



California Pollution Prevention Partnership (CAP3) News

This is the first newsletter reflecting the new partnership between the State of California Environmental Protection Agency and Department of Defense installations. This new partnership targets pollution prevention issues. The charter, which was signed in November 2002, provides a new formal way for everyone to discuss their issues and solutions. This first issue of the California Pollution Prevention Partnership (CAP3) provides some success stories from across the state.

The partnership **vision** is to excel in joint innovative pollution prevention practices within the Department of Defense and the State of California that will enhance environmental quality, sustainability, and mission readiness.

The **mission** is to promote and implement P2 as the preferred strategy for protecting the environment, conserving resources, fostering community well-being, and enhancing mission readiness at DOD installations in California.

The **goals** are to:

- Promote an exchange of expertise including technology.
- Support operational flexibility to achieve compliance through P2.
- Identify opportunities, develop/evaluate solutions and promote successes.
- Build trust and improve communications.
- Seek resources to implement P2 technologies.
- Evaluate innovative P2 alternatives in conjunction with current regulatory management practices.
- Foster P2 as best management practices.

<i>August 2003</i>	
<i>Volume 1, Issue 1</i>	
Inside	
<i>California P2 Partnership.....</i>	<i>1</i>
<i>U.S. Army.....</i>	<i>2</i>
<i>U.S. Marine Corps.....</i>	<i>5</i>
<i>U.S. Navy.....</i>	<i>8</i>

U. S. Army Success Stories

Fort Irwin wins nationwide recognition.

Reducing solid waste going to landfills by more than 40% through the use of recycling and composting is one of many triumphs that just landed Fort Irwin, California the Army's highest honor for environmental stewardship. The award, announced on January 22, 2003, is the Secretary of the Army's Environmental Award for Pollution Prevention for 2002.

The Army manages 636,182 acres of arid basins, dry lakebeds and mountainous terrain in support of military training at Fort Irwin. Located in north-central San Bernardino County, Fort Irwin has been an integral part of the Central Mojave for over 60 years. Approximately half of this area is restricted from training because of environmental, cultural, physiographic and logistical concerns.

To conserve, protect and restore the natural and cultural resources of this sensitive landscape, the pollution prevention staff at Fort Irwin has established many programs to reduce waste and protect water and air quality.

Fort Irwin is one of the first installations to surpass the Department of Defense's goal of diverting 40% of all solid waste generated by 2005. The installation met this challenge by boosting the use of its recycling center and composting facility. Since 1997, this has increased the amount of materials being recycled by 400%, saving the Army more than \$1.2 million. In addition to solid waste, the Fort Irwin Compost Program addresses air quality and water conservation. In the past three years, the program has diverted 2,600 tons of sewage sludge and 60,000 cubic yards of waste wood from landfills, thereby eliminating these waste streams.

Additional accomplishments acknowledged in the award include:

- Reducing annual hazardous waste disposal costs by \$2 million between 1997 and 2002.
- Saving 44 million gallons of water a year by modifying a reverse osmosis plant and a vehicle wash facility. The reverse osmosis plant removes high fluoride content from drinking water by filtration. The vehicle wash facility cleans as many as 6,000 tactical vehicles a month on wash racks using a closed loop water system.
- Eliminating 8,000 lbs. of chlorine gas previously generated during wastewater treatment plant operations.
- Composting 60,000 cubic yards of wood pallets, ammo boxes, target scrap and yard waste at the installation's Compost Pilot Plant.
- Maintaining a violation-free status for over five years for both the hazardous waste program and the waste water and drinking water program.

A panel of non-military and Army pollution prevention experts, including representatives from the U.S. Coast Guard and the U.S. Army Corps of Engineers, judged competitors for the Pollution Prevention award.

"Fort Irwin's program demonstrates the wide range of efforts that comprise a comprehensive pollution control program," said a judging panel member who's with

the U.S. Army Corps of Engineers. "By targeting goals well above the minimum, Fort Irwin has displayed a real concern for the environment and established an impressive Army program."

