

**2018 SECRETARY OF DEFENSE
ENVIRONMENTAL AWARDS PACKAGE
ENVIRONMENTAL QUALITY - TEAM**

Introduction:

Marine Corps Air Ground Combat Center's (MCAGCC) Total Waste Management (TWM) Program supports cutting-edge live fire and maneuver training for over 45,000 Marines annually, while complying with Executive Order 13693, Management Planning for Federal Sustainability in the Next Decade, for the elimination or minimization of hazardous substances, enhancement of energy conservation, and green procurement. MCAGCC is the Marine Corps largest live fire and maneuver training facility of approximately 707,840 acres (1,106 square miles).

Background:



MCAGCC's TWM Program, is comprised of the Qualified Recycling Program (QRP), the Hazardous Waste Management Branch, and Range Sustainment Branch. This program integrates sound management and leadership, and works in partnership with tenant commands, contracted vendors and visiting Marine units, while fully supporting Joint Coalition and Service Level Training, to include Integrated Training Exercise, and large scale exercises aboard the installation. Staff personnel

Hazardous Material Reutilization

provide operational controls, guidance, coordination and regulatory oversight for all matters pertaining to the installation's hazardous waste, hazardous material, solid waste, and recycling programs.

Enhancements in environmental program management have allowed the installation to achieve its training objectives with little to no interference from external environmental agencies with regulatory oversight. MCAGCC is the sole Marine Corps installation of its size that provides hazardous waste collection at the point of waste generation. Marines and civilians no longer transport waste streams to the installation's 90 day hazardous waste accumulation area; thereby, drastically reducing the requisite training and logistics support normally required to conduct this practice. A significant benefit of this method of waste management is the reduction of costs normally associated with providing annual regulatory training to the Marines and Department of Defense employees who would normally be tasked with the transportation of hazardous waste to the installation's 90 day site.

SUMMARY OF ACCOMPLISHMENTS

Program Management:

The Hazardous Waste Management Branch, through its numerous Pollution Prevention initiatives reduced the installation's Resource Conservation and Recovery Act (RCRA), and Non-Resource Conservation and Recovery Act (Non-RCRA), hazardous waste footprint by 95

tons over the preceding fiscal year. A cornerstone of our pollution prevention initiatives that has enabled the installation to significantly reduce its hazardous waste footprint each year, is its hazardous material re-utilization program. This function is typically performed by the installation supply division aboard MCAGCC and resident within the Environmental Affairs. New, unused, excess, and unwanted hazardous material are collected, or receipted for by the Hazardous Waste Branch, where they are inspected, catalogued, inventoried, stored, and subsequently reissued to units with a bonofide need for these materials.

During the preceding fiscal year, approximately \$1.8M of hazardous material was returned to tenant units and visiting commands. An added benefit was the elimination of approximately 78 tons hazardous waste, which would have cost approximately \$115K in disposal fees.



Tactical Battery Reconditioning



Range Residue Processing

The Tactical Equipment Battery Reconditioning Program, receipts for used lead acid and absorbed glass Material batteries. If these batteries meet the acceptance criteria for reconditioning, they are inducted into the reconditioning program. During FY17, approximately \$659K in cost avoidance and cost savings was generated by this program.

The Range Sustainment Branch (RSB) accomplished its mission of ensuring all post training munitions waste were properly sorted, segregated, and safely disposed of through unit turn-ins.

All materials behind the firing line are brought to the RSB for processing, which guarantees their removal from the range training areas and or waste streams. Materials beyond the firing line are collected by a certified Unexploded Ordnance (UXO) contractor, classified as Material Documented as Safe (MDAS), and turned in for further processing. Materials are vigorously inspected by qualified personnel and processed as scrap metal. With 26 live fire training areas and ranges aboard the installation and training throughout the year, the RSB safely handled a continuous influx of munitions materials waste. A total of 6.2M lbs. were received from units engaged in live fire training during FY17. Of the 6.2M lbs., 4.2M lbs. was safely processed and sold through the QRP as mixed metal range gleanings.

