

US EPA ARCHIVE DOCUMENT



## Davis-Monthan Air Force Base: Airmen making a “Green” Desert



Davis-Monthan Air Force Base (DM), Tucson, Arizona is part of the Air Force’s Air Combat Command (ACC) with more than 7,000 Airmen, 2,500 civilians, and over 100 aircraft that make up a 22- squadron wing including three fighter squadrons. The 355th



Fighter Wing provides A-10C (as seen in photo, left) close air support and forward air control, combat support forces, and medical forces to combatant commanders worldwide. In addition to the very active fighter wing, DM is also home to one of the largest aircraft storage areas in the world known as the 309th Aerospace Maintenance and Regeneration Group (309 AMARG), often called The Boneyard.

In order to provide and sustain mission readiness, DM must wisely use our natural resources. The world’s demand on all of our resources impacts the environment in many ways. At DM, the 355<sup>th</sup> Civil Engineer Squadron strives to pursue environmental impact minimization, compliance with environmental regulations, and environmental sustainability at ALL times while supporting our servicemen and women. For our efforts, DM was the Headquarters (HQ) ACC General Thomas D. White Environmental Quality Award winner for Environmental Quality, recognizing DM as having best overall environmental management program in Air Combat Command, and most recently the recipient of the Commander-in-Chief’s (CINC) Installation Excellence Award (IEA) which recognizes DM as the overall #1 Installation in the United States Air Force.

The 2007 Energy Independence and Security Act and other statutes establish a goal to reduce energy use by three percent a year and water use by two percent a year. This equates to a reduction of about 1.2MWh of electricity and 3,900 therms of gas per year for DM. At DM we are committed to not merely achieve, but to surpass these goals. Below are some examples of DM’s commitment.

- One of DoD’s largest solar power installations is set to begin construction in FY 2012. This project will produce approximately 13 megawatts of AC power on DM and supply approximately 35% of DM’s annual electrical usage. DM solar projects will reduce CO2 emissions by almost 43,000 tons, 20,000 tons of coal, and 26,000,000 gallons of water usage at the Tucson Electric Power plant every year!
- High bay lighting retrofits across 38 hangar and warehouse facilities to remove inefficient high intensity discharge (HID) lighting and install tubular high output (T5HO) fluorescent lights. The T5HOs are more efficient by approximately 50% with improved light quality. Unlike the HID lights they replace, T5HOs are an ‘instant on’ technology which means they can be controlled with occupancy or photo sensors.
- New central plants with ice storage are planned to let DM use off-peak power to generate and store thermal energy in the form of ice, which can then be used later to cool buildings during high use times, again reducing peak energy demands (and charges).
- A solar air conditioning system is being tested at the Youth Center under a technology certification program. When completed, the system will be able to cool the building using solar thermal power.

- LEED—*Leadership in Energy and Environmental Design* is a process that is being used on every new building on DM. The LEED principals help promote resource efficiency as well as healthy indoor environmental quality, the latest energy systems, use of recycled materials and innovative design principals.

Recently finished projects to include the new Fire/Crash Rescue Station, and the newest 144 person dormitory were constructed with sustainable and energy saving techniques. Utilizing LEED, from the US Green Building Council to promote sustainable building construction, the projects aim at improving performance across all the metrics that matter most: energy savings, water efficiency, CO2 emissions reduction, improved indoor air quality, and stewardship of resources. The Fire/Crash Rescue Station will be LEED Silver certified and the dorm will achieve LEED Gold status.

We've also worked to support our housing privatization partners reach forward with energy initiatives. In 2009, Soaring Heights Communities (SHC) installed solar photovoltaic panels on 375 homes on DM. 2.7 MW of power generated from the roof-mount systems is going into the local electrical grid, in addition to 3.28 MW generated from ground-mount systems, completed in 2010. Plans for an additional 3MW are in development which would result in 75% solar capacity in the DM privatized housing development. *(Photo, SHC solar facility.)*



Being “green” in a desert requires a concerted effort by every Airman on Davis-Monthan AFB. To date, our efforts have resulted in the base using less energy today than we did in 2003 despite mission expansion. Everyone must participate to ensure we think green, build green, fly blue!

Contact Davis-Monthan Public Affairs office or visit one of the links below to learn more about what our base is doing.

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