

*Board of Pilot Commissioners for the
Bays of San Francisco, San Pablo
and Suisun*



INCIDENT REVIEW COMMITTEE REPORT:

**NOVEMBER 7, 2007 ALLISION WITH THE
SAN FRANCISCO-OAKLAND BAY BRIDGE**

VESSEL: *M/V COSCO BUSAN*
PILOT: CAPT. JOHN COTA

Presented: October 23, 2008

EXECUTIVE SUMMARY

The Board of Pilot Commissioners for the Bays of San Francisco, San Pablo and Suisun (the “Board”) licenses and regulates the approximately 60 San Francisco bar pilots and one inland pilot who provide pilotage services on San Francisco Bay and its tributaries and on Monterey Bay. The Board has many duties, one of which is the responsibility to review all reports of misconduct or navigational incidents involving bay pilots or inland pilots or other matters for which a license issued by the Board may be revoked or suspended. This responsibility is delegated to the Board’s Incident Review Committee (“IRC”). (Harb. & Nav.Code § 1180.3(b)). Following its investigation, the IRC must present a written report to the Board. (Harb. & Nav.Code § 1180.3(b) &(c)).

This report constitutes the findings and conclusions of the IRC based on its investigation of the *M/V COSCO BUSAN*’s allision with the fendering system around the Delta Tower of the San Francisco-Oakland Bay Bridge (“Bay Bridge”) at 0830 hours on November 07, 2007. At the time of the allision, the *M/V COSCO BUSAN* was transiting from her berth in the Oakland Inner Harbor to sea under the navigational control of Captain John Cota, a Board-licensed pilot.

The purpose of the IRC’s investigation was to determine whether there was pilot error or “misconduct” on the part of Captain Cota, and if so, whether such misconduct was sufficient to warrant the suspension or revocation of his state pilot license.

The IRC has not been tasked with determining whether there was misconduct, negligence or errors on the part of other individuals or parties. To that end, any comments on the actions of other individuals or entities appear in this report only to the extent that they help explain whether pilot error was involved. Consequently, any such comments are not intended to reflect, and should not be interpreted as, the IRC’s opinion with respect to the relative culpability, if any, of other individuals or parties.

It should also be noted that, as Captain Cota has turned in his state pilot license and retired, this matter did not go through a full evidentiary hearing before an administrative law judge. Accordingly, this report reflects only the findings and conclusions of the IRC without having afforded the pilot an opportunity to test the evidence relied upon by the IRC in an administrative hearing. Furthermore, because of ongoing litigation, many witnesses were inaccessible. Under the Board’s regulations, this report by the IRC is nevertheless required.

As a result of its investigation, the IRC concluded that pilot misconduct was a factor in the allision. The IRC’s conclusions are summarized as follows:

- (1) That, prior to getting underway, Captain Cota failed to utilize all available

resources to determine visibility conditions along his intended route when it was obvious that he would have to make the transit to sea in significantly reduced visibility;

(2) That Captain Cota had exhibited significant concerns about the condition of the ship's radar and a lack of familiarity with the ship's electronic chart system, but then failed to properly take those concerns into account in deciding to proceed;

(3) That, considering the circumstances of reduced visibility and what Captain Cota did and did not know about the ship and the conditions along his intended route, he failed to exercise sound judgment in deciding to get underway;

(4) That Captain Cota failed to ensure that his plans for the transit and how to deal with the conditions of reduced visibility had been clearly communicated and discussed with the master;

(5) That, once underway, Captain Cota proceeded at an unsafe speed for the conditions of visibility;

(6) That, when Captain Cota began making his approach to the Bay Bridge, he noted further reduced visibility and then reportedly lost confidence with the ship's radar. While he could have turned south to safe anchorage to await improved visibility or to determine what, if anything was wrong with the radar, Captain Cota failed to exercise sound judgment and instead continued on the intended transit of the M/V Cosco Busan, relying solely on an electronic chart system with which he was unfamiliar; and

(7) That Captain Cota failed to utilize all available resources to determine his position before committing the ship to its transit under the Bay Bridge.

Based on the nature of the misconduct and after considering the factors listed in Section 210(e) of the Board's regulations, the IRC recommended a temporary suspension of Captain Cota's state pilot license pending a hearing, as authorized by Harbors and Navigation Code Section 1180. The Board followed this recommendation and voted to suspend the license pending the hearing. Thereafter the IRC filed an Accusation. The Accusation recommended the suspension or revocation of Captain Cota's license. He then filed a timely Notice of Defense denying the allegations of misconduct.

The Office of Administrative Hearings assigned an Administrative Law Judge and set a hearing date. The Board elected to hear the matter sitting with the administrative law judge, as provided by law. The hearing date was postponed twice by order of the administrative law judge to permit the parties to obtain necessary evidence for the hearing.