Fort Irwin wins nationwide recognition--continued from Page 2.

As an award winner, Fort Irwin stands out as a leading example of the investment the Army makes in environmental stewardship on the 16.7 million acres of land it manages.

As an award winner, Fort Irwin stands out as a leading example of the investment the Army makes in environmental stewardship on the 16.7 million acres of land it manages while it trains and prepares America's soldiers to fight the global war on terrorism. The readiness of our soldiers depends upon the Army's ability to use its training and testing grounds to the fullest. Meeting and exceeding local, state, and federal regulations ensures that restrictions on these grounds are minimal.

Fort Irwin is one of eight 2002 Secretary of the Army Environmental Award winners. Each year, Army environmental professionals from around the world compete for recognition in the categories of pollution prevention, natural resources conservation, cultural resources management, environmental quality and environmental restoration.

A special awards ceremony was held in March to honor Fort Irwin and the other Army winners during the Garrison Commanders' Conference on March 18 at the Marriott City Center in Charlotte, N.C. The winners then go on to participate in the Department of Defense's Environmental Awards competition.

For more information on the recipients of the 2002 Secretary of the Army Environmental Awards, please visit USAEC's Web site at <http://aec.army.mil/>. Click on the "News Room" to locate press information.

**U.S. Army Reserve Success Stories
63D Regional Support Command**

Waste Reduction Success Story. Our new oil water separator management and cleaning program contract will result in the 63D Regional Support Command's largest single item waste stream reduction ever!

Our new contract with Enviremedial Services will allow all of our facilities to get back to small quantity generator status without getting on-site treatment permits. No treatment permit is required per HSC 25201.5c, *Conditionally Exempt Specified Waste Streams*. Our contractor is set to take delivery of a new mobile unit. They are preparing a schedule that will cover all our facilities twice a year, with notification to facilities, well in advance of oil water separator maintenance and cleaning site visits. Their patented recycling system combines filtration, gravity separation, and water extraction processes. The results are impressive: 100-300 lbs of oily sludge, in drums, ready for disposal. Additionally, the process results in only 200-600 gallons of water with less than 5 ppm hydrocarbons and 30 ppm suspended solids recycled back into the oil/water separator system. This is an improvement over the 10,000-18,000 lbs of oily waste requiring disposal resulting from our previous method. We estimate annual cost avoidance of about \$110,000 in hazardous waste disposal costs, after factoring in cost of new contract, and a waste stream reduction of about 400,000 lbs a year.

The previous method used for oil/water separator and wash rack clean up was to submit "DD-1348" disposal documents to our servicing Defense Reutilization and Marketing Office (DRMO), wait for a schedule to be published by their disposal contractor, notify facility personnel of the appointed time, and pump/clean about 100-200 lbs of sludge as well as roughly 10,000-18,000 lbs of oily water. The result was a clean oil/water separator-wash rack drain system that has to be filled with about 200-600 gallons of clean water or 50% capacity, and 10,000-18,000 lbs of non-RCRA hazardous waste to dispose of, per facility twice a year. All of this was at our expense and effectively moving just about all of our facilities from small quantity to large quantity generator status.

Shop towel recycling. Another waste reduction success story results from recycling our shop towels, via Prudential Overall Supply. We have reduced our rag disposal costs almost to zero and have significantly reduced the waste stream. On schedule, Prudential exchanges all used shop towels and washes and reuses them. We estimate an annual cost avoidance of about \$9,000 in hazardous waste disposal costs, after factoring in the cost of contract, and a waste stream reduction of about 20,500 lbs annually.

Our previous process involved the purchasing of rags by the 60-pound bale, via the Federal Supply System. We ordered 5-50 bales a year at a cost of about \$20 per bale.

They were used once and controlled as a non-RCRA hazardous waste. The result: disposal costs were 35¢-\$1.45 per pound depending on what they had been used for, and a total cost for purchasing and disposal of about \$17,000 for 22,000 lbs of rags. This process also included preparing a "DD-1348" to DRMO and waiting for DRMO to pick-up and dispose of the used rags.

