

**2006 GREEN PERMIT ANNUAL REPORT  
EPSON PORTLAND INC.  
HILLSBORO, OREGON**

**Executive Summary**

Epson Portland Inc. (EPI) takes a comprehensive approach to environmental stewardship. The company has been ISO 14001-certified since June of 1998; this certification is based on a solid Environmental Management System that undergoes continual internal audits as well as annual external audits. EPI was the first charter member in the U.S. EPA's National Environmental Performance Track Program and is one of the only companies in Oregon to hold a DEQ Green Permit. Since March of 2000, EPI has sent no waste to the landfill; any waste that cannot either be reused or recycled\* is sent to a waste-to-energy facility in Brooks, Oregon, where it is incinerated and used to create electricity. (\*EPI's diversion rate is 74%; several of its recycling and/or reuse programs are innovations that employees have implemented.) Since February of 2003, EPI has been a patron-level participant in PGE's Clean Wind power program, purchasing 10% of its power from wind-generation facilities. In addition, the company designates 30% or more of its corporate contributions dollars to environmental non-profit agencies, especially those whose mission is to education children about the importance of environmental preservation. Annually, EPI hosts an electronics collection event, three highway clean-ups and a campus clean-up event, and encourages its employees to take part in other environmental volunteer activities.

**Background**

EPI received its Green Permit on November 9, 2001. In accordance with the requirements of the Green Permit, EPI continually improves its environmental performance and achieves results that are beyond compliance. This report summarizes 2006 environmental improvement activities, environmental compliance, and stakeholder activities.

*Site History*

Located in Hillsboro, Oregon, EPI is the sole U.S. manufacturing affiliate of Japan's Seiko Epson Corporation (SEC). In the early 1980s, SEC decided to begin manufacturing printers in the United States to support Epson America, Inc., SEC's U.S. sales and marketing subsidiary (NAICS code 325910). From its opening day in July of 1986 until August of 2001, EPI built over 15 million printers for business, government and personal use. Currently, EPI manufactures various models of ink cartridges for Epson printers (between April 1999 and December 2006, EPI produced over 248,332,000 ink cartridges), performs injection molding of proprietary plastic parts, and refurbishes optical engines for LCD projectors and rear-projection television sets.

*Site Description*

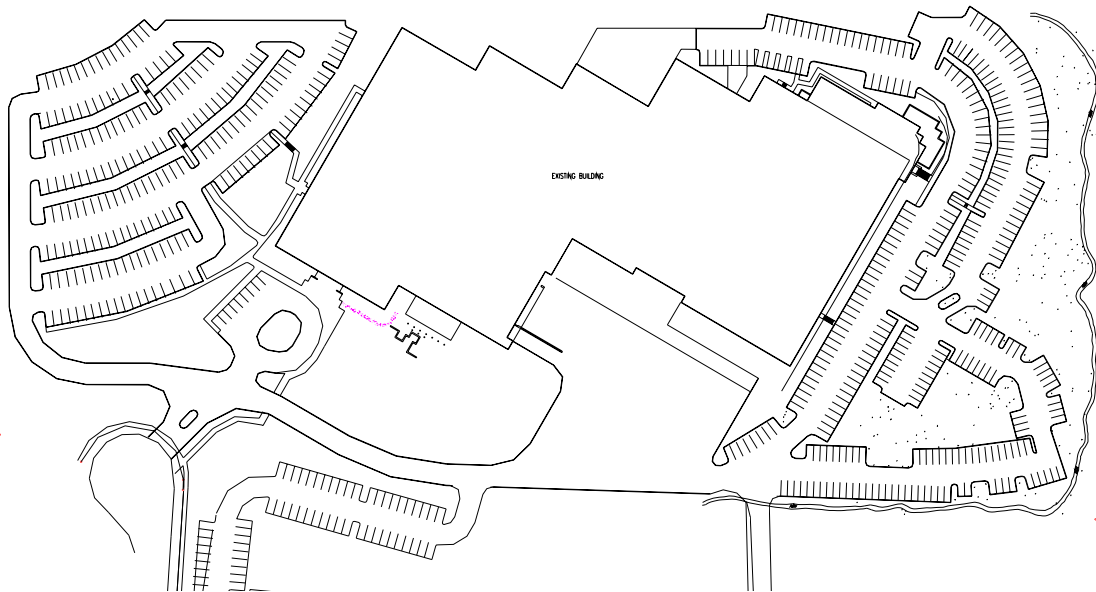
One building, completed in two phases: Phase 1, completed in 1986; and Phase 2, completed in 1988.