On June 30, 2008, before the matter could be heard, Captain Cota gave notice of his retirement as a San Francisco bar pilot on the earliest effective date permitted by the

applicable statute. He cited as reasons that pending criminal charges against him arising out of this incident made it impossible for him to defend the administrative action against his state license.

By operation of law, his state pilot license, which had remained suspended in the interim, would cease to exist upon his retirement. Thus Captain Cota's retirement effectively rendered moot any action the Board could have taken against his license if it had found pilot error. Captain Cota's retirement became effective on October 1, 2008, and the Accusation has now been dismissed.

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FINDINGS OF FACT

1. VESSEL INFORMATION

- 1.1. Ownership/Registration/Management. *M/V COSCO BUSAN* is a motor container vessel registered in Hong Kong, with Hong Kong Chinese crew and officers. Regal Stone, Ltd. owns the vessel and Fleet Management, Ltd. manages it. The vessel's agent in San Francisco is Norton Lilly. (See, Exhibits 1, 4 and 8)
- 1.2. Mechanical Specifications. The vessel is single screw; right turning, fixed pitch propeller. There is a 2,700 hp bow thruster. The vessel was built in 2001 by Hyundai Heavy Industries, Ulsan, South Korea. Its general specifications are as follows:

Length:	901'	Beam:	131'
Draft:	39' 09" fwd,	40' 04" aft	
Tonnage:	65,131 grt	34,078 net	
Engine:	Man B&W, 77,600hp		

Its engine command specifications are as follows:

<u>Bell Signal</u>	<u>RPM</u>	<u>Speed</u>
Dead Slow	24	6
Slow	35	9
Half	50	13
Full	65	17
Sea speed	104	25.9

(See, Exhibits 3, 4 and 10)

- 1.3. Master & Pilot. The master of the *M/V COSCO BUSAN* was Capt. M. C. Sun. (See, Exhibits 4, 8) The pilot of the *M/V COSCO BUSAN* was Captain John Cota, SFBP. (See, Exhibits 1, 3, 8)
- 1.4. Planned Transit. The *M/V COSCO BUSAN* was en route from Oakland, Berth 56 to sea. (See, Exhibits 3, 8)

1.5. Assisting Vessels: The tug assisting at the time of the Incident was:

Name: *REVOLUTION*

Operator: Douglas Alfors

Owner: American Navigation

Length: 78' Beam: 34' Draft: 14'

Tonnage: 144 grt

Propulsion configuration: Twin Z drive, 5,080 bhp Bollard pull: 135,000#

(See, Exhibits 3, 4 and 8)

2. ENVIRONMENTAL CONDITIONS

On the day of the Incident, Captain Cota boarded the *M/V COSCO BUSAN* at 0600 hours at Port of Oakland, Berth 56, with an anticipated departure time of 0630 hours. The actual time of departure was 0748 hours and the time of the allision was approximately 0830 hours. The relevant environmental conditions during these time periods were as follows:

2.1. Relevant Conditions at Berth 56:

Sunrise was expected at 0641 hours. At the time of Captain Cota's boarding of the *M/V COSCO BUSAN*, a "dense fog" was present. Prior to departure Captain Cota saw the tug *SOLANA* from a distance of at least 0.25 miles. He could not confirm if visibility extended to 0.5 miles, but could see across the channel prior to departure.

At approximately 0800 hours the Tug *SOLANA* approached the middle harbor channel. After passing buoys 7 and 8 at the Oakland Inner Harbor Entrance, the Tug *SOLANA* reported seeing the bow of the *M/V COSCO BUSAN* at a distance of approximately 1000 feet (0.18 miles).

At the time of the *M/V COSCO BUSAN's* departure, at most, there was a slight lifting of the fog.

2.2. Visibility Along Intended Route as Reported Prior to Departure:

Captain Cota had no information regarding the visibility along his intended route from Berth 56 to the Pilot Station, and did not contact anyone to ascertain such visibility.

Cota did not inquire of Tug *SOLANA* what conditions were in the outer channel, even though the tug had just traversed that region of the Bay. On its transit from the Bay Bridge construction site to the Oakland Inner Harbor, the Tug *SOLANA* experienced visibility as low as 200 yards.

The crew boat *PROWLER* reported conditions as "very foggy" along its route from Port of San Francisco, Pier 50 to the Bridge construction site.

