

DRAFT

MINUTES

HARBOR SAFETY COMMITTEE OF THE SAN FRANCISCO BAY REGION

10:00 a.m., Thursday, September 10, 1998

Port of Richmond, Harbor Master's Office, Richmond, CA

The public meeting was called to order at 10:05 a.m. by **L. Korwatch** (Matson Navigation), Chair. The secretariat confirmed the presence of a quorum. The following committee members or alternates were in attendance: **Gary Hallin**, Port of Oakland; **Denise Turner**, Port of San Francisco; **Tom Wilson** (alternate for Ronald Kennedy), Port of Richmond; **Margo Brown**, National Boating Federation; **Todd Covini** (alternate for Stuart McRobbie), SeaRiver Maritime; **Marc Bayer** (alternate for Brian Dorsch), BP Oil Shipping Co.; **Scott Merritt**, Foss Maritime Company; **Joan Lundstrom**, Bay Conservation and Development Commission; **Ray Shipway** (alternate for Gunnar Lundeberg), American Ship Management; **Larry Teague**, San Francisco Bar Pilots. U. S. Coast Guard representative, **Capt. Harlan Henderson** (MSO); OSPR representative, **Barbara Foster**; and NOAA representative **Bruce Hillard**. Also in attendance, more than fifteen representatives of the interested public.

1. **MOTION** by **J. Lundstrom**, seconded by **T. Wilson** to "accept the minutes of the previous meeting as written." Motion passed without objection.
2. **L. Korwatch** welcomed those in attendance.
3. **COAST GUARD COTP'S REPORT, H. Henderson.** (1) H. Henderson highlighted key cases from the three month period since the last HSC meeting. (2) Written reports of port operations statistics for pollution response and investigations and significant port safety events for the period 6-1-98 to 8-31-98 are made a part of these minutes. (3) ISM Code enforcement began 7-1-98. Anticipated problems associated with non-compliant vessels have not materialized. There have been no detentions since 7-1-98. The average prior to then was three to four detentions per month. (4) The Coast Guard is in *Threat Condition Alpha*, which is basically a state of heightened state of awareness in response to recent terrorist activity. (5) The Marine Safety Detachment, Concord, has been targeted for proposed closure. The thirteen personnel stationed there are responsible for covering the delta to Sacramento. The COTP is looking at how to provide the same level of service if the closure takes place. (6) (a) **Katie Sylvester**, Aids to Navigation Branch, reported that dredging will be completed in Pt. Potrero reach next week and a new beacon will be installed. (b) A study of San Pablo Bay, Carquinez Strait and Mare Island is underway. A survey of users will be used to review aids to navigation, casualties and transit routes for any possible changes in aids and their placement. (c) The Monterey Bay Work Group has developed a set of vessel traffic management strategies. The recommendations from this group includes a change in the separation scheme for entry to the Golden Gate, extending the distance offshore for vessel transits and revised reporting procedures. OSPR will update their response program. The proposed changes will appear in the *Federal Register* sometime in September and will be subject to a sixty day comment period. The *Federal Register* can be accessed on the internet. Call **K. Sylvester** at 510-437-2982 for the web address. November 21-23 the whole plan will be presented in a public forum in Monterey. (7) **H. Henderson** reported that **Lt. Cmdr. Randy Sharp** will

attend the next HSC meeting to discuss the analysis results and answer questions regarding propulsion and steering casualties.

