

**Report to the States/British Columbia Oil Spill Task Force Members
Re: Marine Pilots and Vessel Safety
on the West Coast
July, 1997**

EXECUTIVE SUMMARY

The States/British Columbia Oil Spill Task Force, a consortium of the oil spill prevention and response agencies representing Alaska, British Columbia, Washington, Oregon, and California, agreed in 1995 to initiate a review of pilotage on the West Coast. Following a review of national pilotage studies in the US and Canada, an initial workgroup of representatives from pilot organizations representing all West Coast jurisdictions, chaired by Stan Norman of the Washington Office of Marine Safety, assisted the Oil Spill Task Force Executive Coordinator in drafting a survey. This survey was sent to 28 pilotage organizations and governing boards/authorities on the West Coast in the Spring of 1996. The survey included fewer than 50 questions grouped under the following seven headings:

Organizational Description;
Organizational Policies and Programs;
•.Organizational Accountability;
•.Pilot Licensing and Qualifications;
•.Pilot Training and Continuing Education;
•.Pilot/Ship Interactions; and
Other

For more information on the specific questions in each section of the survey, please reference Appendix A. Eighteen completed surveys were returned, which represents an overall response rate of 64%.

In the second phase of the project, a more diverse set of stakeholders assisted the Task Force in reviewing the survey responses, discussing the issues raised, and drafting this report and the recommendations contained herein. The process involved a series of conference calls as well as one full-day meeting. Membership on this expanded Task Force Pilotage Workgroup included representatives from additional pilotage organizations, the Western States Petroleum Association, the British Columbia Chamber of Shipping, and steamship operators' associations from Oregon, Washington, and California. Please reference the Pilotage Workgroup Membership list in Appendix B.

Based on the survey responses and discussions, the Pilotage Workgroup presents the following Recommendations to the Members of the States/British Columbia Oil Spill Task Force for their consideration and adoption:

Pilotage Workgroup Recommendations:

Recommendation B1: Information Exchange regarding Vessels

Marine pilots should access available information and databases to obtain advance information on vessel movements, characteristics, casualties, violations of international, federal, and state regulations, and mechanical deficiencies. A compendium of vessel information resources was developed by the workgroup and is enclosed as Attachment D to this report.

Recommendation B2: Work/Rest Standards

Pilotage regulatory authorities and pilot organizations should cooperate to establish maximum work or minimum rest standards for specific pilotage waters. These standards should be based on:

Transit times to/from assignments;

- Typical length of time to complete assignments; and

Difficulty of assignments (waterway congestion, navigational hazards, environmental conditions, effects of circadian rhythms on different shifts, etc.).

For purposes of establishing and monitoring work/rest standards, work is defined as time traveling to/from assignments, time on watch, and time traveling between assignments. Stand-by time may be counted as work time if suitable provisions for rest, such as a quiet room with a bed, are not available. Pilotage regulatory authorities and pilot organizations should further cooperate to establish systems to document adherence to these work/rest standards.

Recommendation C1: Continuing Education Standards

Pilotage regulatory authorities and pilot organizations should cooperate to establish continuing education standards which provide for training in the following elements - as appropriate to specific pilotage waters - at least once every five years:

Bridge Resource Management (BRM);

- Radars and Advanced Radar Plotting Aids (ARPAs); and

- Advanced shiphandling courses employing simulators and/or use of scale-model ships.

It is also recommended that pilot organizations take initiative to provide training for their members in the use of electronic navigation systems, thus enabling their members to recognize and compensate for electronic navigation system errors that could arise.

Recommendation C2: Performance Monitoring

In order to identify performance problems as early as possible and initiate preventive action to correct them, pilotage regulatory authorities and pilot organizations should cooperate to establish performance monitoring systems for pilots with unlimited pilot's licenses. Performance monitoring systems should employ diverse methodologies tailored for local pilotage waters. Pilots should be involved in the design and implementation of these performance monitoring programs, but the programs should be administered by the appropriate pilotage regulatory authorities. Performance monitoring should be coordinated with the continuing education process recommended above, insofar as evaluations could be scheduled in conjunction with checkrides and the use of simulators for training. All aspects of the monitoring and evaluation process, including dispute resolution and use of remedial or corrective actions, should be carefully defined in advance.

Recommendation D1: Near-Miss Reporting

Pilotage regulatory authorities and pilot organizations should participate in “near-miss” reporting systems. In order to facilitate reporting, the system(s) should be non-regulatory and confidential, since “near-miss” reporting systems operated by regulatory agencies have proven ineffective in the past. The following definition of a “near-miss” is recommended: “A “near-miss” is an incident in which the pilot, master, or other person in charge of navigating a vessel successfully takes action of a non-routine nature to avoid a collision with another ship, structure, or aid to navigation, or grounding of the vessel, or damage to the environment.” Note that the definition is not limited to two vessels coming in close proximity to each other.

Recommendation D2: Incident Investigations

Pilotage regulatory authorities and pilot organizations should establish formal incident investigation procedures. These procedures should provide for:

An incident investigation team appointed by an appropriate state or local regulatory agency, consisting of at least a pilot, a public member, and a qualified shipping industry representative. The regulatory agency should identify the team leader.

Coordination with other federal, state, and local investigating authorities;

- .Use of a qualified independent investigator when case-specific expertise is needed; and
- .Public review at an appropriate time.

Recommendation D3: Pilot Regulatory Authority Memberships

Membership of pilotage regulatory authorities should reflect a balance of pilot, shipping industry, public, and appropriate federal/state agency members. All meetings should be open to the public. There should always be the same number of pilot and shipping industry members, and public members should have no lifetime association with pilot organizations or the shipping industry.¹

Recommendation D4: Drug/Alcohol Use and Testing

US jurisdictions should follow the US Coast Guard standard regarding drug testing and cooperate in reviewing DUI records at the time of license renewals. If pilotage regulatory authorities do not already have one, they should adopt a standard prohibiting alcohol consumption by licensed pilots within a specified time period prior to a scheduled assignment.

Recommendation E1: Pre-passage Information Exchange:

Pilotage regulatory authorities and pilot organizations should require the exchange of critical navigational information between the licensed pilot and the vessel’s master/navigation watch officer as soon as safely possible after a pilot boards a vessel. A pilot coordination checklist consistent with existing international, federal, and state requirements should be the foundation for locally developed information exchange procedures. The workgroup recommends that the elements of the sample “Pilot Card” in Appendix C be included as appropriate in a local checklist.

Recommendation E2: Bridge Communications/Interface

E2a: The US and Canadian Coast Guards and other regulatory agencies with appropriate authority should require vessel masters and navigation watch officers to monitor navigation,

¹ This recommendation does not apply to the non-regulatory pilotage advisory councils recently established in California, which are composed of pilot, port authority, and shipping industry members and state/federal officials on an ex-officio basis, and which will have procedures for public review of meeting minutes, reports, and investigations.

collision-avoidance, and communications while their ship is being piloted.

E2b: Pilotage regulatory authorities and pilot organizations should establish specific guidelines for situations where pilots are asked to take a ship that has serious navigation or mechanical deficiencies. Reporting serious deficiencies to proper authorities should be covered in such guidelines, and refusal of pilotage should be an option if a ship's safety is not further compromised by such a decision.

E2c: The US and Canadian Coast Guards and other regulatory agencies with appropriate authority should require all formal navigation watch communications to be conducted in English or IMO "Seaspeak" while vessels are operating in US or Canadian pilotage waters.

Recommendations F1: Vessels Exempt from Pilotage

F1a: Pilotage regulatory authorities and pilot organizations should periodically review the types of vessels exempt from local pilotage regulations, including public vessels, fishing vessels, ferries, large foreign-flag yachts, dead-ship tows, tugs towing barges and US/Canadian coastwise vessels. If accident and incident rates for exempt vessels exceed the rates for piloted vessels, pilotage regulatory organizations should consider corrective measures, including requiring pilotage.

