



2024 Secretary of the Navy Environmental Award
Award Category: Sustainability, Industrial Installation
Fleet Readiness Center East, Cherry Point, North Carolina
CAPT James M. Belmont, USN, Commanding Officer

INTRODUCTION

The mission of Fleet Readiness Center East (FRC East) is to maintain and operate facilities for and perform a complete range of depot-level rework operations on designated weapon systems, accessories, and equipment; manufacture parts and assemblies as required; provide engineering services in the development of changes of hardware design; furnish technical services on aircraft maintenance and logistic problems; and perform, upon specific request or assignment, other levels of aircraft maintenance. FRC East has provided the highest quality services in Maintenance, Repair, and Overhaul (MRO), as well as engineering and logistics processes, to support Department of Defense (DoD) aviation readiness for nearly eight decades. Located within the city limits of Havelock, North Carolina, FRC East is the largest tenant command on Marine Corps Air Station (MCAS) Cherry Point. FRC East employs more than 4,000 civilian, military, and contract personnel, making it North Carolina's largest maintenance, repair, and overhaul and technical services provider. FRC East facilities include 121 buildings with a total of 2.1 million square feet, 1.7 million square feet of which is industrial production space. The total facility footprint is approximately 147 acres, bordered by Slocum and Hancock Creeks, the Neuse River, and the Croatan National Forest. The command also has detachments at MCAS New River, North Carolina, and Beaufort, South Carolina; Kinston, North Carolina, at the Global TransPark (GTP); and Hulburt Field, Florida.

BACKGROUND

FRC East's commitment to environmental sustainability has been demonstrated throughout the installation's history. From initial repair work on the historic aircraft of World War II to the current work on the F-35 Lightning II and future CH-53K King Stallion, FRC East continues to be the DoD's Vertical Lift Center of Excellence, while maintaining a commitment to environmental quality and compliance.

FRC East aircraft maintenance professionals perform phased depot maintenance, planned maintenance intervals, integrated maintenance concepts, modernizations, conversions, overhaul or in-service repair on the AV-8B and TAV-8B Harriers, the MV-22 and CV-22 Osprey, the AH-1Z Viper and UH-1Y Venom, the Air Force UH-1N Huey, the CH-53E Super Stallion and MH-53E Sea Dragon, the F/A-18A-D Hornet and F/A-18E-F Super Hornet, the F-35A/B/C Lightning II, and the H-60 Seahawk.. The depot is also the depot repair point for the drive and rotary systems of the MQ-8B Fire Scout.

FRC East overhauls, assembles, and tests a number of aircraft engines, including the F402 (AV-8B and TAV-8B), the T400 Reduction Gearbox (UH-1N), the T64 (CH-53E, and MH-53E), and the T58-400B (Presidential VH-3D Sea King). The depot is also establishing capability on the F-35B Lift System, T408 (CH-53K King Stallion), and T700 (CT7-8A6 Presidential VH-92A).

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FRC East is the only Navy facility able to perform depot-level maintenance on the auxiliary power unit (APU) and gas turbine compressor (GTC) engines on the F/A-18, AV-8, V-22, E-2 Hawkeye, C-2 Greyhound, KC-135 Stratotanker, H-53, H-47 Chinook, and H-60.

The depot is the preferred repair source for all Navy and Marine Corps rotor blades, providing the resources to support complete life cycle engineering and logistics for current and future rotor blades. It is also equipped with advanced composite and plating facilities.

FRC East has the capability to repair nearly 20,000 distinct aircraft components, ranging from the repair of intricate circuit cards and instruments to the overhaul and testing of main gearboxes. This support covers a vast array of many types, models, and series of aircraft.

FRC East also provides worldwide aeronautical engineering, logistics, and program management support in both the maintenance and design fields, and works side-by-side with the depot's production artisans developing and refining overhaul, repair, test, and troubleshooting procedures. Engineers and logisticians at FRCE support all vertical lift aircraft for the Navy and the Marine Corps, as well as the C-130 Hercules, the RQ-21, and selected components.