Multiple vessels were scheduled to depart or transit the Bay between 0600 and 0900 hours on November 7, 2008. Pilots on these vessels reported limited visibility:

<u>Visibility</u>	<u>Pilot</u>	<u>Vessel</u>	<u>Location</u>	<u>Est. Time</u>
0.125 miles (660 feet)	Lobo	SEA LAND METEOR	Oakland Berth 23	0600
Less than 0.5 miles	Gates	CHEMBULK BARCELONA	Richmond Berth 11	0700
0.15 miles (800 feet)	Gans	STROFADES	Anchorage 9	0730
Ranging from 0.17 miles (900 feet) to 0.25 miles (1320 feet)	Dohm	ITAL LIBERA	Oakland Berth 37	0830
Ranging from less than 0.75 mile to 0.25 mile	Villas	LIHUE	Oakland Berth 68	0900
No more than 0.2 miles (1056 feet)	S. Teague	S H BRIGHT	Inbound from Golden Gate to Anchorage 8	0830

At Richmond Berth 11 visibility did not improve until 1015 hours. At Oakland Berth 37, the *ITAL LIBERA* delayed its scheduled 0830 departure until 1100 hours due to poor visibility.

2.3. Relevant Conditions During Transit From Berth 56 to Yerba Buena Island

Captain Cota reported no greater than 0.25 nautical mile of visibility during his transit from Oakland Berth 56 to Yerba Buena Island.

2.4. Relevant Conditions in Vicinity of Yerba Buena Island at 0830 hours:

Wind: SW, 7-10 kts.
 Visibility: fog, 1/4 mile or less
 Tide Height: 5.6 feet, rising
 Current: 0.8 kt, flood
 (See, Exhibits 3, 6, 8)

Immediately before the allision, *PROWLER* noted visibility of approximately 0.1 miles in the vicinity of the “C” tower of the Bay Bridge. This puts visibility at just over half the length of the *M/V COSCO BUSAN*.

3. INCIDENT & MISCONDUCT UNDER INVESTIGATION

The specific incident investigated is the allision of the *M/V COSCO BUSAN* with the Delta Tower of the Bridge, at 0830 hours on November 07, 2007. Besides the allision itself, the actions of Captain Cota leading up to the allision were also investigated. Thus, the investigation reviewed Captain Cota's actions from the time he boarded the *M/V COSCO BUSAN* at 0600 hours on the morning of November 07, 2007 until he left the vessel at 0945.

4. ESTIMATED DAMAGES RESULTING FROM INCIDENT

One of the factors the IRC must consider in determining the appropriate corrective action to be imposed, (and to consider when going outside the guidelines provided by Section 210(f) of the Board's regulations), is "the nature and extent of any injuries, property damage or harm to the environment resulting from the incident." The purpose of this section of the report is to provide information regarding the order of magnitude of the consequences resulting from Incident. It is not intended to quantify exact damages of individual parties or determine liability therefor.

4.1. Physical Damage

The *M/V COSCO BUSAN* sustained a gash approximately 220 feet long, 14 feet high and 8 feet deep. The depth of the gash varied from scraping and bending of the shell plating, to penetration of voids, ballast and fuel tanks. The longitudinal bulkhead in way of #2 cargo hold was partly buckled and punctured. Two fuel oil tanks were penetrated, allowing bunker fuel to gravitate to the lowest level of contact with the fendering. Approximately over 50,000 gallons of heavy fuel oil were discharged. This reasonably equates in volume to the capacity of four and a half 40 foot shipping containers.

The allision also damaged the fendering system of the Delta Tower of the Bridge.

4.2. Valuation of Damages

The heavy fuel oil spilled following the allision dispersed over much of the greater San Francisco Bay and affected a combined 26 miles of coastline inside the Bay and outside the Golden Gate. Extensive clean up efforts were undertaken by the vessel's owners and operator, and by federal, state and local governments, private concerns and volunteers. The oil spill has been blamed for the contamination of wildlife habitat and protected marine resources and for the deaths of thousands of birds.

The opening of the normal fishing and crabbing season was delayed, causing substantial losses to the fishermen and related industries. Two class actions were filed on behalf of various fishermen and crabbers claiming to represent some 1500 class members for their losses. Their losses have not been quantified.

The federal government and three municipalities filed suits in federal and state courts. These law suits seek clean up and response costs, natural resource damages and other losses and civil penalties. The suits name as defendants the vessel, its owners, operator and the pilot.

The California Department of Transportation filed suit for the costs of repairs to the Bay Bridge, which it estimated at \$2 million.

The ship owner, operator and cargo interests have all suffered losses as a result of the damage to the vessel and her detention. The ship owner has estimated its current and future losses as a result of this incident, including its liability for the actions of the pilot, to exceed \$80 million. Such damages include repair to the vessel (estimated to be in excess of \$2.5 million), loss of hire, and clean up and recovery costs.

5. **WITNESSES & INFORMATION OBTAINED FROM SAME**

See Appendix 1.