Manufacturing in this building consists of Ink Cartridge Plastic Injection Molding, Ink Cartridge Assembly, Ink Cartridge Packaging, and Projector/TV Services. Support departments include Engineering, Procurement, Production Planning, Warehouse, Quality Assurance, Facilities, Accounting, Human Resources, Information Systems, General Affairs, Environmental, Corporate, XRF Testing, and Inkjet Industrial Applications.

There are two cleanrooms, several office areas, two cafeterias, warehousing and storage space.

Comprising the remainder of EPI's 20.7 acres of land are two parking lots and a natural preserve.

### *Site Layout*



### *Regulatory Status Category*

Phase 1 & 2

3950 NW Aloclek Place

Conditionally Exempt Small Quantity Generator

EPA ID# ORD151160934

CWS - Industrial Wastewater Discharge Permit

Permit Number 133072

DEQ - National Pollutant Discharge Elimination System Waste Discharge Permit

Permit Number 100-J

File Number 103448

DEQ - National Pollutant Discharge Elimination System Storm Water Discharge Permit  
Permit Number 1200-Z  
File Number 103448

METRO - Solid Waste Non-System License (for waste-to-energy)  
License Number N-028-00

State Fire Marshal Hazardous Substance reporter

DEQ Green Environmental Management System Achiever Permit

ORS 468.020

Permit No.: GP003

Expiration Date 5-1-2010

### **Environmental Philosophy**

As a member of the Seiko Epson Group, Epson Portland Inc. shall fulfill its social obligation as a good corporate citizen, striving to achieve a harmonious balance between its business activities and the global environment by actively taking steps to use resources efficiently and prevent pollution.

Epson Portland has established policies based on the Environmental Philosophy and pledges to carry them out with full participation. EPI will use these policy statements as a benchmark to gauge current and future activities and to determine corporate environmental objectives and targets, including identifying significant aspects, when appropriate. EPI senior management will review these annually.

Epson Portland will:

#### **Utilize Environmentally Sound Processes.**

Environmentally sound manufacturing processes will be used to create equally environmentally sound products.

#### **Prevent Pollution.**

Pollution will be prevented by defining, monitoring and raising the environmental control level through continuous improvement of our manufacturing processes.

#### **Contribute to the Environment.**

Support of environmental efforts will be given at both the local and international levels.

**Provide Employee Volunteer Programs.**

Various employee volunteer programs will be supported, such as: "Road Warriors" highway clean-up program and Earth Day activities.

**Comply with Regulatory Requirements.**

Applicable legislative and regulatory requirements will be complied with and/or exceeded with a goal of minimizing the impact on the surrounding environment.

**Conform to ISO 14001-2004 Requirements.**

An Environmental Management System that conforms to the requirements of ISO 14001-2004 has been established, certified by a third party, and will be maintained.

**Communicate its Environmental Commitment.**

The environmental commitment of the company will be communicated through ongoing public outreach and a published Annual Environmental Report.

**Environmental Management System**

EPI established its Environmental Management System (EMS) in 1998 in accordance with the requirements of ISO 14000. Initial certification to the ISO 14000 standard was completed in June of 1998, making it only the fifth company in Oregon at the time to achieve such status. Each year, EPI has undergone either a surveillance or recertification audit (as scheduled) of its EMS and has passed and maintained its certification every time; the company has also upgraded to new versions of the standard as they have become available.

