



THE SECRETARY OF THE NAVY
WASHINGTON DC 20350-1000

December 18, 2015

The Honorable Carolyn N. Lerner
Special Counsel
U.S. Office of Special Counsel
1730 M Street, N.W., Suite 218
Washington, DC 20036-4505

Dear Ms. Lerner:

Thank you for your letter of August 31, 2015, OSC File No. DI-15-4357, requesting an investigation at Fleet Readiness Center East (FRC East), Cherry Point, North Carolina. Your letter states that an FRC East employee disclosed that other employees at FRC East improperly tested fuel truck hoses and gauges, which created a risk to safety. The employee also alleged that jet fuel was improperly tested, wasted, and hazardedly disposed.

The Naval Inspector General (NAVINSGEN) led an investigation with the assistance of Commander, Naval Air Systems Command (NAVAIR) Inspector General personnel. The investigation found that FRC East did not test hoses and gauges on fueling trucks on a daily, weekly, monthly, and annual basis in violation of NAVAIR 00-80T-109, Aircraft Refueling Naval Air Training and Operating Procedures Standardization (the NATOPS Manual). The investigation also found that FRC East did not properly test jet fuel before December 2013, and wasted government resources when it unnecessarily discarded thousands of gallons of jet fuel. The investigation did not substantiate that Marine Corps Air Station, Cherry Point, North Carolina, hazardedly disposed of jet fuel.

The investigation found that not replacing or testing fuel hoses annually created a safety risk. Any exposed hose reinforcement material is cause for hose replacement because exposed fabric provides a source for water to enter, migrate, and ultimately rot the fabric. This rot can lead to a fuel spill or spray during refueling of aircraft. The investigation also found that the failure to verify the accuracy of the fuel truck gauges created a safety risk. Inaccurate gauges could allow to over pressurizing filter separators, which could push sediment and water downstream into an aircraft. The investigation further concluded that failure to conduct fuel tests according to the intervals required by the NATOPS Manual created a safety risk because the failure to provide clean, dry fuel to the aircraft can adversely affect safety-of-flight. However, NAVINSGEN found that information from the NAVAIR NATOPS Program Manager and the Naval Safety Center did not indicate that any mishaps had resulted from the deficiencies identified in this investigation.

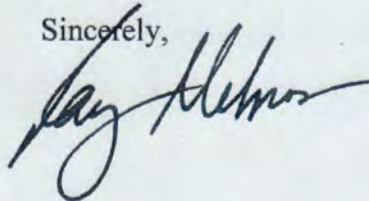
I take the deficiencies which are documented in this report very seriously and have directed the Chief of Naval Operations and the Commandant of the Marine Corps to take action that

ensures that Fleet Readiness Centers and Marine Corps Air Stations are in compliance with the NATOPS Manual; additional accountability actions, as appropriate, are taken at the relevant operational level; and other appropriate measures are implemented. The report of investigation describes other corrective action that has been taken, is planned, or has been recommended by the NAVINSGEN.

Enclosed are the official-use version of the report of investigation and another copy which is suitable for public release. I understand that you will provide a copy of the official-use version to the Complainant, the President, and the House and Senate Armed Services Committees for their review. As has been the case with other reports that the DON has provided to your office since September 11, 2001, I request that you make only the public release version of the report available to members of the public.

Again, thank you for bringing this matter to my attention. If you require additional information, the point of contact for this matter is Mr. Neal Puckett, Director, Special Inquiries Division, Office of the Naval Inspector General, (202) 433-6651.

Sincerely,

A handwritten signature in black ink, appearing to read "Ray Helms". The signature is written in a cursive style with a large, sweeping initial "R".

- Enclosures:
1. For Official-Use Copy of Report of Investigation
 2. Public Release Copy of Report of Investigation

Office of the Naval Inspector General

**OSC DI-15-4357
NAVINSGEN 201502727**

Report of Investigation

**ALLEGED FAILURE TO TEST AND DISPOSE OF JET FUEL PROPERLY
AT FLEET READINESS CENTER EAST, CHERRY POINT, NORTH CAROLINA**

15 DECEMBER 2015

Table of Contents

Table of Contents.....	i
Preliminary Statement.....	1
Information leading to the OSC Tasking.....	1
Summary of Conduct of the Investigation.....	3
Summary of Allegations and Conclusions.....	4
Summary of Safety Concerns.....	6
Background.....	7
Description of Fleet Readiness Center East.....	7
Summary of Evidence Obtained During Investigation.....	8
Chronological Findings of Fact.....	8
Allegation One.....	15
Findings of Fact.....	15
Discussion and Analysis.....	19
Conclusion.....	20
Recommendations.....	20
Actions Taken.....	20
Actions Planned.....	21

SUITABLE FOR PUBLIC RELEASE

Personnel Actions Taken 21

Allegation Two 22

 Findings of Fact 22

 Discussion and Analysis 24

 Conclusion 25

 Recommendations 25

 Actions Taken 25

 Actions Planned 26

Allegation Three 26

 Findings of Fact 26

 Discussion and Analysis 29

 Conclusion 29

 Recommendations 29

 Actions Taken 30

 Actions Planned 30

Allegation Four 30

 Findings of Fact 30

 Discussion and Analysis 32

 Conclusion 32

 Recommendations 32

Appendix A – Reference Documents A-1

Appendix B – Witness List B-1

Appendix C – Consolidated List of Recommendations C-1

Office of the Naval Inspector General

**OSC DI-15-4357
NAVINSGEN 201502727**

Report of Investigation

**ALLEGED FAILURE TO TEST AND DISPOSE OF JET FUEL PROPERLY
AT FLEET READINESS CENTER EAST, CHERRY POINT, NORTH CAROLINA**

15 DECEMBER 2015

Preliminary Statement

1. This report was prepared pursuant to a 31 August 2015 Office of Special Counsel (OSC) letter tasking the Secretary of the Navy (SECNAV) to conduct an investigation under Title 5 United States Code Section 1213 (5 USC § 1213).
2. OSC is an independent federal agency whose primary mission is to safeguard the merit system by protecting federal employees and applicants from prohibited personnel practices. OSC also serves as a channel for federal workers to make allegations of: violations of law; gross mismanagement or waste of funds; abuse of authority; or a substantial and specific danger to the public health and safety.
3. Reports of investigations conducted pursuant to 5 USC § 1213 must include: (1) a summary of the information for which the investigation was initiated; (2) a description of the conduct of the investigation; (3) a summary of any evidence obtained from the investigation; (4) a listing of any violation or apparent violation of law, rule or regulation; and (5) a description of any action taken or planned as a result of the investigation, such as changes in agency rules, regulations or practices, the restoration of employment to an aggrieved employee, disciplinary action, and referral of evidence of criminal violations to the Attorney General.

Information leading to the OSC Tasking

4. The OSC tasking stems from a complaint to OSC alleging that employees at the Department of the Navy, Fleet Readiness Center East (FRC East), Cherry Point, North Carolina, have engaged in conduct that may constitute a violation of law, rule, or regulation; gross mismanagement; a gross waste of funds; and a substantial and specific danger to public safety. More specifically, the tasking letter states that the Complainant, Mr. Glenn Schwarz, Maintenance Control Coordinator, United States Marine Corps (USMC), FRC East, disclosed that FRC East failed to test hoses and gauges on fueling trucks at specific intervals required by applicable standards, which could cause aircraft to receive contaminated fuel that could result in engine failure during flight. He also alleged the deteriorated condition of the hoses could result in fire should the fuel ignite. Mr. Schwarz also alleged FRC East failed to properly test jet fuel, resulting in unnecessary waste when fuel that was not suitable for use in aircraft deploying to aircraft carriers was discarded instead of being reused for other applications such as fueling

SUITABLE FOR PUBLIC RELEASE

ground support equipment. Finally, Mr. Schwarz alleged that FRC East improperly disposed of fuel, thereby causing an environmental hazard. OSC stated Mr. Schwarz, hereafter referred to as the “complainant,” consented to the release of his name.

5. The OSC tasking letter explained that the complainant, who was responsible for administratively releasing aircraft for flight and ensuring all required maintenance and inspections were completed prior to releasing the aircraft to a flight crew, alleged that FRC East failed to properly test fueling systems in violation of agency policy set forth in the Naval Air Systems Command (NAVAIR) Aircraft Refueling Naval Air Training and Operating Procedures Standardization (NATOPS) Manual.¹ Complainant’s review of fuel system checklists indicated that fuel hoses on trucks that should have been tested and replaced every year went un-replaced and untested for eight years, and sensitive gauges and pressure regulators have gone untested for eight to 10 years. The complainant further alleged that the failure to test these systems could result in an aircraft receiving contaminated fuel that could cause an engine malfunction during flight. Complainant noted that deteriorating fuel hoses could burst while refueling or defueling an aircraft, which could result in a fire and loss of life if the fuel ignited.

6. The OSC tasking letter stated the following allegations are to be investigated:

- (1) That hoses and gauges on fueling trucks were not compliant with testing requirements, posing dangers to flight safety;
- (2) That jet fuel was not being properly tested, was improperly discarded, and was hazardedly disposed;

7. The OSC tasking letter provided additional information about Complainant’s contentions, stating:

Starting in September 2013, Mr. Schwarz began reporting these issues through his chain of command. Mr. Schwarz stated that around that time, he started noticing and reporting jet fuel was not being properly tested by fueling employees known as “artisans.”² He explained that in an effort to assess fuel quality and purity, artisans were conducting visual inspections of fuel poured into buckets rather than running the liquid through proper testing equipment, in violation of the NATOPS Manual. In addition, employees were frequently conducting unnecessary fuel flash point tests to assess temperatures at which the fuel would ignite. Mr. Schwarz further explained that employees mistakenly believed that low flash point fuel was contaminated.³ When this occurred, artisans discarded the recovered fuel. Mr. Schwarz observed that as a result of this practice,

¹ NAVAIR 00-80T-109 Aircraft Refueling Naval Air Training and Operating Procedures Standardization (NATOPS) Manual is commonly referred to as the NATOPS Manual, and we do so in this report.

² Artisan is the term used to refer to skilled production workers.

³ FRC East and MCAS Cherry Point, on which FRC East is located, use JP-5 fuel that has a flash point of 140 degrees Fahrenheit (F) or greater. The Air Force and Army use JP-8 fuel, which has a flash point of less than 140 degrees F.

approximately 15,000 pounds⁴ of fuel were improperly discarded on a monthly basis.⁵

Mr. Schwarz noted that in 2014, based on these issues, a management directed audit was conducted into FRC East's fueling operations. The audit substantiated Mr. Schwarz's allegations, determining that there were multiple areas of non-compliance, and the audit made ten recommendations to improve fuel quality assurance. Mr. Schwarz asserted that despite the proposed corrective actions, these problems have persisted to the present. Notably, the improper disposal of fuel with low flash points continues. Mr. Schwarz explained that in a March 2015 meeting of FRC East fueling managers, documentation was presented indicating that during the prior nine months almost 17,000 gallons of usable fuel were improperly disposed.

Mr. Schwarz further alleged that employees have improperly discarded large amounts of JP-8 fuel from F-35 jets landing at FRC East. The military uses a number of graded fuels in aircraft depending on the location and operation use of the plane. Mr. Schwarz explained that as a matter of agency policy all aircraft landing at the base [MCAS Cherry Point] are filled with JP-5 fuel, a kerosene based fuel designed for carrier based jet airplanes. In the event that a plane lands at FRC East with JP-8 fuel in its tanks, fuel artisans label it as contaminated and destroy it. Mr. Schwarz noted that pursuant to the Manual, in this situation JP-8 must be reused in powered ground support equipment, such as refuelers, tugs, and ground power units, or used in fuel test cells⁶ to facilitate their calibration.

