

SECDEF / SECNAV FY2012-2013 Environmental Award Nomination Narrative

Sustainability – Industrial Installation

Marine Corps Support Facility Blount Island, Jacksonville, Florida

INTRODUCTION

Location. Marine Corps Support Facility Blount Island (MCSF-BI) is an approximately 1,241 acre maritime industrial development located 10 miles northeast of downtown Jacksonville in northeast Duval County, Florida.

The primary installation property consists of 911.73 acres on the eastern side of Blount Island, which is a man-made island created using dredge material from the construction of the Dames Point-Fulton Cut shipping channel, which was completed after World War II. Blount Island is surrounded by the St. Johns River which empties into Atlantic Ocean 6 miles to the east of the island.

MCSF-BI includes a 40' deep-draft slipway for mooring and servicing large vessels, a rail intermodal yard at the northern end of the slipway, and a separate 334 acre dredge disposal area on the east bank of the St. Johns River. The U.S. Marine Corps (USMC) has owned the Blount Island facility since 2004; the installation is one of seven East Coast facilities under the command of the Commanding General, Marine Corps Installations East (MCIEAST).



Aerial view of the installation highlighting (red lines) the main base and the Dayson Dredge Spoil Area on the east side of the St. Johns River.



Mission. Blount Island Command (BIC), the primary tenant on the MCSF-BI, established operations on the island in 1986 and is home to a population of 700 that consists of 160 marines, sailors, and government civilians, and 540 contract workers. The primary mission of BIC is to coordinate and execute the logistics efforts to support 12 Maritime Prepositioning Ships (MPSs) assigned to two squadrons, administer the Maritime Prepositioning Force Program and the Marine Corps Prepositioning Program, Norway. MPSs carry combat support equipment for contingency operations throughout the world. MPS squadrons are deployed to the Mediterranean Sea, Diego Garcia in the Indian Ocean, and Guam. Each of the 12MPSs is offloaded at MCSF-BI approximately every 3 years; the supplies and equipment from the ship are cleaned, inspected, and repaired if necessary. The offload-to-backload renewal time per ship is approximately 60 days.

In addition to the BIC, the installation has two other primary tenants: Military Sealift Command (MSC) and Naval Cargo Handling Battalion (NCHB) 11. MSC charters the MPSs that return to the facility for equipment maintenance and supply restocking. Support and maintenance activities associated with a ship are coordinated between the ship's company, its in-port host service provider, and MSC. NCHB 11 is a Naval Reserve unit located on MCSF-BI. It occupies an office facility and a vehicle

maintenance building. The operations of NCHB-11 are separate from MCSF-BI and are not involved in the Maritime Prepositioning Force Program.

MCSF-BI's mission and dedication to sustainable operations fits well into Jacksonville, which is a mosaic of urban development and 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. Although Jacksonville is a growing metropolitan city with approximately 850,000 residents, natural resources are also an integral part of the city, with more than 35 miles of river and 21 miles of beaches. The city contains more than 57,000 acres of parks, including state and federal lands, and has the largest urban park system in the country. MCSF-BI is proud to play a role in supporting a 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 the overall direction of 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
- 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 considered not as 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.

In 2011, to help raise awareness of sustainability issues and the associated goals and metrics, MCSF-BI prepared and published an initial sustainability scorecard. MCSF-BI is currently finalizing an installation-specific Sustainability Plan that contains an updated sustainability scorecard and addresses MCSF-BI's performance against each of the applicable USMC sustainability goals, objectives, and targets. 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

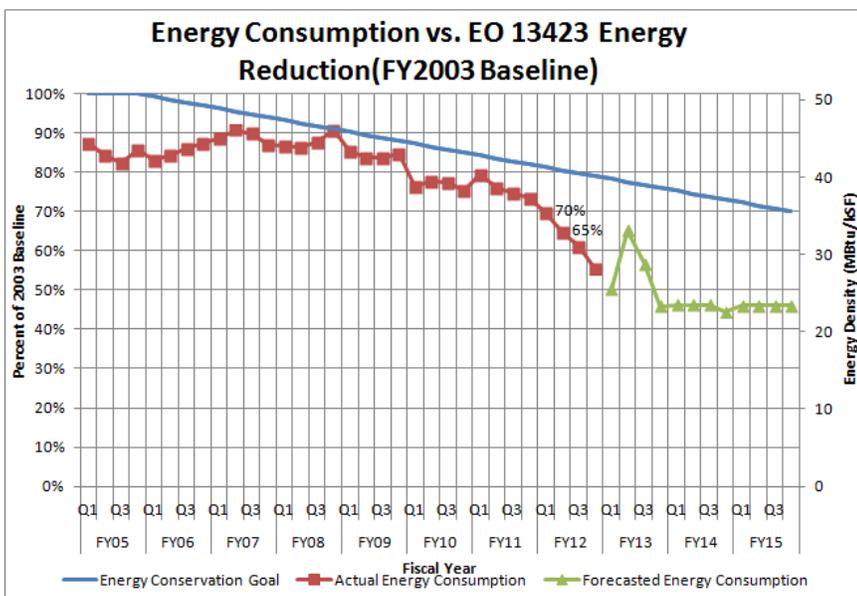
MCSF-BI has made great progress against DoD and USMC sustainability goals and targets. MCSF-BI has populated an SSPP scorecard as part of the preparation of its forthcoming MCSF-BI Sustainability Plan. The whole scorecard, which reports on progress against DoD SSPP goals, is presented on the last page of this award submission. 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, MCSF-BI is currently exceeding both metrics. By the end of FY2012, the installation

