DEPARTMENT OF THE NAVY
COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5830
Ser N02L/0029
28 Mar 07

FOURTH ENDORSEMENT on [redacted] ltr of 13 Jan 07

From: Commander, U.S. Fleet Forces Command
To: File

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ON BOARD USS MINNEAPOLIS-SAINT PAUL (SSN 708) ON 29 DEC 06

Ref: (g) Investigation into the Incident on 29 Dec 06 Involving USS MINNEAPOLIS-ST PAUL (SSN 708) Convened by Naval Base Commander (Devonport) (undated)

1. The findings of fact, opinions, and recommendations contained in this investigation, as modified by all subsequent endorsements, are approved. This investigation is considered final and no further endorsement is required.

2. As none of the findings of fact, opinions, or recommendations contained in this investigation are based on enclosure (113), that enclosure is hereby deleted and removed from the investigation as a collateral matter. The document may more properly be characterized as a reference, and it will become reference (g) to this investigation.

3. A copy of this investigation was delivered to both primary next-of-kin by Commander, Submarine Group 8 on 20 Mar 07.

4. Although not apparent from the report of investigation, Commander, SIXTH Fleet's endorsement dated 9 February 2007 was not received by Commander, Submarine Forces until 14 March 2007. Accordingly, the investigation and all subsequent endorsements are timely and in accordance with reference (a).

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ON BOARD USS MINNEAPOLIS-SAINT PAUL (SSN 708) ON 29 DEC 06

5. As required by reference (a), a complete copy of this investigation with all endorsements will be forwarded to the Chief of Naval Operations (OPNAV N3/5) and the Naval Safety Center.

/s/

M. G. WILLIAMS, JR.
Deputy Commander

Copy to:
OPNAV N3/5
Naval Safety Center
COMSUBFOR
COMSIXTHFLT
COMSUBGRU EIGHT
[redacted]

DEPARTMENT OF THE NAVY
COMMANDER SUBMARINE FORCE
7958 BLANDY RD
NORFOLK, VA 23551-2492

5830
Ser N02L/00073
14 Mar 07

THIRD ENDORSEMENT on [redacted] ltr of 13 Jan 07

From: Commander, Submarine Force
To: Commander, U.S. Fleet Forces Command

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ON BOARD USS MINNEAPOLIS-SAINT PAUL (SSN 708) ON 29 DEC 06

Ref: (e) COMSUBFOR NORFOLK VA182205Z Jan 07
(f) COMSUBFOR ltr 1611 N02L/00066 of 28 Feb 07

Encl: (112) COMSUBFOR NORFOLK VA 152143Z Feb 07
(113) (FOUO) Undated Investigation into the Incident on 29 Dec 06 Involving USS MINNEAPOLIS-ST PAUL conducted by the United Kingdom

1. Forwarded, concurring with the findings of fact, opinions, and recommendations as modified in the first two endorsements, subject to the following modifications.

2. All Submarine Force Officers are held to high standards of excellence in seamanship, navigation and safe day-to-day operations. A failure to meet these standards through proper planning and execution of the pilot transfer and prudent maneuvering of the ship once crew members were overboard was a root cause of this tragedy.

3. Corrective measures have been implemented both on an individual level and Submarine Force wide. In addition to the disciplinary actions taken by Commander, Submarine Group 8, I have taken further administrative actions, promulgated lessons learned, and implemented corrective measures.

a. [redacted] was administratively relieved of command and recommended for [redacted] by references

(e) and (f) due to a [redacted]

b. Initial lessons learned and corrective measures were promulgated Submarine Force wide in enclosure (112).

c. All Submarine Force Commanding Officers have been directed to review and conduct training on the promulgated lessons learned and implement corrective measures.

d. All Submarine Force Immediate Superiors in Command have been directed to ensure that lessons learned training is effective and corrective measures are implemented.

e. The Submarine Learning Center has been directed to incorporate training on the lessons learned and corrective measures into all officer training pipeline courses.

f. My staff is taking the following corrective actions:

(1) Revising SSORM Article 4318, that governs topside evolutions, equipment, and personnel safety (Recommendations 10 and 15).

(2) Revising CP 62-14, the Man Overboard Casualty Procedure (Recommendation 12).

(3) Revising the Piloting Preparation Checklist (Recommendation 13).

(4) Conducting a review of topside operations to identify long-term, permanent corrective action, and improvements in equipment (Recommendations 11, 16 and 17), training and qualification (Recommendations 14 and 18), and procedures (Recommendations 10 and 12).

(5) Developing a readily accessible and user-friendly system to facilitate the sharing of lessons learned (Recommendation 19).

(6) Incorporating the findings of the investigation into this incident conducted by the United Kingdom (UK)

contained in enclosure (113) and maintaining close contact with UK authorities to exchange any further lessons learned from this tragedy.

6. Finding of Fact 6 is modified by adding "Encl (18)" as a reference.

7. The following modifications to the recommendations are made:

a. Recommendation 13 is modified to read: "Add 'topside clear' to the list of track action point examples in the piloting preparation checklist." This will serve as a specific reminder to provide for watch-team back up similar to the general "rendezvous" and "go/no go" points already listed, while addressing Commander Submarine Group 8's concern that such an annotation not be too restrictive or fail to recognize the presence of situational factors.

b. Recommendation 15 is modified to read: "Require force-wide training on the changes to SSORM article 4318."

8. As a result of this tragedy, I am refocusing the submarine force on meeting the highest standards of excellence in seamanship, navigation, and safe day-to-day operations.

/S/

J. J. DONNELLY

Copy to:
Commander, SIXTH Fleet
Commander, Submarine Group 8
[redacted]

DEPARTMENT OF THE NAVY

5830
Ser 00/**U-C6F-07-4**
9 Feb 07

SECOND ENDORSEMENT on [redacted] ltr of 13 Jan 07

From: Commander, SIXTH Fleet
To: Commander, U.S. Fleet Forces Command
Via: Commander, Naval Submarine Forces

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ONBOARD USS MINNEAPOLIS-SAINT PAUL (SSN 708) ON 29 DECEMBER 2006

1. Forwarded to the administrative chain of command as there are no operational issues in the European Command area of operations affected by this investigation, subsequent actions or first endorsement.

2. As cognizant operational commander, I have two observations:

a. The lessons learned from this accident must not be translated into restrictive measures for submarine commanders in this Theater. [redacted] must continue to exercise prudence and judgment in assessing and mitigating risk on a case-by-case basis to execute assigned missions and tasks.

b. [redacted] decision to get USS MINNEAPOLIS-SAINT PAUL (SSN 708) underway on 29 December 2006 was not a wrong decision. Neither was it a wrong decision to transfer the pilot at sea. However, I do not believe the Operational Risk Management (ORM) process was properly understood or fully utilized in this boat. Further, I believe that if it had been, the extremis aspect of this evolution would have been recognized and the accident would have been prevented.

3. After final review and approval, Commander, U.S. Naval Forces, Europe will share the results of this investigation in accordance with reference (a) with Royal Navy authorities to ensure they can integrate the lessons learned from this incident into operating procedures in Plymouth Sound, UK.

4. As commented on above, I otherwise concur with the findings of fact, opinions and recommendations as modified in the first endorsement.

/s/
J. STUFFLEBEEM

Copy to:
RADM Fowler
[redacted]

DEPARTMENT OF THE NAVY
COMMANDER SUBMARINE GROUP EIGHT
PSC 817 BOX 16
FPO AE 09622-0016

5830
Ser 00/018
29 Jan 07

FIRST ENDORSEMENT on [redacted] ltr
of 13 Jan 07

From: Commander, Submarine Group 8
To: Commander, U.S. Fleet Forces Command
Via: (1) Commander, SIXTH Fleet
(2) Commander, Naval Submarine Forces

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ONBOARD USS MINNEAPOLIS-SAINT PAUL (SSN 708) ON 29 DECEMBER 2006

Ref: (b) U.S. Navy Regulations (1992)
(c) Manual for Courts-Martial (2005 ed.)
(d) OPNAVINST 3120.32C

Encl: (104) Record of Hearing Under Article 15, UCMJ [redacted]
(105) Record of Hearing Under Article 15, UCMJ [redacted]
(106) Preliminary Autopsy Report for Thomas K. Higgins dtd 8 Jan 07
(107) DD Form 2064, Certificate of Death Overseas for Thomas K. Higgins
(108) Preliminary Autopsy Report for Michael J. Holtz dtd 8 Jan 07
(109) DD Form 2064, Certificate of Death Overseas for Michael J. Holtz
(110) NAVOCEANASWDET NAPLES ltr 5830 Ser 07/003 dtd 22 Jan 07
(111) [redacted] memorandum dtd 29 Jan 07

1. Forwarded. I concur with the findings of fact, opinions and recommendations of the Investigating Officer except as otherwise set forth in paragraphs 9 through 17 of this endorsement.

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ONBOARD USS MINNEAPOLIS-SAINT PAUL (SSN 708) ON 29 DECEMBER 2006

2. The contributing factors to this accident were: (1) failure of [redacted] to anticipate the effect of the weather on their ship during the outbound transit from Plymouth Sound; (2) failure of the [redacted] to properly prepare and advise the ship for its egress from Plymouth Sound; (3) failure of [redacted] to properly plan and execute the pilot transfer; (4) the crewmembers remained tethered to the submarine by safety equipment after being washed overboard; (5) the existence of shoal water in the vicinity of the area where the crewmembers were washed overboard which restricted the ship's maneuverability to recover personnel in a timely manner.

3. [redacted] planned for their scheduled egress from Plymouth Harbor in accordance with established procedures. They consulted pertinent publications and sources of local harbor and sea conditions, including Sailing Directions and searches of lessons learned databases. [redacted] insisted that [redacted] attend the piloting brief held on 28 December 2006, even after [redacted] initially declined. [redacted] discussed the weather conditions and their impact on the planned egress with the Executive Officer of their host ship, a Royal Navy submarine homeported in Plymouth Harbor. Although [redacted] prudently planned and were thorough in their procedures and fact gathering, they failed to properly assess the information they possessed. A prudent mariner could have anticipated the presence of large swells beyond the breakwater lee based on the information at hand.

4. Based on their preparations and experience, [redacted] knew the weather would be a constant and increasing challenge during their transit out of Plymouth Harbor. Accordingly, [redacted] implemented several mitigation measures that reduced possible casualties and minimized the risk to his ship and crew. These factors highlight the things the crew did exceptionally well that day but do not serve to relieve them of being held accountable for the mistakes that were made. These prudent measures include:

a. Use of a limited Small Boat Handling party (SBHP) outfitted with safety gear. This decision limited the number of crewmembers washed overboard and likely prevented the loss of additional lives;

b. [redacted] sent everyone below decks and shut the hatch once the ship was underway, rather than keeping line handling personnel topside;

c. [redacted] asked for and received a closer dive point to minimize the time in heavy seas on the surface;

d. [redacted] developed a plan to rig the bridge for dive early so as to remove personnel from the bridge before heavy seas could endanger them or cause flooding of the ship;

e. [redacted] used lessons learned from previous heavy seas transits earlier in the ship's deployment;

f. [redacted] sought input from his bridge team, the Admiralty Pilot, the port authority, and other local experts, all of whom advised it was safe to get underway;

g. [redacted] focused the crew on safety, as evidenced by Petty Officer Sowa ordering the pilot below decks while waiting for the pilot boat to come alongside. This action most likely prevented the pilot from being washed overboard.