FRC East remains a competitive global force through continued maintenance of its International Organization of Standardization (ISO) 14001:2015 certification, originally earned in 2003, and aimed at streamlining business practices and incorporating environmental excellence.

Maintenance, repair, and overhaul processes – including aircraft disassembly, material analysis, non-destructive inspection (NDI), engine testing, chemical cleaning, electroplating, painting and paint removal, welding, and machining – present a multitude of environmental challenges to manage. As a significant contributor to our host command's industrial wastewater treatment plant and the largest generator of hazardous waste under the air station's Resource Conservation and Recovery Act (RCRA) permit, FRC East works closely with MCAS Cherry Point's Environmental Affairs Department (EAD) to ensure compliance. Although a tenant command under EAD-defined RCRA requirements, FRC East manages its own Hazardous Waste Program to encompass training, waste analysis, waste profiling, container labeling, proper storage (satellite and 90-day sites), and compliance inspections. Though MCAS Cherry Point maintains the RCRA permit, due to its unique emissions and regulatory requirements, FRC East holds its own Clean Air Act Title V Air Permit. Although most other facilities elect to contract out the strenuous workload, our facility maintains the permit in-house, compiling and submitting 15 reports annually and staffing two Visible Emission Evaluators, certified semi-annually.

The Environmental Division is comprised of 28 employees – interdisciplinary environmental engineers and scientists, environmental protection specialists, hazardous waste handlers, air inspectors, materials examiners, hazardous materials mixing and dispensing operators, and other support personnel – who are responsible for managing the FRC East environmental compliance programs and monitoring the command's environmental posture.

SUMMARY OF ACCOMPLISHMENTS

FRC East has maintained a robust and versatile Environmental Management System (EMS) for more than 19 years. The program, in keeping with ISO 14001 principles, is continuously improving and seeking ways to sustain these improvements. FRC East's EMS is a vibrant system of environmental excellence: FRC East was the first DoD facility to register a comprehensive EMS incorporating its entire facility. Its award-winning program has sustained continual registration to the ISO 14001 standard through third party surveillance and registration audits since November 2003, exceeding requirements set by the DoD and the Department of the Navy (DoN). Noteworthy accomplishments and improvements include:

1. Community Outreach: Eastern North Carolina has embraced FRC East as an integral part of the community and held us as an esteemed neighbor for three-quarters of a century. FRC East values this commitment and stays engaged with the community in opportunities to learn, share, and build on the established foundation of sustainment. Examples of these efforts include:

- a. FRC East has sustained membership as a proud Environmental Steward of the North Carolina Department of Environmental Quality's (NC DEQ) Environmental Stewardship Initiative (ESI) for 19 years. The ESI is a voluntary program within the NC DEQ's Department of Environmental Assistance and Customer Service (DEACS) designed to promote and encourage superior environmental performance in North Carolina's regulated community. FRC East received its designation as a Steward in 2004, only two years after the program's initiation. The program recognizes its participants as leaders and provides technical assistance and networking opportunities, fostering communication among members and within their communities. Members are encouraged to share innovative approaches used to reduce their impact on the environment, and which produce a healthier environment, conserve natural resources, and result in long-term economic benefits.

The ESI has three performance levels: Environmental Partner; Rising Environmental Steward; and the highest, Environmental Steward. Each level provides added incentive to implement innovative criteria and reduce environmental impact, culminating with the prestigious Environmental Steward recognition and its corresponding benefits. To achieve the status of Environmental Steward, FRC East exemplified "a history of commitment to exemplary environmental performance beyond what is required by law," and "demonstrated leadership, a mature EMS, aggressive environmental performance goals, a commitment to go beyond compliance, an EMS that is integrated into the core business functions, and a process of communicating with the local community about program activities and progress toward performance goals." Submission of an annual report communicates to NC DEACS progress toward environmental performance goals, reductions in environmental emissions or discharges of releases, solid and hazardous waste disposal, use of energy and water, and any reportable non-compliance events.

