



# Memorandum

**TO:** TRANSPORTATION AND  
ENVIRONMENT COMMITTEE

**FROM:** John Stufflebean

**SUBJECT:** SEE BELOW

**DATE:** 08-13-07

Approved

Date

8/17/07

**SUBJECT: ENVIRONMENTAL MANAGEMENT SYSTEM PILOT REPORT  
AND EXPANSION TO OTHER CITY OPERATIONS**

## RECOMMENDATION

Accept this staff report on the Environmental Management System activities.

## BACKGROUND

In 2006, the Environmental Services Department embarked on an important and ambitious mission of implementing an Environmental Management System (EMS). The purposes of this memo are to make the Council aware of this activity and to present the status of EMS activities.

An Environmental Management System (EMS) is a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency. The US Environmental Protection Agency (USEPA) is encouraging the widespread use of EMS's to "achieve improved environmental performance and compliance, pollution prevention through source reduction, and continual improvement." The ESD has been a beneficiary of technical assistance from USEPA (via their consultant).

An EMS follows a methodical and rigorous "Plan-Do-Check-Act" methodology. Processes and procedures used to manage environmental issues are mapped and analyzed, and then operational controls are implemented to ensure that they are being properly carried out. Objectives and targets are set for managing environmental issues and monitored to evaluate progress in environmental performance. An EMS provides organizations with a framework to address the ongoing management of their environmental issues including the consumption of natural resources and waste generation/disposal, as well as the use of human resources. Further, an EMS is an integrated management tool that proactively addresses an organization's legal and policy requirements, as they relate to the environment.

ESD is also evaluating the efficacy of achieving EMS certification under the International Organization for Standardization (ISO) system known as ISO 14001. Having an ISO 14001 certified organization tells regulatory agencies and the general public that the certificate holder

has a system in place to consider the “aspects” of its operations that could potentially affect the environment and to address such aspects. Worldwide, approximately 130,000 organizations have become ISO 14001 certified including many prestigious companies in the Silicon Valley.

## **STATUS**

In January of 2006, the ESD formed an EMS Core Team to design and implement a Pilot EMS program for the Department and chose the San José Municipal Water System (Muni) as the first division for implementation. A Core Team developed an “environmental policy” to serve as a guiding document for the entire department (Attachment 1). In order to be ISO compliant, the environmental policy must include commitments to continual improvement, pollution prevention, compliance with legal requirements, and most importantly, the provision of a framework for setting and reviewing environmental objectives and targets.

Once the policy was complete and approved by senior department management, the Core Team established “criteria” for determining at what level departmental operations were impacting the environment. As detailed below, the Core Team developed five criteria against which to measure each operational “aspect.” The criteria adopted by the Core Team are environmental compliance, environmental impact, stewardship, fiscal impact, and public impact.

The next step needed was the formation of a “Site Level Committee” at Muni to provide key insight into Muni operations, engage other staff members with EMS-related inquiries and activities, and establish Muni ownership of the system. System ownership is crucial when creating a living management system such as an EMS; one where environmental considerations are incorporated into day-to-day decision making. Following the ISO 14001 standard helps inculcate this culture by introducing the environment into training and procedures, purchasing decisions, and communication.

Environmental “aspects” are essentially elements of an organization’s activities, products, or services that can interact with the environment. Examples of environmental aspects include:

- Air emissions (stationary fuel-burning equipment; vehicle fleets)
- Energy usage (pumping of water; computer use)
- Solid and/or hazardous waste generation (disposable batteries; fluoride use)

Environmental “impacts” are defined as any changes to the environment, whether adverse or beneficial, wholly or partially resulting from an organization’s activities, products, or services.

At Muni, normal business activities like landscaping and fluoride injection lead to significant aspects like resource consumption (water; energy) and chemical use (fluoride handling); each with their own existing or potential environmental impacts. Beyond the aspects that were specific to a certain activity, many that had meaningful impacts were tied to almost all division activities. For example, the aspects of vehicle use (driving to remote locations) and battery use (radios, pagers) are common for nearly all Muni O&M staff responsibilities.

After establishing what aspects were significant, the EMS Core Team had to decide what aspects to address through Environmental Management Programs (EMP's) during the first Plan-Do-Check-Act cycle. Aspects were reviewed for feasibility in addressing them and seriousness of their current or potential impact. Attachment 2 lists the aspects that were selected, their associated impacts, goals of mitigation, projected benefits from goal achievement, and percent completion.

Next steps at Muni include completing and documenting the EMP's, completing revisions to EMS-related Standard Operating Procedures and the Emergency Response Plan, conducting an internally-led audit of the facility, contracting a certified ISO 14001 registrar, and training Muni staff on EMS-related operational changes.