8. The OSC letter further stated the Special Counsel concluded:

. . . that there is a substantial likelihood that the information that the whistleblower provided to OSC discloses a violation of law, rule or regulation, gross mismanagement, an abuse of authority, and a substantial and specific danger to public safety.

Summary of Conduct of the Investigation

9. After receiving the OSC Tasking Letter, the Secretary of the Navy (SECNAV), tasked the Office of the Naval Inspector General (NAVINSGEN) to conduct the investigation.

10. NAVINSGEN, in turn directed the Commander, Naval Air Systems Command (NAVAIR) to assist in the investigation because FRC East falls within the NAVAIR chain of command. The NAVINSGEN investigating officer (IO) contacted the complainant and arranged for an interview with the complainant. The NAVAIR Inspector General (IG) contacted the FRC East

⁴ One gallon of JP-5 jet fuel weighs approximately 6.8 pounds, and one gallon of JP-8 weighs approximately 6.7 pounds.

⁵ 15,000 pounds of fuel is approximately 2,200 gallons.

⁶ Jet engine test cells are used to test jet engines after overhaul.

Command Evaluator, who reports to NAVAIR IG, to arrange for access to FRC East personnel and documents.

11. At the outset of the investigative effort, NAVINSGEN IG IOs interviewed the complainant, with his attorney present, by telephone. Information provided by the complainant that was not contained in the OSC tasking letter appears in the findings of fact for each allegation as appropriate. During the course of their inquiry, NAVINSGEN and NAVAIR IG IOs interviewed 28 witnesses by telephone or in person. They also reviewed 80 documents, including applicable instructions and regulations, contracts, audits, and e-mails.

Summary of Allegations and Conclusions

12. Based on the contents of the OSC tasking letter and our preliminary review, NAVINSGEN decided to structure the investigation around four allegations that address employees at FRC East allegedly failing to test and dispose of jet fuel properly.⁷

13. The FRC East allegations are:

Allegation One: That prior to June 2015, FRC East did not test hoses and gauges on fueling trucks on a daily, weekly, monthly, and annual basis, in violation of the NATOPS Manual. **Substantiated**

Allegation Two: That prior to December 2013, FRC East did not properly test jet fuel, in violation of the NATOPS Manual. **Substantiated**

Allegation Three: That FRC East wastes government resources when it unnecessarily discards thousands of gallons of jet fuel. **Substantiated**

Allegation Four: That between May and June 2015, Marine Corps Air Station, Cherry Point, North Carolina, hazardedly disposed of jet fuel, in violation of Resource Conservation and Recovery Act of 1976, Marine Corps Order P5090.2A (Hazardous Waste Management), and Marine Corp Air Station Cherry Point Policy letter 02-13, Statement on Environmental Policy, dated 5 September 2013. **Not Substantiated**

14. We concluded Allegation One was substantiated because according to the NATOPS Manual, each activity is required to conduct daily, weekly, monthly and periodic (Annual) inspections of the hoses and gauges on fueling trucks using the checklist provided in the NATOPS Manual. The NATOPS Manual requires annual inspection checklists be retained for two years, weekly/monthly inspection checklists for six months, and the daily inspection checklist for one month. Our investigation found that no daily, weekly, or monthly maintenance inspections had been conducted on FRC East fuel trucks in accordance with the NATOPS Manual prior to approximately June 2015. At FRC East's request, the contract with Logistics Solutions Group, Incorporated (LSG), was modified in May 2015 to have LSG perform the daily, weekly, and

⁷ The two "allegations to be investigated" in the OSC tasking letter do not identify individual Subjects by name. Our past practice has been to write allegations naming specific individuals only when people are specifically identified in the OSC letter as those who engaged in wrongdoing.

monthly checks. In February 2015 FRC East fuel trucks were temporarily taken out of service until the fuel trucks could be inspected and brought into compliance with the NATOPS Manual. The FRC East inspection conducted at that time revealed that fuel hoses were in extremely poor condition, and one was worn down to the metal. The inspection further revealed that not all of the fuel hoses had been replaced annually or hydrostatically tested annually to ensure their integrity and suitability for continued use.⁸

15. Although Allegation One was substantiated, we found that FRC East had taken or had actions planned to test hoses and gauges in accordance with the NATOPS Manual prior to the start of our investigation. In February 2015, FRC East temporarily assigned a Technical Point of Contact (TPOC) to provide oversight of the FRC East Fuels contract. The TPOC ensured daily, weekly, and monthly inspections of the fuel hoses and gauges were conducted by the contractors using the checklist provided in the NATOPS Manual. In addition, between February and April 2015, FRC East inspected and replaced fuel hoses as required on all of their fuel trucks, and the fuel gauges were cleaned and calibrated in March 2015.

16. We concluded Allegation Two was substantiated because FRC East did not conduct Combined Contaminated Fuel Detector (CCFD) tests at the intervals required by the NATOPS Manual until about December 2013. We found that FRC East did not have the necessary equipment to perform the required fuel tests, but instead relied on Marine Corps Air Station (MCAS) Cherry Point Station Fuels (MCAS Station Fuels) to conduct CCFD tests for FRC East. MCAS Station Fuels conducted the CCFD test on FRC East fuel samples upon request, but FRC East did not request the fuel tests be conducted on the daily basis required by the NATOPS Manual.

17. Although Allegation Two was substantiated, we found that FRC East ordered a CCFD in December 2013, and it arrived at FRC East in March 2014. FRC East received training on the CCFD and assumed all fuel testing associated with FRC East on 17 March 2014. At FRC East's request, the contract with LSG was modified in May 2015 to have LSG conduct fuel testing. Seven to eight contractor employees have been trained on the CCFD to ensure fuel tests are done in accordance with the NATOPS Manual.

18. We concluded Allegation Three was substantiated because FRC East discarded approximately 12,000 gallons of non-contaminated fuel between December 2014 and June 2015⁹ that could have been used in aircraft not scheduled for immediate sea duty,¹⁰ or in ground vehicles. The NATOPS Manual states that all United States Navy (USN) and United States Marine Corps (USMC) aircraft are authorized to use JP-4, JP-8, F-24, commercial Jet A and Jet A-1, as well as JP-5 fuel. We found that FRC East treated fuel that tested as clean and clear, no sediment, but which did not meet the criteria of JP-5, as contaminated and offloaded the fuel into the contaminated fuel truck for subsequent disposal even though the fuel was acceptable for use

⁸ Hydrostatic tests are done annually to determine if a fuel hose is suitable for continued service if the fuel hose is not replaced.

⁹ Between December 2014 and June 2015, a chemist at FRC East tracked the number of gallons of non-contaminated fuel that was discarded as contaminated fuel by FRC East.

¹⁰ Sea duty refers to aircraft deploying to a seagoing vessel such as an aircraft carrier.

as “mixed fuel” in other equipment and aircraft that were not departing for sea duty.¹¹ FRC East transported the fuel to a contaminated fuel storage tank managed by MCAS Station Fuels. The contaminated fuel stored at MCAS Station Fuels was then sold to Noble Oil Services Incorporated through a Defense Logistics Agency (DLA) Disposition Services contract at \$.20 per gallon.¹² With an average cost of \$3.18 per gallon of JP fuel as of September 2015, a minimum of \$38,000 is spent every six months to replace the 12,000 gallons of non-contaminated fuel that was treated as contaminated. By selling 12,000 gallons of contaminated fuel to Noble Oil at \$.20 per gallon there was a credit of approximately \$2,400 generated every six months. The fuel sold to Noble Oil did offset some of the waste, but FRC East’s operating procedures resulted in the needless expenditure of approximately \$35,600 every six months or \$71,200 per year.

19. We concluded Allegation Four was not substantiated because there was no direct testimony establishing that jet fuel was dumped in the area, and neither the complainant’s photos nor a site visit to the area of the alleged dumping provided evidence of fuel distressed vegetation, fuel odor from pavement or surface oil, which are indicators used for day-to-day environmental clean-up and compliance programs at each installation. Based on the witness testimony, we conclude something was discharged from a pump truck in May or June 2015, but obtained no evidence indicating the substance was jet fuel. Moreover, we could not identify any test sensitive enough to identify any harmful material that may have been discharged this long after the event. It is more likely that what the witness observed was a normal, approved discharge of liquids rather than unauthorized dumping of jet fuel.

Summary of Safety Concerns

20. The Naval Safety Center stated that based upon this report, the current fuels support facilities and equipment at FRC East are inadequate and do not meet the requirements for handling multiple fuel types. FRC East does not have enough trucks or storage tanks to keep fuels separated and prevent contamination.

21. We concluded that not replacing or testing fuel hoses annually created a safety risk. Failure to inspect and properly maintain any refueling equipment can increase the risk to safety as defined by “Warning”¹³ in the NATOPS Manual Preventative Maintenance Program section. Any exposed hose reinforcement material is cause for hose replacement because exposed fabric provides a source for water to enter, migrate, and ultimately rot the fabric. This rot can lead to a fuel spill or spray during refueling of aircraft.

22. We concluded that the failure to verify the accuracy of the fuel truck gauges created a safety risk. Inaccurate gauges could allow to over pressurizing the filter separators, which could push

¹¹ The NATOPS Manual states that since fuel removed from any aircraft almost definitely has a flash point below 140 degree Fahrenheit, it shall not be used to refuel any aircraft scheduled for immediate sea duty.

¹² An employee at the Environmental Affairs Department, MCAS Cherry Point, stated that Noble Oil either sells the contaminated fuel to a third party company after purchasing it, or Noble Oil filters the fuel to restore the fuel as “clean” and then sells the fuel.

¹³ The NATOPS Manual definition of “Warning” is: Explanatory information about an operating procedure, practices, or condition, etc., which can result in injury, death, or loss of aircraft if not carefully observed or followed.

sediment and water downstream into an aircraft. In an extreme case, high pressure could rupture the filter separators rendering them unable to stop any sediment or water from reaching the aircraft.

23. We concluded that the failure to conduct fuel tests according to the intervals required by the NATOPS Manual created a safety risk because the failure to provide clean, dry fuel to the aircraft can adversely affect safety-of-flight. However, Naval Safety Center mishap records do not reveal any mishaps resulted from the deficiencies identified in this report.

Background

Description of FRC East

24. FRC East is one of eight Fleet Readiness Centers operated by the U.S. Navy. As a tenant command of MCAS Cherry Point, North Carolina (NC), FRC East receives flight line services from MCAS Cherry Point, including jet fuel under a contract awarded by MCAS Cherry Point. FRC East is a depot-level maintenance, repair, and overhaul industrial facility, which also provides in-service engineering and logistics life cycle technical support to Navy and Marine Aviation.

25. FRC East currently repairs and maintains Navy and Marine Corps aircraft, including the AV-8B Harrier, AH-1W Super Cobra, UH-1N Huey, UH-1Y Venom, AH-1Z Viper, CH-53E Sea Stallion, F-35B Lightning modification line, MQ-8B Fire Scout, and MV-22 Osprey. When the aircraft arrive at FRC East they are defueled for maintenance and refueled prior to departure. The Vertical Lift Center of Excellence (VLCOE) was established at FRC East, where processes could be researched and defined to advance the state of Department of Defense (DOD) vertical lift operations and technologies through research, education and training, and technology transfer.