F1b: Pilotage regulatory authorities and pilot organizations should consider revising pilotage regulations to base pilotage requirements on deadweight tonnage rather than gross tonnage, since deadweight tonnage is generally a better indicator of ship size.

Recommendation F2: Continuing Education and Performance Monitoring for pilot organizations serving ports with infrequent transits

Pilotage regulatory authorities and pilot organizations should develop methods to fund continuing education courses for pilots serving ports where vessel transits are too infrequent to support the costs of such training and where such training is deemed appropriate.

Recommendation F3: Navigation Safety in Local Ports

Regional Port/Harbor Safety Committees should be established in each major West Coast port where such forums do not already exist, in order to address issues such as underkeel clearance, waterway congestion, navigational aids, vessel traffic services, systems to provide vessel information to pilots, charting and hydrography, real-time information on environmental conditions, and safety issues related to port facilities (piers and wharves, bridges, ballast water and bilge water reception facilities, etc.). Membership should include persons with appropriate technical expertise who represent port authorities, public interest organizations, tribal authorities, appropriate state and federal agencies, shipping industries, and pilotage organizations.

INTRODUCTION

A. States/British Columbia Oil Spill Task Force Background

The States/British Columbia Oil Spill Task Force was formed pursuant to a Memorandum of Cooperation signed in 1989, following two west coast oil spill incidents: the first involved the barge *Nestucca*, which spilled oil off the coasts of Washington and British Columbia in December of 1988; the second incident was the catastrophic spill by the T/V *Exxon Valdez* in Alaska's Prince William Sound in March of 1989. These events highlighted the concerns shared by west coast states and British Columbia regarding spill risks from coastal tanker traffic routes, the need for cooperation across shared borders, and a shared commitment among west coast citizens of both the US and Canada to protect their unique marine resources. The continuing focus of the Task Force is on enhancing the ability of its member agencies as well as other public and private stakeholders to effectively prevent, prepare for, and respond to marine oil spills. This is accomplished by fostering regulatory consistency, sharing information and resources, and coordinating discussion of common issues of concern.

B. Pilotage Project Background

One such issue of concern identified for review under the Spill Prevention Objective in the Task Force's 1994-1999 Strategic Plan is that of pilotage. Marine pilots provide navigation expertise within designated waters, helping to ensure the safety of ships' passages and the subsequent protection of marine resources from spills of oil carried either as cargo or fuel. Pilotage issues were also addressed in the Task Force's 1990 *Final Report*, and have been the focus of several US and Canadian reports as described below.

Among US jurisdictions on the West Coast, pilotage is split between federal and state pilots. A license issued by the US Coast Guard is required to pilot US flag vessels engaged in coastwise trade between US ports. Pilotage services to foreign-flag vessels in Washington, Oregon, and Alaska are the purview of state-licensed pilots. In California a state pilotage structure exists in the San Francisco Bay area. In the remaining California ports organizations operating under federal oversight provide services to foreign as well as US flag vessels.

Considering that 90% of the ships visiting US waters are foreign-flag vessels², and considering the wide range of training and expertise among these foreign-flag vessels, West Coast pilots carry a critical burden of responsibility regarding safe vessel transits in our waters.

Minding The Helm, a major study of US marine navigation and piloting issues, was published by the Marine Board of the National Research Council in 1994. The report states that " Marine navigation and piloting involve complex, interdependent operations in a large sociotechnical system that encompasses waterways, vessels, navigation aids, and human operators. System elements are supported by an infrastructure for vessel and port management, pilotage, pilotage regulation, and professional development. Marine navigation and piloting occur in an operating environment characterized by extreme reliance on human performance, considerable diversity in geographic and hydrographic features, and great variability in operating conditions...moreover, interactions of its component elements are decentralized and highly *localized* " (emphasis added).³

² Background statement to the USCG Notice of Proposed Rulemaking re: Implementation of the 1995 STCW Amendments

³ *Minding The Helm; Marine Navigation and Piloting*; Committee on Advances in Navigation and Piloting, The Marine Board, National Research Council; 1994, National Academy Press, page 1 States/BC Oil Spill Task Force Marine Pilotage Report (7/97)

The Marine Board further noted that “The marine navigation and piloting system is for the most part safe, but it can be made safer....In particular, requirements and standards for pilotage of vessels, pilot development, and pilotage administration across the nation need to be addressed.”⁴

Task Force Members noted that the report calls on state-level authorities to take “strong action” as needed.

The Canadian pilotage infrastructure as established by the 1972 *Pilotage Act* consists of regional pilotage authorities tasked with “establishing, operating and administering, in the interests of safety, efficient pilotage services” in their designated areas. As described in a May 1995 report by the Canadian House of Commons’ Standing Committee on Transport, these authorities are “Crown corporations” with authority from the Act to “make regulations respecting the establishment of compulsory areas, the prescription of ships or classes of ships that are subject to compulsory pilotage...and the classes of pilots’ licenses and pilotage certificates that may be issued.” The report was drafted in response to a number of complaints regarding the Canadian pilotage system and included several controversial recommendations - including replacement of the Pilotage Act with a centralized pilotage authority in Ottawa - which have not been implemented.

In addition, the Transportation Safety Board of Canada published a 1995 report titled *A Safety Study of the Operational Relationship between Ship Masters/Watchkeeping Officers and Marine Pilots*. The study examined this operational relationship on Canadian and foreign vessels over 5,000 gross registered tons that were under the conduct of pilots in Canadian waters. The following excerpts are from the Summary of Findings (pages 26 - 27):

- “1. In the 273 occurrences (*collisions, groundings, strikings, contacts, or sinkings*) examined in this study, misunderstanding between the pilot and master, inattention by the pilot or the Officer on Watch (OOW), or lack of communication between the pilot and the OOW were frequently present.”
- “4. Recent occurrences indicate continuing problems with respect to the adequacy of bridge teamwork; e.g. lack of mutually agreed passage plan, lack of interaction, coordination and cooperation among the bridge team, lack of precise progress-monitoring by the OOW, etc.”
- “7. Often, there are differences in perceptions between masters/OOWs and pilots regarding the need for the exchange of information and the adequacy of the information being exchanged.”
- “18. Most of the foregoing findings are indicative of serious barriers in the relationship among pilots, masters and OOWs, thereby compromising their effectiveness as a coherent team.”

These findings exemplify the important communications issues raised by the report.

In 1995 the California Office of Oil Spill Prevention and Response, the California member agency of the States/BC Oil Spill Task Force, conducted its own study of pilotage in California as required by its enabling legislation. It found “generally effective pilotage programs in California” and that “relatively few ship accidents appear to be caused by the professional mistakes of pilots.” The report notes, however, that there are “many areas within the State where the use of pilots by foreign flag vessels and US flag vessels in foreign trade is merely voluntary,” and describes this as “a legal situation which threatens the very existence of the locally developed programs,”⁵ reflecting a concern that the US Coast Guard might assume authority for pilotage in California if the State did not. Although there is rarely an incident where a foreign-flag master will

⁴ *ibid.*, p.3

⁵ *Evaluation of Maritime Pilotage in California*, Office of Spill Prevention and Response; page 2 States/BC Oil Spill Task Force Marine Pilotage Report (7/97)

choose to act as his/her own pilot, most of the ports have taken steps to correct this loop hole. Some have locally regulated mandatory pilotage and others have corrected the situation through their local port tariff.

