Lead-Acid Battery Reconditioning Program at MCAGCC 29 Palms

MCAGCC 29 Palms, in collaboration with Marine Corps Systems Command (MARCORSYSCOM), started a lead-acid battery reconditioning program in May 2008. The program’s environmental and economic benefits are twofold. First, reconditioning batteries conserves resources and eliminates costs by reducing procurement of new batteries. Second, the program reuses lead-acid batteries instead of recycling them, reducing hazardous waste (HW) generation and associated disposal fees.

The program has reconditioned approximately 10,700 batteries since its inception, saving the installation approximately $2.39 million over the past three fiscal years (FYs) and reducing lead-acid batteries shipped offsite by 60%. Cost savings from the program have grown consistently over the past three years, from $540,000 in FY10, to $750,000 in FY11, and $1.1 million in FY12.

MCAGCC 29 Palms is a large-quantity generator of HW, operating a 90-day HW Accumulation Area that collects both Resource Conservation and Recovery Act (RCRA) and non-RCRA HW. Lead-acid batteries used in ground tactical equipment account for three million pounds of the overall HW stream annually.

In an effort to reduce HW generation, MCAGCC 29 Palms started reconditioning and reusing absorbed glass material (AGM) batteries multiple times. Traditional lead-acid batteries cannot be reconditioned and must be pelletized and sold for their lead content at the end of their useable lives. The program began when MARCORSYSCOM provided MCAGCC 29 Palms with battery reconditioning equipment and the technology supplier offered training.

Initially, MCAGCC 29 Palms procured four bench-top battery reconditioning machines. To satisfy growing demand for battery reconditioning, MARCORSYSCOM and the technology supplier provided an industrial-sized reconditioning machine, which can accommodate twelve batteries simultaneously. The installation now has three additional large-scale machines and an expeditionary battery charging shelter.

The battery reconditioning procedure begins with the receipt of used batteries from various commands. Each battery is inspected; if the battery meets the criterion of five volts, it is prepared for reconditioning. If the battery is not salvageable, it is pelletized and sold. The average 12-volt battery requires two days to remove the phosphate from the lead plates, after which the recharging process begins. The battery
then rests for one day to allow the electrolyte and the lead plates to cool before installation personnel assess and reissue the battery.

Two individuals and their support personnel have been instrumental in the creation and continued growth of the program. Mr. Carl Atchley, Material Examiner and Identifier, HW Management Branch, has been invaluable during the implementation and the daily operation of the program. Upon encountering problems with the first generation reconditioning machines, Mr. Atchley worked diligently with engineers from the supplier to incorporate modifications to the equipment. Mr. Michael Bissonnette, MARCORSYSCOM Expeditionary Power Systems, provided MCAGCC 29 Palms with the initial and follow-on equipment to implement the program. MCAGCC 29 Palms is a leader in battery reconditioning and is helping USMC achieve its sustainability goals.

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The Department of the Navy’s Green Procurement Program policy requires the “use of ‘green’ products and services to the maximum extent practicable, consistent with the requirements of relevant Federal procurement preference programs.” Since introducing ENAC eligible items, DLA has helped DoD and its Components meet procurement sustainability goals. DLA’s Green Products Team is available to support customers with green product needs as well as ideas for new products or processes.

If you have ideas or questions you would like to share with this team, e-mail GreenProducts@dla.mil.

For a list of NSN items with ENACs, please review Table 194 at http://www.dlis.dla.mil/PDFs/Procedures/vol10.pdf.