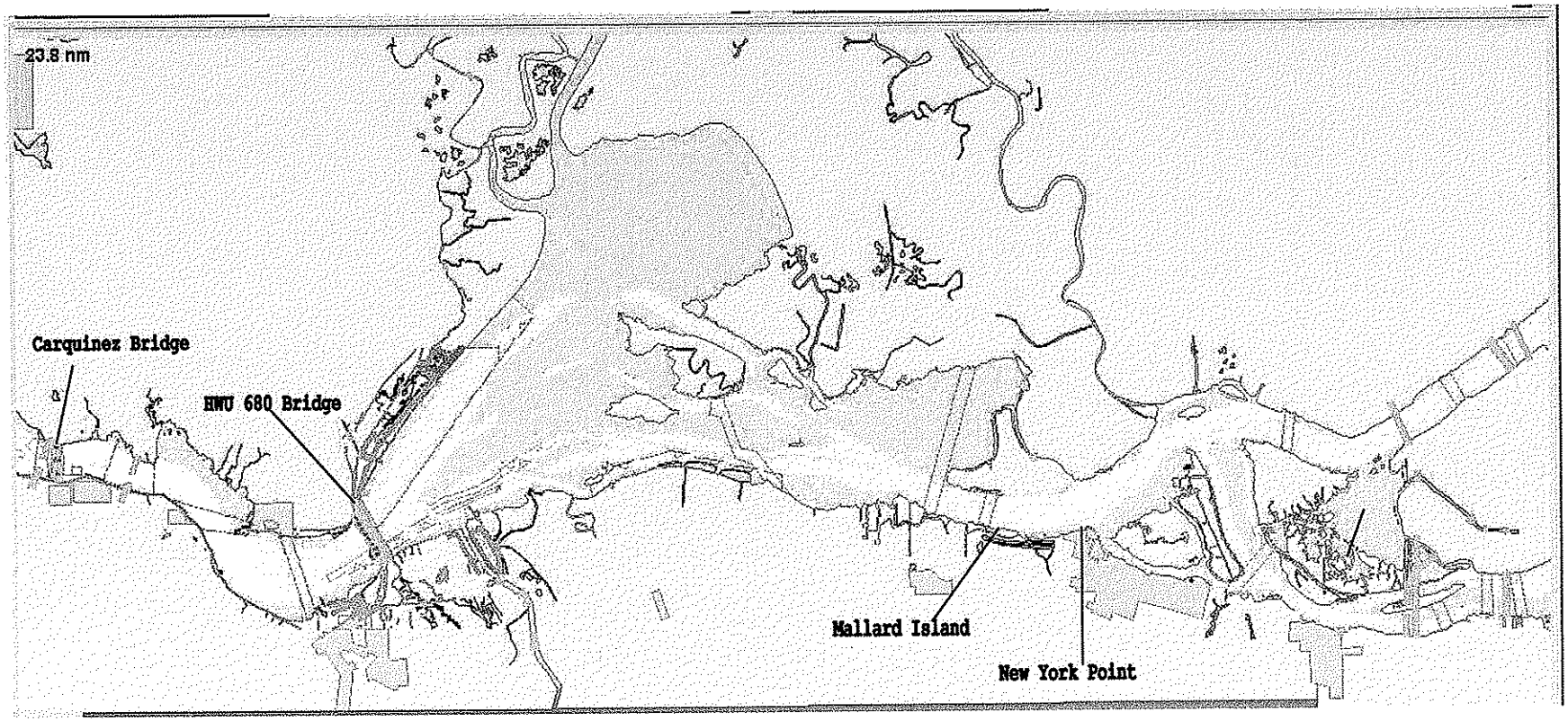
Instructions for Piloted Vessel Rides, Continued

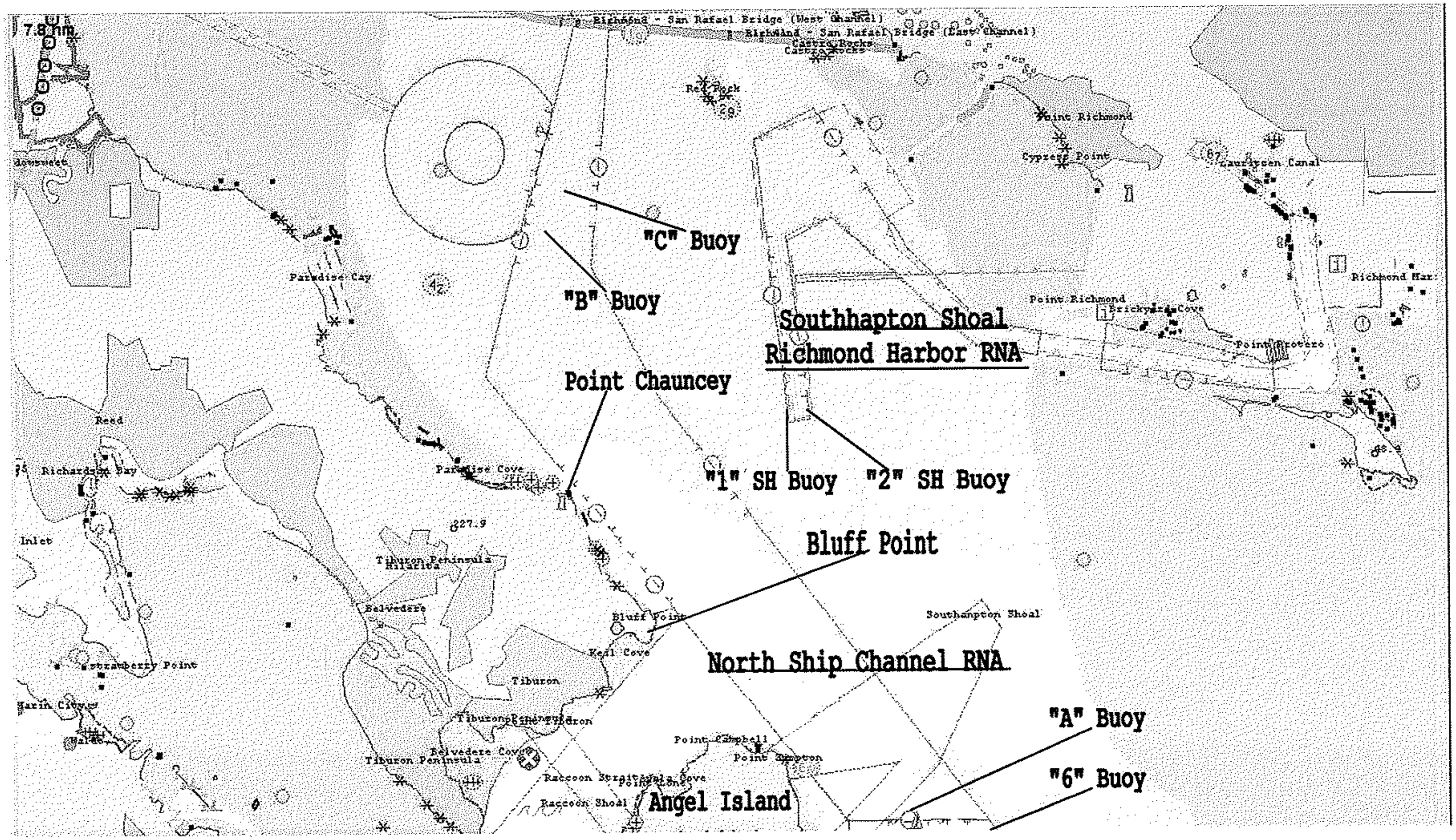
Pointers

- Bring an orange VTS float coat. Make sure it's fully stocked with safety equipment.
- Dress nice. Wear a shirt and tie with slacks. Ask the pilot if you should wear a dress jacket. Absolutely no jeans or tee shirts.
- Don't wear VTS ball cap unless the pilot is wearing a ball cap.
- Wear closed-tow non-slip shoes that are conducive to climbing.
