

<p><b>Meeting Date:</b>  <b>December 12, 2016</b></p>	<p><b>Board of Pilot Commissioners for the Bays of San Francisco, San Pablo, and Suisun 660 Davis Street, San Francisco, CA 94111</b></p> <p><b>Navigation Technology Committee Meeting Minutes</b></p>	<p><b>Page 1 of 6</b></p>
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**Committee Members Present**

Captain George Livingstone, Chairman and Commissioner  
Jennifer Ferrera Schmid, Commissioner  
Dave Connolly, Commissioner  
John Schneider, Commissioner (arrived at 1:05 p.m.)

**Committee Members Absent**

Port Agent or Pilot Designee

**Staff Present**

Allen Garfinkle, Executive Director  
Roma Cristia-Plant, Assistant Director  
Dennis Eagan, Board Counsel  
Luis Cruz, Staff Services Analyst  
Sigrid Hjelle, Office Technician

**Public Present**

Captain Dave McCloy, San Francisco Bar Pilots (SFBP); Mike Jacob, Vice President-General Counsel, Pacific Merchant Shipping Association; Ray Paetzold, Business Director/General Counsel, SFBP

**1. Call to order and roll call. (Chairman Livingstone)**

Chairman Livingstone called the meeting to order at 1:03 p.m. Staff Services Analyst Cruz called roll and confirmed a quorum.

**2. Approval of minutes from the meeting held on October 12, 2016. (Chairman Livingstone)**

Committee members were presented with the minutes of the meeting held on October 12, 2016. There was no discussion of the minutes and no public comments.

MOTION: Commissioner Connolly moved to approve the minutes of the meeting held on October 12, 2016. Commissioner Schmid seconded the motion.

VOTE: YES: Livingstone, Connolly, Schmid and Schneider.

NO: None.

ABSTAIN: None.

ACTION: The motion was approved.

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**3. Review Committee’s revised mission statement. Possible Committee action to approve and adopt revised mission statement.**

Chairman Livingstone read aloud the staff proposed mission statement and entertained any revision recommendations by the Committee.

Input for minor edits to the mission statement were provided by Board Counsel Eagan, Mr. Paetzold and Mr. Jacob, including deletion of the concept that the navigation software and technology evaluated by the Committee would be completely independent of a ship’s system, and encouraging input from stakeholders and others consistent with the Bagley-Keene Open Meeting Act. The Commissioners decided upon the following mission statement:

The purpose of the Navigation Technology Committee (Committee) of the Board of Pilot Commissioners for the Bays of San Francisco, San Pablo, and Suisun (Board) is to investigate and remain abreast of the different types of navigation systems generally found on ships calling on the San Francisco Bay and Monterey Bay areas, and the sufficiency of pilot training in the use of such systems. The Committee shall evaluate and make recommendations to the Board on the need for new navigation equipment, software and technology that can be carried aboard and utilized by pilots to enhance safe ship navigation, and to evaluate and recommend to the Board the need for pilot training to utilize recommended technology.

The Committee’s directive involves, but is not limited to, the evaluation of the availability, reliability and cost of new navigation technology, compatibility of new technology with shipboard navigation systems and power sources, related safety issues, particularly in recognition that pilots must carry such equipment when embarking and disembarking ships in open ocean conditions, and legal liability issues.

The Committee, consistent with the provisions of the Bagley-Keene Open Meeting Act, shall encourage a dialogue with and seek input and information from stakeholders and other relevant individuals and organizations.

The Committee will meet as determined necessary by the Committee Chair. Committee meetings shall comply with the provisions of the Bagley-Keene Open Meeting Act, and will be appropriately noticed and open to the public.

Chairman Livingstone then entertained a motion for the approval of the revised mission statement.

**MOTION:** Commissioner Connolly moved to approve and adopt the revised Navigational Technology Committee’s mission statement. Commissioner Schmid seconded the motion.

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VOTE: YES: Livingstone, Connolly, Schmid, and Schneider.  
NO: None.  
ABSTAIN: None.

ACTION: The motion was approved.

**4. Review statutory language of HNC §1190.4.**

Chairman Livingstone read aloud Harbors and Navigation Code §1190.4. There were no comments or discussions from the Committee members or the public.

**5. Discussion of Committee suggestions regarding the process for and the content of a San Francisco Bar Pilot Navigation Technology purchase proposal to the Committee and the Board. Possible Committee recommendation to SFBP on the process for and content of a Navigation Technology purchase proposal.**

Chairman Livingstone announced that the Committee had a great amount of material to cover at the meeting regarding the San Francisco Bar Pilots Navigation Technology Committee's progress to date on the acquisition of new navigation technology, which included SFBP's Proposed Process for Seeking Board approval, and that it would be a more prudent use of time if the Committee postponed consideration of this agenda item until the January Committee meeting.

