



**2019 Secretary of Defense Environmental Award
Environmental Quality – Industrial Installation
Fleet Readiness Center Southeast (FRCSE)**

INTRODUCTION

1. **Mission:** FRCSE is one of eight Fleet Readiness Centers in Naval Air Systems Command tasked with providing general aviation maintenance and repair services, and only one of three that provide in-depth modifications and overhaul of aircraft, engines, and their components. FRCSE is a full spectrum maintenance operation with all the key capabilities required to maintain high-performance aircraft, including comprehensive in-service engineering, logistics services, and support. Maintenance is performed on a variety of aircraft, including the P-3 Orion Antisubmarine Patrol Aircraft, F/A-18 Hornet Carrier-based Strike Fighter/Attack aircraft, T-34, T-44, and T-6 Trainer Aircraft, MH-60R Maritime Multi-mission Helicopter, SH-60 Seahawk Utility/Assault Helicopter, and U.S. Air Force HH-60 Pavehawk and MQ-8 aircraft. In addition, FRCSE performs complete overhaul on U.S. military aircraft engines and components.

2. **Environmental, Geographic, and Community Setting:** FRCSE is the largest tenant command on Naval Air Station (NAS) Jacksonville and is the largest industrial employer in Northeast Florida and Southeast Georgia. FRCSE has more than 3,700 employees representing more than 110 trades, occupations, and professions. FRCSE covers 127 acres and occupies 63 buildings with more than 2.5 million square feet of industrial, office, and warehouse space. FRCSE lies within the City of Jacksonville and borders the St. Johns River, which is a designated American Heritage River. FRCSE is under the regulatory authority of the Region 4 offices of the Environmental Protection Agency, as well as the Northeast District offices of the Florida Department of Environmental Protection (FDEP).

BACKGROUND

1. **Environmental Aspects and Challenges:** An Environmental Aspect is a portion of an organization's activities or services that can interact with or impact the environment. Due to the wide-range of industrial processes FRCSE performed in support of naval aviation, FRCSE faced substantial environmental challenges. Of these challenges, FRCSE had many significant environmental aspects, which included processes and activities involved in chemical and mechanical de-painting, surface coating, chemical cleaning and degreasing, machining, composite repair, electroplating, and surface finishing. Other environmental aspects with the potential to cause environmental impacts were processes associated with the repair and testing of hydraulic and fuel systems, the reassembly and test of aircraft, upgrades of industrial facilities and processes, disposal of excess equipment, and the maintenance of ground support equipment.

Factors that also influenced FRCSE's environmental footprint included two onsite industrial wastewater treatment plants, which pre-treat industrial wastewater prior to discharge to the sanitary sewer system at NAS Jacksonville, as well as the packaging, preservation, and transportation of products outside of FRCSE boundaries.

2. Program Management: FRCSE maintains an externally certified ISO 14001:2015 Environmental Management System (EMS) program. The EMS program and all FRCSE environmental programs were planned, executed, and driven according to the FRCSE Environmental Policy Statement, which focuses on a commitment to environmental compliance, sustainability, pollution prevention, and continual improvement. FRCSE was also committed to mission sustainment at the lowest cost while meeting the goals of the Department of Defense (DoD) Strategic Sustainability Performance Plan (SSPP) in support of EO 13834 (Efficient Federal Operations). FRCSE integrated these goals as a priority of its EMS program. The FRCSE Industrial Environmental Division is managed by an environmental director with a staff of 23 professional and technical personnel who are responsible for environmental compliance, environmental operations, and environmental quality. In order to provide high quality services and continual improvement, the environmental team coordinates closely with internal stakeholders from other key areas of FRCSE, including production, safety, engineering and logistics personnel. External stakeholders were also a vital part of the puzzle, and included input from the NAS Jacksonville Environmental Office, the City of Jacksonville Environmental Resource Department, the FDEP, and the business community of Northeast Florida.

The EMS program is supported by a working level EMS and Pollution Prevention (P2) team, comprised of representatives from the FRCSE environmental office, engineering, integrated product team (production), and various support organizations. EMS documentation is maintained on the FRCSE environmental website to ensure all employees, contractors, and military personnel are aware of the environmental policy and the elements of the EMS program.

