MINUTES
HARBOR SAFETY COMMITTEE OF THE SAN FRANCISCO BAY REGION
10:00 a.m., Thursday, March 14, 1996
Port of Richmond, Harbor Masters’ Office, 1340 Marina Way South, Richmond, CA

1. The public meeting was called to order by Chair, Arthur Thomas, San Francisco Bar Pilots, at
10:10. The following committee members or alternates were in attendance: Dave Adams, Port of
Oakland; Alexander Krygsmian, Port of Stockton; Margot Brown, National Boating Federation;
Michael Nerney, Incheape Shipping Services; Rich Smith (alternate for Dwight Koops), SeaRiver
Maritime; Gunnar Lundeborg, Sailors Union of the Pacific; Scott Merritt, Foss Maritime; Joan
Lundstrom, San Francisco Bay Conservation and Development Commission; Roger Peters, Member at
Large; U. S. Coast Guard representatives, Lt. Cmdr. Sharon Richey (MSO) and Cmdr. Dennis Sobeck
(VTS); U. S. Navy representative Robert Mattson; and OSPR representatives Bud Leland, Marian
Ashe and Steve Sawyer. Also in attendance, more than thirty-five representatives of the interested
public.

2. T. Hunter, Marine Exchange, confirmed that a quorum was present.

3. MINUTES OF PREVIOUS MEETING. M. Brown: p. 4, #10, Will Travis is Executive Director,
BCDC; and p. 4, #12, second line from bottom “the cost of dredging is now $5 million”. J.
Lundstrom: p. 5, #14, sixth line from the bottom, statement should refer to “BCDC meetings” not
“Bay Planning meetings” and correct reference to rocks in the inner bay, not outer. Tom Richards,
NOAA: p. 4, #10, reference should be to Under-Secretary Baker. MOTION by R. Peters, seconded
by M. Brown, “to approve the minutes as corrected.” Motion passed without objection.

4. In opening remarks, the Chair thanked the Port of Richmond for the use of the Harbor Master’s
facility and noted that today’s meeting should be short. A lot of work and the efforts of many people
have brought the committee to a stage where the time has come to see ripening fruit on the tree. While
the entire HSC has worked towards development of an escort regulations package, special thanks goes
to the members of the TES who devoted time and energy many-fold that of the general membership.
The OSPR hearing on the package will be held at Fort Mason, SF on 3-19-96.

5. COAST GUARD REPORT. Lt. Cmdr. Sharon Richey, for Captain D. Montoro. (1) A written
report of pollution statistics and significant port safety events is made a part of these minutes. Of 58
reports, only one significant case of pollution was identified (75-100 gallons spilled). The spill was
the result of a fire on a derelict vessel in Suisun Bay and a report of violation was issued to the
responsible party. There was only one significant port safety case in the past month. The M/V
PACIFIC SUCCESS suffered a loss of full propulsion due to electrical problems. The vessel was
piloted on slow ahead to anchorage, and after inspection by the vessel’s engineer and Coast Guard
inspectors, the vessel continued to Pittsburg for repairs, using its manual control system. (2) D.
Montoro is at a meeting in the Delta this morning to address the problem of derelict vessels. (3)
Applications for the William Benkert Award are available. This is an environmental protection award
presented to corporations and businesses.
6. CLEARINGHOUSE REPORT, A. Steinbrugge. (1) There were no occasions to report regulated transits that did not check in with the Clearing House since the last HSC meeting. (2) A written report of February and year-to-date statistics is made a part of these minutes.

7. OSPR REPORT, B. Leland. (1) Steve Sawyer, head of OSPR’s Regulations Unit, was introduced. Carl Moore, former head, is now Pete Bontadelli’s Chief of Staff. (2) OSPR representatives to Humbolt and Port Hueneme are now the field representatives in those areas, to minimize travel. B. Leland expects to continue to represent OSPR to the SF HSC. (3) OSPR will hold a formal hearing on the tank vessel escort package at the Fort Mason Firehouse on 3-19-96 at 10:30. The period for public comment will close that date, with written input due to OSPR by the close of business. It is important at that hearing to provide a complete record for the regulations package. Depending on the types of comment received, there may be an added comment period. However, there has been little written comment to date. (4) The TAC meeting is scheduled for 4-17-96. The Technical Advisory Committee was established under SB 2040 as one of two watch-dog committees authorized to oversee the activities of the Administrator of OSPR. The TAC can make recommendations to the legislature or Administrator, but has no direct authority. The tank vessel escort regulations package will be on the TAC agenda on 4-17. OSPR has requested time to present the majority view of the SF TES and HSC at that time. The HSC may have the opportunity to have one or two speakers as well, and it is expected that there will be a statement from the minority position. A. Thomas asked to what extent the members of the TAC are technically oriented or are operations personnel. S. Sawyer responded that the majority of TAC members are political appointees selected from a wide range of environmental, clean-up and shipping interests. The TAC has been in existence since the HSCs were created. R. Peters asked if the second oversight committee, the State Inter-Agency Oil Spill Prevention Committee, has reviewed the escort package. B. Leland responded that they met and approved the package.

