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DEC 17 2007

MEMORANDUM


From: T. W. Allen, ADM
COMDT (CG-00)

To: Distribution

Subj: FINAL ACTION ON THE ADMINISTRATIVE INVESTIGATION INTO THE MARITIME SAFETY AND SECURITY TEAM (MSST) ANCHORAGE (91111) DEFENDER CLASS MISHAP AND THE RESULTING DEATH OF PETTY OFFICER RONALD A. GILL, USCGR, THAT OCCURRED ON 25 MARCH 2007

1. Overview:

On Sunday, 25 March 2007 at approximately 1415 local, the crew of CG 25501, a 25-ft Defender Class boat from Maritime Safety and Security Team (MSST) Anchorage (91111), was conducting an escort of a Washington State Ferry (WSF) in Puget Sound, Washington under the Tactical Control (TACON) of Commander, Sector Seattle. During a hard, high-speed turn to starboard, Port Security Specialist Third Class Ronald A. Gill (hereinafter "PS3 Gill") was ejected from CG 25501 and struck by the boat's propellers, suffering fatal injuries.

This document sets forth the facts that led to and evolved into this incident, states my conclusions, and orders certain actions designed to prevent similar incidents and other tragic losses of life in the future.

2. Findings of Fact and Opinion:

The following narrative provides the key findings that inform my conclusions and actions:

On 25 March 2007, CG 25501 was underway conducting ferry escorts between Vashon and Fauntleroy, Washington in support of Operation ICE FREE under the TACON of Sector Seattle, Washington. CG 25501 was an element of MSST Anchorage's forces which deployed to Seattle, Washington from Anchorage, Alaska on 3 February 2007. The deployment was anticipated to last through 31 March 2007.

Over the duration of the deployment, MSST Anchorage provided the following assets in support of Operation ICE FREE: two waterside security detachments, which included four boat crews (with four persons per crew), a support element, and command and control element per detachment; a Maritime Law Enforcement/Force Protection team; three 25-ft Defender Class boats; and five vehicles. The two waterside security detachments were deployed consecutively; Detachment One (DET One) was relieved by Detachment Two (DET Two) on 3 March 2007.

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The purpose of the deployment was to conduct Ports, Waterways and Coastal Security (PWCS) operations in the Sector Seattle and the Sector Portland areas of responsibility (AOR). On 5 February 2007, Commander, Coast Guard Pacific Area (PACAREA), who was the commander exercising Operational Control (OPCON) of MSST Anchorage, shifted TACON of the MSST Anchorage forces from PACAREA to Sector Seattle. In addition to supporting the Coast Guard's PWCS mission, the February through March 2007 deployment of forces provided the opportunity to train and exercise boat crews. MSST Anchorage is typically unable to conduct such training in Alaska during the winter months due to ice conditions. The deployment to Seattle was MSST Anchorage's twentieth deployment since its commissioning 15 October 2004.

One of twelve such units, MSST Anchorage was created in direct response to the terrorist attacks of 11 September 2001. The unit was established for the purpose of providing a quick response force capable of rapid, nationwide deployment via air, ground or sea transportation in response to changing threat conditions and evolving Maritime Homeland Security mission requirements.

The MSST Program Manual, COMDTINST M3510.3 (series), establishes the policy and organization of the MSST program. It defines the organizational structure, relationships, and planning factors necessary for effective employment of MSSTs. This manual describes the duties and responsibilities of MSST personnel, and provides guidance on command and control (C2) of the MSST when deployed. Although TACON of an MSST may vary depending on the type of mission assigned, the supported Sector/Group-Air Station Commander normally maintains TACON of teams and units assigned.

The Defender Class boat is the primary asset used by the MSSTs to conduct waterborne security operations. The Defender Class Operator's Handbook, COMDTINST M16114.37 (series), provides technical orientation, performance characteristics, basic operating procedures, and standard boat outfitting for Defender Class boats. This Handbook contains specific information necessary for the safe and efficient operation of Defender Class boats.

The U. S. Coast Guard Boat Operations and Training (BOAT) Manual - Volume I, COMDTINST M16114.32 (series) (hereinafter, "BOAT, Vol I"), prescribes policy, doctrine, and training requirements for Coast Guard boat unit operations and is intended for use by all personnel engaged in or supervising boat operations and training. The U. S. Coast Guard Boat Operations and Training (BOAT) Manual - Volume II, COMDTINST M16114.33 (series), (hereinafter, "BOAT, Vol II") provides standardized performance objectives and guidance for the purpose of training and certifying personnel as crewmembers on Coast Guard boats.

The Boat Crew Seamanship Manual, COMDTINST M16114.5 (series), contains additional policy guidance and presents the approved methods and procedures for the conduct of Coast Guard boat operations.

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The Response Boat Tactics, Techniques, and Procedures (RB-TTP) Manual, COMDTINST M16601.7 (series), (hereinafter "RB-TTP Manual"), sets forth the approved tactics, techniques, and procedures (TTP) for Coast Guard units to carry out Maritime Homeland Security missions involving the use of small boats, to include the Defender Class boat. The tactics and countermeasures found within this manual provide detailed guidance covering the full spectrum of waterborne threats while allowing for judgment in boat operations when faced with changes to the threat environment. These tactics are designed to allow the Coast Guard to respond to varying threat scenarios that range from no threat to the most extreme threat which requires the highest state of operational readiness and response. The RB-TTP Manual also provides that commanders who exercise OPCON and TACON are key elements of command and control. Per the RB-TTP Manual, both OPCON and TACON are responsible for the development and oversight of policies and procedures required for safe, effective mission organization and execution.

The information and guidance contained in each of the manuals above is supplemented by respective program office notifications to address specific issues relevant to particular operations. While local directives govern which methods of achieving certain operations are preferred, the above manuals provide basic principles and subject matter areas that form a firm background of good seamanship to guide the boat operator on the water.

General policy guidance on the execution of the PWCS mission is predominantly contained in the Marine Safety Manual, Volume VII, Port Security, COMDTINST M16000.12 (series) and the Maritime Law Enforcement Manual (MLEM), COMDTINST M16247.1(series). More specific guidance is contained in Operation Order Neptune Shield (ONS) and any further orders directed by the Commander exercising TACON.

