



UNITED STATES MARINE CORPS
III MARINE EXPEDITIONARY FORCE
UNIT 35601
FPO AP 96382-5601

IN REPLY REFER TO:
5830
CG
MAY 2 8 2020

FIRST ENDORSEMENT on (b)(3), (b)(6), (b)(7)(c) ltr 5830 ^{(b)(3), (b)(6), (b)(7)(c)} of 4 May 20

From: Commanding General, III Marine Expeditionary Force
To: File

Subj: COMMAND INVESTIGATION INTO CIRCUMSTANCES SURROUNDING THE
ACTIVATION AND RELEASE OF FIRE SUPPRESSION IN HANGAR ABOARD
MARINE CORPS AIR STATION FUTENMA ON 10 APRIL 2020

1. Readdressed and closed. No further investigation is warranted.
2. The findings of fact and opinions are approved.
3. I concur with the recommendations. I will forward copies of this investigation to the Commanding General, 1st Marine Aircraft Wing and to the Commanding General, Marine Corps Installations Pacific–Marine Corps Base Camp Butler, because the recommendations involve matters within their cognizance. For Recommendations 2 - 5, I request the Commanding General, Marine Corps Installations Pacific concur and implement these recommendations. I request an update of all actions taken within 60 days.
4. Specifically, in accordance with Recommendations 6 and 7, I will forward a copy of this investigation to the Deputy Commandant, Installations and Logistics, and the Deputy Commandant, Aviation, respectively, for their action as appropriate.

(b)(3), (b)(6), (b)(7)(c)

(b) (3), (b) (6), (b) (7)(C) ✓

Copy to:
USFJ
18th Wing/Kadena
DC, A
DC, I&L
CG, 1st MAW
CG, MCIPAC–MCB CamBut
CO, 31st MEU



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Ref: (a) JAGINST 5800.7F (JAGMAN)
(b) MCIPACO 11320.1 FIRE PROTECTION REGULATIONS AND INSTRUCTIONS
FOR MCIPAC
(c) ESG 7 - Quarantine TTPs Presentation
(d) MCIPAC COVID-19 Pamphlet
(e) 6 Mar 18 Memo AFFF Control, Removal, and Disposal Requirements
(f) III MEF-MARFORJ COVID-19 Outbreak EXORD - 19 Mar 20
(g) Japan Environmental Governing Standards April 2018
(h) DoD Instruction 4715.08 Remediation of Environmental Contamination Outside the
United States

Encl: (1) CG's ltr 5830/CO of 11 Apr 20
(2) OPREP-3 Message
(3) (b)(3), (b)(6), (b)(7)(c) Statement with Enclosures
(4) (b)(3), (b)(6), (b)(7)(c) Statement
(5) (b)(3), (b)(6), (b)(7)(c) Statement
(6) (b)(3), (b)(6), (b)(7)(c) Statement
(7) CTF 76 Revised EXORD Guidance
(8) CTF-76 Quarantine TTPs
(9) (b)(3), (b)(6), (b)(7)(c) Statement
(10) (b)(3), (b)(6), (b)(7)(c) Statement
(11) (b)(6), (b)(7)(c) Statement
(12) (b)(3), (b)(6), (b)(7)(c) Email to (b)(3), (b)(6), (b)(7)(c)
(13) (b)(3), (b)(6), (b)(7)(c) Statement
(14) (b)(3), (b)(6), (b)(7)(c) Statement
(15) (b)(3), (b)(6), (b)(7)(c) Statement
(16) MCASF 539 AFFF Discharge PWO MFR – 24 April 2020
(17) (b)(3), (b)(6), (b)(7)(c) Statement
(18) (b)(3), (b)(6), (b)(7)(c) Statement
(19) (b)(3), (b)(6), (b)(7)(c) Statement
(20) (b)(6), (b)(7)(c) Statement
(21) (b)(3), (b)(6), (b)(7)(c) Statement
(22) MCASF Sustainment Plan 2030
(23) (b)(6), (b)(7)(c) Report

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- (24) (b)(6), (b)(7)(c) Email
- (25) (b)(3), (b)(6), (b)(7)(c) Statement
- (26) (b)(3), (b)(6), (b)(7)(c) Statement
- (27) (b)(3), (b)(6), (b)(7)(c) Statement
- (28) (b)(3), (b)(6), (b)(7)(c) Statement
- (29) (b)(3), (b)(6), (b)(7)(c) Statement
- (30) OPREP 3 Update
- (31) Futenma Weather 10-14 April 2020
- (32) MCIPACO 11320.1 Fire Protection Regulations and Instructions
- (33) Fire Inspection Report – Hangar 539
- (34) MCIPAC Fire Warden Training Packet
- (35) 1st MAW 5 December 2019 AFFF Release Command Investigation
- (36) AS 539 Clean up pictures
- (37) USFJ Spill Form

Preliminary Statement

1. In accordance with reference (a) and enclosure (1), a command investigation (CI) has been conducted into the discharge of aqueous film forming foam (AFFF) inside Hangar 539 aboard Marine Corps Air Station Futenma (MCASF) on 10 April 2020.
2. (b)(3), (b)(6), (b)(7)(c) III Marine Expeditionary Force (III MEF) Staff Judge Advocate (SJA) and (b)(3), (b)(6), (b)(7)(c) III MEF Deputy SJA, were consulted during the course of this investigation.
3. Prior to interviews being conducted by the Investigating Officer (IO), those being questioned were advised of the purpose of the CI. All of those who signed a summary of interview or submitted a written statement did so voluntarily.
4. Timelines of the 10 April 2020 AFFF release and events leading up to it are consistent throughout all interviews and reviews of reports.

Executive Summary

1. On 26 March 2020, 31st Marine Expeditionary Unit (MEU) began offload from Amphibious Readiness Group (ARG) ships. Over the next six days guidance, often verbal and at times conflicting, guided 31st MEU leaders' decisions regarding the pre-deployment sequestration and associated preparations for returning to ship for Marines of 31st MEU Command Element (CE), Combat Logistics Battalion 31 (CLB-31), Battalion Landing Team 1st Battalion 5th Marines (BLT 1/5), and Marine Medium Tiltrotor Squadron 265 (Reinforced) (VMM-265(REIN)). From 26 March to 2 April, 2020, guidance provided to the 31st MEU from Seventh Fleet (7th Fleet), Expeditionary Strike Group 7 (ESG 7), III MEF, and Marine Corps Installations Pacific (MCIPAC) regarding return to ship, restriction of movement (ROM), quarantine, isolation, and pre-deployment sequestration changed daily. The circumstances and operational impacts

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surrounding the USS Theodore Roosevelt (CVN-71) infestation of Corona Virus Disease 2019 (COVID-19) and the evolving understanding of the nature and pathology of the virus contributed to the operational urgency and the changing nature of guidance, orders, and directives influencing decisions of the 31st MEU CO and subordinate commanders.

2. The 31st MEU CO directed a pre-deployment sequestration on 2 April 2020 to ensure Marines returning to ship were not infected with COVID-19. Pre-deployment sequestration requires different protocol than quarantine. The difference between the two types of quarantine, pre-deployment and regular, focuses on which direction the infection is being prevented from traveling. During a pre-deployment sequestration, prevention of contamination from general population (genpop) into the pre-deployment sequestration force is strictly avoided. Any object (food, water, repair parts) traveling from genpop into the pre-deployment sequestration has strict protocols and must go through a decontamination area to thoroughly sanitize and prevent contamination. By contrast, during a quarantine, the reverse must be strictly adhered to and anything traveling from the quarantine area to genpop must be sanitized to prevent contamination traveling from quarantine area to genpop. Because of this difference in protocol, 31st MEU Marines and equipment required a different protocol for quarantine than what was directed by III MEF and MCIPAC as of 27 March.

3. On 10 April 2020, Marines from VMM-265 (REIN) executing pre-deployment sequestration in Hangar 539 initiated a morale barbeque (BBQ) using charcoal, lighter fluid, hot dogs, hamburgers, and chips donated previously by the USO. At approximately 1634, a BBQ grill located between 10-20 feet directly west on the outside of Hangar 539 and on the flight line triggered the fire detection and AFFF fire suppression system. Crash, fire, rescue (CFR), military police (MPs), MCASF Fire Department, MCAS Environmental Office, MCIPAC Environmental Branch, and MCASF Command Team responded and arrived separately on site over the next two hours. Emergency response teams arrived within minutes of fire detection system initiating. The fire suppression system ran for approximately 28 minutes resulting in the release of an estimated 41,200 gallons of a mixture consisting of 97% water and 3% AFFF and an additional 20,000 gallons of only water. The fire suppression system ran uninterrupted for approximately 25 minutes because no one from the VMM-265 (REIN) detachment nor emergency first responders fully understood the operation mechanism of the abort buttons distributed throughout Hangar 539. Approximately 22,000 gallons of AFFF and water mixture was captured in the underground storage container (UST) located adjacent and north of Hangar 539. Prior to the AFFF release, the UST at Hangar 539 contained approximately 8,000-10,000 gallons of water due to the hangar door's inability to close automatically and rain entering the hangar and being collected in the UST. Hangar 539 doors were not able to close due to a long-standing maintenance issue and the rest of the mixture and water, approximately 40,000 gallons, spilled onto the flight line and eventually into storm drains and drainage ditches leading off of MCASF. Significant cleanup was required and spread containment efforts continued over the next two days. These efforts conducted by MCAS Environment Office, MCIPAC Environmental Branch, and MCIPAC Facilities Engineers contained and captured as much AFFF mixture as possible while sandbagged drainage ditches were used to prevent rain from further pushing contaminants off base.

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4. Three Marines from VMM-265 (REIN) were topically exposed to AFFF in Hangar 539 on 10 April 2020. Mild symptoms associated with AFFF exposure were experienced (headache, skin irritation). Marines were evaluated by VMM-265 (REIN)-assigned corpsmen and reevaluated by emergency medical services (EMS) in the vicinity of Hangar 539. Marines were directed to rinse AFFF off and were released for observation by unit corpsman. No Marines left the scene or went to the hospital due to AFFF exposure.

5. The references do not explicitly prohibit BBQ grills being operated in the vicinity of hangars aboard Marine Corps Air Station Futenma (MCASF), to include the area in front of the hangar towards the flight line. Additionally, on 10 April 2020, VMM-265 (REIN) did not have a written policy regarding the operation of BBQ grills in the vicinity of Hangar 539.

6. No significant damage was incurred to aircraft, equipment, hangar, or facilities. There was irreversible AFFF contamination of mattresses, fabric office chairs, and a small number of fabric based Marine consolidated issues facility (CIF) equipment (two sleeping bags, one tarpaulin) and personal gear (towels, pillows, hygiene gear).

7. The United States Forces Japan (USFJ) report generated by MCIPAC Facilities Engineers categorized the spill impact as 'MAJOR' stating that contaminated water flowed off base into concrete lined channels to a stream, and then to the ocean with foam photographed blowing along streets off-base. The Hangar 539 release did not affect drinking water sources as Ginowan receives drinking water from the Chatan Water Treatment Plant. Located west of Kadena Air Base, the Chatan Water Treatment Plant receives its raw water from reservoirs in northern Okinawa, the Hija River, and ocean desalination. The potential environmental impacts from the AFFF release are limited to the last 2.35 km of the Uchidomari River before it flows into Makiko Bay and then the ocean. Given the rate of flow in the Uchidomari River and the significant amount of rain received in the day following the release, there is unlikely to be any residual concentrations of PFAS in river water, and minimal concentrations in sediment in the Uchidomari. It is unknown how far into the bay elevated concentrations of PFAS extended and whether PFAS from this event contaminated sediment in the bay and/or ocean. Based on current scientific evidence, no determination is possible regarding this AFFF release's impact on fish or other aquatic animals in the area.

Findings of Fact

1. On 26 March 2020, VMM-265 (REIN) transitioned a detachment of four MV-22s with 45 Marines and two sailors from USS Germantown to MCASF. Upon arrival on MCASF, aircraft were stowed and aircrew returned to domicile. [Encl. (3), (4), (5), (6)]

2. (b)(3), (b)(6), (b)(7)(c) were the senior officer and enlisted Marines of the detachment. [Encl. (3), (4), (5), (6)]

3. On 27 March 2020, 7th Fleet Execute Order (EXORD) directed 31st MEU to remain at sea in preparation for a potential Defense Support of Civil Authorities (DSCA) operation in Guam. [Encl. (3), (7), (8)]

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4. On 27 March 2020, 31st MEU (b)(3), (b)(6), (b)(7)(c) received verbal order of the Commander (VOCO) from (b) (3), (b) (6), (b) (7)(C) , Expeditionary Strike Group 7, directing all 31st MEU forces ashore to re-embark only after strict segregated quarantine. [Encl. (3)]
5. On 27 March 2020, (b)(3), (b)(6), (b)(7)(c) issued VOCO to 31st MEU elements to develop plans to maintain readiness for personnel and equipment already off the ship. VOCO included initial guidance and TTPs for pre-deployment sequestration. [Encl. (3), (4), (8), (9)]
6. On 27 March 2020, VMM-265 (b)(3), (b)(6), (b)(7)(c) issued VOCO warning order to (b)(3), (b)(6), (b)(7)(c) outlining the requirement to transition Marines, Sailors, and aircraft that arrived on MCASF 26 March 2020 back to ship. This email contained condensed initial guidance and TTPs for pre-deployment sequestration. [Encl. (4), (5), (8), (9)]
7. On 27 March 2020, the BLT 1/5 and CLB-31 Commanders directed their respective units to conduct pre-deployment sequestration in barracks on Camp Hansen using TTPs in reference (h) and with additional guidance provided by (b)(3), (b)(6), (b)(7)(c) via email and VOCO. [Encl. (3), (4)]
8. On 28 March 2020, (b)(3), (b)(6), (b)(7)(c) received VOCO from 7th Fleet to extend 31st MEU patrol by 30 days to support potential DSCA operations on Guam and that pre-deployment sequestration of re-embarking forces must begin no later than (NLT) 29 March 2020. [Encl. (3)]
9. Amphibious Readiness Group (ARG) scheduled on load of ashore elements of 31st MEU per 7th Fleet VOCO for 14 April 2020. [Encl. (3), (4)]
10. On 30 March 2020, VMM-265 (REIN (b)(3), (b)(6), (b)(7)(c) issued email order directing (b)(3), (b)(6), (b)(7)(c) to conduct pre-deployment sequestration of 4 MV-22, 45 Marines, and 2 sailors in Hangar 539 using CTF-76 pre-deployment sequestration TTPs. [Encl. (3), (4), (5), (6), (7), (9)]
11. (b)(3), (b)(6), (b)(7)(c) 30 March 2020, pre-deployment sequestration guidance to (b)(3), (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c) in included that no alcohol of any kind would be located or contained in hangar 539 Hangar 539. [Encl. (4), (5), (6) (9)]
12. On 30 March 2020, VMM-265 (REIN) detachment began the minimum 14 day pre-deployment sequestration in Hangar 539. [Encl. (5), (6), (9)]
13. On 2 April 2020, (b)(3), (b)(6), (b)(7)(c) issued written orders and additional guidance directing 31st MEU subordinate units to conduct strict pre-deployment sequestration of Marines and equipment from exposure to personnel outside in accordance with CTF-76 pre-deployment sequestration TTPs. [Encl. (3), (4), (5), (6), (7), (8), (9)]

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14. On or about 2 April 2020, (b)(3), (b)(6), (b)(7)(c) established building 538 as pre-deployment sequestration support area for VMM-265 (REIN) detachment in Hangar 539. [Encl. (5), (9), (10), (11)]
15. On 3 April 2020, USO representative (b)(6), (b)(7)(c) delivered four mobile Wi-Fi hotspot devices and two Mobile Equipment Gaming Systems (MEGS) consisting of one Xbox and one Xbox 360 to (b)(3), (b)(6), (b)(7)(c) [Encl. (10), (11)]
16. (b)(3), (b)(6), (b)(7)(c) sanitized USO delivered morale supplies in accordance with reference (h) before transferring those items to (b)(3), (b)(6), (b)(7)(c) [Encl. (9), (11)]
17. On 8 April 2020, MCASF CO (b)(3), (b)(6), (b)(7)(c) coordinated with (b)(3), (b)(6), (b)(7)(c) regarding having a repair team fix hot water and air conditioning outages in Hangar 539. [Encl. (5), (12)]
18. Repairs in accordance with reference (h) were conducted on Hangar 539, restoring hot water and air conditioning on 8 April 2020. [Encl. (5), (9)].
19. On 8 April 2020, USO representative (b)(6), (b)(7)(c) delivered charcoal, care packages (ramen, soap, tissue paper, granola bars), 4 or 5 cases of Red Bull, condiments, hot dogs, hamburgers, muffins, hamburger buns, and hot dog buns. [Encl. (10), (11)]
20. (b)(3), (b)(6), (b)(7)(c) sanitized USO delivered morale supplies in accordance with reference (h) before transferring those items to (b)(3), (b)(6), (b)(7)(c) on or about 9 April 2020. [Encl. (9), (11)]
21. On 10 April 2020, (b)(3), (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c) moved a BBQ grill from the east side of Hangar 539 to an area between 10-20 feet west of Hangar 539. [Encl. (13), (14), (15)]
22. Hangar 539's doors were completely open at 1630 on 10 April 2020. [Encl. (5), (6), (13)]
23. At 1620 (b)(3), (b)(6), (b)(7)(c) prepared the BBQ grill by placing charcoal inside and soaking briquettes with lighter fluid. [Encl. (13)]
24. (b)(3), (b)(6), (b)(7)(c) lit the BBQ grill at 1634, 10 April 2020. [Encl. (5), (13), (16)]
25. At approximately 1634, infrared flame detectors: M001, M003, and M004, detected the fire in the BBQ grill and initiated the AFFF fire suppression system. [Encl. (13), (5), (17), (16)]
26. At approximately 1635 (b)(3), (b)(6), (b)(7)(c) pressed one of five "Abort Foam System" buttons and held down for one and a half minutes. [Encl. (18), (16)]
27. Over the next 20 minutes, various individuals pressed and released one or more of the "Abort Foam System" buttons over seventeen times. [Encl. (17), (18), (19), (20)]

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28. At 1641, 10 April 2020, CFR arrived on scene. (b)(3), (b)(6), (b)(7)(c) was the EFR section chief on scene. [Encl. (17), (21)]
- 29 (b)(3), (b)(6), (b)(7)(c) directed VMM-265 (REIN) detachment to close the hangar doors to contain AFFF from going on the runway. [Encl. (17), (21)]
30. Hangar 539's doors have been inoperable for at least ten years. The hangar doors only open and close with a tug vehicle and cargo straps. [Encl. (5), (16), (22)]
31. By 1702, 10 April 2020, MCASF Fire Department shut off two fire pumps in building 616, all five riser valves feeding the Hangar 539 AFFF system, and four overhead systems. [Encl. (16), (17)]
32. The AFFF accumulation was approximately shoulder-high in some parts of Hangar 539 and extended out across the flight line. Foam could be seen blowing off base. [Encl. (9), (20)]
33. (b)(6), (b)(7)(c) Futenma Environmental Coordinator, arrived at Hangar 539 at 1715, 10 April 2020 and assumed the responsibilities of the incident commander. [Encl. (5), (9), (20), (23), (36)]
34. (b)(3), (b)(6), (b)(7)(c) VMM-265 (REIN) remain behind element (RBE) officer in charge (OIC), arrived at Hangar 539 at approximately 1720. He coordinated a working party to support the environmental cleanup under direction from (b)(6), (b)(7)(c) [Encl. (9), (20)]
35. The system dispersed water mixed with AFFF for an estimated 20 minutes, dispersing a total of 60,000 gallons. [Encl. (16), (20), (23)]
36. The first 40,000 gallons released was a mix of AFFF and water (AFFF + water) at a ratio of 3 parts concentrate and 97 parts water. [Encl. (16), (23), (20), (37)]
37. After the 1,200 gallons of AFFF concentrate in the reservoir was exhausted, the system continued to pump another 20,000 gallons of water only. [Encl. (16), (23), (20), (37)]
38. The UST for Hangar 539 can hold 30,557 gallons of liquid, which is 10 minutes of AFFF mixture discharge based on a 3,000 gallon-per-minute fire suppression release. [Encl. (16), (20), (24), (37)]
39. The UST for Hangar 539 collects rainwater because there is no way to close the floor drains from Hangar 539, which lead to the UST. [Encl. (24)]
40. The UST for Hangar 539 contained approximately 8,000 gallons of rainwater prior to the AFFF release on 10 April 2020. [Encl (16), (20), (24)]
41. The UST for Hangar 539 collected rainwater because the hangar doors are broken and remain open most of the time. [Encl. (16), (22), (24)]

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42. 18,000 gallons of the AFFF + water mixture and 20,000 gallons of water flowed onto the aircraft-parking apron and into concrete storm water channels. [Encl (16), (20), (24), (37)]

43. The combined 38,000 gallons flowed through 750 meters of concrete storm water channels on base, 1.65 km of underground storm water channels off base, into the Uchidomari River, and 2.35 km to Makiko Bay. [Encl. (16), (20), (23)]

44. When the UST filled to capacity, AFFF + water backed up into the hangar trench drains and contaminated water was pushed up through seams and holes in the two manholes in the top of the UST and spilled out onto the adjacent strip of grass. The release was otherwise confined to hard surfaces while on base. [Encl. (16), (20), (23)]

45. (b)(6), (b)(7)(c) Environmental Support Team (EST), brought a pumper truck to remove AFFF waste from the AFFF underground storage tank (UST) to transfer to the hangar 533 UST for temporary storage. Multiple trips were made to move approximately 20,000 gallons from the Hangar 539 UST to the hangar 533 UST. [Encl. (16), (20), (23)]

46. Three Marines— (b)(3), (b)(6), (b)(7)(c) —were topically exposed to AFFF and showed symptoms consistent with exposure (headache, redness of skin where exposed, coughing, and trouble breathing). [Encl. (25), (26), (27), (28), (29)]

47. (b)(3), (b)(6), (b)(7)(c) VMM-265 (REIN) Detachment
Corpsmen, provided initial care. [Encl (28), (29)]

48. (b)(3), (b)(6), (b)(7)(c) called the nurse advice line for confirmation of symptoms consistent with AFFF exposure. The nurse confirmed symptoms consistent with AFFF exposure and advised them to continue monitoring the Marines and if their symptoms worsened, to send the Marines to the emergency room. [Encl (28), (29)]

49. An Emergency Medical Services ambulance arrived on scene at approximately 1715 and reevaluated the affected Marines. [Encl. (25), (26), (27), (28), (29)]

50. After additional rinsing, the affected Marines' symptoms began to abate. [Encl. (25), (26), (27), (28), (29)]

51. The affected Marines remained at Hangar 539 under observation of (b)(3), (b)(6), (b)(7)(c)
(b)(3), (b)(6), (b)(7)(c) They did not go to the hospital. [Encl. (25), (26), (27), (28), (29)]

