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**SECDEF / SECNAV FY2014-2015 ENVIRONMENTAL AWARD NOMINATION  
NARRATIVE,  
SUSTAINABILITY – INDUSTRIAL INSTALLATION  
MARINE CORPS SUPPORT FACILITY BLOUNT ISLAND, JACKSONVILLE,  
FLORIDA**

**INTRODUCTION**

**Mission.** Marine Corps Support Facility Blount Island (MCSF-BI) is the Marine Corps Logistics Command's Executive Agent for the Marine Corps Prepositioning Programs. As the primary tenant, Blount Island Command (BIC) plans, coordinates, and executes the logistics efforts in support of the Maritime Prepositioning Ships (MPS) Program and the Marine Corps Prepositioning Program, Norway. The mission of BIC is focused on attainment, maintenance, and sustainment of all MPS and Norway requirements. MCSF-BI also provides technical assistance to Marine Expeditionary Force Commanders for all aspects of prepositioning, planning, and deployment. Our unique mission ensures the Maritime Prepositioning Force (MPF) is a global naval power projection asset that significantly supports the employment of Naval expeditionary forces.



*Typical ship loading activities at  
MCSF-BI*

**Population.** MCSF-BI has a population of approximately 700 service members, civilians, and contractor personnel. The installation houses several tenant organizations, including the Military Sealift Command and Naval Cargo Handling Battalion 11 (Naval Reserve), as well as the Aviation Ground Support Equipment, Marine Corps Maintenance Contractor, and Regional Base Operating Support contract organizations.



*Aerial view of the installation highlighting (red lines) the main base and the DDA on the east side of the St Johns River*

**Environmental Setting.** MCSF-BI lies in the middle of the St. Johns River in Jacksonville, Florida, and covers 911.2 acres on the eastern half of Blount Island. An additional separate 325.8-acre dredge disposal area (DDA) is part of the MCSF-BI property and lies east of MCSF-BI, on the east bank of the St. Johns River. These two areas include approximately three miles of coastline.

MCSF-BI is located on an island that was created as a result of the placement of dredge material from the Dames Point-Fulton Cut shipping channel onto four smaller islands and adjacent marshes after World War II. Land use at MCSF-BI consists of developed industrial land, undeveloped land, open water and a dredge spoil area. Developed industrial land occupies 686 acres. The remaining 225.2 acres of the installation and 325.8 acres of the DDA provide natural resource values.

MCSF-BI is located in a mosaic of urban development associated with the City of Jacksonville and relatively natural areas. Jacksonville is known as America's Logistics Center and serves as an intermodal transportation hub for port, rail, trucking, and air cargo facilities. MCSF-BI's mission and dedication to sustainable operations fits well into Jacksonville and MCSF-BI is

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proud to play a role in supporting the healthy economy, ecosystem, and natural environment of northeast Florida.

## BACKGROUND

The Department of Defense (DoD) developed and published the Strategic Sustainability Performance Plan (SSPP) to meet the requirements of Executive Orders (EOs) 13514 and 13423, and to drive conformance with existing federal statutory requirements. To meet DoD and federal sustainability requirements, the Commandant of the Marine Corps developed the draft 2011 USMC Sustainability Plan. MCSF-BI has incorporated the goals, objectives, and targets set forth in the USMC Sustainability Plan, which builds from the DoD SSPP, into its sustainability program.

To implement the sustainability objectives, MCSF-BI leverages the existing environmental management system (EMS) team structure. MCSF-BI is third-party-certified to the International Organization for Standardization (ISO) 14001. The EMS team organization provides a direct line of communication between the Commander's environmental staff and the operational staff and the other entities aboard the installation (contractors, tenants, lessees). The EMS team is composed of the EMS Review Board, the EMS Management Team, EMS Coordinators, and EMS Implementation Team.

The EMS Review Board members are the Commanding Officer (CO), Deputy Director, Division Directors, Head of the Installation Management Office, Headquarters Company CO, Contractor Program Managers, and Tenant Officers-in-Charge. The Environmental Review Board is directed by the CO and serves as a panel to:

- Ensure attainment of sustainability goals in a collaborative manner;
- Remove barriers to implementation of projects and policies required to achieve goals;
- Provide guidance on sustainability initiatives at the installation.

The EMS Review Board members have authority over the EMS Management Team, EMS Coordinators, and the EMS Implementation Team, and provide overall direction for the EMS.