26. The command's customers include 200 Navy and Marine Corps activities, 31 foreign nations, five U.S. Air Force activities, three U.S. Army activities, and two other federal agencies. As a service provider specializing in support of Navy and Marine Corps aircraft, engines, and components, FRC East is the only source of repair within the continental United States for many jet, rotary-wing, and turbofan vectored-thrust engines.

27. FRC East is a Navy Working Capital Fund organization that operates pursuant to the provisions of Title 10, United States Code, Chapter 146, "Contracting for Performance of Civilian Commercial or Industrial Type Functions." Pursuant to the provisions of that chapter, FRC East may compete for work with other federal depot-level repair facilities, and private contractors may compete for some of the work that FRC East might otherwise perform. Consequently, time and cost of performance, in addition to quality of work, are important to FRC East success.

28. Today, FRC East is a modern industrial complex that has considerable impact on the economy of North Carolina and the communities surrounding the air station. With an annual payroll that exceeds \$275 million, the facility is North Carolina's largest industrial employer east of Interstate 95.

29. The Industrial Operations Management Department, Code 6.3, provides the following services to FRC East: Development and maintenance of depot-level repair capability; Planning and prioritization of workload; Production control and execution of workload; Tooling; Transportation of material and equipment; Facility improvements; corrective and preventative maintenance; Support equipment management, repair and life-cycle management; Development, maintenance and review of routers and Bills of Material; Industrial Operations Standards Program; Concurrent component repair; Capital Investment Program; Technology Investment; and Inventory Management Supply Positioning implementation. The Fuel Maintenance Program is part of a contract for transportation services and is overseen by the Production Activity Control Division (Code 6.3.2).

Summary of Evidence Obtained During Investigation

Chronological Findings of Facts

6 December 2012 Award of FRC East Fuel Support Contract

30. On 6 December 2012, the USMC's Cherry Point Satellite Contracting Office (CPSCO) awarded Contract Number GS-10F-0281P, Order Number M00146-13-F-9007, to Logistics Solutions Group, Inc. (LSG). This contract included Flightline Services to support FRC East.¹⁴ CPSCO was responsible for the administration of the contract, and an FRC East Contracting Officer Representative (COR) was responsible for oversight of the contract. The COR was not familiar with daily operations, and FRC East did not have a Fuel Maintenance Officer (FMO)¹⁵ or a TPOC to provide technical oversight of the contract or provide feedback to the COR.

31. The Performance Work Statement (PWS) stated in section 5.10, "Provide Equipment Maintenance & Administration Services," that: "The contractor shall perform minor maintenance and repair on non-Intermediate Maintenance Readiness List (IRML) equipment. In addition, the contractor shall perform daily inspections and report to the Contracting Officer Representative (COR) any unsafe conditions immediately." The PWS did not specifically outline the requirements for LSG to conduct weekly and monthly inspections.

32. The PWS stated in section C-5.3.3, "Refuel & Defuel," that LSG was responsible for refueling and defueling. Specifically, the PWS required LSG to operate fuel trucks to refuel/defuel various types of aircraft, material handling equipment, garrison mobile equipment, ground support equipment, plant generators and portable air conditioners. The PWS further stated that the LSG dispatcher prepares monthly fuel sample bottles, labels, and sample forms for the fuel trucks. The LSG dispatcher provides the sample bottles, labels and sample forms to the truck operators who then take the samples and deliver them to FRC Materials Analysis Lab. The COR's lack of familiarity with daily operations and the absence of a FMO/TPOC to advise the COR resulted in the gross underestimate of projected annual fuel reports. The December 2012

¹⁴ Under Contract Number: GS-10F-0281P, LSG subcontracts some of the support labor to LBM, Inc.

¹⁵ NAVAIR requires the Fuels Maintenance Officer (FMO) possess broad fuel background and experience, such as formal training in the technical areas of fuel operations and handling to oversee the entire fuels operation. NAVAIR requires one person to accept the responsibility of the FMO at each location. The responsibilities of the FMO are outlined in the NATOPS Manual.

(Chronological Findings of Facts – Continued)

PWS projected 52 annual fuel reports, when a more realistic estimate was 800 annual fuel reports.¹⁶

FRC East F-35 Aircraft Maintenance

33. In June 2013, FRC East began receiving F-35s from the Air Force. The former 6.3 Industrial Operations Department Head¹⁷ testified that FRC East had less than a year's notice to prepare for the F-35s and after FRC East received notice about the F-35s, FRC East realized it would have to begin handling JP-8 fuel, which is not suitable for aircraft deploying to sea duty. She stated that FRC East attempted to buy two new fuel trucks as a capital project to address the issue of handling JP-5 and JP-8, but capital projects have a long lead time. She explained the two new fuel trucks would have allowed FRC East to dedicate one of the new fuel trucks to handle only JP-8, but that would have not prevented all of the waste, as FRC East did not have a storage tank to empty that truck when it became full, nor did MCAS Station Fuels.

Aircraft at FRC East Received Contaminated Fuel

34. On 7 November 2013, an aircraft at FRC East received contaminated fuel from an FRC East fuel truck. The contaminated fuel was discovered by a LSG fuel truck operator when the operator looked in the fuel truck tank to determine the amount of fuel remaining in the fuel truck tank. The LSG fuel truck operator visually saw discoloration in the fuel that resulted in the LSG fuel truck operator conducting a fuel sample test. The fuel test confirmed that the fuel in the fuel truck was contaminated with water. As a result, a fuel sample test was taken from the aircraft the fuel truck operator last refueled, and the test confirmed that the aircraft had received water-contaminated fuel. The aircraft was defueled and subsequently was fueled with clean fuel. The water-contaminated fuel was treated was contaminated fuel.

35. On 8 November 2013, a series of e-mails between government and contractor personnel discussed the cause of the fuel truck contamination and fuel testing procedures. Complainant responded to the series of e-mails and included FRC East leadership: 6.0D, Aviation Safety Officer; 6.3, Industrial Operations Director; 6.0, Logistics and Industrial Operations Group Director; 6.2, Industrial Execution Director; and 6.0DB, Director of Operations. Complainant stated that he discovered a loose pressure relief valve on the fuel truck tank that allowed water to leak directly into the fuel tank contaminating the fuel. Complainant recommended that the pressure relief valves be inspected during the daily inspections. Complainant further stated that the sampling procedures currently utilized by FRC East Transportation for the daily fuel truck inspections should be reviewed.

¹⁶ The projected 52 annual fuel reports and the PWS requirement that LSG was only responsible for preparing monthly fuel reports supports the finding that FRC East was only testing fuel on a monthly basis and not daily as required by the NATOPS.

¹⁷ The former 6.3 Industrial Operations Department Head was reassigned as the Department Head of 6.1 Business Operations Department at FRC East because of grade restructuring of the position across the enterprise (the position was changed from a GS-14 to a GS-15). The FRC East Commanding Officer who reported onboard in January 2015 believed the 6.1 Business Operations Department enterprise initiatives needed momentum and the former 6.3 Department Head was a "good fit" vice hiring an unknown performer.

(Chronological Findings of Facts – Continued)

36. After the aircraft received the contaminated fuel, the complainant spoke with an LSG fuel truck operator about daily fuel inspections. Complainant stated he learned that LSG fuel truck operators were not following the fuel testing procedures in accordance with the NATOPS Manual. LSG fuel truck operators were taking fuel samples from the water separator and not from fuel hose nozzles. Taking the fuel sample from the water separator will provide a false sample as the sample will contain water. The complainant further stated that the fuel truck operators drained fuel samples into an old bucket and not an approved container. In addition, the complainant stated that the fuel truck operators only swirled the fuel around in the bucket to conduct a color and appearance test and did not test the fuel with a CCFD.

37. On 8 November 2013, the Materials Lab, FRC East, sent two e-mails to FRC East employees and FRC East civilian leadership about fuel testing procedures in response to the e-mails about fuel testing procedures. The e-mails stated that the fuel in all inducted aircraft is required to be sampled and sent to the lab before the aircraft is defueled.¹⁸ The e-mails further stated that the lab had received numerous fuel samples with visible water, but most of the samples with water appeared to be the result of improper sampling.

Fuel Testing and Waste

38. On 8 November 2013, complainant sent an e-mail to several government and contract employees at FRC East that included FRC East leadership: 6.0D, Aviation Safety Officer; 6.3, Industrial Operations Director; 6.0, Logistics and Industrial Operations Group Director; 6.2, Industrial Execution Director; and 6.0DB, Director of Operations. The e-mail stated:

I would like to put something up for discussion and consideration. Currently on induction aircraft we submit a fuel sample to the lab for a flashpoint test prior to defueling to avoid getting fuel with a flashpoint lower than 140 degrees into a truck marked and graded as JP-5. If the fuel has a flashpoint of 139 degrees or lower we defuel the aircraft with a CONTAMINATED fuel truck. Fuel with a lower flashpoint of 140 degrees is NOT contaminated and CAN be used in aircraft for flight, fueling GSE, Tow Motors and Diesel Trucks. The fuel pumped into a contaminated defuel truck cannot be used in anything and must be disposed of. Crash crew uses some for practice but they have a limited storage reservoir. When the practice storage is full the fuel must be disposed of as HAZMAT. I do not know what the cost is to dispose of fuel as HAZMAT but have heard this is very expensive. The other option is to down the contaminated fuel truck for any use until storage space for practice fuel is available. We recently had a V22 inducted with 8500 pounds of fuel remaining on board. The flashpoint test came back at 137 degrees. So, we threw away 8,500 pounds of usable fuel because it was 3 degrees lower than the requirement for JP-5. Again, this fuel was

¹⁸ Aircraft are inducted when the aircraft is prepared for inspection or maintenance, i.e., moving the aircraft, defueling, etc.

(Chronological Findings of Facts – Continued)

USEABLE. The NATOPS for all of the aircraft we operate allows the use of fuel having a lower flashpoint than JP-5.

Transportation used to have what was called a “mixed fuel truck” which could be used to defuel aircraft containing fuel with low flash point and use it for GSE or even C130 aircraft. Current NATOPS instructions would allow us to use it in any of our aircraft for flight.

39. On 20 December 2013, the Misuse/Abuse Program Manager sent an e-mail to FRC East leadership and LSG contractors about the results of the “Fuel Truck Investigation.” The e-mail was the first official recognition of fuel testing deficiencies after complainant surfaced his concerns, almost six weeks after the fuel contamination incident complaint. The e-mail stated:

An investigation of our Fuel Truck Daily Requirements verified that no samples have been submitted daily to check for the Combined Contaminated Fuel Detector (CCFD) and the Free-Water Detection (FWD). This check is looking for particulates and water in our fuel trucks prior to servicing the first aircraft of the day. These are daily requirements IAW the NAVAIR 00-80T-109 Check list. It was also identified that our lab does not have the required piece of equipment to perform this check. An urgent effort is underway to acquire this equipment.

40. In late 2013, FRC East employees established a formal effort to convert to mixed fuels¹⁹ after the waste issue was raised in a fuels meeting, but there were several hurdles that had to be overcome. Some of the issues identified were: FRC East facilities were not up to code to handle non-JP-5 fuel; it was not known if ground support equipment was able to use mixed fuel; engineers had to determine if mixed fuels would affect aircraft engine test results in the test cells; and all the labeling on the trucks, tanks and pipes had to be updated to reflect JP fuels and not JP-5.