energy intensity was about 45 percent below the FY2003 baseline or at approximately 28 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 (FY12-FY13), MCSF-BI was already exceeding energy goals and continued to reduce energy consumption an additional 23 percent.

From the FY2003 baseline, energy intensity has varied from year to year; however, the overall trend at MSCF-BI is



MCSF-BI exceeds the DoD energy goal and reduced consumption 23% FY12-FY13.

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:

- **Implementing Sustainable Lighting System in Building 350.** Building 350, or “Big Blue”, covers more than 300,000 square feet and houses most of the mission-critical industrial maintenance operations at MSCF-BI. Skylights and a daylight harvesting system were implemented in April 2012. The system allows for the offset of the amount of electrical lighting needed in order to reduce energy consumption. This sustainable system uses a photo sensor to detect existing luminescence and then adjust the lighting based on the available daylight in the space. To date, “Big Blue” has reduced energy consumption more than 25 percent from the baseline year of 2009.



Skylights installed at Big Blue (Building 350).

- Installing new lighting on the hardstand
- Implementing advanced metering throughout the installation
- Upgrading the energy management control system
- Upgrading lighting, including T-8 and compact fluorescent lighting at multiple facilities
- Retrofitting sprung shelter buildings with additional insulation
- Installing light-colored roofs that reflect heat on Buildings 104 and 350
- Implementing demand-controlled ventilation in Building 369
- Implementing controls at desk in Building 100 (turns off lights and computer when cubicle is not occupied)
- Installing solar panels at Building 100
- Installing geothermal heat pumps at Building 450



New lighting supports the mission by using less energy and providing greater luminosity for operations.

Successful energy conservation efforts at MSCF-BI stem not only from technology and engineering solutions, but also from education and outreach activities. 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

is increased building space with over 300 ksf of additional facilities expected to be added by FY2014, while only 60 ksf will be removed. Additionally, 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 ; variable air volume ; and chilled water systems. Once implemented, these projects will help MSCF-BI stay below the targeted reduction amounts through FY2020 and will result in annual energy savings of approximately 3,551 MBtu , representing more than \$100K in cost savings.

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 has implemented several small-scale renewable energy projects that have contributed toward meeting this goal. These are:

- Solar parking lot lighting and solar domestic hot water heater at Building 100, Headquarters
- Ground-source heat pumps in buildings 368, 369, 104, and 450
- Photovoltaic (PV) panels on Building 100
- PV-powered stormwater data samplers and pond circulation system



Solar panels on the roof of Building 100.

MCSF-BI is pursuing several renewal energy opportunities that are targeted to be implemented by FY2017, consisting of additional PV rooftop systems, parking lot lights, vehicle charging stations, refrigeration units, and a portable solar re-generator. MCSF-BI investigated several additional renewable energy opportunities including PV battery charging array, supplemental solar domestic hot water heating system, and wind turbines on roof areas; however, these projects were not viable because of high implementation costs and/or limited energy savings.

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 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 which 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 for 15 percent of existing buildings to 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.



Building 454 is one of the “greenest” buildings on the installation and has a motion-sensitive lighting system to turn on and off lights.

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 staffs 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 of a 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 2011 and 2012 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 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. In addition to

the sustainability scorecard, an additional EO 13514 pamphlet (produced in 2011) was created and provided general information to raise awareness about sustainability-associated goals and how these are important to MCSF-BI to continue to do more with less serve as a leader in the stewardship of resources.



