

Environmental Management Programs Final Report (Fiscal Year 2003)

FY-03 saw the continuation of many of the FY-02 environmental management programs (EMPs) as well as successful implementation and closure of some others. This report summarizes the results of the EMPs for meeting RDD's objectives and targets for the fiscal year 2003 (July 2002-June 2003).

Objectives and Targets:

ESD continued to manage its significant impacts within four key objective areas and includes seven targeted significant impacts.

Exhaust Emissions Reductions

- a) Target - *Heavy Equipment Emissions*; 100% reduction in excess idle times during extended periods when heavy equipment is not in use by city forces.
- b) Target- *Stationary Equipment Emissions*; Continue to review and amend where necessary, operating procedures and maintenance activity to obtain optimum fuel efficiency. Monitor progress of bio-diesel as an acceptable fuel alternative within the San Diego A.P.C.D.

Energy/Resource Conservation Effort

- a) Target - *Wastewater*, Implement groundwater sampling micro-purge program at the Chollas landfill.
- b) Target - *Methane Gas*; Support ESD energy projects including: Arizona St. landfill gas (LFG) to energy project and Chollas LFG to LNG development.

Positive Impact – Continuous Improvement

- a) Target - *Storm Water Runoff*, Maintain N.P.D.E.S. Best Management Practices (BMPs) program. Research and incorporate (if reasonable and feasible) a silt clarifier upstream of Miramar Landfill retention basin.
- b) Target - *Native Habitat Impact*; Continue to expand Native Habitat Impact Awareness and Restoration Programs to all relevant city departments.
- c) Target - *Vehicle Emissions*; Continue to look at ways to improve fee-booth operations with an emphasis on reducing vehicle idle time.

Results:

The Environmental Management Programs results were once again mixed (as expected) due to operational, seasonal, and organizational influences beyond the control of the section managers and their staffs. However, we once again achieved significant environmental and economic savings suggesting that our objects and targets were

reasonable and achievable. The remainder of this report describes the results of our EMP programs for meeting our EMS objectives and targets for fiscal year 2003.

Exhaust Emissions Reduction:

Heavy Motive Equipment: The primary emphasis was placed on eliminating the excess idle time associated with the contractor's daily maintenance period in the mornings. The contractor was briefed on our EMS goals last year and we continued to work with them to help us meet our objective and target in this area. Contract language was changed to preclude payment for idle time hours in excess of the twenty minutes (minimum warm-up time required to prevent engine wear) and an EMS statement was included that requires all contractors to support our EMS. In addition, invoicing was reconciled to meet and enforce the contract language.

As a result excess idle times have dropped from an average of 800 hours per month to approximately 40 hours per month. The environmental impacts from this EMP include annual air emission reductions of: 1,400,000 tons of CO₂, 8,600 tons of CO, 39,000 tons of NO_x, 540 tons of SO_x and 2,700 tons of PM₁₀. The corresponding rate savings has exceeded \$1,000,000 annually. The combination of the past two years of this EMP has seen twice the reduction in hours, emissions and cost savings.

We will continue to monitor this process to ensure that we stay compliant with the goals of the EMS and our division. However, this process is deemed mature and we will officially close it out as a dedicated EMP.

Stationary Equipment: Greens area staff investigated the use of two products for reducing emissions in the tub-grinders and trommel screen. One product was a fuel additive supplied by Ethos and the other product was a combustion catalyst system manufactured by Emissions Technology. A product test was completed using the Ethos fuel additive in the greens tub grinder and the trommel screen. PM₁₀ was the targeted pollutant and an opacity test was conducted to determine the amount of PM₁₀ reduction in both pieces of machinery. The trommel screen engine is very efficient and relatively clean burning 1.9% opacity after three tests. The tub grinder was less efficient, 37% opacity and therefore became the primary test platform. Final test results indicated a 38% reduction in visible PM₁₀ utilizing the Ethos product in the tub grinder. The test results for the trommel screen were negligible.

The combustion catalyst system was not tested for several reasons including: 1) The test method and projected results were the same as the Ethos product. 2) The system has to be attached to the equipment posing a potential violation to our Air Pollution Control District, (APCD) permit. 3) The system was not deemed cost effective based on the alternative product meeting the same emissions reduction criteria.

Energy/Resource Conservation Effort:

Groundwater sampling micro-purge program at the Chollas landfill:

Implementation of the micro purge sampling program was successfully implemented at Chollas and subsequently incorporated at the Miramar landfill as well. The results from both of these sites were equally successful at reaching between 94% to 96% reduction in the wastewater generated through groundwater sampling events.

This equates to reductions of approximately 500 gallons at Chollas and 1,000 gallons at Miramar, per event, respectively. This program is considered mature and will no longer be identified as an EMP. However, the remaining deep wells that have not been converted at the Miramar Landfill will be considered for micro-purge retrofits at the end of their useful life-cycles.

Positive Impact (Continuous Improvement)

Expand N.P.D.E.S. Best Management Practices (BMPs) program: No Notices of Violations or fines were issued this season. The pump down of the retention basin (over 2 million gallons) effectively doubled the capacity of the retention basin. Other measures implemented this year included application of 34,216 cubic yards of mulch, 3,000 gallons of tackifier applied to the slopes, installation of 600 feet of silt fence, and 400 additional feet of rip-rap channel.

Plans for a clarifier system have been developed and submitted to the Regional Water Quality Control Board and have been approved. This system is designed to remove the suspended clay particles present in the stormwater thereby allowing only clear water to discharge to the adjacent canyon stream. Due to funding and contractor selection processes, permit approvals and the rain season delay this project will take approximately 18 months to complete.

Expand Native Habitat Impact Awareness Program to all relevant city departments:

Eleven vernal pool training classes were held this year for various city department staff from four city departments. In addition, four coastal sage scrub ecology classes were conducted for the Water Dept. and Engineering and Capital Projects Dept. as well as two grade schools in Tijuana, Mexico (4th Grade) , Kumeyaay School, San Diego City School (5th Grade) and Montgomery Middle School, San Diego City School (6th 7th 8th Grades). The Montgomery Middle School classes also assisted in a re-vegetation project at xxx

Habitat Restoration: There are currently 22 habitat restoration sites being supported by the Biological Services group this year. Both of these programs are considered mature and will no longer be identified as EMPs.

Fee Booth Expansion Project: This project was developed to increase efficiency and reduce costs associated with Fee Booth operations and increase customer satisfaction. There is also an environmental benefit associated with the reduction in fuel consumption and emissions released due to traffic delays.

Phase one includes installation of a new 8' X 10' fee booth and 35-40' above ground scale to the east of existing fee booths. Upgrading electrical and SDDP service to the area, adding additional parking, reconfiguring the by-pass lane and re-paving existing parking areas and portions of the travel-way adjacent to the fee booths.

Phase two includes replacing the existing two small fee booths with 8' X 10' booths similar or equal to new booth constructed in Phase one and will include decking, paving as necessary, signage, etc.

Both phases of fee booth construction will be designed to help reduce traffic congestion in the area by providing red/green lights to signify which fee booths are open for operation. The additional scale will provide quicker processing time during peak hours of traffic and will act as an emergency scale should one of the other three scales breakdown or need maintenance. Additionally the new fee booths will architecturally enhance the entrance area to the Landfill.

This project is expected to be completed by February 2004.

Conclusion:

The refuse Disposal Division continues to make significant progress in managing the significant aspects associated with its operations. All identified significant aspects (with negative impacts) have been addressed through our environmental management program or have standard operating procedures to mitigate their impacts.