The FRCSE environmental team briefs the executive officer monthly on all aspects of the environmental program, and often includes plant walk-throughs to review actual plant conditions and recognize environmental and production employees for their hard work and commitment to environmental goals. Internal and external compliance audits, as well as EMS management reviews are managed as opportunities to improve the environmental program. To meet the ISO standard, EMS management reviews are conducted annually with the Commanding Officer and Executive Officer and included a review of EMS program performance in terms of mission benefits and cost savings.

Military and Partnership Awards/Acknowledgements:

2016 First Coast Manufacturers Association (FCMA) Manufacturer of the Year Award;
2015 Secretary of the Navy Environmental Sustainability Award-Installation;
2015 Chief of Naval Operations Environmental Sustainability Award-Installation;

SUMMARY OF ACCOMPLISHMENTS/TECHNICAL MERIT

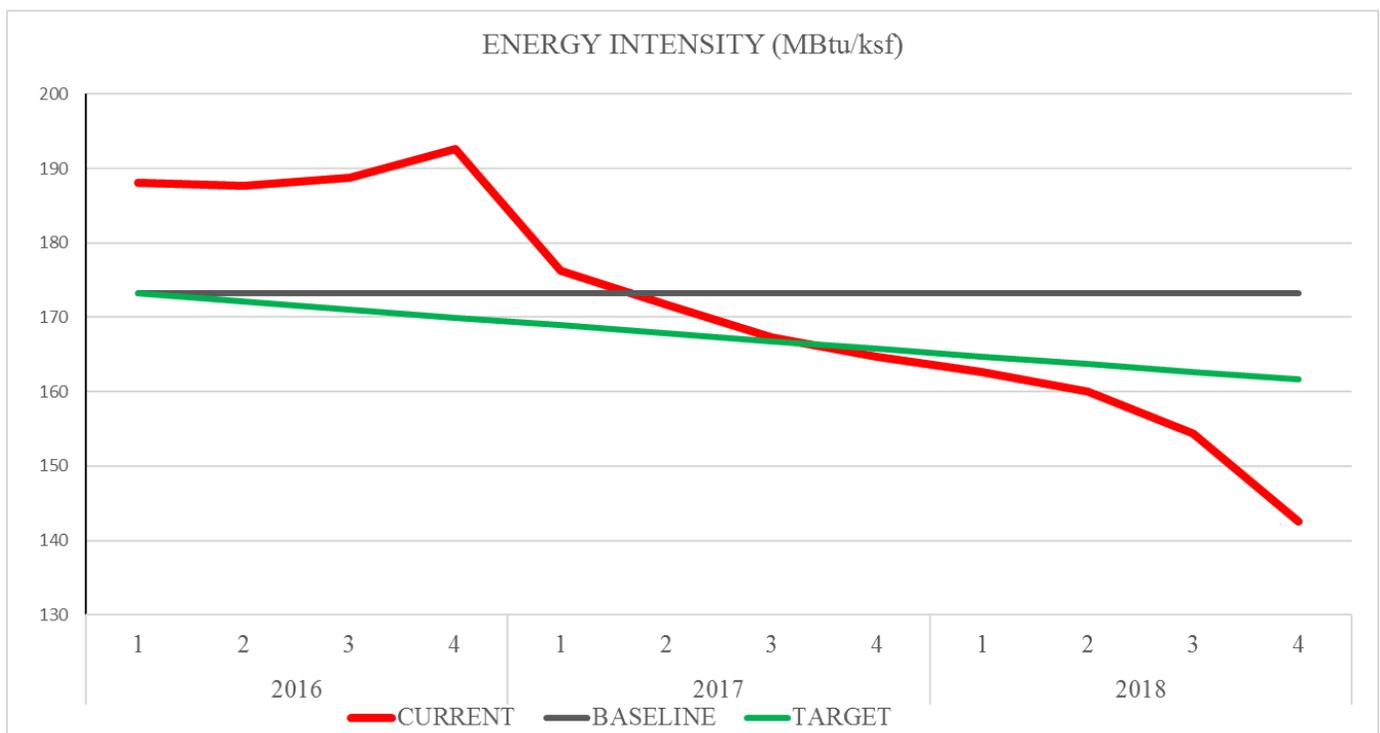
1. Process Improvements:

a. **Improve Material Management:** The environmental team reduced the number of expired shelf life items. In FY-18 17,997 expired items were successfully extended and hazardous material procurement costs were reduced by \$1,527,875. This was achieved through Material Engineering Laboratory testing and visual inspection of product, in accordance with shelf-life management guidelines established by DoD. By extending shelf-life, FRCSE also realized significant cost savings by avoiding excess hazardous waste generation, thereby supporting P2 efforts.

b. **Environmental Wildly Important Goal (WIG):** The FRCSE environmental team conducted WIG compliance reviews in an effort to increase shop awareness. FY-18 resulted in an approximately 33 percent decrease in the number of non-conformities compared to FY-17. Over the last 5 cycles (approx. 6 months) there have been an average of 30.8 findings. This is down from 46 findings at this report out last year. An improvement in environmental compliance.

2. **Compliance with EO 13834:** FRCSE continued to make significant progress toward the goals of EO 13834 specifically in regard to environmental, energy and economic performance as it sustains the maintenance mission of FRCSE.

Energy Performance: FRCSE continues to implement energy projects by replacing fluorescent lighting with LED lighting throughout production areas. In June 2018 a lighting project was completed in the Engine Rework Facility, Bldg. 797. FRCSE has projects scheduled for early FY19 to replace additional lighting and HVAC systems that could have an energy reduction of 3%. FRCSE is on track to meet the FY-2025 reduction goal. The energy graph below is based on EO 13693 which directed us to use 2015 as a baseline year.



3. **Environmental and Economic Performance:** Highlights of FRCSE environmental, energy, and economic performance were captured in the table below identifying projects that support the goal of EO 13834 and mission sustainment at reduced cost.

Project Description	Status	Environmental Performance
Engine Component Metal Reclamation	FY-17/18	Metals Reclamation Program expanded. Total weight reclamation is 354,105 lbs. Processes for Platinum and Rhenium extraction/reclamation/F404 and F414 components in process.
Cardboard Recycling	FY-17/18	Solid Waste Diversion [Approx. 265,284 lbs.]
Misc. Materials Recycling	FY-17/18	Paper, 107,069 lbs.; Plastic, 8,500 lbs.; Reclaimed batteries (Cores, 6V, 8V, 12V) 38,874 lbs.
Scrap metal to DRMO/DLA	FY-17/18	1,258,134 lbs.
Wood Recycling	FY-17/18	342,132 lbs.
Universal Waste for Recycling	FY-17/18	Lead Acid, UW Batteries 685 lbs.
Energy Recovery	FY-17/18	Used oil/Waste to Energy 52,071 Gal., Antifreeze 5,664 lbs.
Hazardous Waste (HW) Compaction	FY-18	HW compaction allows for bulk rate for disposal. In FY-18 bulk rate cost was 1.17 cents/lb. vs non-bulk rate cost of \$1.85/lb.
Improve Material Shelf Life Management	Ongoing	Reduce number of expired shelf life items 17,997 items/year, reduce procurement cost by \$1,527,875/year
Reduce Water use in Wastewater Treatment Plants	Ongoing	Construction in place (70% completed) to modernize treatment plants; Reduce water usage by 50 percent
Reduce Sanitary Wastewater Sampling	Ongoing	Reduction of wastewater sampling and costs by renegotiations with PWD
Reduce Energy Use	Ongoing	Energy improvements: Steam reduction and high-efficiency lighting systems
Reduce Cadmium (Cd) Electroplating	Ongoing	Eliminate Cd electroplate (except fasteners and couplings) ; Establish Zinc Nickel capability in 2019
Eliminate Silver Cyanide Electroplating	Ongoing	Eliminated Silver Cyanide Electroplate by establishing non cyanide silver plating capability early 2017
Eliminate Hard Chrome Electroplating	Ongoing	Established Nano-crystalline Cobalt-phosphorus capability. This reduced process time
Use of Non-Chromate Primers	Ongoing	Eliminated use of Chromate Primers on most P-3 and Trainer aircrafts. Full implementation expected by Dec 2018