In February of 1997 the State of California signed a Memorandum of Agreement (MOA) with the US Coast Guard and the Ports of Long Beach, Los Angeles, San Diego, Port Hueneme, and Humboldt Bay. Acknowledging the existing authorities of the State, the Coast Guard, and the Ports, the MOA establishes local pilotage systems which rely on Coast Guard licensing and related enforcement, creation of local but consistent systems governing pilot training, professional growth, and oversight, and mandatory pilotage in state pilotage waters. In lieu of the statewide pilotage boards in Alaska, Washington, and Oregon, California will have a multi-faceted administrative system which will include the State Board of Pilot Commissioners for San Francisco, San Pablo Bay, and Suisun Bay as well as Local Pilotage Advisory Councils for the ports listed above. These Councils will evaluate and review policies and procedures and make recommendations regarding pilotage requirements to the Ports as authorized by the state.

C. Survey Process

Considering these major studies and the attention currently focused on pilotage issues, the time seemed ripe for the Task Force to initiate its review. The Oil Spill Task Force Executive Coordinator and Coordinating Committee reviewed the various studies described above and concluded that they did not provide a comprehensive West Coast overview of "localized" issues relating to pilotage that would be of interest to Task Force Members. As a result, the Coordinating Committee approved formation of a project workgroup for the first phase which included representatives from each Task Force agency as well as from one pilotage organization in each West Coast jurisdiction.

This workgroup, chaired by Stan Norman of the Washington Office of Marine Safety, assisted the Executive Coordinator in drafting a survey which was sent to 28 pilotage organizations and governing boards/authorities on the West Coast in the Spring of 1996. The survey included fewer than 50 questions grouped under the following seven headings:

- Organizational Description;
- Organizational Policies and Programs;
- .Organizational Accountability;
- .Pilot Licensing and Qualifications;
- .Pilot Training and Continuing Education;
- .Pilot/Ship Interactions; and

Other

For more information on the specific questions in each section of the survey, please reference Appendix A. Eighteen completed surveys were returned, which represents an overall response rate of 64%. Responses were compiled into a matrix format which allows for comparison of information among jurisdictions. Survey results are summarized and discussed below. Copies of a matrix compilation of survey responses are also available from the States/BC Oil Spill Task Force office.

In the second phase of the project, a more diverse set of stakeholders assisted the Task Force in reviewing the survey responses, discussing the issues raised, and drafting this report and the recommendations contained herein. The process involved a series of conference calls as well as a full day meeting. Membership on this expanded Task Force Pilotage Workgroup included representatives from additional pilotage organizations, the Western States Petroleum Association, the British Columbia Chamber of Shipping, and steamship operators' associations from Oregon, Washington, and California. Please reference the Pilotage Workgroup Membership

list in Appendix B.

SURVEY RESULTS, WORKGROUP DISCUSSION POINTS, AND RECOMMENDATIONS

The following sections present a summary of the survey results, as well as related points made by the expanded project workgroup in discussions of these results and the issues which they raised, and concludes with recommendations from the workgroup related to these topics.

A. Overview of West Coast Pilot Organizations

Eighteen organizations responded to the survey: four from Alaska, six from California, three from British Columbia, two from Washington, and three from Oregon. Two of these responding organizations are pilotage regulatory authorities⁶; the remaining sixteen are operating pilot organizations.⁷ The size of these pilot organizations ranges from as small as three to as large as 115 members; the average number of pilot assignments per month per group ranged from 16 to 1,050.

Most responding organizations provide one or more of the following pilotage services: bar crossing, river and harbor navigation, and docking and mooring pilotage within harbors. The type of pilotage provided by responding organizations reflects the characteristics of their geographic area of coverage. For instance, pilots serving the Inland Passage areas of British Columbia and Southeastern Alaska provide pilotage services covering scenic cruising that require staying with a cruise ship for up to a week and also require that more than one pilot be assigned to such a vessel in order to provide 24 hour coverage. One Alaska organization also listed "ice pilotage" services.

Four of the sixteen responding pilot services (25%) replied that they do not belong to any professional association. The remaining 75% listed the American Pilot Association, the Canadian Marine Pilots Association, the West Coast Pilots Association, or the Alaska State Pilots Alliance.

B. Organizational Programs and Policies

Services

All of the responding organizations provide some form of internal information exchange services; 81% of the pilot organizations provide dispatch services to their members; 81% provide accounting services; 81% provide training; 75% provide government representation; and 63% provide transport to vessels. Services unique to just one responding organization include lodging at remote ports, industry liaison, contract negotiations, management, legal representation, and shareholder benefits.

All except two of the responding organizations reported that their organization does not have a written Code of Ethics. Of the two which responded affirmatively, one indicated that such a code was "in draft" and the other did not provide a copy as requested.

Information Exchange

Within organizations, information regarding problems with vessels or crews or other "lessons learned" is generally shared informally, usually at a pilot's discretion. Mechanisms for such

⁶ The term "Pilotage regulatory authorities" is used in this report to refer to Boards, Commissions, Authorities, and - in the case of California - Ports which signed the 1997 MOA.

⁷ The term "pilot organizations" is used in this report to refer to associations or corporations whose membership includes the pilots who serve specific pilotage waters.

informal information exchange include office logs, written notes, the dispatch database, conversations, regular meetings, e-mail and fax. One Washington organization responded that “specific hazards are generally communicated by fax as soon as possible.” One California respondent noted that they “red-flag pilot information cards for [vessel] handling characteristics.”

In the pilot area of California that is regulated by a state-mandated board (San Francisco Bay and tributaries), “all pilots [as well as trainees, commissioners, and the US Coast Guard MSO] receive copies of Board of Pilot Commissioners’ incident investigation reports for study and informal discussion.”

Information exchange external to the organization is accomplished through state board or pilot association meetings. There is no formal mechanism for coast-wide information exchange regarding hazards associated with particular vessels. In an area of Alaska where there are competing pilot organizations, one respondent noted that “some safety information has been provided by us, but none received [from the competing organization].”

A coastwise information exchange mechanism would allow pilots to share “lessons learned” as well as information regarding characteristics of ships traveling between West Coast ports, characteristics that affect safety of operations. One survey response suggested a vessel database, but responsibility for maintenance would need to be assigned. Concerns were also expressed regarding liability if information was considered slanderous. Concern was also expressed that such a system might impair a vessel master’s willingness to share information about a vessel’s problems. One operator suggested a similar information exchange mechanism that tracks pilot performance.

Recommendation B1: Information Exchange regarding Vessels

Marine pilots should access available information and databases to obtain advance information on vessel movements, characteristics, casualties, violations of international, federal, and state regulations, and mechanical deficiencies. A compendium of vessel information resources was developed by the workgroup and is enclosed as Attachment D to this report.

Work/Rest Standards

Recommendation #6 of Annex 2 to the International Marine Pilots’ Association (IMPA) Resolution A.485(XII) states that “Pilots should be adequately rested and mentally alert in order to provide undivided attention to pilotage duties for the duration of the passage.” Standards governing the number of hours of work or rest for pilots are generally set by the state boards or the Canadian Pacific Regional Pilotage Authority. There is no statewide pilot board to set such standards in California, and two out of six organizations responded that they do not set work/rest hour standards. State coordination of local standards through the 1997 Memorandum of Agreement should enhance consistency on this and other issues in California, however. Alaskan respondents noted that standards in that state do not require mandatory rest periods or vacation periods, and the 8-hour maximum is frequently exceeded. By comparison, Oregon, Washington, and the Pacific Pilotage Authority do establish mandatory rest periods after or between assignments.

The Workgroup noted that OPA 90 and STCW standards differ, and also stated that since pilots must travel to/from assignments, and cannot just go to a bunk on the vessel, it would not be appropriate to apply STCW standards to pilots.

Although vessels give advance notice of entry (ANE), these are not always accurate; in

addition, shift or job cancellations also make it hard for pilots to accurately predict the times when they must report to a vessel.