*Determining Aspects, Impacts, Objectives & Targets*

Epson Portland Inc.'s Environmental Management System (EMS) is intended to be a guide for establishing, maintaining, and improving EPI's environmental activities. Environmental planning procedures describe an integrated process of identifying environmental aspects, ranking and selecting them to determine significance, developing objectives and targets, and developing environmental programs that support our goals of increasing environmental stewardship (reducing the use of water and electricity, reducing the amount of solid waste, reducing volatile air emissions and hazardous waste, and increasing reuse, recycling, and employee involvement).

EPI's environmental aspect and impact analysis is completed at least annually. Impacts are categorized in 7 areas: air pollution, water pollution (sanitary), water pollution (outside), land contamination, utilities consumption, hazardous waste, and regulatory compliance.

In determining objectives and targets, EPI bases its decisions on the following: United States regulatory requirements, Seiko Epson Corporation requirements, requirements from top management, EPI's significant environmental impacts, and views of interested parties. All information is funneled to the environmental health and safety committee (with members representing each department at EPI), which then drafts recommendations

that are forwarded to top management for approval. Once the environmental health and safety committee, environmental health and safety committee chairperson, and top management approve objectives & targets, the environmental & safety staff drafts work instructions for each objective & target detailing each task, responsible person(s), due dates, and critical milestones, if needed.

**2006 Aspects & Impacts**

<b>Significant Aspects</b>	<b>Negative Environmental Impacts</b>	<b>Department(s) Oversight</b>	<b>Objective &amp; Target?</b>
CWS Industrial Wastewater Discharge Permit	Water Pollution-Compliance	Facilities	No-Control & Monitor only
DEQ - NPDES non-Contact Cooling Tower Permit	Water Pollution-Compliance	Facilities	No-Control & Monitor only
DEQ - NPDES Stormwater Discharge Permit	Water Pollution-Compliance	E & S	No-Control & Monitor only
Solid Waste	Water / Soil Pollution Outside	Site*/Warehouse/E & S	Yes
Purchasing Activities	Air , Water, Soil Pollution	MRO Purchasing	Yes

\*As applicable to each department or group

**2006 Objectives & Targets**

<b>Objective</b>	<b>Targets</b>	<b>Responsibility</b>
<b>Promote Green Purchasing</b>	60% of office and janitorial products be environmentally-preferred products (FY05 = 55%)	MRO Purchasing
<b>Reduce Solid Waste</b>	Reduce total waste by 5% (baseline 2005)	All departments, as applicable
	Maintain zero waste-to-landfill	Environmental & Safety staff
	Study using regrind in ink cartridge plastics	Plastics Department / E&S staff
<b>Reduce Total Energy Consumption</b>	Water – Maintain FY05 water usage level	Facilities Manager
	Reduce Electrical usage by 7% (baseline FY05)	All departments, as applicable
	Reduce Gas usage by 7% (baseline FY05)	All departments, as applicable

**Environmental Performance Auditing**

The EMS recertification audit was conducted in February 2006 by Bureau Veritas Certification. The audit validated that EPI’s EMS is in a high degree of conformance to 14001:2004 standard with no major or minor non-conformances. EPI’s Quality Assurance department conducted 44 internal audits during the course of the year and found 5 non-conformances. Examples of the non-conformances were no MSDS available for a chemical found and a work instruction in the facilities department not being followed properly.

EPI's Management Review consist of one annual executive management strategic review by top management, an annual review by the Environmental Health and Safety committee as well as a monthly overview by all Asst. Managers and above. All reviews were completed in FY2006. EPI's EMS was considered suitable, adequate, and effective.

In addition, EPI conducts monthly focus audits to ensure the adequacy of policies, procedures and actions that support cleanliness, safety and the environmental considerations at the plant. These audits are done by members of the Environmental, Health & Safety committee as well as management representatives. Twice a year, the subject matter of the audits is environmental, and each time, any concerns noted are communicated to the appropriate person and action is taken to make corrections.