The Marine Safety Manual, Volume VII, Port Security, chapter 7, section 7.F.1, states that defensive boat tactics are not necessary in every waterside situation; most security zone enforcement requires simple overt patrolling or "policing" of the zone boundaries to ensure compliance. This Manual further provides that when patrolling a security zone, especially in a no/low-threat environment, it is important to remember that no security operation is routine. Personnel involved in security zone enforcement must at all times be aware of their surroundings and maintain vigilance throughout the operation.

Three safety messages were promulgated over the previous two years by either the Coast Guard Assistant Commandant for Operations (Commandant (CG-3)) or the Coast Guard Office of Boat Forces (Commandant (CG-37RCB)) within the Operations Directorate at Coast Guard Headquarters. Mishaps involving the operation of the Defender Class boat motivated the issuance of these messages, each of which cautioned against the unnecessary use of high speed tactical maneuvers. In September 2005, Defender Class Safety Advisory, COMDT COGARD WASHINGTON DC//G-O// 301916Z SEP 05, directed Coast Guard boat forces to "reemphasize

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safe speed considerations while maneuvering all classes of boats at high speeds.” A subsequent Defender Class Safety Advisory (RBS-001-06), sent in December 2005, COMDT COGARD WASHINGTON DC//G-OCS// 162138Z DEC 05, directed that “Commanding Officers/Officers in Charge shall review with crew members the difference between mission’ required tactical maneuvers and making unwarranted dramatic maneuvers at excess speed.” Additionally, during a Coast Guard-wide safety stand down, Coast Guard boat forces were directed by Safety Standdown Areas of Emphasis for Boat Forces, COMDT COGARD WASHINGTON DC//G-RCB// 182011Z SEP 06, to emphasize “the importance of safe and appropriate speed.”

On Sunday, 25 March 2007, the above listed manuals and messages provided the baseline doctrinal guidance on how to operate a Defender Class boat when conducting escorts of high capacity passenger vessels in support of the Coast Guard’s PWCS mission. These references provided guidance to leadership at all levels involved in Operation ICE FREE including the Commander exercising TACON, the Commanding Officer of MSST Anchorage, the MSST Anchorage Detachment leadership, as well as the coxswain of CG 25501.

DET Two was the MSST Anchorage detachment supporting waterside operations on 25 March 2007 and, for that portion of the Operation ICE FREE deployment, was under the supervision and leadership of a new Detachment Leader (hereinafter “DTL”) who had been verbally designated as such by Commanding Officer, MSST Anchorage. The DTL was assisted in the performance of duties by the Waterside Security Section Chief (hereinafter “WSC”). The duties and responsibilities of the DTL are listed in chapter 2 of the MSST Program Manual and they include, among other things, ensuring the health, welfare, discipline, and administration of all members of the respective detachment; advising the Tactical Commander on MSST capabilities and limitations, and the proper employment of the MSST; coordinating detachment operations; providing guidance to section chiefs; and performing the duties of Deployment Leader and Maritime Law Enforcement (MLE) Boarding Officer.

The duties and responsibilities of the WSC are also listed in chapter 2 of the MSST Program Manual and they include, among other things, assuming the duties of the MSST Detachment Leader in the DTL’s absence; supervising the watch section when deployed; performing the duties of Senior Training Officer for the detachment, responsible for the training and qualification of all members; and, performing the duties of Deployment Leader and MLE Boarding Officer.

In addition to the above duties and responsibilities, the MSST Program Manual provides that “the MSST Detachment Leader... shall be used to augment the supported commander’s Command Center or may be assigned to the site of MSST operations to oversee mission execution. The detachment leader and section leaders shall provide and coordinate required support.”

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While DTLs and WSCs are integral positions in the MSST organization, there is no Coast Guard-wide Personnel Qualification Standard (PQS) for either position. The Special Missions Training and Qualification Manual, COMDTINST M3502.16, provides that unit-level Job Qualification Requirements (JQR) shall be produced when no existing PQS booklet exists to cover a specific watch station.

A draft JQR had been developed by MSST Anchorage for the DTL position, and the DTL was using it as part of the qualification process. This JQR, however, was not formalized or promulgated as a unit instruction. The informal unit-level DTL qualification process involved completing the draft JQR that included three pages of tasks and practical requirements which the break-in DTL was required to demonstrate knowledge and proficiency. Additionally, per the draft JQR, the break-in DTL was to pass a qualification board consisting of the MSST Anchorage Operations Officer, a minimum of one current DTL, and a minimum of one current "detachment chief."

Upon assuming the DTL position for the deployment on or about 19 March 2007, however, the DTL had only completed about 75% of the required JQR and was never administered a qualification board. The Commanding Officer visited Seattle, WA for approximately two weeks at the half-way point in the deployment and observed the officer who later became the DTL perform break-in DTL duties. Based on his observation of the DTL's performance and the fact that the DTL had been serving as a DTL break-in for a month-and-a-half, the Commanding Officer verbally deemed the officer as qualified and certified to serve as DTL for DET Two. The DTL was relatively inexperienced, having just been commissioned as an Ensign six months prior in September 2006 after graduating from Officer Candidate School. Additionally, the DET Two DTL was not a qualified Boarding Officer. Despite the DTL description of duties and responsibilities contained in the MSST Program Manual, the DET Two DTL viewed DTL's as having mostly an administrative and logistics role in the MSST's operations.

MSST Anchorage had no qualification process for the WSC position nor had the unit developed any WSC JQR. While a 24-year Coast Guard veteran, the DET Two WSC was a 2006-transfer to MSST Anchorage and had never attended training at the Coast Guard Special Missions Training Center (SMTC).

Sunday, 25 March 2007 was the last scheduled underway patrol day for DET Two for this deployment. Patrols were planned for the morning and afternoon. The afternoon patrol was comprised of two 4-person boat crews from DET Two who would be deploying on CG 25501 and CG 25493. After the crews for the afternoon patrol mustered, they received a pre-brief from the DTL. The pre-brief outlined patrol tasking, discussed weather conditions, and included a risk assessment using the Green Amber Red (GAR) scoring system. The brief did not include a threat assessment or discuss intelligence.