5. [redacted] was fully qualified, very experienced [redacted] and the official local expert. [redacted] words and deeds failed to provide [redacted] with potentially life-saving indicators of impending danger which gave [redacted] a false sense of confidence that they would be able to complete the pilot transfer prior to entering hazardous waters. [redacted] deficiencies include:

a. Failure to properly define with precision [redacted] debarkation point which would have permitted more detailed planning;

b. [redacted] insistence in remaining onboard MSP until after the ship was past buoy "C" which decreased the time available to safely conduct the pilot transfer;

c. [redacted] recommended transit speed of 8-10 knots and failure to slow the ship to increase time available for a safe transfer;

d. [redacted] failure to inform MSP that observed wind speeds (40-45 knots) exceeded those forecasted and briefed at the Piloting Brief on the preceding day;

e. [redacted] failure to mention that certain surface ship movements had been halted due to the weather;

f. [redacted] failure to mention potentially dangerous sea states beyond the breakwater's lee;

g. [redacted] general lack of urgency to complete the pilot transfer.

6. The prudent planning of the crew and poor advice of [redacted] do not relieve [redacted] of their responsibility or accountability. Thus, I found [redacted] guilty of negligent dereliction of duty.

a. Duties of [redacted] Under U.S. Navy Regulations, the responsibility of a [redacted] for the safety of his ship and crew is absolute.

(1). Paragraph 0856 of reference (b) provides: "A [redacted] is merely an advisor to [redacted] The presence of [redacted] on board shall not relieve [redacted] or any subordinate from his or her responsibility for the proper performance of the duties with which he or she may be charged concerning the navigation or handling of the ship."

(2). Paragraph 0857 of reference (b) provides: [redacted] is responsible for ensuring that weather and oceanic effects are considered in the effective and safe operation of his or her ship or aircraft."

b. Duties of [redacted] Under the Standard Organization and Regulations of the U.S. Navy, reference (d), [redacted] shall be primarily responsible under [redacted] the … performance of duty … of the entire command."

(1) Paragraph (c)(1) of reference (d) provides: "Ensure [redacted] is advised of casualties, deficiencies, and anticipated difficulties which may affect operational readiness or administrative efficiency of the command."

(2) Paragraph (c)(9) of reference (d) provides: "Supervise and coordinate the work, exercises, training, and education of the personnel of the command."

c. Dereliction of Duty. Article 92 of the UCMJ states that a person is derelict in the performance of his duties when he negligently fails to perform those duties expected of him.

(1) Elements of the offense:

(a) That the accused had certain duties;

(b) That the accused knew or reasonably should have known of the duties; and,

(c) That the accused was, through neglect or culpable inefficiency, derelict in the performance of those duties.

(2) Neglect, or negligence, is defined as an act or failure to act by a person under a duty to use due care which demonstrates a lack of care which a reasonably prudent person would have used under the same circumstances.

(3) [redacted] are expected to understand the unique risks of submarine operations and must be judged against a standard of care that requires a higher degree of caution in the execution of their duties.

d. I found [redacted] derelict in their duties for the following reasons:

(1) [redacted] failed to assimilate available weather information to anticipate that the predicted (and actual) south-south westerly winds would likely push sea swells around Penlee Point and across their outbound track beyond the breakwater lee. The available weather forecast for the time period of the underway (seas rapidly building beyond the breakwater southwesterly 12 to 16 feet, further building beyond the breakwater 16 to 20 feet by mid period, 21 to 25 feet by end period), should have been an adequate warning that the pilot transfer, from a 688 class submarine with a freeboard of approximately four feet, could only be conducted inside the protection of the breakwater lee. A thorough review of the weather forecast and a navigation chart would have indicated the possibility of these large swells beyond the breakwater.

(2) [redacted] failed to reassess the [redacted] plan even with obvious indicators such as the presence of waves breaking over the breakwater, the appearance of waves on the northern shore of Plymouth Sound beyond the lee of the breakwater compared to those on the northern shore behind the breakwater's lee, and the high southerly winds observed by the ship during the outbound transit. These indicators were sufficient warning that the plan for the [redacted] was unsafe. Since, at minimum, [redacted] did not know with certainty how the water outside the breakwater would impact [redacted] ship, [redacted] should have modified the plan for [redacted] based on the available indicators.

(3) [redacted] failed to plan [redacted] with sufficient detail to identify the risks associated with this evolution. More detailed planning would have led [redacted] to conclude that the [redacted] could not be conducted at the location and speed in which they attempted the [redacted]. The [redacted] should have performed more detailed planning to ascertain, when, where and how the weather was going to first impact the boat. A more accurate determination of when it would no longer be prudent to have personnel topside would have forced [redacted] to establish a more accurate time and location in which they could no longer commence the transfer. The planning would have forced [redacted] to better identify risk and take measures or seek alternate methods to mitigate the risk.

(4) [redacted] stated [redacted] was concerned about completing the [redacted] prior to the turn to 224T. Even with these concerns, he commenced the [redacted] beyond the half way mark of the 250T leg at a speed of approximately 8 knots. Even under [redacted] estimation of the transfer taking 3-5 minutes, [redacted] would not have been able to conduct the [redacted] before reaching the limit he had roughly established (the turn to 224T). While traveling 8 knots with less than 3 minutes to the turn, he should not have commenced an evolution he could not complete within his established limit. Simply stated, time, speed and distance did not support the ship completing the transfer prior to the turn to 224T, let alone prior to traveling beyond the breakwater lee.

(5) [redacted] failed to question [redacted] judgment in regards to the location and speed for the pilot transfer. Although there were noted deficiencies of the pilot's performance, this does not alleviate [redacted] from his responsibility to independently assess the impact of the weather and oceanic effects on the effective and safe operation of his ship.

7. Once Senior Chief Higgins and Petty Officer Holtz were washed overboard, I believe [redacted] responded as best they could under extremely difficult conditions. MSP was taking on significant water when the Commanding Officer ordered the hatch closed. Faced with significant water having been taken onboard and personnel casualties, the bridge team navigated the ship away from charted shoal water and back into the breakwater's lee. Their actions and attempts to recover the Sailors washed overboard were reasonable and prudent.

8. Notwithstanding these critical determinations, I did not [redacted] I held [redacted] actions by finding [redacted]. Although this incident resulted in the death of two crew members, I did not find [redacted]

9. I concur with the findings of fact, opinions and recommendations of the Investigating Officer except as noted in the following paragraphs.

Modified Findings of Fact

a. The findings of fact are hereby modified as follows:

(1) Findings of fact (FF) 9 and 10 are deleted and replaced with the following:

(a) FF 9. [redacted] can each independently call off a transit in or out of Plymouth Harbor, the Harbor Master retains sole authority for allowing a vessel's movement in or out of the Harbor. [Encl. (13) and (22)]

(b) FF 10: COMNAVSUBFORINST 5400.39 (SSORM) provides that safety lines "shall normally be no longer than six feet and normally shall not be connected in tandem to increase their length beyond six feet." The SSORM allows the Commanding Officer to authorize exceptions to this general rule "during specific Topside evolutions." [redacted] had not explicitly authorized the use of double lanyards by the limited SBHP, nor for any other evolution. [Encl. (12) and (84-86)]

(2) FF 17 is modified by deleting the word "collision" and inserting in its place "accident."

(3) FF 34 is modified to read: On 22 December during the inbound transit of Plymouth Sound, the [redacted] was the Maneuvering Watch OOD. In the opinion of [redacted] he is the ship's best ship driver. [Encl. (84) - (86)]

(4) FF 60 is modified as follows: The 250T leg, as laid out on MSP's planned track, is 1830 yards long extending out to just past Plymouth Breakwater and beyond the lee. [Encl. (4)]

(5) FF 81 is deleted as it states an opinion, rather than a fact.

Additional Findings of Fact

b. The following additional findings of fact are added:

250. According to the Harbor Master, foreign vessels normally disembark [redacted] on the 250T leg at a speed of approximately four to five knots. The Harbor Master provided this information to the IO; it was not provided to MSP. [Encl. (22)]

251. At the Piloting Brief on 28 December 2006, [redacted] briefed that the pilot transfer would occur "at a point 'within Plymouth Sound'", as the actual point of departure was "wholly dependant upon conditions on departure." [Encl. (103)]

252. Following the Piloting Brief, [redacted] was given a familiarization tour of MSP. [Encl. (103)]

253. Prior to embarking MSP for the ship's departure, [redacted] was informed by the captain of a tugboat in the vicinity of buoy "C" that actual wind speed was "40-45 knots decreasing to 35 knots from the South-Southwest but decreasing throughout the forenoon (navtex machine) for the area." [Encl. (103)]

254. After embarking MSP for the departure, [redacted] asked the Navigation Officer if he had seen the weather forecast, but did not inform the Navigation Officer of the observed weather conditions reported by the tugboat captain. [Encl. (103) and (68)]

255. At the time of departure, the Commanding Officer, Officer of the Deck (OOD) and Navigation Officer believed actual winds were about 25 knots and, therefore, consistent with the weather forecast at the Piloting Brief, which called for winds of 25-30 knots with southwesterly gusts to 35 knots. [Encl. (58), (59), (64), (68), (77) and (84)]

256. The weather forecast stated to "expect high seas immediately beyond the sound" with winds increasing southwesterly and "seas rapidly building beyond the breakwater southwesterly 12 to 16, further building beyond the breakwater 16 to 20 by mid period, 21 to 25 by end period." [Encl. (10)]

257. As the ship got underway on her own power, [redacted] asked [redacted] for a recommended speed. [redacted] recommended 8-10 knots and the ship turned onto the 250T leg at a speed of about 8-9 knots and continued at that speed until the pilot made plans to depart the ship. [Encl. (65), (69) and (103)]

258. The limited SBHP utilized by MSP on 29 December 2006, and successfully employed previously, consisted of three crewmembers going topside, while the tender and swimmer staged in the Forward Escape Trunk (FET) and the remaining members of the SBHP stayed below decks. The limited SBHP could typically go topside, conduct the personnel transfer, and return below decks in 3-5 minutes. [Encl. (84)]

259. In the moments before the SBHP was washed overboard, they took smaller, ankle-high waves over the deck. This fact was never communicated to the Commanding Officer. [Encl. (91) and (104)]

260. The U.S. Armed Forces Regional Medical Examiner determined Senior Chief Higgins' cause of death [redacted] [Encl. (106) and (107)]

261. The U.S. Armed Forces Regional Medical Examiner determined Petty Officer Holtz's cause of death [redacted] [Encl. (108) and (109)]

262. The sea surface temperature of the water at the time of the accident was estimated to be 53 degrees Fahrenheit. Based on this temperature, the estimated water survival times are as follows: 1) Without immersion suit, 6.1 hours (50% survival rate); 2) With immersion suit, 11.6 hours (50% survival rate). [Encl. (110)]

263. In the summer of 2006, a Royal Navy submarine transiting past the lee of Plymouth Breakwater encountered rough seas while personnel were outside the pressure hull. The submarine was forced to maneuver back into protected waters to retrieve its injured crewmembers. MSP was not aware of this incident nor were any related lessons learned available on 29 December 2006. [Encl. (111)]

Modified Opinions

c. The Opinions are hereby modified as follows:

(1) Opinion 1 is disapproved and replaced with the following: The contributing factors to this accident were: (1) failure of [redacted] to anticipate the effect of the weather on [redacted] during the outbound transit from Plymouth Sound; (2) failure of [redacted] to properly prepare and advise the ship for its egress from Plymouth Sound; (3) failure of [redacted] to properly plan and execute the [redacted]; (4) the crewmembers remained tethered to the submarine by safety equipment after being washed overboard; (5) the existence of shoal water in the vicinity of the area where the crewmembers were washed overboard which restricted the ship's maneuverability to recover personnel in a timely manner. [FF (262)]

(2) Opinion 2 is modified to replace "mariner" with [redacted] to clarify that [redacted] are held to a higher standard of care than [redacted] crewmembers.