Recommendation B2: Work/Rest Standards

Pilotage regulatory authorities and pilot organizations should cooperate to establish maximum work or minimum rest standards for specific pilotage waters. These standards should be based on:

Transit times to/from assignments;

•.Typical length of time to complete assignments; and

Difficulty of assignments (waterway congestion, navigational hazards, environmental conditions, effects of circadian rhythms on different shifts, etc.).

For purposes of establishing and monitoring work/rest standards, work is defined as time traveling to/from assignments, time on watch, and time traveling between assignments. Stand-by time may be counted as work time if suitable provisions for rest, such as a quiet room with a bed, are not available. Pilotage regulatory authorities and pilot organizations should further cooperate to establish systems to document adherence to these work/rest standards.

C. Licensing, Qualification, and Training Standards

Initial Training

Except in California, West Coast pilots are licensed by state boards or the Canadian Pilotage Authority. California only licensed pilots in the Bay Area and in Eureka. California ports have their own appointing or contracting process, according to the authority given them in the California Harbor and Navigation Code.

Training licenses are generally issued for one year only, and are not renewable in Oregon. Unlimited licenses must be renewed annually in Oregon and the San Francisco Bay area, but are valid until retirement in British Columbia⁸. Unlimited licenses are renewed every five years in Washington and every two years in Alaska. Outside of the San Francisco Bay area in California, pilot license renewal is a function of US Coast Guard requirements.

Minimum education standards for applicants are generally not specified. One California pilot organization requires a high school education, and Oregon applicants receive points towards their applications which can be acquired in a number of ways, including educational achievements. British Columbia requires applicants to demonstrate proficiency in English, which could be an educational standard for non-English speaking applicants. Although the emphasis is on experience or specific marine training rather than formal education standards, authorities like the Pilot Commission in San Francisco consider that a vessel master's license with master's experience is at least equivalent to a formal post-graduate degree from shore-side educational systems, according to one pilot.

Most US pilot organizations require pilots to have a US Coast Guard master's license and some level of experience with certain types of vessels and/or local waters. Oregon standards (and some in California) require a radar observer endorsement; Oregon offers extra points for training in Bridge Resource Management (BRM) and Emergency Response. Only Oregon specifically allows pilot candidates from "non-traditional" backgrounds (i.e., non-maritime) based on "pilot

⁸ References to pilotage in British Columbia should not be interpreted as governed by provincial regulations; the Pacific Pilotage Authority regulates pilotage in the Province and is a Crown Corporation established by Canadian federal law.

potential,” although this term is not defined.

Pilot training is generally provided in phases, which tend to run over a three-to-five year period and requires a specified number of supervised transits on the pilotage waters in progressively larger vessels. Pilotage of tankers usually requires specific training steps. These training programs appear to be thorough and adapted to the needs of the pilotage waters. Pilots in training are considered on probation throughout the training program; if the trainee fails to meet an association’s standards or there is some concern regarding his/her ability to pilot, a license may be withheld or - in the case of California ports where only a Coast Guard license is involved - a job offer may be withheld.

Several Alaska and Washington pilot organizations reported that their training programs exceed state standards. No training program exceeding state standards was reported by Oregon respondents, and no uniform training standards were reported for California or British Columbia. One California organization reported that they had no formal training program other than “hands-on” ship handling, and that simulator and other training must be done at the pilot’s own expense, since traffic in the area was too limited to fund such training through special fees. The 1997 MOA requires the ports of Los Angeles, Long Beach, Hueneme, San Diego, and Humboldt Bay to develop training program standards.

Regarding various elements of training:

All jurisdictions provide training in emergency decision-making except Washington;

Only one responding organization reported foreign language proficiency as a training element;

- Training in use of new technologies is provided by one Alaska organization, all in British Columbia, and four in California. None in Washington or Oregon checked this category;
- Training in Bridge Resource Management is under consideration by the Pacific Pilotage Authority in British Columbia. Affirmative responses were received from four Alaska organizations, two in Washington, one in Oregon, and four in California;

All Alaska pilot organizations reported using simulators in training, as did all in Washington, one in British Columbia, and one in Oregon on an individual basis. Four of five responding California organizations use simulators in training. One responding organization uses simulation designed to be specific to its region; and

Other training elements provided by some organizations include emergency medical response, and Advance Radar Plotting Aids (ARPA).

Final issuance of unlimited licenses is based upon performance ratings provided by designated training pilots who have observed the trainees during specified transits, on specified waters, with specified vessels. In addition, all responding organizations except three from California require written exams.

The States of Alaska, Washington, and Oregon certify pilot instructors; the Pacific Pilotage Authority does not. One California organization sets experience standards for instructing/supervision pilots; another relies on a professional training center. Otherwise, instructing pilots are designated as a function of management decisions within California pilotage organizations.

Only one California organization reported that training standards can be waived; in that case, the apprenticeship may be reduced in lieu of previous experience.

Physical Exams, Recency Standards, and Continuing Education

Annex 1 of the International Marine Pilots’ Association Resolution recommends that the regulatory States/BC Oil Spill Task Force Marine Pilotage Report (7/97)

authority “should satisfy itself, at regular intervals not exceeding 5 years, that all pilots in its jurisdiction: 1) continue to possess recent navigational knowledge of the local area; 2) continue to meet the medical fitness standards; and 3) possess knowledge of the current international, national, and local laws, regulations, and other relevant requirements and provisions.”

With regard to #1, recency standards for applicants are as follows: The Pacific Pilotage Authority and Washington State stipulate that apprentice applicants must have had certain specified experience in the two years prior to application. Oregon requires that training requirements be satisfied within six months prior to application for an unlimited license. In California, one responding organization requires that training cannot take longer than three years to complete. Where federal licenses are required, they must be current.

For renewal of licenses, Alaska requires a minimum of 120 days of pilot service during every two-year license period. Since the Canadian Pacific Pilotage Authority does not require renewals of Class I licenses, it has no recency standards. In Washington, renewal is a matter of course, but state regulations specify that any pilot absent from pilotage duties or the district for longer than 60 days without Board approval is subject to suspension or loss of license. Oregon has a similar standard and Oregon pilot organizations also require pilots absent for more than 60 days in one case, 180 days in another, to make a designated number of re-familiarization trips before resuming duties. No recency standards for license renewals were reported by California organizations.

With regard to #2, responding organizations require physical examinations for trainee applicants; Alaska, Washington, Oregon, and some California organizations require annual physical exams for pilots thereafter. British Columbia requires a physical every three years until age 55 and annually thereafter. One California organization requires physical exams more frequently as a pilot ages, up to annual exams after age 50. Most pilot organizations use the US Coast Guard standards for physicals; Oregon specifies a range of physical capabilities to be examined during the initial exam, including color perception.

Recommendation #3 is not formally addressed by any West Coast jurisdictions, although some organizations include regulations in continuing education standards. Continuing education standards for state/provincial licensed pilots vary along the West Coast. Alaska standards require continuing education and include BRM and ARPA (every six years) and ship simulator training every five years. The Pacific Pilotage Authority has no formal continuing education program or standards, but the British Columbia pilot organizations responded that continuing education happens “by mutual agreement” and “as required.” BRM and ARPA training is required every five years for Puget Sound Pilots. For pilots in Grays Harbor, a smaller Washington port, BRM and ARPA training are voluntary, as funding and schedules permit. Oregon sets no continuing education standards; it is left to the discretion of individual pilots.

Pilots governed by the San Francisco area Board of Commissioners must attend simulator training every five years and a five-day course every three years that includes BRM, simulation, emergency medical response, advanced electronic navigation, and regulatory review. Among other California pilot associations, at least one reported continuing education requirements which include Bridge Resource Management and an intense 3-day simulator course every five years, conducted by one of their senior pilots. It was noted that BRM courses designed and taught specifically for pilots are more valuable than those designed primarily for vessel watch officers.