Closed Loop Oil Recycling Program. Our inclusion on the Defense Logistics Agency's (DLA) Closed Loop Oil Recycling Program has been well received by our facility personnel and has resulted in significant savings both in disposal costs of used oil as well as waste stream reduction. Closed loop recycling is for used oil only, not contaminated waste oil.

The closed loop process begins by ordering recycled Safety Kleen brand motor oil by the quart, gallon, or 55 gallon drum from a list of Federal Stock Numbers included in DLA's Closed Loop Oil Recycling Program brochure. Once a "hit" is made within the procurement system (about 5-7 days) "Safety Kleen" is electronically notified of the purchase. Facilities making their initial purchase then call "Safety Kleen" at 1-800-525-5739 to set up pick time with a local office. Within three days they will pick-up as much as 120% of what you ordered without any additional charge over and above initial purchase cost and facility personnel make their own pick-up schedule arrangements.

Our "old" method of oil procurement/disposal resulted in purchase costs of about \$175-\$200 per barrel and disposal costs of about 25¢ a pound.

There is no difference in initial purchase cost. However, we save about \$10,500 in disposal cost and reduced another waste stream by about 35,000 lbs annually. Remember, California hazardous waste regulations make exceptions for used oil that's recycled and therefore not counted as a waste stream.

**U.S. Army Reserve Success Stories
Parks Reserve Forces Training Area**

Solid waste and recycling initiatives at Parks Reserve Forces Training Area. We have developed and adopted an Integrated Solid Waste Management Plan (ISWMP) and are implementing the plan. We are also developing a Qualified Recycling Program (QRP). We plan to start up our recycling program this summer after our QRP is approved. Our environmental office is now using 100% post-consumer recycled, non-chlorine bleached, white office paper; along with black and white, double-sided printing.

**U.S. Marine Corps Success Stories
Marine Air Ground Task Force Training Command
Marine Corps Air Ground Combat Center (MAGTFTC MCAGCC)**

Range residue processing. Using our Range Residue Processing Center (RRPC) as the installation's focal point to remove, demilitarize, and certify ordnance and range residue material (ORRM) has been a range sustainment success story not only for MAGTFTC, but the Marine Corps as well. Combining the expertise of qualified UXO technicians with the business sense of a non-appropriated activity has saved the Marine Corps millions of dollars annually, and has eliminated ORRM accidents.

We established RRPC as part of our range maintenance efforts to sustain the ranges at a reasonable cost. In the name of safety and decreased liability, the MAGTFTC regularly performs range maintenance and range clearance operations. Through these clearance operations, we generate approximately 8,000 tons of ordnance and range residue material (ORRM) from live fire and maneuver training. Founded in October 2000, RRPC is staffed with qualified personnel to ensure that all material gleaned from the ranges is third-party certified as free of energetic material. ORRM is certified at each phase of a three-stage process. The process involves visual certification by the RRPC unexploded ordnance (UXO) technicians; mechanical processing; and a final inspection just prior to leaving the installation

Spent Brass Processing. Spent casings of .50 caliber and smaller are processed through a hammer mill. To prevent the brass from being reloaded, the .20-millimeter casings are run through an ordnance deformer. The ordnance deformer and hammer mill combined have processed over 488,000 pounds of spent casings.



Deformer



20mm Cartridge



Hammer mill



Small Arms

MAGTFTC MCAGCC Range residue processing—continued from Page 5.

Aluminum Range Gleanings. Aluminum ordnance residue consisting of 40mm practice grenades and cartridge cases, mortar and bomb fins, and 120mm discarding sabots pieces are processed through an aluminum melting furnace, which is permitted through the local air quality management district. The melting furnace produces 500 to 600 lb aluminum sows. In 670.3 hours of operation, 195,565 pounds of scrap aluminum has been processed through the furnace.