6. **NATURE AND EXTENT OF INJURIES**

No physical injuries were reported or came to the attention of the IRC.

7. **SUMMARY OF PRIOR INCIDENTS INVOLVING SAME PILOT**

See Appendix 2.

8. **RELEVANT INFORMATION FROM U.S. COAST GUARD**

The IRC obtained information and materials directly from the US Coast Guard. In addition, the IRC gained benefit from other materials obtained by the U.S. Coast Guard and ultimately released to other agencies or entities. These materials include:

- A. Photos of the navigational bridge, including the radar, electronic chart and other navigational equipment on board the *M/V COSCO BUSAN*;
- B. Information regarding the operational status of buoys in the vicinity of the Bay Bridge Delta tower. This included a report that the San Francisco Sector conducted a survey and found the following buoys were operational:
 - a. Pier D North Buoy (LLNR-4450)
 - b. Pier D South Buoy (LLNR-4455)
 - c. Yerba Buena Lt / Sound Signal (LLNR-4595);

- C. Information regarding the damage to the fendering system on the Bay Bridge Delta tower;
- D. Information regarding the operational status of the RACON above the Delta-Echo span of the Bay Bridge. This information indicated that the last reported malfunction of any Bay Bridge RACON occurred in July of 2007, and that as of November 7, 2007 all RACONs were operating;
- E. Information regarding the horizontal clearance available for navigation, between the fenders of the Bay Bridge towers.

9. **CHRONOLOGY OF INVESTIGATION & ACTION TAKEN PURSUANT TO HARBORS & NAVIGATION CODE 1180.6**

See Appendix 3.

10. **SUMMARY OF FACTUAL BACKGROUND**

10.1. *Boarding And Pre-Departure Activities*

At about 0600 on Wednesday November 7, 2007, Captain John Cota boarded the container vessel *M/V COSCO BUSAN* at Oakland Berth 56, to take it to sea. The vessel was scheduled to sail at 0630 hours. Once aboard, Captain Cota was escorted to the bridge where he met the master, Captain Sun, along with a mate. He and Captain Sun discussed the dense fog and decided to wait for visibility to improve before sailing. At 0630 Stand By Engine was ordered in preparation for departure. Sunrise was at 0641, but visibility remained very poor. (See, Exhibits 3, 5, 6, 8)

Captain Cota and Captain Sun reviewed the SFBP Master-Pilot Exchange Card. Captain Cota found the tuning of the two radars to be unacceptable. He, the master, and the mate spent 45-60 minutes tuning the radars and testing the automatic plotting features (ARPA), until they were able to successfully acquire, track, and plot a target. (However, Captain Cota stated prior to departure. "I've tried to target five times, never plots. That's not good for fog." Captain Cota observed that the heading flasher of the radars was correct for the channel heading as moored. The radars were set on either 1.5 or 3-mile scale. (See, Exhibits 2, 3)

After convincing himself that he could rely on the radar, Captain Cota examined the electronic chart (EC). Captain Cota noted that the symbols on the electronic chart were not familiar to him and he did not see any track lines appearing on it. He also did not

review any paper chart on the bridge. He asked Captain Sun to point out the center of the D-E span of the Bay Bridge. Captain Sun pointed to what he said was the center of the span. Captain Cota failed to recognize that Captain Sun was pointing to the buoys marking Delta Tower, midway between the prominently marked RACONs (RADar beaCONs) on C-D and D-E spans.

Captain Cota considered Captain Sun's command of English nominal, and only sufficient enough to understand navigational terms. Captain Cota was unaware that Captain Sun and his crew had only joined the vessel on Oct 24 (two weeks previously) when there was a change in the vessel's ownership. (Exhibit 3)

10.2. Layout And Navigational Equipment Of M/V COSCO BUSAN Bridge

The bridge layout of the *M/V COSCO BUSAN* consisted of a midship helm station with consoles to port and starboard. The port console was the navigation station. From midship outboard, it consisted of a radar monitor, a ship control function monitor, an electronic chart display and another radar monitor. Captain Cota was unable to distinguish between the 3 cm radar and 10 cm radar monitors. While he asked the Captain for clarification, he was not able to understand the response. Captain Cota did not have or use a personal computer with charting software and AIS interface. He was under the incorrect impression that the American Pilots' Association discourages the use of such devices due to potential liability issues.

The starboard console was the engine/machinery control area and had the engine order telegraph and bow thruster controls as well as engine function readouts.

10.3. Departure From Berth 56

By 0630, visibility had gradually improved and Captain Cota believed he could see across the estuary for a distance of about 0.25 mile. That distance was hard to quantify due to the flat land in the area.