While use of electronic navigation systems such as GPS, Differential GPS, and ECDIS is not uniform, some pilots have expressed concern regarding observed errors in some systems or

over-reliance by ships' crews on such systems. In a recent Seaways article titled "Quality Pilotage," Captain Steve Pelecanos of the Brisbane, Australia pilot organization, states that "the growing demand for precision navigation in confined waters means that it is now up to pilots to embrace DGPS and ECDIS technology. Pilots are the ones who must make the investment in this technology and then use it to develop a precision navigation system which is unique to their area of operation."

Recommendation C1: Continuing Education Standards

Pilotage regulatory authorities and pilot organizations should cooperate to establish continuing education standards which provide for training in the following elements - as appropriate to specific pilotage waters - at least once every five years:

Bridge Resource Management (BRM);

***• Radars and Advanced Radar Plotting Aids (ARPAs); and
Advanced shiphandling courses employing simulators and/or use of scale-model ships.***

It is also recommended that pilot organizations take initiative to provide training for their members in the use of electronic navigation systems, thus enabling their members to recognize and compensate for electronic navigation system errors that could arise.

Performance Monitoring

Performance monitoring is limited to the training/apprenticeship phase. Among the surveyed jurisdictions only one California port association provides performance monitoring in the form of "check-rides" by senior pilots. Otherwise, no formal performance monitoring programs are currently implemented after an unlimited license is issued. However, Alaska has committed \$400,000 to develop a simulator testing program specific to the state's pilotage waters.

WSPA supports the concept of performance monitoring, and it was noted that the international Standards for Training, Certification, and Watchkeeping for Seafarers (STCW), which affects ships' crews, requires demonstrations of competence.

Pilots stated that their organizations are self-policing and constantly monitor each pilot's performance. They did acknowledge that, as shipping operators become ISO/ISM certified, which includes evaluation mechanisms, these operators may require similar certification of their subcontractors, including pilots. This trend could force pilot associations to develop formal performance monitoring strategies. Australian and French pilot associations are becoming ISO-certified; Canada is considering it, and the American Pilots Association is expected to make a recommendation re: ISO-certification for pilot organizations this year. Noted one pilot, "performance monitoring can effectively increase the quality of pilot performance over time. The evaluations should appropriately be implemented by the regulatory authority in a formalized manner at regular intervals, such as at time of license renewal."

Pilots felt that performance monitoring should be done by professional pilots, but expressed concern that it would be too difficult to find a pilot from outside of their pilotage waters who could understand their unique situations and incorporate that into an evaluation. Even within the same pilot organizations pilots may use differing, but legitimate procedures. One pilot stated that "the relationships between pilots are too close to provide an objective direct review of each other. For this reason it is imperative to separate the development of the standards for evaluation, which should be done by pilots, from the actual administration of the evaluation."

The same pilot went on to state that "Ideally the reviews should employ diverse methodologies, States/BC Oil Spill Task Force Marine Pilotage Report (7/97)

including written or text-based, check rides, and simulation. This diversity improves the reliability of the review because some factors cannot be thoroughly assessed in any one method and because people often are distracted or have a 'mental block' in a particular test method. [Furthermore], simulation allows the assessment to include a more complete array of situations, i.e., emergencies, weather, fog, and traffic, than a real-life check-ride."

One pilot commented that performance monitoring should occur more frequently as a pilot ages. Perhaps more frequent monitoring should be the case for newly-licensed pilots, as well. It was stated that performance evaluations should be seen as "a tune-up rather than a throw-away; it's a chance to make a good product even better."

Recommendation C2: Performance Monitoring

In order to identify performance problems as early as possible and initiate preventive action to correct them, pilotage regulatory authorities and pilot organizations should cooperate to establish performance monitoring systems for pilots with unlimited pilot's licenses. Performance monitoring systems should employ diverse methodologies tailored for local pilotage waters. Pilots should be involved in the design and implementation of these performance monitoring programs, but the programs should be administered by the appropriate pilotage regulatory authorities. Performance monitoring should be coordinated with the continuing education process recommended above, insofar as evaluations could be scheduled in conjunction with checkrides and the use of simulators for training. All aspects of the monitoring and evaluation process, including dispute resolution and use of remedial or corrective actions, should be carefully defined in advance.

D. Accountability, Discipline, Investigations

Incident Reporting

On the topic of accountability, reportable incidents are generally defined by state or Canadian pilotage authority standards. These definitions cover incidents involving groundings, collisions, allisions, or any vessel casualty resulting in injury or damage to other vessels, piers or other property. Monetary damage is a defining standard in Alaska and Oregon; Oregon establishes \$10,000 as the threshold. Washington also requires reporting of any noncompliance by a vessel with safety certifications. Alaska requires reports of any violation of the Marine Pilotage Act, and Washington has a similar standard relating to their Pilotage Act. Washington also requires reporting of refusal by a pilot of any assignments, early or late boardings/deboardings. Oregon requires reports of any pilot boarding or deboarding that places a pilot in peril. In California, where there are no statewide standards, all responding pilot organizations except one reported having standards similar to those described above. Responses from all organizations implied that near-misses are only investigated when the Coast Guard becomes involved.

Near-Miss Reporting

Annex 2 of the IMPA Resolution recommends that pilots report anything which may affect the safety of navigation or pollution prevention, and specifically mentions accidents or problems with navigational aids. Reporting near-misses, or avoided accidents, helps in identifying trends, and helps to break the "error chain" before an accident occurs. The question was raised, however, of how to define "near-miss" when there are so many variables in operating decisions. Pilots suggested that they could use their best professional judgment to define a near-miss on a case-by-case basis.

Near-miss reporting can be particularly problematic where pilots groups compete in the same area (Alaska and Los Angeles/Long Beach). Near-miss reporting should be done by

knowledgeable individuals with no financial stake in the outcome.

To ensure anonymity, information can be submitted anonymously to a non-regulatory body which makes the information generic so that it cannot be associated with any one transit. Nevertheless, some pilots expressed distrust of a “non-regulatory” body remaining non-regulatory. Others questioned whether information could be made sufficiently generic in areas with infrequent transits. Perhaps such information could be included in data from a larger geographic area.

Recommendation D1: Near-Miss Reporting

Pilotage regulatory authorities and pilot organizations should participate in “near-miss” reporting systems. In order to facilitate reporting, the system(s) should be non-regulatory and confidential, since “near-miss” reporting systems operated by regulatory agencies have proven ineffective in the past. The following definition of a “near-miss” is recommended: “A “near-miss” is an incident in which the pilot, master, or other person in charge of navigating a vessel successfully takes action of a non-routine nature to avoid a collision with another ship, structure, or aid to navigation, or grounding of the vessel, or damage to the environment.” Note that the definition is not limited to two vessels coming in close proximity to each other.

Incident Investigations

Most incidents which are investigated by state pilotage boards or the Canadian Pacific Pilotage Authority, are investigated either in response to a report or a complaint. In some cases, special Incident Review Committees are formed. The San Francisco Board of Pilot Commissioners appoints one public member and the Executive Director to such a committee, and their investigation report is a matter of public record. Investigations are internal in other California pilot organizations not regulated by the State. Alaska has an independent investigator who is an employee of the Department of Commerce and Economic Development.