8. PORTS SUB-COMMITTEE, D. Adams. (1) D. Adams met in Washington, D. C., with Under-Secretary of Commerce Baker, Will Travis of BCDC and representatives of NOS and NOAA staff. The meeting was called as a staff meeting for the benefit of Under-Secretary Baker to familiarize him with the SF Bay Project. D. Adams presented the sea port attitude and feelings regarding the project and explained why the ports are so interested in maintaining PORTS. He explained the importance of the demo project to all Bay Area interests. He presented a video on San Francisco and Oakland in general and looking specifically at dredging needs. The possibility that federal regulations will result in a 3’ underkeel clearance requirement will result in the need for additional dredging. (2) To date, the Marine Exchange has had little response to the request for comment on the users’ matrix developed at the end of 1995. D. Adams will meet with Capt. Tom Richards (NOAA), A. Thomas and those interested to look at the next step towards developing a delivery system and marketing plans. (3) T. Richards reported that the weather, wind and temperature meters are installed in Alameda and ADCP is in Richmond. A crew will arrive in SF next week to link the telemetry system to include more stations’ data on the recorded delivery program. If there is enough local interest in including the tide station at the Dumbarton Bridge in PORTS, it can be done. The Port of Redwood City is water level
dependent and this information is also important for spill trajectory. On 5-17-96 the vessel MACARTHUR will deploy acoustic Doppler equipment at the Golden Gate with cables to the old Coast Guard station. A. Krygsman asked about Port of Stockton data. There is already a tide gauge in place that needs to be hooked into the system. T. Richards responded that the system can grow as much as users will support. There has been interest in gathering data for the Pinole Shoal area as well. After completion of the demo project in Tampa Bay, the Tampa Bay Authority added several stations. The Tampa system is funded 40% through the Port of Tampa, 40% by phosphate industry users and 20% by other users’ fees. (4) M. Brown reported that the Pacific Inter-Club Yacht Association contributed $100 to help fund new upgrades to the marine radio station in Monterey. T. Richards added that the SF Bar Pilots contributed $500 to the project. The National Weather Service spent $12,000 to purchase the station. It is important to demonstrate the support of local interests in funding the utility hook-ups ($2,000). (5) The Chair announced that the NWS presentation agendaed for this meeting will be rescheduled for the April meeting.