**Meeting FY2006 Objectives & Targets**

*Accomplishments and Deficiencies*

Exceeded Regulatory Compliance

- 1. Storm water** – This permit had no deficiencies and/or non-conformances.

*Analysis Reports:*

	PH	Oil & Grease	TSS	Copper	Lead	Zinc
	None Detected (ND) limit	2ppm	2ppm	0.01ppm	0.01ppm	0.01ppm
12/28/06						
#1	6.3	ND	12	ND	ND	0.02
#2	6.2	ND	11	ND	ND	0.02
#3	6.0	ND	2	N.D	ND	0.03
01/17/06						
#1	6.2	ND	4	ND	ND	0.02
#2	6.2	ND	4	ND	ND	0.03
#3	6.3	ND	2	ND	ND	0.13

Monthly visual inspections completed with no issues. Inspections include:

1. Floating solids in creek from manufacturing
2. Oil and grease sheen in creek
3. Oil and grease sheen in parking lot
4. Catch basins in parking lot
5. Trash in parking lot
6. Overall cleanliness
7. Roof top inspection

*Inspection results:*

	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>
#1	None	None	None	None	None	None	None	None	None	None	None	None
#2	None	None	None	None	None	None	None	None	None	None	None	None
#3	None	None	None	None	None	None	None	None	None	None	None	None
#4	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
#5	None	None	Some	Some	Some	None	Some	None	None	None	None	None
#6	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
#7	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good

Storm drains are pumped out and cleaned every April.

Employee volunteers picked up garbage on Epsom property on June 29, 2006.

**2. NPDES 100-J - 103448 Non-Contact cooling water discharge permit.**

This permit had no issues and or non-conformances.

*Analysis Report*

1. Effluent flow (average per day in gal)
2. Max. Temperature
3. Total chlorine (ppm)
4. Flow X Temp.
5. pH

	<b>4/2006</b>	<b>5/2006</b>	<b>6/2006</b>	<b>7/2006</b>	<b>8/2006</b>	<b>9/2006</b>
1.	187305	2452.9	3012.3	3001.0	3082.6	2581.6
2.	70F	67.7	69.9	72.6	70.3	69.5
3.	0.26	0.1	0.01	0.01	0.18	0.02
4.	131,145	166,061	210,559	217,872	216,706	179,421
5.	8.4	8.5	8.5	8.5	8.4	8.4
	<b>10/2006</b>	<b>11/2006</b>	<b>12/2006</b>	<b>1/2007</b>	<b>2/2007</b>	<b>3/2007</b>
1.	2147.1	1423.9	851.6	1497.7	1466.5	1507.4
2.	66.2	63.2	63.5	64.8	64.2	62.2
3.	0	0.2	0.05	0.05	0.01	0.01
4.	142,138	89,990	54,076	97,050	94,149	93,760
5.	8.4	8.4	8.8	8.23	9.31	9.31

3. **CWS Industrial Wastewater Discharge Permit**  
133072 had no deficiencies and/or non-conformances.
4. **Hazardous Waste**  
EPI generated 0 pounds of hazardous waste.  
EPI is a Conditionally Exempt Small Quantity Generator.
5. **Reduce total waste by 5% (baseline FY06)**  
EPI achieved a 54% reduction.  
  
All solid waste goes to a waste-to-energy facility.
6. **Promote employee commute alternative transportation**  
In FY2006 EPI purchased year-round MAX passes for all full-time employees.
7. **Generate annual environmental report**  
EPI posts prior fiscal year information on its external website in the month of May.
8. **Support Seiko & Epson affiliates**  
EPI chairs the Environmental Committee of the Americas, which includes Seiko Epson affiliate companies in the U.S., Canada, Mexico and other South American countries.
9. **Green Purchasing**  
**Goal:** 60% of general purchases (Office & Janitorial supplies) be environmentally green products  
**Goal:** 100% of production purchases be environmentally green products  
These guidelines are developed around not using certain hazardous chemicals in our products and processes.
  - EPI achieved 56% green purchasing for office and janitorial supplies.
  - EPI achieved 100% of production purchases under Seiko Epson guidelines.
10. **Reduce Total Energy Consumption by 7% (baseline FY05)**