- Bring a micro-cassette recorder if you have one (makes note taking easier).
- Bring your geography chartlets for point spotting and reference.
- Don't bring nautical charts—too much to carry.
- Bring a small note pad and several pens. Don't borrow from the pilot.
- Get a beeper, cellular phone, or radio from VTS.
- Offer to bring a bag lunch (although the ship will probably offer to feed you if a meal is served during the ride).
- For Sea Buoy (Pilot Station) rides ask about sleeping accommodations on the pilot boat.
- Arrange for VTS transportation or use of the GV as soon as possible.
- Write down all important contact numbers well ahead of time.
- You may have to embark or disembark a ship at the Offshore Pilot Station via a rope pilot ladder. If you are unsure how to perform ASK FOR HELP. Don't just wing it. Always wear a fully stocked float coat.

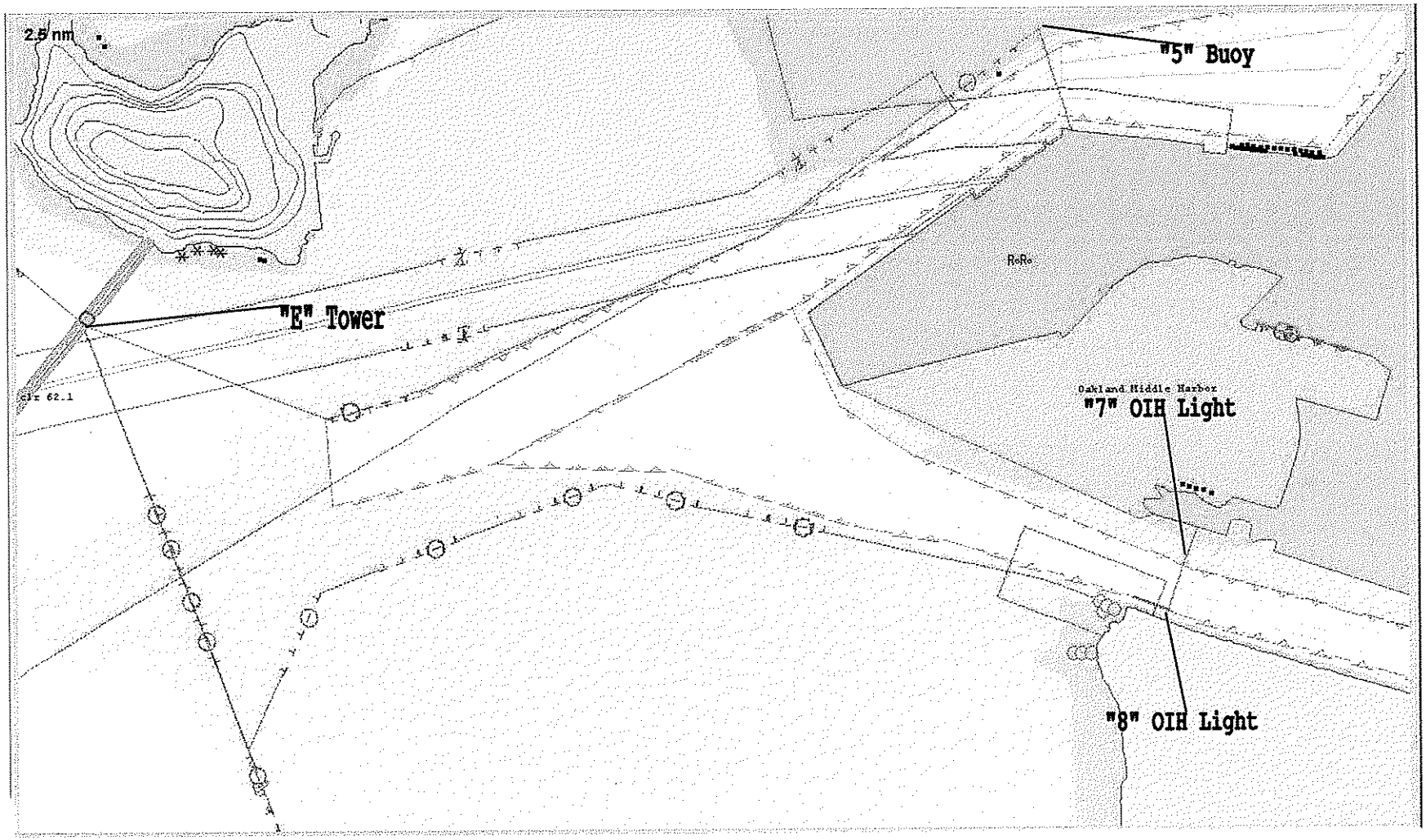
Making arrangements

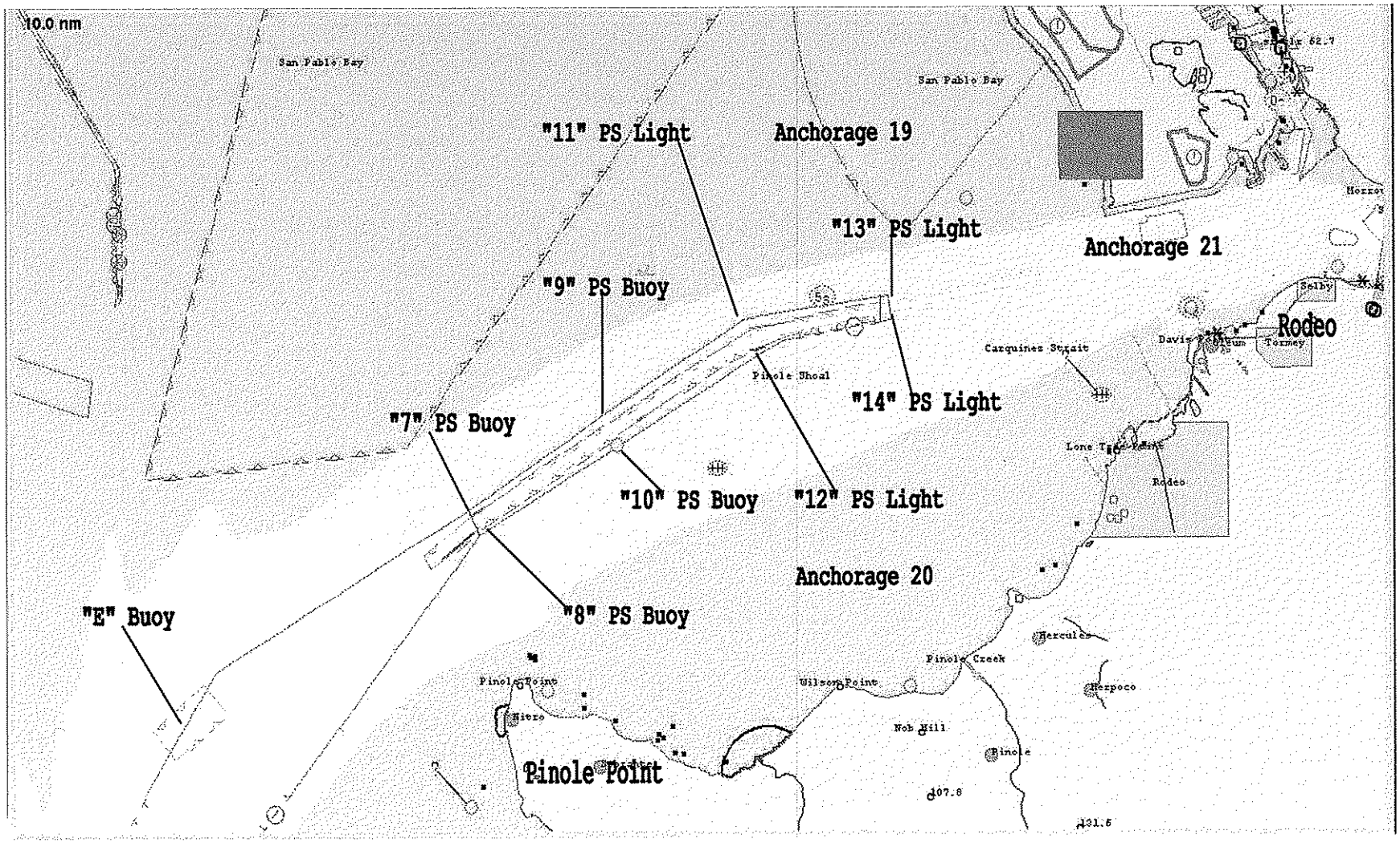
- Get copies of the daily ship movements from VTS.