Washington and Oregon are addressing the need for clear procedures on incident investigations, out of a concern that pilots in some states frequently investigate themselves and report their findings to governing boards/authorities without the benefit of an independent investigation. In Oregon, the pilot member of the Board from the affected pilotage area is the first to investigate and then recommends whether the incident should be categorized as caused by an “Act of God,” due to mechanical causes, or an incident involving possible pilot error. If categorized as possible pilot error, a board member representing the steamship operators joins the investigation. Oregon is evaluating the possibility of also involving a public board member or using an independent investigator. The Washington pilot board already has authority to hire an independent investigator. In California, the new MOA between the State and the US Coast Guard will provide for the Coast Guard to investigate incidents in all areas covered by the MOA. The US and Canadian Coast Guards as well as the federal Transportation Safety Boards can also investigate significant incidents on the West Coast.

The shipping industry and the public have expressed an interest in making incident investigations open to the public, but a concern was expressed regarding legal ramifications of doing so, at least during the investigative phase. It was noted that electronic recorders make it much easier than it used to be to determine causes of incidents. Pilots on the Workgroup felt that regulations are in place which guarantee consistent investigations.

Recommendation D2: Incident Investigations

Pilotage regulatory authorities and pilot organizations should establish formal incident investigation procedures. These procedures should provide for:

An incident investigation team appointed by an appropriate state or local regulatory agency, consisting of at least a pilot, a public member, and a qualified shipping industry representative. The regulatory agency should identify the team leader.

Coordination with other federal, state, and local investigating authorities;

•Use of a qualified independent investigator when case-specific expertise is needed;

•Public review at an appropriate time.

Discipline

Pilotage organizations in Alaska reported that pilots could lose membership, and thus their jobs, for violations of organizational bylaws or for “pilot-related cause.” All the state boards and the Canadian authorities have the right to issue reprimands, suspend pilots, or revoke their licenses. Oregon and Washington reported authority to issue fines (up to \$50,000 in Oregon for violation of the state law requiring a license to operate as a pilot). The San Francisco Bay Board of Pilot Commissioners indicated that they may require remedial training or counseling at the pilot’s expense and on his/her own time. Other California pilot organizations can apply periods of suspension or probation or fines, and can terminate employment. Since their pilots operate only under a Coast Guard license, however, only the Coast Guard can revoke that license.

Regulatory Authority Memberships

The membership configurations of current regulatory authorities on the West Coast are:

OREGON: 3 pilots, 3 from ship operators, 3 public = 9

WASHINGTON: A chairperson, one environmental representative, 2 public members with no lifetime association, 2 pilots, 2 ship operators, and OMS = 9

ALASKA: 2 public, 2 pilot, 2 ship operators, and Dept. of Economic Development = 7

SAN FRANCISCO BAY: 2 pilots, 1 steamship operator, 1 tanker operator, 3 public = 7

PACIFIC PILOTAGE AUTHORITY: 2 pilots, 2 public, 2 shipping agents, 1 chair = 7

Members are appointed by the governors or with the PPA, the Canadian federal government. All meetings are public except the PPA, which as a crown corporation is not subject to public meeting requirements. The California MOA establishes port advisory groups which include 1 from the shipping industry, 1 from the port, and 1 pilot. There will be no public members, but all deliberations will be made public through Harbor Safety Committee reports.

Pilots generally feel represented on these governing boards, but not in control. They feel that having members with an economic interest is unavoidable, but that the key is to ensure that these interests are balanced. Since most boards are balanced, the pilot and shipping representatives can often “cancel each others’ votes.” There was general consensus among the pilots that the public members - who could actually decide an issue in such a case - should be without prior association with either pilots or the industry, and that this condition should be clearly stated in all governing codes.

Recommendation D3: Pilot Regulatory Authority Memberships

Membership of pilotage regulatory authorities should reflect a balance of pilot, shipping industry, public, and appropriate federal/state agency members. All meetings should be open to the public. There should always be the same number of pilot and shipping industry members, and public members should have no lifetime

association with pilot organizations or the shipping industry.⁹

Drug/Alcohol Testing

With regard to drug and alcohol testing, most US pilots are tested for drug use according to the US Coast Guard guidelines: annual, random, post-accident, pre-employment, and for probable cause. Testing is generally specified only for drugs, not alcohol. Alcohol testing is only done for cause, since random testing is not likely to detect alcohol abuse. The US Coast Guard standard for alcohol is .04 grams/210 liters of breath. The US Coast Guard is also checking driving records for DUI convictions at the time of license renewal.

The Pacific Pilotage Authority requires drug tests during a pilot's regular physical exam. Testing standards in Canada are less stringent than in the US because the Canadian constitution sets higher thresholds to protect an individual's rights to privacy. The Washington Board is required to review a pilot's license if the pilot has been convicted in the prior 12 months of any offense involving drugs or alcohol while on duty. Alaska's standard is no alcohol consumption 12 hours before going on duty and defines "intoxication" according to the Coast Guard standard noted above.

There was a general agreement on the workgroup that drinking is less socially acceptable and that "you don't see it" on crews much any more. Someone commented, however, that pilots have easier access to alcohol on shore than do ships' crews. Pilots stated that they notice and monitor one another's behavior in this regard. The Jacobson Pilot Service in California is heading for a zero tolerance standard.

Recommendation D4: Drug/Alcohol Use and Testing

US jurisdictions should follow the US Coast Guard standard regarding drug testing and cooperate in reviewing DUI records at the time of license renewals. If pilotage regulatory authorities do not already have one, they should adopt a standard prohibiting alcohol consumption by licensed pilots within a specified time period prior to a scheduled assignment.

E. Pilot/Ship Interactions

Pre-passage Information Exchange

Information provided by pilots to vessel masters varies in Alaskan waters, according to the responses received. Pilot discretion is also used in British Columbia's waters. Responding Washington organizations indicated that pilots meet federal standards for the pre-escort conference for tankers and pass information on passage plans, berthing arrangements, use of tugs, and "all relevant aspects of the intended transit" to vessel masters verbally. Oregon pilot organizations reported that "all pertinent data" is communicated, but did not indicate whether this was in verbal or written form. Pertinent information, as determined by the pilot, is also the rule for responding California organizations.

Pilots need access to a great deal of information prior to any assignment. As noted in Capt. Pelecanos' article in *Seaways*, "Pilots need continuously updated information on the movement of

⁹ ***This recommendation does not apply to the non-regulatory pilotage advisory councils recently established in California, which are composed of pilot, port authority, and shipping industry members and state/federal officials on an ex-officio basis, and which will have procedures for public review of meeting minutes, reports, and investigations.***

other ships; the position of anchored ships; berth availability; tug and linesboat availability; actual height of tide; wind speed and direction at the berth or boarding ground. They need to know the berths at which hazardous operations are being conducted and the whereabouts of new navigational hazards. Pilots will also want to know of any nav aids malfunctioning and those out of position or temporarily withdrawn. The efficiency with which all this information is collated and fed to the ship will impact on the quality of the service being delivered.”

Some of that information is built into the Puget Sound pilot dispatch computer system, which provides information on pending and assigned vessel movements, includes a small database of vessel-specific information, includes modules relating to predicted tide and current information, and calculates predicted tide levels at scheduled departure times and projected arrival times. It also provides information such as berth-spotting requirements, tug requirements and tug company name. It is a tool for dispatchers in assigning rested pilots and forecasting total pilot requirements. Furthermore, it provides warnings when the dispatcher inputs data which is beyond set limits, such as a vessel draft which exceeds underkeel clearance requirements, or when a vessel is bound for a berth that is already occupied.

Regarding the passage of information by the master to the pilot on the ship’s characteristics (pilot card), five responding organizations reported that this occurred 25% to 75% of the time. Four reported that this occurred more than 75% of the time, and five reported that it occurred less than 25% of the time.

Regulations of the Pacific Pilotage Authority in British Columbia require that a vessel master or deck watch officer inform the pilot of the draught and gross tons of the ship and provide any information as required for the pilot to complete the pilotage card supplied by the Authority. Moreover, the vessel master is required to sign the pilot card.

