

GREEN ENVIRONMENTAL MANAGEMENT SYSTEM (GEMS) PERMIT REVIEW REPORT

for

**Epson Portland Inc.
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FACILITY DESCRIPTION

1. The permittee, Epson Portland Inc. (EPI) operates an ink cartridge, plastic injection molding and optical engine repair manufacturing facility at 3950 NW Alclek Place in Hillsboro, Oregon. The facility also manufactured printers, including circuit board assembly, and refurbishing operations, but will cease this operation by the end of 2001. The facility has been operating at this location since 1986 and began its first full year of manufacturing in 1987.

REGULATORY STATUS

2. The regulatory status of the permittee is summarized in the following table:

MEDIA PROGRAM	TYPE OF PERMIT/ REGISTRATION	PERMIT/ FILE NUMBER
Air Quality	Employee Commute Options (ECO) Program	None assigned
Water Quality	Non-Contact Cooling Water Discharge Permit	NPDES 100-J/ 103448
Water Quality	Stormwater Discharge Permit	NPDES 1200-Z/ 103448
Water Quality	Unified Sewerage Agency Pretreatment Permit	133072
Hazardous Waste	Generator Status <input type="checkbox"/> CEG <input checked="" type="checkbox"/> SQG <input type="checkbox"/> LQG	ORQ151160934
Toxic Release Inventory (TRI)	Federal TRI Form R Reporting Requirement	Not yet received from 2000 first-year report

ENVIRONMENTAL IMPACTS

3. The facility is located in the Portland-Vancouver Air Quality Management Area (AQMA). The airshed is designated as maintenance areas for carbon monoxide (CO) and ozone (O₃). The facility is an insignificant source of volatile organic compounds (VOCs), an O₃ precursor, and does not produce any of the other criteria air pollutants (particulate, sulfur dioxide, and nitrogen oxides).
4. The facility is located in the Tualatin River subbasin that was identified on the most recent 303(d) list of water quality limited water bodies. This subbasin is water quality limited for nuisance algal growth, dissolved oxygen, bacteria, and temperature. The impacts of the TMDL will be through their NPDES permits - these will most likely be modified within the next year to address the TMDL. Specifically, the 1200-Z permit will most likely be modified to require pollutant-specific Best Management Practices (BMPs) and the 100-J will most likely be modified to include new numeric limits. The 100-J permit expires on July 31, 2001 and is scheduled to be updated in 2002.
5. The facility became subject to federal Toxics Release Inventory (TRI) reporting requirements in 2000 because of glycol compounds used in the manufacturing of inks. Increased production of ink cartridges has triggered TRI threshold reporting requirements under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). EPI anticipates that it will continue to be subject to TRI requirements in the future because of continued increases in ink cartridge manufacturing.
6. Existing sources of air emissions, wastewaters, hazardous and solid wastes at the facility consist of the following:
 - a. Air emissions can be categorized into two areas:
 - i. Process emissions are primarily due to the use of volatile organic compounds (VOCs) to clean circuit boards. The level of emissions is below permitting thresholds for the Air Contaminant Discharge Permit or Oregon Title V Operating Permit programs. This process will be eliminated by the end of 2001.
 - ii. Since there are greater than 50 employees at this facility and it is located within the Portland Air Quality Maintenance Area, emissions due to employees commuting to and from the work site are regulated under the Employee Commute Options program.
 - b. Wastewater discharges can be categorized into three areas:
 - i. Water used in kitchen and bathroom facilities go to the sanitary sewer under a pretreatment permit with the local sewerage agency.
 - ii. Non-contact (machining equipment) cooling water is routed through a cooling tower, and is ultimately discharged to Rock Creek, a tributary of