FRC East won NCDEQ's 2022 Pollution Prevention Award for efforts in water conservation and solid waste reduction. This award was presented at NCDEQ's ESI

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Annual Members conference by Elizabeth Biser, Secretary of the North Carolina Department of Environmental Quality.

- b. FRC East sustains its membership in the Craven/Pamlico Local Emergency Planning Committee (LEPC), an organization of industrial, governmental, and citizens' member groups whose purpose is to provide a forum in which the local community and facilities can discuss issues related to hazardous substances, man-made and natural hazards, or emergencies. FRC East participates in the quarterly meetings and contributes to tabletop training exercises designed to develop emergency response procedures for emergency response personnel.
 - c. FRC East assists the MCAS Cherry Point Fire Department in the planning and execution of emergency drills to ensure the best possible emergency response and preparedness to protect facility and personnel assets. Most recently, FRC East worked with MCAS Cherry Point to host a tabletop exercise discussing potential hazards related to moving carboys of contaminated water to the wastewater treatment plant via forklift. As a heavily industrial tenant aboard MCAS Cherry Point, FRC East's participation with the Fire Department helps support their efforts to protect the local community through increased awareness of hazards they may not encounter on a day-to-day basis. Additionally, the planning and after-action review allow our facility to improve and sustain our processes through corrective actions.
 - d. Earth Day, which is celebrated every year on April 22., aims to provide awareness with the intent of improving environmental quality. In keeping with this tradition, FRC East provides outreach to FRC East personnel and individuals on MCAS Cherry Point as well as the surrounding community. For Earth Day 2023, FRC East provided outreach at Childcare Development Centers (CDC) on MCAS Cherry Point. Children at the CDC were given an overview of why it is important to protect the environment each and every day, and also decorated recycling containers that are used throughout the FRC East facility.
 - e. As a continued show of FRC East's positive environmental influence on North Carolina and local communities, FRC East provided environmental mentorship to United States Coast Guard (USCG) Aviation Logistics Center (ALC) Elizabeth City. FRC East environmental staff were asked to shadow ALC Environmental personnel during their third party ISO 14001:2015 audit and provide feedback and guidance for issues that arose during the audit. There is active dialogue between FRC East and ALC Elizabeth City to share best management practices that have been implemented at FRC East.
2. Sustainment and Maturity of the System: FRC East integrates EMS practices into its core business functions through all levels of the organization, affecting all personnel and their systems: production, engineering, logistics, contractors, military personnel, and management. This integration is established and verified through regular management review meetings designed to evaluate environmental business initiatives and concerns, communicate progress toward environmental goals and issues, and highlight employee

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recognition for successes related to environmental goals. The FRC East EMS has sustained command-wide implementation through extensive operational controls – standard operating procedures, instructions, and embedded software system controls.

One example of a software system control used by the facility is the Hazardous Material Management System (HMMS). At FRC East, material usage is electronically tracked to an approved employee through ID-badge bar coding and is recorded to enable real-time reporting and true cradle-to-grave management of hazardous material (HM). The HMMS system also monitors the shelf life of all products. Due to this ability of HMMS, FRC East has adopted a local process specification for shelf-life inspection and extension.

To effectively manage and minimize hazardous material expenditures, certain consumable materials may be tested and/or inspected to determine suitability for continued use beyond the stated shelf-life expiration date and recommended storage conditions. Consumable hazardous materials are categorized with a shelf-life code (SLC). The SLC is a single-digit, alpha-numeric code identified in the web-based query tool for national stock numbers located at the Defense Logistics Agency (DLA). If the SLC is a letter, the item is considered “Type I” and is considered non-extendable after the expiration date. If the SLC is a number, the item is considered “Type II” and is extendable. Roughly two-thirds of FRC East’s more than 2,600 active-use materials are “Type II” – their expiration dates and potential for extension are evaluated monthly. With this process, FRC East is able to reduce the amount of viable material sent to waste while helping to mitigate long lead-times on material ordering/stocking that could cause work stoppages.