**Steps taken to reduce electrical consumption: Implemented Energy Conservation Opportunities (ECOs)**

Total kilowatt-hours (kWh) used in FY2005	10,080,900
Total kWh used in FY2006	8,801,500
Savings achieved in FY2006 through ECOs	1,243,326
o Reduce Phase-1 HVAC operating times	
o Take RU6 offline	
o Reduce RU3-1 operating times	

- Reduce conference room lighting
- Enhanced Packaging vacuum control
- Additional HVAC operating time reduction

Reduction vs. FY2005 – actual

12.6%

EPI purchases 10% Clean Wind power.

11. **Reduce natural gas usage by 7%** (baseline FY05)

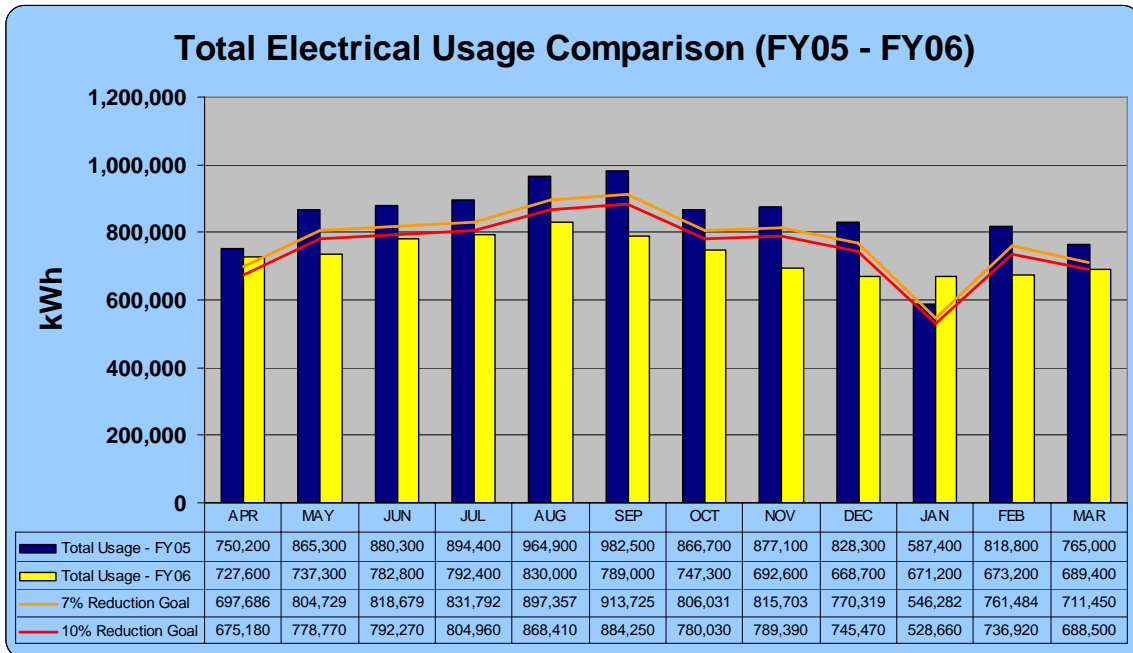
EPI actually achieved a 21% reduction (baseline 2005)

- We have changed from a 7-day, 20-hour-per day work schedule to a 5-day, 24-hour-per day work schedule (with the heat turned off on the weekends), and on a daily basis, the heat in the building is turned off at 3:30 p.m. instead of 5:00 p.m.