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CG 25493 and CG 25501 crews scored the mission as low risk at the pre-brief. The scheduled mission was to spend approximately seven hours underway on patrol conducting the PWCS mission, starting with escorts of high value assets (WSFs), a break for lunch, and then a patrol of critical infrastructure. The coxswains received their Boat Mission Report from the DTL just prior to getting underway. While no patrol commander was designated for the afternoon patrol, the coxswain of CG 25493 was responsible for communicating with WSFs during the escort phase of the mission and CG 25501 was the second boat.

CG 25493 and CG 25501 were each manned by four crewmembers filling the following positions: tactical coxswain, crewmember 1, crewmember 2, and boat gunner. At the time of the incident, all members of the CG 25501 boat crew were qualified and certified, in accordance with Coast Guard policy, in their assigned positions. PS3 Gill and the other crewmembers of CG 25501 were outfitted in the appropriate personal protective equipment which included dry suit, body armor, Type III personal floatation device with survival gear, goggles, and steel toed boots. In addition, the boat crew was wearing the Coast Guard authorized helmet.

U.S. Coast Guard Regulations, COMDTINST M5000.3 states, “[t]he coxswain shall be responsible...for the safety and conduct of passengers and crew;...[a]n underway coxswain will at all times respond within the limits of capabilities and legal authority, to observed hazards to life or property, and violations of laws or regulations.”

The coxswain of CG 25501 initially qualified as a coxswain in March 2006. In July 2006, the coxswain graduated from the Tactical Coxswain Course, which is a 10-day course held at the Coast Guard Special Missions Training Center. The training provided in this course teaches tactics, techniques, and procedures to be followed to counter high-threat scenarios. The course provides advanced level coxswain training to achieve the elements of skill and knowledge necessary for safe and effective performance of Coast Guard tactics and tactical maneuvering.

PS3 Gill, a qualified gunner, attended the Tactical Boat Crew course in December 2005. The Tactical Boat Crew course is a 5-day course and is also taught at the Special Missions Training Center. This course trains crewmen to execute tactical missions, particularly from the boat gunner position.

CG 25501 and CG 25493 departed from the Station Seattle docks just after 1300 local. The weather was briefed as fair, with calm seas, air temperature 40 degrees Fahrenheit, and sea temperature 48 degrees Fahrenheit. Rain and increasing winds were forecasted for later in the day. Both boats proceeded west across Elliott Bay and just north of Alki Point. They then continued into Puget Sound and proceeded south towards the Vashon to Fauntleroy WSF route to commence escorts. Their first escort, a WSF from Vashon Island to the Fauntleroy, was conducted without incident.

The WSFs generally transit between terminals at a speed of 13-15 knots. On 25 March 2007, the

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coxswains of the escorting MSST Anchorage boats were traveling between 20 to 25 knots during their WSF escorts. The coxswain of CG 25493 reported they would transit at these higher speeds to lower the bow and thereby allow for maximum visibility as they escorted the WSF. Prior to deploying for Operation ICE FREE, Commanding Officer, MSST Anchorage had provided additional direction to the deploying boat crews and had directed that the boat crews change speeds and distances from the escorted HVA/ferries.

The RB-TTP Manual provides that defensive tactics for moving high value assets (HVA) are similar to those employed for protection of stationary high value assets, except the escorting boats patrol as the HVA transits. When two boats are available for an HVA escort, one of the boats will screen ahead of the HVA at the edge of the security zone and the second boat will trail astern the HVA, but offset and to the opposite side of the first boat. Figure 4-10 of the RB-TTP specifies the patrolling position for boats in a two-boat moving escort.

As part of this first escort evolution, the coxswains of both boats executed power turns while patrolling in the moving security zone around the WSF. A power turn is an informal term used to describe a boat maneuver involving a hard turn to port or starboard utilizing acceleration through the turn to provide a change of course in a short time and distance. Both MSST Anchorage coxswains conducting afternoon patrols on 25 March 2007 believed power turns were to be conducted to serve as a deterrent factor and show officer presence. Power turns were considered by them to be a part of the escort evolution. Additionally, the DTL understood that the boats conducting escorts would conduct an average of two power turns per escort. The WSC, however, believed power turns were an unnecessary high speed maneuver. Despite the WSC's opinion regarding the use of power turns, the WSC provided no direction to the coxswains on whether or not to conduct power turns during the afternoon HVA escorts on 25 March 2007, nor did the WSC caution the coxswains to exercise prudent judgment when executing high speed tactical maneuvers or reaffirm the principle of operating the boat at safe and appropriate speeds.

The procedures and limitations specified in the Defender Class Operator's Handbook instruct coxswains on how to properly execute a power turn, but do not speak to when coxswains should or should not execute power turns; this is left to the discretion of the coxswain in the exercise of judgment in boat operations. In Chapter 6, Section E, crews are told "[p]erforming high speed turns and maneuvers with the engines trimmed out (up) or level can result in hooking a chine, where the chine of the boat abruptly catches the water. The result can be violent in nature, the physical forces of which may cause personnel in the boat to be thrown in the direction of momentum." It is also noted that "prior to making a high speed or tactical turn, crews and passengers must be forewarned and given the opportunity to prepare themselves for the maneuver. The forces created as the boat turns at high speeds will result in injury and ejection if crews are not properly restrained."

The Boat Crew Seamanship Manual, Chapter 10, Section B.16 warns "[w]ith light-displacement,

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high-powered craft, maximum helm at high speed will quickly stop a boat's progress in the original direction of movement. Though such a turning action is effective to avoid contact with an immediate hazard, the violent motion could eject unsuspecting crewmembers. Use this technique only as an emergency maneuver. Do not use this maneuver to demonstrate the boat's capability."