Sustainability Scorecard based on the DoD Strategic Sustainability Performance Plan

OBJECTIVE #1: Ensure Continued Availability of Resources Critical to DoD Mission		2012 Target:	Performance:	Notes:
GOAL #1: Reduce Use of Fossil Fuels				
	1.1 - Reduce Energy Intensity of Facilities by 30% of FY2003 Levels by FY2015 and 37.5% by FY2020	21%		FY2012 reduction was 45%
	1.2 - Produce or Procure 18.3% of Energy Consumed by Facilities from Renewable Sources by FY2020	12%		FY2012 is just under 5%, projected FY2015 renewable energy is just below 10%
	1.3 - Reduce Use of Petroleum Products by Vehicle Fleets 30% Relative to FY2005 Levels by FY2020	14%		FY10 fuel use increased 84% in relation to FY05 levels
GOAL #2: Improve Water Resources Management				
	2.1 - Reduce Potable Water Consumption Intensity by Facilities by 26% of FY2007 Levels by FY2020	10%		About a 33% reduction from the baseline FY2007
	2.2 - Reduce Industrial and Irrigation Water Consumption by 20% of FY2010 Levels by FY2020	4%		Water consumption is analyzed under Target 2.1
	2.3 - Maintain Pre-Development Hydrology to the Maximum Extent Technically Feasible in All Development and Redevelopment Projects of 5,000 Square Feet or Greater	100%		Continual implementation of LID for any new project > 5,000#2
OBJECTIVE #2: DoD is a U.S. Government Leader in Reducing Greenhouse Gas Emissions				
GOAL #3: Reduce Emissions of Greenhouse Gases				
	3.1 - Reduce Greenhouse Gas Emissions from Scope 1 and 2 Sources by 34% of FY2008 Levels by FY2020	10%		MCSF-BI has reduced Scope 1 and 2 GHG emissions by 2% using a baseline of FY2008
	3.2 - Reduce Greenhouse Gas Emissions from Scope 3 Source by 13.5% of FY2008 Levels by FY2020	2%		Increased Scope 3 GHG emissions by 11%
	3.3 - 30% of Eligible Employees Teleworking at Least Once a Week, on a Regular, Recurring Basis, by FY2020	15%		No employee at MCSF-BI is eligible for teleworking
	3.4 - Greenhouse Gas Emissions from Employee Air Travel Reduced 7% by FY2020 Relative to FY2011	1%	N/A	MCSF-BI had a 20% increase
OBJECTIVE #3: Minimize Waste and Prevent Pollution				
GOAL #4: Minimize Solid Waste				
	4.1 - Implement DoD Policies to Reduce the Use of Printing Paper by FY2014	qualitative		Basewide initiatives to reduce printing and duplexing when printing is necessary
	4.2 - Divert 50% of Non-Hazardous Solid Waste from the Waste Stream by FY2015, and Thereafter through FY2020	44%		FY12 NHW diversion was 73%
	4.3 - Divert 60% of Construction and Demolition Debris Diverted from the Waste Stream by FY2015, and Thereafter Through FY2020	54%		FY12 diversion was 96%
	4.4 - Landfill Recovering Landfill Gas for Use by FY2020	N/A		Not applicable to MCSF-BI
GOAL #5: Minimize Use and Release of Chemicals of Environmental Concern				
	5.1 - Reduce On-Site Releases and Off-Site Transfers of Toxic Chemicals by 15% of CY2007 Levels by FY2020	5% ¹		Ethylene glycol use has been increasing since FY07 but actual reduction from FY2007 is 84%
	5.2 - Dispose 100% of Excess or Surplus Electronic Products in Environmentally Sound Manner	100%		Recycled locally as part of QRP
	5.3 - Use only Properly Certified DoD Personnel and Contractors to Apply Pesticides through FY2020	100%		Everyone is certified
	5.4 - Prepare, Review, and Update Annually Integrated Pest Management Plans by Pest Management Professionals	100%		IPMP is reviewed by pest professional
OBJECTIVE #4: Continuous Improvements Achieved to DoD Mission and Community through Sustainability Management and Practices				
GOAL #6: Sustainable Becomes the Norm				
	6.1 - Conduct 95% of Procurement Sustainably	95%		MCSF-BI conducts 98% of procurement sustainably
	6.2 - 15% of Existing Buildings Conform to the Guiding Principles on High Performance and Sustainable Buildings By FY2015, Holding Through FY2020	9%		Per Internal HPSB Assessment (Dec 2013), MCSF-BI is at 60%
	6.3 - Implement and Maintain All Environmental Management Systems Effectively	qualitative		ISO 14001 registered facility

 Met 2012 target  Close but did not meet 2012 target, making progress  Not near 2012 target, not making progress

¹ = 2015 target

MCSF-BI's Sustainability Scorecard based on the DoD SSPP objectives, goals and targets.