52. (b)(3), (b)(6), (b)(7)(c) MCASF Commanding Officer, arrived at Hangar 539 at approximately 1730. He coordinated MCASF reporting to local Okinawan leadership and media. [Encl. (2), (9)]

53. (b)(6), (b)(7)(c) Director Environmental Affairs Branch, arrived at Hangar 539 at approximately 1800 to assist (b)(6), (b)(7)(c) with coordinating containment and cleanup. [Encl. (20), (16), (23)]

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54. (b)(6), (b)(7)(c) coordinated with Expeditionary Fire Rescue for the cleanup by providing spill response resources (gloves, dry sweep, absorbent pads, absorbent boom, hazardous waste disposal bags, and two secondary containments). [Encl. (5), (9), (17), (20)]
55. (b)(6), (b)(7)(c) from Futenma Emergency Management provided lighting and additional containment and cleanup supplies. [Encl. (16), (20), (23)]
56. Approximately 1730, Environmental Support Team (b)(6), (b)(7)(c) and (b)(3), (b)(6), (b)(7)(c) arrived and assisted with containment and cleanup, bringing additional cleanup supplies. [Encl. (20)]
57. The initial voice report to Headquarters Marine Corps (HQMC) of a serious incident occurred at 1807 I 10 April 2020 (0907 Z 10 April 2020) by the MCASF Executive Officer, (b)(3), (b)(6), (b)(7)(c) [Encl. (2)]
58. At 2100, 10 April 2020, EFR, the squadron working party and Environmental workers bagged up the hazardous waste that was generated (absorbent pads, boom, and dry sweep soaked in AFFF water). [Encl. (16), (20)]
59. The hazardous waste collected by EFR was taken to Hangar 539's Hazardous Waste Accumulation Point (HWAP) for storage on two secondary containments. [Encl. (16), (20)]
60. A routine precedence Operational Report (OPREP) 3 Serious Incident Report (SIR) involving AFFF discharge was released by Headquarters and Headquarters Squadron (H & HS) MCASF at 2013 I 10 April 2020. [Encl. (2), (30)]
61. At 2130, 10 April 2020, cleanup crews departed the area. [Encl. (20)]
62. At 0800, 11 April 2020, the squadron working party, EST, and EFR arrived at Hangar 539 for continued containment and cleanup efforts: cleaning up the rest of the standing water on the parking apron, removing the boom from the drain, and bagging up the remainder of the waste absorbent material and delivering it to Hangar 539's HWAP. [Encl. (16), (20), (36)]
63. On 11 April 2020, (b)(3), (b)(6), (b)(7)(c) G-F Public Works Officer, directed Seabees to construct four check dams (using sandbags) in the central drainage area and a baffle system (using plywood) at the drainage outflow. [Encl. (20), (36)]
64. The check dams and baffle system were installed to prevent rain causing additional migration of AFFF into the drainage system. [Encl. (16), (20)]
65. (b)(3), (b)(6), (b)(7)(c) directed five mobile dumpsters to be delivered to Hangar 539. Two of these mobile dumpsters were placed in the hangar for the squadron to use for hazardous waste disposal. The squadron put the unsalvageable material contaminated with AFFF, including mattresses, chairs, cardboard, wood, etc., inside these two dumpsters. The equipment that could

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be salvaged was triple rinsed for reuse. The other three mobile dumpsters were placed outside the hangar and were not used. [Encl. (16), (20)]

66. There are no special hazards or precautions required in properly handling the hazardous waste materials used to contain, absorb, and clean up the AFFF + water. [Encl. (16), (20)]

67. The primary hazardous waste concern is the requirement to dispose of AFFF waste via incineration at one of the 13 facilities permitted by GoJ for this activity. All of these facilities are located on mainland Japan, which adds significant transportation costs. [Encl. (20), (23)]

68. The vast majority of this cost is for AFFF-contaminated water, at \$9-\$11 per gallon. The initial estimate of the cost of this incident, including disposal of absorbents, replacement of absorbents, civilian person-hours, and disposal of AFFF-contaminated water, is \$240,000. [Encl. (20), (23)]

69. The primary health risks from AFFF come from a class of chemicals called per- and poly-fluoroalkyl substances (PFAS), surfactants that give AFFF its film-forming properties. [Encl. (16), (20), (23)]

70. PFAS are widely used in commercial products such as carpet stain resistance, nonstick coatings in cookware, and lining in food products packaging. [Encl. (23)]

71. Two PFAS, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), have been more extensively studied for their health effects, which could include impacts to cholesterol, thyroid, liver, developmental impacts to fetuses, and cancer. [Encl. (16), (23)]

72. The primary route of exposure is oral ingestion, usually from contaminated drinking water. The risk of exposure from dermal and inhalation routes is considered minor. At common levels found in contaminated drinking water, these risks are considered long term risks, not short term. [Encl. (16), (23)]

73. No drinking water sources were impacted by the Hangar 539 release. Ginowan receives its drinking water from the Chatan Water Treatment Plant located west of Kadena Air Base, which receives its raw water from reservoirs in northern Okinawa, the Hija River, and ocean desalination. [Encl. (16), (23)]

74. The potential environmental impacts from the AFFF release are limited to the last 2.35 km of the Uchidomari River before it flows into Makiko Bay and then the ocean. [Encl. (16), (23)]

75. MCASF received a significant amount of rain starting 11 April 2020 and continuing through 13 April 2020. [Encl. (31)]

76. Given the rate of flow in the Uchidomari River and the significant amount of rain received in the day following the release, there is unlikely to be any residual concentrations of PFAS in river water, and minimal concentrations in sediment in the Uchidomari. [Encl. (23)]

Subj: COMMAND INVESTIGATION INTO CIRCUMSTANCES SURROUNDING THE
ACTIVATION AND RELEASE OF FIRE SUPPRESSION IN HANGAR ABOARD
MARINE CORPS AIR STATION FUTENMA ON 10 APRIL 2020

77. Based on current scientific evidence, we are unable to determine if this event has had or will have any impact on fish or other aquatic animals. [Encl. (23)]

78. On 23 April 2020, three field tests of the fire detection and suppression system were conducted with the support and participation of Facilities Maintenance Branch, MCASF Emergency Services, MCASF Safety, MCASF Environmental, MCASF Fire Department, MCASF Commanding Officer, and the VMM-265 (REIN) Detachment and RBE. [Encl. (16)]

79. The field tests were designed to confirm the potential of a BBQ grill or similar flame source to activate the fire detection system. In addition, the field tests were designed to confirm “Abort Foam System” buttons worked per their technical specifications. [Encl. (16)]

80. In the first test, the charcoal grill reported as the cause of the 10 April 2020 incident was positioned approximately 25 feet outside the hangar. The system did not activate, a result consistent with GFE expected operations. [Encl. (16)]

81. The second test used a flash pan positioned approximately 10 feet outside the hangar. The same three multi-spectrum infrared flame detectors; M001, M003, and M004, detected the fire and activated the system. This suggests the multi-spectrum infrared flame detectors are more sensitive than the technical specifications depict. [Encl. (16)]

82. The third test used a flash pan positioned in the center of the hangar. Five of six multi-spectrum infrared flame detectors detected the fire and activated the system. The sixth sensor is one of two sensors in the center wall of the hangar; the two sensors operate in tandem to create a 180 degree arc and performed as expected. [Encl. (16)]

83. A grill outside the hangar door could be seen by the three multi-spectrum infrared flame detectors recorded on 10 April 2020 and could activate the AFFF system. Because of the configuration of the system, when three separate detectors see fire, AFFF discharge started within seconds of the detection. [Encl. (16)]

84. FMB tested all six “Abort Foam System” buttons as part of the second test. Each button stopped water flow when pressed and held. Water flow stopped between 20 and 30 seconds after activating the emergency stop/abort button. Each button was held for three minutes and FMB shops confirmed correct functioning of building 616 fire pumps to prevent damage. Between 10 and 15 seconds after releasing the “Abort Foam System” button, water flow resumed. [Encl. (16)]

85. During the AFFF release on 10 April 2020, the “Abort Foam System” buttons were pressed at least seventeen separate times, not counting additional actions in which multiple buttons were pressed simultaneously. The average time the “Abort Foam System” button was held was 44 seconds; eight of the 17 activations were less than 30 seconds. [Encl. (16)]

Subj: COMMAND INVESTIGATION INTO CIRCUMSTANCES SURROUNDING THE ACTIVATION AND RELEASE OF FIRE SUPPRESSION IN HANGAR ABOARD MARINE CORPS AIR STATION FUTENMA ON 10 APRIL 2020

86. Reference (b), MCIPAC Fire Prevention Order, prohibits BBQ grills from being operated within 10 feet of any building. There is no provision regarding operation of a BBQ on a flight line or near a hangar. [Encl. (32)]

87. Multiple personnel did not understand how the fire detection and suppression systems worked in the hangars prior to this incident. [Encl (5), (16), (17), (18), (19), (20)]

88. The Hangar 539 fire inspection on 27 January 2020 noted that a fire warden had not been assigned for the building. [Encl. (33)]

89. Fire Warden training does not include any material about AFFF fire detection or suppression systems. [Encl. (34)]

90. Signage around the “Abort Foam System” buttons in Hangar 539 is not in accordance with the most recent Unified Facilities Criteria (UFC), which requires posting an explanation on how to properly operate the “Abort Foam System” buttons near the buttons. [Encl. (16)]

91. On 5 December 2019, Hangar 507 had an AFFF release triggered by an auxiliary power unit (APU) being used within the hangar. [Encl. (35)]

92. VMM-265 (REIN) did not receive any training on the fire detection or suppression systems in Hangar 539. [Encl. (4), (5), (9)]

93. The recommendations contained in enclosure (35) regarding circumstances around AFFF release in December 2019, were not shared with VMM-265 (REIN). [Encl. (4), (5), (9)]

Opinions

1. The VMM-265 (REIN) Detachment pre-deployment sequestration of 45 Marines and 2 sailors in Hangar 539 was appropriate given the orders, directives, guidance, and operational requirements provided to them by 7th Fleet, the ESG 7 Commander, the III MEF Commanding General, and by MCIPAC COVID-19 guidance. The requirement to have COVID-19 free Marines and aircraft to return to ships for follow-on missions additionally contributed to the pre-deployment sequestration need. The guidance provided to VMM-265 (REIN) leadership regarding pre-deployment sequestration TTPs was more stringent, but necessary, than what was being conducted elsewhere by III MEF units on Okinawa at the time of the 10 April 2020 AFFF incident. [FF (3), (4), (5), (6), (7), (9), (12), (14)]

2. The fire detection and suppression system was triggered by the BBQ grill outside Hangar 539, between 10 and 20 feet west of the hangar on the flight line. The placement of the BBQ grill complied with existing fire regulations. The fire detection system in Hangar 539 is more sensitive than facilities engineers anticipated and was able to detect the grill even when it was used outside of the hangar. The field test conducted on 23 April 2020 proved the sensitivity of the fire detection system and the probable location of the grill when it triggered the fire alarm. In

Subj: COMMAND INVESTIGATION INTO CIRCUMSTANCES SURROUNDING THE
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addition, the field test conducted on 23 April 2020 confirmed the “Abort Foam System” buttons function properly. [FF (22), (23), (24), (25), (78), (79), (80), (81), (82), (83), (84), (85)]

3. The pre-deployment sequestration of Marines and sailors in Hangar 539 did not significantly affect the initiation, response, containment, or cleanup of the AFFF release on 10 April 2020. VMM-265 (REIN) Detachment and Emergency Responders’ lack of understanding of how to operate the “Abort Foam System” buttons caused the fire suppression system to run continuously for over 20 minutes. The rapidity of response and teamwork by emergency services, facilities engineers, environmental representatives, environmental support teams, and massive working party contributed to prevention of even more of the AFFF being from released into the environment. [FF (22), (23), (24), (25), (26), (78), (79), (80), (81), (82), (83), (84), (85)]

4. The AFFF release in Hangar 539 on 10 April 2020 was significantly worse than the AFFF release on 5 December 2019 for three reasons. First, unlike Hangar 539’s UST, the UST for Hangar 507 was not partially filled with rainwater and therefore collected more of the AFFF mixture than Hangar 539’s UST did. Second, Hangar 507’s doors were closed, preventing AFFF from spilling onto the runway. The hangar doors on Hangar 539 are broken and not able to be closed quickly. Third, a corporal who understood the operation of the “Abort Foam System” buttons pressed the button in Hangar 507 until the fire suppression system was deactivated. Nobody in the VMM-265 (REIN) detachment or any of the emergency responders knew how to properly use the “Abort Foam System” buttons, resulting in Hangar 539’s AFFF system running until MCASF Fire Department deactivated the water pumps feeding the fire suppression system causing all of the AFFF in hangar 539 to be released along with over 60,000 gallons of water. [FF (27), (29), (30), (38), (40), (91)]

Recommendations

1. Commanding General, 1st Marine Air Wing conduct a command wide information campaign to raise understanding of the operational characteristics of the AFFF fire suppression systems in hangars to prevent another negligent discharge of AFFF.
2. Commanding General, Marine Corps Installations Pacific replaces current AFFF abort system signage in all hangars to comply with current fire code regulations.
3. Commanding General, Marine Corps Installations Pacific updates the Fire Prevention order to ban any BBQ grill or flame producing object on the flight line or within site line of all hangar AFFF fire detection systems.
4. Commanding General, Marine Corps Installations Pacific provides quarterly updates to Commanding General, III Marine Expeditionary on Hangar 539 maintenance issues.
5. Commanding General, Marine Corps Installations Pacific updates training for fire wardens to incorporate hangar-specific training on the sensitivity of the fire detection systems and on the proper operation of the “Abort Foam System” buttons.

Subj: COMMAND INVESTIGATION INTO CIRCUMSTANCES SURROUNDING THE
ACTIVATION AND RELEASE OF FIRE SUPPRESSION IN HANGAR ABOARD
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6. III Marine Expeditionary Force request Deputy Commandant for Installations and Logistics reviews policy and guidance regarding flame-producing objects near any facility containing AFFF fire detection and suppression system and ensures all AFFF signage is in accordance with current fire code standards.

7. III Marine Expeditionary Force request Deputy Commandant for Aviation provides guidance to the aviation community on the operational characteristics of the AFFF fire suppression systems in hangars to prevent another negligent discharge of AFFF.

(b)(3), (b)(6), (b)(7)(c)



UNITED STATES MARINE CORPS
III MARINE EXPEDITIONARY FORCE
UNIT 35601
FPO AP 96382-5601

IN REPLY REFER TO:
5830
SJA
11 Apr 2020

From: Commander, III Marine Expeditionary Force
To: (b)(3), (b)(6), (b)(7)(c) U.S. Marine Corps

Subj: COMMAND INVESTIGATION INTO CIRCUMSTANCES SURROUNDING THE
ACTIVATION AND RELEASE OF FIRE SUPPRESSION IN A HANGAR ABOARD MARINE
CORPS AIR STATION FUTENMA ON 10 APRIL 2020

Ref: (a) JAG Manual

1. Per the reference, you are appointed to investigate the reported activation and release of fire suppression in a hangar aboard Marine Corps Air Station Futenma on 10 April 2020.
2. You are to investigate all the facts, circumstances, and determine the cause of the release of the fire suppression system in the hangar aboard Marine Corps Air Station Futenma, if required, make a line of duty determination on Marines injuries, and if any loss or damage of Marine Corps property occurred. You should recommend appropriate remedial actions and appropriate administrative or disciplinary actions.
3. Report your findings of fact, opinions, and recommendations by 8 May 2020, unless an extension of time is granted.
4. Seek assistance from (b)(3), (b)(6), (b)(7)(c) Staff Judge Advocate before you begin your investigation.

(b)(3), (b)(6), (b)(7)(c)

Copy to:
MCIPAC (SJA)
1stMAW (SJA)
31st MEU (SJA)

UNCLASSIFIED//
MSGID/OPREP-3 SIR//
SUBJ/OPREP-3SIR/M02204/018/APR/20//
REF/A/DOC/MCO 3504.2/-//
REF/B/DOC/MCBJ/CG III MEFO P3480.6A/-//
REF/C/VOICE REPORT/MCOC/1807L 10 APR 20(0907Z 10 APR 20)
NARR/REF A IS HQMC OPREP-3 SIR REPORTING ORDER. REF B IS MCBJ/III MEF
OPREP-3 REPORTING ORDER//

GENTEXT/INCIDENT IDENTIFICATION AND DETAILS/1. AT APPROXIMATELY 0745Z 10 APRIL 2020 ABOARD MARINE CORPS AIR STATION FUTENMA 1200 GALLONS OF AFFF CONCENTRATE WAS RELEASED AT HANGAR 539; TOTAL RELEASE OF APPROXIMATELY 45,000 GALLONS OF CONCENTRATE AND WATER. 31ST MEU ACE MARINES WERE IN QUARANTINE AT HANGAR 539. THE FIRE SYSTEM ACTIVATED AND THE SYSTEM RELEASED AFFF MIXED WITH WATER FOR APPROXIMATELY 20 MINUTES. A CHARCOAL BARBECUE GRILL INSIDE THE HANGAR IS THE EXPECTED CAUSE OF THE EVENT. AFFF RECOVERY EFFORTS ARE ONGOING.

2. DATE TIME GROUP OF INCIDENT: 10 APR20(1645L(0745Z))

3. THE UNIT HAS SUBMITTED VOICE REPORT AT 10 APR 20(1807L (0907Z)) TO HQMC MARINE CORPS OPERATIONS CENTER.

4. MEDIA INTEREST IS ANTICIPATED. THE MCIPAC PAO HAS BEEN NOTIFIED. THE MCAS FUTENMA COMMANDING OFFICER NOTIFIED THE MAYOR OF GINOWAN SHORTLY AFTER THE INCIDENT.

5. THE COMMANDING OFFICER FOR MCAS FUTENMA, THE COMMANDING GENERAL FOR MARINE CORPS INSTALLATIONS PACIFICE-MARINE CORPS BASE CAMP BUTLER, THE COMMANDING GENERAL FOR III MARINE EXPEDITIONARY FORCE, AND THE U.S CONSULATE HAVE BEEN NOTIFIED.

6. MANY OF THE 31ST MEU ACE QUARANTINED PERSONNEL WERE IN THE HANGAR WHEN THE SYSTEM ACTIVATED AND WERE SPRAYED WITH AFFF FROM THE KNEES DOWN. THE MARINES THAT WERE SPRAYED WERE RINSED OFF.

7. THE UNIT POC IS (b)(3), (b)(6), (b)(7)(c) EXECUTIVE OFFICER, MARINE
CORPS AIR STATION FUTENMA AT (b)(3), (b)(6), (b)(7)(c)



UNITED STATES MARINE CORPS
31ST MARINE EXPEDITIONARY UNIT
UNIT 35621
FPO AP 96385-5621

IN REPLY REFER TO:
5800
CO
21 Apr 20

From: Commanding Officer
To: (b)(3), (b)(6), (b)(7)(c)

Subj: HANGAR 539 INVESTIGATION TIMELINE OF EVENTS

12 Mar – The ARG departed Thailand post Cobra Gold and began a 14 day ROM enroute to conduct operations IVO Guam. Guam port call was cancelled because the crew did not complete the 14 quarantine prior to arriving in Guam and there was fear potentially infected crew could start an outbreak on Guam.

24 Mar - The Theodore Roosevelt (TR) was escorting the ARG back to Okinawa home post operations in Guam and conducting combined aviation operations. On or about 24 Mar, the TR discovered active cases of COVID-19 and diverted to Guam. 14 day ROM aboard ship was 26 Apr with no cases of COVID-19. 7th Fleet ordered no new personnel were authorized aboard ship to maintain a "COVID free Bubble."

25 Mar - Post III MEF Commander's meeting, I talked to the CG about the 31st MEU Noble Thunder Exercise and tactical offload – he was surprised that we were offloading. He told me that in his discussion with 7th FLT Commander, (b) (3), (b) (6), (b) (7)(c) he was expecting us to remain afloat. Original Fly-Off Plan:

- 26 Mar – 4 x MV-22s Depart LPD for Futenma
- 27-28 Mar – MV-22s and CH-53s execute Fly-off
- 28-29 Mar – F-35Bs execute Fly-off
- 30 Mar – Backup Fly-off
- 31 Mar – LHA scheduled to pull into port

25 Mar – I then talked to CTF-76 Commander, (b) (3), (b) (6), (b) (7)(c) and informed him of my discussion with (b) (3), (b) (6), (b) (7)(c) about staying afloat. At the time, he was unaware of 7th FLT's intent.

26 Mar –CTF-76 directed we continue the tactical offload and we launched (4) MV-22s with no intention of recovering back aboard AMA. The aircrew made multiple runs to the beach consisting of 47 pilots and aircrew. These aircrew secured the aircraft at MCAS Futenma, went home to families or the barracks potentially exposing them to COVID-19.

26 Mar – CTF-76 indicated a likely EXORD was in work by 7th FLT to remain at sea with a BPT mission to conduct DSCA operations in Guam. Initially, CTF-76 reported to 7th Fleet that the MEU could backload and be IVO of Guam NLT 12 Apr.

27 Mar – EXORD published and 31st MEU offload was halted. The America and Germantown Marines not disembarked remained aboard ship.

Subj: HANGAR 539 INVESTIGATION TIMELINE OF EVENTS

- *Message From* (b) (3), (b) (6), (b) (7) *Commander 7th Fleet*; (b) (3), (b) (6), directed that the health of all ships became number one priority – “obligated to operate in the spirit of protecting ourselves, our forces....looking for ways to reinforce the “bubble” (referring to COVID free bubble) and to *relentlessly* explore opportunities to reduce risk.”
- CTF-76 surgeon advised (b) (3), (b) (6), (b) that in order to maintain a COVID free aboard ship that 31st MEU personnel must be strictly quarantined for 14 days
- In order to maintain a COVID free bubble, (b) (3), (b) (6), (b) directed that all MEU forces ashore shall re-embark strictly segregated – referred to as “quarantined.”
- I verbally directed Commanders to develop plans to maintain material readiness and authorized personnel to be transported by quarantined personnel to and from maintenance bays.
- BLT and CLB Commander’s opted to place their personnel in a barracks and transport to maintenance bays because infrastructure was too small and could not support Marines living there for 14 days
- ACE CO deemed the squadron building adequate to have Marines live, work and fly optimizing opportunity to work on 3 aircraft requiring maintenance prior to re-embarking the ship while minimizing the possibility of external interaction breaking quarantine. Hangar 539 was chosen to support the quarantine of VMM-265 because it was an available space with little to no external coordination required. Space facilitated separation from non-quarantine population, water, hygiene, and maintenance of aircraft. The hangar provided the ability to conduct maintenance, FCF, and mission essential currency flights required to be prepared for re-on-load of personnel, aircraft and equipment.
- I directed MEU CE sections to support MSEs with MRE supplements, facilities possessing running water and showers/heads, transportation, contract laundry service, handoff of supplies, parts, etc (done via a staging area where no face-to-face interaction), Corpsmen support, SIPR operations with approved vault/secured spaces, NIPR/SIPR and phones available.