(3) Opinion 3 is modified to read as follows: Senior Chief Higgins and Petty Officer Holtz were in the line of duty at the time of their deaths; their deaths were not due to their own misconduct. [FF (71), (131), (138), (149-242), (264) and (265)]

(4) Opinion 4 is modified as follows: The words "ship's" and "ship" are replaced with [redacted]

(5) Opinion 6 is modified to read as follows: Nevertheless, based on the harbor's geography and prevailing weather conditions, [redacted] should have been able to anticipate that south-southwesterly winds would likely push sea swells around Penlee Point and across the outbound track of MSP at a location that otherwise would have been within the lee of the breakwater.

(6) Opinion 7 is modified by replacing the words "The direct cause" with "A contributing factor."

(7) Opinion 9 is modified by replacing "Ship's personnel" with [redacted] and by replacing "professional mariner" with [redacted]

(8) Opinion 10 is modified by adding the sentence: The decision to get MSP underway was influenced by operational considerations, approaching weather and recommendations from local experts.

(9) Opinion 11 is modified to read as follows: The weather forecast and actual conditions on 29 December 2006 supported the decision to get MSP underway, although the weather conditions did not support conducting the pilot transfer at the point it was first attempted. Visibility, wind and sea conditions were adequate for safe navigation. Sufficient protected water was available inside the breakwater lee to conduct the pilot transfer, although at an earlier point and lower speed. Alternatively, the pilot could have guided MSP from the pilot boat along the 250T leg.

(10) Opinion 12 is modified to read as follows: Local authorities did not inform MSP of restrictions on some surface ship movements due to gale winds on 29 December 2006, thus depriving the Commanding Officer of an additional indicator of potentially challenging sea states.

(11) Opinion 15 is modified by replacing the first sentence and adding: Contributing factors that delayed the pilot boat from coming alongside were: 1) Poor communications with the pilot boat; 2) Speed of the submarine at which the transfer was being conducted; and, 3) Sea conditions at the time of the accident."

(12) Opinion 16 is modified by adding the following sentence: While tripwires and no-go conditions could have enabled better decision-making in sending personnel topside, the NODORM Voyage Planning and Chart Preparations checklist does not mention the use of such tripwires.

(13) Opinion 21 is modified by adding the following sentence: [redacted] had sufficient weather information and experience to anticipate rough seas beyond the lee of the breakwater.

(14) Opinion 22 is modified by adding the following sentence: Previous experience led [redacted] to believe [redacted] could be completed in 3-5 minutes using a limited SBHP. Add [FF (261)].

(15) Opinion 24 is disapproved because it is not relevant to the investigation.

(16) Opinion 27 is modified as follows: In his statement, [redacted] stated he remained on the MSP [redacted] However, these concerns were never communicated to the ship's personnel prior to the accident. Delete reference to [FF (95) and (96)].

(17) Opinion 28 is disapproved. While it appears MSP personnel did at times interpret the silence of local authorities as acquiescence with their plan, they also took affirmative steps to seek out the opinions of local authorities and experts. MSP was unanimously advised that it was safe for their vessel to get underway. This advice undoubtedly influenced [redacted] also asked [redacted] when he intended [redacted] took every step to disembark at the location he advised [redacted] would be suitable.

(18) Opinion 34 is modified by changing "All" to "Other."

Additional Opinion

d. Add the following additional opinion:

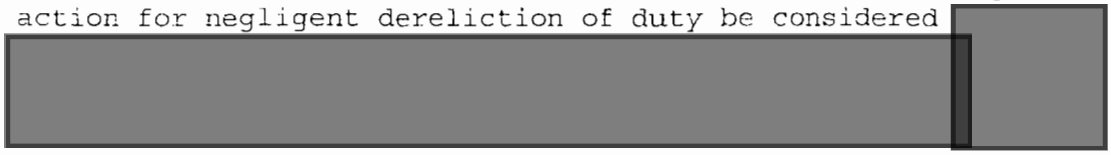
41. Had MSP known of the 2006 incident where a Royal Navy submarine encountered rough seas while departing Plymouth Sound, the ship would likely have considered the effects of the predicted weather beyond the lee of the breakwater. [FF. (263)]

Recommendations - Disciplinary and Administrative Actions

10. I concurred with the recommendation that disciplinary

11. I concurred with the recommendation that disciplinary

12. I concurred with the recommendation that disciplinary action for negligent dereliction of duty be considered



[redacted] After reviewing all available evidence, I dismissed the charges against these [redacted] crewmembers, [redacted] I do not believe they were negligent in the performance of their duties.

13. I concurred with the recommendation that administrative [redacted]

14. I disagreed with the recommendation that no administrative action be considered [redacted]

a. As the investigation correctly concludes, [redacted] had no responsibilities under reference (b) and his presence onboard USS MINNEAPOLIS-SAINT PAUL was as [redacted] and to brief the ship on its next mission. [redacted] was not the senior officer present as defined in reference (b), although he did previously serve as the [redacted]

b. After reviewing the investigation, specifically enclosures (64), (77), (78), (84) and (85), and the testimony summarized in enclosures (104) and (105), I believe [redacted]

15. I do not concur with recommendation 13 to add a requirement to annotate piloting charts with the point at which all personnel must be below decks and the hatches shut. Such a blanket requirement would be too restrictive and would fail to recognize the presence of situational factors.

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ONBOARD USS MINNEAPOLIS-SAINT PAUL (SSN 708) ON 29 DECEMBER 2006

16. Add the following recommendation:

19. Incorporate appropriate foreign navy lessons learned into U.S. Navy lessons learned databases to ensure their availability to deployed units.

17. I approve all other recommendations and forward them for review and action.

/s/

JAY L. FOWLER

Copy to:

[redacted]

From: CAPT Gregory Billy, USN, Investigating Officer
To: Commander, Submarine Group EIGHT

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ONBOARD USS MINNEAPOLIS-ST PAUL (SSN 708) ON 29 DECEMBER 2006

Ref: (a) JAGINST 5800.7 (Chapter 2)

Encl: (1) COMSUBGRU EIGHT Appointing Order, dtd 31 Dec 06
(2) Excerpts from Deck Log of 29 Dec 2006 of USS MINNEAPOLIS-ST. PAUL (SSN 708) (MSP)
(3) Excerpts from MSP's Bell Log of 29 Dec 2006
(4) Relevant View of NGA Chart No. 37004, Plymouth Sound and Approaches
(5) Reconstructed MSP track prepared by [redacted] 3 Jan 06
(6) MSP Navigation Plan for Plymouth, England
(7) MSP Ring Laser Gyro Navigator (RLGN) Printout
(8) Maneuvering Watchbill - 29 Dec 06
(9) NAVLANTMETOCCEN Weather (WEAX) message, DTG 270553Z DEC 2006
(10) NAVLANTMETOCCEN Weather (WEAX) message, DTG 280653Z DEC 2006
(11) PowerPoint Slides utilized in MSP Piloting Brief on 28 Dec 2006
(12) Excerpts from COMNAVSUBFORINST 5400.39, Standard Submarine Organization and Regulations Manual (SSORM)
(13) Plymouth, UK, Queen's Harbour Master PowerPoint Brief
(14) Royal Navy Video Footage taken from vicinity of Maker Light, 29 Dec 2006.
(15) Plymouth Harbor Port Control VHF radio recording, 29 Dec 2006
(16) Google Maps Satellite Image of Plymouth Harbor
(17) LifeCycle Engineering Contract, dtd 4 Jan 2007
(18) Sailing Directions for Plymouth Harbor, Plymouth, England
(19) MSP [redacted]
(20) MSP [redacted]
(21) Preliminary Line of Duty Inquiry ICO Death of ETCS(SS) Higgins and STS2(SS) Holtz prepared by [redacted] dtd 30 Dec 2006

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ONBOARD USS MINNEAPOLIS-ST PAUL (SSN 708) ON 29 DECEMBER 2006

(22) JAGMAN Investigation Team, Summary of Interview with Commander Ian Hugo, RN, Queen's Harbour Master, Plymouth, UK
(23) USS MINNEAPOLIS-SAINT PAUL (SSN 708) Fact Sheet
(24) COMUSFLTFORCOM ORM Message DTG 13721Z Oct 06
(25) [redacted] ltr dtd 30 Dec 2006, WRT Appointment of ORM Program Manager
(26) SSN708INST 1010.2M (MSP Check-In Sheet)
(27) MSP Out-of-Commission Log
(28) MSP Reduced Status Log
(29) USS OLYMPIA (SSN 717) JAGMAN Investigation, dtd 14 Nov 99
(30) USS OLYMPIA (SSN 717) Proposed Lessons Learned Message, DTG 240907 Nov 99
(31) [redacted] Summary of Personal Observations WRT Plymouth Harbor and Breakwater
(32) [redacted] NAVMARFCSTACT Norfolk, VA, OIC, email of 10 Jan 07, WRT Weather Conditions on 29 Dec 06
(33) Timeline of Events (WRT weather conditions on 29 Dec 06)
(34) Diagram of weather buoys (attachment of enclosure (33))
(35) Excerpt from Submarine Command Qualification Card, COMNAVSUBFORINST C1552.15A
(36) Excerpt from COMSUBLANT/COMSUBPAC Operational Planning Readiness and Training Memorandum, dtd 12 Nov 2003/17 Oct 2003
(37) MSP Initial OPREP-3 Report, DTG 291415Z Dec 06
(38) CTF-69 Update to MSP Initial OPREP-3 Report, DTG 291631Z Dec 06
(39) Excerpt from Navy Regulations, Section 0901
(40) Excerpts from SSM Operating Procedure, 61-17
(41) JAGMAN Investigation Team, Review of Evidence at Devon-Cornwall Constabulary
(42) [redacted] Officer-In-Charge, Naval Oceanography, ASW Detachment, Naples, dtd 27 Dec 06
(43) Video Footage of Incident taken from vicinity of Maker Light
(44) LongRoom Port Control VHF Recordings

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ONBOARD USS MINNEAPOLIS-ST PAUL (SSN 708) ON 29 DECEMBER 2006

(45) Topside Safety Equipment Maintenance Requirement Cards
(46) Deck Division PMS Accountability Log
(47) [redacted] sworn statement of 4 Jan 07
(48) [redacted] statement provided 4 Jan 07
(49) [redacted] sworn statement of 4 Jan 07
(50) [redacted] sworn statement of 5 Jan 07
(51) [redacted] Article 31(b) Rights Advisement dtd 6 Jan 07
(52) [redacted] statement of 4 Jan 07
(53) [redacted] sworn statement of 4 Jan 07
(54) [redacted] statement of 4 Jan 07
(55) [redacted] Injury Rights Advisement of 4 Jan 07
(56) [redacted] statement provided 5 Jan 07
(57) [redacted] sworn statement of 5 Jan 07
(58) [redacted] statement provided 4 Jan 07
(59) [redacted] sworn statement of 4 Jan 07
(60) [redacted] sworn statement of 5 Jan 07
(61) [redacted] Article 31(b) Rights Advisement dtd 6 Jan 07
(62) [redacted] statement provided 4 Jan 07
(63) [redacted] Article 31(b) Rights Advisement dtd 5 Jan 07
(64) [redacted] statement of 4 Jan 07
(65) [redacted] sworn statement of 5 Jan 07
(66) [redacted] sworn statement of 5 Jan 07