4. **CLEARINGHOUSE REPORT, A. Steinbrugge.** (1) A written report with statistics for the months of June, July and August and year-to-date is made a part of these minutes. (2) There were six occasions to report violations to OSPR in the three month period since the last HSC meeting. Two were technical violations in that no escort was required; one involved an event where the escort tug checked in, but the tug and barge didn't until it was in transit; one where the escort checked in but the tanker didn't until it was in transit; one where the escort tug didn't check in until the escort was underway and one where the tide changed mid-transit resulting in an increased in the required kips.
5. **OSPR REPORT, B. Foster.** (1) **B. Foster** introduced the new OSPR representative for the San Francisco Bay Region, **Ted Mar**, who will be the OSPR point-of-contact for the HSC. (2) OSPR has formed an audit team to look at tug crew training programs and certification. To date, two of the six companies providing escorts have been audited. The audit team includes: **Barbara Foster, Ted Mar, Sean Kelly, and Warden Dale Wong.** (3) The PMSA bill, SB 1644, regarding contingency planning for vessels other than tankers is on the Governor's desk for signature. OSPR has remained neutral on the legislation. (4) **B. Foster** will administer the oath of office, after the HSC meeting, to returning member **J. Lundstrom**, her alternate, **Rick Cooper** of the BCDC Oil Spill Program, and **Todd Covini** of SeaRiver Maritime, newly appointed alternate for **S. McRobbie.** OSPR is still seeking a representative from the environmental community.
6. As noted at the May HSC meeting, the Chair has been looking at how HSC sub-committees are structured. Her proposal for a restructuring the sub-committees was distributed, along with suggested issues that might be addressed by each. Rather than have sub-committees with a single focus that start up and stop, the proposal is to establish three sub-committees with a broader focus: Navigation: to address issues such as Monterey Bay Sanctuary vessel routing, aids to navigation, bridges and related construction projects and removal of the underwater rocks in the bay. **L. Teague** will chair this sub-committee. HSC members or those from the public should contact **A. Steinbrugge** at the MX if they would like to be considered for this sub-committee. Tugs: to address issues such as escorting, standardizing inter-tug communications and study of what vessels are and are not required to have escorts. **J. Lundstrom** will chair this sub-committee. **G. Stuart** and **M. Brown** (from the original Tug Escort Sub-Committee) will serve on the committee. Advisory members are: **H. Henderson**, USCG MSO, and **D. Ellis**, USCG VTS. A review of provisions for training, the matching formula and propulsion and steering failures is mandated and must be completed by 1-1-99.

The Tug Sub-Committee will hold its first meeting on 9-21-98. **Capt. Ray Shipway**, MM&P, requested that the Chair consider him for a seat on this sub-committee. Human Factors: to address issues such as Prevention through People, piloting requirements and criteria, fatigue, near-miss events and communications. **S. Merritt** will chair this sub-committee and **M. Brown** will serve as a member, continuing her work on Prevention through People and related issues. **B. Hillard** suggested that charting and surveying be included topics addressed by the Navigation Sub-Committee. The Chair noted that those and other issues could be looked at by the sub-committee. Her recommended topics were not intended to be the sole task of any of the sub-committees.

7. **PORTS AD HOC ADVISORY COMMITTEE, J. Lundstrom.** (1) The evaluation of the PORTS demonstration project must be to the Administrator of OSPR by April, 1999, for submission to the legislature. Questions to be answered are: should it be continued, how could it will be funded and is it useful? The committee chose consultant **Doug Lathrop** to identify users and potential users and assess the reliability and benefits of PORTS. He submitted an interim report last month indicating that PORTS serves a wide variety of users including academia, recreational boaters and fishermen, commercial users and pilots. It is not possible to identify users who access the system by telephone, but it can be done for internet users. The interim report also notes that a wide range of information is being accessed by users. There were 12,000 hits on the website in July. 267 different users have been identified and usage is growing at the rate of 1% per month. Concerning reliability, the data is updated every six minutes and the instruments have proven to be very reliable. Evaluation of PORTS will be completed in January, 1999 and will include one-on-one interviews conducted by **D. Lathrop**. Earlier worries about the rough conditions at the Golden Gate and Carquinez negatively affecting the equipment have been dispelled. The only glitches are related to transmission of the data and problems with PacBell wiring. The MX outreach program is ongoing. 3700 brochures have been distributed. There is a presentation that can be made to any group that asks. Contact **A. Steinbrugge** at the MX. The Advisory Group will hold its next public meeting in November, to be announced to the HSC mailing list.
8. **PREVENTION THROUGH PEOPLE SUB-COMMITTEE, M. Brown.** The sub-committee has completed a task classification, which is available from the MX. The sub-committee is in the process of compiling a dictionary of VTS informational expressions for use by recreational boaters and fishermen, which will be completed at its next meeting. It will be distributed at the request of VTS and MSO. On 9-11-98, **M. Brown** will participate in a Human Factors Work Group telephone conference.
9. **HARBOR SAFETY PLAN REVIEW, J. Lundstrom.** The final approved version of the 1998 Review was distributed and should replace the draft in Plan Binders. The review includes

a copy of the tug escort regulations and Coast Guard casualty statistics. The Chair announced that **J. Lundstrom**, working with her alternate **R. Cooper**, will continue to be responsible for plan updates. **J. Lundstrom** reported that **M. Bayer** found an error in the Harbor Safety Plan that has been there from the first. It is found in the definition of underkeel clearance and clean-up language will be submitted to the HSC for a vote at the October meeting. The plan language currently reads: "Underkeel clearance is the minimum clearance between the deepest point on the vessel and the bottom of the vessel in still water conditions."