The execution of power turns and other tactical maneuvers when conducting HVA escorts relies on the prudent exercise of the coxswain's judgment within a given threat scenario. ONS refers to the MLEM and RB-TTP manual for guidance on tactics to employ when conducting PWCS missions and more specifically, HVA escorts in certain operating areas. The RB-TTP manual further provides that TACON is responsible for oversight of assigned assets as well as providing guidance as needed.

The Tactical Coxswain Course taught at Special Missions Training Center trains tactical coxswains on how to conduct power turns. This training is normally conducted in a simulated high threat environment. No guidance is specifically provided during this course prohibiting power turns during an escort of an HVA such as a ferry.

Pacific Area Commander, the Operational Commander of MSST Anchorage, promulgated guidance on the use of high-speed tactical maneuvers in the Pacific Area Maritime Safety and Security Team Response Boat Tactics Training Guidelines, PACAREAINST 3530.1. While this Pacific Area Instruction was focused on boat tactics in a training environment, impromptu high-speed maneuvers were specifically prohibited by paragraph 4 of the Instruction, which states, "although Coast Guard MSST boat crews are highly trained; they must not conduct impromptu high-speed maneuvers, turns, or other demonstrations of the vessel's capabilities during routine operations and training. Actions such as these, without proper planning, risk assessment, and briefing dramatically increase the potential for a mishap."

The Sector Seattle Commander, as Commander exercising TACON of MSST Anchorage DET Two, provided no additional guidance on tactics to be used when conducting escorts of WSF and, instead, relied on training provided at MSST Anchorage as well as the formalized Tactical Coxswain training provided at Special Missions Training Center.

In the pre-deployment brief, the Commanding Officer, MSST Anchorage, directed deploying crews to maintain an overt presence, to not be complacent, to rely and operate based on their formal training, and to change speeds and distance from escorted HVA/ferries. The Commanding Officer did not provide additional guidance for or against the use of power turns. There is no indication that the Commanding Officer discussed the distinction between mission-required tactical maneuvers and making unwarranted dramatic maneuvers at excess speed, in order to reaffirm guidance previously promulgated by the Coast Guard Office of Boat Forces.

At approximately 1400 on 25 March 2007, the first ferry under escort by MSST Anchorage boats

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CG 25493 and CG 25501 arrived at the Fauntleroy Terminal. As that ferry was arriving at the terminal, WSF TILlicum was getting underway and the crews shifted their escort responsibilities to WSF TILlicum, which was heading west to Vashon Island. As they commenced their escort, CG 25501 maneuvered off the port side of the WSF and CG 25493 took position off the starboard side. Neither boat assumed the patrol position articulated in section 4.D.11, and as set forth in figure 4-10, of the RB-TTP Manual.

While en route Vashon Island, WSF TILlicum came to all stop and conducted a previously scheduled rescue boat drill. As the crew of CG 25501 waited for the ferry to complete its drill, PS3 Gill requested, and was given permission by the coxswain, to assume the gunner position on the forward M240B gun mount. Crewmembers on board CG 25501 believed PS3 Gill wanted to be on the forward gun mount because it was where the action was and because he liked to do turns. When PS3 Gill assumed the gunner position, there was no mechanism or restraining device on board CG 25501 by which he could secure himself to the boat.

At the time of the incident, there was no Coast Guard-wide policy that required gunners to be secured to the boat. Both the Pacific Area Instruction, Maritime Safety and Security Team Response Boat Tactics Training Guidelines, PACAREAINST 3530.1, and the MSST Anchorage's Navigation Standards mandated the use of gunner restraints during training. The guidance, however, did not require use of restraints during operations. There was some concern at MSST Anchorage with respect to the safety of the gunner during tactical maneuvers, and crewmembers had previously experimented with various methods of harnessing the gunner to the boat. The Coast Guard had completed testing and evaluation of several restraint configurations. Selection of the service-wide restraint had also been completed, but the selected restraint and method of wear had not been announced or fielded at the time of the mishap.

A prior mishap at MSST Anchorage that resulted in the capsizing of a Defender Class boat in 2005, more specifically CG 25501, led to additional concern by MSST Anchorage boat crews that the ability of the boat crew to safely egress in the event of another capsize may be hindered by the use of restraining devices that did not have quick release devices. MSST Anchorage had procured several safety belts to use as restraining devices. However, because of the concerns over crew egress, the Commanding Officer of MSST Anchorage left the use of the harnesses to the coxswain's discretion. On 25 March 2007, the coxswain of CG 25501 was unaware of this discretion and instead believed that because restraining devices were not standardized equipment, they were not allowed on the boat.

Shortly after PS3 Gill assumed the gunner position, a sailboat was spotted heading in the general direction of the stationary WSF, approximately 200 yards off of its stern. The two boats turned to face the sailboat in the event it required escorting away from the security zone in place around WSF TILlicum. Two other Defender Class boats were also in the general area on patrol for Sector Seattle: CG 255002 from MSST Seattle and CG 25661 from Station Seattle. CG 255002

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and CG 25661 were transiting south in the vicinity of Blake Island and contacted the sailboat to inform them of the security zone requirement.

Around this time, WSF TILlicum was completing the drill and began making way westbound toward the Vashon Island WSF terminal. With no action needed to keep the sailing vessel out of the security zone, the coxswain of CG 25501 shifted focus from the sailing vessel. From the forward gun mount, PS3 Gill held up his hand and gave what the coxswain described as a “whirly bird signal.” The hand signal given by PS3 Gill was not a form of standard communication. Neither Coast Guard-wide nor unit generated standardized communication procedures had been developed for use between the boat coxswain and the boat gunner. Additionally, no effective communications system, that would have allowed direct two-way communication between the coxswain and the gunner, was available to the crew of CG 25501 or required by Coast Guard policy. The coxswain, though, did have the capability to communicate one-way with the forward gunner by using the boat’s equipped loudhailer.

The coxswain of CG 25501 saw PS3 Gill’s hand signal, increased speed and proceeded to a position off the ferry’s port bow. After noting the forward, port side of the WSF was clear, the coxswain of CG 25501 executed a power turn to port and proceeded east back down the port side of the ferry. This power turn was conducted without incident. CG 25501 was traveling at approximately 25 to 30 knots.