The EMS Management Team members include the EMS Manager and Deputy Manager, MCSF-BI and the Marine Corps Maintenance Contractor Business Manager, Environmental Protection Specialists, Safety Technicians, and Marine Corps Maintenance Contractor Health, Safety, and Environmental Manager. EMS Coordinators include MCSF-BI supervisors and contractor, and tenant environmental representatives. Finally, the EMS Implementation Team consists of all MCSF-BI personnel, including government civilians and military, tenants and contractors. Members of the EMS Management Team are responsible for ensuring attainment of the installation sustainability goals by:

- Leading, motivating and involving their respective organizations on sustainability initiatives;
- Educating their respective organizations on their roles, responsibilities, and how daily operations affect sustainability objectives and targets;
- Measuring progress, benchmarking, sharing lessons learned and best practices;
- Keeping track of metrics for objectives and providing results during management reviews;

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- Complying with installation policies related to sustainability and informing the EMS Review Board of any changes needed to allow progress with established plans of action and milestones.

To ensure that evaluation of progress and benchmarking is performed on a regular basis, the EMS Review Board completes a formal management review semi-annually. This review includes participation by the Environmental Impact Review Board, which reviews projects to make sure environmental impacts are discussed, evaluated, and addressed. Participation by installation personnel is highly encouraged because sustainability is not considered a separate program but rather an integral part of existing installation programs and initiatives. For example, EMS Coordinators have weekly meetings to discuss environmental and sustainability issues, ranging from green procurement and recycling to energy and water conservation.

MCSF-BI utilizes its Sustainability Plan to assist in meeting federal, United States Department of Defense, and Navy/Marine Corps sustainability mandates by defining implementation strategies, policies, projects, and other methods to achieve the mandates. The Plan serves as a roadmap to identify ways to efficiently utilize mission critical resources such as energy, fuel, water, equipment, land, and facilities, while enhancing the mission requirements and providing a baseline inventory and/or data gap analysis against target metrics enumerated in the Draft 2011 USMC Sustainability Plan. MCSF-BI created a Sustainability Executive Committee comprised of representatives from various installation organizations to share ideas, track progress, and discuss opportunities. A summary of the most significant sustainability accomplishments are presented in the following section.

#### **SUMMARY OF ACCOMPLISHMENTS**

##### ***Progress against DoD SSPP and USMC Sustainability Plan Goals, Objectives, and Targets.***

MCSF-BI has made great progress against DoD and USMC sustainability goals and targets. The following information highlights specific goals, describes MCSF-BI performance, and discusses plans for future efforts.

##### ***DoD Sub-Goal 1.1: Reduce energy intensity of facilities by 30 percent of FY2003 levels by FY2015 and 37.5 percent by FY2020***

In relation to the goal to reduce energy intensity of facilities by 30 percent of FY2003 levels by FY2015 and 37.5 percent by FY2020, MSCF-BI is currently exceeding both metrics. By the end of FY2015, the installation energy intensity was about 47 percent below the FY2003 baseline or at approximately 27 MBtu/ksf (million British thermal units per thousand square feet), compared to the baseline 50.8 MBtu/ksf. Specifically during the timeframe for these award achievements (FY2014 – FY2015), MCSF-BI was already exceeding energy goals and continued to identify energy consumption reduction opportunities.

From the FY2003 baseline, energy intensity has varied from year to year; however, the overall trend at MSCF-BI is towards decreasing energy consumption per square foot. This decreasing trend is the result of various factors, including multiple renovations to improve energy efficiency, inclusion of Building 350 (or “Big Blue” – the largest industrial building on base, which houses most of the maintenance operations on the island) in the total building square footage, which increased the installation’s overall square footage without significantly raising energy consumption, and active energy management staff implementing energy conservation measures and energy initiatives such as:

- Constructing a new 46,226-square-foot Corrosion Repair Facility. This facility was installed to process all retrograde vehicles from conflict areas. The traditional method of drying and curing paint coatings with ovens was considered during the development of the new Corrosion Repair Facility, but was determined to be impractical because of the large fuel demand. By installing a closed loop dehumidification system that dries with low temperatures, eliminates the need for large ovens, **has zero emissions, and greatly reduces operational costs**, the Corrosion Repair Facility has a **41.6% energy improvement over the former paint booth**. The newly constructed facility is certified by the USGBC as having met all LEED-NC (New Construction and Major Renovations) requirements.



*New Corrosion Repair Facility at MCSF-BI*

- Implementing a sustainable lighting system in Building 450. Skylights and a daylight harvesting system allows for the offset of the amount of electrical lighting needed in order to reduce energy consumption by 240,000 KWH.



*Building 450 before and after Installation of Skylights*

- Implementing a sustainable lighting system in Building 550. Similarly, skylights and a daylight harvesting system were installed, reducing energy consumption by 85,000 KWH.