- the Tualatin River. This discharge is permitted under a NPDES 100-J permit.
- iii. Stormwater from landscaping and parking lots from Phases 1 & 2 are discharged to a natural pond and a state creek. Stormwater from landscaping and parking lots from Phase 3 is collected in storage ponds before discharging to Rock Creek, a tributary of the Tualatin River. This discharge is permitted under a NPDES 1200-Z permit.
- c. Hazardous wastes generated are primarily compromised of lead solder and lead-contaminated wastes from assembling circuit boards. There is also a small quantity of waste solvent from cleaning circuit boards. Originally, Phases 1 & 2 of the facility were grouped into a single ID# as a Small Quantity Generator (SQG) while Phase 3 was assigned a different ID# as a Conditionally Exempt Generator (CEG). All three phases are now combined under a single ID# as a SQG, but will be CEG for 2001. This process will be eliminated by the end of 2001.
- d. Solid wastes are primarily compromised of plastics (polystyrene foam, open cell polyethylene, and plastic film), fibers (paper, wood, and cardboard), metals, food, and landscaping debris. The majority of these wastes are reused or recycled. The remaining portion is sent to a waste-to-energy facility in Brooks, Oregon.

CRITERIA FOR ISSUANCE OF A GEMS PERMIT

7. The Department has verified that the permittee has met the tier achievement criteria for the following GEMS Permit elements, as discussed below:
- EMS performance;
 - baseline performance report;
 - performance achievements;
 - performance measures; and
 - stakeholder involvement plan.

Environmental Management System (EMS) Performance

8. The permittee has implemented a robust environmental management system that is certified as meeting the ISO 14001 standard.

EPI's EMS was certified in June 1998. Their 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 which support our goals of increasing EPI's environmental stewardship.

Baseline Performance Report

9. The permittee has submitted a baseline performance report that summarizes:

a. Environmental policies affecting the permittee's operations;

EPI's environmental policy is included in the application materials.

b. Environmental information regarding significant environmental impacts; and

EPI's environmental aspects and impact analysis is completed at least annually. Each department goes through an extensive aspect analysis considering all items going into and coming out of their department. Impacts are categorized in 9 areas: air pollution, water pollution (sanitary), water pollution (outside), land contamination, utilities consumption, non-renewable resource, nuisance (noise, light, smell, etc.), non-hazardous solid waste to landfill, hazardous waste, and other.

Significant Aspects	Related Environmental Impacts
IPA/Flux Waste	Hazardous Waste
SC-10 Solvent	Air Emissions
Employee Commute	Air Emissions
New Product Introduction	All Impacts
Supplier Selection	All Impacts
Chemical Purchases	All Impacts
Re-work Projects	All Impacts
Obsolete Materials	Solid Waste
Bloodborne Pathogen Waste	Bio-Hazardous Waste
Used Oil	Other (Re-Use)
Fluorescent Lamps	Other (Recycling)
Cooling Tower Discharge	Water Pollution (Outside)
Pure Water System Discharge	Water Pollution (Sanitary)
Stormwater Discharge	Water Pollution (Outside)
*Data Back-Up Systems	Other (Environmental Data)
*EPA TSCA	Other (Regulatory Requirement)
*Plastic Resin	Other (Regulatory Requirement)
Recycling	Solid Waste

* Non-environmental impact

c. The environmental program that will achieve the results anticipated by evaluating the environmental impacts of the permittee's regulated pollutants and setting objectives and targets.

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 from interested parties.

All information is funneled to the environmental committee (a 22-member committee representing each department at EPI) and recommendations are drafted and forwarded to top management for approval. Once the environmental committee, environmental committee chairperson, and top management approve objectives & targets, the environmental engineer drafts programs for each objective & target detailing each task, responsible person(s), due dates, and critical milestones if needed.

10. The permittee has demonstrated that it has reduced overall environmental impacts in the three (3) year period prior to applying to the GEMS Permit.