Once abeam of the stern of the WSF at approximately 1415, the coxswain of CG 25501 executed another power turn, this time to starboard. The coxswain executed the turn while abeam the ferry’s stern so CG 25501 could complete the turn inside the moving security zone and to avoid interference from the ferry’s wake. In accordance with the guidance in the Defender Class Operator’s Handbook, the boat was trimmed down. The coxswain reduced the engine RPM’s at the start of the turn so the bow of CG 25501 could dig in and the performance chine would stay in the water throughout the turn thus avoiding the phenomena of “chine lock” or “hooking a chine.”

Prior to entering the turn, the coxswain was looking to starboard and did not communicate to PS3 Gill that a power turn to starboard was about occur. The coxswain did pass to other crewmembers in the cabin to hang on. When the turn commenced, Crewmember 1 was sitting next to the coxswain in the NAV/COMMS chair and was observing PS3 Gill. Crewmember 1 observed PS3 Gill standing on the bow deck with right hand on the M240B stock, and with his left hand in the air as he looked in the direction of the ferry.

Crewmember 2 who was serving as the aft lookout was sitting in the aft starboard seat in the cabin. As CG 25501 entered the turn, Crewmember 2 observed PS3 Gill standing on the bow halfway turned to the ferry with his left hand holding the butt of the M240B. Crewmember 2 did not see PS3 Gill’s right hand.

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As CG 25501 turned, it heeled sharply to starboard and briefly shuddered as the performance chine on the starboard side caught an edge as it dug into the water. This caused the boat to jerk. At the same time, the crew in the cabin of CG 25501 observed PS3 Gill being ejected over the port side of the boat.

The coxswain saw PS3 Gill being ejected out of the corner of the coxswain's eye as the boat was completing the turn. The coxswain immediately came down in speed and began to maneuver to recover him from the water. The boat crew quickly moved to the aft deck to prepare to recover PS3 Gill. They spotted him face down in the water and also noticed blood in the water. Crewmember 2 yelled to the coxswain that PS3 Gill did not seem able to turn himself over and, after receiving permission from the coxswain, entered the water immediately to recover him.

On or about 1420 local, the coxswain made a radio call on channel 21A VHF-FM announcing the man overboard and requesting Emergency Medical Services (EMS) assistance. The coxswain reported the man overboard position as 47-31.85N, 122-27.49W.

When Crewmember 2 reached PS3 Gill, the crewmember rolled him onto his back and sensed that PS3 Gill was not able to do anything for himself. Crewmember 2 then put his arms across PS3 Gill's chest and began swimming towards CG 25501, which was less than 20 yards away. When Crewmember 2 arrived alongside CG 25501, the coxswain and Crewmember 1 assisted in removing PS3 Gill from the water and hoisted him onto the aft deck.

On board CG 25493, the coxswain heard the radio call and looked over towards CG 25501, saw PS3 Gill in the water and quickly discerned that another crewman was swimming him toward CG 25501. CG 25493 diverted to assist.

On board CG 255002, the coxswain also heard the call and diverted his patrol towards the location of CG 25501. The coxswain of CG 255002 directed a 225002 crewmember to contact Sector Seattle and request a helicopter from Coast Guard Air Station Port Angeles to conduct a Medical Evacuation of PS3 Gill.

CG 255002 arrived alongside CG 25501 and the coxswain, a qualified Emergency Medical Technician (EMT), transferred to CG 25501 to provide medical care. The EMT immediately checked for a pulse and for eye response from PS3 Gill. PS3 Gill had a very faint pulse and his right eye was responsive. PS3 Gill quickly became quiet and unresponsive. The EMT focused on clearing his airway and prepared to perform CPR by cutting away PS3 Gill's dry-suit and directing a crew member to provide artificial ventilation for PS3 Gill with a Bag-Valve Mask. When it became evident PS3 Gill's condition was rapidly deteriorating, the EMT directed the coxswain of CG 25501 to get them ashore where they could transfer PS3 Gill to EMS. Due to the short transit (2-3 miles) to the WSF terminal the request for a helicopter was cancelled.

At approximately 1438 local, CG 25501, CG 25493, CG 255002, and CG 25661 arrived at the

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Fauntleroy Ferry terminal. Seattle Fire and Rescue arrived approximately five minutes later with an Advanced Life Support (ALS) capable ambulance. The EMT went into the ambulance with the Seattle Fire and Rescue personnel and exited before the ambulance left for Harborview Memorial Hospital.

PS3 Gill was pronounced dead at the hospital on or about 1500 local time. The cause of death was skull fractures and cerebral lacerations and contusions from the propeller of CG 25501.

The boat crews returned to Sector Seattle and began to store their gear and preserve any physical evidence from the mishap. CG 25501 was trailered. The crews of CG 25501 and CG 25493 reported to ISC Seattle Medical for drug and alcohol testing. The test results were negative.

3. **Key Findings and Conclusions:**

A. I find the death of PS3 Gill occurred in the line of duty.

B. I find the CG 25501 was ready for operations and fully mission capable.

C. I find the crew of CG 25501 was qualified and certified to execute assigned missions.

D. I find the death of PS3 Gill was preventable. This was a tragic death which resulted from system shortcomings and human error, any one of which, had it not occurred, may have prevented PS3 Gill's death.

E. I find the power turns conducted by CG 25501 risked ejection and injury to personnel, and were unnecessary for the low-threat mission at the time of the mishap.

I base this finding upon the following facts:

- The Marine Safety Manual, Volume VII, Port Security, states “defensive boat tactics are not necessary in every waterside security situation. Most security zone enforcement requires simple overt patrolling or ‘policing’ of the zone boundaries to ensure compliance.” The use of power turns in the low threat scenario that existed on 25 March 2007 diminished the crew’s ability to maintain situational awareness amidst the radical motions associated with these high speed tactical maneuvers; they were unnecessary and counterproductive when weighed against the high risk of personnel injury.
- The procedures and limitations specified in the Defender Class Operator’s Handbook state “[p]rior to making a high speed or tactical turn, crews and passengers must be forewarned and given the opportunity to prepare themselves for the maneuver.” As stated in the Defender Class Operator’s Handbook, the reason for forewarning is the forces that are created as the boat turns at

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high speeds will result in injury and ejection if crews are not properly restrained. The coxswain did not comply with this requirement.