By implementing an EMS at Muni, the ESD has already:

- Begun instituting improved operational controls. Updated standard and emergency operating procedures play a huge role in our succession planning by capturing the institutional knowledge that exists in our long-term employees approaching retirement and by providing a detailed training platform for our new employees;
- Developed new vehicle purchasing guidelines that will reduce Muni's fleet emissions with every vehicle that is replaced;
- Improved the understanding and tracking of compliance issues and identified areas where regulatory compliance can be improved, without an audit from State or Federal regulators;
- Identified opportunities for staff and cost savings by using environmentally preferable landscaping alternatives and purchasing decisions; and,
- Increased environmental awareness by educating staff about the City's environmental commitments and policies and how they are affected by day to day activities.

With the EMS implementation well underway at Muni, the Core Team is now initiating the same process Water Pollution Control Plant (Plant). A comprehensive regulatory assessment has been chosen as the first major step, which will provide verification for Plant management which environmental and occupational health and safety requirements apply to the Plant, and include the current compliance status. The assessment is taking the form of a collaborative audit between Plant personnel and the consultant.

Upon completion of the regulatory assessment, EMS work at the Plant will continue by integrating the results of the assessment with the Plant's organization chart and defining roles and responsibilities as they pertain to the maintenance of the Plant's legal obligations.

Over the next few months, the EMS team will also begin identifying significant environmental aspects and impacts at the Plant, along with developing and implementing EMPs to address them.

**FOLLOW-UP**

ESD would like to report back to the T&E Committee in February of 2008 to provide a progress update on this effort.



JOHN STUFFLEBEAN

Director, Environmental Services

For questions, contact Ken Davies, Supervising Environmental Services Specialist, at 975-2587.

Attachments: Environmental Policy; Environmental Aspect Summary Sheet

Transportation and Environment Committee

08-27-07

**Subject: Environmental Management Systems Pilot Report  
Attachment 1**

**walk lightly**  
Establish an Environmental Management System that develops and achieves objectives and reduces environmental impacts

**excel**  
Continually improve your organization's environmental practices

**uphold**  
Meet or exceed all applicable legal, regulatory and industry standards pertaining to the environment

**teach**  
Develop an environmentally responsible culture and educate staff and the community in environmental protection

**conserve**  
Promote and support energy, water and materials conservation and efficiency

**protect**  
Prevent and minimize pollution and protect habitat

San José thrives as an environmentally sustainable city

**Municipal Water Environmental Aspect Summary Table**

<b>Activity</b>	<b>Aspect</b>	<b>Impact</b>	<b>Action</b> (Improve, Control, or Study)	<b>Benefit</b>	<b>Goal</b>	<b>Why Selected?</b>
Use of communication devices (pagers; radios)	Battery Usage	Solid waste; universal waste	Improve	Cost savings over time; reduced waste	Replace disposable batteries with rechargeable batteries in high-use categories; replace traditional flashlights with plug-in rechargeable flashlights with long-lasting LED bulbs	Implementation cost low relative to benefit achieved. Action applies to a broad range of users.
Landscape Maintenance	Potable Water Use; Chemical application	Resource consumption; ground/stormwater contamination	Study	Cost savings over time through reduced landscape contracting; operational efficiencies through reduced staff time landscaping; environmental benefits of reduced chemical applications	Identify ways to reduce landscape maintenance hours by 50%.  Identify strategies for reducing the environmental impact of landscaping activities through decreases in fuel consumption, noise generation, use of chemical fertilizers and herbicides, or the generation of yard waste.	Cost/benefit analysis on implementing these measures at two pilot sites will indicate whether system-wide application (32 sites) will yield significant savings and env. Benefits

Activity	Aspect	Impact	Action (Improve, Control, or Study)	Benefit	Goal	Why Selected?
Fluoride Injection Maintenance	Chemical use and delivery	Potential soil, ground-, surface water contamination; worker safety	Study	Potential cost savings or efficiencies; improved worker safety	Determine whether Muni's fluoride injection system is using the best available equipment, and what safety, handling, and control measures are in place.	The system has not been studied in the context of the potential application of new technology, in order to reduce maintenance needs and lower staff exposure to fluoride.
Offsite maintenance and repair	Vehicle use	Greenhouse gas emissions; resource consumption	Improve	Cost savings through reduced fuel consumption; reduced air emissions	Reduce greenhouse gas emissions; align practices with City-supported greenhouse gas initiatives; purchase cleaner vehicles as older ones are retired	Because most activities take place offsite, vehicle use is pervasive, making their emissions Muni's largest impact