At 0645 Captain Cota directed the assist tug *REVOLUTION* into position and to put up a headline to the vessel's port quarter. The tug was fast at 0648. He visually observed the tug *SOLANA* and two barges proceeding up the estuary and noted the tug's range to be 0.25 mile. *SOLANA* had just entered the estuary after passing Oakland berth 38. The operator stated that while he passed close to it, he had been unable to see that berth. The tug operator also noted that he had passed Buoy 6 in the Inner Harbor Entrance Channel at 200 yards without being able to see it. Indeed, the *SOLANA's* operator stated he had 0.25 mile of visibility or less throughout his transit from the Bay Bridge construction site to the Oakland Inner Harbor entrance.

After determining visibility to be about 0.25 mile at the vessel, Captains Cota and Sun agreed to depart. Captain Cota contacted the operator of the *SOLANA* and agreed to remain at the berth until the tug and barges were past and clear.
(See, Exhibits 2, 3, 8)

At 0714 lines were singled up aft. (That is, the only mooring lines remaining aft were a single stern line, a breast line and a spring line). At 0745 lines were singled up forward and all lines were ordered to be let go. The last line was let go at 0748. At 0755, with the tug and barges clear astern and all lines clear, the *REVOLUTION* was directed to back and using the bow thruster, the vessel was moved off the berth to mid-channel.

At 0800 the tug *REVOLUTION* was directed to let go and put a headline up to the center chock on the stern of the *M/V COSCO BUSAN* and follow the vessel and to keep a slack line. Captain Cota advised the tug he would keep them there until the vessel was clear of the Oakland Bar Channel.

At 0808 slow ahead was ordered and the vessel began to move out of the estuary.
(See, Exhibits 2, 4, 5)

As the vessel moved out of the estuary, Captain Cota visually observed Lights 7 and 8 at the edge of the channel, as well as Lights 5 and 6. A review of AIS readouts shows the vessel favoring the north side of the channel. Captain Cota purposely held to the right side of the channel due to the flood current. At 0820 hours, in the vicinity of Buoys 1 and 2, speed was increased to half ahead. Captain Cota did not see Buoys 1 and 2, but later stated he was not looking for them since he was concentrating on the radar picture. The tug *REVOLUTION* continued to follow the *M/V COSCO BUSAN*, maintaining a slack line. However, after clearing the Oakland Bar Channel, Captain Cota did not release the tug. He later acknowledged this was because he had forgotten about its presence.
(See, Exhibits 2, 3, 5)

10.4. Approach To Yerba Buena Island

Captain Cota planned to set the radar's variable range marker (VRM) to 0.33 mile and to maintain that distance from Yerba Buena Island (YBI) as he approached the Bay Bridge. This is consistent with the practice of other pilots in transiting under the D-E span of the Bay Bridge in reduced visibility.
(See, Exhibits 2, 3)

Captain Cota believes he was using the radar monitor located next to the helmsman most of the time. He set the VRM and maneuvered the vessel to 0.33 mile south of the tip of YBI and began his starboard turn per his plan. After commencing the turn he again asked Captain Sun for the location of the center of D-E span on the electronic chart. Captain Sun did so, but apparently pointed to the Delta Tower, rather than the D-E span.

Captain Cota noted he would be turning short of that point and steadied the vessel briefly, checking the turn and deviating from his plan of turning 0.33 mile off the shoreline of YBI. However, Captain Cota had again failed to recognize that Captain Sun was pointing to the buoys between that marked the Delta Tower. (See, Exhibits 2, 3)

10.5. Allision With Bridge

Captain Cota maintains that, as he was beginning his starboard turn, the radar picture on both radars began to deteriorate. He stated the radar was not displaying the RACON on the D-E span of the Bay Bridge, nor was it displaying the towers, or the buoys near the Delta Tower. The Bay Bridge image had, according to Captain Cota, become a thick green ribbon on the radar screens. He stated that he lost confidence in the accuracy of the radar and did not trust the radar image, including the VRM. He believes that at about the same time the fog became thicker, further reducing visibility. (See, Exhibits 2, 3)

As the vessel approached the Bay Bridge, the Westar Marine Services 41-foot crew boat *PROWLER* was proceeding from San Francisco Pier 50 to the Bay Bridge construction site to pick up surveyors. Its operator reported conditions as "very foggy" and he proceeded along the SF waterfront to Alpha Tower and waited there for an inbound vessel to pass. That vessel was the *M/V S. H. BRIGHT*, which diverted to Anchorage 8. From there *PROWLER* proceeded to Charlie Tower and held position waiting for the *M/V COSCO BUSAN* to pass through D-E span. From the vicinity of Charlie Tower the operator could see a faint outline of Delta Tower, a distance of 0.20 mile. (See, Exhibits 8)

Captain Cota resumed the turn and shortly thereafter received a radio call from USCG Vessel Traffic Service (VTS). After making contact with Captain Cota, VTS radioed him stating: "AIS shows you on 235 heading. What are your intentions? Over." Captain Cota was standing at a radar consol and looked at the heading flasher. It showed the vessel passing through 280°T and still swinging to starboard. Captain Cota replied to VTS, "Um, I'm coming around. I'm steering 280 right now." VTS radioed in response, "Roger, understand you're still intending the Delta-Echo span, over." Captain Cota replied, "Yeah, we're still Delta-Echo."

