



NAVAL STATION ROTA SPAIN

ENVIRONMENTAL QUALITY AWARD
OVERSEAS INSTALLATION

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For Open Publication



Apr 19, 2017

INTRODUCTION

Located on the Bay of Cadiz on the southwestern coast of Spain, Naval Station (NAVSTA) Rota, known as “The Gateway to the Mediterranean” is strategically located approximately 120 miles northwest of Gibraltar. The 6,100-acre Base is owned by the Spanish government and U.S. personnel are guests on this Base and behave as such, including the environmental program. Its mission is to support the safe and efficient movement of U.S. Navy and U.S. Air Force flights and passengers, and provide cargo, fuel and ammunition to units in the region. It also provides operational, logistical, and administrative support to 38 tenant commands, including four high operational tempo Aegis class destroyers as Forward Deployed Naval Forces (FDNF). NAVSTA Rota consists of:

- Three active piers;
- A 670-acre airfield (support U.S. Navy and U.S. Air Force aircraft);
- 400 facilities (many of them shared between the U. S. and Spanish Navies);
- 375 housing units;
- A firing range; and,
- Supporting utilities and infrastructure.

NAVSTA Rota has a Base population of approximately 9,400 people including 2,600 active duty military, 540 U.S. civilians, 2,600 family members, 45 U.S. contractors, 380 reservists/rotational, 975 Spanish employees, and 2,300 Spanish contractors. Fifty percent of the Base’s U.S. population and all of the Spanish employees live off Base, primarily in the nearby cities of Rota and El Puerto de Santa Maria.



Figure 1: NAVSTA Rota Port the home port of four Forward Deployed Naval Forces Aegis Class Destroyers.

BACKGROUND

Operating a US military base within a host nation’s military base presents great challenges and opportunities. Working closely with our Spanish Navy counterparts in their environmental program, as well as Spanish government representatives, the NAVSTA Rota Environmental Division’s mission is to meet or exceed all environmental requirements for a military Base operating on Spanish soil. This particularly involves full compliance with the Spain Final Governing Standards (FGS), the primary governing document pertaining to the environmental management of NAVSTA Rota. This also necessitates close coordination with Spanish government and/or Spanish Navy on planned actions that may impact the environment.

At NAVSTA Rota, the Naval Facilities Engineering Command Europe Africa Southwest Asia (NAVFAC EURAFSWA) Public Works Department Rota Environmental Division oversees implementation of all requirements of the FGS. NAVSTA Rota adheres to these standards and also ensures that its operations and practices meet or exceed the requirements of the FGS. This responsibility can be complicated by language and culture differences; however, the

Environmental Division has been very successful in building relationships with Spanish Navy and government officials and the relationship has developed into one of “trust.” The Environmental Division, comprised of six full-time employees, manages 16 environmentally significant media programs, to maintain compliance with the Spain FGS, and sustainment of the Environmental Management System. After the January 2015 EMS External Audit, the Base was able to immediately re-declare ISO 14001:2004 conformance.

Through Environmental Working Groups, EMS Management Reviews, Environmental Quality Boards, Environmental Coordinator Committee, Hazardous Materials Control and Management Committee, Energy Management Board, Installation Water Quality Board, Work Induction Board, Qualified Recycling Program (QRP) Board, and comprehensive community outreach and public awareness initiatives, NAVSTA Rota Environmental Division strengthens fleet, family, community, mission readiness, and bolsters U.S.-Spain relations. Eleven management plans and inventories were updated/developed and implemented: Landscaping Guidelines (2016), Protected Species Protocol (2016), Spill Prevention and Response Plan (2016), QRP Business Plan (2016), Hazardous Waste Management Plan (2015), Medical Waste Management Plan (2015), Environmental Resources Manual (2015), Integrated Solid Waste Management Plan (2015), Overseas Water Quality oversight council Sanitary Survey (2015), Ozone Depleting Substances Survey and Elimination Plan (2015), EMS Document Library (continuous). All plan updates have effectively integrated the changing requirements of NAVSTA Rota during the transition to a FDNF homeport to meet missions.