The permittee's baseline year for measuring aggregate environmental performance is 1997. These performance results are summarized below:

	1997 Actual Data	Baseline Year
VOCs Emitted	9.21 Tons	
Hazardous Waste Disposed of	7,363 Pounds	
Solid Waste Disposed of	1,582 Tons	
Waste Recycled	1,984 Tons	

	1998 Actual Data	Change From Baseline
VOCs Emitted	7.36 Tons	-20%
Hazardous Waste Disposed of	6,694 Pounds	- 9%
Solid Waste Disposed of	1,289 Tons	- 19%
Waste Recycled	2,473 Tons	+ 25%

	1999 Actual Data	Change From Baseline
VOCs Emitted	2.27 Tons	- 75%
Hazardous Waste Disposed of	4,655 Pounds	- 37%
Solid Waste Disposed of	646 Tons	- 59%
Waste Recycled	2,904 Tons	+ 46%

In 1989, EPI voluntarily discontinued the use of all chlorofluorocarbons (CFCs) in its manufacturing processes - an act that won the company an EPA Stratospheric Ozone Protection Award in 1997. EPI also participated in several other EPA-sponsored programs, including the Green Lights Program, the Energy Star Program, and the National Electronics Product Stewardship Initiative. EPI was recognized as being the first Charter Member accepted to the EPA's newest program: the National Environmental Performance Track.

In March of 2000, EPI began sending all waste which was not reused or recycled to Ogden Martin Systems of Marion, Inc. in Brooks, Oregon. There, the waste is incinerated and converted into renewable energy. This achievement was probably the single most important step which led to the company receiving a string of environmental awards in 2000, including: the BEST (Businesses for an Environmentally Sustainable Tomorrow) award; the BRAG (Business Recycling Awards Group) award. In addition, EPI has been awarded the Seiko Epson Corporation's 1st Prize Environmental Award in 1998 and 2000, and the Grand Prize (highest level) Environmental Award in 1999.

Performance Achievement

11. The permittee has developed a program that will achieve environmental results that are significantly better than otherwise required by law.

Department staff has reviewed and evaluated the permittee's EMS and concludes that the overall approach of the system will result in superior environmental performance. The combination of a strong environmental policy that assures compliance with regulatory requirements and stresses pollution prevention is a strong and robust basis for continued system effectiveness.

For GEMS Achiever (Tier II) Permits

12. The permittee has evaluated environmental impacts and set objectives and targets that meet the expectations for a GEMS Achiever (Tier II) Permit and will achieve superior environmental performance for all site-based aspects that have significant impacts, taking into consideration both regulated and unregulated pollutants and other environmental impacts.

Based on the identified significant aspects listed in Item 10 above, both regulated and unregulated pollutants are being targeted for improved environmental performance. In addition, EPI has implemented policies for green purchasing, the reduction of natural resource (natural gas, electricity, and water) consumption, and the incorporation of lifecycle analysis into all activities, products, and services. This will ensure EPI's goal of obtaining a GEMS Leader (Tier III) Permit in the future.

Performance Measures

13. The permittee has established performance measures that will be used to explain environmental information in context with past performance.

The permittee has developed metrics to evaluate the effectiveness of its EMS and the environmental results from implementation of its targeted activities. Some examples are hazardous waste generated, solid waste generated, solid waste recycled, air emissions, wastewater discharged, water used, natural gas used, and electricity used.

Stakeholder Involvement Plan

14. The permittee has developed a stakeholder involvement plan that includes activities that provide for dialogue regarding environmental performance and a mechanism for receiving, considering and responding to comments received. The permittee must:
- Encourage public inquiries and comments regarding the permittee's environmental performance;
 - Provide mechanisms to discuss the environmental policy, annual performance report, environmental aspects and impacts, and establishing of objectives and targets; and
 - Consider the results of the stakeholder involvement in decisionmaking and respond to comments received.

EPI believes that its employees and neighbors are an integral part of its corporate family. EPI encourages community members to learn about and ask questions of its environmental policies and procedures, and also to voice any concerns they may have about how the company's business activities are impacting the environment. The company's management principles firmly entrench its environmental thinking into environmental action by always striving to meet a higher self-imposed standard than those mandated by law. EPI views its programs as a way to create the greatest environmental impact on people and resources locally, regionally and globally. Participating in programs such as the ones outlined below and sharing ones achievements and learning experiences shows others that the Environment has no borders.