Having lost confidence in the radars, Captain Cota moved to the electronic chart to see what it showed. He again asked Captain Sun to point out the center of D-E span, which he did. According to what Captain Sun pointed to on the electronic chart, Captain Cota believed that the vessel was headed to the center of D-E span. Captain Cota again failed to recognize that, in reality, Captain Sun had pointed to the Delta Tower itself. (See, Exhibits 2, 3)

At 0827 Captain Cota ordered full ahead and hard right rudder to steer the vessel in a direction that he believed would be closer to Echo Tower. The increased speed and

propeller wash caused the line to the tug *REVOLUTION* to tighten and the operator released the winch brake to let the towline run to avoid tripping the boat and to maintain a slack line. (See, Exhibits 2, 3, 5)

Shortly after the speed increase and change of rudder, Captain Cota heard a call to Captain Sun on his handheld radio. The exchange was apparently in Chinese and Captain Cota was unable to understand what was said. Soon after that, Captain Cota observed Delta Tower looming out of the fog close on the port bow. He then finally realized that Captain Sun had been pointing to the tower instead of the center of the span. He could see that the vessel's port side was going to contact the tower's fendering system and ordered hard left rudder to lift the stern away. At 0830 the vessel contacted the fendering system on the East-South-East corner of the Delta Tower. (See, Exhibits 2, 3, 4, 8)

Captain Cota reported that he did not feel the vessel shudder or heel or otherwise show that they were scraping along the fendering system. At 0830.5 he ordered dead slow ahead. The tug *REVOLUTION* also slowed. As the tug passed the Delta Tower, its operator observed floating fender pile debris and oil in the water. At 0832 the *M/V COSCO BUSAN* crew reported oil leakage to the bridge. Captain Sun advised Captain Cota who advised the USCG. At 0834 the engine was stopped. (See, Exhibits 3, 4, 5)

10.6. Post-Allision Events

At 0836 the engine was ordered slow ahead. Captain Cota radioed VTS and advised them that he had contacted the fendering system on Delta Tower and was proceeding to Anchorage 7 off Treasure Island ("TI"). Captain Cota used his cell phone to call the Port Agent (Captain McIsaac) and advise him of the incident. At 0855, using the ship's radar to determine range, the *M/V COSCO BUSAN* was anchored 0.5 mile off the North-West corner of TI in Anchorage 7. At 0858 the *REVOLUTION* was let go. Captain Cota told the operator "*REVOLUTION*, you're released. I guess I forgot about you in all of the excitement." (See, Exhibits 2, 3, 4)

Captain McIsaac gathered several other pilots from the Pilot Station and embarked in the *P/V GOLDEN GATE* to inspect the fendering system and go to the vessel. When the *P/V GOLDEN GATE* arrived at Anchorage 7 he noted that there was still a small amount of oil leaking from a long gash in the vessel's side. This was the first direct observation of the damage. At about 0900 Captain Frank Hoburg boarded the vessel and went to the bridge to relieve Captain Cota. While the *P/V GOLDEN GATE* was alongside, Captain McIsaac noted that the flow of oil from the vessel had stopped. (See, Exhibits 2, 3, 8)

At about 0905 Captain Coney also boarded the *M/V COSCO BUSAN* to assist. When Captain Coney arrived on the bridge he found that Captain Cota was preparing to conduct an alcohol swab test on himself. Captain Coney witnessed the test. He noted

visibility to be about 0.25-0.5 mile. At 0945 hours Captains Cota and Coney departed the *M/V COSCO BUSAN* aboard the *P/V DRAKE*. They proceeded to the Pilot Station where, at approximately 1030 Captain Cota was given a drug screening test by a contract service retained to perform such screenings. All screening tests came back negative for the presence of drugs and/or alcohol.