ENVIRONMENTAL ACCOMPLISHMENTS

Summary

NAVSTA Rota’s environmental program achieved great accomplishments during FY15-16 during a time of growth with the addition of four home ported FDNF ships to the waterfront (2013-2015). The QRP executed 15 direct sales agreements of recycled materials thus saving over \$146,000 compared to Defense Logistics Agency (DLA) contracting, and increased Base recycling quantities more than 280 tons over FY14 quantities. The QRP transitioned from a NAVFAC employee operated program to a contractor operated program managed by the QRP, saving \$280,000 annually in operation costs. Additionally, during FY16, NAVSTA Rota exceeded the requirements of EO 13696 by increasing the diversion rate to 69% from 42.5% in FY14. Institution of an “off spec” fuel recapitalization program has directly saved over \$727,000 in costs, and diverted 154,000 gallons of fuel from disposal. For three consecutive years NAVSTA has received the SECNAV Platinum Award for Energy and Water Management. Environmental Division staff worked with Spanish regulators to develop and implement new procedures to ensure that the Base’s natural resources are protected while supporting military readiness and the home porting of ships. Environmental Division staff implemented an active EMS program with a 27% decrease in external audit findings from the previous external audit and allowed for NAVSTA Rota to immediately re-declare conformance. None of these achievements however, would have been possible were it not for the exceptional Environmental Outreach program. These successes and continual improvements through the use of EMS are only achieved when all members of the NAVSTA Rota community do their part.

Qualified Recycling Program (QRP) Improvements – Transition to a Contractor Operated Program and Implementing Direct Sales Authority.

In an effort to improve efficiencies to the Base recycling program and to generate cost savings to the government, the NAVSTA Rota QRP transitioned from a NAVFAC employee operated program to a contractor operated program managed by the QRP, saving \$280,000 annually. This has resulted in more cost effective operations with improved service and program oversight. Also, with the transition to utilizing direct sales authority for the sale of recycled materials, the program now sells the materials competitively on the open market, thereby greatly increasing the revenues generated for the government. Fifteen Direct Sales Agreements for recycled materials were executed during FY15 and FY16, ensuring that the government received the best price for the goods. The execution of the Direct Sales Agreements saved the government more than \$146,000 over the past two fiscal years, compared to DLA sales contracting.



Figure 2: Providing 100% post-consumer recycled plastic recycling bins and community outreach have been instrumental in the success of the NAVSTA Rota recycling program.

With the utilization of Direct Sales Authority for contract management, the QRP developed new processes for the tracking and managing of recyclable materials and sales receipts. To accomplish this task, weight tickets were developed for materials entering and leaving the Base's Recycling Center Compound. The information from these tickets is then entered monthly into an accounting system to generate invoices for local recycling companies. Another benefit of the improved process is that the monthly billings to the local recycling centers for the materials they purchased has been expedited and the government now receives payment from the companies much more quickly. This process and the operations of the QRP are outlined in the QRP Business Plan which was developed in-house, saving the government an estimated \$80,000 in contracting costs. Additionally, the new process provides valuable metrics about the quantity of solid waste that is now being recycled. This information is then provided in monthly and quarterly reports for the Public Works Officer and QRP Board.

During FY15-16, the QRP public outreach and communication efforts were greatly expanded. Benefits from this can be seen in the measurable decrease in solid waste leaving the Base en-route to landfills and the increase in recyclables collected and sold. Solid waste from NAVSTA Rota sent to landfills decreased from 2,400 tons in FY14 to 1,450 tons in FY16. This decrease occurred despite the addition of four FDNF ships newly homeported at NAVSTA Rota and the increase in solid waste from both ship operations and maintenance as well as from the many personnel and their families. The changes implemented to the QRP increased the weight of materials recycled by more than 280 tons between FY15 to FY16. During FY16, NAVSTA Rota recycled 1080 tons of material that otherwise would have gone to landfills, the most ever recycled at NAVSTA Rota. During FY16, NAVSTA Rota exceeded the requirements of EO 13693 by increasing the diversion rate to 69% from 48% in FY15.

This impressive increase in the amount of recycled material and the decrease in the amount of solid waste in recent years can also be attributed to improved community education and involvement and increased communication between the environmental division, tenant commands, installation personnel, and residents. This is most clearly demonstrated by the addition of the homeported ships to the recycling program. Various methods of environmental outreach are used, including the distribution of solid waste reduction and recycling flyers, recycling awareness events, and presenting recycling information to the Base Intercultural Relations (ICR) Orientation course participants. The ICR presentation to all new arrivals to NAVSTA Rota includes information on what can be recycled and where, special item recycling rules, specific recycling instructions, and recycling points of contact. Additionally, the NAVSTA Rota Recycling Instruction was updated (and promoted by the Installation Commanding Officer) to require all commands and personnel on NAVSTA Rota to recycle. NAVSTA Rota plans to continue these program accomplishments into the future to achieve even greater results.