*Building 550 before and after Installation of Skylights*

- Installing solar inflectors in Buildings 100, 351, and 450. Solar inflectors were installed on blast resistant glass in three buildings reducing energy consumption by approximately 220,000 KWH.
- Replacing Fan Thermal Unit (FTU) boxes and upgrading controls in Building 100. FTU boxes were replaced in the second deck of Building 100. Controls were upgraded to include the FTU boxes for better energy management.

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- Replacing HVAC units with a central HVAC system in Building 350. A central HVAC system was installed in Building 350 to provide office areas with outside air, reducing energy consumption by 174,000 KWH.

Successful energy conservation efforts at MSCF-BI stem not only from technology and engineering solutions, but also from education and outreach. These have included implementing an energy awareness campaign to raise awareness and promote responsible consumption. Energy Awareness banners were hung at the front gate, and energy awareness cards were distributed to all employees. Also, the Installation Management Office Facilities Support Branch has assigned a Building Manager for each building and provided formal training on sustainable building operation and management practices.

Although MSCF-BI is on target to continue to meet or exceed the FY2020 target of 37.5 percent reduction, factors such as decreased levels of funding could delay the change-out of more efficient equipment and, with limited maintenance capability, could ultimately hamper our energy conservation efforts. Also, the installation increased building space during the award period and the installation population and the amount of energy-using equipment is expected to increase in the coming years.

To continue progress in saving both money and resources, MSCF-BI has completed energy audits over the past 2 years and identified additional life-cycle cost-effective energy conservation measures that were developed into investment-grade projects (inclusion of project savings and costs, assumptions) which centered on continued upgrading to heating, ventilation, and air conditioning; retrofitting fluorescent lamps with LED lamps for offices; and solar light poles. Once implemented, these projects will help MSCF-BI stay below the targeted reduction amounts through FY2020 and will result in annual energy savings of more than \$180K.

**DoD Sub-Goal 1.2: Produce or procure 18.3 percent of energy consumed by facilities from renewable sources by FY2020**

Although current renewable energy consumption does not yet meet the interim target of 10 percent, MCSF-BI implemented several small-scale renewable energy projects prior to the award period that have contributed toward meeting this goal. Unfortunately, renewable energy opportunities have not been approved for funding in the past two years.

MSCF-BI is pursuing several renewable energy opportunities that are targeted to be implemented by FY2017, consisting of additional solar light poles in three buildings.

**DoD Sub-Goal 5.2: 100 percent Environmentally Sound Disposal of Excess/Surplus Electronic Products**

The MCSF-BI Installation Management Office, Environmental Section, implements a qualified recycling program (QRP) through Command Memo 11350 LFF. MCSF-BI, tenant, and contractor personnel operating at the installation participate in the QRP and follow recycling procedures and guidelines. MCSF-BI recycles its e-wastes such as computers, monitors, keyboards, mobile phones, mobile pagers, VCRs, surge protectors, CDs and DVDs. CDs and DVDs are taken to the



*E-Waste Day activities at MCSF-BI*

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Information Technology Section in Building 100 and shredded. The shredded material is shipped offsite to a recycler. All other e-wastes are taken to the Recycling Manager in Building 100, Environmental Section.

E-wastes are also collected during Earth Day. For Earth Day efforts, installation personnel can bring e-wastes from home for collection by the Environmental Section. When changes are made to the solid waste management program or to recycling procedures, training presentations are revised and distributed or delivered appropriately. The Environmental Manager also provided a recycling guide communication tool that was distributed to all personnel, and provided instruction on where and how to manage e-waste.

**DoD Sub-Goal 6.2: 15 percent of Existing Buildings Conform to the Guiding Principles on High Performance and Sustainable Buildings by FY 2015, Holding through FY 2020**

MCSF-BI is meeting the target that 15 percent of existing buildings conform to the High Performance and Sustainable Building (HPSB) guiding principles. A sustainable infrastructure assessment was completed in December 2013 using an approach in which the requirements of Naval Facilities Engineering Command Engineering and Construction Bulletin (ECB) 2011-01, the 2008 Interagency Sustainability Working Group Guidance, and the more recent Unified Facilities Criteria 1-200-02 issued 01 Mar 2013 were evaluated, and then a numerical score was assigned to the criteria referenced in the requirements and guidance documents. A score sheet was developed and populated for each of the buildings at MCSF-BI larger than 5,000 square feet.