28 Mar – Received vocal order from 7th Fleet to extend 20.1 30 additional days to support DCSA operations. MEU FWD, BLT, CLB and ACE Marines were directed to start the quarantine within 24 hours IOT re-embark ARG shipping on or about 13-14 Apr. CTF-76 informed 7th Fleet back-load date of 13-14 Apr to facilitate 14 quarantine prior to sailing towards Guam – Approved by higher.

2 Apr – I published Notification of Quarantine (**Enclosure 1, 2**) and directed that MSEs develop a plan to ensure Marines and Sailors maintained a strict quarantine completely segregated from personnel outside of their direct unit. To the max extent possible food should consist of MREs to avoid exposure outside food service touching food potentially exposing quarantined Marines.

~7 Apr – I talked to the III MEF G-3 on the 31st MEU quarantine and plan to re-embark ARG shipping and included over specifics of the quarantine. I discussed the strict segregation measures.

Subj: HANGAR 539 INVESTIGATION TIMELINE OF EVENTS

10 Apr – I updated the III MEF CG on the 31st MEU CE quarantine and MSE guidance (**Enclosure 3**) to re-embark ARG shipping and included over specifics of the quarantine.

10 Apr – I was made aware of the AFFF dispensed in hanger. Post incident:

- I confirmed/directed that Marines seen by medical personnel – no hospitalization or follow-on care was required.
- I directed the building be deemed safe by fire department for quarantined personnel to remain.
- I directed (b)(3), (b)(6), (b)(7)(c) (H-1 Det OIC) assume the duties of Station liaison and assist with any requirements for clean-up, help with investigation and follow-on quarantine facilities.
- I directed that all RBE, to exclude quarantined personnel, help with base clean-up.
- I directed ACE CO pull all base orders pertaining to grilling on base.
- I directed ACE pull orders for fire training and inspection policies pertaining to fire suppression systems in Hanger 539.
- I directed an additional 14 day quarantine due to direct contact with first responders IOT meet CTF-76 quarantine standards required for re-embarking

11 Apr – Written order to MSE Commanders (**Enclosure 4**) directing each Commander write a quarantine order to ensure forces were ready to re-embark ARG shipping.

The actions I have taken to ensure strict segregation and quartering of 31st MEU personnel was required and necessary to meet CTF-76 and 7th Fleet guidance post the USS Theodore Roosevelt becoming non-operational due to a COVID-19 outbreak. I took actions necessary to maintain readiness and protect the force while ensuring health and safety of our Marines. The MEU CE and MSEs made every effort to ensure life support to quarantined Marines/Sailors was in accordance to USMC standard. I directed required material readiness of aircraft, vehicles and equipment to ensure re-embarkation of MEU forces required by the 7th Fleet extension. The quarantine was operationally required. We utilized internal tracking measures for accountability and reported them to III MEF. This was approved by the III MEF CORC.

From witness statements, I am aware that a charcoal grill was started outside of the hanger, on the flight line, greater than 15 feet away from the building. The fire suppression system started very shortly after the grill igniting. The Marine closed the grill immediately. Multiple Marines made attempts to shut the system off via stop switches without success. The ACE OIC let the fire department into the hanger to shutoff the system. A large amount of AFFF and water was expended. There were no aircraft or hanger damages and no injuries.

(b)(3), (b)(6), (b)(7)(c)



UNITED STATES MARINE CORPS
31ST MARINE EXPEDITIONARY UNIT
UNIT 38465
FPO AP 96385-8465

IN REPLY REFER TO
5800
CO
11 Apr 20

From: Commanding Officer
To: _____

Subj: NOTICE OF QUARANTINE

Encl: (1) MCIPAC COVID-19 ROM Guidance

1. This is a formal notice that as the commanding officer, I am ordering your quarantine. I am providing you with the following directions and information regarding the quarantine.

2. As a member of the 31st Marine Expeditionary Unit Command Element, you have been identified to re-embark aboard ARG shipping. In order to ensure that all individuals embarked do not have COVID-19, nor obtained the virus while in Okinawa, all individuals shall be restricted to one of the following locations below:

a. Command Element Command Post, Building 2533, aboard Camp Hansen for fourteen (14) days prior to re-embarkation. Individuals executing quarantine in the Command Post shall not leave the Command Post for any reason, however, if you leave the Command Post you shall notify the 31st MEU Executive Officer immediately. Chow will be provided to you in the form of Meals Ready to Eat (MREs).

b. Command Element barracks or officer quarters aboard Camp Hansen for fourteen (14) days prior to re-embarkation. Individuals executing quarantine in the barracks or officer quarters shall not leave their room, however, if you leave your room you shall notify the 31st MEU Executive Officer immediately. Chow will be provided to you in the form of MREs.

c. Enclosure (1) is incorporated into this order. You will read enclosure (1) in its entirety and comply with all of the direction provided therein.

d. Because you are in quarantine, you are subject to the following additional provisions:

(1). Alcohol consumption is not authorized.

(2). Physical training outside of your identified location of quarantine is not authorized.

(3). You shall not come in contact with anyone else not subject to quarantine. Contact with an individual not subject to quarantine will break your quarantine status, and you shall immediately notify the 31st MEU Executive Officer.

(4). You shall ensure that your respective place of quarantine is not open to unauthorized visitors not subject to the same quarantine criteria as identified in this order.

e. You are subject to quarantine until 13 April 2020. The duration of this order may be extended if conditions warrant such extension.

3. Information supporting an exemption or release can be provided to me, or the 31st MEU Executive Officer, in writing. I or the Executive Officer will review the information provided, in consultation with public health, medical, and legal personnel, for a final determination.

4. It is DoD and United States Marine Corps policy that military installations, property, and personnel and other individuals working or residing on military installations will be protected under applicable legal authorities against communicable diseases of public health concern. Violations of this order issued are punishable under the Uniform Code of Military Justice (UCMJ). Violations by members of the civilian component may be punished in accordance with respective Service disciplinary rules. Violations by dependents may result in administrative sanctions, up to and including loss of command sponsorship and an early return of dependents.

5. A wide range of professionals are working hard to ensure you receive the highest quality medical care and are released from isolation as soon as possible. These actions are necessary to safeguard the health of your loved ones and ensure the safety of the general public.

(b)(3), (b)(6), (b)(7)(c)

By my signature below I acknowledge that I have read this order and enclosure (1) in their entirety.

Written Name

Signature

Date



31st MEU

Quarantine Timeline

1. 31st MEU pax to AMA: 30 MAR – 13 APR (14 days)
 1. 100% COVID-19 testing on 12 APR
 2. Temp checks on day 1, 6, 14 (no fevers to date)
2. 31st MEU pax to GTN: 31 MAR – 14 APR (14 days)
 1. 100% COVID-19 testing on 13 APR
 2. Temp checks on day 1, 6, 14 (no fevers to date)

At start of quarantine, only 6 COVID cases in Okinawa.
 Currently 42 cases (4 SOFA) in Okinawa, all additional cases after start of quarantine

Mitigations

1. Quarantines have been strictly enforced with manned ECPs. All personnel that have left quarantine have not been allowed to return
2. Initial deep clean performed at the start of quarantine, cleaning 2x daily throughout quarantine
3. All units have received MREs, no outside food allowed
4. Materials transfers have followed Navy guidelines, including 24 hours for cardboard materials, 72 hours for all others, and wipe down with disinfectant solution
5. No interaction between the different quarantine populations prior to bus movement
6. SURFPAC COVID-19 Screening Questionnaire will be completed day of embark

Transportation Procedures

1. Buses staged for 96 hours prior to use
2. Buses sanitized with PMT supervision 2 hours prior to loading
3. Bus drivers are in full PPE and medically screened prior to transport
4. Physical distancing of 5 empty rows between driver and pax (>6ft)
5. Driver will not be in bus for loading and offloading
6. All pax tested for COVID-19 prior to onload

FAQs

1. All embarking personnel will have completed COVID-19 testing 1 day prior to embarkation
2. No breaches of quarantine
3. No personnel added to quarantine after 31 MAR
4. No interaction with non-quarantined personnel for transit to White Beach



UNITED STATES MARINE CORPS
31ST MARINE EXPEDITIONARY UNIT
UNIT 38465
FPO AP 96385-8465

IN REPLY REFER TO:
5800
CO
11 Apr 20

From: Commanding Officer

To: (1) Commanding Officer, Battalion Landing Team 1/5
(2) Commanding Officer, Combat Logistics Battalion 31
(3) Commanding Officer, VMM 265 (REIN)

Subj: NOTICE OF QUARANTINE

Encl: (1) MCIPAC COVID-19 ROM Guidance
(2) Command Element Notice of Quarantine

1. As the Commanding Officer of the 31st Marine Expeditionary Unit (MEU), I am responsible for the operational readiness of the entire MEU. Due to operational commitments in the midst of the COVID-19 pandemic, members of the 31st MEU are required to be re-embarked aboard ARG shipping to execute operations.

2. Prior to re-embarkation, Marines and Sailors must execute a 14-day quarantine to ensure no personnel aboard ARG shipping have been infected with, or may spread, the COVID-19 virus prior to getting underway. As the Commanding Officers of MEU elements, you shall ensure strict compliance to the quarantine parameters outlined in this order for personnel under your command prior to their embarkation aboard ARG shipping.

3. The following parameters for personnel subject to quarantine are as follows:

a. The specific location shall be identified. The location shall be clearly identified and have access to adequate head and washroom facilities.

b. All identified places of quarantine shall not be open to unauthorized visitors not subject to the same quarantine criteria as identified in this order.

c. Alcohol consumption is not authorized during execution of the 14-day quarantine.

d. Physical training outside of the identified location of quarantine is not authorized.

e. Individuals subject to quarantine shall not come in contact with anyone else not subject to quarantine. Contact with an individual not subject to quarantine will break the quarantine status,

and those individuals shall immediately notify their chain of command via remote means. The chain of command shall notify the 31st MEU Executive Officer.

f. The start date and end date shall be clearly identified for all personnel subject to quarantine.

g. Commanders are responsible for feed plans for quarantined personnel. Feed plans shall not be a cause to break quarantine status.

4. Information supporting an exemption or release can be provided to me, or the 31st MEU Executive Officer, in writing. I or the Executive Officer will review the information provided, in consultation with public health, medical, and legal personnel, for a final determination.

5. It is DoD and United States Marine Corps policy that military installations, property, and personnel and other individuals working or residing on military installations will be protected under applicable legal authorities against communicable diseases of public health concern. Violations of this order and orders issued under this order are punishable under the Uniform Code of Military Justice (UCMJ).

6. I have attached information regarding quarantine, as well as my order issued to Command Element personnel subject to quarantine. You may utilize my order as a template for your respective orders.

7. These actions are necessary to safeguard the health of our force and ensure the safety of the general public.

(b)(3), (b)(6), (b)(7)(c)

20 Apr 2020

From: (b)(3), (b)(6), (b)(7)(c) USMC
To: (b)(3), (b)(6), (b)(7)(c) USMC, Investigating Officer
Subj: STATEMENT SURROUNDING ACCIDENTAL DISCHARGE OF AQUEOUS FILM
FOAMING FORM (AFFF) INCIDENT IN HANGAR 539 ABOARD MARINE CORPS
AIR STATION (MCAS) FUTENMA, On 10 APRIL 2020.

1. Marine Medium Tiltrotor Squadron 265 (Reinforced) (VMM-265(REIN)) has been deployed aboard the USS America and the USS Green Bay as the Air Combat Element (ACE) of the 31st Marine Expeditionary Unit (31st MEU) since on or about 20 January 2020. The squadron participated in Amphibious Integration Training (AIT) and certification exercise (CERTEX) shortly after embarkation. The ships and the MEU then participated in exercise Cobra Gold in Thailand. Prior to the deployment and throughout the deployment the recent Corona Virus epidemic had been growing in size and scope. Following Cobra Gold and Liberty in Thailand the ships and MEU faithfully adhered to a very strict 14 days of quarantine. Even cross-decking between the ships at sea was prohibited during the 14 days. The USS America and USS Green Bay went to port in Guam after leaving Thailand. While in Guam no personnel were permitted to leave the ship, take shore leave, or liberty. The ships maintained their strict quarantine and COVID free status, proceeding north to Okinawa in order to conduct MEU exercise Noble Thunder and ultimately offload of the MEU. The squadron expected to off-load shipping at the end of March.

2. The 31st MEU and the squadron planned to offload the ships in the following manner between 26 March and 3 April:

- 26 March (7) H-1s Fly off to Futenma. Total ACE offload from USS Greenbay via air.
(4) MV-22Bs Fly off to Futenma.
- 27 March (2) MV-22Bs and (2) CH-53Es Fly off to Futenma
- 28 March Fly off of (5) MV-22Bs and (2) CH-53Es to Futenma.
Fly off of (6) F-35Bs to Iwakuni.
- 29 March Fly off backup day.
- 31 March USS America pulls into white beach port and offloads ACE personnel over the pier.
- 1 April USS America pulls out of white beach port.
- 3 April USS America pulls Into Sasebo and offloads VMFA attachment personnel.

3. The fly off began normally. All the H-1s flew off on 26 March except for 1 aircraft which flew off on the 27th after conducting corrective maintenance. Four MV-22Bs also flew off and remained at Futenma. On the 27th we received word from the MEU command element to stop our offload and to recover the aircraft that were flying that day back to the ship instead of Futenma. The ACE Marines already ashore in Futenma from the previous day were given the word to standby to

backload to shipping. On the evening of 30 March, the original group of Marines set quarantine in MCAS Futenma AS 539, the VMM-265(REIN) Hangar.

4. In order to reembark aboard the ship, those Marines who had flown home on the 27th were directed to isolate themselves. Those Marines had spent a night or two either in the barracks, or back at their respective homes potentially exposing them to COVID. Therefore, we considered options for quarantine. We considered transiting between barracks and hangar too great a risk of breaking our quarantine.

5. The squadron's hangar was chosen as an ideal location to isolate our Marines in order to prepare them for reembarkation aboard the USS America. The hangar was ideal in that it facilitated our Marines working on and flying the aircraft that remained on Futenma. Furthermore, the hangar's large size (largest on the air station). Two Male heads, One Female head, working showers in the heads, MCEN NIPR and SIPR connectivity, phones, air conditioning and it is mostly enclosed by a fence line making the task of isolating the Marines simpler. There is ample space for more than 50 Marines within the hangar's normal office spaces. Our H-1 detachment and some other remain behind element (RBE) Marines were able to help our quarantining Marines with procuring cots and other support to set up the hangar as a quarantine location. The Marines had their CIF gear and the MEU arranged for MRE delivery as well as laundry pick up and drop off. Our Battalion Landing Team brothers were confined to individual barracks rooms. By comparison, the squadron hangar was a much better option that facilitated exercise, maintenance and flying - normal except for sleeping at work.

6. I directed the following stipulations for our Marines in quarantine in an email on 30 March at 0900, to my XO (My SgtMaj, Operations Officer, Maintenance Officer, S-4 Officer & Squadron Surgeon were CC'd):

- "Live, Work, Eat & Sleep in the Hangar, must stay behind the fence. Cannot go to adjacent buildings beyond our flight line shack.

- All the RBE folks need to move somewhere else for the time being.

- All the civilians need to move somewhere else for the time being.

- Maintain two methods of deconfliction with outside people: time and lateral space.

- Need you to work a "Dead Drop" spot for MALS to deliver parts to. Also need to work a method for signing for things from MALS - MEU's plan for chow is to drop MREs off. I think (b)(3), (b)(6), (b)(7)(c) can work with the MEU for that but if we can manage to get chow dropped off (maintaining the time/space deconfliction) from the Futenma chow hall that would be great and I support it.

- Your two corpsman will provide monitoring. If someone gets sick with anything they will have to use their best judgment and have them turned over to the clinic on Futenma or the Navy Hospital.

-When we come in from the ship for anything (Parts/aircraft pickup) we have to maintain the same deconfliction.

-Clearly there can be no drinking. Families MUST NOT come visit, etc.

-Humbly request that you coordinate with UDP HMM and HMLA for sponsorship and hosting of our remain behind folks for the coming 8 days.

-Ultimately, we will have ground transportation bring you guys up to the ship and you will walk aboard into another 4 days of quarantine and monitoring on the ship.

-This MUST happen and must be taken seriously. I know it sucks and I would be right there too.

-There MUST be rigid adherence to this. No one can sneak off or have interaction. Violation of the ordered quarantine is punishable by the UCMJ. (BLT Marines will be confined to barracks, which sounds actually worse to me).

-I need Officers, SNCOs and NCO's monitoring the whole time. Anytime someone from outside is coming to visit you need to know about it and plan for it, someone needs to monitor their visit or drop of parts/chow whatever from a distance

-I know there are things that I missed or things that create a conflict, bottom line is we need to keep everyone healthy.

-Doc can chime in about measures that you should take in case someone shows the flu like symptoms we're concerned about."

You will notice the mention of this being only for 8 days. Which was the original plan: 8 days in quarantine in the Hangar, followed by finishing quarantine aboard ship. Ultimately the quarantine was extended to a full 14 days. Originally, there was no intent to quarantine & reconstitute the H-1 attachment aboard the Green Bay since it returned to homeport for repairs. Thus, the H-1 attachment was a go-between for aircraft parts, other life-support supplies and logistics or facility maintenance required by the quarantined Marines.

7. Ultimately the intent behind the quarantine is to reconstitute the MEU aboard U.S. Navy shipping. The Navy takes keeping its ships COVID free quite seriously. We were ordered to remain at sea and reconstitute as soon as possible via verbal order from the MEU Commander. Finally, It is my understanding that this order came from 7th Fleet and/or INDOPACOM on about 26 or 27 March.

(b)(3), (b)(6), (b)(7)(c)

Results of Interview

Rank/Name (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: Executive Officer, VMM-265 (REIN)
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 11 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral statements made by the witness:

26 March 2020.

On the 26th, 4 MV-22's departed the USS America for MCAS Futenma. These planes were scheduled for offload. All crews recovered, put the aircraft to bed and returned to their place of residence. There were no indications of any further at operational requirements or return to ship.

27 March 2020.

The off load of aircraft and cargo from the USS America continued and at some point during afternoon the offload was halted and all aircraft that were flying were directed back to the ship immediately. Two CH-53 and One V-22 returned to their assigned ships. A Second V-22 was supposed to, but had a maintenance issue while offloading cargo and could no longer continue to fly.

(b)(3), (b)(6), (b)(7)(c) passed that all personal ashore needed to return to the hangar immediately and prepare to embark on the ships. (b)(3), (b)(6), (b)(7)(c) also told all were restricted to the hangar to prevent potential COVID-19 exposure.

The ACE offload was conducted in parallel to exercise Noble Thunder in the Norther Training Area and Central Training Area (Okinawa). At the time the MEU had personal and aircraft disembarking, quarantining, and operating in various locations on Okinawa. A few hours later (b)(3), (b)(6), (b)(7)(c) removed the hangar restriction and we were given a restriction to barracks/off-base residence, chow hall, PX, and Hangar. This continued for a few days.

28 March 2020.

(b)(3), (b)(6), (b)(7)(c) gave direction to plan for a quarantine and give options of the forces we owned to the MEU so they could bring combat power back to sea. Given the fluid situation of daily changing COVID-19 restrictions there was a constant shift in what would be required to return. One thing that was certain is the ACE had to conduct maintenance on the 4 V-22 at MCAS Futenma in order for them to fly again. Ashore we proposed keeping the Marines restricted to their residence and work while the maintenance was completed and then return to the ship.

Results of Interview

29 March 2020

(b)(3), (b)(6), (b)(7)(c) directed all Marines from the 31st MEU returning to sea in to a quarantine at the request of the Navy to ensure their health prior to return. Most elements of the MEU were able to return to their barracks, but the ACE required maintenance and check flights to get these aircraft back to the USS America so living and working in hangar 539 was chosen by (b)(3), (b)(6), (b)(7)(c). The hangar had ample restrooms, showers, water, and MRE's in place. It was all also the easiest space to control the quarantine. The planning timeline for this was only 6 days in the hangar prior to return to sea. As the week went on the guidance changed regularly for how long we would have to keep Marines in quarantine prior to return.

April 8, 2020.

I had previously approved a morale BBQ for the Marines and sailors of the detachment near hangar 539. (b)(3), (b)(6), (b)(7)(c) had worked with (b)(3), (b)(6), (b)(7)(c) and the USO for charcoal, burgers, hot dogs, buns, chips, and condiments. The items from the USO followed strict quarantine procedures and properly sanitized before accepted by the detachment at hangar 539. We were planning to use a grill already on site at hangar 539. (b)(3), (b)(6), (b)(7)(c) ran the BBQ.

April 10, 2020.

12-1500 - I was the section lead for a Low Altitude Tactics Instructor flight. Upon landing, shutting down the plane, and conducting our debrief I went to my office to email my CO and Ops department that (b)(3), (b)(6), (b)(7)(c) completed his LAT-I certification flight.

1632 - After sending an email what felt like seconds later the fire alarm went off. My initial reaction was that it was a false alarm and went into the hallway to see if anyone had any idea of what caused it. No one smelled smoke or saw any fires. My next thought was that outside agencies would be descending on the building and I wanted to try and get ahold of MAG/Station/FD/PMO to make sure they were aware of the quarantine and to coordinate access if required to disarm alarm.

As I was making these phone calls (b)(3), (b)(6), (b)(7)(c) came into my office and told me that he believed he had tripped the fire alarm when he was attempting to light a grill located outside the hangar. When he left I finished with the phone calls and heard sirens coming from outside.

I walked to the north end of building and looked outside to see (b)(3), (b)(6), (b)(7)(c) making contact with FD. I motioned him over and he told me that the foam system had been activated and Marines were attempting to shut it off via the emergency shutoff with no success. He said he was also asking if the FD knew of any other way to turn off the system. The FD

Results of Interview

mentioned to close the hangar doors however, the hangar doors are inoperable and are required to be shut via TUG or manually closed with straps and a few Marines pulling the doors shut.

The internal situation quickly overcame the capability of our Marines inside, I told (b)(3), (b)(6), (b)(7)(c) to let the Fire Department in, and to have all Marines muster for accountability on the south side of hangar outside, this occurred around 1645.

As we were getting accountability, I was able to get ahold of the Station (b)(3), (b)(6), (b)(7)(c) to let him know the foam system was active and he told me he was aware and that (b)(3), (b)(6), (b)(7)(c) was on his way to the scene. I also contacted (b)(3), (b)(6), (b)(7)(c) VMM-265 (REIN) RBE OIC to rally his Marines to come over and help assist with situation. This was at ~1650. As we were getting accountability some of the Marines had direct contact with the hazardous agent while both trying to deactivate the system as well as retrieve IIF and personnel gear from hangar.

ATT I began calling (b)(3), (b)(6), (b)(7)(c) to get (b)(6), (b)(7)(c) environmental specialist) on the phone to see what immediate action steps were needed to attempt to decon the Marines that came in contact with AFFF. She explained that they needed to wash all areas affected and to change out of said clothes. This continued to occur for the next 20-30 minutes as Marines cleaned themselves of the affected areas.