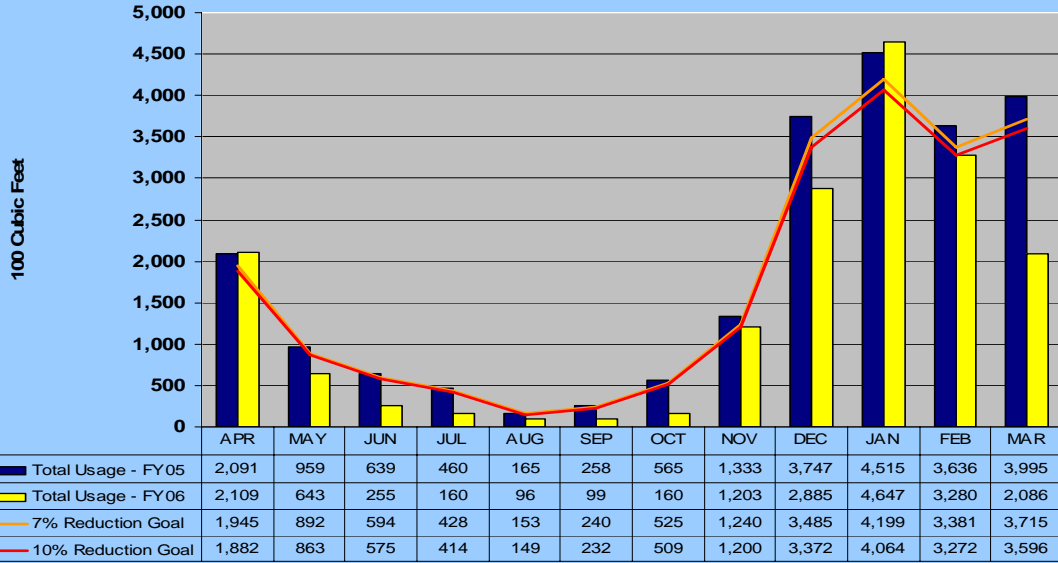
12. **Maintain FY05 Water Usage**

EPI maintained its FY05 water usage levels in FY06.