- Operations Pilot (changes every Wednesday) is your initial Bar Pilot's point of contact.
  Phone: 415-362-5436
- Bar Pilot's dispatcher is your point of contact for individual rides.
  Phone: 415-393-0457
- Ask the Bar Pilot's dispatcher how he/she wants you to keep abreast of a ships scheduled departure time.
- For departure find out where to meet the pilot or the ship.
- For arrival find out how the pilot plans to get back to the point or origin.
  WARNING: Some pilots may go directly from the ship to their home. Make sure you have transportation if that is the case.

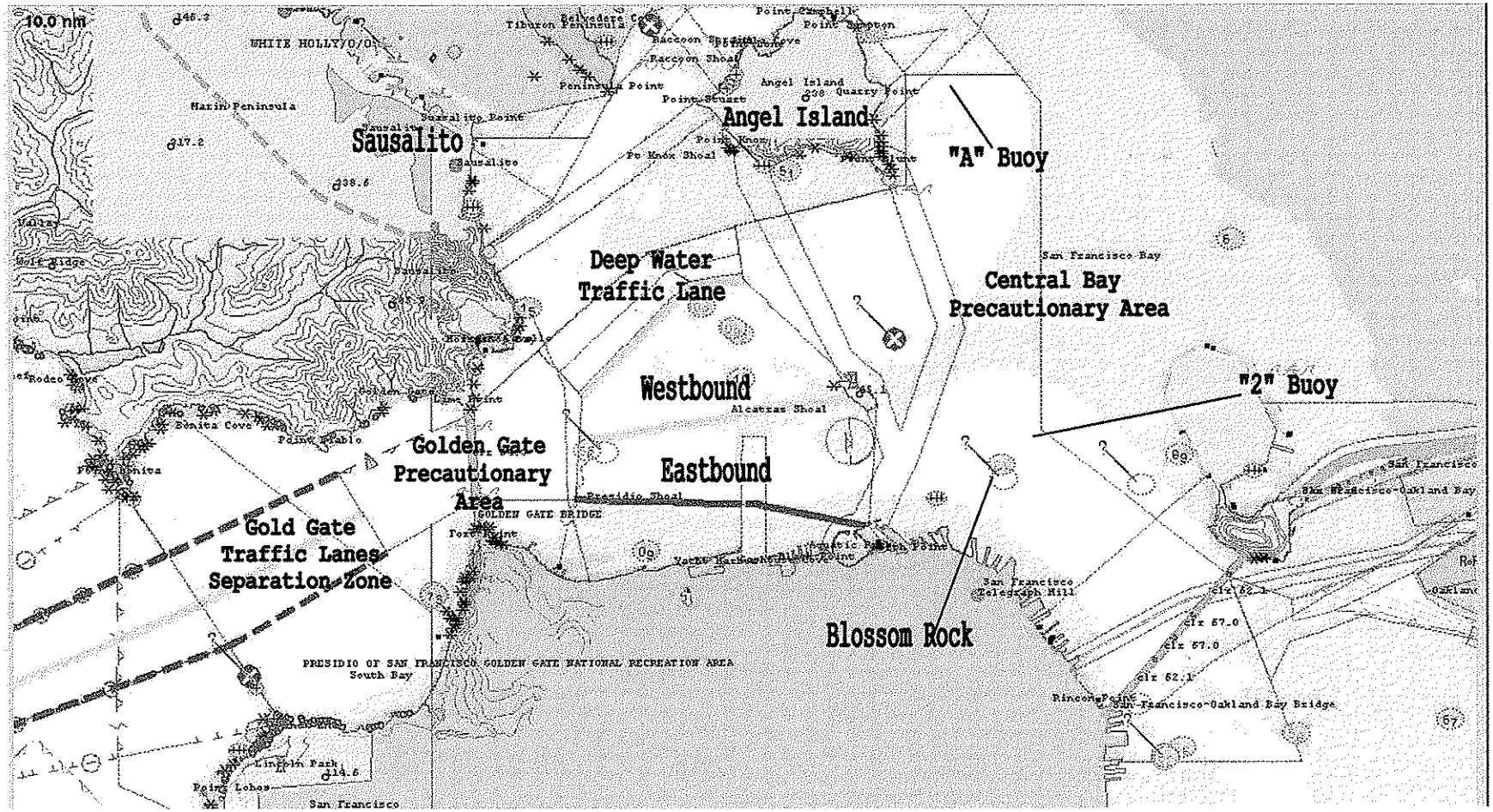

23.8 nm
Carquinez Bridge
HWU 680 Bridge
Mallard Island
New York Point