We have two medical personnel in our quarantine (b)(3), (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c) who were monitoring all the Marines and over time, three Marines self-reported symptoms of skin irritation, nausea, and headache (b)(3), (b)(6), (b)(7)(c). We made the decision to coordinate further treatment via EMS since they were on scene.

PMO also was present within the first 15 minutes and started interviewing Marines (b)(3), (b)(6), (b)(7)(c) to try to see what tripped the alarm. Over the next 2 hours, I was back and forth reaching out to the USS America to inform my CO of what was occurring as well as coordinating with (b)(3), (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c) to assess the initial damage, trying to maintain our quarantine, and ensuring the three Marines were getting the attention they needed. Given our quarantined status and the damage to gear/sleeping systems/MREs we were coordinating any additional assistance needed to make sure we could stay the night and maintain our quarantined location. Once the 1st floor spaces were clear of external personnel I told the Marines to head to the second floor until further word was available. Once the spill was contained my attention went back into the building to ensure the Marines had a place to sleep and dry clothes.

Opinion.

Results of Interview

I think it is important to note the USS Theodore Roosevelt was at the beginning stages of its outbreak of COVID-19. I think that coupled with our offload happening at the same time led senior leaders decision process to get the force back to sea.

There was little guidance given to our chain of command that I saw on how to conduct a quarantine. Our CO, (b)(3), (b)(6), (b)(7)(c) gave us the best information he could to keep everyone out and sanitize everything that came in. He specifically mentioned the Marines in quarantine were not allowed to drink alcohol. I actively reiterated the no drink order to the officers and Marines of the detachment. I never received any indications that alcohol was being consumed. Most days I was at the dead drop where supplies were brought and there was no alcohol brought in that I observed.

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: SgtMaj, VMM-265
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 13 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral statements made by the witness:

26 Mar 2020.

Four MV-22 and 47 flight crew disembarked from the 31st MEU and arrived on Futenma. Once aircraft and equipment was accounted for and stowed, we dismissed the Marines for the evening to their homes.

27 Mar 2020.

We received the warning order from (b)(3), (b)(6), (b)(7)(c) VMM 265 Commanding Officer, that our detachment may have to return to the ship and quarantine may be required to ensure no infection is returned to the ship.

28-30 Mar 2020.

Information and details of embarkation and return the ship changed frequently. However, on 29 Mar 2020 the detachment of 47 Marines were ordered by (b)(3), (b)(6), (b)(7)(c) to quarantine in hangar 539 and continue to maintain aircraft and aircrew currency to be sent to the ship after a 14 day quarantine period. Quarantine procedures were very strict. No alcohol consumption of any kind. No liberty. No contact from anyone outside of the detachment without strict sanitation procedures. We followed these directions and I ensured there were no violations of orders.

8 Apr 2020.

In an effort to raise morale, we contacted the USO who provided hot dogs, hamburgers, and charcoal to conduct a unit BBQ. We followed strict sanitation guidelines prior to accepting the donation and planned to have the BBQ Friday, 10 April.

10 April 2020.

On or about 1630 on 10 April, 2020, while in my office working on my computer, I heard the fire alarm system go off. I immediately investigated and noticed a lot of the Marines gathered in the upstairs hallway.

I joined them and asked what was going on. One of the Marines gestured and I noticed through the window the water and foam coming up from the grates in the Hangar. When I looked out the window, there was a grill on the flight line approximately 20 to 25 feet from the hangar doors.

Approximately 30-40 seconds after I noticed the foam and water, I encountered (b)(3), (b)(6), (b)(7)(c) in the hallway who stated that he (b)(3), (b)(6), (b)(7)(c)

Results of Interview

(b)(3), (b)(6), (b)(7)(c) believed it was because of the fire from the grill that the system went off.

During my conversation with (b)(3), (b)(6), (b)(7)(c) the rest of the Marines and Sailors from the squadron were exiting the building and gathering on the south end for accountability.

There were some Marines inside the hangar still attempting to shut off the system utilizing the "abort" button that did not seem to work.

At about 1640 we had 100% accountability. After accountability (b)(3), (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c) assessed anyone that was exposed to the fluids and excessive inhalation.

Three Marines: (b)(3), (b)(6), (b)(7)(c) displayed symptoms such as headaches, slight skin rash. They were seen by our corpsman and by EMS personnel once on site, approximately 1700. I was later informed that the EMS personnel were not taking them to the hospital and to continue to monitor them.

We then gathered everyone inside, gave directions going forward for the night and began the planning process for cleanup.

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: H-1 Det O
Contact Info (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 15 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral statements made by the witness:

26 March 2020.

The HMLA Detachment departed the USS Green Bay to MCAS Futenma from the 31st MEU Spring Patrol 20.1. The ACE Command Element and all of the V-22's were aboard the USS America. On the 26th, 4 MV-22's departed the USS America for MCAS Futenma. These planes were scheduled for maintenance. All crews recovered, put the aircraft to bed and returned to their place of residence. There were no indications of any further at operational requirements or return to ship.

27 March 2020.

The off load of aircraft and cargo from the USS America continued and at some point during afternoon the offload was halted and all aircraft that were flying were directed back to the ship immediately. Two CH-53 and One V-22 returned to their assigned ships. A Second V-22 was supposed too, but had a maintenance issue while offloading cargo and could no longer continue to fly.

(b)(3), (b)(6), (b)(7)(c) passed that all personal ashore needed to return to the hangar immediately and prepare to embark on the ships. (b)(3), (b)(6), (b)(7)(c) also told all were restricted to the hangar for the time being to prevent potential COVID-19 exposure.

The ACE offload was conducted in parallel to exercise Noble Thunder in the North Training Area and Central Training Area (Okinawa). At the time the MEU had personal and aircraft disembarking, quarantining, and operating in various locations on Okinawa. A few hours later (b)(3), (b)(6), (b)(7)(c) removed the hangar restriction and we were given a restriction to barracks, chow hall, PX, and Hangar. This continued for a few days.

28 March 2020.

(b)(3), (b)(6), (b)(7)(c) gave direction to plan for a quarantine and give options of the forces we owned to the MEU so they could bring combat power back to sea. The USS Green Bay was scheduled for SRA maintenance and would not continue to remain at sea. H-1's offered to send the UH-1's and supporting maintenance. Later that day, UH-1's were ruled out from returning to sea. The MEU desired to return all V-22s to the USS America and then we were to wait on guidance from USMC and Navy on requirements to return to sea. Given the fluid situation of daily changing COVID-19 restrictions there was a constant shift in what

Results of Interview

would be required to return. One thing that was certain is the ACE had to conduct maintenance on the 4 V-22 at MCAS Futenma in order for them to fly again. Ashore we proposed keeping the Marines restricted to their residence and work while the maintenance was completed and then return to the ship.

29 March 2020

(b)(3), (b)(6), (b)(7)(c) directed all Marines from the 31st MEU returning to sea in to a quarantine at the request of the Navy to ensure their health prior to return. Most elements of the MEU were able to return to their barracks, but the ACE required maintenance and check flights to get these aircraft back to the USS America so living and working in hangar 539 was chosen by (b)(3), (b)(6), (b)(7)(c). The hangar had ample restrooms, showers, water, and MRE's in place. It was all also the easiest space to control the quarantine. The planning timeline for this was only 6 days in the hangar prior to return to sea. As the week went on the guidance changed regularly for how long we would have to keep Marines in quarantine prior to return.

April 10, 2020.

At approximately 1700 on 10 April 2020 I was alerted by multiple people that the fire alarm had been set off in Hangar 539. I immediately went to the hangar to investigate and attempt to maintain the status of the quarantined individuals inside.

As I was driving I came across a large pile of AFFF that was blowing across the road and also over the MCAS Futenma fence line. On arrival station fire was already on scene who were checking the building for signs of fire and attempting to secure the alarm and foam system. The foam at this time had flooded out of the hangar and was near a storm drain in a 5-10' high pile where it continued to blow into the air.

I noticed a BBQ grill on the flight line as I was walking around. That grill remained in the same position for at least two days. When the IO arrived, the grill was in the same position as I saw it on arrival. I also checked the grill that night. It was full of charcoal and there was a bottle of lighter fluid near it. The grill was not hot, but had clearly been lit and put out. The coals did not show evidence of any extended burning, but did smell like lighter fluid.

Throughout the evening I gathered a working party of Marines and we assisted station fire and HAZMAT personnel with isolation and cleanup of AFFF foam. At my arrival the foam was already flowing heavily into the storm drain on taxiway E. This drain was rushing with water and full of AFFF.

Results of Interview

Opinion.

I think it is important to note the USS Theodore Roosevelt was at the beginning stages of its outbreak of COVID-19. I think that coupled and our offload happening at the same time lead senior leaders decision process to get the force back to sea.

There was little guidance given to our chain of command that I saw on how to conduct a quarantine. Our CO gave us the best information he could to keep everyone out and sanitize everything that came in. He specifically mentioned the Marines in quarantine were not allowed to drink alcohol. I actively reiterated the no drink order to the officers and Marines of the detachment. I never received any indications that alcohol was being consumed. Most days I was at the dead drop where supplies were brought and there was no alcohol brought in that I observed.

(b)(3), (b)(6), (b)(7)(c)

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: Pilot, VMM-265
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 13 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral statements made by the witness:

On 7 Apr 2020, (b)(3), (b)(6), (b)(7)(c) asked me to coordinate a delivery of charcoal, hamburgers, and hotdogs from the USO. (b)(3), (b)(6), (b)(7)(c) forwarded me an email with (b)(6), (b)(7)(c) contact information. I called (b)(6), (b)(7)(c) that morning and sent him an email asking for packaged food and care packages. (b)(6), (b)(7)(c) had told me over the phone that he had (b)(3), (b)(6), (b)(7)(c) contact information and I recommended (b)(6), (b)(7)(c) coordinate the drop off with (b)(3), (b)(6), (b)(7)(c) is the H-1 Detachment and Quarantine Support Team OIC. (b)(6), (b)(7)(c) replied back at 1610 stating that the USO could provide, "a combination of hamburgers & hotdogs with buns, boxes of chips, the condiments, cheese, and a couple case of Red Bull. Also, a few bags of charcoal." At 1042 on 8 Apr 2020, (b)(6), (b)(7)(c) emailed me that his team would drop off the food and supplies at 1100. I was unable to coordinate and receive the pickup that morning. I have been told by (b)(3), (b)(6), (b)(7)(c) that he, (b)(3), (b)(6), (b)(7)(c) received the packaged food, drinks, charcoal, and care packages that morning. They wiped the goods down and brought them to maintenance control.

The afternoon of 10 Apr 2020, I was working on the next day's flight schedule when I heard the alarms go off. I was not sure what caused the alarms and AFFF to trigger, and I did not see a fire or the grill as I exited the building. I formed up outside with the rest of the quarantine personnel and waited for further instruction.

(b)(3), (b)(6), (b)(7)(c) told me he borrowed (b)(3), (b)(6), (b)(7)(c) lighter fluid and grabbed the charcoal outside of maintenance control in order to set up for the barbeque. (b)(3), (b)(6), (b)(7)(c) informed me that the USO supplies were originally dropped off in maintenance control, and then moved just outside the door of maintenance control in the hangar. (b)(3), (b)(6), (b)(7)(c) told me there was 52 hotdogs, 48 hamburgers, approximately 100 buns and hot dog rolls, 2 containers of ketchup, 2 containers of mustard, 2 containers of mayo, 72 pieces of cheese, 2 boxes of chips, 36 muffins, paper plates, 2 bags of charcoal, 1 container of lighter fluid, and approximately 50 care packages.

(b)(3), (b)(6), (b)(7)(c) made it very clear the morning of 30 Mar 2020, that there was to be no alcohol brought in Building 539 during our quarantine period. I have not seen or heard of any alcohol consumption since that day.

Results of Interview

Rank/Name: (b)(6), (b)(7)(c) USO
Job Title: USO Okinawa Area Director
Contact Information: (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 20 Apr 2020
Re: USO donation of BBQ supplies to VMM-265

This narrative statement is an accurate summary of oral statements made by the witness (b)(6), (b)(7)(c)

On 31 March, (b)(6), (b)(7)(c) (USO Futenma) attempted to drop off small gift packages of soap, toiletries, and snacks for VMM-265 personnel. The USO heard the squadron may need ROM support. However, squadron personnel told (b)(6), (b)(7)(c) that we could not provide food items to the VMM-265 personnel in ROM. He did not deliver these items.

On 1 April, (b)(6), (b)(7)(c) received an email from a person named (b)(3), (b)(6), (b)(7)(c) who asked about the possibility of providing mobile WiFi devices to the ROM personnel on the hangar deck. (b)(6), (b)(7)(c) then contacted a (b)(3), (b)(6), (b)(7)(c) to ensure this support was permissible. Upon confirmation, the USO rented four (4) mobile WiFi devices and delivered them to (b)(3), (b)(6), (b)(7)(c) on 3 April. The USO also provided two (2) Mobile Equipment Gaming Systems (MEGS) (i.e., 1 XBox-1 and 1 XBox-360) and one (1) USO tent to the Major.

On 7 April, (b)(6), (b)(7)(c) received an email from (b)(3), (b)(6), (b)(7)(c) asking for charcoal, hotdogs, hamburgers, buns, condiments, and cheese.

On 8 April, (b)(6), (b)(7)(c) delivered the following items to VMM-265 personnel in building 538, which was their quarantine support group (receipt also included):

2 16-pound bags of Kingsford charcoal (no other kind - not Royal Oak)

2 or 3 boxes of care packages filled with ramen, soap, tissue paper, candies, and granola bars. There should have been at least 52 care packages in these boxes.

4 or 5 cases of flavored Red Bull.

Potato Chips

Ketchup

Mustard

Mayonnaise

Cheese

Hamburger meat

Hotdogs

Hamburger Buns

Results of Interview

Muffins

We delivered some other items from the list above that were already on hand, but we don't have a listing of those quantities.

We did not deliver lighter fluid.

(b)(3), (b)(6), (b)(7)(c)

From: (b)(3), (b)(6), (b)(7)(c)
Sent: Wednesday, April 8, 2020 11:52 AM
To: (b)(3), (b)(6), (b)(7)(c)
Cc: (b)(3), (b)(6), (b)(7)(c)
Subject: Quality of Life for VMM-265

(b)(3), (b)(6), (b)(7)(c)

Greetings. Know you are tracking the strict quarantine protocol for your ACE prior to their return. We've got a few issues with Hangar 539, where they currently reside, including a broken hot water heater and air conditioner. Taking cold showers gets old.

Our Facility Repair team has been told to take a knee by the ACE occupants of the hangar in order to maintain their strict compliance to the quarantine.

I want to make sure you are tracking this. For the water heater in particular, I think we can set conditions to have a repair crew get in the building and avoid human contact, decon their work space, and bring the hot water back up. I don't think that there is any reason to believe they would contaminate your Marines or compromise the spirit of their quarantine orders.

Want to throw this out as a discussion and ensure you are tracking and in alignment. Let me know if you see it the same way as the ACE is interpreting it, or if you want to explore getting the water heater back up as well as the AC.

Here to support, but recognize the sensitivity of ensuring you have an iron-clad force returning to the boat.

SF.

(b)(3), (b)(6), (b)(7)(c)

Commanding Officer
Marine Corps Air Station Futenma

(b)(3), (b)(6), (b)(7)(c)

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Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: Ordinance Technician, VMM-265
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 13 Apr 2020
Re: Foam Release in Hangar 539

This narrative statement is an accurate summary of oral statements made by the witness:

10 April there was going to be morale grill out for the Marines who are in quarantine. The USO provided all the food, charcoal and whatever else was needed for the event. The event was going to be the Pilots cooking for all the Marines. I was asked by (b)(3), (b)(6), (b)(7)(c) to use my grill that afternoon.

My grill was located at the back of the squadron by the Ordnance shop. I did not have an issue with the grill being borrowed and he asked me to help him carry it to the front of the hangar that way Marines will be able to get their food and eat in the hangar. We carried it out about 26 feet beyond the hangar bay doors and set it down as the location that the grilling was going to take place. Around 1545 I was in maintenance control and the decision was made that the grilling was going to take place starting around 1600-1630.

At 1630 (b)(3), (b)(6), (b)(7)(c) and I took the initiative to prepare the grill by placing the charcoal inside along with the flame starter liquid. (b)(3), (b)(6), (b)(7)(c) walked inside to his shop and I walked away from the grill as to let the fluid set into the coals and walked over to the flight line Marines in the hangar. I borrowed a lighter and went back to the grill.

After a few minutes of waiting I decided that I should start the fire, I lit the edge of the charcoal bad that was in the grill. As soon as it started to burn and spread across the bag I could see flashing and the intercom going off.

I closed the lid of the grill to attempt to put the fire out and pulled the grill another 30 feet away from where (b)(3), (b)(6), (b)(7)(c) and I had originally set it. Right after that I see a few flight line Marines run to the hangar door and try to turn off the AFFF emergency shut off system. I run to tell Marines to get out the hangar to go immediately upstairs to the SgtMaj and let him know that I think I set off the AFFF system. Right afterwards I go into the Executive Officers office and let him know the same. We

Results of Interview

muster at the side of the building get accountability and wait to crash fire rescue to clear the hangar and all office spaces. I get interviewed by PMO and later have to give a written statement.

The event had no clear person in charge. It was a command morale booster that I decided that I was going to start so that Marines wouldn't eat dinner too late.

The grill was roughly 26 feet away from the hangar doors slightly to the right near the doors.

This location was selected by (b)(3), (b)(6), (b)(7)(c) who said the Marines will be able to eat and hang out in the hangar.

Most of flight line Marines were in the immediate area.

There was no discussion of potential hazards, just talk of wind direction and the direction of the smoke.

As soon as the fire started the lights in the hanger started flashing instantly. About 30 seconds later the foam started flowing. As soon as that happened I told Marines to get out the hangar and went upstairs.

There is nothing else to report. This is how it happened to the best of my memory.

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: Flight Line, VMM-265
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 17 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral statements made by the witness:

On 10 April 2020 we planned to have a cookout with hamburgers and hot dogs for the Marines under quarantine at hanger 539. On that day I had talked with (b)(3), (b)(6), (b)(7)(c) about utilizing the grill behind ordinance and move it to the front of the hangar. The reasoning behind moving the grill was to allow the Marines to congregate together without having the walk through the hangar spaces after they got their food in order to sustain camaraderie among the Marines under quarantine (b)(3), (b)(6), (b)(7)(c) and I had moved the grill to the front of the hangar about mid-afternoon. We placed the grill approximately 25 feet out from the hangar and I believed that was far enough away from the hangar to not activate the hanger's AFFF fire suppression system.

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: Avionics, VMM-265
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 13 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral statements made by the witness:

On April 10th, 2020 at approximately 1630, myself and (b)(3), (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c) from the Ordnance work center decided to get the barbecue started for the quarantined Marines of VMM-265. He called me while I was watching a video on my phone in the Maintenance control work center.

At first, I thought we were going to barbecue burgers and hotdogs behind the hangar because that is where we usually barbecue but noticed the barbecue grill through the window of Maintenance Control staged about 22 feet outside of the front of the hangar. I proceeded to bring the frozen burgers to the grill while (b)(3), (b)(6), (b)(7)(c) laid the charcoal in it.

We moved the grill about 2-5ft. out even further from the hangar and adjusted it so that the smoke will blow away from the grillers when cooking. In this instance, the wind was blowing S-SW. I decided to head upstairs to grab tongs and spatulas while (b)(3), (b)(6), (b)(7)(c) gets the fire going on the grill. A few minutes later, the fire alarm went off.

I looked through a window in the Mission Planning room and noticed AFFF being discharged throughout the whole hangar, (b)(3), (b)(6), (b)(7)(c) rolling the closed grill further away, and Marines running around.

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: Crash Fire Rescue, MCAS Futenma
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 15 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral statements made by the witness:

10 April 2020.

At 16:38, hanger 539 activated the fire alarm. MCAS Futenma base fire received notification from Butler Dispatch to respond, which automatically required Expeditionary Firefighting and Rescue (EFR) personnel to respond as mutual aid.

EFR rescue vehicle 26, 14 and base fire pumper 51 responds. At approximately 16:39, rescue vehicle 26 arrives on scene and notified our dispatcher of the foam system activation, which was presumed caused by a BBQ grill.

EFR dispatch request environmental to be on scene as well as informed the Staff Duty Officer. At approximately 16:52, one-rescue personnel from rescue vehicle 14 (b)(3), (b)(6), (b)(7)(c) sent in to clear the immediate vicinity and activate the foam cutoff dead man switch.

Another rescue team sent to the pump room to deactivate the foam and water system. All (5) dead-man switches were found inoperable and base fire did not have the appropriate keys to access the pump room. The Incident Commander informed of the hanger doors do not close without the use of an aircraft tug. Tug operator was being contacted via the squadron in an attempt to get the doors closed before more foam could leak into the area. Tug operator did not arrive to hanger and doors remained open.

At 17:02 base fire and EFR personnel gain access to pump room and shut off all valves. Environmental arrived on scene at 17:15 and contacted the hazmat response team on Camp Kinser for immediate response to stop the spread of the foam, while EFR Marines begin to denning, diking and diverting after getting the system shut off.

Foam was found to be 3% legacy concentrate. Approximately 1200 gallons of concentrate foam was discharge based on the foam tank being empty and the marking on the tank labeling its full capacity level and according to calculations approx. 38,200 gallons of proportioned foam had escaped into the drainage systems, on surface areas covering from Hanger 539 to across Geiger road and past PAPI lighting system. The Incident Commander notified of (3) patients feeling dizzy and having difficulty breathing. Base Fire Ambulance was request and arrived on scene at 18:24. Clean-up operations being conducted, hazmat team dammed up drainage ditch leading outside and began operations for

Results of Interview

cleaning up surface material. Foam currently still resides in the drainage system. Environmental has decided not to try to flush the drainage system and continue working on surface clean-up. Hanger activation was believed to be caused by Thermal IR trip by a grill used either inside or just outside Hanger 539.

Timeline:

1638: Hanger 539 Fire Alarm Activation.

_____ Base fire responding.

_____ Rescue Vehicle -26 responding as mutual aid.

1639: Rescue Vehicle -26 arrives on scene.

1640: Rescue Vehicle -14 responding.

1641: Rescue Vehicle -14 arrives on scene

1642: Discovery of a large foam spill, the fire alarm activation was caused by BBQ grill smoke.

1645: Environmental and SDO was notified of the incident.

1652: Rescue Vehicle -14 begins search for abort switch for foam activation.

1702: Foam shut-off successful

1704: Recalled Marines en route.

1715: Environmental on scene.

_____ Rescue Vehicle -11 responding.

_____ HMM-265 successfully notified.

1716: R-11 on scene.

1722: Marines conduct damn, dike, divert and clean up to isolate foam spill.