10. **UNFINISHED BUSINESS:** None.
11. **NEW BUSINESS:** **L. Korwatch** requested that the HSC get input on Y2K issues and suggested that an expert be invited to address the HSC at a regular meeting as soon as possible. A Coast Guard representative indicated that a West Coast workshop has been scheduled for 10-20-98 for in Portland, Oregon. In addition, there are experts on Coast Guard Island who could make a presentation at the next HSC meeting. There are a number of web sites and links, including a Coast Guard page, that address Y2K issues and solutions. Those addresses will be made available at the October HSC meeting.
12. The next meeting will be 10-8-98 at 10:00 at the Port of Oakland.
13. Meeting adjourned without objection at 10:55.

Submitted by:

T. Hunter
Secretariat

USCG MARINE SAFETY OFFICE SAN FRANCISCO BAY
PORT OPERATIONS STATISTICS
FOR 01 to 30 JUNE 1998

PORT SAFETY:

1. Total Port Safety cases open for period:	21
2. SOLAS Interventions:	2
3. Number of vessels requesting/granted Letters of Deviation to enter Bay: Cases include: Inop Radar (2)	3/3
4. Propulsion Casualties	3
5. Steering Casualties:	1
6. Collisions/Allisions:	2
7. Groundings:	0

POLLUTION RESPONSE:

	MSO	MSD	TOTAL
1. Total oil pollution incidents within MSO SFB AOR:	24	10	34
Civil Penalty Action (Marine Violation)	2	3	7
Civil Penalty Action, Ticket Issued (Notice of Violation)	2	2	4
Letter of Warning	1	0	1
No Action (No RP Found)	0	0	0
2. Discharges of Oil from:			
Deep Draft Vessels	1	0	1
Facilities (includes all non-vessel)	0	0	0
Military/Public Vessels	1	0	1
Commercial Fishing Vessels	3	0	3
Other Commercial Vessels	2	0	2
Non-Commercial Vessels (e.g. pleasure craft)	4	3	7
3. Cases Requiring Cleanup	0	2	2
4. Federal Fund Cases (OSLTF/CERCLA)	0	0	0
5. Hazardous Material Releases	0	0	0
6. Cases requiring Pollution Reports (POLREPS)	0	2	2

Significant Cases:

02 JUN 98 - Tug WILLIAM TINSDALE with barge IGNACIO suffered a casualty resulting in structural failure of the barge. The former oil barge nearly broke in half near Mare Island when the deck buckled under the weight of 3,000 tons of sand. Station Carquinez responded to the initial call for assistance. The tugs safely pushed the barge to the Navy pier #35, Mare Island, CA where it was grounded and then safely moored. No hazard to navigation was presented and no injuries were reported. Approximately 200 gallons of residual oil from the stripping lines leaked into the crippled tanks. The oil was removed by a private contractor. Salvors, company personnel, MSO inspectors and port operations personnel jointly worked on a temporary repair plan and tow plan to make the vessel sufficiently seaworthy to shift to Bay Ship and Yacht in Alameda. The tow was successfully completed on 23 Jun 98. The case is under investigation.

02 JUN 98 - T/V MUNDOGAS EUROPE (PN) - Vessel requested entrance to San Francisco Bay after modifying its propeller. One blade was removed due to corrosion, another blade was removed to balance the propeller. The COTP denied the request for entry. The vessel proceeded to drydock in Seattle, WA to change the propeller and repair the associated shafting, bearings and shaft packing/seal as necessary. Case closed.

05 JUN 98 - Tug LCM (US) - An empty mud scow being pushed by the vessel allided with the dock at Novanilla Marina. No injuries or damage to vessel were reported. The case is under investigation.