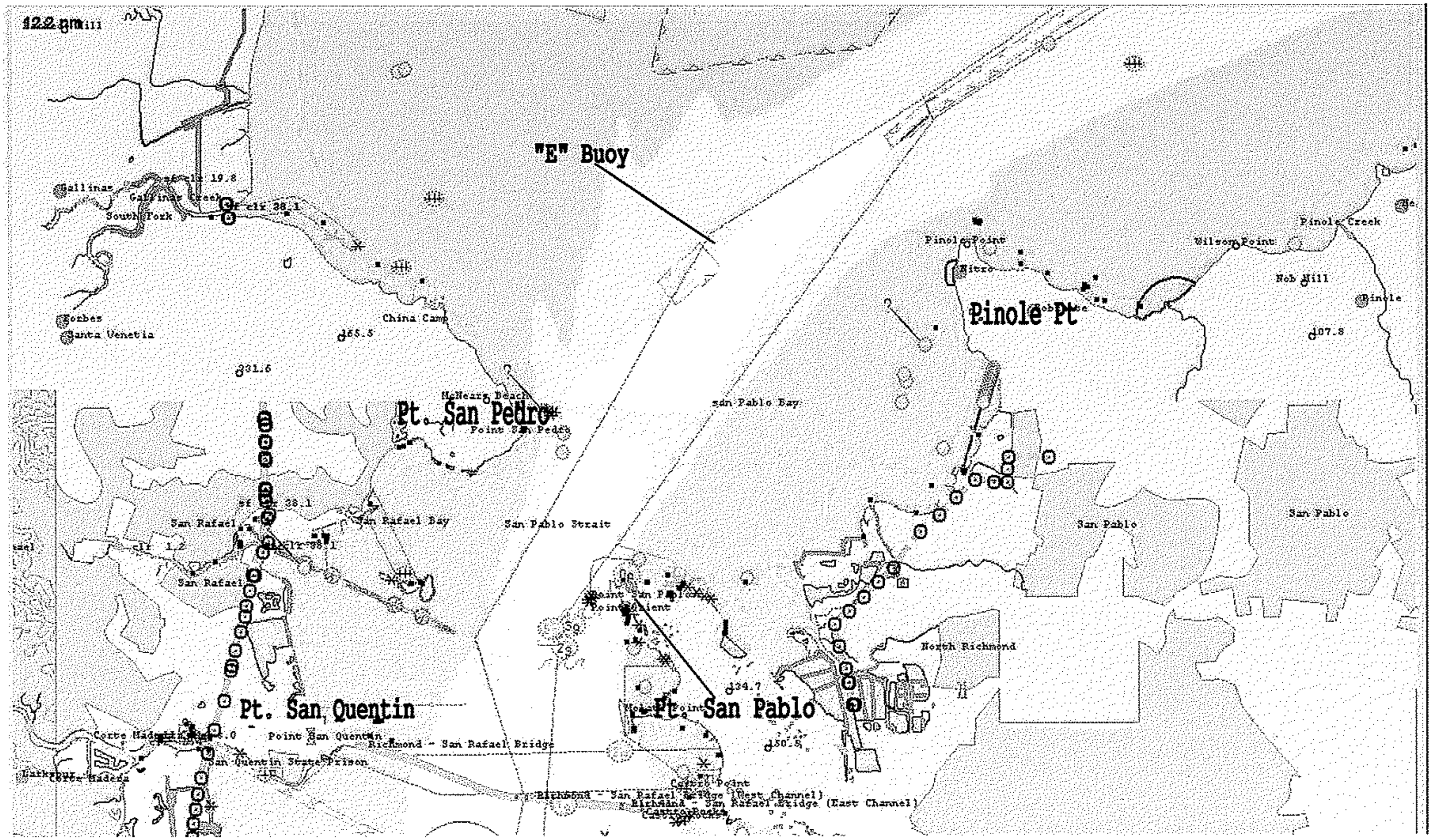


7.8 nm
Richmond - San Rafael Bridge (West Channel)
Richmond - San Rafael Bridge (East Channel)
Castro Rocks
Red Rock
Point Richmond
Cypress Point
Lauritzen Canal
Richmond Har.
Point Richmond
Brickyard Cove
Point Potrero
"C" Buoy
"B" Buoy
Paradise Cay
Southhapton Shoal
Richmond Harbor RNA
Point Chauncey
Reed
Richardson Bay
Paradise Cove
"1" SH Buoy
"2" SH Buoy
Inlet
Tiburon Peninsula
Bluff Point
Belvedere
Bluff Point
Southampton Shoal
Keil Cove
Strawberry Point
North Ship Channel RNA
Tiburon
Marin City
"A" Buoy
Point Campbell
Belvedere Cove
Tiburon Peninsula
Raccoon Shoal
"6" Buoy
Angel Island

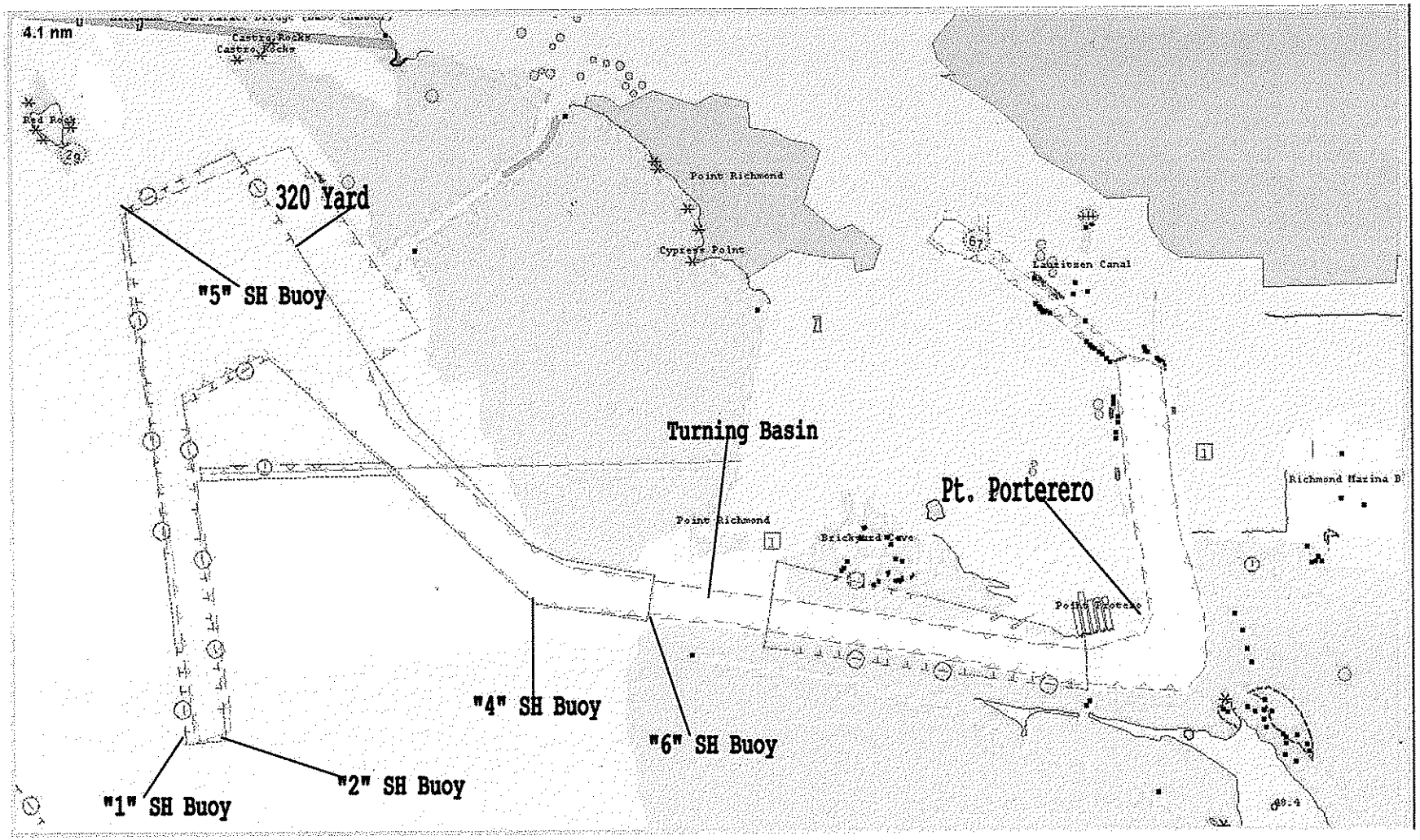

2.5 nm
"5" Buoy
RoRo
"E" Tower
