

King County Solid Waste Division **King County, Washington**

Organizational Profile

King County, Washington spans more than 2,200 square miles, with an estimated population of 1.67 million. It is the most populated of Washington State's 39 counties and the 12th most populous county in the nation. The King County Solid Waste Division (the Division) provides solid waste and recyclables services to residents and businesses in King County. The Division's regional transfer and disposal system serves the citizens of all the unincorporated areas of the County as well as 37 of the 39 cities, excluding only Seattle and Milton. The Division's service area has a population of about 1.13 million, or about 68 percent of King County's total population. Services provided by the Division include:

- ❑ Operation of one active regional landfill, eight transfer stations, and two rural drop boxes
- ❑ Maintenance and monitoring of ten closed and custodial landfills
- ❑ Development and implementation of regional waste reduction and recycling programs designed to preserve landfill space, conserve natural resources, and protect the environment
- ❑ Participation in the region's Moderate Risk Waste program and operation of the King County Household Hazardous Wastemobile
- ❑ Development of both the *Comprehensive Solid Waste Management Plan* and *Local Hazardous Waste Management Plan* for the region

In 2001, County facilities handled 943,200 tons of garbage, yard waste and recyclables. Wastes delivered to County facilities by both commercial hauling companies and private customers hauling their own wastes resulted in 803,571 vehicle transactions. Garbage collected at the County's transfer stations and drop boxes is transported by Division employees to the County's only active landfill – the Cedar Hills Regional Landfill – for disposal. Recyclable materials yard waste collected at County transfer stations and drop boxes are transported to private processing facilities.

The County also has established extensive programs and services to encourage waste reduction and recycling among the region's residents, businesses, and schools. Currently the Division manages more than twenty waste reduction, recycling, and reuse education and promotion programs. The Division, in concert with several other County agencies, also educates residents and businesses about the proper disposal of household hazardous wastes. Since the late 1980s, the amount of materials diverted from the landfill to the recycle bin has increased 250 percent. In 1999, more than 600,000 tons of materials were recycled by our region's customers. The County is continually pursuing new markets for recyclable materials and recycled-content products.

Description of Fenceline

The fenceline for this project is the entire Solid Waste Division, which is part of the King County Department of Natural Resources and Parks (DNRP). The overall mission of DNRP is to enhance the quality of life in King County by protecting water and land resources and by safely disposing of, treating, and reusing wastewater and solid waste.

The Solid Waste Division, in cooperation with the other divisions within DNRP, is responsible for carrying out this mission.

Key Drivers for Adopting an EMS

Several critical elements factored into the Solid Waste Division's decision to pursue the development of an EMS. The Division viewed an EMS as a tool that would provide a competitive advantage over the private sector. We also saw the opportunity for regulatory benefits and improved facility compliance with environmental regulations. Another key driver for adopting an EMS was the likelihood for improvement in environmental performance, including potential for improved employee participation in the facility's environmental performance.

Structure of Core Team

The Project Manager and Project Sponsor discussed potential team members and requested suggestions from other Management Team Members, with particular input from the Operations Manager. They determined they wanted team members that had at least some of the following qualities:

- Commitment to the environment
- Ability to communicate with co-workers
- Field experience and knowledge of operations
- Environmental management skills
- Creativity and energy
- Ability to see the forest
- Be open to feedback from all levels of the organization

We then requested participation directly to selected potential members. We strove for a team with about 12 to 15 members. Our project manager is an environmental manager from the Engineering Services Section and our Management Sponsor is the Planning and Communications Section Manager. Our team has two engineers, an auto machinist, two planners, a hazmat specialist, a recycling specialist, a utility worker, the Division editor, a transfer station operator, two environmental specialists, a storeskeeper and a landfill gas operator.

Lessons Learned

- Getting staff to the meetings can be a struggle. Some staff (or their supervisors!) require extra support or reminding. All staff need to be reminded of each meeting.
- Communication methods vary depending on whether field staff have computer or telephone access. Some have neither.
- It was really worth it to have a diverse, inter disciplinary team with a variety of backgrounds and experience, from both office and field.
- Field staff participation may have to be limited to meeting time if they have no office or computer access.

Significant Aspects & Impacts

A summary of the Division's significant aspects and potential impacts:

Significant Aspects and Impacts

Environmental Aspect	Associated Potential Impacts
Aspect 1—Materials/resource consumption	Impact 1.1—Use excess natural resources
Aspect 2—Energy Consumption	Impact 2.1—Use more energy than necessary Impact 2.2—expense Impact 2.3—Tax overall area's energy capacity
Aspect 3—Air Emissions	Impact 3.1—Impact on air quality Impact 3.2--Odors
Aspect 4—Potential Spills/Leaks	Impact 4.1—Surface water Quality Impact 4.2—Ground Water Quality Impact 4.3—Air Quality Impact 4.4—Community concerns
Aspect 5—Possible Discharge to Surface Water	Impact 5.1—Surface Water Quality Impact 5.2—Storm water permit compliance Impact 5.3--sedimentation
Aspect 6-- Fuel Use	Impact 6.1-- Depletion of non renewal resource Impact 6.2-- Air quality
Aspect 7—Water Use	Impact 7.1—excess consumption of water affects regional water supply and uses energy Impact 7.2—may affect salmon (ESA)
Aspect 8—Discharge to sewage Treatment facility	Impact 8.1—may exceed treatment plant limits Impact 8.2—may exceed trt plant capacity Impact 8.3—treatment involves hazmats
Aspect 9--Noise	Impact 9.1—effect on neighbors
Aspect 10—Discharge to groundwater	Impact 10.1--groundwater quality
Aspect 11—Aesthetics of surrounding area	Impact 11.1—Affect natural beauty of surroundings
Aspect 12—Lighting	Impact 12.1—Light pollution Impact 12.2—energy use Impact 12.3— affect neighbors
Aspect 13--Dust	Impact 13.1—air quality
Aspect 14--Litter	Impact14.1--aesthetics
Aspect 15—Fiscal efficiency	Impact 15.1—delays in implementing environmental controls
Aspect 16—Hazardous materials and waste management	Impact 16.1—Water, air and soil quality
Aspect 17—Waste to Energy- landfill gas	Impact 17.1—energy resources Impact 17.2—air quality
Aspect 18—Leachate production	Impact 18.1—Groundwater quality Impact 18.2—POTW discharge
Aspect 19—birds and other vectors	Impact 19.1—neighbors/employees Impact 19.2—water pollution

Objectives and Targets

The Division set the following objectives and targets for our first EMS cycle:

Objective: Increase efficiency and conservation of energy, water and fuel use

Target: Reduce water use by 12% over target period.

Target: Reduce energy by 10% over target period.

Target: Reduce fuel use by 5% (gas and diesel) over target period.

Objective: Minimize air emissions

Target: Conduct vehicle emissions tests in all vehicles three years or older and all gas vehicles

Target: Evaluate shop heating system for efficiency and emissions and develop alternatives where appropriate.

Objective: Reduce, reuse, recycle!

Target: Provide in-house recycling at 100% of sites/locations.

Target: Reduce consumption of paper 10% in first year.

Target: Support the goals of the Transfer Station Recycling Team.

Objective: Improve compliance with environmental regulations

Target: Develop and implement a searchable regulations and permit database.

Target: Develop a system to document and track regulators' inspections of our sites and all exceptions/citations/violations.

Target: Conduct a full environmental audit of all Division facilities and develop compliance schedules for exceptions.

Objective: Make environmental responsibility a part of our daily work

Target: Develop and implement an environmental education program for the Division

Target: Make environmental elements a priority in all projects.

Target: Evaluate vehicle idling practices with respect to fuel consumption and emissions and establish a standard for Division employees.

Objective: Minimize use of hazardous materials

Target: Implement a hazardous materials use and minimization education program.

Target: Identify all chemicals used in the Division and evaluate them for the level of hazard they pose.

Target: Identify the top ten hazardous materials in use and replace with more environmentally sound materials over target period.

Objective: Improve spill and leak management

Target: Develop a spill management program.

Target: Implement preventive maintenance schedules for all vehicles/equipment with leak or spill potential.

Benefits of Adopting an EMS

The Solid Waste Division has so far received the following benefits during the implementation process:

- The Division has already seen a decrease in energy savings and water use. Our Algona Transfer Station has decreased water use by 30% and our Renton Transfer Station has decreased energy use by 20%. Most transfer stations have met our initial goal of a 12% reduction in water use and 10% reduction in energy use.
- The high level of employee involvement built into our EMS planning and implementation process has added to the Division's efforts to change the culture of the organization into one that is more inclusive and participatory.
- During the process of identifying the current regulations and permits that affect solid waste, the team organized a list of the environmental regulations into one clear and manageable document. This was a task that the Division had intended to do for some time but had not allocated resources.
- The regulations and permit identification project also helped the team find areas needing improvement in the organizational structure of our current regulations management system.
- The EMS is a learning process that helps us see both the strengths and weaknesses of our operating procedures and policies. Implementing an EMS is an opportunity for staff to learn and grow.

Resource Commitment

The Division estimates we will spend approximately 3600 hours on developing our EMS in the first cycle. This translates to approximately \$167,000 in salary expenses.

Next Steps

The Division does not plan to obtain ISO 14001 certification for its EMS. However, we are committed to keeping our EMS as a permanent part of our environmental programs and have made staffing commitments to assure it will continue.

Management Statement

“The Environmental Awareness Program (EAP) is making good progress. Thanks to Special Waste Supervisor Pam Badger and the EAP Team, we’re saving fuel, energy, water and other resources, such as paper, all across the Division. The real heroes are all of you who are keeping the environment in mind every day on the job.”

- Rod Hansen, Solid Waste Division Manager, Inside Trash, February 2002.