9. NEAR-MISS SUB-COMMITTEE REPORT, J. Lundstrom. J. Lundstrom and Jim Shanower, SFBP, attended a meeting on the subject at the LA/LB Marine Exchange the end of February. All HSCs except Humbolt Bay and Port Hueneme were represented. This was the third time the group has met in an attempt to coordinate the voluntary reporting of near-miss incidents. The near-miss report form developed by the USCG MSO in SF was promulgated. Members of the Near-Miss Sub-Committee (P. Moloney, D. Sobeck, C. Bowler, D. Montoro, M. Croce and J. Lundstrom) have reviewed the VTS near-miss reports looking for patterns or trends. This was reported to the statewide committee. The concerns raised by the statewide HSC representatives at the February meeting are (a) possible legal liability of the person making the report and (b) whether the reports can be kept confidential. The Coast Guard and OSPR have both provided written response to these two questions and they concur. There can be liability on the part of the reporter and, because the reports become part of a public record, they cannot be kept confidential. The HSC representatives concluded that only way to approach these problems would be legislatively or by having the reports received and analyzed by a third, non-governmental party. This third party approach is used by the FAA for a voluntary reporting system in the aviation industry. In addition, there has been an initiative in Maryland to try the same thing in a maritime application, however, the outlook is not positive. The LA/LB VTIS is up and running and encourages near-miss reporting. The LA/LB HSC is getting such reports at their meetings and discussing them. It is agreed that all HSCs will share reports received, but there has been no movement to a single form or method for analysis. The State of Washington is moving in this direction. The Chair asked about the possibility of limiting the scope of near-miss reporting to the SF area, with an entity like OSPR contracting with the Marine Exchange to gather the data. This could be done on a port-by-port basis. B. Leland stated that there is value in the VTS-type operation. The USCG VTS operates their reporting system from what they observe. This leads to reports from participants when they are contacted. S. Richey reported that the USCG CasRisk Center is expanding staff this summer. J. Lundstrom stressed the notion that the purpose of near-miss reporting is not to use the report to go after someone, but rather to look at a series of events to find patterns where problems exist. The Chair added that the aviation community had a problem developing an effective
system for years, until they found a way to remove pilots from liability. When this finally happened, the number of reports increased. An audience member noted that the International Nautical Institute of England publishes a monthly magazine which reports near-miss type incidents and guarantees confidentiality to those who submit reports. He added that reports of US incidents have been included. P. Moloney stated that there is an active Bay Area chapter of the group which has a membership of professional mariners and educators. J. Lundstrom suggested that perhaps the offices of the Nautical Institute could collect data, looking for trends such as locations where small vessels tend to cut off larger vessels on a frequent basis. D. Sobeck stated that the VTS near-miss reports are developed from what personnel view and then synopsis reports (blurb) are sent to MSO, where the decision is made whether or not to investigate the incident. VTS has received several reports from SF pilots of small vessels cutting off large vessels, providing registration number and name of the offending vessels. Gretchen Grover reported that the Coast Guard Navigational Safety Committee looked at this issue at its meeting in St. Louis in November because there are no reporting standards. A joint meeting of NAVSAC and recreational boater representatives has been scheduled for SF in April. J. Lundstrom observed that this ties in with updating of the Harbor Safety Plan and the possibility that certain points in the bay present a greater degree of this problem. If the HSC wants to broaden its recommendation in the next plan update the concept of reporting to a third party could be added. M. Brown stated that a meeting has been scheduled for 5-10-96 in Washington, D. C. to address the issue of conflicts between commercial vessels and recreational boaters. She will be attending and would appreciate input for her report. She added that if PICYA is advised of problem boaters it can be addressed within the association and it is in the recreational boaters’ best interest to self-regulate.

10. ROCKS SUB-COMMITTEE, J. Lundstrom. The committee held its first public meeting on 2-28-96 at the pilot station. Twenty-five people representing diverse interests were in attendance. The HSC went on record in 1992 in favor of lowering Harding, Shag and Blossom Rocks and the shoal southeast of Alcatraz to 55’. At the request of the HSC and USCG, the sub-committee is using the US Army COE “Rock Removal Interim Report, Initial Appraisal” of April, 1994, as a reference. The COE determined that the project did not meet cost analysis criteria. They did not look at the cost of an accident. Analysis criteria is changing and the COE can now factor in this potential cost. Dutra Construction has developed a new type of removal apparatus, a sort of underwater backhoe, which was used effectively in Tampa Bay. A unit is currently under construction in New Orleans for use in Oakland in mid-summer. The COE Engineering Department will report on alternatives to blasting at the next meeting of the Rock Sub-Committee. At the 2-28-96 meeting a risk analysis of the under water rocks was discussed. An MIT study is underway, to be completed in three years, to come up with a method to analyze risks. The next step is to look at the pros and cons of lowering the individual rocks. D. Sobeck and J. Shanower are developing a matrix to look at various alternatives, including project costs and benefits in changing navigation lanes. The next Rock Sub-Committee meeting is scheduled for 4-4-96 at 10:00 at the pilot office. R. Smith added that environmental concerns are being considered as a reality check. This includes permitting concerns of OSPR, the COE and BCDC. Subsequent meetings will address funding.
11. **TUG ESCORT SUB-COMMITTEE**, R. Peters. At the 2-8-96 meeting the HSC decided to adopt a tug escort checklist and directed the TES to look at the issue. A draft form was distributed on 2-12-96 and the five or six comments that were received have been incorporated into a revised draft which was distributed with the agenda for today’s meeting. R. Peters would suggest a modification that identifies the particular transit that corresponds to the plan/checklist - some vessels may shift one or more times in the same day. He suggested that language be added to the date and time section at the bottom of the form to indicate “date of transit” and “time transit commenced” He asked for comments from the full committee. R. Smith indicated that he had two concerns. (a) He would like to see the flexibility for owners and operators have the option to develop something more complex for approval by OSPR. The Chair responded that the HSC intent is that the plan/checklist be left for TES/HSC approval rather than OSPR. (b) He finds the requirement that a physical piece of paper be submitted to the CH an onerous one. Companies direct numerous vessel moves and the loss of one piece of paper would put a company in a state of non-compliance. The State of Washington requires that the act of completing the plan be logged in the vessel’s deck log and the plan be held on board the vessel for one year. This provides the necessary documentation. R. Smith will present both of these concerns at the 3-19-96 hearing. R. Mattson suggested that the word “bow” appear at one end of the drawing of a barge at the top of the form to clearly indicate orientation. R. Peters requested a MOTION for approval of the draft plan form as submitted, with the incorporation of language to designate the date and time of the subject transit and the orientation of the barge. A. Krygsman so moved and J. Lundstrom seconded. The motion passed unanimously.