There are US federal standards for pre-escort conferences for tankers with escorts; otherwise, pre-passage information exchange occurs primarily at the pilot’s discretion. Annex 2 to the IMPA Resolution recommends:

general agreement on plans and procedures for the passage;

- discussion of any special traffic or environmental conditions;

information on the ships propeller revolutions at varying speeds, draughts, fore and aft draughts, length, beam, mast heights, turn rates at varying speeds, turning circle, stopping distance, and “other appropriate data”;

information on any unusual ship handling characteristics, machinery, difficulties, or problems with navigational equipment; and

information on intended methods of tug usage

Concern was expressed by pilots that, if a vessel master’s English is poor, communication is made more difficult, no matter what the standard is. Pilots like to use their own judgment on this, gauging what they believe the master can understand or communicate. It was also noted that cultural attitudes can influence information exchange, both prior to and during a transit. Pilots indicated that they trust their ability to give and receive necessary information.

Operators are adopting communications standards as part of their ISM code process, but there is no uniformity among these standards. WSPA’s representative noted that his oil shipping company provides pilots with vessel information on a standardized pilot card, but that pilots often appear uninterested in the information; since these are US vessels, language would not seem to be the problem in these instances.

One survey response suggested that information exchange be accomplished by fax prior to a vessel's arrival or a pilot's boarding. This is an excellent suggestion, but advance information to vessel may not be accurate if a vessel is late and external conditions have changed, so that must be monitored. Pilots generally consider face-to-face information exchange more effective.

Recommendation E1: Pre-passage Information Exchange:

Pilotage regulatory authorities and pilot organizations should require the exchange of critical navigational information between the licensed pilot and the vessel's master/navigation watch officer as soon as safely possible after a pilot boards a vessel. A pilot coordination checklist consistent with existing international, federal, and state requirements should be the foundation for locally developed information exchange procedures. The workgroup recommends that the elements of the sample "Pilot Card" in Appendix C be included as appropriate in a local checklist.

Bridge Communications and Interface

Asked whether masters ever leave the bridge after a pilot comes on board, responses tended to depend on the length of the passage. In Alaska and British Columbia, where long passages are most common, 50% of the responding organizations reported that this occurs more than 75% of the time. In Washington, one organization replied that this occurs 25-75% of the time and one checked less than 25%. In Oregon, both responded that the master leaves the bridge 25-75% of the time. In California, two responded 25-75%, one checked less than 25%, and two responded "never."

Asked whether language is ever a barrier to communication on the bridge, eight responding organizations checked "less than 25% of the time" and two responded "never." Five checked 25 - 75% of the time. Pilots stated that - if they're on a vessel where communications are difficult or conditions appear poor - they will be "on guard"

It is a problem for pilots when the bridge team confers in a language which they cannot understand. English comprehension appears to be more of a problem in some areas than in others. It depends on the vessels and type of trade in each area. It was noted that IMO is expanding a basic maritime language known as "SeaSpeak."

Notes Capt. Pelecanos in his article in *Seaways*, "In practice it is the pilot who has the conduct of the ship, but he expects the master and officers will carefully monitor the vessel's progress and quickly bring to his attention any situation which concerns them. The will with which the bridge team approaches its responsibility in this regard is an indicator of its level of competence. The failure properly to observe the pilot's performance could severely impair the quality of the pilotage."

Asked whether Officers On Watch (OOW) monitor the vessel's progress as a back-up for pilots, five responded that this occurs less than 25% of the time. Eight checked 25 to 75% of the time, and four noted that this occurs more than 75% of the time. Regarding whether OOWs plot position, five said less than 25% of the time; seven responded 25 - 75% of the time; and three said more than 75% of the time. And asked whether OOWs question pilots' instructions, the majority (12) responded that this happens less than 25% of the time; three responded that this occurs within the 25-75% range. It should be noted that the International Convention on Standards for Training, Certification, and Watchkeeping (STCW) has a specific provision that the presence of a pilot does not relieve the officers of the watch from their duties and obligations for the safety of the ship.

US pilot organizations uniformly answered that they are not “in charge of a vessel” for purposes of reporting incidents to the US Coast Guard as required in 33 CFR 160, although most noted that they inform the masters of their responsibility to do so and will assist the master in meeting this obligation. Although the regulations are different in Canada, the response was similar. One exception to this response came from an Alaskan organization which wrote that “...because of competition between pilot groups in the same area, it is not reasonable to expect the pilots to put the ship on report. If we did, it would be to our own economic disadvantage.”

Responding pilot organizations suggested ways to improve pilot/ship interface; these included:
Joint Bridge Resource Management (BRM) training;

BRM customized for pilots;

More stringent international requirements governing the integrity of vessels, English proficiency, and crew training;

- Require that crews be employed by the ship owners, not a management company, to ensure that crews have pride in their jobs and owners assume responsibility for their crews;

Regulation of pilotage by those with knowledge of the industry

Assuring that high training standards are not compromised in the face of competition;

- Give pilots more authority to ensure safety on cruise ships in spite of cruise schedules;

Establishment of a strong state pilotage authority in Alaska;

Standardized passage planning information exchanged by fax prior to a pilot boarding a vessel; and

- A database with vessel information and maneuvering characteristics that is available to pilots.

Recommendation #5 in Annex 2 of the IMPA Resolution states that “The pilot should have the right to refuse pilotage when the ship to be piloted poses a danger to the safety of navigation or to the environment. Any such refusal together with the reason should be immediately reported to the competent authority for further action.”

Recommendation E2: Bridge Communications/Interface

E2a: The US and Canadian Coast Guards and other regulatory agencies with appropriate authority should require vessel masters and navigation watch officers to monitor navigation, collision-avoidance, and communications while their ship is being piloted.

E2b: Pilotage regulatory authorities and pilot organizations should establish specific guidelines for situations where pilots are asked to take a ship that has serious navigation or mechanical deficiencies. Reporting serious deficiencies to proper authorities should be covered in such guidelines, and refusal of pilotage should be an option if a ship’s safety is not further compromised by such a decision.

E2c: The US and Canadian Coast Guards and other regulatory agencies with appropriate authority should require all formal navigation watch communications to be conducted in English or IMO “Seaspeak” while vessels are operating in US or Canadian pilotage waters.

Other Noteworthy Pilotage Issues:

Pilot Concerns

The following list summarizes responses to a survey question regarding major concerns of the pilots serving the West Coast:

Poorly maintained foreign ships and inadequate crews;

Poorly-trained officers with poor English skills;

Micro-management of pilotage;
 Over-regulation of the industry and its detrimental impact on traditional pilot/master relationships;
 Regulation which has unintended detrimental impacts; “concern is for decreased attentiveness by pilots and vessel watchstanders due to increased regulatory responsibilities.”
 Need for regulatory support for the pilotage system as “we strive to meet industry standards”;
 • The pilot-master relationship, lack of BRM practices, and the ambiguity of “committee” control;
 Fatigue;
 How to keep ships’ agents from dictating where and when vessels should take on pilots;
 Scheduling and associated business costs taking precedence over safety, especially with cruise ships; “with the cruise vessel industry, the demands on pilots not to follow good seamanship practices is high.”
 A concern over the fact that cruise, cargo, and military ships all carry oil as fuel and pose a risk to the environment from a spill;
 Risks to pilots’ safety in boarding vessels in isolated areas of the Aleutian Islands;
 Alaska’s 48 hour exemption clause;
 Safety concerns regarding the size of ships using certain ports, channels, and berths; “more requests are being received to put larger ships onto docks that were built over 40 years ago or to transit topographically restricted areas under all weather and traffic conditions.”
 The inability of small ports to provide adequate compensation and facilities in order to attract highly qualified pilots;
 The inability of small ports to provide continuing education for their pilots;
 • Assumption that new navigation technology will prevent vessel accidents;
 • The need for real-time sensor information on tides, currents, and weather;
 Application of waterway management user fees; “...a Maritime infrastructure should be provided by general federal and state funding.”
 Recreational boating adding to waterway congestion;
 • Competition in the pilotage industry;
 • Need for a program for continuing education for pilots;
 For the entrance to the Columbia River, specific concerns regarding lack of an adequate sea buoy and a proposal to remove the weather station from the area
 • Limit of liability for pilots; concern is related to recent reluctance of ship owners/operators to indemnify or protect the pilot under the vessel’s P&I coverage;
 Ensuring an adequate number of well trained, appropriately regulated pilots; and
 • Ensuring that any pilotage incident is properly investigated and fairly resolved;