41. On 23 May 2014, a Team Lead for Mechanical Equipment in Production and Planning, FRC East, emailed the former 6.3 Industrial Operations Division Department Head, FRC East, about the possibility of FRC East utilizing JP-8 fuel in the engine test cells. The Team Lead stated that a group of Equipment in Production and Planning employees was concerned with FRC East compliance with the Standard for Construction and Protection of Aircraft Engine Test Facilities-2004. The Team Lead added that the Equipment in Production and Planning group determined that FRC East should continue to use JP-5 in existing systems and continue forward with production in a normal fashion. The Team Lead stated that FRC East should “NOT” use JP-8 in FRC East fuel systems in the short term and recommended FRC East contact a Naval Facilities Command subject matter expert (SME) regarding compliance and fund a site visit by the Naval Facilities SME to verify compliance allowing the utilization of both JP-5 and JP-8 in the future. The former 6.3 Department Head agreed with the plan.

¹⁹ Mixed fuel is a combination of JP-5 and JP-8 fuels.

(Chronological Findings of Facts – Continued)

FRC Management-Directed Audit

42. On 9 April 2014, an FRC East management-directed audit was completed that resulted in 10 recommendations.²⁰ The management-directed audit was requested due to AV-8 flap damage caused during transportation and multiple concerns related to FRC East's fuel surveillance operations. Audit Number: 2014-0007-Z, was conducted to measure compliance with standards for transportation and parts and material handling. The primary focus of the audit was on quality control of parts and material handling during transportation, but some attention was spent on local directives and training requirements. However, the recommendations did not specifically address FRC East's fueling procedures and operations. The audit stated that fuel surveillance concerns would be addressed in an "outside" investigation with one exception.²¹ The exception addressed the November 2013 incident when an aircraft received contaminated fuel. The audit noted that fuel truck tanks were observed with faulty valves and gasket seals that led to water intrusion that contaminated the fuel.

Newly Assigned Production and Planning Division Director (Code 6.3.1)

43. In July 2014, a new Production Planning Division Director, Code 6.3.1, FRC East, was assigned.²² The new Production Planning Division Director testified when he first started in the position he received an e-mail from a Chemist in the Materials Lab about reusing fuel and that some work had already been done to rectify issues, but the effort had become stale. The new Production Planning Division Director formed a group of FRC East employees to review processes to determine what steps FRC East needed to take to start saving the wasted fuel.

44. Several items were identified in the group formed by the new Production Planning Division Director that needed to occur to save the wasted fuel. The new Production Planning Division Director created an Excel spreadsheet that consisted of eight actions that needed to occur with the following categories: Overview, Status, Responsible Party, and Estimated Completion Date. The eight identified actions were:

1. Identify Areas to Reuse JP Fuels: Test Cells, Ground Support Equipment, Transportation, and Generators

²⁰ This audit was referenced on page two of the 31 August 2015, OSC referral. The OSC referral provided that the complainant stated that the audit substantiated his allegations of multiple areas of non-compliance. The IO determined that the November 2013 fuel contamination incident was substantiated in the audit, but the focus of the audit was not based on complainant's allegations, and the audit did not address his other allegations.

²¹ On 20 December 2013, the Misuse/Abuse Program Manager, FRC East, sent an e-mail that provided the findings of the outside investigation.

²² Page three of the 31 August 2015 OSC referral states that according to complainant these practices resulted from the new Production Planning Division Director directing FRC East employees to disregard instructions contained in the NATOPS Manual concerning the disposal of JP-8. The IO determined that the new Production Planning Division Director did not direct FRC East employees to disregard the NATOPS Manual. The IO did conclude that the new Production Planning Division Director named in the OSC referral has been a major contributor to correcting the deficiencies identified in the referral.

(Chronological Findings of Facts – Continued)

2. Process: ID Processes Governing Fuel Operations, ID Processes Governing Fuel Reuse, Contractual Legalities, Auditability, Contractor Compliance with NAVAIR 00-80T-109, Fuel Sample Testing
3. Required Training: Fuel Sample Testing, Contractor Compliance with NAVAIR 00-80T-109, 6.3.2 SOP – “Reuse of JP Fuels” (waiting to be written)
4. Change Measurement Metrics: Need baseline metrics to ensure our implementation is having desired impact
5. Environmental Air Permit: Use of JP fuels in stationary equipment such as generators will affect our air permit. Need to take the necessary actions after our decision on where to use JP fuels to ensure we are not uncompliant with environmental regulations
6. Fuel Financial Accounting: Need to discuss how to handle the financial accounting of reusing fuel.
7. Signage: Signage on trucks and tanks will need to be changed to accommodate the decisions we make on fuel reuse and the processes we put in place
8. Storage Tank: Do we need a storage tank at Transportation for excess fuel

31 December 2014 Award of FRC East Fuel Support Contract

45. On 31 December 2014, CPSCO awarded Contract Number GS-10F-0281P, Order Number M00146-15-F-9008 to LSG. This was a follow-on contract to the 2012 contract, which expired two years after award. It also included Flightline Services to support of FRC East. The 2014 contract contained no significant updates to the PWS in the 2012 contract.

30 January 2015 Accelerated Change of Command at FRC East

46. In January 2015, the Commander, Fleet Readiness Centers, changed the command element at FRC East through an accelerated change of command [new Commanding Officer] to address FRC East’s command dysfunction and performance issues. The new FRC East Commanding Officer directed the removal and/or reassignment of five GS-15s that were in Group Head positions and added one senior civilian position. The Commanding Officer also reassigned one GS-14 for a 120 day temporary promotion detail [a GS-15 billet].

February 2015 Mixed Fuels Meeting

47. In February 2015, during a mixed fuel meeting led by the new Production Planning Division Director a discussion revealed that the maintenance on the fuel trucks was not being done properly and could result in a mishap. In response, the former 6.3 Division Director created a temporary assignment for a TPOC in the Transportation Group to provide oversight of the FRC East LSG contract and fuel operations to address the noncompliance issues.

SUITABLE FOR PUBLIC RELEASE

(Chronological Findings of Facts – Continued)

48. After the February 2015 mixed fuels meeting, the FRC East TPOC told his supervisor, the new Production Planning Division Director, that he had major concerns. The Production and Planning Director told the TPOC to shut down operations and request assistance from MCAS Station Fuels and Engineering. At that point, all fuel operations were shut down until the fuel trucks were inspected and brought into compliance with the NATOPS Manual. The inspection of the fuel trucks during the shutdown revealed that one of the fuel hoses was in extremely poor condition and had worn down to the interior metal. The inspection further revealed that some of the fuel hoses had not been hydrostatically tested and/or replaced in over a year, and the daily, weekly, and monthly maintenance inspections of the fuel trucks required by the NATOPS Manual had not been conducted.

49. On 30 March 2015, the new Production Planning Division Director sent an e-mail addressing all of the factors regarding noncompliance with the fuel trucks. The e-mail stated:

The recent issues with these fuel trucks have been a perfect storm of unfortunate events. In the last few weeks we've had issues with hoses being unserviceable, noncompliance with standards (NATOPS/SAE/NFPA), trucks breaking down and issues with receiving emergency fuel services from station [MCAS Station Fuels].

22 May 2015 Modification of FRC East Fuel Support Contract

50. On 22 May 2015, CPSCO, on behalf of FRC East, modified the December 2014 contract. The modification updated the PWS by adding requirements from the NATOPS Manual that included fuel testing and fuel truck inspection procedures.

51. While reviewing and making revisions to the PWS, the CPSCO discovered that the workload projections for fuel reports had been estimated at 52 annually. After discussing this with FRC East, CPSCO determined these reports' occurrences were grossly underestimated prior to award. These reports are actually required at least once per day per each fuel truck per the NATOPS instruction and CPSCO adopted a more realistic estimate of 800 annually.

52. The updated PWS from the Modification of the Contract added specific guidance from the NATOPS Manual. Section C-5.3.3.2 – Additional Information, added that for aircraft defueling contractors will perform fuel analysis using FRC East provided testing equipment and associated testing supplies. The PWS stated:

It is the contractors responsibility to perform daily, weekly, and monthly inspections of all fuel trucks in accordance with part III of the NAVAIR 00-80T-109 Chapter 13. Checklist Figures 13-1, 13-2, and 13-3 shall be completed as these checks are performed. The checklist shall be signed by the person performing the check and their supervisor or relief supervisor. These checklists shall be retained by the contractor in accordance with the retention requirements of part III of the NAVAIR 00-80T-109. The contractor shall also be responsible for maintaining the Filter/Separator Pressure Drop Log and Filter/Separator Pressure Drop Graph as part of the weekly inspections IAW NAVAIR 00-80T-109 Figure 13-5 and 13-6 respectively.

SUITABLE FOR PUBLIC RELEASE

(Chronological Findings of Facts – Continued)

If a component of the daily, weekly, or monthly checklist cannot be performed due to either equipment configuration or lack of appropriate tools then the contractor shall denote “N/A” and write in remarks the issue i.e. equipment configuration, lack of tools, etc. The contractor shall also send an e-mail to the Contracting Officer Representative (COR)/TPOC upon the first occurrence of such an issue. The COR/TPOC will respond once the issue is resolved and that area of the checklist shall then be performed.

If discrepancies are found during the fuel truck inspection, the contractor’s supervisor and the FRC COR and QAE/TPOC shall be notified. Fuel truck repairs and maintenance are conducted in accordance with section C-5.10 of this Performance Work Statement.

Contractor personnel performing this process shall be trained before using the Combined Contaminated Fuel Detector (CCFD) equipment. Training shall be documented on each individuals training records. Training will be provided by the FRC East to the contractor. Re-training will be required yearly.

Ensure all sample bottles are cleaned per Part III of NAVAIR 00-80T-109 before samples are taken from the fuel trucks. Cleaning and storage of bottles shall be performed at an approved location designated by the QAE/TPOC or COR. Three samples shall be taken from each fuel truck being tested; one sample for the sediment/particulate test, one for the free water test, and one to be kept as a retention sample. The retention samples shall be stored in an approved area designated by the QAE/TPOC or the COR.

53. The updated PWS from the Modification of the Contract also included precise language requiring contractor to sample and test fuel in the trucks prior to the first refueling of the day and submit fuel samples to the FRC East Materials Lab for monthly testing.

Allegation One

That prior to June 2015 FRC East did not test hoses and gauges on fueling trucks on a daily, weekly, monthly, and annual basis, in violation of Naval Air Systems Command (NAVAIR) 00-80T-109 Aircraft Refueling NATOPS Manual.

Substantiated

Findings of Fact

54. The NATOPS Manual establishes the minimum requirements for aviation fuel handling equipment and facilities at all Navy and Marine Corps activities that fuel aircraft. The NATOPS Manual specifies that departure from the minimum equipment/facilities requirements established may adversely affect aircraft safety of flight as well as the safety of fuel handling operations.

55. Chapter 13 of the NATOPS Manual is titled “Maintenance of Refueling Facilities at Shore Activities.” Section 13.3, Preventive Maintenance (PM) Program (Inspections), states:

SUITABLE FOR PUBLIC RELEASE

Although a well-executed and documented PM program will substitute for many of the routine inspections, a formal inspection program is necessary. The implementation of an inspection program is the responsibility of the FMO and shall include:

1. Inspections of equipment and facilities prior to use.
2. Inspections prior to major operations.
3. Seasonal or special inspections.
4. Routine inspections and checklists.