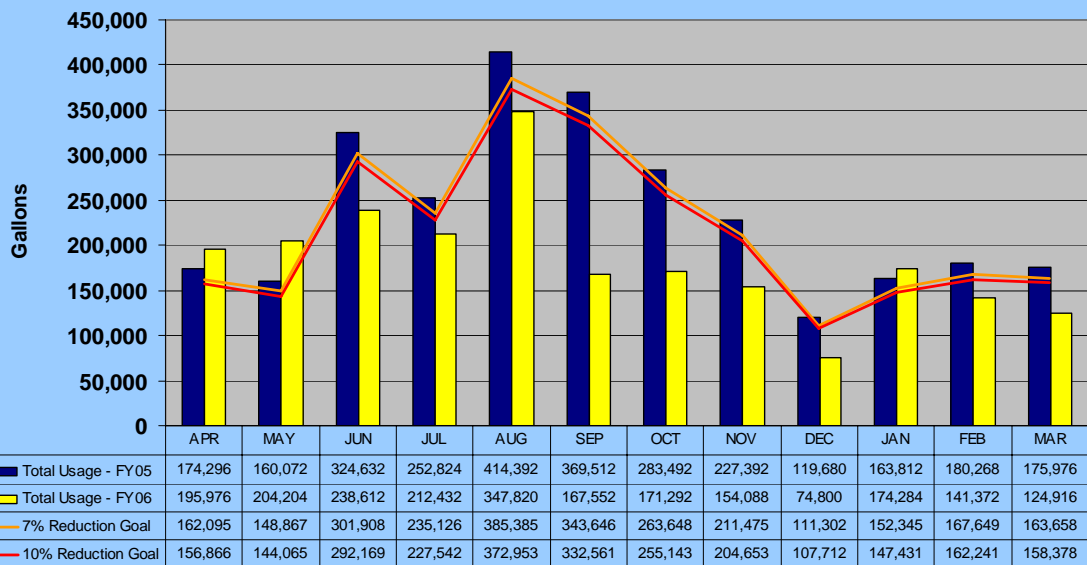
**Graphs**



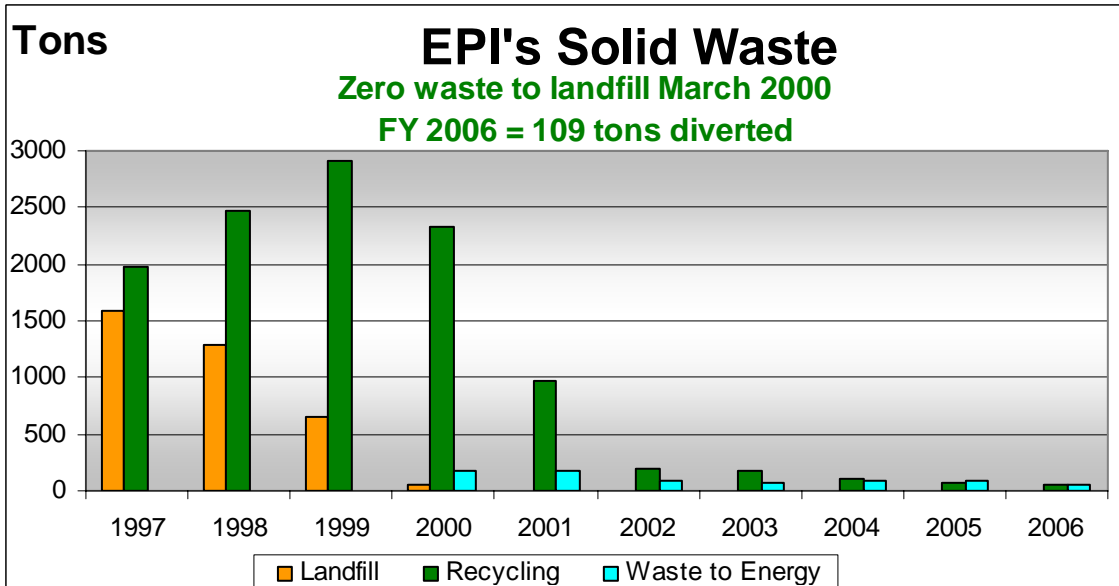
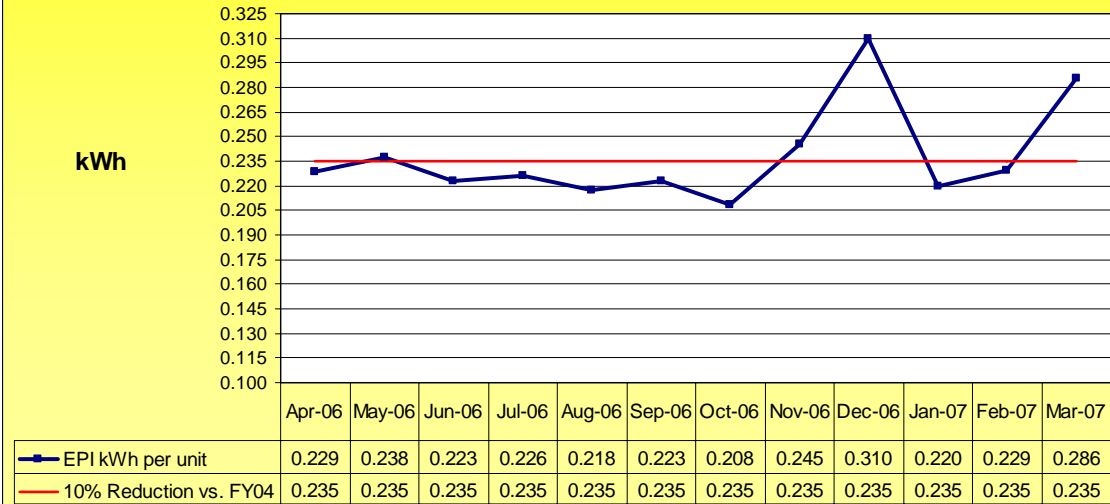
### Total Gas Usage Comparison (FY05 - FY06)