- The Boat Crew Seamanship Manual warns that while the type of power turn that was conducted “is effective to avoid contact with an immediate hazard, the violent motion could eject unsuspecting crewmembers. Use this technique only as an emergency maneuver. Do not use this maneuver to demonstrate the boat’s capability.”
- Three messages were issued by the Coast Guard Operations Directorate (Commandant (CG-3)) and the Office of Boat Forces (Commandant (CG-37RCB)) within the Operations Directorate to emphasize the importance of safe and appropriate speed. Unit Commanders were directed to ensure their personnel understood the difference between missions requiring tactical maneuvering and making unwarranted dramatic maneuvers at excess speed. It was the shared responsibility of the MSST and Sector commands, as boat forces units operating Defender Class boats, to ensure the Coxswain and crew were aware of this guidance, and it was the responsibility of the Coxswain to adhere to the Coast Guard policy.
- While impromptu high-speed maneuvers during the course of routine operations were specifically prohibited by paragraph 4 of the PACAREA Instruction, Maritime Safety and Security Team (MSST) Response Boat Tactics Training Guidelines, the Marine Safety Manual, Vol. VII states no security operation can be routine. As stated above, however, the Marine Safety Manual does provide that “[m]ost security zone enforcement requires simple overt patrolling or ‘policing’ ...to ensure compliance.”

F. I find that lack of knowledge, skills and abilities at key MSST leadership positions precluded interventions that may have averted this mishap.

I base this finding upon the following facts:

- The Commanding Officer MSST Anchorage did not provide adequate guidance on the employment of tactical maneuvering in the execution of the PWCS mission. Additional guidance by the Commanding Officer would have better informed the Coxswain of CG 25501 and served in the Coxswain’s exercise of prudent discretion and judgment in boat operations.
- The Commanding Officer of MSST Anchorage verbally designated an officer with approximately five months Coast Guard experience to serve in the leadership role of DTL. No qualification board was held prior to this designation.
- Contrary to the requirements of the MSST Program Manual, the Commanding Officer of MSST Anchorage designated an officer as DTL, even though the officer was not a qualified boarding officer.

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- There was no formalized qualification process by which to objectively assess the DTL's knowledge and maturity to successfully perform the DTL duties and responsibilities; although MSST Anchorage had a draft DTL JQR, the DTL ultimately was not required to complete it prior to being designated DTL.
- Given the DTL's brief tenure in the Coast Guard, it is unlikely the DTL could have fully appreciated the responsibility of the assignment. The DTL saw the role as administrative in nature and did not understand the operational requirements of the position.
- There were no Coast Guard DTL and WSC Personnel Qualification Standards (PQS) and Job Qualification Requirements (JQR). There was also a lack of active operational oversight by the DTL and WSC.
- The DTL and the WSC did not fully execute their duties and responsibilities in that they failed to provide adequate tactical oversight and patrol coordination. Neither the DTL nor the WSC provided affirmative direction to their coxswains on tactical maneuvering while conducting the 25 March 2007 PWCS mission.
- The MSST chain of command failed to enforce standards and provide sufficient training and mission specific knowledge in support of PWCS operations.
- The Coxswain of CG 25501 operated the boat within what was believed to be the guidance provided by MSST Anchorage, but this perceived guidance did not accurately reflect Coast Guard policy and procedures.
- The crew of CG 25501 did not understand and/or adhere to Coast Guard Commandant policy and procedures on the safe and prudent operation of the Defender Class boat.
- The crew of CG 25501 did not fully appreciate the risk involved in conducting tactical maneuvers such as power turns. They were accustomed to frequently conducting power turns during low-threat escort operations and did not consider fully the associated risk.

G. I find that additional oversight and direction by the command authority assigned tactical control of the MSST detachment may have averted this mishap.

I base this finding upon the following fact:

- The Commander of Sector Seattle who exercised tactical control did not provide explicit guidance on the application of tactical maneuvering and the employment of tactical forces in the execution of the PWCS mission within the Sector Seattle area of responsibility on 25 March 2007.

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H. I find that existing gaps in policy, doctrine, training, tactics, techniques and procedures may have indirectly contributed to this mishap.

I base this finding upon the following facts:

- The tactical training provided by the Coast Guard addresses the mechanics of boat handling for coxswains and weapons deployment for gunners, but does not adequately integrate individual performance into a force package.
- Coast Guard tactical coxswain training teaches tactics, techniques, and procedures to be followed to counter a force encountered in high-threat scenarios. While this training provides procedures to counter a threat, it does not adequately provide coxswains with the ability to effectively assess all available information so the coxswain may determine the risk of a given tactic compared to the desired outcome.
- There is no express link between the RB-TTP Manual and the other foundational Boat Forces policy manuals. These other policy manuals are not referenced in the RB-TTP Manual.
- MSSTs are intended to be a highly trained tactical resource. However, there is no overarching Personnel Qualification Standard (PQS) program for MSSTs. Chapter 5.A (PQS Requirements) of the Special Missions Training and Qualification Manual, Commandant Instruction M3502.16, states the MSSTs shall produce unit-level Job Qualification Requirements when no existing PQS booklet covers a specific watchstation.
- Coast Guard policy mandated a warning be issued by the coxswain prior to conducting a power turn, but no requirement existed for a crew communication system.
- No effective crew communications system was available to the crew of CG 25501 that permitted direct two-way communications between the coxswain and gunner.
- No Commandant requirement existed for the gunner to be secured to the boat during tactical operations at the time of the mishap. The PACAREA Instruction Maritime Safety and Security Team (MSST) Response Boat Tactics Training Guidelines, however, did mandate the use of restraints for training, and directed that impromptu high-speed maneuvers would not be conducted during routine operations or training.
- MSST Anchorage (91111) Navigation Standards required the use of gunner restraints for training, but not for operations.
- Inadequate Coast Guard doctrine, guidance or procedures existed to guide the Sector Commander in the acceptance of the force package or the comprehensive exercise of TACON of the MSST. No doctrine existed to effectively receive the MSST force package, evaluate its

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readiness to perform the assigned mission, guide its integration into a multi-unit PWCS mission, or specify the procedures for delivery and acceptance of the MSST detachments.