07 JUN 98 - P/V TRACER (US) - Vessel suffered a steering casualty while transiting outside the jetties, with 32 passengers on board. Station Bodega Bay towed the vessel to safety. A verbal 835 was issued. Repairs to the tiller arm were made and inspected to the satisfaction of the OCMI. The case is closed. 13 JUN 98 - Tug ADVENTURER (US) - Tug suffered a propulsion casualty of one of two main engines, while towing the loaded T/B 450-7. A tug escort was on scene for transit to Pier 96, San Francisco, and a third tug assisted in mooring the barge. The inoperable engine was repaired enroute and subsequently inspected to the satisfaction of the OCMI. The case is closed.

13 JUN 98 - M/V ELLEAIR TAI0 (PN) - While moored at the Port of Sacramento, the crew's inadequate performance of a fire drill and improper use and operation of emergency equipment resulted in a SOLAS intervention. The events leading up to the COTP order and SOLAS intervention were corrected to the satisfaction of the COTP. The Flag State representative was notified. The case is closed.

16 JUN 98 - P/V SPIRIT OF SACRAMENTO (US) - Vessel suffered steering casualty while enroute to Old Sacramento L Street Landing with 63 POB and subsequently allided with the Sea Scout M/V DOLPHIN, which was moored there. No injuries were sustained. The vessel made repairs to the steering system and moored safely to the satisfaction of the CG inspector and the OCMI. Minor damage was sustained by both vessels. The case is under investigation.

17 JUN 98 - M/V SAN FRANCISCO (US) - Vessel suffered casualty of electrical control panel during a Larksburg-San Francisco Transit. The vessel returned to dock on emergency power and offloaded passengers. Repairs were made to the satisfaction of the OCMI. The case is closed.

18 JUN 98 - M/V ENERGETIC (PN) - Vessel failed to request a LOD for inoperable ARPA radar prior to entering port. Upon inspection, the vessel displayed several serious discrepancies which included a low pressure fire main, inadequate charts and publications on board, no life raft service reports, and expired National Licenses for crew members. A Letter of Undertaking was issued. The necessary repairs were made. The COTP order was rescinded. The case is under investigation.

21 JUN 98 - M/V BASS BOAT (US) - Vessel partially submerged at Rio Vista Bridge. 2 POB safely rescued. 15 gallons of gasoline on board. No injuries or pollution reported. Station Rio Vista ensured that vessel was adequately secured. The case is under investigation.

22 JUN 98 - M/V OMI COLUMBIA (US) - Vessel shut down engine and went to Anchorage 9, when it noted a mechanical problem while departing bay. Repairs were made to the satisfaction of the OCMI. The case is closed.

23 JUN 98 - F/V VAYA CON DIOS (US) - On 24JUN98 the fishing vessel VAYA CON DIOS sank off of San Pedro Rock in Pacifica with 2 dead and 2 missing. The CG recovered 2 crew member's bodies. 2 were missing. The vessel sank a quarter mile off Shelter Cove. Approximately 1,400 gallons of diesel, 150 gallons lube and 200 gallons of hydraulic oil were discharged and dissipated rapidly. A 6 person MSO team responded to assess the feasibility of cleanup and possible beach impacts. Because of the weather conditions and sea state on scene, no oil recovery was feasible; however the oil sheen created by the vessel evaporated and broke up before it impacted land. The team completed assessment of the discharge and recommended no further action. The case is under investigation.

USCG MARINE SAFETY OFFICE SAN FRANCISCO BAY
PORT OPERATIONS STATISTICS
FOR 01 to 31 July 1998

PORT SAFETY:

1. Total Port Safety cases open for period:	23
2. SOLAS Interventions:	0
3. Number of vessels requesting/granted Letters of Deviation to enter Bay: Cases include: Inop Radar (2)	5/5
4. Propulsion Casualties	2
5. Steering Casualties:	0
6. Collisions/Allisions:	1/0
7. Groundings:	0

POLLUTION RESPONSE:

	MSO	MSD	TOTAL
1. Total oil pollution incidents within MSO SFB AOR:	28	6	34
Civil Penalty Action (Marine Violation)	1	0	1
Civil Penalty Action, Ticket Issued (Notice of Violation)	1	0	1
Letter of Warning	4	0	4
No Action (No RP Found)	13	0	13
2. Discharges of Oil from:			
Deep Draft Vessels	0	0	0
Facilities (includes all non-vessel)	3	0	3
Military/Public Vessels	1	1	2
Commercial Fishing Vessels	5	0	5
Other Commercial Vessels	1	0	1
Non-Commercial Vessels (e.g. pleasure craft)	1	3	4
3. Cases Requiring Cleanup	3	0	3
4. Federal Fund Cases (OSLTF/CERCLA)	0	0	0
5. Hazardous Material Releases	0	2	2
6. Cases requiring Pollution Reports (POLREPS)	0	1	1

Significant Cases:

11JUL: M/V DIRECT FALCON suffered an engine casualty shortly after leaving Berth 60. The casualty was caused by a pneumatic valve failure. A tug escorted the vessel back to B-60, where by COTP order, they were required to make repairs prior to departure.

12JUL: M/V PRESIDENT HOOVER voluntarily shut down main engine 1000 ft. from B-60 due to engine room fuel overflow problem. Vessel was under the control of tugs and made it into B-60 without consequence. Class inspected and cleared discrepancy.

15JUL: Barge 201, pushed by TUG PETALUMA, was struck by Barge 19, pushed by TUG HARRY B on the Petaluma River near Petaluma, CA. Damage to both barges occurred. Barge 201 was loaded with sand, Barge 19 was loaded with gravel. No injuries or pollution occurred.

22JUL: Fire aboard 4 vessels at the Outrigger Marina on the Sacramento River. Station Rio Vista and Local Fire Department responded to the fire. MSD Concord PI responded to the pollution which was determined to be approximately one gallon which entered the water. Ref: POLREP P 240225Z.

23JUL: Unidentified vsl broke free of its moorings and was reported a hazard to navigation in the delta (Steamboat Slough). An MSO team, in conjunction with a team from the Sacramento county sheriff's department, investigated the case. There vsl was found to be partly submerged. There was no evidence of pollution and the vessel was not in the shipping channel.

24JUL: M/V CAPE HUDSON suffered a propulsion casualty while outbound near anchorage 7. The casualty was caused by a loss of an oil pump to the #2 turbo charger. Repairs were made by tech rep and vsl successfully completed sea trials. Vsl departed under one tug escort to Golden Gate Bridge.

28JUL MSD Concord personnel responded to a 3,500 LB pipeline spill of urea ammonium nitrate solution at the Hydro Agri facility in Stockton. The hazardous material spill occurred ¼ mile inland, and no material reached the water. Urea ammonium nitrate is not a hazardous substance and is not regulated for the purposes of CG spill response; however, the material has oxidizing and other hazardous qualities, and CG personnel ensured that the facility was taking adequate safety measures during the initial cleanup.

USCG MARINE SAFETY OFFICE San Francisco BAY

PORT OPERATIONS STATISTICS

FOR 01 to 31 August 1998

PORT SAFETY:	MSO	MSD	TOTAL
1. Total Port Safety cases open for period:	21	10	31
2. SOLAS Interventions:	0	0	0
3. Number of vessels requesting/granted Letters of Deviation to enter Bay: Cases include: Inop Radar (3)	3/3	0/0	3/3
4. Propulsion Casualties	2	0	2
5. Steering Casualties:	2	0	2
6. Collisions/Allisions:	1/1	0/0	1/1
7. Groundings:	0	0	0

POLLUTION RESPONSE:

	MSO	MSD	TOTAL
1. Total oil pollution incidents within MSO SFB AOR:	20	12	32
2. Penalty Action:			
Civil Penalty Action (Marine Violation)	1	0	1
Civil Penalty Action, Ticket Issued (Notice of Violation)	6	0	6
Letter of Warning	2	5	2
No Penalty Action (e.g. no RP found)	11	7	19
3. Discharges of Oil from:			
Deep Draft Vessels	0	0	0
Facilities (includes all non-vessel)	7	1	8
Military/Public Vessels	2	0	2
Commercial Fishing Vessels	2	0	2
Other Commercial Vessels	5	7	12
Non-Commercial Vessels (e.g. pleasure craft)	4	0	4
Unknown Source	0	0	0
4. Cases Requiring Cleanup	3	0	3
5. Federal Fund Cases (OSLTF/CERCLA)	0	1	1
6. Hazardous Material Releases	0	0	0
7. Cases requiring Pollution Reports (POLREPS)	1	1	2

Significant Cases:

3 Aug – MSD personnel responded to Station Rio Vista for CERCLA fund removal of a 55 gallon drum containing unknown materials.