Activity	Description	Timeframe
<i>Employee-Based Activities:</i>		
<i>Insider</i>	At least 75% of articles in the <i>Insider</i> are related to environmental issues	Published bi-monthly
Earth Day Events	Various activities including: <ul style="list-style-type: none"> • Tree planting for the Friends of Trees • Restoration at Jackson Bottoms Wetland Preserve • Electronic Materials Collection Event • Hillsboro Park clean-up 	Organized annually

Environmental Month	An opportunity to share information with stakeholders and employees including: <ul style="list-style-type: none"> • Environmental awareness games and prizes • Guest speakers on environmental issues • Open house and facility tour • Household hazardous waste collection event • Collection of recyclables not available at curbside 	Organized annually
Bike to Work Month	To promote alternative transportation options	Organized annually

<i>Community-Based Activities:</i>		
SOLV Great Oregon Beach Clean-up (www.solv.org)	Organize volunteers to keep trash in its place because trashy beaches put a damper on tourism and the economy. Over 200 volunteer hours over the last 2 years.	Participated since 1999
Jackson Bottom Wetlands (www.jacksonbottom.org)	A local, regional, and national resource dedicated to open space and wildlife habitat values, water quality management, research, education for learners of all ages, and passive recreation. \$40,000 in total monetary commitment as well as over 300 volunteer hours over the last 2 years.	Entered into a 5-year partnership agreement in 1998
United Way Day of Caring (www.uw.org)	Restoring the facilities that provide services to the United Way. Over 200 volunteer hours over the last 2 years.	Participated since 1993
Community Energy Project	Providing low-income families with assistance in paying their heating bills. A total of \$1,000 in monetary donations.	Participated since 1998

<i>Cooperative Activities with Local Government:</i>		
Oregon DOT Adopt-a-Highway program (www.odot.state.or.us)	An opportunity to help the environment and control litter, and to improve the appearance of the state highway system. Over 360 volunteer hours over the past 2 years.	Participated since 1992
Oregon DEQ Clean Air Action Day program (www.deq.state.or.us)	On days when temperatures are hot and wind speeds are low, individuals, businesses, and local governments join in the effort to keep the air healthy to breathe by helping spread the word and reducing activities that contribute to smog formation.	Participated since 1996
Metro Compost Bin Sale (www.multnomah.lib.or.us/metro)	Sell compost bins at a reduced cost to Metro residents	Hosted annually since 1999
Washington County Electronics Collection Event (www.co.washington.or.us)	Collect used electronics, styrofoam, and plastic for reuse and recycling for the citizens of Washington County	Hosted annually since 2000

<i>Industry-Based Activities:</i>		
Waste Reduction Action Information Network (www.wrain.org)	Strives to conserve natural resources and to preserve Oregon's natural beauty by providing an open discussion for neighboring businesses to exchange information and resources that will assist in developing more effective reuse, recycling and waste reduction programs or local businesses and communities	Steering committee member since 1998
Association of Oregon Recyclers (www.aorr.org)	To promote that recycling and waste prevention are more than just "good for the environment," they are unique and growing business practices that are quickly becoming vital aspects of commerce for the 21 st century	Member since 1999

<i>Corporate-Based Activities:</i>		
Seiko Epson Corporation Environmental Committee	Examining Seiko Epson's global impact	Ongoing
US Epson Environmental Committee	Examining US Epson's national impact	Ongoing

In May 2001, EPI posted its first annual environmental report on the company's external website located at www.epi.epson.com. This will allow the public access to EPI's performance indicators and environmental achievements for the past year. It will also serve as an opportunity for the public to become involved in future community-related or corporate-related environmental activities and the planning process this facility undergoes while continually reassessing its environmental priorities. In addition, the website will be updated on a quarterly basis to provide the most current regulatory compliance data available.

Thus far, the stakeholder interest has been in sharing information on how EPI has accomplished some of its environmental achievements. Despite EPI's and the Department's attempts to engage comments regarding the GEMS application, outside stakeholders have not yet expressed concerns or provided suggestions regarding EPI's environmental activities. EPI will continue to solicit public input through planned activities listed above, mailers, through its website, and other appropriate venues.