Risks from Exempt Vessels

Vessels currently exempt from local pilotage requirements include public vessels, fishing vessels, deadship tows (except tankers in Prince William Sound), large foreign-flag yachts, ferries, and barge traffic (it was noted that some barge tow operators do not even have coastwise pilot certifications). Barge traffic can cause a “major channel blocking effect” according to one response. Dead ships under tow in the pilotage waters are also exempt in Oregon. US military vessels are not required to take pilots, although most do according to the survey responses, except in San Diego, where US Navy traffic is quite heavy.

In British Columbia and Washington, both Canadian and US flag vessels in coastwise trade are exempt from pilotage requirements; US flag vessels in coastwise trade are exempt in all states. Some workgroup members felt strongly that pilots of these vessels do not meet the same training standards or standards of recency with regard to knowledge of local waters as do local pilots, and therefore present a risk to local navigation.

provided within 48 hours of the time of notification. Alaska recently amended that rule to 96 hours, except in SE Alaska, where the standard is 24 hours, and North and Central Alaska, where the standard is 36 hours.

Recommendations F1: Vessels Exempt from Pilotage

F1a: Pilotage regulatory authorities and pilot organizations should periodically review the types of vessels exempt from local pilotage regulations, including public vessels, fishing vessels, ferries, large foreign-flag yachts, dead-ship tows, tugs towing barges and US/Canadian coastwise vessels. If accident and incident rates for exempt vessels exceed the rates for piloted vessels, pilotage regulatory organizations should consider corrective measures, including requiring pilotage.

F1b: Pilotage regulatory authorities and pilot organizations should consider revising pilotage regulations to base pilotage requirements on deadweight tonnage rather than gross tonnage, since deadweight tonnage is generally a better indicator of ship size.

Role of Port Authorities

According to survey responses, port authorities play no role or a minimal role in pilotage matters in Alaska, British Columbia, and Washington, although they take an interest in tariffs, safety restrictions, dredging, dock specifications, and similar matters which impact their efforts to market port services. In Oregon, they play a major role in both setting tariffs and the regulatory process through their interaction with the Board of Maritime Pilots. In California, it varies with each port; they play no role in some ports and have complete authority over pilots in others. That authority has been specified in the recent Memorandum of Agreement signed by the State and the Coast Guard.

Pilots serving ports with infrequent vessel transits

The Workgroup addressed the issue raised by the survey responses that small ports which have only a few pilots who serve a small number of vessels find it difficult to raise sufficient pilotage fees to pay for performance monitoring or continuing education. It was also noted that small ports find it difficult to provide adequate compensation and facilities necessary to attract highly qualified pilots. The Workgroup responded that BRM training is not expensive, ARPA will soon be mandatory, and that small harbors may not even need simulator training. "How can they afford NOT to get the training or set high performance standards?" was the question posed by one pilot. Another pilot suggested that a continuing education program for smaller pilot organizations could utilize generic waterway simulations for evaluation of situation awareness, emergency response, and bridge resource management techniques. He also suggested that PC-based written exam databases exist for such topics as Rules of the Road, ship handling, and more and are available via Internet from the US government.

Recommendation F2: Continuing Education and Performance Monitoring for pilot organizations serving ports with infrequent transits

Pilotage regulatory authorities and pilot organizations should develop methods to fund continuing education courses for pilots serving ports where vessel transits are too infrequent to support the costs of such training and where such training is deemed to be appropriate.

Vessel Size with regard to Channels and Port Facilities

The Issue of vessel size with regard to channels and port facilities was also discussed, and the Workgroup noted that more requests are being received to put larger ships onto docks that were built over 40 years ago, or to transit topographically restricted areas under all weather and traffic conditions. This is considered a port-specific issue due to the many variables of tides, currents, weather, etc., and it includes the underkeel clearance issue. Many ports were built more than 50 years ago and most new vessels are built larger and larger, yet pilots also noted some problems caused by new port facilities which are constructed without consideration for safe operations. In areas like the Columbia River the issue of larger ships is driving a campaign to deepen the channel; the availability of dredging vessels for channel maintenance was also noted as a problem on the Columbia.

Most pilots in the discussion felt that their organizations have good working relationships with the federal agencies charged with maintenance of channels and navigation aids; the real problem is that the budgets for these agencies have been cut. In Canada, for instance, support for these services is being transferred to user fees and responsibility for port maintenance is being transferred to the local port authorities. Even with new technology, if the budgets are cut, use is limited. As one commenter put it regarding the need for updated navigation charts "Let's find the rock before the pilot finds it."

Recommendation F3: Navigation Safety in Local Ports

Regional Port/Harbor Safety Committees should be established in each major West Coast port where such forums do not already exist, in order to address issues such as underkeel clearance, waterway congestion, navigational aids, vessel traffic services, systems to provide vessel information to pilots, charting and hydrography, real-time information on environmental conditions, and safety issues related to port facilities (piers and wharves, bridges, ballast water and bilge water reception facilities, etc.). Membership should include persons with appropriate technical expertise who represent port authorities, public interest organizations, tribal authorities, appropriate state and federal agencies, shipping industries, and pilotage organizations.

CONCLUSION

Pilotage through local waters is an ancient art, going back beyond recorded history. In a more recent historical context, early Europeans exploring the West Coast used Native Americans as guides to local waterways. Pilots' skills and knowledge have been passed on one to one, as trainees are taught by experienced pilots in local waters.

As the size of vessels has increased, and the values and risks associated with cargoes have also increased, so have the demands on pilots to guarantee the quality of their services. Pilots not only must access and manage a complex array of information, but today their associations also need to keep up with quality management and accountability standards being implemented throughout the marine industry.

At the same time, pilots are increasingly concerned with the quality of the crews on the vessels they serve, as well as with the accountability of the owners/operators of the vessels. Moreover, pilots face increasing demands to guide ever-larger vessels through narrow passages and into inadequate port facilities.

Because of the critical role which pilots play in guaranteeing the safety of vessels and subsequent protection of the environment, a great deal of attention has been paid to that role over the past few years, including this review by the States/British Columbia Oil Spill Task Force. Acknowledging that legitimate concern, West Coast pilots cooperated in sharing their opinions and expertise and have been generous with their time as participants in this process. Representatives from the shipping industry and from pilotage regulatory authorities have also shared information and time to help produce this report and the Recommendations herein.

While tariff and cost issues were not addressed by the Workgroup, they recognize that costs will be involved in the implementation of these Recommendations. The Workgroup feels that all costs for improving service should ultimately be reflected in the costs of that improved service, and the costs of improving the regulatory framework in support of these goals is a legitimate expense to be borne by the authorities mandated to assure marine safety and environmental protection.

The members of the Pilotage Workgroup request that the Members of the States/British Columbia Oil Spill Task Force adopt these Recommendations, and commit to joining with the participating pilot and shipping industry organizations as advocates for their timely implementation on the West Coast.