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ONBOARD USS MINNEAPOLIS-ST PAUL (SSN 708) ON 29 DECEMBER 2006

(67) [redacted] Article 31(b) Rights Advisement, dtd 5 Jan 07
(68) [redacted] statement of 4 Jan 07
(69) [redacted] sworn statement of 5 Jan 07
(70) [redacted] sworn statement of 5 Jan 07
(71) [redacted] sworn statement of 4 Jan 07
(72) [redacted] Rights
(73) [redacted] statement of 4 Jan 07
(74) [redacted] statement of 5 Jan 07
(75) [redacted] statement of 4 Jan 07
(76) [redacted] sworn statement of 4 Jan 07
(77) [redacted] statement of 4 Jan 07
(78) [redacted] sworn statement of 4 Jan 07
(79) [redacted] sworn statement of 4 Jan 07
(80) [redacted] statement of 4 Jan 07
(81) [redacted] sworn statement of 5 Jan 07
(82) [redacted] sworn statement of 5 Jan 07
(83) [redacted] Article 31(b) Rights Advisement dtd 5 Jan 07
(84) [redacted] statement provided 6 Jan 07
(85) [redacted] sworn statement of 6 Jan 07
(86) [redacted] sworn statement of 10 Jan 07
(87) [redacted] statement provided 5 Jan 07
(88) [redacted] sworn statement of 5 Jan 07

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ONBOARD USS MINNEAPOLIS-ST PAUL (SSN 708) ON 29 DECEMBER 2006

(89) [redacted] sworn statement of

(90) [redacted] Rights

(91) [redacted] statement of 4 Jan 07

(92) [redacted] sworn statement of 10 Jan 07

(93) [redacted] statement of 4

(94) [redacted] USN, statement of

(95) [redacted] USN, sworn

(96) [redacted] statement of 4

(97) [redacted] statement

(98) [redacted] Article 31(b) Rights

(99) [redacted] statement of 4 Jan 07

(100) [redacted] sworn statement of

(101) [redacted] statement of 4

(102) [redacted] sworn statement

(103) [redacted]

PRELIMINARY STATEMENT

1. Pursuant to enclosure (1) and in accordance with reference (a), this investigation was conducted to inquire into the facts and circumstances surrounding the deaths of Senior Chief Thomas Higgins and Petty Officer Michael Holtz onboard USS Minneapolis-St. Paul (SSN 708) (MSP) on 29 December 2006. All reasonably available evidence was collected in order to complete this investigation.

2. There were no delays encountered in order to complete this investigation. No extensions were requested in order to complete this investigation.

3. The following difficulties were encountered over the course of this investigation:

a. Fact may deviate from the recorded times listed in enclosures.

b. There were no significant disagreements as to facts among witnesses. However, the witnesses' recollections of events were often inconsistent in minor ways as the events occurred simultaneously and/or in quick succession. The Investigation Team utilized witness statements, available documentary evidence and ship's Voyage Management System data to reach conclusions, based on a preponderance of the evidence, as to which aspects of witness testimony most likely corresponded with actual events.

c. The Investigation Team was not able to interview [redacted] the [redacted] who were swept overboard after Senior Chief Higgins, Petty Officer Holtz and Petty Officer Sowa. These sailors returned to the United States before the Investigation Team could interview them. However, the Investigation Team notes that several other witnesses made personal observations of the conditions under which [redacted] were swept overboard.

d. Cost estimates for damage to MSP are the best available figures for the date of the investigation. However, these are preliminary estimates.

e. Autopsy reports for Senior Chief Higgins and Petty Officer Holtz were not available at the time this investigation was completed.

4. Any social security numbers appearing in this report were obtained from official sources and not solicited from individual members.

5. Article 31(b) rights were read to [redacted]

6. Source of injury/disease [redacted]

[redacted] acknowledged their rights in a written form, attached as exhibits.

7. All documentary evidence included herein is hereby certified to be either the original or a copy that is a true and accurate representation of the original document. All original items of evidence not contained in this investigation package will be retained onboard MSP, with LongRoom Port Control in Plymouth, England, or with the Naval Criminal Investigative Service.

8. For a number of the witnesses, multiple statements have been included. Shortly after the incident, watchstanders and witnesses were encouraged to write down their recollections. These recollections were provided to the Investigation Team. Most witnesses interviewed by the Investigation Team also provided sworn statements completed following interviews conducted for this investigation. Several witnesses were re-interviewed, generating sworn addendum statements. All statements are provided as separate enclosures.

9. Exhibit (1) appointed me as principal investigator, and was assisted by [redacted] was provided by [redacted] Judge Advocate General's Corps, U. S. Navy, RLSO EURSWA.

Subj: COMMAND INVESTIGATION INTO THE DEATHS OF SENIOR CHIEF THOMAS HIGGINS AND PETTY OFFICER MICHAEL HOLTZ ONBOARD USS MINNEAPOLIS-ST PAUL (SSN 708) ON 29 DECEMBER 2006

FINDINGS OF FACT

BACKGROUND:

1. USS Minneapolis-St Paul (SSN 708) is a 360-foot, 6080-ton, nuclear-powered fast-attack submarine. [Encl. (23)]

2. MSP was in month three of a regularly-scheduled six-month deployment. [Encl. (84)-(86), (99), (100)]

3. Access to Plymouth Harbor is limited by the tidal cycle, and ship's displacement and draft. [Encl. (18), (84)-(87)]

4. The displacement and draft of a 688-class submarine restricts harbor movements in Plymouth, England, to those conducted at or near high water. [Encl. (13), (18), (22), 23)]

5. A ship of MSP's class is not allowed to transit in or out of Plymouth, England, without a pilot. [Encl. (84)-(86)]

6. "LongRoom" is the port control station for Plymouth Harbor. [Encl. (13)]

7. Pilotage for visiting foreign warships is at the discretion of the Queen's Harbor Master (QHM). [Encl. (18)]

8. The Queen's Harbor Master is responsible for the movement of all shipping within Plymouth Harbor. [Encl. (13)]]

9. The decision to get a ship underway from Plymouth Harbor requires consu[redacted]

10. [redacted] has sole approval authority to get a ship underway from Plymouth Harbor. [Encl. (22)]

11. Submarine Force Lessons Learned for Plymouth, England, contained on the COMNAVSUBFOR SIPRNET website do not reference large swells that may be present immediately to the west of the breakwater. [Encl. (84)-(86)]

12. Sailing Directions for Plymouth, England, do not reference large swells that may be present immediately to the west of the breakwater. [Encl. (18)]

13. A local pilot boat coxswain stated, and personal observation confirmed, that it is difficult for a person inside the protected harbor to judge the magnitude of swells beyond the breakwater's lee. [Encl. (31)]

14. There is a visible difference in the appearance of breaking waves along the northern Plymouth Sound shore between those inside the areas sheltered by the breakwater and those beyond the breakwater's lee. [Encl. (31)]

15. Satellite imagery of Plymouth harbor shows the effect of the Plymouth breakwater in protecting the harbor. [Encl. (16)]

16. On 27 December 2006, the Officer-in-Charge of the Naval Oceanography, Anti-Submarine Warfare Detachment in Naples, Italy, advised CTF-69/CSG-8/NEPO Current Submarine Operations that weather conditions on the 29th would be poor and stated that, "if they left on the 28th, they shouldn't see any problem." [Encl. (42)]

SHIP'S LEADERSHIP & TRAINING:

17. The Commanding Officer [redacted]

[redacted] [Encl. (19), (84)-[illegible]]

18. [redacted] [Encl. (20), (99),

19. The Officer of the Deck at the [redacted] was [redacted] [Encl. [redacted]]

20. MSP had received a "Personal For" message (DTG 131721Z Oct 06) from COMUSFLTFORCOM requiring the XO to be appointed as the Operational Risk Management Program Manager. [Encl. (24)]

21. On 7 November 2006, [redacted] appointed [redacted] the MSP's Operational Risk Management Program Manager. [Encl. (25), (99), (100)]

22. The Command Check-In Sheet, SSN708INST 1010.2M, dated 12 November 2006, requires a check-in discussion of ORM with [redacted] [Encl. (26), (99), (100)]

23. The Command Check-In Sheet requires an ORM briefing for newly-reported sailors to be given by the Safety Officer within two weeks of reporting onboard. [Encl. (26)]

24. Formal ORM training had not been held onboard MSP since the ship left the shipyard in 2005. [Encl. (99), (100)]

25. Ship's key personnel could not recall receiving training with regard to ship-handling considerations and recovery techniques applicable to a scenario wherein a man is overboard but still attached by tether to the ship

either in ship-board training, watch-station qualifications, pipe-line schools, or at-sea exercises. [Encl. (64)-(66), (84)-(89), (99), (100)]

26. The CO and OOD could not recall any details of the USS OLYMPIA incident and the XO and Prospective XO had minimal recollection of the USS OLYMPIA incident's Lessons Learned. [Encl. (64)-(66), (84)-(89), (99), (100)]

27. The USS OLYMPIA (SSN 717) incident presents a fact pattern similar to the subject case, is referenced on the Submarine Command Qualification Card, and is trained on during the Submarine Command Course. [Encl. (29), (35), (99), (100)]

28. When asked, the CO, XO, PXO, and OOD were unable to recall any details or Lessons Learned regarding the USS ULYSSES S. GRANT (SSBN 631) incident at Portsmouth, New Hampshire, on 6 April 1987 that shared many similarities with this event. [Encl. (64)-(66), (68)-(70), (84)-(89), (99), (100)]

PLYMOUTH ARRIVAL ON 22 DECEMBER 2006:

29. MSP was scheduled to arrive at Plymouth, England, during the morning hours of 22 December 2006. [Encl. (64)-(66), (84)-(86), (99), (100)]

30. During the final approach to Plymouth Harbor on the morning of 22 December 2006, the visibility in the sound was under 200 yards. [Encl. (68)-(70), (84)-(86), (99), (100)]

31. LongRoom Port Control informed MSP that she could not enter the harbor area because of the limited visibility. [Encl. (68)-(70), (84)-(86), (99), (100)]

32. MSP transited to the southeast and remained in a holding box throughout the majority of the day, waiting for visibility to improve and the next tidal cycle. [Encl. (68)-(70), (84)-(86), (99), (100)]

33. That evening, the visibility had improved significantly. [Encl. (68)-(70), (84)-(86), (99), (100)]

34. On 22 December, [redacted] was the Maneuvering Watch OOD as he is, [redacted] the ship's best ship driver. [Encl. (64)-(66)]

35. When preparing for watch as Maneuvering Watch OOD, the [redacted] creates hand-drawn diagrams of key navigation information. [Encl. (64)-(66)]

36. [redacted] for the inbound transit was embarked south of the Plymouth breakwater. [Encl. (64)-(66), (68)-(70), (77), (78), (84)-(86), (99), (100)]

37. MSP entered the harbor at high tide on the next tidal cycle during the hours of darkness. [Encl. (68)-(70), (84)-(86), (99), (100)]

38. At the time [redacted] was embarked, the sea state was calm and swells were minimal. [Encl. (68)-(70), (84)-(86), (99), (100)]

39. MSP piloted to the pier at Royal Navy Base (RNB) DRAKE without incident. [Encl. (68)-(70), (84)-(86), (99), (100)]

40. MSP moored starboard-side-to at Pier 2B at RNB DRAKE. [Encl. (2)]

41. MSP remained moored at Pier 2B until she got underway, as described below, on 29 December 2006. [Encl. (2)]

PILOTING BRIEF ON 28 DECEMBER 2006:

42. The Piloting Brief for getting underway from Plymouth was held as required by Submarine Operating Procedure 61-17 on 28 December 2006 at approximately 1400Z. [Encl. (11), (40), (84)-(86)]

43. In attendance at the Pilot [redacted]

[redacted] [Encl. (58)-(60), (64)-(66), (68)-(70), (84)-(86), (99), (100)]

44. An operational planning worksheet was not used during the piloting brief. [Encl. (68)-(70)]

45. Use of an operational planning worksheet is not directed by the Operational Planning Readiness and Training Memorandum. [Encl. (36)]

46. MSP requested [redacted] attend the Piloting Brief. [Encl. (58)-(60), (84)-(86), (99), (100)]

47. Initially, [redacted] declined to attend but acquiesced when MSP renewed its request to have [redacted] present for the Piloting Brief. [Encl. (84)-(86), (99), (100)]

48. [redacted] had guided more than 2,100 vessels in and out of Plymouth Harbor. [Encl. (103)]

49. [redacted] had previously piloted submarines, including 688-class US submarines. [Encl. (103)]

50. [redacted] had not piloted a 688-class submarine for more than two years prior to 29 December 2006. [Encl. (103)]

51. MSP's planned outbound track was in accordance with the Harbor Master's recommended route. [Encl. (6), (13)]

52. The Assistant Navigator presented the weather portion of the Piloting Brief. [Encl. (58)-(60)]

53. The weather portion of the Piloting Brief provided the following information regarding the planned outbound transit from Plymouth: Skies - mostly cloudy with isolated showers; Winds - 25-30 kts, gusts 35 kts; Seas - confused, building southwesterly to 20-25 feet in the English Channel. [Encl. (58)-(60), (81)]

54. The Assistant Navigator used the following sources to prepare for his portion of the Piloting Brief: WEAX message 270553ZDEC06 DTG, METOC website. [Encl. (58)-(60)]

55. Ship's personnel did not understand some of the geographic terminology used in the WEAX messages, concluding that "immediately beyond the sound," "in exposed waters," and "beyond the breakwater" all referred to the same general location near the southern end of Plymouth Sound and beyond. [Encl. (58)-(60), (68)-(70), (84)-(89), (99), (100)]

56. Based on the Piloting Brief, ship's personnel anticipated heavy seas would first be encountered in the southern part of Plymouth Sound, near Penlee Point. [Encl. (68)-(70), (84)-(89), (99), (100)]

57. Ship's personnel did not consider the effect of fetch on waves produced by south-westerly winds. [Encl. (58)-(60), (68)-(70), (84)-(89), (99), (100)]

58. The standard practice for visiting warships, transiting outbound, calls for [redacted] to be embarked at least until the ship is on the 250T leg of the outbound transit. [Encl. (13), (22), (103)]

59. The 250T leg is utilized to enter the Western Channel and exit the breakwater-protected waters of Plymouth Sound. [Encl. (4)]

60. The 250T leg, as laid out on MSP's planned track, is a 1830-yard-long leg. [Encl. (4), (6)]

61. [redacted] indicated that on fair weather days, [redacted] usually [redacted] outside of the breakwater in Plymouth Sound. [Encl. (103)]

62. [redacted] indicated that [redacted] weather days, [redacted] usually [redacted] inside the Plymouth breakwater. [Encl. (103)]

63. Because poor weather was forecast for the day MSP was to get underway, [redacted] and MSP agreed that actual conditions would be evaluated once the ship exited Smeaton Pass and that, if warranted, the disembark point would be on the 250T leg of the transit. [Encl. (4), (64)-(66), (68)-(70), (84)-(86), (99), (100), (103)]

64. There was no discussion of a time or point on the outbound transit where it would no longer be safe to disembark the pilot. [Encl. (64)-(66), (68)-(70), (84)-(86), (99), (100), (103)]

65. MSP and [redacted] planned that [redacted] would [redacted] on the 250T leg once MSP was safely past Royal Fleet Auxiliary (RFA) CARDIGAN BAY moored at "C" buoy. [Encl. (64)-(66), (68)-(70), (84)-(86), (99), (100), (103)]

66. Discussion of transferring [redacted] to the pilot boat was limited to conducting the transfer on the 250T leg vice conducting the transfer within the protection afforded by the breakwater's lee. [Encl. (64)-(66), (68)-(70), (84)-(89), (99), (100), (103)]

67. The "C" mooring buoy is located south of the 250T leg and north of Plymouth breakwater, slightly more than halfway down the distance of the 1830 yard-long 250T leg. [Encl. (4), (5)]

68. RFA CARDIGAN BAY is a large ship, approximately 176 meters in length. [Encl. (22), (103)]

69. [redacted] briefed that, due to the predicted direction of the wind, RFA CARDIGAN BAY could be laying across MSP's outbound track and would require conning the ship to avoid her. [Encl. (103)]

70. The CO directed MSP's leadership team to develop a plan that would bring MSP safely to the dive point. [Encl. (84)-(86)]

71. [redacted] Senior Chief Higgins planned to send a limited Small Boat Handling Party (SBHP) topside to disembark [redacted] [Encl. (84)-(86)]

72. No tripwires or "go/no-go" criteria were established associated with the pilot transfer. [Encl. (47), (58)-(60), (64)-(66), (68)-(70), (81), (84)-(86), (99), (100)]

73. [redacted] did not comment on any hazards associated with attempting a personnel transfer beyond the lee of the breakwater. [Encl. (64)-(66), (68)-(70), (84)-(86), (99), (100), (103)]

74. MSP planned to get underway at 1130Z on 29 December 2006 in order to transit "the Narrows" at slack-tide at approximately 1230Z. [Encl. (68)-(70), (84)-(86), (99), (100), (103)]

75. MSP recognized that approaching heavy weather could preclude the ship's departure for several days if the ship did not depart on 29 December. [Encl. (64)-(66), (68)-(70), (84)-(86), (99), (100)]

MORNING OF UNDERWAY:

76. On 29 December 2006, the Plymouth Harbor tides were as follows: Low - 0628 (3.59 ft); High - 1231 (14.31 ft); Low - 1857 (3.51). Sunrise was at 0743 and sunset was at 1547. [Encl. (32)]

77. On 28 December 2006, MSP received 280653Z WEAX message. This message was distributed via the ship's DMDS to the Outlook inboxes of ship's personnel who receive message traffic at 0551 on 29 December. [Encl. (10)]

78. This message stated that in the period between 291200Z and 301200Z (the 24-48 hour period commencing 28 December 1200Z), MSP could expect "winds increasing southwesterly 32-37, gusts 45 offshore. Seas rapidly building beyond the breakwater southwesterly 12 -16, further building 16-20 by mid-period 21-25 end period." [Encl. (10)]

79. The CO, XO, Prospective XO, OOD, Assistant Navigator, Navigator and Control Room Supervisor all acknowledged having seen this message prior to underway on the morning of 29 December 2006. [Encl. (48)-(50), (58)-(60), (68)-(70), (84)-(89), (99), (100)]

80. The CO, XO, Prospective XO, OOD, Assistant Navigator, Navigator and Control Room Supervisor concluded that conditions forecast in the 280653Z WEAX message were consistent with, and confirmed the weather information presented during the previous day's Piloting Brief. [Encl. (48)-(50), (58)-(60), (68)-(70), (84)-(89), (99), (100)]

81. Ship's personnel did not understand the sources and quality of WEAX-provided data. [Encl. (48)-(50), (58)-(60), (68)-(70), (87)-(89), (99), (100)]

82. Liberty for all personnel expired at 0730, 29 December 2006. [Encl. (99), (100)]

83. All personnel reported on time. [Encl. (99), (100)]

84. The Executive Officer received no reports of personnel reporting for duty in a less than fully fit for duty condition. [Encl. (99), (100)]

85. All preparations for getting the ship underway proceeded according to plan. [Encl. (84)-(86), (99), (100)]

86. The ship was ready to leave the pier ahead of schedule. [Encl. (84)-(86), (99), (100)]

87. At 0800 on 29 December, the weather was rainy. Visibility was approximately three miles with winds at approximately 33 knots from the southwest at the harbor entrance. [Encl. (33)]

88. In the early morning hours of 29 December, the CO and XO noted wind and rain at the pier where MSP was moored. [Encl. (84)-(86), (99), (100)]

89. The CO was concerned about the weather and consulted with his leadership team about how best to get the ship underway. [Encl. (84)-(86)]

90. The CO's leadership team included [redacted] [Encl. (84)-(86)]

91. Each member of the CO's leadership team indicated [redacted] that it was safe to get underway. [Encl. (84)-(86)]

92. The CO directed t[redacted] to obtain updated weather reports from LongRoom port control. [Encl. (84)-(86)]

93. [redacted] consulted LongRoom port control and the Brixham Coast Guard station and reported that conditions were holding. [Encl. (58)-(60), (84)-(86)]

94. The Executive Officer discussed the weather with the Executive Officer of HMS TRENCHANT, who informed him that the weather was not too bad and typical of Plymouth. [Encl. (84)-(86), (99), (100)]

95. [redacted] was aware that harbor movements of some classes of surface ships were suspended due to high wind conditions. [Encl. (103)]

96. MSP was not informed that harbor movements of some classes of surface vessels had been suspended. [Encl. (84)-(89), (99), (100)]

97. [redacted] consulted with his chain-of-command as required about whether the weather conditions supported MSP's scheduled underway. [Encl. (103)]

98. The Queen's Harbor Master gave the "green light" for MSP to get underway. [Encl. (13), (22), (103)]

OUTBOUND TRANSIT AND TIMELINE OF INCIDENT:

99. At 1030Z, [redacted] embarked MSP for the outbound transit. [Encl. (2)]

100. At 1033Z, MSP stationed the Maneuvering Watch. [Encls. (2)]

101. The Maneuvering Watch was stationed in accordance with the approved Maneuvering Watch watchbill. [Encl. (8), (64)-(66)]

102. [redacted] was the OOD for the Maneuvering Watch. [Encl. (8), (64)-(66), (84)-(86)]

103. At 1124Z, the CO went to the bridge. [Encl. (2)]

104. At 1131Z, MSP got underway from Pier 2B at RNB DRAKE. [Encl. (2)]

105. At 1150Z, winds at Plymouth airport (approximately 12 miles inland) were from the south at 18 knots, gusting to 28 knots. Visibility was 0.5 miles. [Encl. (33)]

106. At 1200Z, winds at the port entrance were from the south at 30 knots, visibility was 1.6 miles with rain. [Encl. (33)]

107. At 1200Z, an English Channel weather buoy near Plymouth harbor noted winds from the southwest at 26 knots, with 11.5 foot seas. [Encl. (33), (34)]

108. The CO, XO, OOD, ANAV and NAV assessed that weather conditions were as predicted. [Encl. (58)-(60), (64)-(66), (68)-(70), (84)-(86), (99), (100)]

109. The ship got underway with all navigation, propulsion and control surfaces fully functioning. [Encl. (27), (28), (68)-(70), (84)-(86)]

110. MSP had two tug boats, three police boats, and a pilot boat escorting her out of Plymouth Harbor. [Encl. (13), (22)]

111. The ship had a Search and Rescue ladder rigged from the port-side Fair Water Plane as it transited down the Hamoaze River as part of their normal topside rig for underway. [Encl. (91), (92)]

112. Although rigged, no discussion was held with regard to the use of the ladder in the event of a contingency. [Encl. (91), (92)]