The Range Sustainment Program is unique to the Marine Corps and Department of Defense. Given the inherent nature and the risks associated with range residue that we routinely receipt for, the program is closely monitored by Marine Corps Systems Command, Program Manager, Ammunition, and the installation's explosive safety officer on a routine basis. During the recent Explosive Safety Inspection, the RSB passed without any findings and was praised for the safe and outstanding work being performed. An added benefit of this program is the countless man hours that is saved each year by



Brass Shell Casing Hammer Mills

Marines engaged in the turn-in of range residue. This program also provides the Marine Corps with assurances by receipting for UXO, thus ensuring that they will not migrate off the installation or stockpiled, which historically, has resulted in harm to personnel or damage to equipment or property.

The Residential, Commercial Recycling Services (RCRS) and Industrial Recycling Operations Services (IROS) are a combined entity under the QRP. The RCRS provides weekly trash and recycling collection service for approximately 1,806 family housing units. It also provides trash, cardboard recycling and office recycling collection on a weekly basis to over 634 offices and industrial facilities aboard the installation. Over 680 trash and cardboard dumpsters are serviced at least three times each week, while some areas receive daily service due to the high volume of solid waste generation. Furthermore, MCAGCC is the only Marine Corps installation that collects solid waste and recyclable materials from its residential (on base family housing areas), industrial facilities and the expeditionary training camp (Camp Wilson) in support of the installation's training mission. All recyclable materials are segregated and sorted by staff personnel to ensure prohibited materials are removed and properly disposed of and diverted from the installation's landfill.



Industrial Recycling Service



Cardboard sorting and bundling

The IROS received and processes a wide assortment of scrap metal to include ferrous and non-ferrous such as; steel, tin, iron aluminum, brass, copper and magnesium, and other material not managed by Defense Logistics Agency. A reutilization program is also available for tenant commands and visiting units. Said program is designed to assist in providing materials to units such as; desks, chairs, and office products to divert from the solid waste stream and provide a cost-avoidance from General Services Administration purchases.

The combined efforts of the Residential Commercial Recycling Center and the IROS resulted in over 12.6M lbs. of recyclable materials diverted from the installation landfill. These materials include cardboard, glass, plastic, metal, office paper, wood, and numerous assorted scrap material.

These recyclable materials are sold to off-site vendors. The generated revenue is used to offset operating expenses, maintenance costs, and continual improvements of the QRP. During FY17, the QRP, through its numerous pollution prevention initiatives generated \$823K in revenue.

Other Programs:

Notable accomplishments in sustainability include the continued use of SystemOne aqueous parts cleaners with onboard solvent distillation and recycling technology, coupled with the use of Mil-Spec, aqueous, and glycerin base parts cleaning fluid. These machines have eliminated the use and subsequent generation of used petroleum, hydrocarbon base solvent waste by approximately 17 tons annually. These machines save the installation over \$70K annually in waste disposal cost avoidance fees and cost avoidance associated with the procurement of new replacement solvent.

MCAGCC's Shop Towel Program is unique to the Marine Corps. The Hazardous Waste Management Branch provides shop towels at no cost to tenant commands and units visiting the installation for training. Once the towels are used, they are collected and laundered onsite, and packaged for re-issue. This program drastically reduces the practice of one time use rags. This program has almost eliminated costly shop towel contracts aboard the installation. Additionally, it has also reduced the generation and offsite disposal of petroleum, oil, and lubricant contaminated debris.

The Used Antifreeze Recycling Program created in 2007, collects used Ethylene Glycol Antifreeze from generation sites aboard the installation. The antifreeze is recycled using two Department of Defense approved machines; filtration or distillation methods. The recycled material is reconstituted to Mil-Spec standards, and issued to tenant commands and units visiting the installation to conduct training. Since the inception of the program, it has saved the installation over \$5.6M in cost avoidance from new antifreeze procurement. Furthermore, over that ten year timeframe, the installation has saved over \$478K in used antifreeze disposal fees cost avoidance.



Antifreeze recycling program