Aluminum Melting Furnace



Gleaned Aluminum and 590# Sow

Scrap Metal Shredding. We have mechanically processed over 2.3 million pounds of ammunition cans, propellant charge cans, and other light metal ORRM through a heavy-duty shredder to demilitarize and reduce the volume of low-value scrap metal.



Shredder



Ammo and Propellant Cans /Shredded

Practice Bomb Shearing. Over 610 tons of practice bombs (500-lb, 750-lb, 1,000-lb and 2,000-lb bombs) and large metal targets (vehicle hulls) have been demilitarized using a hydraulic demolition shear. Each practice bomb case was pierced and then sheared to allow the inert concrete filling to be inspected and/or removed. Metal targets are sheared to non-recognizable scrap steel.



Demolition Shear



Sheared Practice Bombs

MAGTFTC MCAGCC Range residue processing—continued from Page 6.

After initial certification and mechanical processing the items are offered to the Defense Reutilization and Marketing Service or the Qualified Recycling Program for sale as recyclable scrap to offset the cost of processing. Then, RRPC personnel and the purchasing representative conduct a final certification before the scrap leaves the installation.

Marine Corps Logistics Base Barstow

In March 1997, Marine Corps Logistics Base (MCLB) Barstow applied for two Title V Federal Operating Permits: one for Nebo Main, and one for Yermo Annex. At the time, both facilities were considered major sources of criteria and hazardous air pollutant (HAP) emissions. Since then, negotiations with the Mojave Desert Air Quality Management District (MDAQMD) and the U.S. EPA have yielded the following successes:

All of the industrial processes at Nebo Main have been shut down or transferred to the Yermo Annex resulting in a significant decrease of criteria and HAP emissions. At MCLB's request, MDAQMD recalculated Nebo Main's Potential to Emit (PTE) and determined Nebo Main is no longer a major source for criteria or HAP emissions and is canceling the Nebo Main Title V permit application.

MCLB excluded 16 permitted sources from the Yermo Annex Title V permit that did not directly support the main industrial facility, Barstow Maintenance Center. The maintenance center is a major source, whereas the 16 permitted sources did not meet major source criteria.

MDAQMD and EPA have agreed to establish HAP limits in the Yermo Annex Title V permit. This will exclude MCLB from any future National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements for major sources. This effort alone, establishing HAP limits on the permit means that we won't be subject to approximately six new NESHAPs. These NESHAPS come with burdensome record keeping requirements. MCLB and MDAQMD are still negotiating the limit conditions with EPA.

MDAQMD has issued "authority to construct" permits for a new paint and undercoat facility at MCB. The new facility will be equipped with a revolving zeolite concentrator/regenerative thermal oxidizer. The new facility was completed in December 2002 and start-up is scheduled for January 2003. This facility will decrease the potential to emit Volatile Organic Compound emissions by 11,500 pounds per year (5.75 tons/year) based on the historic actual emissions and the proposed conditions.

Teamwork yielded no notices of violation. Proactive environmental inspections, all hands active awareness and support to environmental compliance and protection and maintaining good rapport with regulators have resulted in a successful environmental compliance program. As a result of this personal attention, leadership and teamwork, we haven't received any notices of violations for the past four years. Environmental personnel are exemplary in their readiness and willingness to provide guidance and assist in any environmental situation. We have established environmental and division training websites to provide awareness and all pertinent information regarding our organizations and outstanding services we offer.

Marine Corps Logistics Base Barstow—continued from Page 7.

Toxic chemical release inventory reduction As required by Executive Order 12856, MCLB, Barstow has worked to reduce Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313 toxic chemical releases. In 1994, there were seven reportable chemicals: Ethylene Glycol, Methyl Ethyl Ketone, 1,1,1. Trichloroethylene, Toluene, Xylene, Chromium, and Lead. For the year 1998, there were three chemicals and for the reporting year 2001 only one chemical, Ethylene Glycol, was reported. Efforts are currently being made to reduce toxic reportable chemical from one to zero.