113. Neither the British tugboats nor the pilot boats used in Plymouth Harbor are capable of disembarking personnel from the Fair Water Planes. [Encl. (22)]

114. The use of a similarly-rigged Search and Rescue ladder is a Lesson Learned from the USS OLYMPIA incident in 1999. [Encl. (30)]

115. As the ship got underway, the CO, OOD, CDR Peter Miller, Pilot, Junior Officer of the Deck, Lookout, one 1JV "phone-talker," and one JA "phone-talker" were on the bridge. [Encl. (71), (77), (78), (84)-(86), (93)]

116. [redacted], was on the bridge of MSP for the duration of the outbound transit from Plymouth, England. [Encl. (77), (78)]

117. [redacted] [Encl. (77), (78)]

118. Section 0901 of the Navy Regulations provides, in pertinent part, "Unless some other officer has been so designated by competent authority, the 'senior officer present' is the senior line officer of the Navy on active duty, eligible for command at sea, who is present and in command of any part of the Department of the Navy in the locality or within an area prescribed by competent authority..." [Encl. (39)]

119. On 29 December 2006, [redacted] was not in command of any part of the Department the Navy. [Encl. (77), (78)]

120. [redacted] did not have the responsibilities of "senior officer present" as defined by Navy Regulations. [Encl. (39), (77), (78)]

121. The ship completed the outbound transit to the commencement of the 250T leg without incident. [Encl. (5), (64)-(66), (84)-(86)]

122. At 1217Z, MSP turned right onto the 250T leg. [Encl. (2)]

123. The CO, OOD, and other bridge-watchstanders stated that weather conditions at the commencement of the 250T leg visually appeared to support a [redacted] transfer: while windy, the aft deck remained dry. Conditions further down track appeared to remain consistent. [Encl. (64)-(66), (77), (78), (84)-(86)]

124. As discussed at the Piloting Brief, during the outbound transit, RFA CARDIGAN BAY was positioned across MSP's planned track on the 250T leg. [Encl. (5), (68)-(70), (84)-(86), (103)]

125. MSP remained north of the planned track to maneuver around RFA CARDIGAN BAY. [Encl. (5), (68)-(70), (84)-(86), (103)]

126. MSP maneuvered past RFA CARDIGAN BAY at approximately 1224Z. [Encl. (5)]

127. [redacted] stayed on the bridge until the ship maneuvered past RFA CARDIGAN BAY moored at "C" buoy. [Encl. (84)-(86), (103)]

128. [redacted] stayed on the bridge longer than normal due to concerns over MSP's navigational practices - specifically, the "Navigator's" (OOD) use of hand-drawn

charts and the CO's questioning the identity of West Break Light. [Encl. (103)]

129. When the Pilot left the bridge, there were 800 yards remaining on the 250T leg prior to exiting the lee created by the Plymouth breakwater, and 1000 yards to the turn onto the 224T leg. [Encl. (105)]

130. MSP was making an average speed over ground between 8 and 9 knots as she transited the 250T leg. [Encl. (7), (64)-(66)]

131. At approximately 1224Z, the CO ordered the Forward Escape Trunk (FET) upper hatch opened and Small Boat Handling Party (SBHP) personnel sent topside in preparation for transferring the Pilot to the Plymouth Harbor Pilot Boat. [Encl. (64)-(66), (84)-(86), (91), (92)]

132. From the point where the order was given, at a speed of 8-9 knots, MSP had less than three minutes to send personnel topside and complete the pilot transfer prior to exiting the lee of the breakwater. [Encl. (5), (7)]

133. The OOD asked the Navigator how much good water the ship had past the turn point to the 224T leg. [Encl. (64)-(66), (68)-(70)]

134. The Navigator reported there were 800 yards of additional good water past the turn point to the 224T leg. [Encl. (64)-(66), (68)-(70)]

135. The OOD was not concerned with completing the pilot transfer inside the breakwater - rather, he was concerned with completing the transfer prior to commencing the turn onto the 224T leg. [Encl. (64)-(66)]

136. Waves were visibly breaking over the breakwater as the ship transited the 250T leg past RFA CARDIGAN BAY and around West Break Light. [Encl. (43)]

137. MSP does not have a watchstander designated to contact the pilot boat over bridge-to-bridge radio during small boat transfers. [Encl. (84)-(86)]

138. As briefed, the SBHP was limited to Senior Chief Higgins, the First Lieutenant [redacted] and the Deck Department Leading Petty Officer (Petty Officer Holtz) to limit the number of personnel exposed to the risks inherent to going topside. [Encl. (84)-(86), (91), (92)]

139. The Swimmer and the Tender were to remain staged in the FET. [Encl. (84)-(86)]

140. [redacted] was the designated Swimmer for the pilot transfer. [Encl. (91), (92)]

141. [redacted] was the designated Swimmer Tender. [Encl. (8), (91), (92)]

142. [redacted] was designated to dress out in required topside equipment and standby in the event additional personnel were needed topside. [Encl. (91), (92)]

143. MSP has used this limited SBHP successfully in the past. [Encl. (84)-(86)]

144. All personnel laying topside were wearing the following full Open-Ocean Transfer gear: exposure suits, Kapok life preservers, safety harnesses, working lanyard with dyna-breaks, lanyard extensions, and turn-around line. [Encl. (72), (84)-(86), (91), (92)]

145. Contrary to COMNAVSUBFORINST 5400.39 (SSORM), [redacted] had not authorized the use of two lanyards attached together as a part of Open Ocean transfer topside gear. [Encl. (12), (84)-(86)]

146. All required PMS for topside safety equipment had been completed and documented in the ship's 3M management system. [Encl. (45), (46)]

147. [redacted] was equipped with a swimmer knife. [Encl. (91), (92)]

148. [redacted] stated that all members of the SBHP were equipped with similar knives prior to laying topside. [Encl. (91), (92)]

149. The Forward Escape Trunk (FET) hatch was opened at approximately 1225Z. [Encl. (5), (84)-(86), (91), (92)]

150. [redacted] went topside and hooked into the safety track with a deck traveler. [Encl. (91), (92)]

151. [redacted] hooked Senior Chief Higgins into the safety track and helped him topside. [Encl. (91), (92)]

152. Petty Officer Holtz followed [redacted] and Senior Chief Higgins topside and hooked into the safety track. [Encl. (91), (92)]

153. [redacted] secured the Jacob's ladder to Cleat 2. [Encl. (91), (92)]

154. Upon laying topside, the SBHP took several approximately ankle-high waves over the aft deck. [Encl. (91), (92), (103)]

155. [redacted] lay topside and waited in the hatch for direction from the SBHP. [Encl. (103)]

156. Upon [redacted] reaching topside, a wave passed over the top deck of sufficient height and force to dislodge the FET upper hatch from the fully-opened position. [Encl. (103)]

157. The closing hatch cover struck [redacted] causing [redacted] [Encl. (103)]

158. [redacted] reopened the hatch cover to its full extent. [Encl. (103)]

159. The CO ordered the SBHP below decks. [Encl. (77), (78), (84)-(86)]

160. Almost immediately, at 1226Z, a second wave crashed over the deck, washing Senior Chief Higgins and Petty Officers Holtz [redacted] over the starboard side. [Encl. (5), (91), (92), (96), (101)-(103)]

161. The wave came from the forward port side of the ship and was approximately four-feet above deck level. [Encl. (77), (78), (103)]

162. At 1226Z, "man overboard starboard side" was called away. [Encl. (2)]

163. The ship did not sound its whistle. [Encl. (64)-(66), (84)-(86)]

164. A throwable flotation device was not deployed. [Encl. (64)-(66), (84)-(86)]

165. At 1226:14Z, the CO made a bridge-to-bridge call to the Pilot Boat to "come on over." [Encl. (44)]

166. At 1226Z, ship's parameters were: course 251T, speed 7.6 kts. [Encl. (7)]

167. The Pilot descended the FET ladder and returned to Crew's Mess. [Encl. (103)]

168. The CO called for the Pilot to lay to the bridge. [Encl. (84)-(86), (103)]

169. At 1227Z, the OOD ordered "All Back 1/3" and immediately thereafter, "All Back 2/3" in an attempt to take way off of the ship. [Encl. (3), (64)-(66), (84)-(86)]

170. At 1228:22Z, the CO made a bridge-to-bridge call to the Pilot Boat stating, "Come in and get our guys." [Encl. (44)]

171. The three men in the water - Senior Chief Higgins, Petty Officer Holtz and [redacted] - stayed together by holding onto a boat hook. [Encl. (91), (92), (96), (101), (102)]

172. The boat hook broke and, after discarding it, the men stayed together by holding onto one another's lanyards. [Encl. (91), (92), (93), (101), (102)]

173. [redacted] went topside to render assistance to the three men in the water. [Encl. (96), (101), (102)]

174. [redacted] was not able to clip his harness to the safety track and was immediately washed overboard on the starboard side of the ship. [Encl. (101), (102)]

175. At 1229Z, "man overboard starboard side" was called away. [Encl. (2)]

176. The shaft was stopped on several occasions. [Encl. (3)]

177. A police escort boat retrieved [redacted] almost immediately. [Encl. (2), (84)-(86), (91), (96), (101), (102)]

178. The ship used a series of bells and rudder orders to attempt to create a lee for the men in the water, then on the port side of the ship. [Encl. (2), (5), (64)-(66), (84)-(86)]

179. At 1229Z, the ship's parameters were: 243T, speed 3.3 kts. [Encl. (7)]

180. At 1230Z, the ship's parameters were: 197T, speed 1.6 kts. [Encl. (7)]

181. A subsequent wave washed the three men still attached to the ship, Senior Chief Higgins, Petty Officer Holtz and

[redacted] back onto the aft deck of MSP. [Encl. (93), (96), (101), (102)]

182. While laying topside, [redacted] crawled to Senior Chief Higgins and noted that he appeared blue and unconscious. [Encl. (91), (92)]

183. Senior Chief Higgins appeared unresponsive for the remainder of the time he was overboard. [Encl. (84)-(86), (91), (92), (101), (102)]

184. A subsequent wave separated [redacted] and Senior Chief Higgins. [Encl. (91)-(93)]

185. Another wave washed Petty Officer Holtz and Senior Chief Higgins over the side of the ship again. [Encl. (91)-(93), (96), (101), (102)]

186. [redacted] crawled to the FET and entered the hatch, still attached by his harness and lanyards to the safety track. [Encl. (54), (91)-(93)]

187. [redacted] still in the hatch, cut Petty Officer Sowa's lanyard. [Encl. (54), (91)-(93)]

188. [redacted] was able to proceed below decks where he was provided medical care. [Encl. (91), (92), (94)]

189. [redacted] the Swimmer, went topside to render aid to the two men still in the water, Senior Chief Higgins and Petty Officer Holtz. [Encl. (84)-(86)]

190. Petty Officer Ledford was swept over the side of the ship almost immediately. [Encl. (84)-(86), (96), (101), (102)]

191. At 1231Z, "man overboard port side" was called away. [Encl. (2)]

192. At 1231Z, the ship's parameters were: 165T, speed 3.8 kts. [Encl. (7)]

193. [redacted] swam back to the ship and attempted to climb back onboard with the assistance of [redacted] (the Tender, maintaining position in the FET), but another wave carried him away from the ship. [Encl. (54)]

194. The Plymouth pilot boat recovered [redacted] almost immediately. [Encl. (96), (101)-(103)]

195. The series of bell and rudder orders, while the ship attempted to create a lee, carried the ship outside and to the south of the Plymouth breakwater. [Encl. (2), (3), (5), (64)-(66)]