_____ Foam has crossed Gieger road and has entered drainage systems.

1731: Rescue Vehicle -10 responding.

1732: Rescue Vehicle -10 on scene.

1741: Rescue Vehicle -26 Identifies 1200 Ga. of foam concentrate fully distributed.

1745: Rescue Vehicle -26 observes water continuously flowing from hanger, searching for shutoff.

1746: Water is shut off.

1818: (3) patients report feeling dizzy and difficulty breathing.

1820: Ambulance called.

1824: Ambulance on scene.

2112: Scene secured all ARFF vehicles RTB

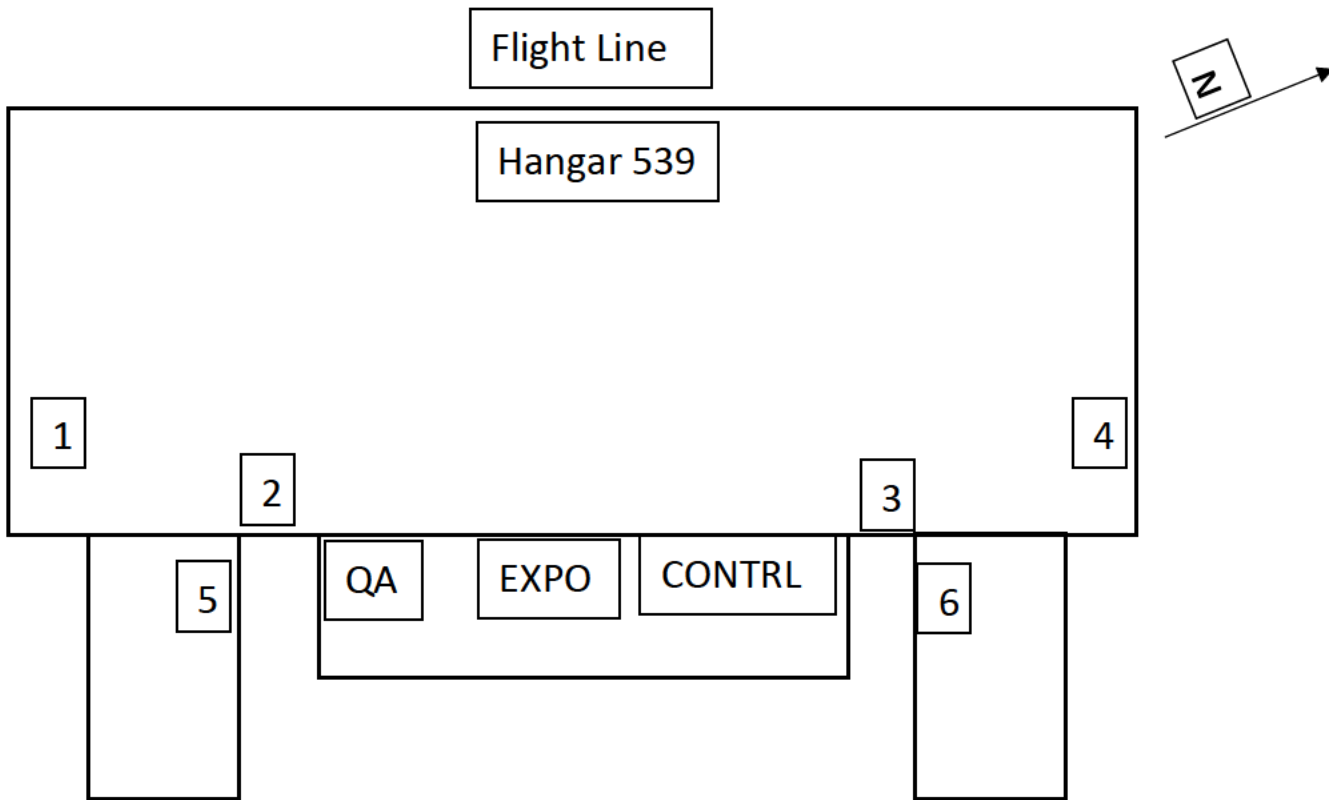
2120: All ARFF vehicles returned and ready for service.

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: Pilot, VMM-265
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 13 Apr 2020
Re: Foam Abort Button Statement

This narrative statement is an accurate summary of oral statements made by the witness:

Around 1630-1640, myself and other Marines were in Room 109, Building 539, talking when the fire alarm went off. The following diagram and description explains which Marines pushed what buttons in an attempt to stop the flow of foam into hangar 539.



1. (b)(3), (b)(6), (b)(7)(c) Press and held switch #6 for 10 seconds.
2. (b)(3), (b)(6), (b)(7)(c) Press and held switches # 5 and #6 for 10 seconds each.
3. (b)(3), (b)(6), (b)(7)(c) Repeatedly pressed switch #4.
4. (b)(3), (b)(6), (b)(7)(c) - Press and held switches #1, #5 and #6 for 5 seconds each.
5. (b)(3), (b)(6), (b)(7)(c) Press and held switch #5 for 15 seconds.
6. (b)(3), (b)(6), (b)(7)(c) Press and held switches #3 and #6 for 20 seconds.
7. (b)(3), (b)(6), (b)(7)(c) Pressed and held switches #2 and #5 for 10 seconds.
8. (b)(3), (b)(6), (b)(7)(c) Press and held switch #3 for 5 seconds.
9. (b)(3), (b)(6), (b)(7)(c) Press and held switch #6 for 10 seconds.
10. (b)(3), (b)(6), (b)(7)(c) Press and held switch #2 and #4 for 30 seconds.
11. (b)(3), (b)(6), (b)(7)(c) Press and held switches #5 and #6 for 20 seconds.

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: Crash Fire Rescue, MCAS Futenma
Contact Info (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 15 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral statements made by the witness:

10 April 2020.

I arrived on scene at hangar 539 on or about 1640 on 10 April 2020 in response to a fire alarm. When I arrived, there was foam and water coming out of the front of the hangar towards the flight line.

The Incident Commander (b)(3), (b)(6), (b)(7)(c) directed me to make entry from the front of the hangar to hit any of the (5) foam shut-off switches located on the inner walls of the hangar.

Within 20 seconds of being inside, I was at the charlie-side (the far wall) pressing down on the first shut-off switch. I held the shut-off switch in excess of (30 to 45) seconds, first attempt failed to stop the foam and water discharge activation.

I then repeated the same actions starting from the delta-side (right) making my way to all (5) shut-off stations moving to the left. I informed the Incident Command that none of the shut-off switches were operable. I made two attempts for every switch before the water main to the building was shut-off.

After being unable to shut off the flow of foam and water via the abort buttons, we made our way to the pump house to manually shut off the pumps and flow of foam and water.

Results of Interview

Rank/Name: (b)(6), (b)(7)(c) CIV
Job Title: Futenma Environmental Coordinator
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 16 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral and written statements made by the witness:

Written Statement from (b)(6), (b)(7)(c) Futenma Environmental Coordinator, 16 April 2020

Here is my contact information:

-
- (b)(6), (b)(7)(c)
-

(b)(3), (b)(6), (b)(7)(c) from Futenma Expeditionary Fire & Rescue (EFR) contacted me on my government cell at 16:43 on Friday, April 10th. Here is his contact information:

-
- (b)(3), (b)(6), (b)(7)(c)
-

(b)(3), (b)(6), (b)(7)(c) notified me that AFFF was accidentally released from Hangar 539 and I was needed at the scene. On my way to the scene, at 16: 53, I notified my supervisor and the other Futenma Environmental Coordinator. Here is their contact information:

1. (b)(6), (b)(7)(c) Supervisor of Compliance, Training and Support Section of MCIPAC/MCBB Environmental Affairs Branch

-
- (b)(6), (b)(7)(c)
-

2. (b)(6), (b)(7)(c) Futenma Environmental Coordinator

-
- (b)(6), (b)(7)(c)
-

I arrived at Hangar 539 turnstiles at approximately 17:00 and was directed to go through the flight line because the turnstiles were locked because the unit occupying the Hangar 539 was quarantined. I went to my office at Bldg 504, got the government vehicle and arrived on scene at approximately 17:15.

At the scene I reported to EFR personnel and was briefed that they, along with the Futenma Fire Department, had responded to the alarm. When they arrived on-scene, they were told they couldn't enter the hangar because of the quarantine. They told me that the shut off button in the hangar wouldn't stop the foam even though Marines in the hangar held the button down. They told me that the fire department

Results of Interview

had to go to the pump house to stop the foam system. They told me that they couldn't start cleanup near the hangar because of the quarantine. They asked me for supplies so they could boom off the drain at the edge of the parking apron. I took EFR to a storage bay on the flight line that is shared by Environmental and Safety (Bldg 545). The following was provided by Environmental for spill response and cleanup:

- Nitrile Gloves: 4 boxes
- Dry Sweep: 29 bags
- Absorbent Pads: 12 bags
- Absorbent Boom: 16
- Hazardous Waste Disposal Bags: 3 boxes of the large size
- Two secondary containments (Note: these were just loaned to the squadron and will be returned to Environmental)

(b)(6), (b)(7)(c) Futenma Emergency Management, provided lighting and some additional supplies (brooms, squeegees, etc). Here is their contact information:

(b)(6), (b)(7)(c)

See attached photos of the site when I arrived and the spill supplies used on the scene.

While I worked with EFR to try to stop and contain the release at the parking apron drain, the Fire Department was working to stop the flow of foam leaving the station at the outfall located at the southern end of the base. See attached photo.

The following Environmental personnel arrived to provide support:

1. (b)(6), (b)(7)(c) Director, MCIPAC/MCBB G-F Environmental Affairs Branch (EAB)

-
- (b)(6), (b)(7)(c)
-

2. (b)(6), (b)(7)(c)

3. (b)(6), (b)(7)(c) Environmental Support Team (EST)

-
- (b)(6), (b)(7)(c)
-

4.

- (b)(3), (b)(6), (b)(7)(c)
-

Results of Interview

(b)(6), (b)(7)(c) assisted with assessing the situation and providing cleanup guidance to EFR. (b)(3), (b)(6), (b)(7)(c) brought additional spill supplies. (b)(6), (b)(7)(c) brought a pumper truck to pump out AFFF waste from the hangar's underground storage tank (UST). When he opened the manhole cover to the UST, foam seeped out of the UST because it was full. The UST's capacity is 30,500 gallons. (b)(3), (b)(6), (b)(7)(c) worked with EFR and the working party that the squadron supplied to stop the AFFF water from continuing to enter the storm drain by damming/diking the drain with boom and dry sweep and then vacuum the standing water into the pumper truck tank. The capacity of the pumper truck tank is approximately 3,000 gallons. See attached photos.

At around 21:00 EFR, the squadron working party and Environmental started to bag up the waste that was generated (absorbent pads, boom, and dry sweep soaked in AFFF water). This waste was brought to Hangar 539's Hazardous Waste Accumulation Point (HWAP) for storage on two secondary containments. At around 21:30, the cleanup crew (Environmental, EFR, working party) started departing. I arrived home at approximately 22:00.

On Saturday, 11 April I reported to Hangar 539 at 0800 to meet the squadron working party, EST, and EFR. EFR and the working party absorbed the rest of the standing water on the parking apron, removed the boom from the drain, and bagged up the remainder of the waste absorbent material, using my truck to transport it to Hangar 539's HWAP. See photos of cleanup and waste in the HWAP.

EST personnel on Saturday included (b)(3), (b)(6), (b)(7)(c)
(b)(3), (b)(6), (b)(7)(c) Here is his contact information:

-
- (b)(3), (b)(6), (b)(7)(c)

(b)(3), (b)(6), (b)(7)(c) directed his Seabees to construct 4 check dams (using sandbags) in the central drainage area and a baffle system (using plywood) at the drainage outflow. He also had 5 roll-offs delivered to the Hangar 539. Two of these roll-offs were placed in the hangar for the squadron to use for hazardous waste disposal. The squadron was tasked with putting mattresses, chairs, cardboard, wood, etc. that was contaminated with AFFF and was no longer usable inside these two dumpsters. The equipment that could be salvaged was triple rinsed for reuse. The other three roll-offs were placed outside the hangar and were not used.

EST spent the day transferring AFFF water from Hangar 539 UST to Hangar 533 UST. By 1600, the Hangar 539 UST was half full. At this time, EFR was able to hose down the hangar and equipment inside the hangar. The squadron working party assisted by operating the hoses and using brooms and squeegees to direct the water to the hangar floor drains that lead to the UST. See attached photos.

At approximately 15:30 the city of Ginowan was escorted by the Futenma CO, XO, and OPSO to the Hangar 533 UST. Ginowan had two partially

Results of Interview

filled totes with AFFF water that had been collected off base. (b)(6), (b)(7)(c) (b)(6), (b)(7)(c) used the pumper truck vacuum to remove the water from the totes (approximately 100 gallons total). This waste was added to the 533 UST. See attached photos.

I coordinated primarily with (b)(3), (b)(6), (b)(7)(c) from EFR regarding the cleanup of the site and the rinsing of the hangar and gear. I don't have (b)(3), (b)(6), (b)(7)(c) contact info, but here is (b)(3), (b)(6), (b)(7)(c) contact information:

- (b)(3), (b)(6), (b)(7)(c)
-

For hazardous waste disposal, I coordinated with (b)(6), (b)(7)(c) MCIPAC/MCBB Hazardous Waste Program Manager. His contact information is:

-
- (b)(6), (b)(7)(c)
-

COMSTRAT posted a video and photos of the cleanup and dam building. Links are below.

Video: https://www.dvidshub.net/video/747169/us-marines-assist-with-spill-cleanup-mcas-futenma?sub_id=195046&utm_campaign=subscriptions&utm_medium=email&utm_source=195046&utm_content=asset_link

Five Photos: <https://www.dvidshub.net/image/6170910/us-marines-assist-with-spill-cleanup-marine-corps-air-station-futenma>

At 22:00 on 11 April, a USFJ Spill Report was submitted: The following was reported:

"Approximately 1,200gal of AFFF concentrate was mixed with approximately 40,000gal of water. In addition, after the supply of AFFF concentrate was exhausted, the system continued to pump approximately 20,000gal of water only. We estimate that approximately 22,000gal of AFFF+water was contained in an onsite underground storage tank and approximately 18,000gal of AFFF+water, as well as the 20,000gal of water only, flowed off base. The AFFF is known to be legacy foam and presumed to contained PFOS and PFOA."

Note: It was estimated that approximately 7,500-8,500 gal of water was already in the UST prior to the AFFF discharge. The AFFF concentrate tank holds 1,600 gallons, but the level markings on the tank indicate that only 1,200 gallons for AFFF were in the tank at the time of the incident.

On Monday, 13 April, six tri-walls of hazardous waste were removed from Hangar 539 HWAP by the Hazardous Materials Management Center (HMMC) contractors and transported to their facility (Building 500 on Camp Kinser). This waste will be processed there and collected by DLA Disposition Services contract for hazardous waste disposal. The

Results of Interview

squadron provided a working party at 10:00 and again at 13:00 to assist with loading the bags of waste onto the contractor's truck.

Also on Monday, the Seabees removed the sandbags from the drains. The sandbag dams didn't hold during the rain on Saturday and were scattered in the drain. The sandbags were palletized and will be staged for future use.

On Tuesday, 14 April I met with (b)(3), (b)(6), (b)(7)(c) and shared all the photos that I had taken of the incident and the days following the incident. I also inspected the draining starting at Hangar 539 all the way to the outfall. I observed that the drains were nearly completely dry with only a little moisture in the covered drains. I reported this to (b)(3), (b)(6), (b)(7)(c) Futenma CO. I asked EFR to open the manhole covers for the USTs at Hangar 533 and 539 for the Ginowan Mayor's tour of the site with the CO.

Additional information requested by (b)(3), (b)(6), (b)(7)(c) EAB has coordinated and funded the removal, transportation (two trucks at a time from Mainland Japan) and disposal of water from the USTs on the flight line throughout FY19 and FY20). Here are the costs: approximately \$27k for the transportation cost of 2 trucks and approximately \$27-28k for disposal. Based on our last modified delivery order, a grand total of 5,543 gallons have been pumped out using two trucks. I don't know how many trucks were contracted in FY19/20, and I don't know how much was transported off site during FY19/20.

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: Pilot/S4, VMM-265
Contact Info (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 13 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral statements made by the witness:

I was sitting at my desk in the S-4 office on the second floor when the fire alarm was activated. When the alarm activated I immediately heard the pump room machinery beneath my office begin to energize and I knew it was more than a drill and that the AFFF system had been activated. I moved directly to the OpsO office window overlooking the interior of the hangar to get a better view of the situation. Knowing there were no aircraft in the hangar and seeing there was no fire, I then saw the water/foam begin to spray from the floor as Marines began frantically trying to salvage equipment and exit the hangar.

I immediately ran down along the back wall of the hangar that was still dry to confirm there was no fire in the hangar and then out the side door to the Marine on duty at BLDG 538 and told him to post on the flight line and not let anyone into BLDG 539 IOT preserve quarantine. I then moved to the Marines on duty at the turnstiles and told them the same thing. At this point I heard the sirens and moved back to the flight line between BLDGs 538 and 539 and arrived just in time to receive the fire trucks.

I told the trucks to stop, that there was no fire, and that they could not enter our building due to quarantine. As the water/foam began to spill out of the hangar and onto the flight line, I asked the Marine in charge of the crash/fire/rescue (CFR) team how to stop the AFFF from flowing. He responded with hitting the shutoff switches. One of the VMM Marines standing nearby told me they had already been trying all of the shutoff switches with no noticeable result. The CFR Marine said that the shutoff switch is a "dead man switch" and must be continuously held down. I sent the Marine back into the hangar to make sure the switches were being used correctly and held down for an extended time.

Over the next few minutes the foam continued to flow out of the hangar and onto the flight line, passing the parked aircraft and moving out toward the taxiway. As the shutoff switches were obviously not working and the situation continued to degrade I asked the CFR if the material was hazardous to which he said it was. I then asked him if there was anything else we could do to stop the system from discharging any further. He asked me to close the hangar doors to which I told him they were broken and could only be closed manually with a tug that was now covered in AFFF. Based on my understanding that the AFFF was hazardous I was not willing to have any of my Marines risk their health to get on a contaminated tug in an attempt to close a hangar

Results of Interview

door through a wall of AFFF foam that was now multiple feet high. With no other options the CFR said they would need to get in the building IOT determine how to shut the system off.

It was at this time that I saw (b)(3), (b)(6), (b)(7)(c) on the 2nd floor fire escape waving me down. I moved over to him to tell him what I knew of the situation and what action had been taken. He had already initiated evacuation and accountability of the VMM Marines and the decision was quickly made to allow the CFR access to the hangar. I moved back over to the CFR to tell them they had free reign to do what they needed to do within the hangar.

I stayed with the Marine in charge of the CFR at the apron between BLDGs 538 and 539 to lend assistance and knowledge of the building/situation. The CFR quickly determined they needed access to the pump room so from there I went back to my office to retrieve the key and then down to the pump room to give the CFR access. From that point I relocated to the 2nd floor of the hangar to for further update/guidance from (b)(3), (b)(6), (b)(7)(c) and coordinate future efforts through (b)(3), (b)(6), (b)(7)(c) once he had arrived.

Eventually the water pressure died down from the system and the AFFF had been depleted but water continued to slowly flow for quite a while, maybe about an hour after the initial alarm had been activated. As Marines in the muster area outside the southern wall of the hangar began to experience symptoms we had the corpsmen triage and I told (b)(3), (b)(6), (b)(7)(c) to send an ambulance over to our muster area. Shortly after, the VMM Marines relocated to the 2nd floor of the hangar while the first responders and base personnel continued to work the first floor of building 539 for the next couple of hours.

From: (b)(3), (b)(6), (b)(7)(c)
To:
Subject: Follow-up Question for Hangar 539
Date: Tuesday, April 21, 2020 2:45:39 PM

Sir,

As requested earlier in response to the UST AFFF for Hangar 539. After further investigation it has been determined that this UST does not have a diverter valve as mentioned earlier

(b)(6), (b)(7)(c)

Assistant Fire Chief - Prevention
MCIPAC/MCB Camp S.D. Butler
Fire & Emergency Services

(b)(6), (b)(7)(c)

Community + Education = Lives Saved

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: Flight Line, VMM-265
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 13 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral statements made by the witness:

10 April 2020.

On or about 1630 on 10 April 2020, the fire alarm in hangar 539 sounded and the fire retarding foam began to flow. I was exposed to the foam and felt symptoms immediately.

The symptoms I felt were an extreme headache, and it was uncomfortable to breathe, similar to smoking too many cigarettes.

(b)(3), (b)(6), (b)(7)(c) provided immediate care and once the ambulance with emergency services arrived, I was seen and evaluated by paramedics. The paramedic took my vitals, had me shower with soap and water, and advised me to stay in fresh air.

My lungs felt better the next day, but my headache took two days to subside. I did not leave the area around hangar 539 and did not go to the hospital.

(b)(3), (b)(6), (b)(7)(c)

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: Flight Line, VMM-265
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 13 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral statements made by the witness:

10 April 2020.

On or about 1630 on 10 April 2020, the fire alarm in hangar 539 sounded and the fire retarding foam began to flow. I was exposed to the foam and felt symptoms immediately.

The symptoms I felt were a headache, itchiness of exposed skin, red irritation rash on my hands and feet, tightness in my chest, coughing, and scratchy throat

(b)(3), (b)(6), (b)(7)(c) provided immediate care and once the ambulance with emergency services arrived, I was seen and evaluated by paramedics. The paramedics and corpsman directed me to drink water and wash with soap and water of the exposed skin thoroughly and get lots of fresh air until my lungs feel normal.

After a short while, my symptoms subsided. I did not leave the area around hangar 539 and did not go to the hospital.

(b)(3), (b)(6), (b)(7)(c)

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USMC
Job Title: Avionics, VMM-265
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 13 Apr 2020
Re: MCAS Futenma BLDG 539 AFFF discharge on 10 April 2020

This narrative statement is an accurate summary of oral statements made by the witness:

10 April 2020.

On or about 1630 on 10 April 2020, the fire alarm in hangar 539 sounded and the fire retarding foam began to flow. I was exposed to the foam and felt symptoms immediately.

The symptoms I felt were a light headache, nausea and tightness in my chest. The only way I can describe it is that it was like being in a room filled with paint.

(b)(3), (b)(6), (b)(7)(c) provided immediate care and once the ambulance with emergency services arrived, I was seen and evaluated by paramedics. The paramedics and corpsman told me to drink water and breathe fresh air.

After a short while, my symptoms subsided. I did not leave the area around hangar 539 and did not go to the hospital.

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USN
Job Title: Corpsman, VMM-265
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 16 Apr 2020
Re: Medical Treatment of AFFF exposed Marines

This narrative statement is an accurate summary of oral statements made by the witness:

10 April 2020.

On or about 1630, several quarantined marines were exposed to AFFF after an alarm was triggered in the 539 building hangar, these marines were all told to decontaminate with fresh water.