56. Chapter 13 of the NATOPS Manual, entitled “Maintenance of Refueling Facilities at Shore Activities,” includes Section 13.3.3, “Aircraft Refueling Equipment Checklists,” requires that each activity shall use daily, weekly, monthly, and periodic checklists (Annual) that record what was checked. Locally developed checklists that are specific to individual installations or systems may be substituted. The Daily Aircraft Refueling Equipment Checklist states in Item 4, "Hose: check entire length, cuts, cracks, abrasions, and fuel saturation."

57. The NATOPS Manual states, at Section 13.4.1, “Record Retention,” states:

Records shall be retained as specified in the following schedule:

1. Periodic, annual and special reports – two years.
2. Completed daily checklist – one month
3. Completed weekly/monthly checklists – 6 months

58. The NATOPS Manual states, at Section 13.3.7, “Calibration,” that:

Calibration is required for deadweight testers, master meters, and meter/gauges used at the point-of-sale. Personnel who have been certified by an official Navy calibration laboratory (or other certifying agency) shall perform these calibrations. Non-certified personnel may calibrate meters/gauges that are not used at the point-of-sale by means of a master meter or deadweight tester. Non-certified personnel performing calibrations on non-point-of-sale meters-gauges should be familiar with proper calibration procedures.

59. FRC East does not have an FMO and has not assigned the FMO responsibilities²³ to a FRC East employee as required by NAVAIR to oversee all maintenance, repair, and inspection reports for fuel servicing equipment and facilities.²⁴

60. FRC East uses four trucks to fuel and defuel aircraft it works on. The four trucks include one defuel truck and one refuel truck, both owned by MCAS; one combo defuel/refuel truck and one contaminated fuel truck, both owned by FRC East. All four of the fuel trucks have complex

²³ The TPOC position description is being updated to include FMO responsibilities. See “Actions Planned” on page 21.

²⁴ The NAVAIR NATOPS Manual Program Manager stated that NAVAIR requires one person to accept the responsibility of the FMO, which is outlined in the NATOPS Manual.

systems with an array of component parts such as pressure gauges, regulators, fuel hoses, and fuel filters.

61. The NATOPS Manual requires that specific components on the fuel trucks be tested on a daily, weekly, monthly, and yearly basis. These evaluations are conducted to ensure all fueling equipment is functioning properly and that aircraft are receiving jet fuel free from contaminants such as water and sediment, which can cause catastrophic engine failure during flight operations. Pursuant to the NATOPS Manual, test results must be recorded on the checklist detailing the test outcomes and any changes made to equipment.

62. In February 2015, after a mixed fuels meeting, FRC East shut down all fuel operations until the fuel trucks were inspected and brought into compliance with the NATOPS Manual. The inspectors found one of the fuel hose's protective coating so worn away that the interior metal portion of the hose was exposed, thus increasing the risk of causing a spark during use. The inspection further revealed that not all of the fuel hoses had been hydrostatically tested and/or replaced in over a year, and no daily, weekly, or monthly maintenance inspections had been conducted on the fuel trucks. FRC East was responsible for the daily, weekly, and monthly inspections. MCAS Cherry Point Motor Transport was responsible for the periodic (Annual) inspections that included hydrostatically testing the fuel hoses. MCAS Motor Transport does not have the capability to hydrostatically test fuel hoses requiring that fuel hoses be replaced annually.

63. After the inspection was completed, FRC East brought trucks back into service as the fuel hoses were replaced or Temporary Engineering Instruction's (TEI) were written by the Mechanical Engineer describing a work-around that allowed acceptance of minimal risk to keep some of the trucks in service until repairs were completed. As a result, all four trucks were out of service for only one day. FRC East sent the fuel truck that needed fuel hose replacement to MCAS Motor Transport for repair. It remained out of service until the completion of all repairs a few days later.

64. One of the TEI's was written on the defuel truck because the point of sale meter²⁵ was broken. In order to keep the truck in service, fuel truck operators received the following instructions:

1. Prior to issuing the fuel to the test cells, the truck shall be dip-sticked to determine fuel level
2. After issuing fuel to the test cells the truck shall be dip-sticked again to determine quantity of fuel issued.

The creation of the TEI's provided a record of how to keep operational fuel trucks that needed repairs while complying with the fuel operation procedures. During the shutdown, MCAS Station Fuels supported fuel operations for FRC East.

²⁵ The point of sale meter is the calibrated meter on the vessel (fuel truck) that dispenses the fuel. It is used to determine how much fuel is being "sold" to an aircraft at that particular time.

65. No maintenance checklists existed until June 2015 for daily, weekly, monthly, and annual inspections. When the IO's requested the maintenance checklists from FRC East, FRC East provided checklists that started in June 2015. There were no previous maintenance checklists available for the daily, weekly, and monthly inspections. The checklists used since June 2015 at FRC East are replicas of the sample checklists provided in the NATOPS Manual.

66. On 17 September 2015, the MCAS Cherry Point Motor Transport Maintenance Supervisor provided a list to the IOs of the FRC East refueler vehicles, with dates and quantities of fuel hoses that have been replaced. Fuel hoses were replaced on the following vehicles:

1. The 2012 Refuel/Defuel Combo Truck hoses were replaced in November 2014. The hoses were not replaced in 2013 as required by the NATOPS Manual.
2. The 1998 Contaminated Fuel Truck had the hoses replaced in November 2005, April 2007, November 2007, June 2010, November 2010, March 2013, April 2014, and March 2015. There was a three year period between 2007 and 2010 when the hoses were not replaced as required by the NATOPS Manual.
3. The 2006 Defuel Truck had the hoses replaced in May 2008, April 2010, November 2010, April 2011, August 2012, November 2013, and March 2015. The hoses were not replaced in 2014 as required by the NATOPS Manual.
4. The 2006 Refuel Truck had the hoses replaced in November 2009, June 2010, December 2010, October 2012, and April 2015. The hoses were not replaced in 2013 or 2014 as required by the NATOPS Manual.

67. The NATOPS Manual requires fuel truck gauges be tested periodically to ensure proper calibration. The point-of-sale gauge on the fuel trucks is calibrated by MCAS Station Fuels. The refuel truck ID 294253 (MCAS owned) and defuel truck ID 294252 (MCAS owned) had their point-of-sale gauges calibrated on 30 June 2015 by MCAS Station Fuels. The defuel/refuel truck, ID 9652682 (FRC East owned), required parts to be purchased to verify the correct readings on the digital meter that registers the pressure drop. The funding was approved the week of 28 September 2015, and the parts ordered the week of 5 October 2015.²⁶

68. Due to the ages of the fuel trucks, the trucks have different types of instrumentation, including the fuel pressure gauges. Not all of the gauges can be tested or calibrated. However, the most important safety features, the hose end pressure regulator and truck max pressure systems, are verified using a calibrated pressure gauge. The calibrated pressure gauge tool was purchased in July 2015, and is used by the fuel truck operators for the monthly checks to ensure proper PSI delivery to the aircraft.

69. In an effort to minimize the problems of the aging fuel trucks and borrowing trucks from MCAS Station Fuels, FRC East obtained a surplus refuel/defuel truck from a Lemoore, California activity in November 2014. The truck required a considerable amount of refurbishment to be made fully operational. The estimated cost to make the truck operational

²⁶ Reference "Actions Taken" on page 20 for updated status on of the parts.

was approximately \$61,000 and it did not meet the expectations for the conversion, because it only had a 2000 gallon capacity. Therefore, the refurbishment on the surplus truck was not performed, and the truck was not put in service.

Discussion and Analysis

70. We determined that FRC East did not comply with the hose and gauge testing requirements specified in the NATOPS manual until June 2015 based upon the lack of checklist records, direct testimony, and the overall poor state of the hoses and gauges. FRC East could provide no maintenance records that were dated before that date although the retention requirement in the NATOPS Manual is one month for daily checklists, six months for weekly/monthly checklists, and two years for semi-annual/annual reports. FRC East did produce checklists created from June 2015 forward.

71. Witness testimony revealed that FRC East, Motor Transportation, and MCAS Station Fuels were all responsible for different areas of maintenance for the fuel trucks. The confusion was evident on who was responsible for what and when. One of the most significant improvements made by FRC East was temporarily assigning a TPOC to have oversight of the FRC East Fuel Program Contract and be the point of contact for liaison between MCAS Station Fuels and FRC East Fuels. Testimony and evidence shows that the TPOC has either fixed or has a plan of action to ensure FRC East's Fuel Program is in compliance.²⁷

72. We further determined that there was not a single point of failure, but a general lack of awareness and compliance with the NATOPS Manual by FRC East Government employees and contractors. The lack of awareness is evident by the lack of checklists and the poor state of the equipment. The evidence demonstrated that it had been one to three years since the fuel hoses had been replaced. One of the hoses was down to the bare metal, while others were cracked and worn. The lack of oversight and maintenance could have resulted in a serious mishap. Fortunately, based on information the NAVAIR NATOPS Program Manager and the Naval Safety Center provided, we found the deficiencies identified in this investigation did not lead to a mishap.

73. The gauges on the fuel trucks had not been calibrated pursuant to the NATOPS Manual. Once oversight was put in place for the FRC East fuels program to be in compliance with the NATOPS Manual, an effort has been made to get the gauges calibrated. The point-of-sale gauges for the defuel and refuel truck have been calibrated and determined to be accurate. Parts are needed to calibrate the combined truck accurately. The other fuel pressure gauges on the fuel trucks cannot meet the testing and calibration requirement due to the ages of the fuel trucks and the different types of instrumentation contained on them. However, the fuel pressure system on all of the trucks is now tested using a newly purchased calibration pressure gauge. This ensures the proper PSI delivery of fuel to the aircraft.

²⁷ FRC East has advertised the TPOC position, and it will become a full-time position.

Conclusion

74. The allegation that prior to June 2015, hoses and gauges on fueling trucks at FRC East were not compliant with testing requirements, in violation of Naval Air Systems Command (NAVAIR) 00-80T-109 Aircraft Refueling NATOPS Manual, is **substantiated**.

Recommendations

75. That FRC East create a permanent position for a Fuel Maintenance Officer to oversee the FRC East Fuel Program Contract and liaison with MCAS Station Fuels. This position would suffice as technical oversight of the FRC East Fuel Program contract and to assist the COR.

76. The Naval Safety Center concurs with the recommendation of hiring a permanent Fuels Maintenance Officer to provide internal supervision of all operations and maintenance of FRC East fuels support. The Naval Safety Center further recommended incorporating annual or periodic/independent observation of the facilities.

77. That NAVAIR include the FRC East Fuel Program as a Special Interest Item for the FRC East Command Inspections.

78. That FRC East include the FRC East Fuel Program as an Assessable Unit in the Command's Managers Internal Control (MIC) Program.

79. That the FRC Command Evaluation and Control Office conduct quarterly reviews of the FRC East Fuel Program for one year. If the quarterly reviews demonstrate that the FRC East Fuel Program is in compliance, change the reviews from quarterly to annual.

80. That FRC East ensure that any future contracts written for the FRC East Fuel Program is reviewed for completeness and accuracy by the person responsible for technical oversight of the program.

81. That FRC East ensure that the NATOPS Manual is identified as an applicable document in the PWS, and the contract includes applicable provisions from the NATOPS Manual.

82. That FRC East ensure that all requirements of the NATOPS Manual are met by the government and by the contractor that supports the FRC East Fuel Program.

83. That FRC East continue efforts to complete the requirement for the fuel gauge calibrations. Install new parts as required when phasing out instrumentation.