196. The closest point of approach to the breakwater throughout this series of maneuvers placed the ship at a bearing of 238T and a range of 250 yards to West Light at time 1234Z. [Encl. (5)]

197. As a result of tide, water depth was at least fourteen feet more than charted throughout this incident. [Encl. (4), (32)]

198. At time 1234Z, ship's head was 139T, speed was 1.47 knots (the lowest speed recorded by the Ring Laser Gyro Navigation System (RLGN) throughout the incident). [Encl. (7)]

199. The OOD initially desired to turn to port to expedite the return to protected waters in the lee of the breakwater, but turned to starboard when he received a report from the Navigator that a turn to port would bring MSP too close to the breakwater. [Encl. (64)-(66), (68)-(70), (84)-(86)]

200. The CO, OOD, and Navigator thought the ship was being set significantly to the north-east. [Encl. (64)-(66), (68)-(70), (84)-(86)]

201. Actual set and drift were negligible. [Encl. (5), (58)-(60)]

202. Maneuvering the ship to starboard required MSP to conduct a significantly longer turn and required ship's head to pass through the seas. [Encl. (5), (64)-(66), (68)-(70), (84)-(86)]

203. The CO, OOD, and Navigator concurred with maneuvering the ship to starboard. [Encl. (64)-(66), (68)-(70), (84)-(86)]

204. The CO stated [redacted] that he intended to return to sheltered waters north of the Plymouth breakwater. [Encl. (84)-(86), (103)]

205. [redacted] contacted the tugs and directed that they take position to support MSP's return to the sheltered waters in the vicinity of RFA CARDIGAN BAY. [Encl. (103)]

206. The ship utilized an "All Ahead 2/3" bell, the SPM, and a starboard rudder to initiate a turn to starboard, to maneuver back inside the shelter of the lee created by Plymouth breakwater. [Encl. (2), (3), (64)-(66), (68)-(70), (84)-(86)]

207. At 1239Z, ship's speed exceeded 4.5 knots. [Encl. (7)]

208. After building up, ship's speed throughout the turn remained approximately seven knots. [Encl. (7)]

209. Petty Officer Holtz and Senior Chief Higgins remained in the water and tethered to the ship throughout the turn. [[Encl. (64)-(66), (84)-(86), (96), (101), (102)]

210. Senior Chief Higgins and Petty Officer Holtz were intermittently washed up onto the aft deck and off of both the port and starboard sides of the ship as MSP maneuvered through heavy swells. [Encl. (84)-(86), (93), (96), (101), (102)]

211. The CO asked [redacted] if the police launch would be able to cut loose the sailors that were tethered to the deck. [Encl. (103)]

212. [redacted] responded that, based on sea conditions, there would be no possible way for the small boats to approach and safely recover the men. [Encl. (103)]

213. About the time MSP commenced the turn to starboard, and upon determining that further efforts to recover the tethered men via the FET would be futile, [redacted] ordered the FET upper hatch to be shut. [Encl. (5), (84)-(86)]

214. Initially, [redacted] was unable to shut the FET upper hatch because the Jacob's ladder had become lodged in the hatch opening due to wave action. [Encl. (52), (53), (62), (75)]

215. Access to the FET hatch closure mechanism was hindered by the water-deflecting "bathtub" that was attached to the FET. [Encl. (56), (57), (73), (97)]

216. [redacted] was distracted from supervising ship's navigation by his efforts to generate more urgency among Control Room watchstanders for shutting the FET upper hatch. [Encl. (68)-(70)]

217. The ship took on an appreciable amount of water via the FET throughout the incident. [Encl. (52), (53), (80)]

218. The ship began de-watering with the Main Drain Pump when the water level in the Auxiliary Machinery Room (AMR) Deep Bilge reached a level of approximately 6 ½ feet. [Encl. (80)]

219. A second man was needed to hold the deck access plate in a safe position while the AMR watch operated the drain suction valve. [Encl. (80)]

220. Subsequent water levels in the AMR rose to 6-8 inches above the lowest deck plate. [Encl. (52), (53), (79), (80)]

221. At this point, there were several inches of standing water in Crew's Mess. [Encl. (72)-(74), (94), (95), (97), (103)]

222. Control passed the order to secure power to the Electrolytic Oxygen Generator, the CO2 Scrubbers, and the CO-H2 Burners. [Encl. (80)]

223. The FET upper hatch remained open for approximately ten minutes after the ship commenced taking significant water over the aft deck. [Encl. (43), (62)]

224. Eventually, with the assistance of wave action, [redacted] was able to clear the Jacob's ladder, and the FET upper hatch was closed at approximately 1235Z. [Encl. (43), (52), (53), (62)]

225. At approximately 1243Z, Senior Chief Higgins broke free from the ship and was retrieved by a police escort boat. [Encl. (2)]

226. When waves moderated slightly as the ship maneuvered, [redacted] considered re-opening the FET to recover the remaining man. [redacted] decided against doing so due to the continued presence of frequent waves across the deck. [Encl. (43), (84)-(86)]

227. At 1250Z, ship's speed decreased to less than 4.5 knots. [Encl. (7)]

228. At approximately 1252Z, the ship re-entered protected water in the lee of the Plymouth breakwater. [Encl. (5)]

229. An accompanying police escort boat attempted to recover Petty Officer Holtz but could not reach him due to the sea conditions and the shape of the ship's hull. [Encl. (84)-(86), (96)]

230. In the lee of the breakwater and after the ship stopped taking water over the aft deck, [redacted] ordered the

FET upper hatch re-opened and personnel sent topside to attempt to recover Petty Officer Holtz. [Encl. (84)-(86)]

231. At 1253Z, [redacted] proceeded topside and cut Petty Officer Holtz's lanyard and he drifted free of the ship. [Encl. (2), (56), (57), (84)-(86)]

232. When Petty Officer Holtz was cut loose, he appeared unconscious and was bleeding from the head. [Encl. (56), (57), (82), (93)]

233. At 1255Z, a police escort boat recovered Petty Officer Holtz. [Encl. (2), (84)-(86), (96), (101), (102)]

234. Due to tidal conditions, return to RNB DRAKE would not be possible for approximately twelve hours. [Encl. (68)-(70), (84)-(86), (103)]

235. [redacted] disembarked the ship after [redacted] had re-positioned MSP to exit the channel in the vicinity of RFA CARDIGAN BAY. [Encl. (64)-(66), (84)-(86), (103)]

236. The ship's Deck Log does not record the presence of [redacted] either on or off the bridge after noting his original embarkation at 1030Z. [Encl. (2)]

237. MSP proceeded down its original outbound track and proceeded to sea. [Encl. (64)-(66), (84)-(86), (103)]

238. The four men recovered by British escort boats - [redacted] Petty Officer Holtz and Senior Chief Higgins - were immediately taken to the Plymouth Hospital for treatment. [Encl. (84)-(86)]

239. MSP passed an initial OPREP-3 voice report via "chat" to CTF-69 at 1400Z. [Encl. (37), (84)-(86)]

240. MSP transmitted their initial OPREP-3 message report with a DTG of 291415Z Dec 06. [Encl. (37)]

241. Local medical personnel took [redacted] to the hospital where they were examined and released on 29 December. [Encl. (38)]

242. Despite resuscitative efforts, medical personnel were unable to revive Petty Officer Holtz and Senior Chief Higgins - they were both pronounced dead on 29 December 2006. [Encl. (38)]

DAMAGE TO MSP:

243. The following equipment was damaged by water taken aboard through the FET hatch during this incident: Emergency Diesel Generator, the #1 and #2 CO-H2 Burners, #2 CO2 Scrubber, the P7 Power Panel, the Trim Pump, the Auxiliary Drain Pump Controller, one of the Transfer Pump Controllers, and lighting in the AMR deep bilge. [Encl. (79), (80)]

244. LifeCycle Engineering estimates repairs to MSP will cost approximately $132,000, including labor, parts, and associated costs. [Encl. (17)]

245. Cost estimates from Mid-Atlantic Regional Maintenance Center for repairs to the CO-H2 Burners were not available at the time this investigation concluded.

RELEVANT POST-INCIDENT FINDINGS OF FACT

246. SORM article 4318(10)(c) states that personnel laying topside for open-ocean transfers should carry swimmer-type knives to cut the safety lanyard if necessary. [Encl. (12)]

247. No knives were recovered from the personal effects of Senior Chief Higgins or Petty Officer Holtz. [Encl. (41)]

248. [redacted] maintains that all three men who initially went topside were equipped with swimming knives. [Encl. (91), (92)]

249. The CO directed the Prospective XO to conduct a Preliminary Inquiry into the facts and circumstances surrounding the deaths of Senior Chief Higgins and Petty Officer Holtz. [Encl. (21), (84)-(89)]

OPINIONS

Executive Summary of Opinions:

1. Had personnel not been tethered to the deck, fatalities, serious injuries, or significant equipment damage would have been unlikely. If personnel had not been tethered to the deck, nearby escort boats would have quickly recovered the personnel and the FET hatch would have been shut promptly after they went overboard. Likewise, if the evolution had been conducted inside the lee of the breakwater, personnel would not have been washed overboard. Once faced with the situation of men overboard but still tethered to the ship, ship's personnel lacked sufficient training and experience to perform a recovery in a timely manner. Operational risk management processes were not effective in preventing this incident due to ship's personnel's failure to identify the hazard posed by sea conditions beyond the breakwater's lee.

2. For the purpose of these opinions and recommendations, the term "negligence" is defined as a failure to show the due standard of care that a reasonably prudent mariner would show under the same or similar circumstances.

Line of Duty/Misconduct:

3. Senior Chief Higgins and Petty Officer Holtz were in the line of duty at the time they were washed overboard and drowned. Their deaths were not due to their own misconduct. [FF (71), (131), (138), (149-242)]

Significant Opinions:

4. The principal cause for personnel being washed overboard was [redacted] failure to anticipate the change in sea conditions, specifically the initiation of swells,

past the lee of the breakwater. [redacted] did not take into account the effectiveness of the breakwater in blocking sea swells from the south (illustrated in commercial satellite images). Contributing to this, the ship's review of Sailing Directions and COMNAVSUBFOR lessons learned from previous Plymouth port visits, their experience while entering port on 22 December, and their conversations with the Pilot prior to underway - including his lack of comments during discussions about conducting the personnel transfer (PERSTRANS) beyond the breakwater's end - did not alert them to the hazard. [FF (11), (12), (13), (14), (38), (62-66), (73)]

5. Despite visual observations of sea conditions outside and beyond the end of the breakwater, personnel did not detect the impending hazard, probably due to the presence of wind driven chop that obscured underlying swells. (Expert local mariners noted that this inability to assess swell size from inside the lee of the breakwater was typical for Plymouth Sound.) [FF (13), (14), (108), (123), (136)]

6. Nevertheless, based on the harbor's geometry, prevailing weather conditions, and common understanding of the purpose for a breakwater, the ship should have been able to foresee the presence of hazardous seas beyond the breakwater's lee. [FF (14), (15), (17), (136)]

7. The direct cause for the two fatalities was personnel remaining tethered to the ship's deck when washed overboard in heavy seas. This precluded their expeditious recovery either on deck or by escort vessels. Of the five personnel who were washed overboard in this event, those who were not tethered were recovered quickly by supporting small boats and suffered few - and minor - injuries. [FF (160) - (242)]

8. Of the three who remained tethered, only one survived. Due to seas and the shock of falling overboard, the surviving man was not able to regain the ship's deck on his own - rather, he was fortunate to be tossed on deck by a

wave and able to crawl to the FET hatch. [FF (160) - (188)]