ANALYSIS & RESPONSE

11. FINDINGS OF PILOT ERROR

Based on its investigation, the IRC found misconduct on the part of Captain John Cota in relation to the Incident. The misconduct found is as follows:

- 11.1. Failure to Utilize All Available Resources to Determine Conditions Along His Intended Route. Captain Cota, while recognizing the extremely limited visibility caused by the fog on the morning of November 7, 2007, did not take advantage of any of several sources to determine the visibility along his proposed route. He did not attempt contact other vessels and did not ask VTS for information regarding conditions along his intended route. In fact, visibility was less than 0.25 nautical miles in the vicinity of the Bay Bridge and at other locations along his route. According to the operator of the *PROWLER*, the visibility at the Bay Bridge was approximately 1000 feet. If accurate, that meant that Captain Cota, from his position on the vessel's bridge, would have been able to see only about 200 feet beyond the bow of the *M/V COSCO BUSAN*.

- 11.2. In Deciding to Depart, Failed to Properly Take Into Account Concerns Regarding the Vessel's Navigational Equipment. Captain Cota had exhibited significant concerns about the condition of the ship's radar and a lack of familiarity with the ship's electronic chart system, but then failed to properly take those concerns into account in deciding to proceed. For instance, Captain Cota noted it took upwards of 45 minutes of work with the radar system to allow it to operate as he believed it should. Even so, he noted "I've tried to target five times, never plots. That's not good for fog." There was apparently no effort to determine what had caused the issues that prevented the radar from operating in its intended manner, nor whether the radar had exhibited any malfunctions in the recent past. Furthermore, Captain Cota failed to clarify for himself the bandwidth of the radar monitors. Finally, Captain Cota did not examine the electronic chart closely enough to become familiar with, and assure himself that he understood the symbols used on the electronic chart. It appears that in the end Captain Cota never gained complete confidence in the radar system, as he instructed the tug *REVOLUTION* to tie a stern line to the vessel. In addition, when he saw a "band" on the radar as he approached the Bay Bridge, he immediately disregarded the positional fix he

had just obtained from the radar relative to Yerba Buena Island. He abandoned this fix even though there was no indication that it was erroneous when obtained. These facts indicate that, considering the limited visibility, Captain Cota never reached an appropriate level of confidence in the vessel's navigational equipment.

- 11.3. Failure to Exercise Sound Judgment in Deciding to Depart. At the time of departure, Captain Cota had, at most, 0.25 nautical miles of visibility, with no indication that visibility would improve during transit. The operator of the tug *SOLANA* estimated the visibility in the vicinity of the *M/V COSCO BUSAN* as low as 200 yards, and no more than 0.25 nautical miles, if that. Nevertheless, Captain Cota participated in the decision to depart, even though there was no pressure on the vessel to leave at or near its scheduled departure time. Captain Cota agreed to depart despite his knowledge of the crew's limited language ability, his unfamiliarity with the Electronic Chart, the 45 minute effort needed to adjust the radar, and his failure to refer to (and/or note the presence of) a paper chart. In fact, Captain Cota's own concern about the conditions at the time of departure is evidenced by his instruction to the tug *REVOLUTION* to attach a stern line to the *M/V COSCO BUSAN*. In light of the known conditions, Captain Cota failed to exercise sound judgment in deciding to depart.
- 11.4. Failure to Ensure That His Plans for Transit, And His Plans For Dealing with Reduced Visibility Were Clearly Communicated with the Master. As far as Captain Cota knew, the crew had nominal English abilities, and perhaps no more than the ability to understand basic maneuvering commands. He was unable to get all the information he sought regarding the conditions and settings of the radar prior to departure. Prudence would have dictated that Captain Cota use extra care in ensuring that the master understood their plan for navigating in such reduced visibility, in instructing the members of the bridge team in what was expected of them, and in instructing the lookouts as to what they should be looking for and reporting. Prudence would have also dictated that a bridge team member be instructed to take periodic fixes of the vessel's location.
- 11.5. Proceeding at an Unsafe Speed. Notwithstanding the extremely limited visibility, Captain Cota ordered "Half Ahead" when the ship exited the Oakland Inner Harbor Entrance Channel and maintained that engine order for seven minutes. That engine order brought the ship's speed under prevailing circumstances to between 10 and 11 knots, and perhaps as high as 12 knots. The approximate speed of the ship when it allided with the Bay Bridge was 11 knots. (The Full Ahead order minutes before the allision, coupled with a hard right rudder, and then left full rudder moments before the allision, would not have appreciably increased the ship's speed at the time of contact with the Bay Bridge's fendering system.) Under the circumstances, with as little as 200 feet of visibility beyond the bow of the vessel, this represents an unsafe speed.