The score sheets help provide a method to capture results of an HPSB assessment and indicate adherence to the HPSB guiding principles. Information collected included an inventory of buildings with square footage, energy and water consumption records from the utilities database, and interviews with facilities and environmental staff to populate the checklists used to complete the HPSB assessment. Existing HPSB reporting guidance is not explicit on what constitutes full conformance with requirements; for the purpose of MCSF-BI's assessment, an internal threshold score of >70 percent was set to indicate conformance with the guiding principles.

In accordance with the 2008 Interagency Sustainability Working Group guidance, the percentage of inventories meeting compliance with guiding principles is calculated two ways:

By Square Feet: Sustainability percent = [(square footage of buildings reporting Yes)/(square footage of buildings reporting Yes, No, and Not Yet Evaluated)] x 100 = 91 percent

By Number of Buildings: Sustainability percent = [(number of buildings reporting Yes number of buildings reporting Yes, No, and Not Yet Evaluated)] x 100 = 60 percent

**DoD Sub-Goal 6.3: Environmental Management Systems Effectively Implemented and Maintained through FY 2020**

The MCSF-BI EMS is well-integrated and fully implemented, as well as ISO 14001:2004-certified. Audits conducted in FY2014 and FY2015 included numerous positive comments concerning operations, results identified no EMS-related non-conformances, and many examples were identified where MCSF-BI went above and beyond requirements applicable to conformance and compliance.

Environmental aspects and impacts that address sustainability are identified as significant and are included in MCSF-BI's EMS's objectives and targets and environmental action plans. The EMS specifically addresses energy and water consumption, and completes actions to ensure plans, procedures, and training and communication tools that address sustainable goals are updated and

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distributed to installation personnel. This includes a Green Procurement Plan with a user's guide for contracting and procurement, and general environmental awareness training on stormwater, waste and material management, and pest management.

***Compliance with E.O. 13693.*** In FY2014, a new wash rack became operational replacing the former chemical process wash rack with a close-loop, recirculated water system. The new wash rack uses ozone, filtration, and an oil-water separator to treat the wash water resulting in greater reuse of water and less waste disposal. The new wash rack also is only flushed once per year saving in maintenance. On an annual basis, water use was reduced by 733,000 gallons, an 85% reduction. Overall, water use has been reduced 46% from the FY2012 baseline.

MCSF-BI also provides opportunities for the internal community to participate in environmental activities. In FY2014 a mobile shredder was brought onsite to shred documents from employees' homes and or work areas. The weight of documents shredded tripled from the prior year to bring the total to 2,000 pounds in 2 hours. Lastly, E-Waste Day allows employees to bring household e-waste onsite for MCSF-BI to recycle. In FY2014, MCSF-BI collected 13,271 pounds of e-waste in less than 3 hours.

***Materials Management.*** In FY2014, a hazardous materials management data were reviewed to identify the surface coatings that contribute significantly to volatile organic compound (VOC) and hazardous air pollutants (HAP) emissions. Alternatives that both meet military specifications and have a lower VOC and/or HAP content were identified. By replacing chemical agent resistant coatings (MIL-DTL-53039, Type I) with MIL-DTL-53039, Type II coatings, a 57% reduction in VOC emissions will be achieved.

MCSF-BI instituted a hazardous material procurement process to verify compatibility with the GCSS Supply system and achieve a 5% reduction on hazardous material approvals after the fact from CY2013 baseline. Limiting the purchase of hazardous material purchases reduces the cost of eventual disposal and the potential impacts to human health and the environment. During FY2014, MCSF-BI reduced hazmat from 36,380 products to 29,422 hazmat products stored onsite; a similar decrease was achieved in FY2015 with 19,429 hazmat products stored onsite.

***Procurement of Sustainable Goods and Services.*** MCSF-BI developed a Green Procurement Plan (GPP) and Chemical Approval Process to verify that environmentally friendlier products have been identified for purchase. A GPP flip chart was developed for use by contracting personnel. A unique Comprehensive Procurement Guideline (CPG) code was assigned to each part number associated with the Green Procurement Program. These unique codes allowed for reports to be run for all part number procurements that were associated with Affirmative Procurement Program guidelines. This saved time, and improved accuracy and allowed for automated reports. One contractor procurement department consolidated 12 trash cans assigned to the department to one trash can. This eliminated 11 trash bags per day from going in a land fill and reduced a janitorial time emptying 11 extra partially filled trash cans. Additionally, the initiative helped eliminate insect problems in the building. The simple initiative saved time, money, eliminated insect sprays, and ergonomically, forces an employee to take 30 seconds to walk to the centrally located trash can giving them a moments of exercise from long durations of sitting at a computer console.