Hazards eliminated by new calcium hypochlorite system. Chlorine has many useful uses. It is used for disinfecting pools, which keeps bacteria from building up in the water that affects the people that use the pools for recreation. Chlorine is used to disinfect the drinking water and wastewater in the domestic wastewater treatment plant.

We have incorporated a calcium hypochlorite system into our large recreational pool to eliminate the very aged gas chlorine system that had been in place. A project was also completed to remove MCLB Barstow existing chlorine gas injection systems and replace with calcium hypochlorite tablet systems.

The replacement systems eliminated the inherent hazards associated with the storage and distribution of chlorine gas and relieve the base from the requirements of a Risk Management Plan. In March 2002, the maximum amount of chlorine gas cylinders stored on base was reported as follows: Nebo, Bldg 293 - 450 lbs; Nebo, Bldg S-48 – 900 lbs; Yermo, Bldg 580 – 450 pounds. Since the installation of the new calcium hypochlorite system, there is no chlorine currently stored at the above locations.

**U.S. Navy
Naval Base Ventura County**

Diesel fuel reuse. Naval Base Ventura County has been reusing and selling used diesel instead of disposing of it as a waste. From September 2003-April 2003 we issued 1,850 gallons for reuse. This fuel was turned in by one work center and then reissued and used by another work center. An additional 10,380 gallons was sold to a recycler for reuse at \$1.27 per gallon. A total of 12,230 gallons was reused for a receipt of \$13,182.60. We also achieved the cost avoidance associated with new fuel purchase or disposing of this diesel as a waste—costs for drums, processing, transportation, and disposal fees.

Naval Air Station Lemoore

In August 2002 we implemented a digital imaging system, which replaced one of two conventional imaging systems using various hazardous materials for photographic prints and transparencies. The digital system is estimated to reduce over 60% of the shops hazardous material use and hazardous waste. In addition, the digital imaging system can further reduce storage costs for chemicals, and labor costs involved in the photo-developing processes.

The environmental staff at NAS Lemoore has diligently worked with the Kings County Probation Department to recycle unmarketable paints turned in by Navy exchanges and self-help stores. In 2002 we recycled 13,561 pounds of paint through the probation department. This

Naval Air Station Lemoore—continued from Page 8.

paint was us to paint park instruments and to cover graffiti on public structures. This pollution prevention alternative is estimated to save \$20,341 in hazardous waste disposal costs.

Navy Region Southwest San Diego

Southwest Region-wide:

- Our public works centers are now using latex/water-based paints instead of solvent-based paints on facilities.
- We are participating in the Closed Loop Re-refined Motor Oil Program. This covers all government vehicles public works maintains.
- We are now re-refining and reusing motor oils.

Naval Base Point Loma:

- We installed filter systems on electroplating tanks to eliminate or reduce solution change outs at Public Works Center Technical Services.
- We've installed an air sparged hydrocyclone system at the Fleet and Industrial Supply Center fuel farm that will reduce the quantity of oily waste generated and the amounts of oils discharged to the sewer.
- We're using biologically controlled cutting fluid that reduces the change out frequency required at Public Works Center Technical Services.

NAVSTA San Diego:

- We installed a power-coating facility at the Ships Intermediate Maintenance Activity (SIMA) Corrosion Control Shop to reduce paint consumption and pollution.
- At the MWR Auto Hobby Shop, SIMA Production Facility, and the SIMA Antenna Shop we've installed glove box blast units that allow blast media to be reclaimed and reused.
- We installed an oily waste treatment facility to increase quantity of fuels/oils recovered from ship bilges and ballasts and reduce quantity of oils discharged to sewers.
- SIMA now has a Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP).

Members of the California Pollution Prevention Partnership contributed the articles in this newsletter. This partnership includes representatives of the Department of Defense and the State of California. The views and opinions expressed in this publication are not necessarily those of the Department of Defense or the State of California. All inquiries should be addressed to the Environmental Quality Division Director, Naval Facilities Engineering Service Center, 1100 23rd Avenue, Port Hueneme, CA 93043. Telephone DSN: 551-2638, 805-982-2638.