During FY15 the Base conducted a large demolition project which included the removal 91 multi-family housing units. Through coordination with the PWD Facilities Engineering and Acquisition Division, the QRP was able to compact the demolished metal materials onsite for recycling and pick-up. This resulted in the government receiving a higher price for the recycled metal materials as well as the benefit of less truck traffic driving through the Base housing area, thereby reducing noise and potential impacts to air quality. Additionally, the contractor crushed and reused the concrete foundations onsite as fill material while separating the rebar for recycling. The use of the material onsite eliminated an estimated 900 truckloads of material being transferred off-Base and 900 truckloads of fill being imported to the Base, thereby reducing the project's carbon footprint by a calculated 88 metric tons.



Figure 3: Recycling contractor compacting material on site, reducing transportation costs and increasing profit for the government.

The reduction of solid waste to the landfills in Spain also has community relations benefits with the Spanish government and people. The above listed successes of the NAVSTA Rota's improved recycling and solid waste reduction program demonstrate that the personnel and the American families on Base are committed to recycling and being better stewards of the environment by not placing so much solid waste in the Spanish landfills.

Hazardous Waste Reduction and Public Health Protection

The NAVSTA Rota Environmental Division is continually working to reduce the amount of hazardous waste that is being disposed of off Base through the use of Pollution Prevention (P2), waste minimization measures, hazardous material controls, and recycling. A new program was instituted in FY15 on NAVSTA Rota to recapitalize "off-spec" fuel from the airfield scheduled for disposal. This program has recapitalized more than 154,000 gallons of fuel for use by on-Base

generators during times of high electrical demand, directly saving the government over \$727,000 in electrical billing and hazardous waste disposal costs during FY15-16. The successful process of the off-spec fuel recapitalization program is being shared with other commands in the region for their use, including lessons learned.

Energy and Water Conservation

In FY15, NAVSTA Rota received for the third consecutive year the SECNAV Platinum Award for Energy and Water Management, and is the only installation in the region to meet this standard. This is in support of NAVSTA Rota's mission to increase energy security. These achievements have been made possible through continuous energy management efforts over the past five years. NAVSTA Rota is more than 50% below the CNIC baseline and on track to meet 2020 energy usage reduction goals.



Figure 4: Solar Thermal Panels installed on 13 barracks roofs for hot water heating providing 13,402 MBTU/year in energy savings.

During this reporting period, six energy conservation projects, providing \$159,400 in annual savings to the government, included the installation of high efficiency Light Emitting Diode fixtures and solar thermal panels in 17 facilities. A new 37,000 square foot LEED Silver Air Traffic Control Tower was completed which contains the first rainwater harvesting system on Base. Rainwater collected from the roof is piped to a 150,000 liter cistern and then piped back into the building to flush toilets and urinals, and to the exterior landscape irrigation system. NAVSTA Rota will continue to evaluate all current operations and facilities and future construction projects for energy and water saving opportunities as a part of our EMS continual improvement process.

Natural and Cultural Resources

The NAVSTA Rota Natural Resources Program has had success supporting the military readiness mission while sustaining natural resources. Increased oversight by the Junta de Andalucía (Junta), Spain's environmental agency, during recent years has required that construction projects put a higher emphasis on the protection of natural resources. This increased oversight has also brought on new requirements for the protection of natural resources. The construction of a new weapons magazine on NAVSTA Rota called for the removal of 222 trees, which the Junta required to be replanted at a 5:1 ratio. Working in coordination with the Junta and the NAVFAC PWD Spanish Liaison, the environmental team was able to negotiate this down to a 3:1 ratio using more established trees instead of saplings. Additionally, NAVSTA Rota Landscaping Guidelines have been developed and implemented to provide a larger variety of native species approved by the Spanish Navy for planting as new construction and reconstruction project mitigation measures.

The new homeporting of the FDNF ships required new facilities to be built near the harbor within a prime habitat for the Common Chameleon, a species protected under the Bern Convention. As NAVSTA Rota had not previously undertaken actions in Chameleon habitat, this project required new procedures to be developed in coordination with the Spanish government for the safe guarding of the Chameleons living in the construction area. The Environmental Division

coordinated with the Junta to develop a procedure for the removal and relocation of 32 Chameleons prior to habitat disturbance related to the construction project. The Chameleon relocation and habitat disturbance process developed during this project have been incorporated into a Protected Species Protocol, agreed upon by NAVSTA Rota and the Spanish Government, for use on all future projects on Base that have the potential to impact the Common Chameleon. This will help ensure that the Chameleon populations on NAVSTA Rota are maintained in a sustainable state now and into the future.