11.6. Failure to Exercise Sound Judgment in Continuing His Transit Under the Bay Bridge. After Captain Cota had guided the vessel to a distance of .33 miles from the southern tip of YBI and was ready to make his final approach to transit under the center of the D-E span of the Bay Bridge, Captain Cota lost confidence in what he described as a malfunctioning radar. (The IRC found no evidence that the radar actually malfunctioned, although it was not in a position to determine what, if anything was done with the radar prior to its inspection by government authorities, and will leave that to others to address.) As a result, Captain Cota shifted his reliance to an electronic chart with which he was not familiar, and on the master's misinterpretation of the center of the span – an interpretation that Captain Cota had reason to doubt. In fact, by that time, Captain Cota had asked three different times for Captain Sun to point to the center of the D-E span on the electronic chart. In addition, he had received an indication from VTS of a heading significantly different from that which was being read on the vessel. At that point, prudence would have dictated that he abort the attempted transit and turn south to a safe anchorage, either to determine what was wrong with the radar (if anything) or to await better visibility conditions. Instead of aborting the attempted transit, Captain Cota altered his intended route to a point further west along the Bay Bridge, a point that turned out to be the Delta Tower of the Bay Bridge rather than the center of the D-E span.

11.7. Failure to Utilize Available Resources Prior to Allision. As Captain Cota approached the Bay Bridge, visibility began to deteriorate. At that juncture (and perhaps even as the radar picture deteriorated), Captain Cota still had the option of utilizing VTS to fix his position and/or abandon the transit and use the availability of Anchorage 8 or 9. In addition, he had the availability of crew members to fix the vessel's position, and potentially the vessel's lookouts to identify any structures. None of these resources were utilized. Instead, Captain Cota continued to rely exclusively on resources in which he had limited or no confidence.

12. RESPONSE OF THE IRC

Based on its findings, the IRC determined that the corrective actions it has the power to administer were insufficient with respect to the level of pilot error. Consequently, the IRC exercised its option to file an Accusation seeking suspension or revocation of Captain Cota's license. This Accusation was filed within 30 days of the Incident, on December 6, 2007. In response, Captain Cota filed a timely Notice of Defense.

A preliminary hearing date in April 2008 was set. This date was set primarily in response to the Office of Administrative Hearing's ("the OAH") internal requirement to immediately set a hearing date. At the first status conference, the hearing was moved to July, 2008. At the next status conference Captain Cota sought, and was granted, a

continuance to and until September 2, 2008. The OAH granted the continuance to allow the parties adequate time to complete discovery, especially in light of the multiple legal proceedings filed in relation to the Incident.

In the meantime, on June 30, 2008, Captain Cota gave notice of his retirement effective October 1, 2008. (As the Board knows, a pilot must give at least three months notice of retirement, and such retirement must begin the first day of a fiscal quarter.)

By giving notice of his retirement, Captain Cota rendered moot the two actions the Board could have taken - suspension or revocation - had it found misconduct. Accordingly, the parties entered into a stipulation that voided the September, 2008 hearing schedule and set the matter to be closed once Captain Cota's retirement went into affect. Accordingly, the case pending in front of the OAH was closed shortly after Captain Cota's retirement became effective on October 1, 2008.

13. OTHER ACTIONS TAKEN

Following the Incident, the Board, the Board's President, the Board's Executive Director, and/or the IRC have taken other actions beyond the investigation. They are listed here in order to provide a historical record of such actions. The actions taken include:

- 13.1. Participation in NTSB on-site investigation and hearings;
- 13.2. Participation in the Harbor Safety Committee's Review of the *San Francisco, San Pablo and Suisun Bays Harbor Safety Plan* ;¹
- 13.3. Initiation of a review of issues having to do with Pilot Fitness, including a review of the Board's existing procedures to assure the good physical and mental health of pilots;
- 13.4. Initiation of a review of the Board's Incident Review process;
- 13.5. Participation in efforts to increase communication among pilot commissions;

¹ In connection with this, the IRC recommends that the Port Agent ensure that all pilots review the Harbor Safety Plan, including minimum visibility standards.

- 13.6. Involvement in the Harbor Safety Committee's analysis of certain issues related to the use of shipboard and portable electronic navigation systems by pilots; and
- 13.7. Formation of a Navigation Technology Committee to investigate the different types of navigation systems found on ships calling on the San Francisco Bay Area and the sufficiency of pilot training in the use of such systems, and to evaluate portable electronic navigation chart systems that can be brought aboard by pilots to assist in navigation. This committee has already presented its preliminary report to the Board, and the Board has acted upon it.

Further details of these actions can be found in Appendix 4.

14. CONCLUSION

Having concluded its investigation, and having followed the recommended course of action through to its final conclusion, the IRC respectfully submits this report for the Board's review and acceptance pursuant to the Board's Regulations (Title 7, California Code of Regulations, § 210(g)).



Captain Patrick Moloney
Executive Director
State Board of Pilot Commissioners
Member, Incident Review Committee



Knute Michael Miller
President
State Board of Pilot Commissioners
Member, Incident Review Committee