**6. Possible presentation, review, and discussion of draft proposals from the SFBP to upgrade the Navigation Technology currently used by the SFBP.**

Mr. Paetzold provided a review of the SFBP's Navigation Technology Committee's materials that have been previously provided to the Board, the Navigation Technology Committee and to the Finance Committee, and spoke from a memo provided to the Committee dated December 12, 2016, that outlined the SFBP's proposed process for seeking Board approval of new navigation technology.

The SFBP memo listed, as part of the SFBP's proposed process for seeking Board approval, the SFBP's navigation technology presentation at the 2015 Pilotage Rate Hearing, industry and SFBP letters that were written in support of Assembly Bill 1432, a review of Harbors and Navigation Code §1190.4 and the provision for a "reasonable and necessary" determination, and referenced the prior discussions of draft rulemaking requested by Pacific Merchant Shipping Association (PMSA) that proposed a process similar to the pilot boat surcharge acquisition and rate process be applied to the new navigation technology acquisition and rate surcharge.

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Mr. Paetzold turned the discussion over to Captain McCloy, Chairman of SFBP’s NavTech Committee, who briefly reviewed the Power Point presentation on navigation technology that was given at the 2015 Pilotage Rate Hearings. He gave a brief presentation on the status of currently-owned portable pilot units and the PilotMate Precision Docking system used by E-pilots on ultra large container vessels (ULCV), and commented that the current route piloting equipment is subject to smoothing and refresh rate errors by relying on vessel generated data (through the Pilot Plug), and that data can generate errors of up to one-half to one ship length off of the actual ship location. He also noted that instruments providing “rate of turn” information compatible with the current route piloting system was not available when the existing equipment was purchased. With the contemplated acquisition, the pilots are considering the purchase of equipment that can provide independent global positioning system (GPS) data and independent rate of turn data.

Both Mr. Paetzold and Captain McCloy discussed the status of the current Pilot Mate technical support offered by Booz Allen Hamilton (BAH) that BAH had returned to its original position that it would no longer be able to provide technical support for the existing Pilot Mate units after 1/1/17. SFBP is in the process of contracting with CTSi, which now employs the former BAH engineer who had been providing technical support of SFBP’s PilotMate equipment until his recent departure from BAH.

Captain McCloy reviewed handouts describing the route piloting or portable pilot units (PPU) systems and the precision docking systems for ULCV piloting. Both handouts provided information on the existing navigation technology and the replacement specifications. Captain McCloy discussed in detail each system, hardware and software requirements, and the necessary support and warranty requirements. He explained that there are three precision docking system hardware providers (AD Navigation, Navicom Dynamics and Marimatech) and two software providers (SEAIq Pilot and SafePilot) under consideration, and that the SFBP’s Navigation Technology Committee has conferred with other pilot groups who have recently updated their the navigation systems and software. He said that SFBP has been engaged in extensive testing of the various systems under consideration.

Captain McCloy discussed a handout titled “PilotMate System Costs 2011 to Present,” which indicated that the SFBP purchased, without reimbursement, over \$73,000 in PilotMate System equipment in 2011 and 2014, and paid an additional \$24,350 in related maintenance, repair and support costs from 2011 through 2016.

Captain McCloy answered several questions from staff and Committee members, including:

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- Confirming that the Rose Point software currently used on the PPU's is expected to be transferrable to the new PPU's, although additional software licenses may need to be purchased.
- Multiple receivers on the precision ULCV systems increase accuracy and reliability.
- There are no battery plug-ins on the PPU's being considered.
- The precision hardware under consideration should have a heading accuracy of 0.1 degree and speed accuracy of 1 cm/sec, both important to providing projection accuracy.
- The precision docking system equipment under consideration may be able to utilize multiple software options, but SFBP recognizes the value in going with the same provider of hardware and software
- The warranties that are being considered should cover most repair costs for at least a four-year period.

Mr. Paetzold stated that the pricing for the navigation technology purchase has yet to be finalized, but that equipment and software acquisition costs are expected to be in the \$900,000 range [not including license fees in subsequent years or financing costs]. He also commented that there will be about 12-15 weeks between placing an order and delivery. He stated that the SFBP is considering financing the navigation technology purchase with a one million dollar line of credit with its bank, with a six month draw down period that will be converted to a long term loan with interest at prime.

Mr. Paetzold stated it is the intent of the SFBP to seek a preliminary navigation technology purchase authorization from the Board in January, and follow through with a final authorization request once the purchase has been made and final costs are known.

Mr. Jacob commented that Mr. Paetzold and Captain McCloy's presentation was well done, and that the process that Mr. Paetzold has provided is consistent with conversations between PMSA and SFBP.

Chairman Livingstone thanked Mr. Paetzold, Captain McCloy and the SFBP's Navigation Technology Committee for all of their hard work and efforts.

**7. Public comment on matters not on the agenda.**

There were no comments from Committee members or the public on matters not on the agenda.

**8. Schedule next Committee meeting, and proposals for items on the next meeting agenda.**

The committee scheduled the next meeting on January 10, 2017, at 9:30 a.m.

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**9. Adjournment.**

Chairman Livingstone adjourned the meeting at 3:30 p.m.

Submitted by:



Allen Garfinkle, Executive Director