R. Peters indicated that he will make a presentation at the OSPR hearing scheduled for 3-19-96 to bring into that record the history of the process, rationale and major facets addressed in the development of the tug escort regulations as proposed. The Chair offered the thanks of the full committee and the interested public to R. Peters and the members of the TES for their monumental efforts since September of 1991 in the development of regulations to enhance safety on the bay; regulations that will be well-accepted by the community. It was agreed that the acronym OSPR on the plan form is widely recognized and doesn’t need to be spelled out.

12. **UNFINISHED BUSINESS:** (1) D. Adams reported that the Port of Oakland Board Room is unavailable for the TAC meeting scheduled for 4-17-96 at 10:00 due to a conflict. However, it is available for that date from 12:00 to 3:00. OSPR will get back with confirmation.
(2) J. Lundstrom reported that update of the Harbor Safety Plan by 6-30-96 is mandated by statute. She will contact sub-committee chairs for updates of their sections of the plan. B. Leland added that he hopes to get out an implementation plan based on the last annual review in the next couple of weeks; taking each recommendation, looking at it and bringing available information up to speed. J. Lundstrom and B. Leland will be looking to a consolidated document with all recommendations to the USCG and OSPR and a status report on where each is now.
(3) M. Brown announced that the PICYA’s 100th anniversary will be celebrated this year, the week of the annual decorated boat parade to celebrate “Opening Day on the Bay”. The parade will begin at 11:00 on 5-5-96. Decorated commercial entries are encouraged and entry forms are available today.

13. **NEW BUSINESS**: (1) R. Smith reported that the USCG Bridge Section will hold a meeting at the Benicia Public Library at 1:00 on 4-2-96 to address the new Benicia Bridge. The final CalTrans recommendation was for construction of the new bridge east of the SP Bridge. As a result of objections from SP, the whole question has been opened up again, including looking at the west side.

(2) In response to questions asked at the last HSC meeting, S. Richey reported on the USCG investigation to determine the source of tar balls that landed up and down the west coast of California, Oregon, Washington and Canada. A written brief is available for anyone interested. Basically, there are two methods available for identifying a source (a) look for a profile of the type of vessel that could be responsible and (b) analyze the material and trajectory. The profile developed was one of a vessel going in for tank inspection or one with leaks in fuel tanks. This led to eight vessels, all of whom could provide proof that they had properly pumped their tanks or that their route didn’t fit. Three independent labs analyzed the material and determined that it was bunker fuel or weathered crude. Each product has its own fingerprint and California products and Alaskan crude were ruled out. A lot of effort and financial resources were devoted to the project. This work will benefit future efforts of a similar nature.

14. **NEXT MEETING**. The next meeting will be held on Thursday, 4-11-96, at 10:00 a.m. at the Port of Oakland.

15. A reminder that the OSPR public hearing on the proposed tug escort regulations will be held on 3-19-96 at the Fort Mason Firehouse at 10:30. Written comments are due at OSPR by 5:00 p.m. that same day.

16. **MOTION** to adjourn by M. Nerney, seconded by A. Krygsman. Meeting adjourned at 11:45 without objection.