Shortly after (b)(3), (b)(6), (b)(7)(c) began to experience mild symptoms associated with being exposed to the AFFF. These symptoms included chest tightness, headaches, and redness of the skin, coughing and trouble breathing.

Upon the affected Marines reporting to (b)(3), (b)(6), (b)(7)(c) I called the naval hospital nurse advice line to get a better understanding of what symptoms to look for in an AFFF exposure and consulted the SDS for what symptoms to look for. The nurse then advised that if there were any symptoms after the exposure to escort them to the emergency department at the hospital. Immediately after one of the VMM-265 officers called for an ambulance to be dispatched.

While waiting for the ambulance to arrive (b)(3), (b)(6), (b)(7)(c) and myself closely monitored them to make sure their symptoms did not worsen. Once the ambulance arrived (b)(3), (b)(6), (b)(7)(c) commenced the patient turnover with the EMS personnel. Shortly after (b)(3), (b)(6), (b)(7)(c) told me he was experiencing symptoms which included headaches, nausea, coughing and trouble breathing.

I let (b)(3), (b)(6), (b)(7)(c) know about (b)(3), (b)(6), (b)(7)(c) which then (b)(3), (b)(6), (b)(7)(c) let the EMS personnel know about his current condition. The EMS personnel then consulted with the naval hospital about the three patients about whether or not to take them to the hospital. He then instructed the three marines to decontaminate again with fresh water. We then waited for the naval hospital staff to call back the EMS on scene for about 30 minutes. The naval hospital then to (b)(3), (b)(6), (b)(7)(c) personnel to not take them to the hospital and instead have (b)(3), (b)(6), and myself monitor them in the squadron spaces. (b)(7)(C)

We also told them that we were very scarce on medical supplies and were very limited to what we can do for them in terms of medical care. The EMS personnel then finished instructing the patients on their aftercare, and turned them over to (b)(3), (b)(6), (b)(7)(c) and myself at around 1900. We then told all three patients that we will be checking in on them every hour until they go to sleep and to report to our squadron

Results of Interview

medical space if their conditions worsen. All three patients were monitored by (b)(3), (b)(6), (b)(7)(c) and myself every hour until 2200 when they went to sleep.

The next day we continued to monitor the three marines, as well as the rest of the marines exposed to the AFFF.

None of them presented with any medical concerns.

Results of Interview

Rank/Name: (b)(3), (b)(6), (b)(7)(c) USN
Job Title: Corpsman, VMM-265
Contact Information: (b)(3), (b)(6), (b)(7)(c)
Interviewer: (b)(3), (b)(6), (b)(7)(c) Investigating Officer
When: 16 Apr 2020
Re: Medical Treatment of AFFF exposed Marines

This narrative statement is an accurate summary of oral statements made by the witness:

10 April 2020.

On or about 1630, the AFFF system in the hangar was discharged while several Marines were present. The Marines attempted to stop the system and when that failed, salvaged what personal items and CIF gear they could. They were all exposed to the AFFF foam during this time. After everyone was evacuated from the building, all those that had come into contact with AFFF were sent to decontaminate their skin and clothes.

After the initial decontamination was complete, (b)(3), (b)(6), (b)(7)(c) and I spoke with each Marine that had come in contact with the foam to assess for symptoms.

(b)(3), (b)(6), (b)(7)(c) presented with headache, dizziness, and uncomfortable breathing immediately after evacuating the building. He was alert and oriented, his pulse and respirations were within normal limits.

(b)(3), (b)(6), (b)(7)(c) had several red, irritated areas on his feet and shins, which did not improve after the initial decontamination. After approximately 30 minutes, his hands and face were also becoming red and irritated. He was sent to decontaminate his skin again.

After we reviewed the SDS, (b)(3), (b)(6), (b)(7)(c) called the Hospital on Camp Foster and was advised by the Nurse on duty to send any patients displaying mild symptoms to the hospital.

I briefed the XO and Sgt Maj on the two Marines mentioned above and the recommendation from the hospital. The decision was made to send the two Marines to the ER. EMS was then called to take the two patients to the ER. Throughout this time, all Marines that were exposed to AFFF were continuously being monitored by myself and (b)(3), (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c)

Once the ambulance arrived on scene, I conducted turnover with the EMT Corpsman. He then decided to evaluate the two patients on site instead of transporting them to the ER. The EMT was wearing full PPE, gloves, N95 mask, eye pro, and gown.

While he was assessing the two patients, (b)(3), (b)(6), (b)(7)(c) was brought over stating that he had ingested some of the foam and was feeling nauseous and had uncomfortable breathing. All three patients had normal vital signs and when asked if they wanted to go to the hospital, all three

Results of Interview

declined. The EMT called the on duty physician at the hospital, who then contacted poison control.

All three patients were sent to decontaminate skin and clothing while the physician made the decision to admit them to ER or have them remain with the squadron. Approximately 30 minutes later, the decision was made to have them remain with the squadron and have myself and (b)(3), (b)(6), (b)(7)(c) continue to monitor them. We were instructed to call EMS if any of their symptoms worsened in the next few hours.

EMS released the patients around 1900.

(b)(3), (b)(6), (b)(7)(c) I checked in with everyone that had come in contact with AFFF every hour until 2200. We instructed anyone who began to experience itchy or burning skin, difficulty breathing, or worsening of symptoms to let us know immediately. (b)(3), (b)(6), (b)(7)(c) I followed up with everyone again the morning of April 11 and there were no medical concerns to report.

The observations are in the coded METAR format, provided in Zulu time, though I placed the JST time for each observation at the beginning, and separated them by JST date vice Zulu date. There is a break down at the end of how to read one at the end of this document.

Friday 10 April:

Winds were out of the northeast at 4-13 knots throughout the day (Max winds were 13 knots from 1300-1600 JST)

Visibility was primarily unrestricted (7 miles or greater) throughout the day (Min visibility was 6 miles in haze from 0600-0700 JST)

Sky condition was mostly clear to partly cloudy throughout the day

Temperature minimum was 59°F from 0600-0800 JST and maximum was 75°F at 1600 JST

No other significant weather was experienced

Saturday 11 April:

Winds were out of the east at 4-11 knots throughout the day (Max winds were 10 knots gusting 15 knots at 1300 JST)

Visibility was unrestricted (7 miles or greater) most of the day (Min visibility was 6 miles in light rain from 2100-2300 JST)

Rain began at 1700 JST and ended at 2300 JST (total accumulation was 0.14")

Sky condition was partly cloudy throughout the morning and mostly cloudy to overcast after 1200 JST.

Temperature minimum was 63°F from 0300-0800 JST and maximum was 76°F at 1200 JST

No other significant weather was experienced

Sunday 12 April:

Winds were out of the southeast at 5-6 knots from 0100-0300 JST, then out of the southwest at 11-14 knots from 0400-0800 JST, then out of the northwest at 14-16 knots gusting 20-28 knots from 0900-midnight (Max winds were 16 knots gusting 28 knots at 2000 JST and 2300 JST)

Visibility was unrestricted (7 miles or greater) most of the day with periods of 6 miles in rain (Min visibility was 4 miles in rain at 0400 JST)

Rain began at 0255 JST and ended at 0454 JST, then began at 0948 JST then ended at 1252 JST, then began at 1450 JST and ended at 1651 JST (total accumulation was 0.25")

Sky condition was mostly cloudy to overcast from 0001 until 2100 JST, then it became partly cloudy

Temperature minimum was 60°F from 2300 to midnight JST and maximum was 69°F at 0600 and 0800 JST

No other significant weather was experienced

Monday 13 April:

Winds were out of the northwest at 11-18 knots gusting 18-29 knots throughout the day (Max winds were 18 knots gusting 29 knots at 1600 JST)

Visibility was unrestricted (7 miles or greater) most of the day (Min visibility was 6 miles in rain showers at 1122 JST)

Rain began at 1121 JST and ended at 1157 JST (total accumulation was a trace)

Sky condition was partly cloudy from 0100-0500 JST, then mostly cloudy from 0500-1900 JST, then mostly clear from 1900-midnight JST.

Temperature minimum was 60°F at 2356 JST and maximum was 65°F at 1600 JST

No other significant weather was experienced

Tuesday 14 April as 0900 JST:

Winds were out of the northwest at 12-15 knots gusting 15-19 knots until 0500 then out of the north at 08-12 knots gusting 16 knots from 0500-0900 JST (Max winds were 15 knots gusting 19 knots at 0300 JST, thus far)

Visibility was unrestricted (7 miles or greater) from 0001-0900 JST

Sky condition was partly cloudy from 0001-0900 JST

Temperature minimum was 59°F at 0700 JST and maximum was 64°F at 0900 JST (thus far)

No other significant weather was experienced

Here is quick color coded breakdown of how to read one of the coded observations. I could walk you through it or provide the translation if you need a specific hour.

0056 JST 20200409 15 56 METAR ROTM 091556Z COR 05007KT 9999 FEW040 16/10 A3014 RMK SLP116 T0160101=

JST Time Date/Time Zulu Type of observation Station Identifier Date/Time Zulu Corrected or not Wind Direction Speed (from the northeast at 7 knots) Visibility in meters Sky Condition in thousands of feet Temp/Dew Point in Celsius Altimeter Setting in inches of mercury Remarks with more detailed information for the observation



UNITED STATES MARINE CORPS

MARINE AIRCRAFT GROUP 36

UNIT 37131

FPO AP 96372-7131

5830

CO

JAN 14 2020

SECOND ENDORSEMENT on (b)(3), (b)(6), (b)(7)(c) ltr 5800 of 18 Dec 19

From: Commanding Officer, Marine Aircraft Group 36

To: Commanding General, 1st Marine Aircraft Wing

Subj: COMMAND INVESTIGATION INTO THE INCIDENT INVOLVING THE
DISCHARGE OF AQUEOUS FILM FORMING FOAM INSIDE A HANGER
BUILDING

1. I reviewed the contents of this investigation. I concur with the Investigating Officer recommendations. In particular, the Marine Aircraft Group 36 shall coordinate with Marine Corps Air Station Futenma to establish a Local Command Procedure that precludes the use of an Auxiliary Power Unit inside of a hangar.

2. The point of contact regarding this matter is the Marine Aircraft Group 36 Administrative Chief,

(b)(3), (b)(6), (b)(7)(c) or via email at
(b)(3), (b)(6), (b)(7)(c)

(b)(3), (b)(6), (b)(7)(c)



UNITED STATES MARINE CORPS
MARINE LIGHT ATTACK HELICOPTER SQUADRON 369
MARINE AIRCRAFT GROUP 36
1ST MARINE AIRCRAFT WING
UNIT 89070
FPO AP 96610-7000

IN REPLY REFER TO:
5830
CO
20 Dec 19

FIRST ENDORSEMENT (b)(3), (b)(6), (b)(7)(c) 5800 of 18 Dec 19

From: Commanding Officer, Marine Light Attack Helicopter Squadron 369
To: Commanding Officer, Marine Aircraft Group 36

Subj: COMMAND INVESTIGATION INTO THE INCIDENT INVOLVING THE DISCHARGE OF AQUEOUS
FILM FORMING FOAM INSIDE A HANGAR BUILDING

Ref: (a) MANUAL OF THE JUDGE ADVOCATE GENERAL (JAGMAN)

Encl: (1) COMMAND INVESTIGATION INTO THE INCIDENT INVOLVING THE DISCHARGE OF AQUEOUS
FILM FORMING FOAM INSIDE A HANGAR BUILDING

1. I agree with the opinions and recommendations in the thorough command investigation conducted (b)(3), (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c) the command will be putting many of his recommendations into action immediately.

2. While there is no explicit prohibition on starting an Auxiliary Power Unit (APU) inside of a building, it is well known by squadron personnel that a hangar does not provide proper ventilation for the use of an APU.

3. It is the command's intent to establish a Local Command Procedure that precludes the use of an APU indoors, to be put into effect by 6 January, 2019.

4. The point of contact for this matter is (b)(3), (b)(6), (b)(7)(c) who may be reached at (b)(3), (b)(6), (b)(7)(c)

(b)(3), (b)(6), (b)(7)(c)



UNITED STATES MARINE CORPS
 MARINE LIGHT ATTACK HELICOPTER SQUADRON 369
 UNIT 89070
 FPO AP 96610-7000

IN REPLY REFER TO:
 5830
 BLT
 18 Dec 19

From: (b)(3), (b)(6), (b)(7)(c)
 To: Commanding Officer, Marine Light Attack Helicopter Squadron 369
 Subj: COMMAND INVESTIGATION INTO THE INCIDENT INVOLVING THE DISCHARGE OF
 AQUEOUS FILM FORMING FOAM INSIDE A HANGAR BUILDING

- Ref: (a) JAGINST 5800.7F (JAGMAN)
 (b) WgO P5100.1K (Safety and Standard Operating Procedures for Safety and Standardization)
 (c) WgO 3700.2 (Standard Operating Procedures for Air Operations)
 (d) GruO 5100.7G (MAG-36 Standard Operating Procedures for Safety and Standardization)
 (e) GruO 3170.6I (MAG-36 Standard Operating Procedures for Flight Operations)
 (f) StaO 3710.6B (Airfield Operations Manual, MCASF)
 (g) HMLA-369 Flight Operations SOP V1.0
 (h) OPNAVINST 5100.23G (Navy Safety and Occupational Health Program Manual)
 (i) OPNAVINST 4790.2C (Naval Aviation Maintenance Program Manual)
 (j) NAVAIR 01-H1AAD-1 (NATOPS Flight Manual Navy Model AH-1Z Helicopter)
 (k) NAVAIR 01-H1AAD-1B (NATOPS Pilot's Pocket Checklist AH-1Z Helicopter)
 (l) NAVAIR 01-H1AAD-2-3.5 (AH-1Z APU Maintenance Manual)
 (m) NAVAIR 01-110HCG-1 (NATOPS Flight Manual Navy Model UH-1Y Helicopter)
 (n) NAVAIR 01-110HCG-1B (NATOPS Pilot's Pocket Checklist UH-1Y Helicopter)
 (o) NAVAIR 01-110HCG-1C (NATOPS Crewmember Pocket Checklist UH-1Y Helicopter)
 (p) NAVAIR 01-110HCG-2-3.5 (UH-1Y APU Maintenance Manual)
 (q) Hangar 507 Industrial Hygiene Survey

- Encl: (1) CO ltr 5830 dtd 6 Dec 19 (Appointment Order)
 (2) OPREP-3 Message dtd 5 Dec 19
 (3) HMLA-369 UER Spill Report Form dtd 6 Dec 19 and Addendum
 (4) USFJ Spill Report dtd 6 Dec 19
 (5) Safety Data Sheet for CHEMGUARD C603 6% AFFF Bulk Blend
 (6) HMLA-369 Environmental Compliance Assessment dtd 10 Dec 19
 (7) Applicable Maintenance Action Forms for AH-1Z BuNo 167809 (Aircraft 48)
 (8) APU Syllabus Printout from Advanced Skills Management Online
 (9) Summary of Interview of
 (10) Summary of Interview of
 (11) Summary of Interview of (b)(3), (b)(6), (b)(7)(c)
 (12) Summary of Interview of
 (13) Signed Written Statement of
 (14) Signed Written Statement of (b)(3), (b)(6), (b)(7)(c)
 (15) Signed Written Statement of
 (16) Summary of Interview of (b)(3), (b)(6), (b)(7)(c) MCASF
 Expeditionary Firefighting and Rescue
 (17) Summary of Interview of (b)(6), (b)(7)(c)
 (18) Summary of Interview of (b)(3), (b)(6), (b)(7)(c) HMLA-369
 CCHAZ SNCO and NCO
 (19) Summary of Interview of
 (20) Summary of Interview of
 (21) Summary of Interview of (b)(3), (b)(6), (b)(7)(c)
 (22) Summary of Interview of
 (23) Summary of Interview of
 (24) Investigating Officer's Handwritten Notes
 (25) List of Personnel Interviewed for Investigation
 (26) Photographic Evidence Compact Disc

Subj: COMMAND INVESTIGATION INTO THE INCIDENT INVOLVING THE DISCHARGE OF
AQUEOUS FILM FORMING FOAM INSIDE A HANGAR BUILDING

Preliminary Statement

1. In accordance with reference (a) and enclosure (1), a Command Investigation (CI) has been conducted into the discharge of Aqueous Film Forming Foam (AFFF) inside hangar 507 aboard Marine Corps Air Station Futenma (MCASF) on 5 December 2019.
2. (b)(3), (b)(6), (b)(7)(c) 1st Marine Aircraft Wing (MAW) Staff Judge Advocate (SJA), (b)(3), (b)(6), (b)(7)(c)
(b)(3), (b)(6), (b)(7)(c) the Marine Light Attack Helicopter
Squadron (HMLA) 369 Legal Officer, were consulted during the course of this investigation.
3. Prior to interviews being conducted by the Investigating Officer (IO), those being questioned were advised of the purpose of a CI. All of those who signed a summary of interview or submitted a written statement did so voluntarily.
4. Nothing could be found in any of the references that explicitly prohibits Auxiliary Power Unit (APU) use inside a hangar. Adequate hearing protection and a well ventilated space are required for APU use per the references. Hangar 507's fire detection system was set off by an HMLA-369 AH-1Z APU at approximately 1445 on 5 December 2019. The AH-1Z was inside hangar 507 at the time of the incident. The APU had been started and was run earlier in the morning in hangar 507 without issue. The APU was started each time by an HMLA-369 Avionics Marine at the insistence of a civilian Naval Air Technical Data and Engineering Service Command (NATEC) representative. A few hours prior to the incident, a Marine in Maintenance Control who had overheard a conversation amongst civilian technology representatives involving troubleshooting maintenance gripes utilizing APU power inside hangars, interjected into the conversation and stated that he had seen APU operations inside a hangar before. The combination of a lack of written procedures involving APU use in hangars, reliance on word of mouth for acceptable procedures, a lack of assertiveness, miscommunication, misplaced trust, and poor decision making led to the discharge of AFFF in hangar 507.
5. Eight Marines were topically exposed to AFFF on 5 December 2019, but no injuries were noted. The HMLA-369 Flight Surgeon believes that the exposure should be of very low health concern. Appropriate documentation was placed into the medical records of the exposed Marines.
6. No damage was incurred to aircraft, equipment, hangar, facilities, or other property. No visual evidence of AFFF migrating off base was discovered, but due to the fact that AFFF was witnessed in a drainage ditch and likely reached storm water drains, the spill had to be reported via United States Forces Japan (USFJ) Spill Report. The summary of costs and future costs due to the spill include the following: uniform items of exposed Marines that became hazardous material (HAZMAT) upon coming into contact with the AFFF; other HAZMAT cleanup materials that were used to contain the spill; replenishing the AFFF concentrate in building 507B (the maintenance building adjacent to hangar 507); and the transportation and disposal costs involving the handling of waste water stored in hangar 507's and 533's underground storage tanks (USTs).
7. A Hazard Report (HAZREP) investigation is being conducted concurrently with this CI. HMLA-369 has complied with reporting requirements by producing the Unit Environmental Report (UER) Spill Report Form and the USFJ Spill Report.
8. During the course of this investigation, not a single individual the IO consulted was able to provide the name of the person who unlocked building 507B aboard MCASF. This is important to note because it took Expeditionary Firefighting and Rescue (EFR) individuals approximately 12-15 minutes after they arrived to fully shutdown the AFFF discharge from the shutoff valves located inside building 507B, which ultimately led to more AFFF discharge and therefore increased future cleanup costs. This information was identified as pertinent information to the investigation but was still pending delivery to the IO at the completion of this report.

Subj: COMMAND INVESTIGATION INTO THE INCIDENT INVOLVING THE DISCHARGE OF
AQUEOUS FILM FORMING FOAM INSIDE A HANGAR BUILDING

Findings of Fact

1. The initial voice report to Headquarters Marine Corps involving a serious incident occurred at 1854L on 5 December 2019. [Encl. (2)]
2. A Routine precedence Operational Report (OPREP) 3 Serious Incident Report (SIR) involving Aqueous Film-Forming Foam (AFFF) discharge was released by Headquarters and Headquarters Squadron (H & HS) MCASF at 1015Z on 5 December 2019. [Encl. (2)]
3. Hangar 507 was the site of the AFFF discharge. [Encl. (2)]
4. At 1548, 5 December 2019. (b)(6), (b)(7)(c) the MCASF Environmental Coordinator, notified the MCASF Squadron Duty Officer (SDO) of the incident. [Encl. (2), (17)]
5. The spill did not impact air operations. [Encl. (2)]
6. 300 gallons of legacy AFFF concentrate were dispersed resulting in the formation of 10,000 gallons of mixture. This was a 3% mixture. [Encl. (2), (3), (4), (17)]
7. Some of the AFFF overflowed a dam and was observed in a storm drain by Environmental and EFR experts. [Encl. (2), (3), (4), (17)]
8. There was a single AH-1Z aircraft owned by HMLA-369 in the hangar at the time of the incident. [Encl. (2)]
9. (b)(3), (b)(6), (b)(7)(c) was the EFR section chief on scene. [Encl. (2), (17)]
10. (b)(6), (b)(7)(c) is the MCASF Environmental Liaison and was the incident commander. [Encl. (3), (6), (17)]
11. Marine Aircraft Group (MAG) 36 is reporting on the aircraft incident that caused the AFFF release through their operational chain of command. [Encl. (2)]
12. In terms of news media interest, Marine Corps Installations Pacific Command (MCIPAC) G-3/5 are coordinating with MCIPAC COMMSTRAT for appropriate action in accordance with United States Forces Japan (USFJ) Standard Operating Procedures (SOPs) and law. [Encl. (2)]
13. There was and will be minimal to no impact on the environment and geographic area affected by the incident. [Encl. (4), (17)]
14. 10,000 gallons of the AFFF mixture was recovered and is currently stored in USTs at hangars 507 and 533. [Encl. (4), (17)]
15. The UER Spill Report Form and the USFJ Spill Report were completed on 6 December 2019 at 0755. [Encl. (3), (4)]
16. The spill was documented as occurring at 1445L on 5 December 2019. [Encl. (3), (4)]
17. The weather included an overcast layer, rain, and winds out of the northeast greater than 15 knots. [Encl. (3), (4)]
18. Marine Aircraft Logistics Squadron (MALS) 36 Marines were the first on scene to attempt to contain the HAZMAT. [Encl. (3), (4)]
19. At approximately 2030, Marines finished the first rinse of hangar 507 and aircraft 48, closed off the area, and ensured all HAZMAT was properly disposed of before departing the site. [Encl. (3)]