NOTIFICATIONS AND REPORTING

15. The annual GEMS update report required in Permit Condition 3.3 would include:
 - a. Performance achievements, and, if appropriate, a description of any obstacles encountered and how addressed;
 - b. Environmental management system deficiencies and how addressed; and

- c. Compliance issues and how addressed
- d. Stakeholder involvement activities, and input received from stakeholders and how addressed;
- e. Revised objectives and targets for targeted impacts

EPI will generate an annual report that encompasses all of the above conditions and post it on its external website located at www.epi.epson.com.

SPECIAL CONDITIONS – DEPARTMENT COMMITMENTS

Single Point of Contact - Permit Condition 4.2

16. The Single Point of Contact (SPOC) will act as a facilitator or team leader, keep other Department staff apprised of issues, and facilitate resolution of any environmental issues as quickly as possible in a partnership mode. The SPOC does not have the authority to make decisions regarding regulatory compliance with the GEMS Permit or any other permits issued by the Department, but will facilitate decisions that are made.

Technical Assistance - Permit Condition 4.3

17. Technical assistance will be available to the permittee from the Department regarding environmental issues and issues associated with the GEMS Permit program.

Enforcement Response - Permit Condition 4.4

18. See the “Internal Management Directive for Green Environmental Management Systems (GEMS) Permits Enforcement Response”.

Public Recognition – Permit Condition 4.5

19. The Department will establish a program for recognizing achievements of facilities that have an approved GEMS Permit commensurate with the type of GEMS Permit approved.
20. Permittees with an approved GEMS Permit may promote their achievements in a manner that is commensurate with the type and duration of GEMS permit approved. The GEMS permittee may use the Green Permits program identity only in reference to the facility that has received the Green Permit. The Green Permit program identity may not be used for product labeling.

Expedited Review Time for Permit Applications and Modifications – Permit Condition 4.6

21. The Department will review permit applications and modifications submitted by the permittee and send them out for public notice within 90 days of receipt. This time-frame is conditional upon submission of complete proposed permit action packages from the permittee. This time-frame will not apply should the permittee become subject to federal Title V air permit requirements.

Consolidated Reporting – Permit Condition 4.7

22. In lieu of the annual compliance reporting dates specified in the NPDES Permit No. 1200-Z, Schedule B, Condition 3a; OAR 340-102-041 of the state hazardous waste

regulations; and OAR 340-135-0070(3) of the Toxics Use and Hazardous Waste Reduction regulations, the permittee must submit data required by those permit conditions and rules with its annual GEMS Update Report by May 1 of each year. All of the information currently collected as part of the aforementioned existing Department reporting requirements must be submitted with this report.

Alternative 100-J Reporting – Permit Condition 4.8

23. In lieu of the monthly compliance reporting requirements specified in the NPDES Permit No. 100-J, Schedule B, Condition 4, the permittee must monitor for the applicable minimum monitoring requirements monthly and summarize the monitoring data annually in the annual GEMS Update Report by May 1 of each year. All of the information currently collected as part of the aforementioned existing Department reporting requirements must be submitted with this report. The permittee must report any violations discovered through this routine monitoring to the Department as per Schedule F, Section D, Condition 6.

Website Reporting - Permit Condition 4.9

24. The permittee must provide quarterly updates on its environmental performance indexes and activities through its external web site. Updates must be posted by August 1 for April – June, November 1 for July – September, February 1 for October – December, and May 1 for January – March.

Alternative Fiscal Year Reporting – Permit Condition 4.10

25. In lieu of reporting on a calendar year basis, the permittee's reporting year will be from April through March of the following year.

COST RECOVERY AGREEMENT (OAR 340-014-0165)

26. The permittee must fully reimburse the Department for the Department's invoiced direct and indirect cost for the following:
- conducting the review of the permittee's environmental management system and performance achievements;
 - negotiating the relevant permit provisions;
 - responding to public comment;
 - administering the GEMS Permit;
 - monitoring compliance with the conditions of the GEMS Permit and environmental outcomes resulting from the GEMS Permit; and
 - publicizing and conducting the public hearings.

PUBLIC NOTICE

27. Pursuant to OAR 340-014-045, the proposed GEMS permit will be placed on public notice from July 16, 2001 through August 15, 2001.