The NAVSTA Rota Cultural Resources Program had a great success in 2016 in supporting the mission of the installation while managing Spanish cultural resources on Base with minimal cost to the government. More than 4,000 archaeological artifacts, including pottery from the Phoenician and Roman eras, had been collected on the Base over the past 15 years. An inventory was required prior to being turned over to the Spanish government. However, through negotiations with the Spanish Navy Environmental office, the NAVSTA Rota Environmental Division returned the 4,000 artifacts to the Spanish Government without the previously required cultural resources inventory, saving the U.S. Government an estimated \$40,000. The Spanish government expressed gratitude to the Navy for turning over the artifacts.



Figure 5: Baby chameleon caught during a survey for a relocation project prior to habitat

Environmental Management System (EMS)

EMS serves as the backbone to the successful environmental programs on NAVSTA Rota and supported the increased Base operational tempo due to the recent home porting of four FDNF ships. Through effective use of this management methodology, NAVSTA Rota has implemented, sustained and improved many of its environmental programs. All installation personnel and residents have the potential to impact the environment and therefore are all stakeholders in the success of this program. The Installation Commanding Officer's Environmental Policy and information on how each person has a role in the environmental protection programs on Base is briefed to all incoming personnel and families at NAVSTA Rota. These presentations, by staff in the Environmental Division, at the mandatory ICR courses promote the Base's environmental protection and recycling programs to every single person who has moved to NAVSTA Rota.

Continual Improvement through EMS is not just an idea at NAVSTA Rota; it is a developed and proactive culture that is creating tangible results. An external EMS audit, conducted in January 2015, revealed a total of 30 findings with none cited as major findings. This is a 27% decrease from the previous external audit conducted in January 2012 and allowed for NAVSTA Rota to immediately re-declare ISO 14001:2004 conformance.

Recognizing that EMS currently creates improvements by reacting to identified non-conformances, the Environmental Division has adopted an enhancement to EMS that proactively seeks out opportunities to improve efficiency, effectiveness and customer satisfaction within each

environmental media area. This process was found to be successful during the home porting of FDNF ships as environmental processes needed to be developed to support hazardous waste disposal and incorporation of pier side recycling.

Through communication and education by Environmental Division staff, tenant command environmental coordinators have been trained to conduct weekly environmental inspections, and to record non-compliance findings on a weekly inspection checklist developed by the Environmental Division. The checklist assists each command in identifying compliance deficiencies and initiating necessary corrective actions immediately. Tenant command weekly environmental inspections have had a large beneficial effect on maintaining Base compliance, as evidenced by a decrease in the overall non-compliance findings during the annual Environmental Compliance/EMS audits.

Environmental Outreach

Another success that sets NAVSTA Rota apart is its exceptional environmental outreach program and the positive results the Environmental Division has achieved within NAVSTA Rota and the local communities. The Environmental Division firmly believes that EMS implementation, sustainment, successes, and continual improvement are achieved through the incremental efforts of all members of the NAVSTA Rota community. Communication with all installation personnel and residents is the key to achieving as much environmental participation and awareness as possible. The Environmental Division reached out to each stakeholder more than ever before through a wide range of yearlong activities, events, training, radio media, and a NAVSTA Rota fun-filled “Earth Week” rather than just an “Earth Day.” Events held during Earth Week in 2015 and 2016 included: beach cleanup events; showcasing an Earth Day presentation at the Navy Exchange; tree planting; 5k run; enhancing community environmental awareness by publishing articles in the NAVSTA Rota Coastline newspaper; and discussing Earth Day topics on NAVSTA Rota’s radio station.

Other efforts for environmental stewardship within the NAVSTA Rota community have included an extensive range of events and activities such as: Energy Awareness Week; school presentations; and presentations with the local Boys and Girl Scouts Chapters.



Figure 6: Local Girl Scouts and Boy Scouts work together to clean up Admiral’s Beach on NAVSTA Rota as a part of the Earth Week celebration.

Summary

Overall, the efforts of the NAVSTA Rota Environmental Division has saved and generated an estimated \$1.3 million dollars in waste reduction, increased recycling, and energy and water conservation. Additionally, NAVSTA Rota exceeded the requirements of EO 13693 by increasing the diversion rate to 69% in FY16 from 48% in FY15. As the Environmental Division’s outreach efforts grow, so will the knowledge and participation of the community. This will increase QRP revenue and waste diversion rates and provide for improved protection of the Base’s natural resources.