Respectfully submitted,

Terry Hunter
Executive Secretariat
SIGNIFICANT PORT SAFETY EVENTS
FOR PERIOD 08 FEB 96 – 14 MAR 96

1. Total Port Safety cases open for period. 17

2. SOLAS Interventions/COTP Orders 1

3. Number of vessels requesting/granted Letters of Deviation to enter Bay. 3/3

4. Propulsion/Steering Failures 1

5. Deadship tow 0

6. Vessel Fires 1

Significant Cases:

10 MAR 96: M/V PACIFIC SUCCESS (flag PN) LOSS OF FULL PROPULSION:
On Sunday, 10 March, MSO received a call from VTS stating that the M/V PACIFIC SUCCESS, a 180 ft, bulk freight ship was experiencing electrical problems with their main propulsion engine which limited speed to only slow ahead. The vessel was transiting inbound and was approximately 1 nm west of the Golden Gate when the incident occurred. The San Francisco Bar Pilot successfully navigated the vessel with slow ahead only to temporary Anchorage 7. Once anchored, ship engineers determined that the electronic governor was malfunctioning, thus disabling automatic bridge control of the main engine. It was later determined by the ship's engineers, and Coast Guard inspectors, that the vessel could continue the transit to Pittsburg using its manual control system. A complete and thorough testing of this system was done at anchorage to ensure proper operation. As an extra measure of safety, the Captain of the Port required a two tug escort for the transit. Prior to the departure of the vessel from Pittsburg, repairs must be made to the satisfaction of the Classification Society and the Captain of the Port. Case Closed.
POLLUTION STATISTICS
FOR PERIOD 01FEB96 - 29FEB96

<table>
<thead>
<tr>
<th>Incident Type</th>
<th>MSO</th>
<th>MSD</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Penalty Action</td>
<td>14</td>
<td>2</td>
<td>16</td>
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<tr>
<td>Spill, No Source</td>
<td>19</td>
<td>1</td>
<td>20</td>
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<tr>
<td>No Spill, Potential Only</td>
<td>5</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>No Spill, Unconfirmed Report</td>
<td>13</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>EPA Zone Reports</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

2.) Discharges of Oil from:

<table>
<thead>
<tr>
<th>Source</th>
<th>MSO</th>
<th>MSD</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep Draft Vessels</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oil Transfer Facilities</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Military Vessels/Facilities</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

3.) Federalized Cleanups                          | 0   | 1   | 1     |

4.) Non-Federal Cleanups                          | 6   | 0   | 6     |

5.) Hazardous Material Releases                   | 2   | 0   | 2     |

6.) Cases requiring polrep                         | 1   | 1   | 2     |

7.) Tickets Issued                                | 13  | 0   | 13    |

**Significant Cases:**

**UCN 11-011-96 (MSD), M/V SIOUX CITY, MCAVOY SLOUGH, SUISUN BAY, MARTINEZ, CA**

On 06FEB96, MSO received a report from a private citizen of the M/V Souix City on fire in the vicinity of Stake Point in Suisun Bay. MSO contacted Group San Francisco and determined that due to the intensity of the fire and the initial report of possible Methyl Ethyl Ketone (MEK) on board, no boarding was conducted and Station Rio Vista maintained fire watch throughout the night. On 07FEB96, MSO dispatched pollution investigators to evaluate the pollution threat. After talking with the responsible party (RP), Mr. Jack Clausen, it was determined that approximately 200 gallons of miscellaneous fuel were on board with approximately 75-100 gallons of waste oil already discharged and contained within boom previously deployed by MSO and MSD personnel. The RP also stated that no MEK was on board and the drums labeled so contained waste oil and sewage. At 1400U, MSO San Francisco accessed the OSLTF and requested the PST perform clean up due to lack of response from contractors. A report of violation was issued to the RP.
San Francisco Bay Clearinghouse Report For February 1996

### San Francisco Bay Region Totals

<table>
<thead>
<tr>
<th>Description</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanker arrivals to San Francisco Bay</td>
<td>62</td>
<td></td>
</tr>
<tr>
<td>Tank ship movements &amp; escorted barge movements</td>
<td>290</td>
<td></td>
</tr>
<tr>
<td>Tank ship movements</td>
<td>238</td>
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<tr>
<td>Escorted tank ship movements</td>
<td>117</td>
<td>40.34%</td>
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<tr>
<td>Escorted barge movements</td>
<td>52</td>
<td>17.93%</td>
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<tr>
<td>Unregulated tank ship movements</td>
<td>121</td>
<td>41.72%</td>
</tr>
</tbody>
</table>