Actions Taken

84. FRC East has implemented a procedure with MCAS Motor Transportation to replace fuel hoses annually. Replacing hoses annually eliminates the need for the hydrostatic testing on fuel hoses that are over a year old.

85. In April 2014, FRC East added Preventative Maintenance requirements for the fuel trucks (daily, weekly, monthly) to FRC East's maintenance system Maximo. A periodic (Annual)

requirement was also added to Maximo to allow FRC East to track the periodic requirements for which MCAS Motor Transport is responsible.

86. Between February and April 2015, all fuel trucks utilized by FRC East were inspected and fuel hoses were replaced as required.

87. In June, 2015, FRC East began conducting daily, weekly, and monthly inspections of the hoses and gauges on fueling trucks using the checklist provided in the NATOPS Manual.

88. The fuel gauges for the FRC East fuel trucks were cleaned and calibrated in March 2015 in accordance with the meter cards that were newly created.

89. A TPOC was temporarily assigned in February 2015 to provide oversight of the FRC East Fuels contract. The TPOC has ensured daily, weekly, and monthly inspections are conducted by the contractors operating the fuel trucks after the modification to the contract was put in place in on 22 May 2015. To ensure that the inspections are done, the TPOC often observes the contractor when the daily inspections are conducted.

90. FRC East created meter cards to establish accuracy limits for the calibration artisan to ensure gauge calibration is completed in accordance with the NATOPS manual. The calibration of gauges has also been added in a notification system (Maximo) that will provide a reminder when the annual calibration is due.

91. The required parts for the defuel/refuel truck were ordered the week of 5 October 2015. As of 13 November 2015, five of the six parts needed have been received and installed. The remaining part had to be reordered as the part was ordered incorrectly. The 6.3 Department Head stated on 1 December 2015, that he is monitoring and will ensure the part is installed.

Actions Planned

92. FRC East is reviewing proposals to procure two new combo refuel and defuel trucks to replace aging fuel trucks to eliminate down time for maintenance and repair.²⁸

93. FRC East is reviewing the feasibility of “dual-hatting” the transportation contract Quality Assurance Evaluator (QAE) /TPOC with FMO responsibilities given their closeness to daily fueling operations.

Personnel Actions Taken

94. Accountability was administered at FRC East when the Commander, Fleet Readiness Centers, changed the command element through an accelerated change of command at which time a new Commanding Officer assumed command on 30 January 2015 to address FRC East’s command dysfunction and performance issues. The new Commanding Officer conferred with

²⁸ The effort to procure new fuel trucks began in late 2014. On 19 November 2015, FRC East received two vendor quotes for the fuel trucks. The average time to receive the trucks if purchased is approximately 330 days. The fuel trucks are custom built to order to meet the strenuous specification requirements of the NATOPS Manual.

the Senior Executive Service (SES) Deputy Commander, Fleet Readiness Centers, and then removed and/or reassigned five Government Schedule (GS) 15's that held Group Head positions and one GS-14 was reassigned for a 120-day temporary promotion detail as the Individual Product Team (IPT) lead (a GS-15 billet). The new Commanding Officer directed civilian moves were supported by the SES Deputy Commander, Naval Air Systems Command. The new Commanding Officer directed many other 120-day temporary promotion details to backfill GS-14 IPT removals and/or reassignments. The new Commanding Officer determined the deficiencies discussed in this report should be addressed as matters of performance rather than misconduct.

Allegation Two

That prior to December 2013, FRC East improperly tested jet fuel, in violation of Naval Air Systems Command (NAVAIR) 00-80T-109 Aircraft Refueling NATOPS Manual. **Substantiated.**

Findings of Fact

95. The NATOPS Manual states, in Section 9.2, Aviation Fuel Quality Surveillance Program, that:

All activities that refuel aircraft shall establish a formal fuel quality surveillance program. Samples shall be taken from the refueling nozzle of each aircraft refueling system, vehicle, truck fill stand, etc., and tested using the Combined Contaminated Fuel Detector (CCFD). Visual inspections shall also be taken for spot checks. All activities shall record all tests results in a checklist, along with the date, approximate time, the source, and other appropriate information.

96. Section 9.3, Sampling Procedures, states:

Proper sampling of petroleum products is as important to quality surveillance as proper testing. Improper containers and poorly-drawn or mishandled samples can cause laboratory results to be meaningless, or worse, misleading.

97. Section 9.3.1, General Rules, states:

1. Sample containers, clear glass quart bottles or LDPE/HDPE plastic bottles, shall be meticulously cleaned. Wipe bottles clean with lint-free cloths.
2. Samples shall be representative of the product being sampled. Samples shall be taken with the system operating at normal flow rates and steady state. Samples drawn during static conditions are not representative of the full fuel flow and will give false readings.
3. Visual samples shall be taken in clear glass bottles only.

98. Section 9.2.3, Fuel Issued to Aircraft, states that the absolute minimum tests shall be performed when receiving fuel at a shore activity:

SUITABLE FOR PUBLIC RELEASE

Fuel in refueler trucks, direct fueling stations, or other shore-based equipment used to dispense fuel directly into aircraft shall be recirculated (flushed) through the equipment/system's hose and refueling nozzle and back to a fuel tank prior to the first refueling of the day²⁹. During recirculation the fuel shall be sampled at the nozzle and tested for:

1. Color (visual inspection)
2. Appearance (visual inspection)
3. Free water (CCFD/FWD or equivalent)
4. Sediment/particulates (CCFD or equivalent)

99. FRC East is the only site within the Naval Air Systems chain of command that has internal aviation fuel support separate from the installation MCAS Station Fuels. The following activities receive aviation fuel support from MCAS Station Fuels at their site: Naval Air Warfare Center Aircraft Division, Patuxent River, MD; FRC Southwest, North Island, CA; FRC Southeast, Jacksonville, FL; Naval Air Warfare Center Weapons Division, China Lake, CA; and all activities onboard Naval Air Systems Command Headquarters in Patuxent River, MD.

100. A Chemist from the Materials Engineering Division,³⁰ FRC East, explained that, starting in December 2013, FRC East conducted fuel tests when aircraft arrive at FRC East, a fuel test on each fuel truck prior to commencing fueling operations for the day, and a monthly fuel test for each fuel truck.

101. The FRC East Chemist explained that there was a problem with the way the fuel samples were drawn for testing aircraft as they were inducted at FRC East. Fuel samples were being drawn immediately when the pump was opened, but correct procedure, specified in the NATOPS Manual, requires draining a number of gallons of fuel from the aircraft before drawing the sample to prevent water and sediment that settled in the bottom of the tank from being collected in the sample. Several false samples were brought to the Material Lab as a result of the improper collection procedures, which resulted in having to draw new fuel samples for testing. Improper sampling procedures were addressed by Quality Assurance and subsequent samples became clean and clear, unless the fuel was actually contaminated.

102. FRC East did not have a CCFD or conduct CCFD tests in accordance with the NATOPS Manual until about December 2013. FRC East was not aware of the CCFD requirement until a conversation with MCAS Station Fuels in December 2013 about daily and CCFD testing.

103. FRC East relied on MCAS Station Fuels to conduct CCFD tests for FRC East until 17 March 2014. Although FRC East did request MCAS Station Fuels to conduct CCFD fuel tests on a regular basis, it did not request MCAS Station Fuels to conduct them on the daily basis specified by the NATOPS Manual.

²⁹ Recirculation (flushing) and testing are required on all in-service refueling equipment/systems once during every 24-hour period.

³⁰ The Materials Engineering Division is also referred to as the Materials Lab.

104. The OIC of MCAS Station Fuels stated that when he first arrived at MCAS Cherry Point it appeared that MCAS Station Fuels was doing the majority of the work, such as fuel testing, for FRC East. The OIC explained that when he inquired into why MCAS Station Fuels was supporting FRC East he was told “we’ve [MCAS Station Fuels] always done that.” The OIC reviewed the requirements of MCAS Station Fuels and determined MCAS Station Fuels was not responsible for testing fuel for FRC East. The OIC told FRC East that MCAS Station Fuels was no longer going to test fuel for FRC East, but assisted FRC East by showing FRC East the type of equipment that needed to be purchased to test fuel. FRC East ordered a CCFD in December 2013 and received it in on 13 March 2014.

105. MCAS Station Fuels continued to test fuel for FRC East for another three months until the FRC East Materials Lab accepted responsibility for CCFD testing in March 2014. On 17 March 2015, the FRC East Materials Lab accepted responsibility for testing the fuel daily at FRC East for up to 18 months until LSG assumed testing responsibilities based upon the May 2015 contract modification. A Chemist from the Materials Lab had to work on days off, to include weekends and holidays, to test fuel prior to LSG assuming responsibility as she was the only FRC East employee trained on the CCFD.

106. The former 6.3 Department Head stated that on 21 March 2014, an action plan was developed to address the lack of availability for weekend fuel testing with the CCFD. She stated that the Maintenance Control Office provided Transportation a list of planned weekend flight line operations. Transportation used the planned operations to plan weekend manpower and equipment. If Transportation could not support a requirement because of manpower or equipment, Transportation would notify department leads to have them reschedule or determine the highest priority. If a conflict or an emergent requirement developed on the flight line the transportation dispatcher would call the Maintenance Control Office to establish a priority. Fueling trucks to be used on Saturday had a fuel sample taken on Friday no later than 2:00 P.M. to have the fuel test conducted that alleviated testing fuel on Saturday.

107. FRC East operating procedures started changing after an aircraft received contaminated fuel in November 2013. After that, employees began to review the NATOPS Manual more carefully and realized that many of the requirements in the NATOPS Manual were not being done as required by the manual. Prior to the TPOC being assigned, many procedures were not followed. Monthly fuel samples were taken and delivered to the lab, but not daily as required.

Discussion and Analysis

108. We determined that FRC East did not comply with fuel testing requirements and did not have a functioning formal fuel quality surveillance program. We also determined that there was no single root cause, but several contributing factors. Some employees we interviewed were not familiar with the NATOPS Manual, and no one testified that the NATOPS Manual was regularly consulted. The fact that some FRC employees were unfamiliar with the CCFD and did not realize that fuel tests conducted at monthly intervals should have been performed every day the trucks were in-service is further evidence of a lack of awareness of the requirements contained within the NATOPS Manual.

109. The NATOPS Manual requires all activities that refuel aircraft to establish a formal fuel quality surveillance program. The NATOPS Manual states that samples shall be taken from the refueling nozzle of the refueling system and tested using the CCFD. The December 2012 LSG contract and PWS mentioned fuel testing, but did not set forth specific testing procedures.

110. In May 2015, the PWS was significantly updated with much more detail and guidance. There was a COR in place for the contract, but the COR was not familiar with daily operations. FRC East did not have a FMO or a TPOC to provide technical oversight of the contract or provide feedback to the COR. The estimate of only 52 samples per year in the contract, when at least 800 per year is required, demonstrates a lack of knowledge and understanding of the requirements by the COR and CPSCO.

111. Finally, FRC East had to rely heavily on MCAS Station Fuels for support. Witnesses testified that not only was fuel not tested with a CCFD, samples were not taken to MCAS Station Fuels on a daily basis. We concluded that if the samples were not taken to MCAS Station Fuels to have fuel tested in accordance with the NATOPS Manual that the required fuel tests were not performed on those days. Not testing fuel on a daily basis may have contributed to the 8 November 2013 incident in which an aircraft received water-contaminated fuel.