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20. (b)(3), (b)(6), (b)(7)(c)
(b)(3), (b)(6), (b)(7)(c) encountered skin
contact with the AFFF mixture. [Encl. (3)]
21. (b)(3), (b)(6), (b)(7)(c)
(b)(3), (b)(6), (b)(7)(c)
(b)(3), (b)(6), (b)(7)(c)
(b)(3), (b)(6), (b)(7)(c) worked to clean the spill from 1500 until 2030. [Encl. (3)]
22. Chemguard C603 6% AFFF Bulk Blend Safety Data Sheet (SDS) was what was provided to HMLA-369 Corrosion Control / Hazardous Waste (CCHAZ) for handling the AFFF. It is considered to be a hazardous chemical that can cause serious eye damage or eye irritation. [Encl. (5)]
23. In order to prevent the more serious effects of coming into contact with C603 AFFF, exposed personnel must wash face, hands and any exposed skin thoroughly after handling. Handlers should wear eye and face protection. [Encl. (5)]
24. Regarding first aid measures in respect to C603 AFFF, under general advice, the SDS calls for: "Keep the victim under observation. Move victim to a safe isolated area. Move victim to fresh air. Remove contaminated clothing and shoes. If symptoms persist, call a physician." For other first aid measures, the SDS calls for conducting a thorough rinse for eye contact, a washing for skin contact, giving oxygen if breathing is difficult, and calling a poison control center or physician immediately if ingested. [Encl. (5)]
25. The SDS calls to "prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas" in regards to environmental precautions. [Encl. (5)]
26. C603 AFFF has some level of toxicity in relation to mammals and aquatic life. [Encl. (5)]
27. Chemguard C603 6% AFFF Bulk Blend does not comply with Japan Existing and New Chemical Substances (ENCS) according to the SDS. [Encl. (5)]
28. HMLA-369 completed the Annual Environmental Compliance Assessment on the morning of 5 December 2019. Hazardous waste, HAZMAT, environmental documentation/continuity binder, drip pan management, parking/staging areas, maintenance bays, equipment fluid change-out, recycling, spill prevention and response, and environmental training areas were reviewed during the assessment. No findings, discrepancies, or issues were observed. [Encl. (6), (17)]
29. 4,000 gallons of contaminated water were moved from hangar 507's UST to hangar 533's UST as a precautionary measure to avoid overflow from hangar 507's UST. [Encl. (17)]
30. The MCASF Fire Department and facilities require that the fire suppression lines to hangar 507 be flushed before the hangar can be declared safe for use. This flush will add more contaminated water to the UST at hangar 507 that will require disposal, which will incur additional costs. [Encl. (17)]
31. Maintenance Action Form (MAF) Job Control Number (JCN) GC3319001 identified the following discrepancy on 15 November 2019 at 0742: "VENT BYPASS VALVE FAILED TO CLOSED WCA". The MAF was signed off on 9 December 2019 at 1302. [Encl. (7)]
32. MAF JCN GHM303235 identified the following discrepancy on 30 October 2019 at 2202: "VNT BYP VLV FAIL TO CLOSE DURING TAXI OUT. RECEIVED WCA TWICE, THEN NOT AGAIN FOR WHOLE FLIGHT." The MAF was completed on 31 October 2019 at 1235. [Encl. (7)]
33. MAF JCN GC3340093 identified the following discrepancy on 6 December 2019 at 1136: "PERFORM ONE TIME INSPECTION AND CONDUCT (conduct) AC WASH DUE TO 'FFF' EXPOSURE IAW 609-3". The MAF was completed on 6 December 2019 at 1402. [Encl. (7)]
34. The APU syllabus does not include a section on operating environment. [Encl. (8)]

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35. (b)(3), (b)(6), (b)(7)(c) was the lead Avionics Marine working with civilian technology representatives (b)(6), (b)(7)(c) on 5 December 2019 in hangar 507. [Encl. (9), (10), (11), (12)]

36. (b)(3), (b)(6), (b)(7)(c) (Tool Room Marine) was working in hangar 507 prior to the incident. Approximately 20 minutes prior to the AFFF system discharging (estimated 1420) (b)(3), (b)(6), (b)(7)(c) was operating an NC-10 power cart in hangar 507. [Encl. (9)]

37. (b)(6), (b)(7)(c) was working on the Fuel Vent Bypass Valve while (b)(6), (b)(7)(c) were working on HMSD systems on aircraft 48 in hangar 507 on the morning of 5 December 2019. [Encl. (9), (11), (12)]

38. (b)(3), (b)(6), (b)(7)(c) tested the fuel vent bypass valve on Static Frequency Converter (SFC) power but it did not provide the power needed to change the position of the valve. [Encl. (9), (11), (12), (24)]

39. Aircraft 48's APU was powered up and shutdown while in hangar 48 without setting off the AFFF dispensing system at least one time prior to the incident. [Encl. (9), (11), (12), (24)]

40. (b)(3), (b)(6), (b)(7)(c) were all present during an APU startup and shutdown without issue in the morning on 5 December 2019 in hangar 507. [Encl. (11), (12)]

41. (b)(3), (b)(6), (b)(7)(c) if he could use APU power in hangar 507 on the morning of 5 December 2019. (b)(6), (b)(7)(c) stated that the APU use had been approved by QA and or Maintenance Control to the group. With the group present and (b)(6), (b)(7)(c) (b)(6), (b)(7)(c) direction, (b)(3), (b)(6), (b)(7)(c) started aircraft 48's APU in hangar 507. [Encl. (9), (11), (12)]

42. (b)(6), (b)(7)(c) claimed that (b)(3), (b)(6), (b)(7)(c) was the one who verified that running an APU in the hangar was acceptable before the incident. [Encl. (10), (24)]

43. (b)(6), (b)(7)(c) challenged (b)(6), (b)(7)(c) desire to start an APU in hangar 507. [Encl. (11), (12)]

44. (b)(3), (b)(6), (b)(7)(c) was the one who started the APU each time in hangar 507 on 5 December 2019. [Encl. (9), (11), (12), (24)]

45. Each time aircraft 48's APU was run on 5 December 2019 it was for a period of approximately 2-3 minutes or more. [Encl. (9), (11), (12)]

46. (b)(6), (b)(7)(c) went to lunch together but started working on separate projects when they returned. (b)(6), (b)(7)(c) went back to hangar 507 before the other two made their way to hangar 507. [Encl. (9), (11), (12)]

47. (b)(3), (b)(6), (b)(7)(c) started aircraft 48's APU between 1400 and 1500 on 5 December 2019. The time the AFFF system went off in the hangar was at an approximate time of 1445 to 1500. [Encl. (3), (4), (9), (10)]

48. The APU was turned on, maintenance concerning the fuel vent bypass valve was completed, and the system checked good, but the crew wanted to shut the aircraft all the way down and restart in order to see if the success was a fluke. It was after subsequently starting the APU in order to check the fixed system the second time that the APU set off hangar 507's AFFF system. [Encl. (9), (24)]

49. (b)(3), (b)(6), (b)(7)(c) were the only two personnel present in the hangar 507 main hangar space at the time of the incident. MV-22 Fleet Support Team representative, (b)(6), (b)(7)(c) was in his office inside hangar 507 at the time of the incident. [Encl. (9), (10), (24), (26)]

50. The AFFF system dispensed from the floor but the overhead system did not dispense. [Encl. (9), (14), (24), (26)]

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51. (b)(3), (b)(6), (b)(7)(c) shut off the wall power switch that was providing power to the SFC that was inside hangar 507 at the time of the first expenditure of AFFF. [Encl. (9)]

52. Following the initial incident, (b)(6), (b)(7)(c) left the scene to notify Maintenance Control, (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c) began retrieving tools and equipment from hangar 507 while AFFF was dispensing. (b)(3), (b)(6), (b)(7)(c) and assisted (b)(3), (b)(6), (b)(7)(c) with retrieving equipment from hangar 507 after (b)(3), (b)(6), (b)(7)(c) had conducted multiple tool retrieval runs on his own. The initial retrieval of equipment occurred before cleanup efforts commenced. [Encl. (9), (13), (14), (22), (23), (24)]

53. When the AFFF first went off in hangar 507, there was an AH-1Z aircraft, a PEMA laptop, Optimized Top Owl Helmet, NC-10, SFC, 17 sealed auxiliary fuel tanks, an Ordnance tool box, ABE gear (bore sighting equipment), a three-tier roll-around-rack with Helmet Mounted Sight and Display equipment, Electronic Unit, HEC cord, CMO, CMC2, PEMA, CMFLE, Multi-meter, some personal items, and another Thales piece of equipment. All of these items were removed from the hangar prior to cleanup efforts with the exception of the AH-1Z, auxiliary fuel tanks, NC-10, and SFC. [Encl. (9), (11), (13), (14), (24), (26)]

54. At approximately 1530 on 5 December 2019, Maintenance Control received the word that the fire suppression system was activated in hangar 507. (b)(3), (b)(6), (b)(7)(c) received the phone call from (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c) notified Maintenance Control of the incident and called for the duty tow crew to be assembled in order to move aircraft 48 out of hangar 507. (b)(3), (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c) notified the Aircraft Maintenance Officer of the incident. [Encl. (15), (21), (22), (23), (24)]

55. The tow crew, consisting of (b)(3), (b)(6), (b)(7)(c) (b)(6), (b)(7)(c) attempted to go in to the hangar to retrieve aircraft 48 post AFFF expenditure but were kicked out of the hangar by EFR so EFR could contain the AFFF HAZMAT. [Encl. (9), (13), (14), (16), (24)]

56. (b)(6), (b)(7)(c) arrived back at hangar 507, minutes after the incident began on 5 December 2019. [Encl. (11), (12)]

57. Other first responders to the incident on 5 December 2019 included MALS-36, HMLA-369 Ordnance, EFR, Environmental, and CCHAZ. [Encl. (3), (4), (16), (17), (18), (19), (21)]

58. (b)(3), (b)(6), (b)(7)(c) were the EFR Station Captain and Assistant Station Captain respectively on duty on 5 December 2019 when hangar 507 dispensed AFFF. The two arrived on scene at 1502 and began kicking people out of hangar 507 in order to treat the hangar as a HAZMAT spill site. Base Environmental Coordinators arrived shortly after. [Encl. (4), (16), (21), (22)]

59. The main hangar door and the middle garage style door of hangar 507 were open and the two outside garage doors were closed when first responders arrived on scene. The hangar door to 507 was closed by EFR to prevent further spreading of the AFFF outside of hangar 507 at the direction of base environmental. [Encl. (9), (16), (17), (24), (26)]

60. The AFFF system continued to go off a number of times after the abort button was pressed following the initial incident. There were multiple personnel who pressed the AFFF abort button multiple times before someone showed up to unlock building 507B, where EFR successfully secured the AFFF system. (b)(3), (b)(6), (b)(7)(c) (b)(3), (b)(6), (b)(7)(c) was holding the AFFF abort button when EFR arrived. [Encl. (9), (11), (13), (14), (16), (22), (23), (24)]

61. After EFR kicked everyone out of the hangar, there was a period when no one was holding the AFFF abort button. [Encl. (13), (24)]

62. It took approximately 12-15 minutes after EFR arrived at hangar 507 for someone to show up with a key for maintenance building 507B which houses the AFFF shutoff system. [Encl. (16)]

63. (b)(3), (b)(6), (b)(7)(c) went back in to hangar 507 after being told to leave so he could hold the AFFF abort button again in order to prevent damage to aircraft 48. The AFFF was getting very close to entering into the aircraft via open panels prior to (b)(3), (b)(6), (b)(7)(c) actions. [Encl. (9), (11), (13), (24)]

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64. (b)(3), (b)(6), (b)(7)(c) had experience with a faulty AFFF system in the past and knew how to suppress the system by utilizing the emergency stop button. [Encl. (13)]

65. The APU was not running at the time of the AFFF dispensing. [Encl. (9), (13)]

66. It took CCHAZ approximately 30 minutes to retrieve the SDS for the type of AFFF in hangar 507. This document provides emergency guidance and procedures. [Encl. (5), (18), (19), (20)]

67. MCASF Environmental provided Tyvex suits and rubber boots to the cleanup crew. HMLA-369 CCHAZ supplied respirators and spill kits from the HMLA-369 main hangar to help with the cleanup. MALS-36 supplied some other cleanup supplies. HMLA-369 Marines, MCASF Environmental, MALS-36, and EFR helped with HAZMAT clean up using the supplied gear. [Encl. (3), (16), (17), (18), (19), (24)]

68. MALS-36, HMLA-369, EFR, Base Environmental and Fed Fire personnel all had a hand in helping contain the AFFF discharge incident on 5 December 2019. [Encl. (16), (17), (18), (19), (21)]

69. After the AFFF was stopped in hangar 507 on 5 December 2019, cleanup began at approximately 1700 and finished around 1930 to 1945. [Encl. (21), (23)]

70. AFFF accumulation was approximately knee-high in depth in some parts of the hangar and extended out from the hangar doors. Aircraft 48 was sitting in foam no higher than the belly panel based on witness accounts and photographs. [Encl. (9), (14), (19), (21), (26)]

71. Foam from the spill was either guided into the underground storage system for hangars 507 and 533 or collected by CCHAZ and Base Environmental for disposal. [Encl. (17), (21)]

72. (b)(3), (b)(6), (b)(7)(c) briefed the exposed Marines on follow on actions. The exposed Marines were medically evaluated by (b)(3), (b)(6), (b)(7)(c) [Encl. (9), (14), (19)]

73. (b)(3), (b)(6), (b)(7)(c) medically evaluated (b)(3), (b)(6), (b)(7)(c)
(b)(3), (b)(6), (b)(7)(c) on 5 December 2019 after they were exposed to AFFF. [Encl. (20)]

74. Marines who were exposed to AFFF only encountered skin contact and no further medical attention is expected. [Encl. (20)]

75. On 3 December 2019, with (b)(3), (b)(6), (b)(7)(c) present, (b)(3), (b)(6), (b)(7)(c) told (b)(3), (b)(6), (b)(7)(c) that he had seen APU use in a hangar while at Naval Air Facility El Centro and that there are no restrictions in any guiding publications that prohibit it. [Encl. (15)]

76. On 5 December 2019 with civilian technology representatives present, (b)(3), (b)(6), (b)(7)(c) stated that he had seen APU use inside a hangar in the past. [Encl. (15), (24)]

77. The fire detection system in hangar 507 utilizes a system of three infrared sensors manufactured by Det-Tronics which use internal timers to separate actual fires from false positives. [Encl. (16), (26)]

78. It is currently estimated that hangar 507's and 533's USTs contain 25,000 to 30,000 gallons of waste water combined. [Encl. (17)]

79. Uniform items, pads, and other equipment that were utilized to isolate and clean up the spill at hangar 507 are currently stored in drums and will be sent to Camp Kinser for disposal. [Encl. (17)]

80. The UER or USFJ Spill Reports did not list the names of the civilian personnel who were present at the time of the incident. [Encl. (3), (4), (17)]

81. AFFF was not fully contained and due to wind, rain, and accumulation of AFFF, some of the AFFF blew away and or got washed into the storm drains. [Encl. (3), (4), (17), (18), (19)]

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82. (b)(3), (b)(6), (b)(7)(c) filled out the UER Spill Report. [Encl. (3), (17), (19)]
83. The USTs for hangars 507 and 533 must be pumped out and will need to be shipped to mainland Japan to be disposed of. [Encl. (17), (19)]
84. Nothing explicitly prohibits starting an APU in a hangar. [Encl. (21)]
85. Proper ventilation and hearing protection is required when operating an APU. [Encl. (21)]
86. The Industrial Hygiene Survey was expired for hangar 507 at the time of the incident. [Encl. (21)]
87. Hangar 507 is owned by MALS-36. Other units coordinate with MALS-36 Assistant Aircraft Maintenance Officer in order to facilitate its use. [Encl. (21), (23)]
88. NC-10 power carts, which utilize a diesel engine, are used commonly in hangars. [Encl. (9), (11), (21), (24)]
89. Multiple personnel did not understand how the fire detection systems worked in the hangars prior to this incident. [Encl. (9), (11), (13), (22), (23)]
90. When asked, some people did not think starting an APU in a hangar was an issue and others thought that it was common sense not to start APUs in hangars. [Encl. (22), (24)]
91. The crew working on aircraft 48 on 5 December 2019 did not have a radio with them while working in hangar 507. [Encl. (9), (11), (12), (22), (24)]
92. Operations in hangar 507 are not observable from the HMLA-369 main hangar. [Encl. (9), (22), (24), (26)]
93. Multiple personnel had not seen APU use in a hangar before this incident. [Encl. (11), (23), (24)]
94. Hangar 507 has five fire extinguishers on the inside walls. During the incident, two were obstructed by boxes and mattresses. There is a hanger for a sixth fire extinguisher but a sixth fire extinguisher was not present during the incident. [Encl. (26)]
95. Hangar 507 features four separate control panels that house AFFF Start and AFFF Abort buttons and controls. Procedures for the AFFF system are very clearly labeled at each of the stations. One of the stations was obstructed behind the racks of auxiliary tanks during the 5 December 2019 incident. [Encl. (26)]
96. Hangar 507 features eight separate AFFF dispensers manufactured by Viking in the floor of the hangar. [Encl. (26)]

Opinions

1. I do not suspect (b)(3), (b)(6), (b)(7)(c) of any ill intent after the incident on 5 December 2019. I believe that (b)(3), (b)(6), (b)(7)(c) was pressured into doing something that he did not feel fully comfortable doing, but as the licensed operator of the equipment he is still responsible for its use. Over the course of this investigation, the general consensus among personnel interviewed was that APU use in a hangar is something that should not be done; however, none of the appropriate references explicitly prohibit indoor APU use. While refraining from starting an APU inside of a hangar may appear obvious to most, all operations, no matter how common sense they may seem to be, must be backed up by appropriate publications and orders if there is any likelihood that those operations may be attempted. [FF (31), (32), (34), (37-39), (41), (51), (52), (75), (76), (84), (90), (93)]
2. (b)(3), (b)(6), (b)(7)(c) is an intelligent, steadfast, and determined Marine who often comes up with solutions that others do not consider when striving for mission accomplishment. He is regarded as an expert and has a habit of jumping into conversations to provide his input. However, (b)(3), (b)(6), (b)(7)(c) suggestions and comments as a controller should be taken with a grain of salt. He is not currently qualified as a CDI or CDQAR. In this instance his comments of "I have seen this before," relating to APU use in a hangar, appear to have been more

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conversational in nature but were mistaken as guidance and or approval to operate an APU inside a hangar. Due to the charisma, enthusiasm, and job position of (b)(3), (b)(6), (b)(7)(c) younger Marines, including pilots, aircrew, and maintainers, hold him in high esteem and can easily be influenced by his standing. It is the responsibility of the individual Marine, aircrew and maintainer alike, to weigh Maintenance Control's suggestions with the Quality Assurance shop and overarching publications, orders, and regulations. [FF (75), (76)]

3. The lack of understanding of how firefighting and emergency equipment function throughout squadron work spaces is concerning. Although this particular incident highlighted a lack of common knowledge on how to shut off an emergency system vice turning it on, it could be argued that some Marines would not know the immediate action steps required to initiate hangar emergency systems should the automatic system fail during an actual emergency. It took a Marine with background experience involving AFFF systems to preserve vital assets. His actions potentially saved the aircraft and the Ground Support Equipment within hangar 507 from significant damage. I do not believe that a lack of knowledge involving facility emergency systems is a problem specific to HMLA-369, but rather to the entire fleet. Due to our expeditionary nature, our community trains to work in many different facilities and environments but rarely are there subject matter experts who show and explain how facility emergency systems work. Oftentimes, squadrons are left to figure things out on their own. [FF (52), (61), (63), (64), (77), (89)]

4. Although a specific instance of APU use inside a hangar was not verified as a finding of fact, I believe that other units have done this before. Multiple personnel mentioned that they had heard that the practice was done with Unit Deployment Program squadrons in the past without issue. [FF (84), (90), (93)]

5. Anytime an event occurs, people are likely to have stories that do not fully match up due to differing perspectives. This being said, (b)(6), (b)(7)(c) story differs significantly from the other eyewitness accounts. He stated that on the day of the incident, (b)(3), (b)(6), (b)(7)(c) ran in to Maintenance Control to confirm that APU use inside of hangar 507 was authorized. This statement could not be corroborated with and was contrary to any other statement regarding the hangar 507 incident. (b)(3), (b)(6), (b)(7)(c)

(b)(6), (b)(7)(c) all claim that it was (b)(6), (b)(7)(c) who said that he had gotten approval. [FF (35), (40), (41-43), (76)]

Recommendations

1. Recommend a change to maintenance and aircraft publications that includes placing a caution concerning the operation of APUs in confined spaces and specifically in the vicinity of fire detection and automatic suppression systems. This warning should be incorporated into TMS specific NATOPS, APU, and maintenance publications as appropriate.

2. Recommend that the MCASF Station Order include an engine-run procedure section to identify authorized engine-run and APU use locations aboard MCASF and any other applicable operational constraints such as required hangar door position (open versus closed). Figure 8-1 of reference (f) only applies to quiet hours engine-run procedures. Either include a "no quiet hours" section in the table with associated authorized engine-run locations or include it as a separate section altogether.

3. Every hangar is laid out differently; not every hangar has the same emergency systems. Recommend MCASF conducts training with the Ground Safety Officer (GSO) and or the Ground Safety Manager (GSM) at a minimum regarding hangar and air facility use and corresponding emergency procedures anytime a unit moves into a new facility.

4. Recommend that a Local Command Procedure be drafted regarding APU procedures until other applicable publications can be changed.

5. Recommend that the Marines of HMLA-369 are educated on workspace emergency systems. Have a hangar specific training as part of each squadron safety stand down to include the nature of the firefighting system in the occupied hangar, immediate actions in case of emergency, and a refresh on HAZMAT procedures briefed by the GSO and GSM. The squadron is often expected to work in new and unfamiliar work spaces during deployments and detachments or simply when moving hangars. Each time the squadron moves and begins working in a new location, the facility and emergency systems should be briefed in detail and Marines should do a walkthrough of the spaces. Marines rely on pass down instead of structured training for their understanding of their workspace.

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Very few understand how the emergency systems work in their own workspace that they are in for a majority of their waking hours.

6. Recommend that a copy of this report is forwarded to Naval Air Systems Command (NAVAIR) for the purpose of counseling (b)(6), (b)(7)(c)
7. Recommend revocation of (b)(3), (b)(6), (b)(7)(c) APU license and impose a suspension on re-licensing until further notice.
8. Recommend informal counseling for (b)(3), (b)(6), (b)(7)(c) The counseling should address the incident at hand, how his influence as a maintenance controller affected the outcome of the 5 December 2019 hangar 507 incident, and the corrective action for him to take. (b)(3), (b)(6), (b)(7)(c) needs to be aware that his position comes with implied authority and that the direction he provides to all Marines, to include pilots, aircrew, and maintenance crews, may have second and third order effects.
9. Recommend that all Marines with an APU license conduct one-time APU use refresher training. Training should cover standard APU use considerations and procedures. Training may be conducted as part of normal Tech Training and should specifically highlight this event and future APU use in accordance with the above recommended Local Command Procedure.
10. Recommend that Maintenance Control ensures that radios are provided to any isolated areas where extended maintenance operations will take place. Notification was delayed due to a lack of any direct line of communication from the mishap site back to HMLA-369's main hangar. If an emergency were to occur on the line, other Marines, the airfield tower, and other entities would likely see that an issue was occurring and help was needed. In the case of this incident, no one could see that an issue occurred because it was contained inside a hangar.
11. Recommend that (b)(3), (b)(6), (b)(7)(c) be put up for an award. His actions likely prevented a \$30 million aircraft and other equipment within hangar 507 from incurring significant damage. Although he was told to leave the hangar earlier, he went back in when it was clear to him that he knew what the right thing to do was at a chaotic time and when EFR did not necessarily foresee the implications of leaving the AFFF abort button unattended. He managed risk appropriately and prevented this incident from becoming exponentially worse than it ended up being. Many other Marines' actions stand out on 5 December 2019 to include Tow Crew, CCHAZ, Ordnance, EFR, and MALS-36. All of these entities responded well regarding the circumstances, but (b)(3), (b)(6), (b)(7)(c) actions stand out above the rest (b)(3), (b)(6), (b)(7)(c) due to his experiences, knowledge, and foresight to excellent use.