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

### Movements by Zone

<table>
<thead>
<tr>
<th>Movements by Zone</th>
<th>Zone 1</th>
<th>%</th>
<th>Zone 2</th>
<th>%</th>
<th>Zone 4</th>
<th>%</th>
<th>Zone 6</th>
<th>%</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total movements (all tank ships &amp; escorted barges)</td>
<td>153</td>
<td>276</td>
<td>0</td>
<td>160</td>
<td>589</td>
<td></td>
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<td></td>
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<tr>
<td>Unregulated tank ships</td>
<td>62</td>
<td>40.52%</td>
<td>115</td>
<td>41.67%</td>
<td>0</td>
<td>0.00%</td>
<td>62</td>
<td>38.75%</td>
<td>239</td>
<td>40.58%</td>
</tr>
<tr>
<td>Escorted movements</td>
<td>91</td>
<td>59.48%</td>
<td>161</td>
<td>58.33%</td>
<td>0</td>
<td>0.00%</td>
<td>98</td>
<td>61.25%</td>
<td>350</td>
<td>59.42%</td>
</tr>
<tr>
<td>Escorted tank ships</td>
<td>68</td>
<td>44.44%</td>
<td>114</td>
<td>41.30%</td>
<td>0</td>
<td>0.00%</td>
<td>61</td>
<td>38.13%</td>
<td>243</td>
<td>41.26%</td>
</tr>
<tr>
<td>Escorted barges</td>
<td>23</td>
<td>15.03%</td>
<td>47</td>
<td>17.03%</td>
<td>0</td>
<td>0.00%</td>
<td>37</td>
<td>23.13%</td>
<td>107</td>
<td>18.17%</td>
</tr>
</tbody>
</table>

Notes:
1. The only barges recorded are escorted barges.
2. Information is only noted for zones where escorts are required.
3. All percentages are percent of total movements for the zone. Unregulated tank ships & escorted movements equal 100% of zone movements.
4. Escorted tank ships & escorted barges equals escorted movements for the zone.
5. Every movement is counted in each zone transited during the movement.
6. Unregulated tank ships are vessels which did not check in with the Clearinghouse. These vessels are presumed to have less than 5,000 LT of regulated cargo or unregulated cargo on board.
San Francisco Bay Clearinghouse Report For 1996 Through February

San Francisco Bay Region Totals

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
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<tbody>
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<td>Tanker arrivals to San Francisco Bay</td>
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<td>598</td>
<td></td>
</tr>
<tr>
<td>Tank ship movements</td>
<td>487</td>
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<tr>
<td>Escorted barge movements</td>
<td>111</td>
<td>18.56%</td>
</tr>
<tr>
<td>Unregulated tank ship movements</td>
<td>251</td>
<td>41.97%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Movements by Zone</th>
<th>Zone 1</th>
<th>%</th>
<th>Zone 2</th>
<th>%</th>
<th>Zone 4</th>
<th>%</th>
<th>Zone 6</th>
<th>%</th>
<th>Total</th>
<th>%</th>
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<tbody>
<tr>
<td>Total movements (all tank ships &amp; escorted barges)</td>
<td>326</td>
<td></td>
<td>564</td>
<td></td>
<td>0</td>
<td></td>
<td>313</td>
<td></td>
<td>1,203</td>
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<tr>
<td>Unregulated tank ships</td>
<td>137</td>
<td>42.02%</td>
<td>242</td>
<td>42.91%</td>
<td>0</td>
<td>0.00%</td>
<td>115</td>
<td>36.74%</td>
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<td>41.06%</td>
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<tr>
<td>Escorted tank ships</td>
<td>189</td>
<td>57.98%</td>
<td>322</td>
<td>57.09%</td>
<td>0</td>
<td>0.00%</td>
<td>198</td>
<td>63.26%</td>
<td>709</td>
<td>58.94%</td>
</tr>
<tr>
<td>Escorted barges</td>
<td>137</td>
<td>42.02%</td>
<td>226</td>
<td>40.07%</td>
<td>0</td>
<td>0.00%</td>
<td>119</td>
<td>38.02%</td>
<td>482</td>
<td>40.07%</td>
</tr>
<tr>
<td></td>
<td>52</td>
<td>15.95%</td>
<td>96</td>
<td>17.02%</td>
<td>0</td>
<td>0.00%</td>
<td>79</td>
<td>25.24%</td>
<td>227</td>
<td>18.87%</td>
</tr>
</tbody>
</table>

Notes:
1. The only barges recorded are escorted barges.
2. Information is only noted for zones where escorts are required.
3. All percentages are percent of total movements for the zone. Unregulated tank ships & escorted movements equal 100% of zone movements.
4. Escorted tank ships & escorted barges equals escorted movements for the zone.
5. Every movement is counted in each zone transited during the movement.
6. Unregulated tank ships are vessels which did not check in with the Clearinghouse. These vessels are presumed to have less than 5,000 LT of regulated cargo or unregulated cargo on board.