Conclusion

112. The allegation that prior to December 2013, FRC East improperly tested jet fuel, in violation of Naval Air Systems Command (NAVAIR) 00-80T-109 Aircraft Refueling NATOPS Manual, is **Substantiated**.

Recommendations

113. That NAVAIR conduct a study to determine if MCAS Station Fuels can support FRC East and eliminate the need for an internal FRC East fuel program.

114. The Naval Safety Center recommended an evaluation of MCAS Station Fuels to see if MCAS Station Fuels are adequately staffed and equipped to handle the defueling and fueling of aircraft without the need for FRC East Fuels. If not adequately staffed to handle the requirements, MCAS Station Fuels division should be augmented with additional manning, which would alleviate the need for FRC East Fuels requirements.

115. That FRC East establish an FMO position or appoint an FRC East employee to assume the responsibilities as required by NAVAIR to oversee all maintenance, repair, and inspection reports for fuel servicing equipment and facilities.

116. That FRC East ensure that the NATOPS Manual is identified as an applicable document in the PWS, and the contract includes applicable provisions from the NATOPS Manual.

Actions Taken

117. As of 17 March 2014, FRC East assumed all fuel testing required for FRC East related work and no longer relies on MCAS Station Fuels for assistance.

118. FRC East purchased a CCFD in December 2013 and received training on the CCFD.

119. At FRC East’s request, CPSCO modified the contract with LSG to have LSG conduct fuel testing. Seven to eight LSG contractor employees have been trained on the CCFD to ensure fuel tests are done in accordance with the NATOPS Manual.

Actions Planned

120. FRC East plans to purchase an additional CCFD to avoid delays in fueling operations should the existing CCFD fail.

Allegation Three

That FRC East wastes government resources when it unnecessarily discards thousands of gallons of jet fuel. **Substantiated**

Findings of Fact

121. The Department of Defense Inspector General definition of waste in DoD Directive 7050.4, “Awards for Cost Savings Resulting from the Disclosure of Fraud, Waste, or Mismanagement,” E.1.1.6 Waste, states:

The extravagant, careless, or needless expenditure of DoD Funds; or the consumption of DoD property that results from deficient practices, systems, controls, or decisions. The term also included improper practices not involving prosecutable fraud.

122. The NATOPS Manual states, at Section 12.11.3, “Disposition of Non-suspect Fuel Removed from Aircraft,” that:

All USN and USMC aircraft are authorized to use JP-4, JP-8, F-24, commercial Jet A and Jet A-1, as well as JP-5 fuel. Fuel removed from a USN or USMC aircraft will contain mixtures of these fuels and the specific grade of the fuel will be impossible to determine without extensive specification testing. United States Army (USA) and United States Air Force (USAF) aircraft may also contain such mixtures. Therefore, fuel in any properly operating DOD aircraft with turbine engines, which is not suspected of being contaminated, can be defueled into a designated refueling vehicle and then used to refuel any aircraft with the user’s knowledge and permission. First preference shall be given to using the fuel to load an aircraft in the same squadron as that from which the fuel originated. Second choice shall be to issue the fuel to aircraft having engine fuel controls that automatically compensate for fuel density changes. In addition, the following rules apply to reissuing defueled fuel:

1. Since fuel removed from any aircraft almost definitely has a flash point below 140 degree Fahrenheit, it shall not be used to refuel any aircraft scheduled for immediate sea duty.

2. Any designated defuel/refuelers must pass their fuel through filter/separators before reaching the aircraft.

123. We found that FRC East treated fuel that tested as clean and clear, no sediment, but which did not meet the criteria of JP-5, as contaminated and offloaded it into the contaminated fuel truck even though the fuel was acceptable for use as “mixed fuel” in other equipment and aircraft that were not departing for sea duty.

124. FRC East has a process to test fuel before an aircraft is inducted upon the aircraft’s arrival at FRC East to confirm it meets JP-5 fuel standards, is clean and clear, and contains no sediment. If the fuel is clean and clear, contains no sediment, and meets JP-5 criteria, it is offloaded into a JP-5 fuel truck. If the fuel is clean and clear, contains no sediment, but does not meet JP-5 criteria, the fuel is treated as contaminated and offloaded into the contaminated fuel truck. Fuel with a low flashpoint is disposed of as contaminated because FRC East had no place to store it since all trucks and storage tanks are marked as containing JP-5 fuel.

125. Any aircraft that arrived at FRC East had a fuel sample sent to the lab to be tested for flash point, and visually inspected for water and sediment. For at least the past three to four years, FRC East has only been using JP-5 fuel. In late 2013, a FRC East Chemist and complainant started looking at the number of aircraft that were inducted with a flashpoint below the JP-5 minimum, and began questioning why the fuel was not being saved.

126. A LSG fuel truck driver testified that FRC East has a “weird standard”, and he does not understand it. The contractor explained that FRC East considered fuel that did not meet JP-5 standards to be contaminated fuel. The contractor stated that he told people the fuel was not contaminated and was what is known in the military as “mixed fuel” that is acceptable for use in many engines, but he could not get his point across to FRC East personnel. Instead, FRC East directed that the fuel be unloaded into a contaminated truck because there was no “mixed fuel” truck even though there was nothing wrong with the fuel. The LSG fuel truck driver testified:

So all that fuel, and even as of, what was it yesterday [17 September 2015], I still threw away, you know, about 5,600 gallons of JP-8. It was good fuel. I put it in the contaminated truck because that’s what I’m told. That fuel is not useable here [FRC East]. Now according the NAVAIR, the 109 [the NATOPS Manual], that fuel is useable anywhere. Mixed fuel I can use it anywhere and what I’ve pushed for at least two years is let me use that in the GSE [ground support equipment], meaning NC-10’s, light carts, anything that has multi-fuel engine that says right on the side can take JP-5, JP-8, and we just – they’re not letting us. We’re still today throwing that away. The last number I heard for the year was 20,000 gallons.

127. On 21 March 2014, the former 6.3 Department Head clarified with the Material Lab that the low flashpoint determination was not a contamination determination unless the Materials Lab report stated the fuel was contaminated. On 25 March 2014, the Material Lab began adding verbiage to lab reports indicating low flashpoint fuel was not considered contaminated.

128. IO's were told that jet engine test cells would be a great place to use the non-JP-5 fuel, but fire codes were an issue. There was a lot of dialogue to determine if non-JP-5 could be used in the test cells due to the lower flashpoint of mixed fuel. Airworthiness was another issue that had to be overcome before mixed fuels could be used. If something was changed that could affect test cells the engineering group needed to be involved to ensure that the change would not affect performance or airworthiness of the engine. Once it was realized that using different fuel would change the dynamics of the test cells, such as the data readings, instruments and parameters, FRC East had to move very carefully to ensure FRC East was in compliance.

129. Another issue identified with switching to mixed fuels was that the fuel signs/labels said JP-5. There are approximately 1,500 different locations that required the signs/labels to be changed from JP-5 to JP Fuel. FRC East intended to have the relabeling done through the local Graphic Arts Department and have a maintenance team replace the signs/labels, but the job of relabeling 1,500 locations was too extensive for the Graphic Arts Department. FRC East is planning to hire a contractor to have all the labels/signs replaced. The new Production Planning Division Director has been involved in trying to get the relabeling project expedited to allow the use of mixed fuels, and he formed a team about a year and half ago to find ways to use the mixed fuel.

130. A FRC East Chemist in the Materials Lab created an Excel spreadsheet to show upper civilian management at FRC East how much fuel was wasted from December 2014 to June 2015. Her spreadsheet showed at least 12,000 gallons of usable JP fuel that was wasted, but that was the minimum because there were many aircraft that were inducted before she could get the number of gallons of fuel offloaded. The Chemist testified that she did not get a response to her findings of wasted fuel from anyone in management other than the new Production Planning Division Director.

131. The former 6.3 Department Head stated it was her understanding that an aircraft going directly from FRC East to sea duty was required to be fueled with JP-5. However, she thought there are probably no aircraft that depart FRC East for immediate sea duty.³¹ She explained that FRC East is limited on fuel storage for JP-8 because MCAS Station Fuels is 100 percent JP-5, and MCAS Station Fuels cannot accept JP-8. If FRC East exceeds its capacity to store non-contaminated JP-5, MCAS Station Fuels can store it for FRC East, but MCAS Station Fuels cannot store JP-8 for FRC East.

132. The former 6.3 Department Head testified that she was under the impression that FRC East was using some of the JP-8, and only some was being discarded as contaminated because of lack of storage.³² She explained that Navy aircraft receive JP-5 "unless the propulsion guys say something else can be used", which she stated is out of her control.

133. FRC East purchases JP-5 jet fuel from MCAS Station Fuels. As of September 2015, MCAS Station Fuels was charging FRC East about \$3.18 a gallon, the price DLA was charging MCAS Station Fuels. The DLA price is normally set once a year depending on the market.

³¹ Other witnesses testified that it is rare for an aircraft deploy directly from FRC East for sea duty.

³² Based upon other witness testimony, we do not find this statement credible as other witnesses testified that all JP-8 was treated as contaminated.

134. The DLA contract with Noble Oil Services Incorporated provide for Noble to purchase Used Petroleum Products (jet fuel) from MCAS Cherry Point for \$.20 per gallon.

Discussion and Analysis

135. We determined that FRC East wasted government resources when it unnecessarily sold thousands of gallons of reusable jet fuel to Noble Oil. FRC East's operating procedures resulted in at least 12,000 gallons of non-contaminated fuel, (including JP-8), being treated as contaminated between December 2014 and June 2015. This practice has been occurring for several years at FRC East and continues as of November 2015. The amount of waste likely increased when FRC East began receiving F-35 aircraft from the Air Force in June 2013 because F-35s arriving at FRC East routinely contain JP-8. FRC East was aware that the Air Force uses JP-8, but FRC East had no plan in place for handling the JP-8 fuel which it had to remove from the F-35s before working on them other than discard it as contaminated. FRC East lacks the resources to manage both JP-5 and JP-8 fuels.

136. We found no evidence that showed FRC East planned to change operating procedures before the complainant and the Chemist highlighted the amount of waste. After that, while FRC East developed a plan of action to switch to mixed fuels to eliminate the waste, implementation of that plan has been slow. If not for a few mid-level FRC East employees, it is likely FRC East would not have addressed the issue and would have continued to treat low flashpoint or JP-8 fuel as contaminated. Only after the new Production Planning Division Director became engaged to coordinate the effort did progress begin to occur. Even after the new Production Planning Division Director formed a team to champion the effort, there were several logistical and procedural challenges to overcome.

137. With an average cost of \$3.18 per gallon of JP fuel as of September 2015, a minimum of \$38,000 of non-contaminated fuel is wasted every six months at FRC East. However, the fuel treated as contaminated is sold to Noble Oil at \$.20 per gallon for a credit of \$2,400 every six months or \$4,800 per year.³³ FRC East spent about \$38,000 every six months or \$76,000 per year to replace non-contaminated fuel. The cost to replace fuel minus the credit from the sold fuel resulted in FRC East needlessly expending approximately \$35,600 every six months or \$71,200 per year.

Conclusion

138. The allegation that FRC East wastes government resources when it unnecessarily discards thousands of gallons of jet fuel is **substantiated**.

Recommendations

139. That FRC East create a permanent position for the TPOC for the Transportation contract.

³³ The proceeds that Cherry Point's Qualified Recycling Program receives from the sale of used oil to Noble Oil offsets salary and benefits for an MCAS Cherry Point Environmental Affairs Department employee and a DoD Material Recovery Facility employee aboard MCAS Cherry Point.