9. Ship's personnel had adequate information and experience necessary to avoid this incident. Based on the charted geography of Plymouth Sound, the reports of approaching heavy weather from the south, the presence of waves breaking over the breakwater, the appearance of waves on the northern shore of Plymouth Sound beyond the lee of the breakwater compared to those on the northern shore behind the breakwater's lee, and the high southerly winds observed by the ship during the outbound transit, a professional mariner should have been able to anticipate the rough seas experienced by the ship past the end of the breakwater. [FF (14), (15), (17)-(19), (77-80), (106), (136)]

10. The ship's decision to get underway was influenced by weather forecasts of approaching heavy weather. There appeared to be concern that if the ship did not get underway on 29 December, another opportunity would not exist for several days. Ship's personnel did not perceive any urgent operational needs for the ship to get underway on schedule. [FF (56), (57), (75), (78)]

Minor Opinions:

Weather conditions:

11. Weather conditions on 29 December supported the decision to get underway. Visibility, wind, and sea conditions were adequate for safe navigation. Sufficient protected water was available inside the lee of the breakwater to conduct the pilot transfer. [FF (15), (105)-107)]

12. Local authorities did not inform the ship of restrictions on some surface ship movements due to gale winds on 29 December. Accordingly, these restrictions did not factor into the ship's decision to get underway. [(95, (96)]

Ship's practices:

13. Personnel sent topside to conduct the pilot transfer were not equipped per SSORM article 4318. At least several of the personnel sent topside were outfitted with one extension lanyard contrary to SSORM article 4318. Personnel who remained tethered to the ship were observed in the water on the ship's port side indicating that they too were equipped with an extension lanyard. [FF (144), (145), (209), (210)]

14. Although using an extension lanyard for this evolution was common practice aboard MSP, [redacted] permission had not been obtained. The degree to which the use of lanyard extensions contributed to the personnel's deaths cannot be determined. Rough seas encountered by the ship would very likely have prevented the personnel from reaching safety regardless of the extra lanyard. [FF (143), (144)]

15. Responsibility for communications with [redacted] for [redacted] was not clearly assigned between the OOD, CO, Control Room radio operator and Pilot. As a result, the pilot boat was delayed in coming alongside the ship and therefore was not in position to conduct the transfer at the earliest possible time. However, due to ship's speed and position at the start of the transfer, this delay did not affect the outcome of this incident as personnel would have still been on deck when the ship encountered dangerous conditions outside the lee of the breakwater. [FF (129, (131)-(135), (137)]

Planning:

16. Operational Risk Management (ORM) was employed in planning the ship's outbound transit. The most significant hazards identified were associated with grounding in the channel and collision with the ship moored at Buoy "C." Weather conditions were considered, though the ship did not recognize the degree of hazard posed by conditions past the lee of the breakwater. The ship reassessed the hazard posed by weather during the outbound transit, shifting the

pilot transfer point from outside the breakwater to the 250 leg. While the ship followed the basic principles of the COMSUBLANT/COMSUBPAC Operations Planning Readiness and Training Memorandum, planning was deficient in that tripwires and no-go conditions were not set for the safety of personnel on deck and for opening deck hatches. [FF (44)-(75)]

17. To be effective, tripwires would have needed to be located well before the end of the breakwater since the first dangerous swell was encountered approximately 250 yards before exiting the breakwater's lee. A tangent drawn from the end of the breakwater in the direction of forecast winds and seas (i.e. southwesterly) would have intersected ship's track near the location where the first man overboard occurred. [FF (15), (106), (107), (160), (166)]

18. [redacted] The 280635Z DEC 06 WEAX message addressed to MSP forecasted "seas building rapidly beyond the breakwater southwesterly 12 to 16…" during a forecast period that commenced at 1200Z, 30 minutes before the ship was scheduled to arrive in that location. This information was not highlighted during the piloting brief. When planning the transit, ship's personnel relied instead on the portion of the WEAX message that forecast conditions at the time of underway. [FF (52-55), (77-80)]

19. The incomplete weather forecast presented at the piloting brief appeared to influence key personnel's interpretation of all other weather information, contributing to the misinterpretation of other weather forecasts for conditions beyond the breakwater. [FF (53-56), (77-80)]

20. Ship's personnel did not understand the sources and quality of various METOC products sufficiently to use them effectively in operational planning. In particular, the quality of the WEAX forecast was not given due consideration in planning the outbound transit. [FF (53) - (56)]

21. Key ship personnel incorrectly analyzed available weather forecast information. As a result, they incorrectly concluded that sea conditions would support safe topside operations past the lee of the breakwater. They erroneously assumed seas would not pick up considerably until the middle of Plymouth Sound, beyond where the headlands of Penlee Point provided protection from southwest seas. A more accurate assessment of available forecast information would have predicted potentially hazardous conditions beginning at the end of the breakwater, caused by strong southerly winds with substantial fetch producing large waves and swells. [FF (53)-(57), (77)-(80)]

22. The ship did not plan in advance the speed at which the pilot transfer would occur. Had they done so, they may have recognized that this 5-10 minute (estimated) evolution could not be completed on the 250 leg unless the ship was traveling about 5 knots or less. With the ship delaying the evolution until past the ship moored at Buoy "C," and traveling at 8 knots, the ship could not possibly have completed this evolution on the 250 leg as intended. [FF (64-66), (69)]

23. In planning [redacted] the ship did not recognize that being on the 250 leg was not synonymous with remaining in the breakwater's lee, although the two roughly coincided. [FF (63)-(66)]

24. [redacted] did not consider the effect of weather conditions on Deck personnel's safety when reviewing weather messages for the outbound transit. [FF (77)-(80)]

25. There were no material deficiencies affecting this incident. There were no indications of any crewmember not being fit for duty or alert. [FF (84), (84), (109)]

Evolution execution:

26. At the location where it was ordered, and with the time remaining in safe water based on ship's speed, the decision to open the upper hatch and send personnel topside was negligent. [FF (106)-(123)]

27. Throughout the outbound transit, the Pilot had several concerns over ship's practices and sea conditions beyond the breakwater's lee. However, these were not communicated to ship's personnel. [FF (95), (96), (128)]

28. Rather than seeking positive confirmation that their assumptions were correct, ship's personnel assumed that local authorities' silence, [redacted] signaled concurrence with [redacted] transfer planning and execution. [FF (89), (91), (95), (96)]

Casualty response:

29. Existing Man Overboard procedures in CP 62-14 do not provide guidance for the situation where personnel are tethered to the deck. [FF (25)-(28)]

30. For 11 minutes while personnel were in the water and still tethered to the ship, the ship exceeded the 4.5 knot speed discussed in SORM Article 4318 as the speed that could permit an individual to regain a submarine's deck. [FF (160), (207), (227)]

31. Because both personnel appeared incapacitated and unable to recover themselves, exceeding 4.5 knots probably did not affect the likelihood of their survival. [FF (183), (207), (227), (209), (232)]

32. The decision to shut the FET hatch with two personnel topside was necessary to prevent the ship from experiencing more significant damage or sinking. The rate of seawater coming through the hatch exceeded the ship's dewatering capacity and could not have been sustained for an extended period. [FF (213), (217)-(221), (223)]

33. Submarine Force training and qualification was not effective in preparing ship's personnel for this casualty. [FF (17)-(28)]

34. All options for maneuvering the ship back into protected water to enable recovery of tethered personnel (specifically, backing the ship and/or using the SPM to pivot) were not considered, or were employed too briefly to determine if they would have been effective. [FF (160)-(233)]

35. Contributing to this, the ship based its decisions for maneuvering room near the end of the breakwater on charted shoal water, although much more room was available due to the outbound transit being conducted at high tide. It cannot be determined if other ship's maneuvers in these circumstances would have been more effective in reducing the time to return the ship to a protected location. [FF (76), (196)]

36. While attempting to recover the tethered men, key ship's personnel, including on the Bridge and the Navigator, incorrectly assessed that the ship was being set to the northeast, basing decisions for ship's maneuvers on this erroneous belief. Reconstructed track information reveals no appreciable set and drift. It appears the ship's motion towards the western end of the breakwater due to rudder and bell orders, combined with the sensation of southerly winds and seas, led to the conclusion that the ship was being set. [FF (106), (178), (195), (200), (201)]

37. None of the key personnel recall looking at the set and drift information on shipboard tactical displays. During a portion of this period, directing actions to shut the FET hatch distracted the Navigator. It appears this distraction contributed to the ship not properly assessing set and drift. [FF (200), (201), (216)]

38. The ship did not perform all actions required by the Man Overboard procedure (CP 62-14). Specifically, the ship's whistle was not sounded and a flotation device was

not deployed. Failure to perform these actions had no effect on the outcome of this incident. [FF (163), (164)]

Miscellaneous:

39. Several personnel performed in a commendable manner, particularly the United Kingdom small boat coxswains who attempted to save personnel in heavy seas, and MSP personnel involved in shutting the FET upper hatch. [FF (177), (194), (214), (224), (229), (233)]

40. Two design issues complicated casualty control. The design of the water-deflecting "bathtub" below the FET made access to the FET closure mechanism difficult with large amounts of water coming down the hatch. Access to the AMR drain suction valve requires holding a deck plate in the raised position, which was difficult for a single watch stander to accomplish with the ship rolling in heavy seas. [FF (215), (217), (219)]

RECOMMENDATIONS

Personnel actions:

Two categories of personnel actions were considered - disciplinary actions conducted under the Uniform Code of Military Justice, and administrative actions such as reassignment or other non-punitive measures.

Ship's company:

1. [redacted]

[redacted]

2. [redacted]

[redacted]

[redacted]

4. [redacted]

5. [redacted]

6. [redacted]

[redacted]

Other personnel recommendations:

7. [redacted] had adequate experience and opportunity to anticipate hazardous sea condition beyond the breakwater's lee, though no responsibility under Navy regulations to do so. Recommend no disciplinary or administrative actions.

8. As the senior officer present on the ship and senior officer present on the Bridge at the time of the event, [redacted] had adequate experience and opportunity to prevent the incident, though no responsibility under Navy regulations to do so. It is assessed that his actions contributed neither to this incident's occurrence nor its severity. Recommend no disciplinary or administrative actions.

9. For their actions in responding to the casualty at great personal risk to their own safety, recommend U.S. Navy commendations for the United Kingdom small-boat personnel who performed rescue efforts in rough seas beyond the breakwater. Recommend personal awards for several MSP personnel involved in responding to the casualty.

COMNAVSUBFOR recommendations:

10. Evaluate the requirements for lanyard use by SSN topside personnel and consider revising them for situations in which recovery of men overboard by small boat is likely.

11. Evaluate the use of a quick release device that would allow personnel to detach themselves from the submarine in conditions where lack of dexterity, fatigue, or heavy strain on the lanyard precluded other methods.

12. Include guidance in the Man Overboard procedure for ship maneuvering considerations in the situation where men remain tethered to the deck.

13. Consider adding a requirement to annotate on ship's piloting charts the point at which all personnel must be clear of topside and deck hatches shut.

14. Require all ships to conduct training on personnel transfer safety requirements on a recurring basis.

15. Require force-wide training on SORM requirements.

16. Direct a Squadron supervised inspection of topside PERSTRANS equipment against SORM requirements.

17. Investigate whether any design changes to the FET "bathtub" or AMR drain suction valve operator are warranted.

18. Add personnel transfer scenarios to those discussed in the recurring collision and grounding training.

/S/

[redacted]