### Total Water Usage Comparison (FY05 - FY06)



## FY2006 - Total kWh Used Per Unit Produced



## Environmental Accomplishments

- Expansion of the closed-loop system for reclaiming, regrinding and reusing waste plastic in the Plastics Injection Molding department that was implemented in 2005. Under this system, waste plastic (called runners or sprues) is collected and reground, then mixed with virgin material to be remolded. Initially, the Plastics department was only able to use 17% reground material but in 2006, that percentage was bumped to the maximum of 25%.
- Elimination of repetitive quality testing and combination of other quality testing on fewer ink cartridges. By examining our destructive quality testing practices with ink cartridges, we were able to identify areas where more testing was being done than necessary and other areas where certain tests could be combined on one set of cartridges rather than pulling individual sets for each type of test. This allows us to not only save time, but tons of scrap parts each year.
- Sending of EPI's XRF Testing Engineer, James Vanlieu, to be the keynote speaker at the StRUT (Students Recycling Used Technology) Fall Conference on Saturday, November 11, 2006. Approximately 50 people were in attendance: ~35 technology instructors from high schools throughout Oregon and southwest Washington; 6-7 StRUT coordinators; and 6-7 industry representatives (GraybaR, Intel, DEQ, etc.). James discussed the targets established by RoHS for consumer electronic products and explained why each of the banned substances is harmful. He also explained EPI's two-step process to ensure the materials we use to produce our products do not contain banned substances (lead, cadmium, mercury, PBBs, PBDEs and hexavalent chromium): a supplier survey in which the suppliers certify that the materials they are giving us do not contain banned substances; and our own test data that we gather by using an X-Ray Fluorescence (XRF) machine. Of particular interest was not just how 'first run' products are deemed to be in compliance, but how to ensure that the recycling process doesn't introduce these harmful substances to the mix, i.e. if the items were obtained from a non-compliant source. Sharing this type of information with educators and industry leaders can only help raise environmental awareness and increase responsible recycling practices.
- Acceptance of the *Environmental Management Award* from Seiko Epson Corporation, as well as four *Environmental Awards* for specific projects in 2006.
- Donation of 48% of all monetary corporate contributions to environmental non-profit organizations (FY06: Tillamook Forest Center, Jackson Bottom Wetlands, Lower Columbia River Estuary Partnership, Friends of Trees, SOLV, Northwest Environmental Conference, Oregon Environmental Council).
- Continuation of zero waste-to-landfill (since March 2000).
- Continuation of patron-level participation in PGE's Clean Wind Power program (since February 2003).

- Continuation of participation in EPA’s National Environmental Performance Track (since October 2000).
- Continuation of participation in Oregon Department of Environmental Quality’s GEMS (“Green”) Achiever Permit program (since November 2001).
- Continuation of Green Power Partner status with the EPA (since fall of 2003).

**Employee Activities**

- EPI Earth Day Electronics Collection Event, April 29, 2006.
- Road Warriors Highway Clean-Ups, May 24, August 2, November 8, 2006.
- Household Hazardous Waste Round-Up, June 9 & 10, 2006.
- Campus Clean-Up, June 28, 2006.
- Energy Conservation & Earth Awareness theme month in April; Environmental theme month in June—both months have activities to raise environmental awareness/interest, as well as additional environmental articles in the company newsletter, the *Insider*. (Roughly 75-80% of all *Insider* issues contain articles on an environmental topic or notices about environmental activities.)

**Stakeholder Involvement**

Epson Portland Inc. is not a publicly-held company, nor is it one that has much contact with community members on a day-to-day basis, as no consumer sales, support or service are provided at this location. However, the company is continually mindful of the impact of its actions on the surrounding environment and community, and welcomes feedback from community neighbors. Therefore, EPI will communicate with stakeholders through its website at [www.epi.epson.com](http://www.epi.epson.com) and also via its environmental community outreach activities throughout the year.

Thus far, the stakeholder interest has been in learning about how EPI has accomplished some of its environmental achievements. Outside stakeholders have not yet expressed concerns or provided suggestions regarding our environmental activities. Seiko Epson Corporation, EPI’s primary stakeholder, evaluates and audits all environmental activities each year.

Report Submitted by

Kimberley Sackman  
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