140. That FRC East properly store and use mixed fuels.

Actions Taken

141. Engineers for each engine/APU/GTC platform have stated they are comfortable using mixed fuel in test cells.

142. FRC East Facilities Engineering and Maintenance personnel have resolved fire code issues pertaining to using mixed fuel in test cell areas.

Actions Planned

143. FRC East will accelerate the transition to the use of mixed fuels by splitting the effort into two parts. First, FRC East maintenance personnel will perform the less complex part of the effort, to include relabeling fuel trucks and the tanks and piping systems for two buildings that will allow FRC East to begin using mixed fuel. Second, FRC East will award a contract for the more complex work of relabeling of tanks and piping.

144. FRC East will investigate whether stationary fuel storage tanks need to be procured to store more mixed fuel than the fuel truck can hold.

Allegation Four

That, between May and June 2015, Marine Corps Air Station, Cherry Point, North Carolina, hazardedly disposed of jet fuel, in violation of Resource Conservation and Recovery Act of 1976, Marine Corps Order (MCO) MCO P5090.2A (Hazardous Waste Management), and MCAS Cherry Point Policy Letter 02-13, Statement on Environmental Policy, dated 05 Sep 2013.

Findings of Fact

145. Complainant did not personally observe the alleged improper disposal he reported to OSC, but told the investigator he learned of this matter from others. One witness complainant identified stated that in May or June 2015, he was working near the flight line area and observed a pump truck³⁴ discharge a liquid from the burn pit onto the ground near a shack adjacent to a taxiway. The witness stated that within one hour he saw the same pump truck return to the area near the shack and discharge a second load.

146. The witness was a couple of hundred feet from the pump truck and did not know who discharged the liquid, or the type of liquid that was discharged. He did not assert it was jet fuel. The liquid typically removed from the burn pit is water, but might include burnt fuel, which would be identified through a sheen on the surface of the water. The witness could not say whether the dumping was done by civilians or active duty personnel. The witness did not report the incident at the time.

³⁴ A pump truck is not the same the same type of vehicle as a fuel truck, and the pump truck identified in Allegation Four is operated by MCAS Cherry point, not FRC East.

147. The complainant sent us photographs of the area in which the dumping occurred. The photographs were taken on 25 June 2015, and the photographs depicted an area with fresh grass, mud, and age-worn asphalt.

148. MCAS CP Air Station Order 5090.7, Enclosure (1) - Secondary Containment SOP and Inspection Requirements, Rainwater Drainage states:

Before a portable or permanent secondary containment device can be drained of rainwater, a visual observation for the presence of OHS (Oil and Hazardous Substance) is required. When inspecting for petroleum products, a sheen (rainbow colors on water surface) is a good indication of a spill. . . . Rainwater that has not been contaminated by OHS can be drained from secondary containment using a drain valve, pump, etc.

149. The Compliance Integrated Product Team Lead, FRC East, opined that based on the description of what was seen by the witness, she believed that MCAS CP Facilities Maintenance Department (FMD) determined that there was no sheen, and therefore pumped the burn pit of rainwater and properly disposed of it on the ground. Further, the Compliance Integrated Product Team Lead stated that had there been a sheen or any evidence of contaminated water in the burn pit, the FMD pump truck would have gone to the MCAS Industrial Wastewater Treatment Plant and discharged the contaminated water there. The Compliance Integrated Product Team Lead added, FMD pump truck operators are well trained and understand the implication of dumping contaminated materials on the ground and would not do this knowingly.

150. In October 2015, the Environmental Director, MCAS Cherry Point, conducted a site visit at the area of the dumping at the request of the IOs. He reported that there was healthy vegetation, carpet moss, and old pavement. He did not observe evidence of fuel distressed vegetation, fuel odor from pavement or surface soil, or evidence of fuel damaged asphalt, which are "the same indicators used for the day-to-day environmental clean-up and compliance programs at each installation."

151. The NAVINSGEN Director, Special Studies Division, opined that at this time "this trail is likely ice cold from a chemical forensics standpoint."³⁵ He provided the following reason for his opinion:

Cherry Point MCAS Airfield Operations Order 11320.8, the SOP for the Aircraft Rescue and Firefighting Division on Cherry Point, states: "Water is the only firefighting agent to be used while conducting any live fire training unless emergency situations require AFFF (aqueous film forming foam)." Accordingly, a safe presumption is that any discharge to the soil would likely have consisted primarily of water and any post-fire fuel sludge.

The post-fire fuel sludge consists of large-chain, higher boiler hydrocarbons. The more volatile compounds which are associated with adverse health issues

³⁵ The Special Studies Director has a Ph.D. in Environmental Health Science. His areas of specialty are air sampling methods, analytical instrumentation, environmental chemistry and industrial safety and health.

would have been consumed in the fire. Further, the tendency of volatile or semi-volatile organic compounds which may have still existed in the post-fire fuel sludge after the fuel burn would be to evaporate from the soil surface once dumped into soil. Such hydrocarbons are also vulnerable to biodegradation in the soil.

Discussion and Analysis

152. We concluded Allegation Four was not substantiated because there was no direct testimony establishing that jet fuel was dumped in the area, and neither the complainant's photos nor a site visit to the area of the alleged dumping provided evidence of fuel distressed vegetation, fuel odor from pavement or surface oil, which are indicators used for day-to-day environmental clean-up and compliance programs at each installation. Based on the witness testimony, we conclude something was discharged from a pump truck in May or June 2015, but obtained no evidence indicating the substance was jet fuel. Moreover, we could not identify any test sensitive enough to identify any harmful material that may have been discharged this long after the event. It is more likely that what the witness observed was a normal, approved discharge of liquids rather than unauthorized dumping of jet fuel.

Conclusion

153. Accordingly, we found the allegation that MCAS hazardedly disposed of jet fuel, in violation of Resource Conservation and Recovery Act of 1976, Marine Corps Order (MCO) MCO P5090.2A (Hazardous Waste Management), and MCAS Cherry Point Policy Letter 02-13, Statement on Environmental Policy, dated 05 Sep 2013, is **not substantiated**.

Recommendations

154. That no further action be taken.

Appendix A – Reference Documents

The Reference Documents are not included in the Public Release version of this report.

SUITABLE FOR PUBLIC RELEASE

Appendix B – Witness List

1. Counselor, Tully Rinckey Attorneys & Counselors at Law, PLLC, Washington, DC, by telephone
1. Branch Head Tooling Transportation Group, FRC East, in person
2. Production & Planning Division Director, FRC East, in person
3. Facilities Truck Maintenance, FRC East, in person
4. Director for Safety and Regulatory Compliance, Commander Fleet Readiness Centers, Patuxent River, MD, by telephone
5. Heavy Truck Driver, Contractor, LBM, Inc., in person
6. Department Head Industrial Operations Management (Acting), FRC East, in person
7. Mechanical Engineer/Program Manager for NATOPS Manual, 4.4.5.1 Naval Air Systems Command, by telephone
8. Plant Process Engineering Branch, Mechanical Engineer, FRC East, in person
9. Officer in Charge of Station Fuels, MCAS Cherry Point, in person
10. Environmental Affairs Department, MCAS Cherry Point, by telephone
11. Acquisition and Procurement Division, Acquisition Program Specialist, FRC East, in person
12. Preservation Crew, FRC East, by telephone
13. Chemist, Industrial & Operational Chemicals Branch, FRC East, in person
14. Motor Transport Supervisor, MCAS Cherry Point, in person
15. Supervisory Facilities Distribution Specialist, Naval Supply Systems Command, Patuxent River, MD, by telephone
16. IG Investigator, Naval Air Station Weapons Division, China Lake, CA, by telephone
17. Technical Point of Contact for Transportation Group (Acting), FRC East, in person
18. Production and Planning, Mechanical Equipment Team Lead, FRC East, in person
19. Environmental Division Director, Naval Air Station Patuxent River, MD, by telephone
20. Project Manager, Contractor, Logistics Solutions Group, Inc., in person
21. Fleet Readiness Center Southwest Executive (FRCSW), FRCSW North Island, CA, by telephone
22. Supervisory Team Lead, Assistant Deputy for Small Business, Marine Corps Installation East (MCIEAST)/FRC East Satellite Contracting Office

SUITABLE FOR PUBLIC RELEASE

23. Environmental Affairs Officer, MCAS Cherry Point, by telephone
24. Business Operations Department Head [Former 6.3 Department Head], FRC East, in person
25. Motor Transport Maintenance Supervisor, MCAS Cherry Point, in person
26. Contract Specialist, MCIEAST Cherry Point Satellite Contracting Office, by telephone
27. Director (Interim), 6.3.5 Industrial Environmental Division, FRC East, by telephone

SUITABLE FOR PUBLIC RELEASE

Appendix C – Consolidated List of Recommendations

Allegation One Recommendations

1. That FRC East create a permanent position for a Fuel Maintenance Officer to oversee the FRC East Fuel Program Contract and liaison with MCAS Station Fuels. This position would suffice as technical oversight of the FRC East Fuel Program contract and to assist the COR.
2. The Naval Safety Center concurs with the recommendation of hiring a permanent Fuels Maintenance Officer to provide internal supervision of all operations and maintenance of FRC East fuels support. The Naval Safety Center further recommended incorporating annual or periodic/independent observation of the facilities.
3. That NAVAIR include the FRC East Fuel Program as a Special Interest Item for the FRC East Command Inspections.
4. That FRC East include the FRC East Fuel Program as an Assessable Unit in the Command's Managers Internal Control (MIC) Program.
5. That the FRC Command Evaluation and Control Office conduct quarterly reviews of the FRC East Fuel Program for one year. If the quarterly reviews demonstrate that the FRC East Fuel Program is in compliance, change the reviews from quarterly to annual.
6. That FRC East ensure that any future contracts written for the FRC East Fuel Program is reviewed for completeness and accuracy by the person responsible for technical oversight of the program.
7. That FRC East ensure that the NATOPS Manual is identified as an applicable document in the PWS, and the contract includes applicable provisions from the NATOPS Manual.
8. That FRC East ensure that all requirements of the NATOPS Manual are met by the government and by the contractor that supports the FRC East Fuel Program.
9. That FRC East continue efforts to complete the requirement for the fuel gauge calibrations. Install new parts as required when phasing out instrumentation.

Allegation Two Recommendations

10. That NAVAIR conduct a study to determine if MCAS Station Fuels can support FRC East and eliminate the need for an internal FRC East fuel program.
11. The Naval Safety Center recommended an evaluation of MCAS Station Fuels to see if MCAS Station Fuels are adequately staffed and equipped to handle the defueling and fueling of aircraft without the need for FRC East Fuels. If not adequately staffed to handle the requirements, MCAS Station Fuels division should be augmented with additional manning, which would alleviate the need for FRC East Fuels requirements.

12. That FRC East establish an FMO position or appoint an FRC East employee to assume the responsibilities as required by NAVAIR to oversee all maintenance, repair, and inspection reports for fuel servicing equipment and facilities.

13. That FRC East ensure that the NATOPS Manual is identified as an applicable document in the PWS, and the contract includes applicable provisions from the NATOPS Manual.

Allegation Three Recommendations

14. That FRC East create a permanent position for the TPOC for the Transportation contract.

15. That FRC East properly store and use mixed fuels.

Allegation Four Recommendations

16. No further action recommended.