7 Aug – M/V BENETNOSCH reported an inoperative engine blower causing a loss of propulsion. The vessel was directed to A-7 to make repairs by COTP Order. Repairs were made and verified by the vessel's Class Society, COTP Order rescinded.

8 Aug – M/V LIBERTY SPIRIT (freight ship) reported a engine room fuel leak and loss of propulsion when it was adrift in A-9. The vessel anchored while it waited for tug assistance. Engine fuel injector leak was repaired to the satisfaction of the MSO duty inspector.

16 Aug – T/V GAIDA suffered a dent as a result of a collision with her escort tug. MSO duty inspector reported no punctures or cracks. Vessel received a Letter of Deficiency requiring the vessel to make permanent repairs prior to returning to a US port.

16 Aug – After a several months effort by MSD personnel, the pollution threat and derelict Tug Elizabeth A was successfully towed to Port of Sacramento by owner contracted agent. 4000 gallons of Waste oils and 10,000 gallons of contaminated water were removed on 26 Aug.

19 Aug – Ferry FRESNO, a 260 ft. vintage ferry was slowly taking on water at a pier in Richmond Harbor. An MSO response team discovered approximately 20,000 gallons of water covered by a ¼ inch layer of oil (an estimated 1,500 gallons) in the bilges of the ferry's two engine rooms. The ferry owner hired a contractor to remove most of the oil and water. Surveyors are to determine the type and location of any remaining oil or hazardous materials and the condition of the hull. Case pends.

20 Aug – THREATCON ALPHA was set. Notified all ports/facilities of increased threat.

21 Aug – Tosco Avon Refinery discharged approx. 1500 bbls of intermediate fuel oil into a bermed area when a tank fractured. Investigators determined no threat to navigable waterway. Tosco is conducting remediation.

21 Aug – F/V DUNGEONESS sank at the pier in Crescent City, spilling a small quantity of oil into the harbor. In an example of excellent "M" and "O" coordination, the crew of the USCGC POINT HEYER quickly responded, deploying MSO pre-positioned boom around the vessel, containing the majority of the spill. An MSO representative oversaw the spill cleanup by the Crescent City Harbor District, which raised the vessel to prevent the leakage of any remaining oil.

24 Aug – Conducted Pre-Inspection aboard M/V GREEN WAVE. Supervised the loading of break-bulk explosives on M/V GREEN WAVE at WSF Concord.

26 Aug – Lucas Marine informed MSD that all oil and water have been removed from the tug ELIZABETH A. Approx. 10,000 gallons of oily water and 4,000 gals of waste oil were removed.

San Francisco Bay Clearinghouse Report For 1998

San Francisco Bay Region Totals

Tanker arrivals to San Francisco Bay	484
Tank ship movements & escorted barge movements	2,604
Tank ship movements	1,762
Escorted tank ship movements	773
Unescorted tank ship movements	989
Tank barge movements	842
Escorted tank barge movements	402
Unescorted tank barge movements	440

Percentages above are percent of total tank ship movements & escorted barge movements for each item.

Movements by Zone	Zone 1	%	Zone 2	%	Zone 4	%	Zone 6	%	Total	%
Total movements	1,349		2,353		9		1,220		4,931	
Unescorted movements	704	52.19%	1,375	58.44%	9	100.00%	627	51.39%	2,715	55.06%
Tank ships	522	38.70%	954	40.54%	2	22.22%	403	33.03%	1,881	38.15%
Tank barges	182	13.49%	421	17.89%	7	77.78%	224	18.36%	834	16.91%
Escorted movements	645	47.81%	978	41.56%	0	0.00%	593	48.61%	2,216	44.94%
Tank ships	446	33.06%	695	29.54%	0	0.00%	406	33.28%	1,547	31.37%
Tank barges	199	14.75%	283	12.03%	0	0.00%	187	15.33%	669	13.57%

Notes:

1. Information is only noted for zones where escorts are required.
2. All percentages are percent of total movements for the zone.
3. Every movement is counted in each zone transited during the movement.
4. Total movements is the total of all unescorted movements and all escorted movements.