4. **Directed Actions:**

A. Assistant Commandant for Operations: Conduct top-to-bottom review of PWCS mission requirements to identify gaps in policy, doctrine, training capabilities, tactics, techniques, and procedures.

B. Assistant Commandant for Operations and Assistant Commandant for Human Resources: Develop policy for boat forces tactical maneuver training, including high speed maneuvers, with a clear distinction between training and operations.

C. Assistant Commandant for Operations: Promulgate standard PQS for personnel assigned to MSSTs.

D. Assistant Commandant for Operations: Review unit organizational structure to ensure knowledge, skills, and abilities exist in key leadership positions, including leadership responsibilities for commands assuming TACON of these units.

E. Assistant Commandant for Operations: Develop unit level guidance addressing a range of operational responses/actions from officer presence through deadly force in the application of PWCS missions.

F. Assistant Commandant for Operations: Develop a Ready For Operations and Standardization program for tactical operations.

G. Assistant Commandant for Operations: Review external unit inspection/visit requirements (MLC Compliance, Ready for Operations, Standardization Visits, Mobile Training Teams, etc.) to ensure compliance with established policy and procedures.

H. Assistant Commandant for Operations: Promulgate service-wide doctrine for the certification, integration, acceptance, and employment of deployable forces by officers exercising tactical control over Deployable Operations Group forces.

I. Assistant Commandant for Operations: Expedite the fielding of the Gunner Restraint and Boat Crew Communication Systems.

J. Assistant Commandant for Operations and Assistant Commandant for Engineering and Logistics: Conduct a joint review and analysis of the Defender Class boat to determine if there are reasonable solutions to reduce violent and unexpected motions during high speed maneuvers.

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K. As the Coast Guard's senior operational commanders, Commander, Coast Guard Pacific Area and Commander, Coast Guard Atlantic Area shall review this Final Action Memorandum (FAM) and take actions as they deem appropriate in light of this final action. Similarly, as the Coast Guard force provider, Commander, Deployable Operations Group shall review this FAM and take actions as he may deem appropriate in light of this final action. Commander, Pacific Area, and Commander, Deployable Operations Group, shall also assess the culpability and accountability of persons in the chain of command who were involved in or who contributed to this incident, and take any action if and to whatever extent they deem appropriate.

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Encl: Glossary

Dist: CG-ACO, CG-1, CG-2, CG-3, CG-4, CG-5, CG-6, CG-7, CG-8, CG-092, CG-094, All MSSTs, CG LANTAREA, CG PACAREA, All CG DISTRICTs, All CG SECTORs, CG DOG

GLOSSARY OF TERMS

Boat Crew. The boat crew includes the coxswain, boat engineer, crewmembers, and all other personnel required on board a boat acting in an official capacity.

Chine. The intersection of the bottom and the sides of a flat or V-bottomed boat.

Crew Rest. Time during which alert crews do not engage in any Station work or operations. Crews are allowed to recreate and sleep.

Critical Infrastructure. Those systems and assets both physical and cyber that are so vital to the Nation that their incapacity or destruction would have a debilitating impact on national security, national economic security, and/or national public health and safety. As defined in the National Plan for Critical Infrastructure, Presidential Decision Directive 63 (PDD-63).

Currency. A current crew member is certified and has all recurring training requirements completed and up to date. Currency is maintained by completing the regularly scheduled minimum proficiency requirements of their current crew position.

Defender Class Boat. The Defender Class boat is 25-ft long, has a deep-V, rigid mono-hull with a stabilizing closed cell polyethylene foam collar. It is powered by twin Honda 225 horsepower outboard motors for a maximum speed of 46 knots. The cabin provides seating for the four crewmembers. All boat systems operating controls are contained in the cabin. A hinged radar pod and the VHF antennas atop the cabin can be lowered for transport on a C-130 aircraft. An integral bow post and tow post are welded to the hull structure. Both posts may be used as mounted automatic weapon (MAW) mounting points.

Detachment Team Leader (DTL). DTL duties per the MSST Program Manual, COMDTINST M3510.3 (series) are:

- Ensure the health, welfare, discipline, and administration of all members of his/her respective detachment.
- Advise the Tactical Commander on MSST capabilities and limitations, and the proper employment of the MSST.
- Coordinate detachment operations; provide guidance to the section chiefs.
- Oversee preparation of all required message traffic.
- Provide statistical data on all deployments and submit lessons learned to the parent MSST Commanding Officer in accordance with guidance promulgated by Commandant, Area and the unit exercising tactical control.
- Perform the duties of Deployment Leader and MLE Boarding Officer.

Force Provider. A supporting command that provides trained, equipped, and capable forces to an operational commander in support of operational requirements.

GAR Model. Green, Amber, and Red (GAR) model is a management tool used to assess the risk for a given mission. The GAR model has six inputs that are equally weighted to evaluate risk. Each of these categories is scored on a scale of 1 to 10, with “10” being a high risk. The categories are:

- Supervision. Supervisory Control considers how qualified the supervisor is and whether effective supervision is taking place. Even if a person is qualified to perform a task, supervision acts as a control to minimize risk. This may simply be someone checking what is being done to ensure it is being done correctly. The higher the risk, the more the supervisor needs to be focused on observing and checking. A supervisor who is actively involved in a task (doing something) is easily distracted and should not be considered an effective safety observer in moderate to high-risk conditions.
- Planning. Planning and preparation should consider how much information you have, how clear it is, and how much time you have to plan the evolution or evaluate the situation.
- Team Selection. Team selection should consider the qualifications and experience level of the individuals used for the specific event/evolution. Individuals may need to be replaced during the event/evolution and the experience level of the new team members should be assessed.
- Team Fitness. Team fitness should consider the physical and mental state of the crew. This is a function of the amount and quality of rest a crewmember has had. Quality of rest should consider how the ship rides, its habitability, potential sleep length, and any interruptions. Fatigue normally becomes a factor after 18 hours without rest; however, lack of quality sleep builds a deficit that worsens the effects of fatigue.
- Environment. Environment should consider factors affecting personnel performance, as well as the performance of the asset or resource. This includes, but is not limited to, time of day, temperature, humidity, precipitation, wind and sea conditions, proximity of aerial/navigational hazards and other exposures (e.g., oxygen deficiency, toxic chemicals, and/or injury from falls and sharp objects).
- Event or Evolution Complexity. Event/Evolution complexity should consider both the required time and the situation. Generally, the longer one is exposed to a hazard, the greater the risk. However, each circumstance is unique. For example, more iterations of an evolution can increase the opportunity for a loss to occur, but may have the positive effect of improving the proficiency of the team, thus possibly decreasing the chance of error. This would depend upon the experience level of the team. How long the environmental conditions will remain stable and the complexity of the work should also be considered.

The mission risk can be visualized using the colors of a traffic light. If the total risk value falls in the GREEN ZONE (1-23), the risk is rated as low. If the total risk value falls in the AMBER

ZONE (24-44), the risk is moderate then consider adopting procedures to minimize the risk. If the total value falls in the RED ZONE (45-60), the evolution should not be conducted or implement measures to reduce the risk prior to starting the event or evolution.

Hook a Chine. A boat operating condition where the chine of the boat abruptly catches the water. The result of hooking a chine can be violent in nature, since the physical forces involved may cause personnel in the boat to be thrown in the direction of momentum.

Level 1 Ports, Waterways, and Coastal Security (PWCS) unit. A boat forces unit requiring a higher level of boat coxswain and crew training due to the level of risk inherent in the PWCS activity conducted and/or supported by the unit.

Maritime Safety and Security Teams (MSSTs). In accordance with the Maritime Safety and Security Act of 2002, the Secretary of the Department of Homeland Security, in order to enhance the domestic maritime security capability of the United States, established the MSSTs. Their purpose is to safeguard the public and protect vessels, harbors, ports, facilities, and cargo in waters subject to the jurisdiction of the United States from destruction, loss or injury from crime, or sabotage due to terrorist activity, and to respond to such activity, should it occur. MSSTs provide waterborne protection for strategic shipping, high interest vessels, and critical infrastructure. MSSTs are capable of rapid nationwide deployment in response to changing threat conditions and Ports, Waterways, and Coastal Security (PWCS) mission requirements, as well as augmentation for selected Coast Guard operations.

Maximum Underway Limits. Coast Guard policy sets limits on the number of hours a unit may be underway within a 24-hour period. These requirements shall be taken into consideration when developing standard staffing for boat operations. Boats less than 30-ft may operate 8 hours in seas less than 4-ft and 6 hours in seas greater than 4-ft, provided the crew has had 8 hours of rest within a 24-hour period. See U.S. Coast Guard Boat Operations and Training Manual, Vol. 1, COMDTINST 16114.32A, Part 2, Chp. 4.

Minimum Boat Crew Requirements. Unit Commanders shall comply with the minimum boat crew requirements when dispatching boats for Coast Guard operations. For boats less than 30-ft with a cabin, conducting law enforcement and military operations, this includes the coxswain and a three-person crew. One of the required crew (crew member only) may be in a break-in status as long as the member is a certified Boarding Officer or Boarding Team Member.

Operational Control (OPCON). OPCON is the authority delegated to a commander to perform those functions of command over subordinate forces involving the composition of subordinate forces, the assignment of tasks, the designation of objectives, and the direction necessary to accomplish the mission. It includes directive authority for training. OPCON normally provides full authority to organize forces as the operational commander deems necessary to accomplish assigned missions and to retain or delegate OPCON or tactical control as necessary. OPCON may be limited by function, time, or location. It does not, of itself, include such matters as administration, discipline, internal organization, and unit training.

Operational Risk Management (ORM). ORM is a continuous, systematic process of identifying and controlling risks in all activities according to a set of pre-conceived parameters by applying appropriate management policies and procedures as set forth in the Operational Risk Management Manual, COMDTINST 3500.3. This process includes detecting hazards, assessing risks, and implementing and monitoring risk controls to support effective, risk-based decision-making. (See also definition of GAR Model above.)

Port. The left side of or direction from a vessel when looking forward.

Ports, Waterways, and Coastal Security (PWCS). The PWCS mission has three strategic objectives: prevent terrorist attacks, sabotage, espionage, and subversive acts; protect the U.S. Maritime Domain and U.S. Marine Transportation System (MTS); and respond to and recover from those terrorist attacks, sabotage, espionage, or subversive acts that do occur. MSST waterborne security forces enforce limited access areas (e.g., fixed and moving security zones); patrol harbors and waterfront facilities; provide waterborne and shore side security for High Interest Vessels (HIVs), military high value assets (HVA) (e.g., aircraft carriers and submarines), and critical infrastructure.

Power turn. Informal term used to describe a boat maneuver involving a hard turn to port or starboard utilizing acceleration through the turn to provide a change of course in a short time and distance.

Qualification. The satisfactory completion of the appropriate competencies.

Ready for Operations (RFO). The completion of written examinations, assessments, and underway examinations to ensure that units are prepared for their missions.

Sector. A Sector is a Coast Guard unit that is tasked with performing prevention, compliance, and response operations within a particular geographic area of responsibility of a Coast Guard District. For example, Sector Seattle is responsible for such things as search and rescue, aids to navigation, and law enforcement within a particular defined area of Thirteenth Coast Guard District.

Starboard. The right side of or direction from a boat when looking forward.

Tactics, Techniques, and Procedures (TTP). TTPs are the actions and methods which implement doctrine and describe how forces will be employed in operations.

Tactical Control (TACON). Command authority over assigned or attached forces or commands, made available for tasking, that is limited to the detailed direction and control of movements or maneuvers within the operational area necessary to accomplish missions or tasks assigned. Tactical control is inherent in operational control (OPCON).