(b)(3), (b)(6), (b)(7)(c)

Copy to:
SJA, 1st MAW



UNITED STATES MARINE CORPS
MARINE LIGHT ATTACK HELICOPTER SQUADRON 369
UNIT 89070
FPO AP 96610-7000

IN REPLY REFER TO
5830
CO
6 Dec 19

From: Commanding Officer, Marine Light Attack Helicopter Squadron 369
To: (b)(3), (b)(6), (b)(7)(c) USMC

Subj: APPOINTING ORDER FOR THE COMMAND INVESTIGATION INTO THE INCIDENT INVOLVING
THE DISCHARGE OF AQUEOUS FIRE FIGHTING FOAM INSIDE A HANGAR BUILDING.

Ref: (a) JAGMAN, Chapter II

1. This letter appoints you, per chapter II of reference (a), to inquire into the facts and circumstances surrounding the incident regarding the discharge of Aqueous Fire Fighting Foam in a hangar building as a result of an AH-1Z Auxiliary Power Unit (APU) being started in the building.

2. Investigate the circumstances surrounding the aforementioned incident to include:

- a. Whether there are any orders or directives which prohibit starting an APU in a building.
- b. Who started the APU? Who gave the direction to start the APU? Did anyone state it was authorized to start the APU in a building?
- c. Was the spill and following cleanup handled properly?
- d. Was there any assessed injury to personnel, damage to aircraft or property?
- e. Were there any shortcomings in practice or procedure that appear contributory or causal?

Report your findings and opinions, to include lessons learned to carry forward and any potential mitigation measures for the future.

3. The conduct of this investigation is your primary duty until completion.

4. Your report is to be complete in letter form by 5 January 2020, unless an extension of time is granted. If you have not previously done so, read chapter II of reference (a) in its entirety before beginning your inquiry.

5. During the course of your investigation you may seek legal support from the 1st MAW Staff Judge Advocate's Office at 645-4004. Submit your report to the Legal Officer, HMLA-369 for review prior to submission to the convening authority.

6. The point of contact for this matter is the Squadron Legal Officer, (b)(3), (b)(6), (b)(7)(c) who may be reached at (b)(3), (b)(6), (b)(7)(c)

(b)(3), (b)(6), (b)(7)(c)

ENCLOSURE (1)

Originator: HHS MCAS FUTENMA JA
DTG: 051015Z DEC 19 Precedence: Routine
To: CMC PPO POC WASHINGTON DC, CMC PPO WASHINGTON DC
CC: HHS MCAS FUTENMA JA, MCAS FUTENMA JA, CG MCIPAC G ONE

UNCLASSIFIED//

MSGID/OPREP-3 SIR//

SUBJ/OPREP-3SIR/M02204/016/DEC/19//

REF/A/DOC/MCO 3504.2/-//

REF/B/DOC/MCBJ/CG III MEFO P3480.6A/-//

REF/C/VOICE REPORT/MCOC/1854L 5 DEC 19(0954Z 5 DEC 19)

NARR/REF A IS HQMC OPREP-3 SIR REPORTING ORDER. REF B IS MCBJ/III MEF

OPREP-3 REPORTING ORDER//

GENTEXT/INCIDENT IDENTIFICATION AND DETAILS/1. AT 1548, 5 DEC 2019, MCAS FUTENMA SDO WAS NOTIFIED OF AN AQUEOUS FILM-FORMING FOAM (AFFF) DISCHARGE IN HANGAR 507. THE SPILL DID NOT IMPACT AIR OPERATIONS. CURRENT ESTIMATES ARE 300 GALLONS OF LEGACY AFFF CONCENTRATE WAS DISPERSED, RESULTING IN THE FORMATION OF 10,000 GALLONS OF WATER/FOAM MIXTURE. MCAS FUTENMA EFR PERSONNEL IMMEDIATELY RESPONDED AND INITIALLY CONTAINED THE SPILL TO THE AFFF DRAINAGE SYSTEM ASSOCIATED WITH AFFF SYSTEMS ABOARD THE AIR STATION. HOWEVER, DUE TO AMBIENT WEATHER CONDITIONS (RAIN), SOME OF THE AFFF OVERFLOWED A DAM AND WAS OBSERVED IN A STORM DRAIN. ENVIRONMENTAL AND EFR EXPERTS EXAMINED THE DRAINS IN THE IMMEDIATE VICINITY AROUND THE BUILDING AND OBSERVED AN SINGLE AREA OF OVERSPILL. ONE AH-12 WAS IN THE HANGAR AT THE TIME OF THE INCIDENT.

2. DATE TIME GROUP OF INCIDENT: 05DEC19(1548L(0648Z))

3. NAME, GRADE, AND ORGANIZATION OF PERSON REPORTING INCIDENT: (b)(6), (b)(7)(c)

(b)(6), (b)(7)(c) (ENVIRONMENTAL);

(b)(6), (b)(7)(c)

(b)(6), (b)(7)(c)

4. PERSON(S) INVOLVED TO INCLUDE VICTIMS, SUSPECTS AND WITNESSES.

A. VICTIM: NOT APPLICABLE TO THIS REPORT.

B. SUSPECTS: NOT APPLICABLE TO THIS REPORT.

C. WITNESS:

(b)(3), (b)(6), (b)(7)(c)

(b)(6), (b)(7)(c) (ENVIRONMENTAL);

(b)(6), (b)(7)(c)

3343-1758). (b)(3), (b)(6), (b)(7)(c) IS THE EFR SECTION CHIEF ON SCENE. (b)(6), (b)(7)(c)

(b)(6), (b)(7)(c) IS THE MCASF ENVIRONMENTAL LIAISON AND THE INCIDENT COMMANDER.

5. MCAS FUTENMA IS RESPONDING TO AND REPORTING ON THE AFFF INCIDENT. MAG-36 IS REPORTING ON THE AIRCRAFT INCIDENT THAT CAUSED THE AFFF RELEASE. THE SPILL DID NOT IMPACT AIR OPERATIONS.

6. LOCAL INTEREST IN THIS EVENT IS LIKELY. MCIPAC G-3/5 COORDINATING WITH MCIPAC COMMSTRAT FOR APPROPRIATE ACTION IAW USFJ SOPS AND LAW. CURRENTLY, THERE IS NO MEDIA COVERAGE TO DATE BUT THERE IS ANTICIPATED NEWS MEDIA INTEREST IN THE INCIDENT.

7. MCASF HAS NOT SPECIFICALLY NOTIFIED THE MCIPAC G-2.

8. COMPONENT/DOD/POLITICAL/HOST NATION PERSONNEL NOTIFIED: MCIPAC NOTIFIED VIA CCIR REPORTING. MCIPAC IS GENERATING USFJ REPORTING. MCASF REPORTING COORDINATED WITH III MEF COPS, III MEF AIR OFFICER, AND MAG-36.

9. PLAN OF ACTION TO DEAL WITH VICTIMS NEEDS/CONCERNS: NA

10. ASSESS SOFA ISSUES (E.G. CUSTODY, JURISDICTION, CLAIMS, ETC.): MCASF WILL COORDINATE WITH MCIPAC G-3/5 AND G-7 TO SUPPORT USFJ RFIS AND TASKS ASSOCIATED WITH THIS SPILL

11. FURTHER ACTION BEING TAKEN: MAG-36 IS REPORTING THE AVIATION INCIDENT THROUGH THEIR OPERATIONAL CHAIN OF COMMAND. MAG-36 PLANS TO KEEP THE AIRCRAFT IN THE HANGAR OVERNIGHT. HMLA-369 WORKING CONCURRENTLY WITH ENVIRONMENTAL TO PUMP OUT THE OVERSPILL.

12. THE UNIT POC IS (b)(3), (b)(6), (b)(7)(c) HQHQRON ADMINISTRATIVE CHIEF, MCAS FUTENMA AT DSN:

(b)(3), (b)(6), (b)(7)(c)

ENCLOSURE (2)



Safety Data Sheet

This safety data sheet complies with the requirements of: 2012 OSHA Hazard Communication Standard (29CFR 1910.1200)

Product name CHEMGUARD C603 6% AFFF Bulk Blend

1. Identification

1.1. Product Identifier

Product name CHEMGUARD C603 6% AFFF Bulk Blend

1.2. Other means of identification

Product code 711003
Synonyms None
Chemical Family Fire fighting foam, surfactant

1.3. Recommended use of the chemical and restrictions on use

Recommended use Fire extinguishing agent.
Uses advised against None known.

1.4. Details of the Supplier of the Safety Data Sheet

Company Name Tyco Fire Protection Products
One Stanton Street
Marinette, WI 54143-2542
Telephone: 715-735-7411
Contact point Product Stewardship at 1-715-735-7411
E-mail address psra@tycofp.com

1.5. Emergency Telephone Number

Emergency telephone CHEMTREC 800-424-9300 or 703-527-3887

2. Hazards Identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation - Category 2A

2.2. Label Elements

Signal Word
WARNING

Hazard Statements
Causes serious eye irritation



Precautionary Statements

Prevention
Wash face, hands and any exposed skin thoroughly after handling. Wear eye/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

2.3. Hazards Not Otherwise Classified (HNOC)

Not Applicable.

2.4. Other Information

Unknown Acute Toxicity

5.2% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/information on Ingredients**3.1. Mixture**

The following component(s) in this product are considered hazardous under applicable OSHA(USA)

Chemical name	CAS No.	weight-%
2-(2-Butoxyethoxy)ethanol	112-34-5	1 - 5
Sodium Decyl Sulfate	142-87-0	1 - 5

4. First aid measures**4.1. Description of first aid measures****General Advice**

Keep victim under observation. Move victim to a safe isolated area. Move victim to fresh air. Remove contaminated clothing and shoes. If symptoms persist, call a physician.

Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash skin with soap and water. Get medical attention if irritation develops and persists.

Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. (Get medical attention immediately if symptoms occur.)

Ingestion

Rinse mouth. Do not induce vomiting without medical advice. If swallowed, call a poison control center or physician immediately.

4.2. Most Important Symptoms and Effects, Both Acute and Delayed**Symptoms**

No information available.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed**Note to physicians**

Treat symptomatically.

5. Fire-fighting measures**5.1. Suitable Extinguishing Media**

Product is extinguishing agent. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2. Unsuitable Extinguishing Media

None.

5.3. Specific Hazards Arising from the Chemical

None known.

Hazardous Combustion Products	Carbon oxides, Fluorinated oxides, Nitrogen oxides (NOx), Oxides of sulfur
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5.4. Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

5.5. Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal Precautions	Ensure adequate ventilation, especially in confined areas.
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For emergency responders	Use personal protection recommended in Section 8.
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6.2. Environmental Precautions

Environmental Precautions	Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological Information.
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6.3. Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
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Methods for Cleaning Up	Pick up and transfer to properly labeled containers.
-------------------------	--

7. Handling and Storage**7.1. Precautions for Safe Handling**

Advice on safe handling	Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice.
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7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place.
--------------------	--

Incompatible Materials	Strong oxidizing agents. Strong acids. Strong bases.
------------------------	--

8. Exposure Controls/Personal Protection**8.1. Control Parameters**

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL
2-(2-Butoxyethoxy)ethanol 112-34-5	TWA: 10 ppm inhalable fraction and vapor	-	-	-

ACGIH (American Conference of Governmental Industrial Hygienists) OSHA (Occupational Safety and Health Administration of the

US Department of Labor) NIOSH IDLH Immediately Dangerous to Life or Health

8.2. Appropriate Engineering Controls

Engineering controls	Showers Eyewash stations Ventilation systems.
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8.3. Individual protection measures, such as personal protective equipment

Eye/Face Protection	Avoid contact with eyes. Tight sealing safety goggles.
Skin and Body Protection	Wear protective gloves and protective clothing.
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Ventilation	Use local exhaust or general dilution ventilation to control exposure with applicable limits

8.4. General hygiene considerations

Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties
--

9.1. Information on basic physical and chemical properties

Physical State	Liquid	Color	Amber
Odor	Slight solvent		
Odor Threshold	No data available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	7.0	
Melting point/freezing point	-1 °C / 30 °F	
Boiling point / boiling range	> 100 °C / 212 °F	
Flash Point	> 100 °C / > 212 °F	
Evaporation Rate	No data available	
Flammability (solid, gas)	No data available	
Flammability limit in air		
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor Pressure	No data available	
Vapor Density	No data available	
Specific gravity	1.00 - 1.20	
Water Solubility	Completely soluble	
Solubility in Other Solvents	No data available	
Partition coefficient	No data available	
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Kinematic viscosity	No data available	

10. Stability and Reactivity

10.1. Chemical Stability

Stable under recommended storage conditions.

10.2. Reactivity

No data available

10.3. Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

10.4. Conditions to Avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible Materials

Strong oxidizing agents. Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon oxides. Nitrogen oxides (NOx). Oxides of sulfur. Fluorinated oxides.

11. Toxicological Information**11.1. Information on Likely Routes of Exposure****Product information**

Inhalation	No data available.
Eye Contact	Severely irritating to eyes.
Skin contact	May cause irritation.
Ingestion	No data available.

Component Information**Acute Toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2-(2-Butoxyethoxy)ethanol 112-34-5	= 5660 mg/kg (Rat)	= 2700 mg/kg (Rabbit)	-
Sodium Decyl Sulfate 142-87-0	= 1950 mg/kg (Rat)	-	-

11.2. Information on Toxicological Effects

Symptoms No information available.

11.3. Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin Corrosion/Irritation	Irritating to skin.
Serious eye damage/eye irritation	Severely irritating to eyes.
Sensitization	No information available.
Germ Cell Mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive Toxicity	No information available.

STOT - Single Exposure No information available.
STOT - Repeated Exposure No information available.
Aspiration Hazard No information available.

11.4. Numerical Measures of Toxicity - Product information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 42952 mg/kg
ATEmix (dermal) 90000 mg/kg

12. Ecological Information

12.1. Ecotoxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Crustacea
2-(2-Butoxyethoxy)ethanol 112-34-5	EC50 (96h) > 100 mg/L Desmodesmus subspicatus	LC50 (96h) static = 1300 mg/L Lepomis macrochirus	EC50 (48h) > 100 mg/L Daphnia magna EC50 (24h) = 2850 mg/L Daphnia magna
Cumene sulfonate, sodium salt 28348-53-0	EC50 (72h) > 1000 mg/L Desmodesmus subspicatus	-	EC50 (24h) > 1000 mg/L Daphnia magna
1,2-Propanediol 57-55-6	EC50 (96h) = 19000 mg/L Pseudokirchneriella subcapitata	LC50 (96h) static 41 - 47 mg/L Oncorhynchus mykiss LC50 (96h) static = 51600 mg/L Oncorhynchus mykiss LC50 (96h) static = 51400 mg/L Pimephales promelas LC50 (96h) = 710 mg/L Pimephales promelas	EC50 (24h) > 10000 mg/L Daphnia magna EC50 (48h) Static > 1000 mg/L Daphnia magna
Sodium chloride 7647-14-5	-	LC50 (96h) semi-static = 7050 mg/L Pimephales promelas LC50 (96h) flow-through 4747 - 7824 mg/L Oncorhynchus mykiss LC50 (96h) static = 12946 mg/L Lepomis macrochirus LC50 (96h) static 6020 - 7070 mg/L Pimephales promelas LC50 (96h) flow-through 5560 - 6080 mg/L Lepomis macrochirus LC50 (96h) static 6420 - 6700 mg/L Pimephales promelas	EC50 (48h) Static 340.7 - 469.2 mg/L Daphnia magna EC50 (48h) = 1000 mg/L Daphnia magna
t-Butanol 75-65-0	EC50 (72h) > 1000 mg/L Desmodesmus subspicatus	LC50 (96h) flow-through 6130 - 6700 mg/L Pimephales promelas	EC50 (48h) Static 4607 - 6577 mg/L Daphnia magna EC50 (48h) = 933 mg/L Daphnia magna
2-Methyl-2,4-pentanediol 107-41-5	-	LC50 (96h) flow-through = 8690 mg/L Pimephales promelas LC50 (96h) flow-through 10500 - 11000 mg/L Pimephales promelas LC50 (96h) static = 10000 mg/L Lepomis macrochirus LC50 (96h) static = 10700 mg/L Pimephales promelas	EC50 (48h) 2700 - 3700 mg/L Daphnia magna
Formaldehyde 50-00-0	-	LC50 (96h) static = 1510 µg/L Lepomis macrochirus LC50 (96h) flow-through 0.032 - 0.226 mL/L Oncorhynchus mykiss LC50 (96h) flow-through 22.6 - 25.7 mg/L Pimephales promelas LC50 (96h) static 23.2 - 29.7 mg/L Pimephales promelas LC50 (96h) static = 41 mg/L Brachydanio rerio LC50 (96h) static 100 - 136 mg/L Oncorhynchus mykiss	EC50 (48h) Static 11.3 - 18 mg/L Daphnia magna LC50 (48h) = 2 mg/L Daphnia magna

12.2. Persistence and Degradability12.3. Bioaccumulation

No information available.

12.4. Other Adverse Effects

No information available

13. Disposal Considerations13.1. Waste Treatment Methods

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Do not reuse container.

14. Transport Information

<u>DOT</u>	NOT REGULATED
<u>TDG</u>	NOT REGULATED
<u>MEX</u>	NOT REGULATED
<u>ICAO (air)</u>	NOT REGULATED
<u>IATA</u>	NOT REGULATED
<u>IMDG</u>	NOT REGULATED

15. Regulatory Information15.1. International Inventories

TSCA	Complies
DSL/NDSL	Complies
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. US Federal Regulations

SARA 313



Product code 711003

Product name CHEM GUARD / C603 6% AFFF Bulk Blend

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Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
2-(2-Butoxyethoxy)ethanol - 112-34-5	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic health hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

15.3. US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Formaldehyde - 50-00-0	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
2-(2-Butoxyethoxy)ethanol 112-34-5	X	-	X
t-Butanol 75-65-0	X	X	X
2-Methyl-2,4-pentanediol 107-41-5	X	X	X
Formaldehyde 50-00-0	X	X	X

16. Other information, including date of preparation of the last revision

NFPA	Health Hazards 1	Flammability 1	Instability 0	Physical and chemical properties -
HMIS	Health Hazards 1	Flammability 1	Physical Hazards 0	Personal Protection X

Revision date 18-Jul-2015

Revision note No information available.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other

Revision date 18-Jul-2015

Version 1

ENCLOSURE (5)

CHEMGUARD

Product code 711003

Product name CHEMGUARD
C603 6% AFFF Bulk Blend

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materials or in any process, unless specified in the text.

End of Safety Data Sheet

Revision date 18-Jul-2015

Version 1

ENCLOSURE (5)



Training Action Completed Detail

Description	Signer Authority	Auto	Status	Due Date	Progress
AIRCRAFT ENGINE/APU TURN-UP LICENSE (4790/192) (APU) (H-1Y/H-1Z) (USMC) (INITIAL) (front/back matter)		No	CLOSED_OUT on 15-May-2019		50 of 50 (100.0%)
APU-PREQUISITES		No			
a. RECOMMEND Maintenance Officer	MAINTENANCE OFFICER	No	COMPLETE on 04-Mar-2019		
APU1. REQUIRED READING: COMNAVAIRFORINST 4790.2C		No			
a. READ CHAPTER 3, PARA 3.2.2.20	TRAINEE	No	COMPLETE on 13-Feb-2019		
APU2. REQUIRED READING: NA 01-H1AAD-1		No			
a. READ 2.2 thru 2.2.8 Power Plant Systems	TRAINEE	No	COMPLETE on 06-Mar-2019		
b. READ 2.6 thru 2.6.8 Fuel System	TRAINEE	No	COMPLETE on 06-Mar-2019		(b)(3), (b)(6), (b)(7)(c)
c. READ 2.7 thru 2.7.5 Auxiliary Power Unit (APU)	TRAINEE	No	COMPLETE on 06-Mar-2019		
d. READ 2.8 thru 2.8.1 Electrical Power Supply System	TRAINEE	No	COMPLETE on 06-Mar-2019		
e. READ 2.9 thru 2.9.2 Hydraulic Power Supply System	TRAINEE	No	COMPLETE on 06-Mar-2019		
f. READ 2.13 thru 2.13.3 Fire Det, Warning and Extinguishing Sys	TRAINEE	No	COMPLETE on 06-Mar-2019		
g. READ 3.3 thru 3.3.7 Warning, Caution and Advisory Systems	TRAINEE	No	COMPLETE on 06-Mar-2019		

ENCLOSURE (8)



Training Action Completed Detail

Description	Signer Authority	Auto	Status	Due Date	Progress
h. READ 4.3 thru 4.3.1 APU Limitations	TRAINEE	No	COMPLETE on 06-Mar-2019		
i. READ 4.6 Hydraulic Limitations	TRAINEE	No	COMPLETE on 06-Mar-2019		
j. READ 4.18.1 Prohibited OPS for Gravity Fuel	TRAINEE	No	COMPLETE on 06-Mar-2019		
k. READ 7.3.3 Fire Guard	TRAINEE	No	COMPLETE on 06-Mar-2019		
l. READ 7.29 APU Checklist for Maintenance	TRAINEE	No	COMPLETE on 06-Mar-2019		
m. READ 7.30 Exterior Inspection for Maintenance	TRAINEE	No	COMPLETE on 06-Mar-2019		
n. READ 7.31 Preentry Inspection for Maintenance	TRAINEE	No	COMPLETE on 06-Mar-2019		
o. READ 7.33 Normal APU Operation for Maintenance	TRAINEE	No	COMPLETE on 06-Mar-2019		
p. READ 7.32 APU Prestart Checklist for Maintenance	TRAINEE	No	COMPLETE on 06-Mar-2019		
q. READ 7.34 APU Poststart checklist for Maintenance	TRAINEE	No	COMPLETE on 06-Mar-2019		
r. READ 7.35 APU Shutdown for Maintenance	TRAINEE	No	COMPLETE on 06-Mar-2019		
s. READ 7.36 Post Maintenance External Inspection	TRAINEE	No	COMPLETE on 06-Mar-2019		

(b)(3), (b)(6), (b)(7)(c)