Oakland Middle Harbor
"7" OIH Light
"8" OIH Light


10.0 nm
San Pablo Bay
San Pablo Bay
"11" PS Light
Anchorage 19
"13" PS Light
Anchorage 21
"9" PS Buoy
Rodeo
Carquinez Strait
Pinole Shoal
"14" PS Light
"7" PS Buoy
"10" PS Buoy
"12" PS Light
Anchorage 20
"E" Buoy
"8" PS Buoy
Hercules
Pinole Creek
Pinole Point
Wilson Point
Rodeo
Nob Hill
Pinole
Pinole Point


10.0 nm
Sausalito
Angel Island
"A" Buoy
Deep Water
Traffic Lane
Central Bay
Precautionary Area
Westbound
"2" Buoy
Golden Gate
Precautionary
Area
Eastbound
Gold Gate
Traffic Lanes
Separation Zone
Blossom Rock
GOLDEN GATE BRIDGE
PRESIDIO OF SAN FRANCISCO GOLDEN GATE NATIONAL RECREATION AREA
San Francisco-Oakland Bay Bridge



12.2 pm
"E" Buoy
Pt. San Pedro
Point San Pedro
McNears Beach
China Camp
Gallinas
Gallinas Creek
South Fork
Forbes
Santa Venetia
San Rafael
San Rafael Bay
San Pablo Strait
San Pablo Bay
Pt. San Quentin
Point San Quentin
San Quentin State Prison
Corte Madera
Richmond - San Rafael Bridge
Richmond - San Rafael Bridge (West Channel)
Richmond - San Rafael Bridge (East Channel)
Castro Point
Pt. San Pablo
Point San Pablo
Point Orient
North Richmond
San Pablo
Pinole Pt
Pinole Point
Wilson Point
Pinole Creek
Nob Hill
Pinole


4.1 nm
Castro Rocks
Point Richmond
Cypress Point
Lauritzen Canal
Richmond Marina B
Point Potrero
320 Yard
"5" SH Buoy
Turning Basin
Pt. Porterero
"4" SH Buoy
"6" SH Buoy
"2" SH Buoy
"1" SH Buoy