San Francisco Bay Clearinghouse Report For August 1998

San Francisco Bay Region Totals

Tanker arrivals to San Francisco Bay	58
Tank ship movements & escorted barge movements	300
Tank ship movements	193
Escorted tank ship movements	86
Unescorted tank ship movements	107
Tank barge movements	93
Escorted tank barge movements	48
Unescorted tank barge movements	45

Percentages above are percent of total tank ship movements & escorted barge movements for each item.

	Zone 1	Zone 2	Zone 4	Zone 6	Total
	Count	Count	Count	Count	Count
	%	%	%	%	%
Total movements	165	259	0	145	569
Unescorted movements	80	141	0	71	292
Tank ships	64	103	0	47	214
Tank barges	16	38	0	24	78
Escorted movements	85	118	0	74	277
Tank ships	55	78	0	48	181
Tank barges	30	40	0	26	96

- Notes:
1. Information is only noted for zones where escorts are required.
 2. All percentages are percent of total movements for the zone.
 3. Every movement is counted in each zone transited during the movement.
 4. Total movements is the total of all unescorted movements and all escorted movements.

San Francisco Bay Clearinghouse Report For July 1998

San Francisco Bay Region Totals

Tanker arrivals to San Francisco Bay	68
Tank ship movements & escorted barge movements	365
Tank ship movements	234
Escorted tank ship movements	103
Unescorted tank ship movements	131
Tank barge movements	122
Escorted tank barge movements	52
Unescorted tank barge movements	70

Percentages above are percent of total tank ship movements & escorted barge movements for each item.

	Zone 1	%	Zone 2	%	Zone 4	%	Zone 6	%	Total	%
Total movements	182		323		2		167		674	
Unescorted movements	93	51.10%	194		2	100.00%	86	51.50%	375	55.64%
Tank ships	72	39.56%	128		2	100.00%	49	29.34%	251	37.24%
Tank barges	21	11.54%	66		0	0.00%	37	22.16%	124	18.40%
Escorted movements	89	48.90%	129	39.94%	0	0.00%	81	48.50%	299	44.36%
Tank ships	64	35.16%	92	28.48%	0	0.00%	55	32.93%	211	31.31%
Tank barges	25	13.74%	37	11.46%	0	0.00%	26	15.57%	88	13.06%

Notes:

1. Information is only noted for zones where escorts are required.
2. All percentages are percent of total movements for the zone.
3. Every movement is counted in each zone transited during the movement.
4. Total movements is the total of all unescorted movements and all escorted movements.

San Francisco Bay Clearinghouse Report For June 1998

San Francisco Bay Region Totals

Tanker arrivals to San Francisco Bay	67
Tank ship movements & escorted barge movements	368
Tank ship movements	231
Escorted tank ship movements	94
Unescorted tank ship movements	137
Tank barge movements	87
Escorted tank barge movements	33
Unescorted tank barge movements	54

Percentages above are percent of total tank ship movements & escorted barge movements for each item.

Movements by Zone	Zone 1	%	Zone 2	%	Zone 4	%	Zone 6	%	Total	%
Total movements	179		300		3		125		607	
Unescorted movements	105	58.66%	185	61.67%	3	100.00%	71	56.80%	364	59.97%
Tank ships	78	43.58%	133	44.33%	0	0.00%	52	41.60%	263	43.33%
Tank barges	27	15.08%	52	17.33%	3	100.00%	19	15.20%	101	16.64%
Escorted movements	74	41.34%	115	38.33%	0	0.00%	54	43.20%	243	40.03%
Tank ships	52	29.05%	84	28.00%	0	0.00%	41	32.80%	177	29.16%
Tank barges	22	12.29%	31	10.33%	0	0.00%	13	10.40%	66	10.87%

Notes:

1. Information is only noted for zones where escorts are required.
2. All percentages are percent of total movements for the zone.
3. Every movement is counted in each zone transited during the movement.
4. Total movements is the total of all unescorted movements and all escorted movements.