4. **Recycling Programs:** FRCSE continued to champion recycling to minimize impact to natural resources, cut cost, and reduce the amount of waste sent to landfill.

a. **Diversion from Landfill:** During FY-17/18, a total of 2,020,678 lbs. of recyclable items were diverted from landfill.

b. **Metals Reclamation (Rhenium and other Metals):** During FY-17/18, FRCSE reclaimed 354,105 lbs. of metals for Rhenium extraction and other metal components. Thousands of dollars in credits are returned to the Navy.

c. **Recycled Used Oil and JP-5 Fuel, and Antifreeze:** FRCSE recycled 52,071 gallons of used oil for energy recovery and 5,664 lbs. of antifreeze.

ORIENTATION TO MISSION

1. **EMS Program:** FRCSE considers environmental stewardship to be a business imperative and is committed to the goals of EO 13834 and the DoD Strategic Performance Plan. Accordingly, the command was dedicated to maintaining ISO 14001 certification and adhering to the elements of the standard to ensure visibility across the enterprise. FRCSE ensured all significant aspects of its process activities are identified and programs are implemented to conserve resources, reduce waste, and ensure environmental compliance. ISO 14001 external audit reports state FRCSE has strong evidence of management commitment, customer satisfaction, and knowledge/awareness of policy and objectives that are demonstrated consistently by all members of FRCSE.

2. **Continuous Improvement:** FRCSE considered continuous improvement vital to its future and key to mission sustainment. The command maintained a continuous improvement database to record all discrepancies and ensure root-cause analysis is performed prior to closure of findings. FRCSE views audit findings as an opportunity to improve environmental compliance. Also, FRCSE is committed to both internal and external reviews of its EMS program. To that end, the command was successfully upgraded to the ISO 14001:2015 standard in July 2018 and the Quality Management System requirements of ISO 9001:2015 and AS9100:D.

3. **Environmental Training:** FRCSE was fully committed to an in-depth employee environmental training program, ensuring compliance, reducing pollution, and facilitating continuous improvement. General environmental awareness training, including an overview of the EMS system, hazardous materials requirements, hazardous waste requirements, and storm water P2 fundamentals was provided to all new and transferred employees and was reinforced through a system tailored to employee job function. All production and contract personnel were also required to complete specific, shop-level environmental awareness training led by their immediate supervisor. Additionally, the FRCSE environmental team provided quarterly hazardous waste awareness training to all production personnel and in-depth annual hazardous waste training to supervisors and employees assigned as hazardous waste coordinators.

TRANSFERABILITY

1. Environmental Compliance Assessment and Management Program

The FRCSE environmental team continuously reviewed proposed projects and evaluated them per the environmental compliance criteria. Design and execution of all proposed actions shall incorporate applicable environmental requirements. Effective environmental project reviews are provided for all new or modified processes and National Environmental Policy Act (NEPA) analyses is performed when required. The team reviewed more than 40 NEPA actions during FY-18.

2. Technology Transfer and Integration

The FRCSE environmental team supported environmental quality through resource conservation and pollution prevention. This was accomplished by reducing or eliminating pollutants generated from processes associated with FRCSE environmental aspects within economic and technology limitations. Pollution prevention initiatives included: replacing cyanide silver plating with non-cyanide silver plating, replacing cadmium plating with zinc nickel plating, and replacing chrome plating with nano-crystalline cobalt-phosphorus (nCoP) plating.

STAKEHOLDER INTERACTION/EDUCATION OUTREACH AND PARTNERING

FRCSE is a charter member of the Northeast Florida Environmental Compliance Partnering Team. The team meets quarterly and the goal is to promote positive relationships, cooperation and communications. The goal is also to identify/implement solutions to enhance environmental compliance and stewardship. Partnering team participates in St. Johns Annual River clean-up events involving removal of trash and debris from beaches, lakes, and rivers.

PROGRAM IMPACT

FRCSE has established a culture of environmental stewardship within its gates that is second to none. These efforts, along with FRCSE's commitment to environmental management system will ensure the quality of our current and future efforts in the years to come.