3. Continual Improvement: The command’s commitment to environmental sustainment is apparent in the stringent goals it has set for itself. Management has aligned the current FRC East EMS objectives and incorporated them into the Command’s Strategic Plan:
 - a. Increasing Energy Conservation – The command’s goal for energy conservation is to reduce energy consumption 25 percent by 2025. FRC East is accomplishing this by installing green fixtures and coordinating with MCAS Cherry Point, Headquarters Marine Corps, Naval Facilities Engineering Command, and Duke Energy to identify aging infrastructure, propose measures to eliminate redundant electrical systems, and establish significant energy conservation measures aboard MCAS Cherry Point and FRC East.

FRC East introduced the usage of Tesla TI3000 GPU-24 battery packs in the spring of 2023. These self-contained battery systems replaced the diesel operated NC-10C ground power units (GPU) that are utilized as auxiliary power units (APU) for the UH-1N Huey production line. This was an increase in energy conservation as the NC-10C’s consumed 5-7 gallons of diesel fuel per hour per unit which is, on average, a 25-35 gallon reduction per operational day. As the GPU-24s can be transported by one individual, this also eliminates fuel that was consumed by equipment used to transport the NC-10C to where power was needed. In utilizing these systems there is also a reduction of harmful air emissions that are generated by the burning of fossil fuels in the NC-10Cs and the transport equipment needed to move them. Not only is the impact to the environment

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reduced and an increase in energy conservation; this also makes the work areas safer for the team members that work there.

- b. Increasing Water Conservation – It takes a significant amount of water to treat industrial wastewater before it can be routed to the sanitary treatment facility. FRC East is conserving water by reducing industrial wastewater generation 36 percent by 2025. The facility is taking action to reduce water consumption by actively encouraging employees to engage in actions aimed to reduce water usage and waste, and to identify and repair leaks; participating in MCAS Cherry Point’s Utilities and Energy Service Contract (UESC) for water conservation measures; and coordinating with East Carolina University’s capstone curriculum to plan for a project that would reuse rinse water in the plating facility’s air scrubber system. Measuring the influent flow to the Industrial Wastewater Treatment Plant has identified sources for potential volume reduction and tracked FRC East’s efforts to achieve and surpass the flow reduction goal. In FY22, the calculated goal was 92.6 million gallons – the facility reduced influent flow rates by 56.5 million gallons, thereby surpassing that goal by 61 percent.
- c. Increase Landfill Diversion – FRC East has aggressively set its goal to divert 62 percent of its solid waste by 2025, far exceeding the requirements established by Commander, Fleet Readiness Centers (COMFRC). In FY23, FRC East maintained an average landfill diversion rate of 61 percent. FRC East is continually seeking ways to achieve and exceed this goal. FRC East has not seen a diversion rate below 50 percent during any reporting period. The command’s recycling program includes various scrap metal, unpainted wood, tires, batteries, paper, cardboard, and mixed recyclables. The recycling program provides 27 cardboard and 37 mixed recyclables containers, approximately 180 various metal collection containers, and two wood hoppers, all located strategically throughout the facility to promote increased recycling. Mixed recyclables include glass and steel cans as well as aluminum cans and plastic bottles. Each dumpster dive yields fewer recyclable materials than the previous year, and it is believed this is due to the continual outreach, educational opportunities, and management and shop involvement at FRC East.

CONCLUSION

FRC East proudly serves the warfighter by delivering on time, at-cost, and high quality products, while committing to environmental sustainability, enhanced community planning and awareness, and implementing innovative technology. The Environmental Division provides exceptional customer support, guiding our FRC East team as we strengthen our environmental sustainment; achieve reduction goals; enhance facility and community; and provide a foundation for state and national excellence.

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